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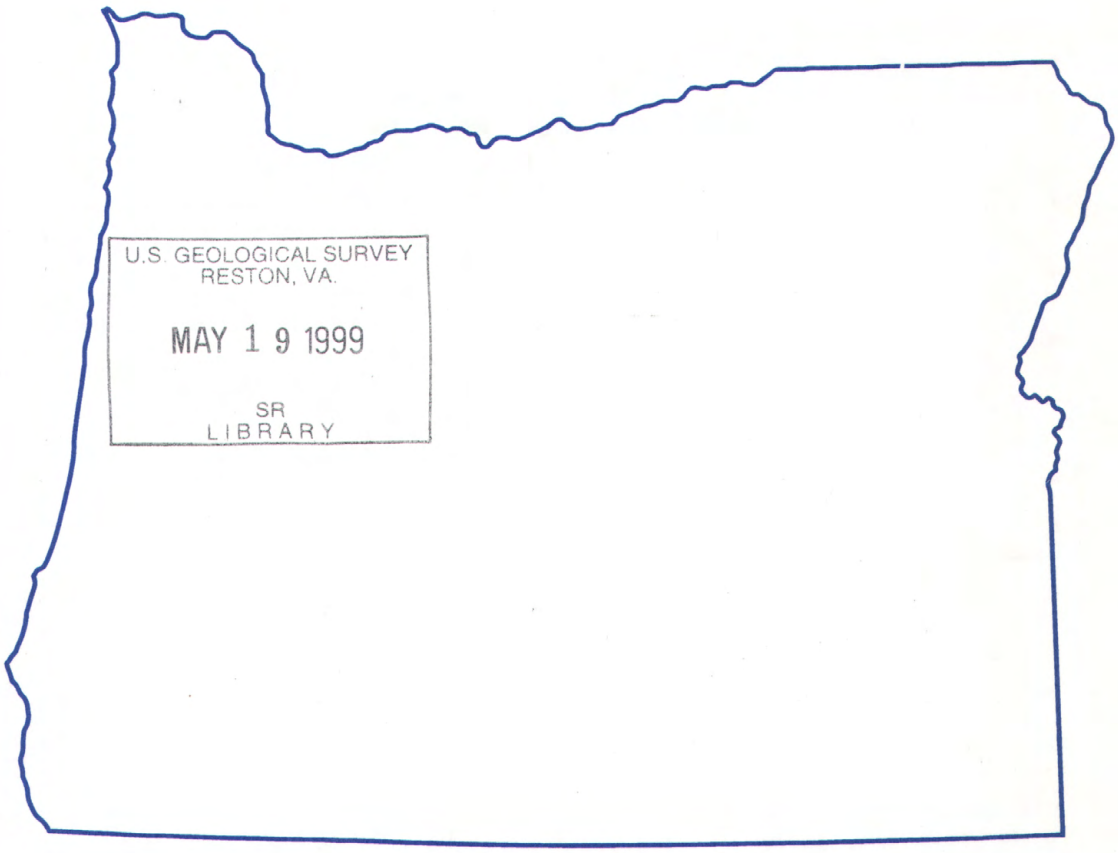
Water Resources Data
Oregon
Water Year 1996



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CALENDAR FOR WATER YEAR 1996

1995

OCTOBER

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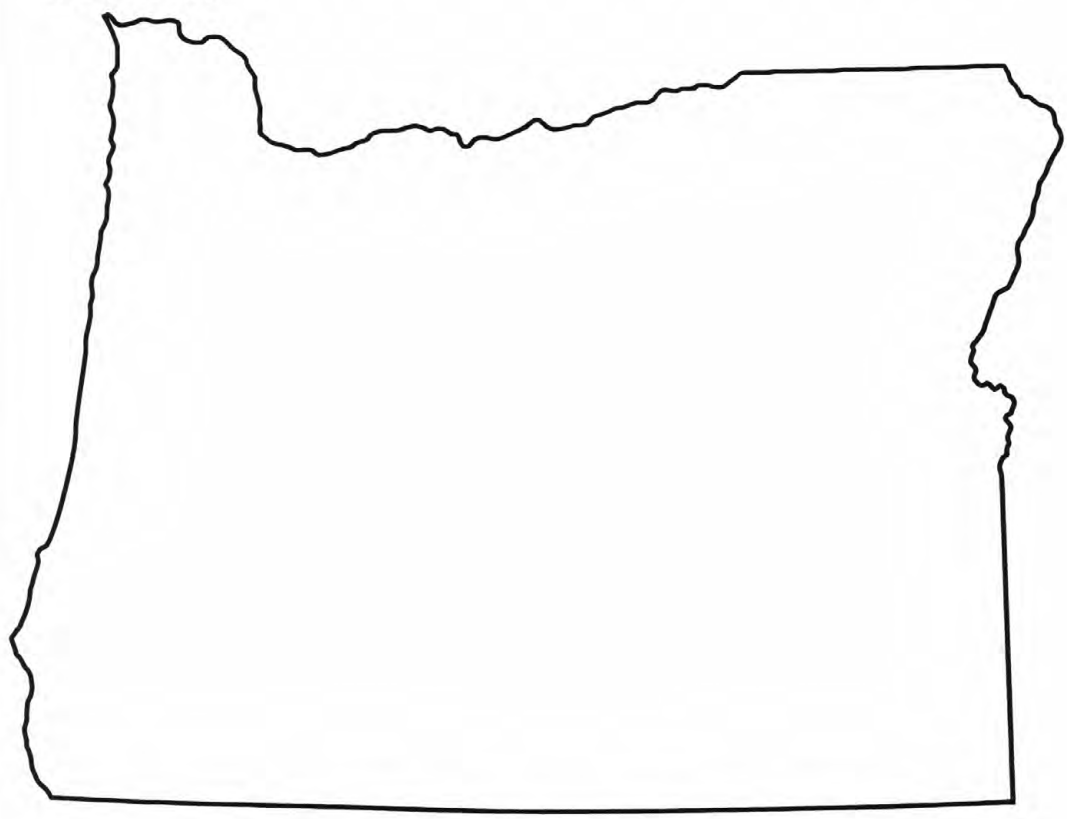
Water Resources Data
Oregon
Water Year 1996

by L.E. Hubbard, T.A. Herrett, J.E. Poole, G.P. Ruppert, and M.L. Courts



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U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Mark Schaefer, Acting Director

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Portland, Oregon 97216

See additional USGS information on water resources of Oregon
on the World Wide Web at
http://oregon.usgs.gov

1997

PREFACE

The annual Oregon hydrologic data report is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

The report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who edited and assembled the reports. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

Rodger M. Adkins, Jeannette M. Center, Dwight D. Copeland, Douglas O. Cushman, Victor M. DeVolder, Jack D. Doyle, Micelis C. Doyle, George W. Eisele, Bruce J. Fisher, Theresa M. Frostrom, Michael A. Gentile, David L. George, Janice M. Gordon, Richard A. Hollway, Jon G. House, Matt W. Johnston, Dennis J. Kent, Richard L. Kittelson, Karl K. Lee, Maurice B. Miles, Melanie A. North, Gregory W. Olsen, Jacqueline C. Olson, Jeanette F. O'Neil, James K. Parham, John C. Risley, Michael J. Sarantou, James L. Schaefer, Kenneth A. Skach, Kurt R. Spicer, John L. Thornton, Roy E. Wellman.

This report was prepared in cooperation with other agencies under the general supervision of Dennis D. Lynch, District Chief, and T. John Conomos, Regional Hydrologist, Western Region.

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13. ABSTRACT *(Maximum 200 words)*

Water resources data for the 1996 water year for Oregon consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs and water levels of wells

- Water discharge for 195 gaging stations on streams, canals and drains.
- Discharge data for 109 partial-record or miscellaneous sites and water-quality sampling sites.
- Stage and (or) contents for 38 lakes and reservoirs.
- Water-quality data for 71 streams, canals, lakes and wells.
- Water-quality for 2 atmospheric deposition sites.
- Air-temperature records for 1 data sites.
- Light incident for 1 record.

These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating States and Federal agencies in Oregon.

14. SUBJECT TERMS
*Oregon, *Hydrologic data, *Surface water, *Water quality, Gaging stations, Flow rate, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Turbidity, Sampling sites, Water analyses

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Letter after station name designates type of data:(d) discharge;(e) elevation; (g) gage height; (v) contents; (c) chemical, including periodic biological, microbiological, sediment, pesticide, and radio-chemical where applicable; (s) daily suspended sediment; (t) water temperature; (tb) turbidity; (k) specific conductance; (at) air temperature; and (li) light incident.

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Clackamas River at Estacada (d)	14210000	294
Johnson Creek at Sycamore (d)	14211500	295
Johnson Creek at Milwaukie (d)	14211550	296
Willamette River at Portland (c)	14211720	297
Willamette River above St. Johns Bridge, at Portland (c)	14211805	301
Fairview Creek at Glisan Street, near Gresham (d)	14211814	304
Columbia Slough at Portland (d)	14211820	306
Columbia River at Beaver Army Terminal (d,c)	14246900	308
PACIFIC SLOPE BASINS IN OREGON		
NEHALEM RIVER BASIN		
Nehalem River near Foss (d)	14301000	317
WILSON RIVER BASIN		
Wilson River near Tillamook (d)	14301500	318
TRASK RIVER BASIN		
Trask River above Cedar Creek, near Tillamook (d)	14302480	319
NESTUCCA RIVER BASIN		
McGuire Lake near Fairdale (e,v)	14302800	320
Nestucca River near Fairdale (d)	14302900	321
Tucca Creek near Blaine (d)	14303200	322
SILETZ RIVER BASIN		
Siletz River at Siletz (d)	14305500	323
ALSEA RIVER BASIN		
Five Rivers:		
Lobster Creek:		
East Fork Lobster Creek near Alsea (d)	14306340	324
Alsea River near Tidewater (d)	14306500	325
UMPQUA RIVER BASIN		
South Umpqua River (Head of Umpqua River) at Tiller (d)	14308000	328
Elk Creek near Drew (d)	14308500	329
Cow Creek above Galesville Reservoir, near Azalea (d)	14308990	330
Galesville Reservoir near Azalea (e)	14308995	331
Cow Creek near Azalea (d,do)	14309000	332

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PACIFIC SLOPES BASINS IN OREGON--Continued		
UMPQUA RIVER BASIN--Continued		
South Umpqua River--Continued		
West Fork Cow Creek near Glendale (d)	14309500	335
Cow Creek near Riddle (d)	14310000	336
Lookingglass Creek at Brockway (d)	14311500	337
South Umpqua River near Brockway (d)	14312000	338
Deer Creek:		
South Fork Deer Creek near Dixonville (d)	14312170	339
North Umpqua River:		
Lemolo Lake near Toketee Falls (e,v)	14313000	341
North Umpqua River below Lemolo Lake, near Toketee Falls (d)	14313500	342
Clearwater River above Trap Creek, near Toketee Falls (d)	14314500	343
Fish Creek at Big Camas Ranger Station, near Toketee Falls (d)	14316000	344
North Umpqua River, above Copeland Creek, near Toketee Falls (d)	14316500	345
Steamboat Creek near Glide (d)	14316700	346
North Umpqua River above Rock Creek, near Glide (c,k,t)	14317500	347
North Umpqua River at Winchester (d)	14319500	353
Calapooya Creek:		
Gassy Creek near Nonpareil (d)	14319850	354
Calapooya Creek near Oakland (d)	14320700	355
Umpqua River near Elkton (d)	14321000	356
Elk Creek near Elkhead (d)	14321400	357
COOS RIVER BASIN		
Pony Creek at Coos Bay (d)	14324580	359
COQUILLE RIVER BASIN		
South Fork Coquille River at Powers (d)	14325000	360
Elk River above Anvil Creek, near Port Orford (d)	14327250	361
ROGUE RIVER BASIN		
Rogue River above Prospect (d)	14328000	364
Rogue River below Prospect (d,t)	14330000	365
South Fork Rogue River near Prospect (d)	14332000	368
Lost Creek Lake near McLeod (e)	14335040	369
Rogue River at McLeod (t)	14335075	370
Big Butte Creek near McLeod (d,t)	14337500	372
Rogue River near McLeod (d,t)	14337600	375
Elk Creek near Cascade Gorge (d,t)	14337800	378
Elk Creek below Alco Creek, near Trail (d,t)	14337830	381
West Branch Elk Creek near Trail (d,t)	14337870	384
Elk Creek near Trail (d,t)	14338000	387
Rogue River at Trail (t)	14338100	390
Rogue River at Dodge Bridge, near Eagle Point (d,t)	14339000	392
Bear Creek below Ashland Creek, at Ashland (d)	14354200	395
Bear Creek at Medford (d)	14357500	396
Rogue River at Raygold, near Central Point (d,t)	14359000	397
Rogue River at Grants Pass (d)	14361500	400
Applegate River:		
Applegate Lake near Copper (e)	14361900	401
Applegate River near Copper (d,t)	14362000	402
Star Gulch near Ruch (d)	14362250	405

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PACIFIC SLOPES BASINS IN OREGON--Continued		
ROGUE RIVER BASIN--Continued		
Applegate River near Applegate (d,t)	14366000	406
Applegate River near Wildervile (d,t)	14369500	409
Rogue River near Agness (d,t)	14372300	412
Illinois River near Kerby (d)	14377100	415
CHETCO RIVER BASIN		
Chetco River near Brookings (d)	14400000	416
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DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Oregon have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

[Letters after station name designate type of data collected: (d) discharge, (g) gage height, (e) elevation]

Station name	Station number	Drainage area (mi^2)	Period of record
WARNER LAKES BASIN			
Twentymile Creek near Adel (d)	10366000	194	1910-16;1918-19;1921-22; 1941-44;1945-91
Deep Creek above Dismal Creek, near Warner Lake (d)	10366500	13.0	1918-19
Dismal Creek above Big Valley, near Warner Lake (d)	10367000	12.5	1913
Dismal Creek near Warner Lake (d)	10367500	14.0	1919
Deep Creek below Dismal Creek, near Warner Lake (d)	10368000	27	1913;1918-19
Deep Creek at Big Valley, near Lakeview (d)	10368500	76	1912-15
Camas Creek near Plush (d)	10369000	32.0	1912
Mud Creek near Plush (d)	10369500	18.0	1912;1915;1928-30
Camas Creek near Lakeview (d)	10370000	63.0	1913-15;1951-73
Crane Creek near Lakeview (d)	10370500	7.00	1914
Drake Creek near Adel (d)	10371000	67.0	1915;1923;1951-64;1966-73
Deep Creek above Adel (d)	10371500	249	1923;1930-91
Givan Canal near Adel (d)	10373000	--	1915
Deep Creek at Adel (d)	10374500	274	1910-16;1918-19;1921-22
Mud Creek Ditch at Adel (d)	10375000	--	1915
Fish Creek near Plush (d)	10376500	38.0	1914
Honey Creek at Chalstrand's ranch, near Plush (d)	10377000	56.0	1911
Snyder Creek near Plush (d)	10377500	--	1911
Twelvemile Creek near Plush (d)	10378000	37.0	1911
Honey Creek near Plush (d)	10378500	170	1911-14;1915;1921;1922; 1930-91
ABERT LAKE BASIN			
Chewaucan River at damsite, near Paisley (d)	10382500	158	1913-16
Chewaucan River near Buck Mountain, near Paisley (d)	10382550	157	1983-86
Chewaucan River below Coffeepot Creek, near Paisley (d)	10382600	216	1983-86
Conn Ditch near Paisley (d)	10383500	--	1915-20
Chewaucan River near Paisley (d)	10384000	275	1912-21;1924-91
Chewaucan River at Paisley (d)	10384100	278	1905-07;1909-12
Smalls Canal at Paisley (d)	10384500	--	1914-21
Jones-Innis-ZX Ditch near Paisley (d)	10385500	--	1915-20
Chewaucan River at narrows, near Paisley (d)	10386000	380	1914-21
Chewaucan River at Hotchkiss Ford, near Paisley (d)	10386500	430	1914-20
Crooked Creek near Valley Falls (d)	10387000	--	1912-13
Ana River plus Summer Lake Canal, near Summer Lake (d)	10388001	--	1930-39;1940-42;1951-91
SUMMER LAKE BASIN			
West Fork Silver Creek near Silver Lake (d)	10389000	27	1919-23;1925-32
Silver Creek plus Silver Lake Ir Canal, near Silver Lake (d)	10390001	180	1905-07;1909-27;1928; 1929-91
Bridge Creek near Silver Lake (d)	10390500	30	1922-23
Buck Creek above Timothy Creek, near Silver Lake (d)	10390800	250	1922-23
Buck Creek near Silver Lake (d)	10391000	290	1905-06;1909-10;1919-21
Duncan Creek near Silver Lake (d)	10392000	58	1922-23
Silvies River near Burns (d)	10393500	934	1903-06;1909-12;1913-17; 1918-20;1921-22;1923-91
MALHEUR AND HARNEY LAKES BASIN			
Silvies River near Silvies (d)	10392500	510	1904;1909-11;1916; 1921-23
Emigrant Creek near Burns (d)	10393000	240	1921
Poison Creek near Burns (d)	10394000	81	1921
Prater Creek near Burns (d)	10394500	20	1921-23
East Fork Silvies River near Lawen (d)	10395000	--	1916;1973-77
West Fork Silvies River near Lawen (d)	10395500	--	1916-17;1919;1922; 1973-77
Flood Bypass Silvies River near Burns (d)	10395505	--	1976

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
MALHEUR AND HARNEY LAKES BASIN-Continued			
Rock Creek near Burns (d)	10395600	--	1976
Mud Creek near Diamond (d)	10396500	30	1911-16;1930
Bridge Creek near Frenchglen (d)	10397000	30.0	1911-16;1930;1938-70
Krumbo Creek near Diamond (d)	10397500	37	1911;1930
Donner und Blitzen River near Narrows (d)	10398500	420	1915-20
Kiger Creek near Diamond (d)	10399000	75	1911-13;1916-21;1930; 1941
Cucamonga Creek near Diamond (d)	10399500	15	1916;1930
McCoy Creek near Diamond (d)	10400000	45	1910-11;1914;1916-21; 1930;1941
Riddle Creek near Smith (d)	10405000	60	1911
Riddle Creek near Diamond (d)	10401000	120	1917-21
Donner Und Blitzen River near Voltage (d)	10401500	760	1938-46;1973-77
Malheur Lake near Voltage (e)	10401800	2,150	1976-80;1983-89
Malheur Lake on west side Cole Island dike, at Voltage (e)	10401810	--	1983-84
Malheur Lake at break in Cole Island dike, near Voltage (e)	10401830	2,150	1972-79
Malheur Lake Outlet at Narrows (d)	10402000	2,150	1916;1973-77
Mud Lake Outlet near Narrows (d)	10402500	2,160	1916-18;1921-22
Silver Creek near Riley (d)	10403000	228	1952-80
Silver Creek above Suntex (d)	10403500	260	1904-06;1909-12;1914-23; 1925-26
Chickahominy Creek near Suntex (d)	10404000	90	1917;1922
Rock Quarry Creek near Suntex (d)	10404500	--	1921;1922
Silver Creek below Suntex (d)	10405000	550	1912-13;1921-23
Silver Creek near Narrows (d)	10406000	630	1917;1919-23
ALVORD LAKE BASIN			
Trout Creek near Denio, NV (d)	10406500	88	1911-12;1922-23;1925-31; 1932-91
CATLOW VALLEY BASIN			
Home Creek near Beckley (Narrows) (d)	10406300	38	1911-12;1915-17;1930
ALVORD LAKE BASIN			
Little Cottonwood Creek near Denio, NV (d)	10407000	8	1911-12
GOOSE LAKE (CLOSED BASIN)			
Dog Creek near Lakeview (d)	11338000	27	1912-13
North Drews Canal near Lakeview (d)	11339000	--	1976-81
Drews Creek near Lakeview (d)	11339500	212	1909-81
Cottonwood Creek near Lakeview (d)	11340500	32.9	1909-19;1924-81
Thomas Creek near Lakeview (d)	11341000	30	1912-17;1919;1927-31
LOST RIVER BASIN			
Miller Creek at Gerber Reservoir, near Lorella (d)	11483500	220	1905-08;1925-50
Miller Creek near Lorella (d)	11484000	270	1909-20
Lost River above Olene (d)	11484500	1,410	1915-17
Lost River at Olene (d)	11485000	1,590	1904;1907-12
Lost River Diversion Canal near Olene (d)	11486000	--	1961-68
Lost River at Wilson Bridge, near Olene (d)	11487000	1,620	1912-20
Lost River near Merrill (d)	11487500	1,670	1904-07
Lost River at Merrill (d)	11488000	1,680	1916
KLAMATH RIVER BASIN			
Williamson River below Sheep Creek, near Lenz (d)	11491400	205	1974-91
Williamson River near Silver Lake (d)	11491500	220	1917-18;1920-21
Miller Creek near Crescent (d)	11492000	23.7	1912;1914
Big Springs Creek blw Lenz Ranch, near Lenz (d)	11492400	--	1992-95
Sand Creek near Fort Klamath (d)	11492500	35	1917-22
Scott Creek near Fort Klamath (d)	11493000	10	1917-20
Williamson River near Klamath Agency (d)	11493500	1,290	1955-95
Williamson River above Spring Creek, near Klamath Agency (d)	11494000	1,330	1912-13;1918-25
Williamson River at Chiloquin (d)	11494500	1,400	1911-16;1917
South Fork Sprague River near Bly (d)	11495500	110	1925-26
North Fork Sprague River near Bly (d)	11496500	45	1917-18;1925-26
Fivemile Creek near Bly (d)	11497000	40	1917-20
Sprague River near Beatty (d)	11497500	513	1912-26;1953-91
Sycan River near Silver Lake (d)	11498000	100	1918-20
Sycan River at Sycan Marsh, near Silver Lake (d)	11498100	220	1905
Long Creek near Silver Lake (d)	11498500	40	1918-24;1927-29

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
KLAMATH RIVER BASIN-Continued			
Sycan River near Beatty (d)	11499000	540	1912-25
Sycan River below Snake Creek, near Beatty (d)	11499100	568	1974-91
Sprague River near Yainax (d)	11500000	1,270	1904
Sprague River at Chiloquin (d)	11502000	1,600	1911-19;1923;1925
Anna Creek near Fort Klamath (d)	11503500	40	1923-27
Wood River at Fort Klamath (d)	11504000	90.0	1911-36
Wood River near Fort Klamath (d)	11504100	87.7	1965-67
Crooked Creek near Fort Klamath (d)	11504200	5.68	1965-67
Fourmile Creek near Odessa (d)	11505500	10.6	1912-17
Fourmile Creek near Rocky Point (d)	11505600	105	1965-67
Varney Creek near Rocky Point (d)	11505700	7.43	1965-67
"A" Canal at Klamath Falls (d)	11507200	--	1911-50;1961-81
Keno Canal at Klamath Falls (d)	11507400	--	1967-83
Diversion from Klamath River to Lost River, near Olene (d)	11508500	--	1931-68
Spencer Creek near Keno (d)	11510000	90	1929-32
Klamath River at Spencer Bridge, near Keno (d)	11510500	4,050	1914-31
Howard Prairie Lake Outlet near Pinehurst (d)	11512920	--	1961-65
Keene Creek near Ashland (d)	11514500	12.1	1917-22;1949-65
Green Springs Powerplant Diversion near Ashland (d)	11516100	--	1961-65
OWYHEE RIVER BASIN			
Crooked Creek near Rome (d)	13181500	1,700	1950
Owyhee River above Owyhee Reservoir (d)	13182000	10,400	1929-51
Owyhee River at Owyhee (d)	13184000	11,300	1890-96;1904-16; 1920-29;1980-86
MALHEUR RIVER BASIN			
Malheur River at Jone's Ranch, near Drewsey (d)	13213500	530	1914
Malheur River near Drewsey (d)	13214000	910	1920-23;1926-94
Warmsprings Reservoir near Riverside (e)	13214500	1,100	1920-91
South Fork Malheur River at Riverside (d)	13215500	630	1910-14;1919-20; 1927-29;1938
Malheur River at Riverside (d)	13216000	1,750	1909-15
North Fork Malheur River abv Beulah Reservoir, nr Beulah (d)	13216500	355	1914;1936-94
North Fork Malheur River at Foley's Ranch, near Beulah (d)	13218000	470	1909-12;1914
North Fork Malheur River at Juntura (d)	13218500	530	1919-22;1926-32;1935-40
Malheur River near Namorf (d)	13219000	2,590	1913-23;1926-31
Malheur River near Westfall (d)	13219500	2,970	1904-05
Malheur River at Little Valley, near Hope (d)	13220000	3,010	1949-79
Malheur River near Hope (d)	13220500	3,030	1919-49
Malheur River near Little Valley (d)	13221500	3,030	1914
Malheur River at McLaughlin Bridge, near Vale (d)	13223500	3,060	1905-06
Bully Creek near Westfall (d)	13225500	160	1912-13;1923
Cottonwood Creek near Westfall (d)	13226000	82	1922-23
Bully Creek at Warmsprings, near Vale (d)	13226500	539	1903-07;1910-17; 1922-23;1964-86
Bully Creek near Vale (d)	13227000	570	1934-62
Bully Creek at Vale (d)	13227500	620	1904
Malheur River at Vale (d)	13228000	3,880	1890-91;1895-97; 1903-14;1919
Willow Creek near Malheur (d)	13229500	250	1912-15;1921-29
Willow Creek below reservoir, near Malheur (d)	13230500	290	1905-06;1911;1921-29
Cow Creek near Brogan (d)	13231000	75	1912-14
Willow Creek near Brogan (d)	13231500	420	1912-14
Willow Creek at Cole's Ranch, near Brogan (d)	13232000	455	1904-06
Pole Creek near Brogan (d)	13232500	14	1912
Pole Creek below Black Creek feed canal, near Brogan (d)	13233000	14	1913
Malheur River at Halliday Bridge, near Ontario (d)	13233500	4,620	1905
Malheur River near Ontario (d)	13234000	4,680	1904
BURNT RIVER BASIN			
North Fork Burnt River near Whitney (d)	13269300	110	1965-80
North Fork Burnt River at Audrey (d)	13269500	139	1915-16
Middle Fork Burnt River near Audrey (d)	13270000	9.54	1915-16
South Fork Burnt River near Unity (d)	13270500	30.9	1915-16
South Fork Burnt River above Barney Creek, near Unity (d)	13270800	38.5	1963-81
South Fork Burnt River at Hardman Ranch, near Unity (d)	13271000	44.4	1916-20;1938-41
Fleetwood Ditch near Unity (d)	13271500	--	1918-20

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
BURNT RIVER BASIN-Continued			
Sawmill Creek near Unity (d)	13272000	--	1915
Burnt River at Bridgeport (d)	13274000	600	1915-16;1931-36
Burnt River near Bridgeport (d)	13274200	650	1957-80
Burnt River near Durkee (d)	13274500	700	1931-38
Burnt River at Huntington (d)	13275000	1,093	1929-32;1957-59;1962-80
POWDER RIVER BASIN			
Powder River near Baker (d)	13275500	219	1904-14;1929-68
Old Settlers Slough at Baker (d)	13276000	--	1913-14
Baldock Slough at Baker (d)	13276500	--	1913-14
Pine Creek near Baker (d)	13277500	8.8	1913-14;1929-30
Goodrich Creek near Baker (d)	13278000	3.1	1913
Mill Creek near Baker (d)	13279000	3.9	1913-14;1929-30
Marble Creek near Baker (d)	13279500	3.9	1913-14;1929-30
Salmon Creek near Baker (d)	13280000	4.4	1913-14;1929
Willow Creek near Haines (d)	13280500	2.4	1913
Powder River at Haines (d)	13281000	539	1914
Powder River near Haines (d)	13281500	572	1947-53
North Powder River near North Powder (d)	13282000	47.7	1912
Anthony Fork near North Powder (d)	13282500	37	1912
North Powder River at North Powder (d)	13283000	129	1912-14
Wolf Creek at Bauer's Ranch, near North Powder (d)	13283500	30	1913-14
Wolf Creek near North Powder (d)	13284000	32.9	1947-53
Powder River near North Powder (d)	13284500	860	1913-16;1920-25
Big Creek near Medical Springs (d)	13286000	35.5	1913-14
Goose Creek near Keating (d)	13286500	41.9	1913-14
Eagle Creek above West Fork, near Baker (d)	13287000	18	1911
West Fork Eagle Creek near Baker (d)	13287500	15	1911
Eagle Creek near Baker (d)	13288000	42	1909-10
Eagle Creek near Newbridge (d)	13288500	170	1910-11;1914
Daly Creek near Richland (d)	13289000	40.5	1913
Powder River near Robinette (d)	13289500	1,660	1929-57
PINE CREEK BASIN			
Pine Creek near Oxbow (d)	13290190	230	1967-95
IMNAHA RIVER BASIN			
Imnaha River above Gumboot Creek (d)	13291000	99.6	1945-53
Big Sheep Creek near Joseph (d)	13291500	12.5	1920
GRANDE RONDE RIVER BASIN			
Meadow Creek near Starkey (d)	13318000	140	1932-35
Meadow Creek below Smith Creek, near Starkey (d)	13318050	33.2	1978-79
Meadow Creek above Bear Creek, near Starkey (d)	13318060	48.2	1978-79
Grande Ronde River near Hilgard (d)	13318500	505	1938-56
Grande Ronde River at Hilgard (d)	13318800	555	1967-81
Grande Ronde River at La Grande (d)	13319000	678	1904-15;1918-23;1926-89
Little Creek near Union (d)	13321000	30.4	1918
Ladd Creek near Hot Lake (d)	13321500	40	1918
Mill Creek near Cove (d)	13322000	11.6	1918;1920-21
Mill Creek near Summerville (d)	13322500	--	1914-15
Grande Ronde River near Elgin (d)	13323500	1,250	1956-81
Indian Creek near Imbler (d)	13323600	22.0	1938-50
Grande Ronde River at Elgin (d)	13324000	1,400	1903-12;1918-19
Wallowa Falls powerplant tailrace near Joseph (d)	13324500	--	1925-52;1967-83
East Fork Wallowa River near Joseph (d)	13325000	10.3	1925-52;1967-82
Wallowa River above Wallowa Lake, near Joseph (d)	13325500	43.0	1924-33;1937-38;1940-41
Wallowa Lake near Joseph (g)	13326000	50.8	1904-06;1912-15;1926-91
Joseph powerplant tailrace at Joseph (d)	13326500	--	1951-56
Wallowa River at Joseph (d)	13327500	50.9	1904-07;1908-14;1915; 1927-91
Hurricane Creek near Joseph (d)	13329500	29.6	1915;1924-78
Wallowa River at Wallowa (d)	13329900	--	1976-77
Wallowa River near Wallowa (d)	13331000	520	1904-07
Wallowa River at Minam (d)	13332000	880	1904-14
Grande Ronde River at Rondowa (d)	13332500	2,550	1927-91
Joseph Creek at Chico (d)	13333500	280	1931-33

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
WALLA WALLA RIVER BASIN			
South Fork Walla Walla River near Milton-Freewater (d)	14010000	63.0	1903;1906-17;1931-91
South Fork Walla Walla River blw PP&L plant, near Milton (d)	14010500	80.0	1904-06;1931-45
North Fork Walla Walla River near Milton-Freewater (d)	14010800	34.4	1970-91
North Fork Walla Walla River near Milton (d)	14011000	43.8	1930-69
Walla Walla River near Milton (d)	14011500	130	1905-06;1918-29
Walla Walla River at Milton (d)	14012000	155	1903-05
Walla Walla River below Freewater (d)	14012500	160	1941-48
COLUMBIA RIVER MAIN STEM			
Columbia River at McNary Dam, near Umatilla (d)	14019200	214,000	1951-81
UMATILLA RIVER BASIN			
North Fork Umatilla River near Gibbon (d)	14019500	31	1912-15;1940-43
Umatilla River at Gibbon (d)	14020500	310	1896-99;1900-01;1902-12
Umatilla River near Cayuse (d)	14020700	384	1969-75
Umatilla River at Pendleton (d)	14021000	637	1891-92;1904-05;1935-89
Umatilla River above McKay Creek, near Pendleton (d)	14022000	700	1921-34
McKay Creek near Pilot Rock (d)	14022500	180	1921;1927-89
McKay Reservoir near Pendleton (g)	14023000	186	1927-92
McKay Creek near Pendleton (d)	14023500	186	1919-23;1925-91
McKay Creek at mouth, near Pendleton (d)	14024000	190	1903-04;1922-24
East Birch Creek near Pilot Rock (d)	14024200	69.7	1968-73
Birch Creek near Pilot Rock (d)	14024500	240	1920-26
Birch Creek at Rieth (d)	14025000	291	1921-23;1927-76
Umatilla River near Yoakum (d)	14025500	1,260	1915-36
Umatilla River at Yoakum (d)	14026000	1,280	1903-91
Butter Creek near Pine City (d)	14032000	291	1928-88
WILLOW CREEK BASIN			
Rhea Creek near Heppner (d)	14034800	120	1960-91
Willow Creek near Morgan (d)	14035000	630	1921;1929-31
Willow Creek above Eightmile Canyon, near Arlington (d)	14035500	680	1905
Willow Creek near Arlington (d)	14036000	850	1906;1961-79
JOHN DAY RIVER BASIN			
Strawberry Creek above Slide Creek, near Prairie City (d)	14037500	7.00	1931-91
Strawberry Creek near Prairie City (d)	14038000	15	1916-17;1925-30
John Day River at Prairie City (d)	14038500	231	1916-17;1925-68
John Day River near John Day (d)	14038530	386	1969-94
John Day River near Dayville (d)	14039000	960	1909-14;1920-21;1925-26
South Fork John Day River near Dayville (d)	14039500	590	1952-56
South Fork John Day at Dayville (d)	14040000	600	1909-14;1920-21;1925-26
John Day River at Picture Gorge, near Dayville (d)	14040500	1,680	1986-91
Mountain Creek near Mitchell (d)	14040600	20.0	1986-89
Desolation Creek near Dale (d)	14041000	108	1915-17;1949-58
North Fork John Day River near Dale (d)	14041500	525	1930-58
Camas Creek near Lehman (d)	14042000	60.7	1951-70
Camas Creek near Ukiah (d)	14042500	121	1914-17;1920-24;1932-91
Cable Creek near Ukiah (d)	14043000	39	1914-17;1919-24;1932-37;1939
Snipe Creek near Ukiah (d)	14043560	37.0	1968-73
Fox Creek at gorge, near Fox (d)	14044500	90.2	1931-58
Cottonwood Creek near Monument (d)	14045000	210	1926-31
Cottonwood Creek at Monument (d)	14045500	232	1925
John Day River at Clarno (d)	14047000	5,940	1914-15;1920-21
Lone Rock Creek near Lonerock (d)	14047380	69	1966-74;1976-91
Rock Creek above Whyte Park near Condon (d)	14047390	297	1976-89
Rock Creek at Rock Creek (d)	14047500	500	1905;1911
DESCHUTES RIVER BASIN			
Deschutes River above Snow Creek, near La Pine (d)	14049000	109	1922-25
Snow Creek above Crane Prairie, near La Pine (d)	14049500	23.0	1922-25
Deschutes River below Snow Creek, near La Pine (d)	14050000	32	1938-91
Cultus River above Cultus Creek, near La Pine (d)	14050500	16.5	1923-25;1938-91
Cultus Creek abv Crane Prairie Reservoir, nr La Pine(d)	14051000	33.2	1924;1938-91
Cultus River below Cultus Creek, near La Pine (d)	14051500	52.8	1922
Deer Creek above Crane Prairie Reservoir, near La Pine (d)	14052000	21.5	1924;1938-91
Quinn River near La Pine (d)	14052500	--	1922-25;1938-91

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
DESCHUTES RIVER BASIN--Continued			
Charlton Creek above Crane Prairie Reservoir, near La Pine(d)	14053000	15.6	1923-24;1938-79
Crane Prairie Reservoir near La Pine (e)	14053500	254	1923-91
Deschutes River blw Crane Prairie Reservoir, nr La Pine (d)	14054000	254	1907-08;1912-17;1922-91
Brown Creek near La Pine (d)	14054500	21.0	1922-25;1938-91
Deschutes River above Davis Creek, near La Pine (d)	14055000	290	1925-32
Odell Creek near Crescent (d)	14055500	39.0	1912-14;1924;1933-76
Deschutes River below Wickiup Reservoir, near La Pine (d)	14056500	483	1938-91
Deschutes River at Pringle Falls, near La Pine (d)	14057000	507	1916-17;1922-60
Fall River near La Pine (d)	14057500	45.1	1938-91
Deschutes River near La Pine (d)	14058000	600	1910-17;1920;1922
Deschutes River near Lava (d)	14058500	659	1905-07;1909-12
Little Deschutes River at Crescent (d)	14059000	109	1905-08;1911-14
Crescent Lake near Crescent (e)	14059500	60.7	1922-91
Crescent Creek at Crescent lake, near Crescent (d)	14060000	60.7	1911;1912-15;1927;1928-91
Crescent Creek below Cold Creek, near Crescent (d)	14060500	77.0	1922-26;1931-32
Big Marsh Creek at Hoey Ranch, near Crescent (d)	14061000	51.5	1912-14;1924;1928-58
Crescent Creek near Crescent (d)	14061500	137	1912-14
Little Deschutes R above Walker Basin intake, nr La Pine(d)	14062000	307	1914-17;1919-26;1931-22
Little Deschutes River near La Pine	14063000	859	1911;1913-20;1924-94
East Lake near La Pine (d)	14063200	7.08	1992-95
Paulina Lake near La Pine (d)	14063250	10.1	1991-95
Paulina Creek near La Pine (d)	14063300	10.1	1982-89;1991-95
Little Deschutes River at Allen's Ranch, near La Pine (d)	14063500	1,020	1905-12;1913-15;1931-32 1943-44
Deschutes River at Benham Falls, near Bend (d)	14064500	1,759	1906-14;1921;1924-91
Deschutes River above Lava Island, near Bend (d)	14065000	1,790	1915-16;1943-50
Arnold Canal near Bend (d)	14065500	--	1913-90
Deschutes River below Lava Island, near Bend (d)	14066000	1,829	1926-65
Central Oregon Canal above Pilot Butte Canal (d)	14066500	--	1933-90
Deschutes County Mncpl Improvement Dist Canal at Bend (d)	14068500	--	1923-90
North Unit Main Canal near Bend (d)	14069000	--	1946-90
North Canal near Bend (d)	14069500	--	1913-90
Swalley Canal near Bend (d)	14070000	--	1913-90
Deschutes River below Bend (d)	14070500	1,899	1915-91
Bridge Creek near Bend (d)	14070700	6.58	1981-85
Tumalo Creek near Tumalo (d)	14071500	30.9	1906-14
Tumalo Creek near Bend (d)	14073000	47.3	1913-21;1922;1923-87
Deschutes River at Tumalo (d)	14074000	1,983	1910-12;1914-15
Deschutes River at Cline Falls, near Redmond (d)	14074500	2,080	1910-13;1928-46
Snow Creek near Sisters (d)	14074900	1.65	1986-91
Squaw Creek near Sisters (d)	14075000	45.2	1906-18;1919-94
South Fork Beaver Creek near Paulina (d)	14077000	95	1944-53
North Fork Beaver Creek near Paulina (d)	14077500	64.4	1942-54
Beaver Creek near Paulina (d)	14078000	450	1943-75
North Fork Crooked River above Deep Creek (d)	14078500	159	1942-54
North Fork Crooked River below Deep Creek (d)	14079000	264	1947-53
Crooked River near Post (d)	14079500	2,160	1909-11;1940-62;1969-73
Crooked River above Prineville Reservoir, near Post (d)	14079800	2,400	1961-68
Bear Creek at Rickman Ranch, near Roberts (d)	14080000	44	1920-23
Bear Creek near Prineville (d)	14080250	205	1976-81
Prineville Reservoir near Prineville (e)	14080400	2,700	1961-91
Crooked River near Prineville (d)	14080500	2,700	1909-14;1941-91
Crooked River at Prineville (d)	14081500	2,820	1914
Marks Creek near Prineville (d)	14082500	61.0	1916
Ochoco Creek above Mill Creek, near Prineville (d)	14083000	200	1918-22;1924-33
Mill Creek near Prineville (d)	14083500	78.8	1916-18;1920-22;1924-33
Ochoco Creek at Elliott Ranch, near Prineville (d)	14085000	300	1909-10;1915-17
Ochoco Creek at Prineville (d)	14085500	358	1912;1914-15
McKay Creek near Prineville (d)	14086000	76.6	1925-32
McKay Creek above Old Dry Creek, near Prineville (d)	14086500	86.2	1918-19;1920
McKay Creek below Old Dry Creek, near Prineville (d)	14087000	103	1915
Crooked River near Terrebonne (d)	14087300	4,240	1968-73
Crooked River near Culver (d)	14087500	4,330	1918-63
Lake Creek near Sisters (d)	14088000	22.2	1912-13;1915-91
Metolius River at Allingham ranger station, near Sisters (d)	14088500	81.5	1911-13;1915-17
First Creek near Sisters (d)	14089000	12.2	1915-17;1924-28
Jack Creek near Sisters (d)	14089500	16.0	1915-16
Canyon Creek near Sisters (d)	14090000	32.5	1915-16
Whitewater River near Grandview (d)	14090500	30.6	1911-13
Metolius River at Riggs Ranch, near Sisters (d)	14092000	347	1909-12

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
DESCHUTES RIVER BASIN--Continued			
Seekseequa Creek near Warm Springs (d)	14092150	47.3	1987-93
Shitike Creek at Warm Springs (d)	14093000	105	1911-16;1923-28;1973-74
Deschutes River at Mecca (d)	14093500	7,940	1911-27
rout Creek near Antelope (d)	14094000	220	1915-17
Trout Creek near Gateway (d)	14094500	--	1915-16
Hay Creek near Hay Creek (d)	14095000	78	1915-16
Mill Creek at outlet of Olallie Lake (d)	14096000	5.6	1915-16
Mill Creek near Warm Springs (d)	14096500	28.8	1915
Warm Springs River near Warm Springs (d)	14097000	517	1911-19
White River near Government Camp (d)	14097200	40.7	1970-1980
Clear Creek below Clear Lake, near Govt Camp (d)	14097400	8.32	1969-73
Clear Creek near Government Camp (d)	14097500	9.94	1941-41;1947-53
Clear Creek above intake, near Wapinitia (d)	14098000	17.7	1918-21;1934-35
Clear Creek Ditch near Government Camp (d)	14098100	--	1969-73
Clear Creek near Pine Grove (d)	14098600	38.3	1968-73
Gate Creek at Purcell Ranch, near Wamic (d)	14099500	23.9	1921-23
Gate Creek near Wamic (d)	14100000	28.3	1918
White River near Tygh Valley (d)	14100500	221	1911-18
White River below Tygh Valley (d)	14101500	417	1918-90
Deschutes River at Sherars Bridge (d)	14102000	10,200	1923-32
FIFTEENMILE CREEK BASIN			
Fifteenmile Creek near Dufur (d)	14104000	19.6	1918-19
Fifteenmile Creek near Wrentham (d)	14104500	171	1947-53
Eightmile Creek near Boyd (d)	14105000	56	1947-53
Fivemile Creek near The Dalles (d)	14105500	32.4	1926;1928;1930-31;1949-50
MILL CREEK BASIN			
South Fork Mill Creek near The Dalles (d)	14105850	28.0	1961-75
MOSIER CREEK BASIN			
Mosier Creek near Mosier (d)	14113200	41.5	1964-81
HOOD RIVER BASIN			
Dog River near Parkdale (d)	14113400	4.50	1961-71
East Fork Hood River above intake, near Mount Hood (d)	14113500	77.2	1915-22
East Fork Hood River near Mount Hood (d)	14115000	78.8	1913-14
East Fork Hood River near Dee (d)	14115500	108	1917
Clear Branch below Laurance Lake, near Parkdale (d)	14115815	8.62	1987-95
Hood River at Dee (d)	14116000	155	1913-17
Green Point Creek near Dee (d)	14116500	10.0	1919-21
North Fork Green Point Creek near Dee (d)	14117500	7.6	1919;1921
Green Point below North Fork, near Dee (d)	14118000	20.0	1950-54
West Fork Hood River near Dee (d)	14118500	95.6	1914-16;1932-91
Hood River at Winans (d)	14119000	259	1906-07;1910-12;1913
Hood River near Hood River (d)	14121000	329	1913-64
COLUMBIA RIVER MAIN STEM			
Columbia River at Bonneville Dam (g)	14128860	239,900	1981-87
Columbia River at Warrendale (g)	14128910	240,000	1972-87
Columbia River at Washougal (g)	14129400	240,000	1972-81;1990-93
SANDY RIVER BASIN			
Lost Creek near Brightwood (d)	14130000	11.2	1913-18
Little Zigzag River at Twin Bridges, near Rhododendron (d)	14131000	3.70	1926-36
Zigzag River near Rhododendron (d)	14131400	14.8	1981-93
Zigzag River at Rhododendron (d)	14131500	31.0	1920-21;1926-30
Sandy River above Salmon River, at Brightwood (d)	14133500	117	1910-14;1926-31
Salmon River near Government Camp (d)	14134000	8.00	1910-12;1926-91
Salmon River below Linney Creek (d)	14134500	54.0	1928-50
Salmon River at Welches (d)	14135000	100	1913-14;1920-21;1925-36
Salmon River above Boulder Creek, near Brightwood (d)	14135500	106	1936-52
Bull Run River below Lake Ben Morrow (d)	14139500	74.0	1930-54
Little Sandy River near Marmot (d)	14140500	17.9	1913-19
WILLAMETTE RIVER BASIN			
Hills Creek above Hills Creek Reservoir, near Oakridge (d)	14144900	52.7	1959-81
Hills Creek near Oakridge (d)	14145000	59.0	1935-43
Salt Creek near Oakridge (d)	14146000	113	1913-14;1934-51

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
WILLAMETTE RIVER BASIN--Continued			
Salmon Creek near Oakridge (d)	14146500	117	1910;1913-19;1934-85; 1987-94
Gray Creek near Oakridge (d)	14146700	5.06	1979-86
Waldo Lake Outlet near Oakridge (d)	14147000	30.5	1937-53;1970-82;1984
N.Fork of Middle Fork Willamette River, nr Oakridge (d)	14147500	246	1910-16;1936-85;1987-94
Fall Creek above Winberry Creek, near Lowell (d)	14150500	127	1936-43
Winberry Creek near Lowell (d)	14150800	43.9	1964-81
Little Fall Creek near Fall Creek (d)	14151500	52.5	1936-48
Coast Fork Willamette River at London (d)	14152500	72.1	1936-87
Mosby Creek near Cottage Grove (d)	14156000	85.0	1936-46
Mosby Creek at mouth, near Cottage Grove (d)	14156500	95.3	1947-68;1970-81
Coast Fork Willamette River at Saginaw (d)	14157000	529	1924-26;1928-51
Willamette River at Springfield (d)	14158000	2,030	1912-13;1920-57
McKenzie River near Belknap Springs (d)	14158700	146	1958-62
Budworm Creek near Belknap Springs (d)	14158930	3.00	1979-83;1984-86
McKenzie River above Boulder Creek, near Belknap Springs (d)	14158955	--	1983
McKenzie River at McKenzie Bridge (d)	14159000	348	1910-94
Horse Creek near McKenzie Bridge (d)	14159100	149	1963-69
South Fork McKenzie River above Cougar Lake, nr Rainbow (d)	14159200	160	1958-87
Blue River above Quentin Creek (d)	14161000	11.5	1948-55
Blue River near Blue River (d)	14162000	75.0	1936-64
Gate Creek at Vida (d)	14163000	47.6	1952-57;1967-90
McKenzie River near Springfield (d)	14164000	1,066	1906-15
McKenzie River near Coburg (d)	14165500	1,337	1945-72
Coyote Creek near Crow (d)	14167000	95.1	1941-87
Amazon Creek at Eugene (d)	14169300	3.35	1963-75
Amazon Creek near Eugene (d)	14169500	21.3	1955-68;1980-82
Rock Creek near Philomath (d)	14170500	14.6	1946-52;1975-79
Marys River near Philomath (d)	14171000	159	1941-85
Muddy Creek near Corvallis (d)	14171500	107	1964-68
Calapooia River at Holley (d)	14172000	105	1936-90
Calapooia River at Albany (d)	14173500	372	1941-81
East Humbug Creek near Detroit (d)	14178700	7.32	1978-94
Breitenbush River above French Creek, near Detroit (d)	14179000	106	1933-87
Middle Santiam River near Upper Soda (d)	14185700	74.6	1981-94
Middle Santiam River near Cascadia (d)	14185800	104	1963-81
Packers Gulch near Cascadia (d)	14185880	7.45	1984-86;1988
Middle Santiam River near Foster (d)	14186000	271	1932-47
Middle Santiam River at mouth, near Foster (d)	14186500	287	1951-66
South Santiam River at Foster (d)	14186700	493	1967-73
Wiley Creek at Foster (d)	14187100	62.3	1974-88
Crabtree Creek near Crabtree (d)	14188700	111	1964-70
Thomas Creek near Scio (d)	14188800	109	1963-87
Luckiamute River near Hoskins (d)	14189500	34.3	1935-78
Luckiamute River at Pedee (d)	14190000	115	1940-70
Little Luckiamute River at Falls City (d)	14190100	22.7	1965-71
Rickreall Creek near Dallas (d)	14190700	27.4	1957-78
Mill Creek at Penitentiary Annex, near Salem (d)	14191500	104	1940-56
Mill Creek at Salem (d)	14192000	110	1940-78
South Yamhill River near Willamina (d)	14192500	133	1934-93
Willamina Creek near Willamina (d)	14193000	64.7	1934-91
Mill Creek near Willamina (d)	14193300	27.4	1958-73
South Yamhill River near Whiteson (d)	14194000	502	1940-91
North Yamhill River near Fairdale (d)	14194300	9.03	1959-66;1968-91
Haskins Creek near McMinnville (d)	14195000	6.48	1928-51
North Yamhill River near Pike (d)	14196500	47.8	1940-51
North Yamhill River at Pike (d)	14197000	66.8	1948-73
Willamette River at Wilsonville (d)	14198000	8,400	1948-73
Mollala River above Pine Creek, near Wilhoit (d)	14198500	97.0	1936-93
Molalla River near Molalla (d)	14199000	201	1906-09;1947-51
Molalla River near Canby (d)	14200000	323	1929-59;1964-78
Silver Creek at Silverton (d)	14200300	47.9	1964-68;1971-79
Pudding River near Mount Angel (d)	14201000	204	1940-66
Butte Creek at Monitor (d)	14201500	58.7	1936;1941-52;1967-85
Tualatin River near Gaston (d)	14202500	48.5	1941-56;1973-76;1979-84
Scoggins Creek above Henry Hagg Lake, near Gaston (d)	14202850	15.9	1973-76
Sain Creek near Gaston (d)	14202920	10.3	1973-76
Scoggins Creek near Gaston (d)	14203000	43.3	1941-74
Gales Creek near Glenwood (d)	14203750	7.3	1994-95
Gales Creek near Gales Creek (d)	14204000	33.2	1936-45;1964-70

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
WILLAMETTE RIVER BASIN--Continued			
Gales Creek near Forest Grove (d)	14204500	66.1	1941-56;1971-81
East Fork Dairy Creek at Mountaindale (d)	14205500	43.0	1941-51
Dairy Creek near Cornelius (d)	14205800	147	1974-76
McKay Creek near North Plains (d)	14206000	27.6	1941-43;1949-56
McKay Creek near Hillsboro (d)	14206180	61.0	1973-76
Tualatin River at Farmington (d)	14206500	568	1940-58;1973-76
Oswego Canal near Lake Oswego (d)	14207000	--	1929-91
Clackamas River at Big Bottom (d)	14208000	136	1920-70
Collawash River near Breitenbush (d)	14208300	142	1966-68
Oak Grove Fork at Timothy Meadows (d)	14208500	54.0	1913-14;1916-29
Roaring River near Estacada (d)	14209600	42.4	1966-68
Clackamas River near Clackamas (d,g)	14211000	930	(d)1963-83;(g)1988-89
Willamette River at Portland (d)	14211720	11,100	1973-94
COLUMBIA RIVER MAIN STEM			
Columbia River at Columbia City (g)	14222880	254,000	1971-81
Columbia River at Longview, WA (g)	14245300	256,700	1984-90
Columbia River at Wauna (g)	14247295	257,000	1971-81
Bear Creek near Svensen (d)	14248700	3.33	1966-75
Youngs River near Astoria (d)	14251500	40.1	1928-58
NESTUCCA RIVER BASIN			
Trask River near Tillamook (d)	14302500	145	1932-55;1962-72
Nestucca River near McMinnville (d)	14303000	12.0	1929-44
Nestucca River near Beaver (d)	14303600	180	1965-91
SILETZ RIVER BASIN			
Sunshine Creek near Valsetz (d)	14304350	6.70	1973-91
Big Rock Creek near Valsetz (d)	14304850	6.90	1986-89
YAQUINA RIVER BASIN			
Yaquina River near Chitwood (d)	14306030	71.0	1973-91
Mill Creek near Toledo (d)	14306036	4.18	1961-73
ALSEA RIVER BASIN			
North Fork Beaver Creek near Seal Rock (d)	14306040	10.0	1966-67
North Fork Alsea River at Alsea (d)	14306100	63.0	1958-89
South Fork Alsea River near Alsea (d)	14306200	49.5	1961-63
Fall Creek near Alsea (d)	14306300	29.4	1961-63
Five Rivers near Fisher (d)	14306400	114	1961-63;1968-90
Drift Creek near Salado (d)	14306600	20.5	1959-63;1966-70
Needle Branch near Salado (d)	14306700	.27	1959-73
Flynn Creek near Salado (d)	14306800	.78	1959-73
Deer Creek near Salado (d)	14306810	1.17	1959-73
BIG CREEK BASIN			
Big Creek near Roosevelt Beach (d)	14306900	11.9	1973-91
SIUSLAW RIVER BASIN			
Siuslaw River above Wildcat Creek, at Austa (d)	14307000	267	1932-40
Lake Creek at Triangle Lake (d)	14307500	52.5	1932-55
Lake Creek near Deadwood (d)	14307580	174	1968-89
Siuslaw River near Mapleton (d)	14307620	588	1968-94
North Fork Siuslaw River near Minerva (d)	14307645	41.2	1968-85
UMPQUA RIVER BASIN			
Jackson Creek near Tiller (d)	14307700	152	1956-86
South Umpqua River at Days Creek (d)	14308600	641	1975-90
Days Creek at Days Creek (d)	14308700	55.3	1956-72
South Myrtle Creek near Myrtle Creek (d)	14310700	43.9	1956-72
North Myrtle Creek near Myrtle Creek (d)	14311000	54.2	1956-86
Olalla Creek near Tenmile (d)	14311200	61.3	1957-73
Tenmile Creek at Tenmile (d)	14311300	29.6	1968-73
Deer Creek near Roseburg (d)	14312200	53.2	1956-73
Silent Creek near Diamond Lake (d)	14312400	8.24	1972-77
Lake Creek near Diamond Lake (d)	14312500	54.9	1923-29;1930;1931-53 1972-84
North Umpqua River at Toketee Falls (d)	14315500	339	1926-45;1947-48
North Umpqua River above Rock Creek, near Glide (d)	14317500	886	1925-45

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
UMPQUA RIVER BASIN--Continued			
Rock Creek near Glide (d)	14317600	97.4	1958-73
Little River at Peel (d)	14318000	177	1955-89
North Umpqua River near Glide (d)	14318500	1,210	1916-18;1928-38
Sutherlin Creek at Sutherlin (d)	14319200	16.4	1956-67
Calapooya Creek at Nonpareil (d)	14319900	88.6	1977-88
Elk Creek near Drain (d)	14322000	104	1956-73
Umpqua River near Scottsburg (d)	14322900	4,095	1967-69
Smith River near Gardiner (d)	14323100	206	1966-73
Tenmile Creek near Lakeside (d)	14323200	87.0	1958-76
COOS RIVER BASIN			
West Fork Millicoma River near Allegany (d)	14324500	46.9	1955-81
COQUILLE RIVER BASIN			
South Fork Coquille River above Panther Creek, nr Illahe (d)	14324600	31.2	1957-70
South Fork Coquille River near Illahe (d)	14324700	40.6	1957-74
South Fork Coquille River near Powers (d)	14324900	93.2	1957-70
Middle Fork Coquille River near Myrtle Point (d)	14326500	305	1931-46
North Fork Coquille River near Fairview (d)	14326800	73.9	1964-81
North Fork Coquille River near Myrtle Point (d)	14327000	282	1929-46;1964-68
SIXES RIVER BASIN			
Sixes River at Sixes (d)	14327150	116	1968-70
Elk River near Sixes (d)	14327300	86.1	1968-70
ROGUE RIVER BASIN			
Rogue River above Bybee Creek, near Union Creek (d)	14327500	156	1930-52
Mill Creek near Prospect (d)	14329500	32.0	1926-35
South Fork Rogue River above Imnaha Creek, near Prospect (d)	14330500	52.0	1932-49
Imnaha Creek near Prospect (d)	14331000	26.0	1932-49
Middle Fork Rogue River near Prospect (d)	14333000	56.5	1926-55
Red Blanket Creek near Prospect (d)	14333500	45.5	1926-32;1934-81
South Fork Rogue River south of Prospect (d)	14334700	246	1969-92
Rogue River below South Fork Rogue River, near Prospect (d)	14335000	650	1929-65
Rogue River at McLeod (d)	14335075	697	1978-81
South Fk Big Butte Creek, abv Willow Cr, nr Butte Falls (d)	14335200	67.6	1986-91
South Fork Big Butte Creek near Butte Falls (d)	14335500	138	1911;1915;1918-22;1925-91
South Fork Little Butte Collect Canal near Pinehurst (d)	14339400	--	1961-65
South Fork Little Butte Creek at Big Elk Ranger Station (d)	14339500	16.6	1927-50
Dead Indian Collect Canal near Pinehurst (d)	14340400	--	1961-65
South Fork Little Butte Creek near Lakecreek (d)	14341500	138	1922-57;1961-82
North Fork Little Butte Creek at Fish Lake, nr Lakecreek(d)	14342500	20.8	1915;1917-89
North Fork Little Butte Creek near Lakecreek (d)	14343000	43.8	1912-13;1917;1923-27; 1929-64;1966-85
N F Little Butte Creek abv Intake Canal, near Lakecreek (d)	14344500	60.4	1918-19;1922-50
Little Butte Creek above Eagle Point (d)	14347000	269	1917-26;1929
Little Butte Creek below Eagle Point (d)	14348000	293	1908-16;1924-26;1946-50
Emigrant Creek near Ashland (d)	14350000	64.3	1920-86
West Fork Ashland Creek near Ashland (d)	14353000	10.5	1925-33;1975-82
East Fork Ashland Creek near Ashland (d)	14353500	8.14	1925-33;1975-82
Evans Creek near Bybee Springs, near Rogue River (d)	14359500	116	1925-27;1951-53
Middle Fork Applegate River near Copper (d)	14361590	50.7	1980-87
Elliott Creek near Copper (d)	14361600	51.8	1978-87
Carberry Creek near Copper (d)	14361700	68.9	1978-87
Applegate River near Ruch (d)	14363000	302	1912-14;1926-53
Powell Creek near Williams (d)	14368500	8.17	1947-58
Slate Creek at Wonder (d)	14370000	31.4	1944-57
Grave Creek at Pease Bridge, near Placer (d)	14371500	22.1	1941-89
Grave Creek near Placer (d)	14372000	45.6	1914;1941-50
East Fork Illinois River near Takilma (d)	14372500	42.3	1926;1927-32;1941-91
Althouse Creek near Holland (d)	14373500	24.3	1947-53
Sucker Creek near Holland (d)	14375000	76.2	1942-65
Sucker Creek below Little Grayback Creek, near Holland (d)	14375100	83.9	1966-91
Elk Creek near O'Brien (d)	14375400	26.6	1986-91
West Fork Illinois River below Rock Creek, near O'Brien (d)	14375500	42.4	1955-85
West Fork Illinois River near O'Brien (d)	14376500	49.7	1947-54
Illinois River at Kerby (d)	14377000	364	1926-61
Deer Creek near Dryden (d)	14377500	22.0	1942-56
Illinois River near Selma (d)	14378000	665	1957-68
Illinois River near Agness (d)	14378200	988	1961-81

DISCONTINUED SURFACE-WATER QUALITY STATIONS

The following continuous-record water-quality stations in Oregon have been discontinued. Continuous water-quality data were collected and published for the period of record shown for each station. For each station entry, a period of record, expressed in water years, is provided for each type of record listed. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page.

[Type of record: sc (specific conductance), ph (pH), t (temperature), do (dissolved oxygen) tb (turbidity), sed (sediment)]

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
MALHEUR AND HARNEY LAKES BASIN				
Donner und Blitzen River near Frenchglen	10396000	200	t, sc	1976-81
OWYHEE RIVER BASIN				
Owyhee River near Rome	13181000	8,000	t	1973-77
Owyhee River at Owyhee	13184000	11,300	t, sc	1980-82
Bully Creek near Vale	13227000	570	t, sed	1959-62
POWDER RIVER BASIN				
Powder River at Baker	13277000	351	sed	1961
Powder River near Richland	13286700	1,310	t	1960-61
Eagle Creek above Smith Creek near New Bridge	13288200	156	t	1960-61
GRANDE RONDE RIVER BASIN				
Imnaha River at Imnaha	13292000	622	t	1966-68;1977
Meadow Creek below Smith Creek near Starkey	13318050	33.2	t	1978-79
Meadow Creek above Bear Creek near Starkey	13318060	48.2	t	1978-79
Grande Ronde River at La Grande	13319000	678	t	1960-61
Wallowa River at Wallowa	13329900	--	t	1977
Lostine River near Lostine	13330000	70.9	t	1958
Lostine River at Lostine	13330200	--	t	1976-77
Minam River at Minam	13331500	240	t	1966-85
Grande Ronde River at Rondowa	13332500	2,555	t	1960-61
WALLA WALLA RIVER BASIN				
South Fork Walla Walla River near Milton-Freewater	14010000	63	t	1960-61
COLUMBIA RIVER MAIN STEM				
Columbia River at McNary Dam	14019200	214,000	t	1962
			sed	1966
Columbia River at Umatilla	14019250	214,000	t	1975-79
UMATILLA RIVER BASIN				
Umatilla River above Meacham Creek near Gibbon	14020000	131	t	1960-80
Umatilla River near Umatilla	14033500	2,290	t	1963-69
WILLOW CREEK RIVER BASIN				
Willow Creek at Heppner	14034500	96.8	t	1963-68; 1972-73
			sed	1963-68
Willow Creek near Arlington	14036000	850	t	1963-68
			sed	1963-70
JOHN DAY RIVER BASIN				
South Fork John Day River near Dayville	14039500	590	t	1952-56
Desolation Creek near Dale	14041000	108	t	1958
Middle Fork John Day River at Ritter	14044000	515	t	1967-68
North Fork John Day River at Monument	14046000	2,520	t	1967-68
John Day River at McDonald Ferry	14048000	7,580	t	1963-68
				1976-81
			sc	1976-81
			sed	1963-70
Columbia River at Biggs Junction	14048330	226,400	t	1975-76

DISCONTINUED SURFACE-WATER QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
DESCHUTES RIVER BASIN				
Paulina Creek near La Pine	14063300	10.1	sc	1992-95
Deschutes River at Benham Falls	14064500	1,759	t	1968-80
Deschutes River near Culver	14076500	2,705	t	1955-57;1959-74
Crooked River at Post	14079500	2,160	t, sed	1960-62
Bear Creek in Prineville	14080250	205	t	1976
			sed	1976-80
Crooked River near Prineville	14080500	2,700	t, sed	1959
Crooked River below Opal Springs, near Culver	14087400	4,300	t	1964-74
Crooked River near Culver	14087500	4,330	t	1955-63
Metolius River near Grandview	14091500	316	t	1955-74
Deschutes River near Madras	14092500	7,820	t	1953-56
				1958;1972-88
White River below Tygh Valley	14101500	417	t, sed	1982
			tb	1982-83
Deschutes River at Moody	14103000	10,500	t	1955-58;1962-81
COLUMBIA RIVER MAIN STEM				
Columbia River at The Dalles	14105700	237,000	t	1956-70;1974-76
			sc	1965-85
Columbia River at Warrendale	14128910	240,000	t, sc	1976-92
Columbia River at Vancouver	14144700	241,000	t	1968-70;1973-79
			sed	1964-69
WILLAMETTE RIVER BASIN				
Middle Fork Willamette River near Oakridge	14144800	258	t	1957-87
Hills Creek above Hills Creek Reservoir, near Oakridge	14144900	52.7	t	1959-81
Middle Fork Willamette River below North Fork, near Oakridge	14148000	924	t	1951-87
Fall Creek near Lowell	14150300	118	t	1964-87
Winberry Creek near Lowell	14150800	43.9	t	1964-81
Middle Fork Willamette River at Jasper	14152000	1,340	t	1954-87
Coast Fork Willamette River at London	14152500	72.1	t	1961-65;1968-87
Coast Fork Willamette River near Goshen	14157500	642	t	1962-75
McKenzie River below Trail Bridge Dam, near Belknap Springs	14158850	184	t, sc	1977-85
McKenzie River at McKenzie Bridge	14159000	348	t, sc	1977-85
Horse Creek near McKenzie Bridge	14159100	149	t	1963-69;1984
South Fork McKenzie River above Cougar Lake, near Rainbow	14159200	160	t	1958-87
Blue River below Tidbits Creek, near Blue River	14161100	45.8	t	1964-87
Lookout Creek near Blue River	14161500	24.1	t	1952-55;1964-81
Blue River near Blue River	14162000	75	t	1962-64
McKenzie River at Finn Rock	14162400	--	t	1984
McKenzie River near Vida	14162500	930	t	1962-85
			sc	1977-85
Gate Creek at Vida	14163000	47.6	t	1984
McKenzie River at Leaburg Dam	14163100	--	t	1984
McKenzie River near Springfield	14164000	1,066	t	1984
Walterville Canal near Walterville	14164200	--	t	1984
McKenzie River above Hayden Bridge, at Springfield	14164900	--	t	1984
Mohawk River near Springfield	14165000	177	t	1964-69;1984
McKenzie River near Coburg	14165500	1,337	t	1964-75;1984
Willamette River at Harrisburg	14166000	3,420	t	1962-87
			sc, do	1970-76
			ph	1970-75
Willamette River above Calapooia River at Albany	14171750	4,460	t	1964-87
North Santiam River below Boulder Creek, near Detroit	14178000	216	t	1952-87
Breitenbush River above French Creek, near Detroit	14179000	108	t	1951;1954-87
North Santiam River at Fisherman's Bend, near Mill City	14181800	--	t	1986
Little North Santiam River near Mehama	14182500	112	t	1986
North Santiam River at Mehama	14183000	655	t	1986
North Santiam River near Jefferson	14184100	736	t	1985-86
South Santiam River below Cascadia	14185000	174	t	1963-63;1967;
				1970-87
Middle Santiam River near Cascadia	14185800	104	t	1964-79;1981-82

DISCONTINUED SURFACE-WATER QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
WILLAMETTE RIVER BASIN--Continued				
Quartzville Creek near Cascadia	14185900	99.2	t	1964-87
Middle Santiam River at mouth, near Foster	14186500	287	t	1954-64;1966
South Santiam River at Foster	14186700	493	t	1968;1970-73; 1985
South Santiam River at Waterloo	14187500	640	t	1964-87
Crabtree Creek near Scio	14188750	--	t	1985
Thomas Creek near Scio	14188800	109	t	1963-75
Thomas Creek near Crabtree	14188850	--	t	1986
South Santiam River below Thomas Creek, near Jefferson	14188900	--	t	1986
Santiam River at Jefferson	14189000	1,790	t	1964-65;1967-87
Luckiamute River at Pedee	14190000	115	t	1965-70
Willamette River at Salem	14191000	7,280	t	1964-87
			sc	1952-60;1965-72 1976-84
Willamina Creek near Willamina	14193000	64.7	t	1964-68
South Yamhill River near Whiteson	14194000	502	t	1964-68
North Yamhill River at Pike	14197000	66.8	t	1964-69
Molalla River above Pine Creek, near Wilhoit	14198500	97	t	1964-69
Molalla River near Canby	14200000	323	t	1964-69
Silver Creek at Silverton	14200300	47.9	t	1964-68
Tualatin River near Gaston	14202500	48.5	t	1979-84
Tualatin River near Dilley	14203500	125	t	1964-68
Gales Creek near Glenwood	14203750	7.3	t	1994-95
Gales Creek near Gales Creek	14204000	33.2	t	1964-69
Tualatin River at West Linn	14207500	706	t	1964-68;1976-81
			sc	1976-81
Willamette River at Oregon City	14207700	10,000	t	1963-67
Clackamas River near Clackamas	14211000	930	t	1964-76
Willamette River at Portland	14211720	11,100	t, sc	1976-81
Willamette River above St. Johns Bridge, at Portland	14211805	11,450	t	1972-75
COLUMBIA RIVER MAIN STEM				
Columbia River at Columbia City	14222880	254,000	t	1971
Columbia River near Columbia City	14222890	253,900	t	1969-72
Columbia River at Kalama	14222910	254,000	t	1969-79
Columbia River at Prescott	14223780	254,200	t	1968-69
Columbia River at Rainier	14245295	256,700	t	1972-79
Columbia River at Longview, WA	14245300	256,700	t	1968-72
Columbia River at Beaver Army Terminal, near Quincy	14246900	256,900	t	1968-70
Columbia River at Wauna	14247295	256,900	t	1972-76
Columbia River at Bradwood	14247400	257,100	t	1977-81
Columbia River at Altoona, WA	14248600	258,000	t	1972-79
Bear Creek near Svenson	14248700	3.33	t	1966-75
PACIFIC SLOPE BASINS IN OREGON				
NEHALEM RIVER BASIN				
Nehalem River near Foss	14301000	667	t	1975-81
			sc	1981
NESTUCCA RIVER BASIN				
Trask River near Tillamook	14302500	145	t	1962-71
Nestucca River near Beaver	14303600	180	t	1965-87
SILETZ RIVER BASIN				
Big Rock Creek near Valsetz	14304850	6.90	t	1979-85
Siletz River at Siletz	14305500	202	t	1979-85
YAQUINA RIVER BASIN				
Yaquina River near Chitwood	14306030	71	sed	1973-74
ALSEA RIVER BASIN				
North Fork Beaver Creek near Seal Rock	14306040	10	t	1966-67
North Fork Alsea River at Alsea	14306100	63	t	1958-66
South Fork Alsea River near Alsea	14306200	49.5	t	1958-63
Fall Creek near Alsea	14306300	29.4	t	1959
Five Rivers near Fisher	14306400	114	t	1959

DISCONTINUED SURFACE-WATER QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
ALSEA RIVER BASIN--Continued				
Alsea River near Tidewater	14306500	334	t, sc	1980-81
			sed	1973-74
Drift Creek near Salado	14306600	20.5	t	1959-63;1969-70
Needle branch near Salado	14306700	0.27	t, sed	1959-73
Flynn Creek near Salado	14306800	0.78	t, sed	1959-73
Deer Creek near Salado	14306810	1.17	t, sed	1959-73
SIUSLAW RIVER BASIN				
Siuslaw River near Mapleton	14307620	588	t	1968-75;1978-81
			sc	1978-81
			sed	1968-75
UMPQUA RIVER BASIN				
South Umpqua River at Days Creek	14308600	641	t	1971-82;1991-92
			tb	1973-82
			sc, ph, do	1991-92
South Umpqua River near Roseburg	14312260	1,798	sc	1971-95
			ph	1972-95
			do	1971-95
North Umpqua River at Winchester	14319500	1,344	t	1971-91
Umpqua River near Elkton	14321000	3,683	t	1971-92
COOS RIVER BASIN				
West Fork Millicoma River near Allegany	14324500	46.9	t	1973-76
COQUILLE RIVER BASIN				
South Fork Coquille River near Illahe	14324700	40.6	t	1971-74
Rock Creek near Illahe	14324800	--	t	1958
South Fork Coquille River near Powers	14324900	93.2	t	1957-70
SIXES RIVER BASIN				
Sixes River at Sixes	14327150	116	t	1968
			sed	1968-70
ROGUE RIVER BASIN				
South Fork Rogue River south of Prospect	14334700	246	t	1969-92
			sed	1977-81
Rogue River at Grants Pass	14361500	2,459	t	1956-58;1974-87
Middle Fork Applegate River near Copper	14361590	50.7	t	1980-87
Elliott Creek near Copper	14361600	51.8	t	1978-87
			sed	1978-80
Carberry Creek near Copper	14361700	68.9	t	1978-87
			sed	1981
Rogue River near Merlin	14370400	3,268	t	1975-87
Rogue River at Marial	14372250	3,812	t	1975-87
Rogue River near Agness	14372300	3,939	t	1961-87
Illinois River near Selma	14378000	665	t	1962-68

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WATER RESOURCES DATA FOR OREGON, 1996

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with state agencies, obtains a large amount of data pertaining to the water resources of Oregon each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Oregon."

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 195 stream-gaging stations, stage only records for 4 gaging stations, 108 partial-record or miscellaneous streamflow stations, and 1 crest-stage, partial-record streamflow station; (2) stage and content records for 34 lakes and reservoirs; (3) water-quality records for 71 streamflow-gaging stations; (4) water-quality for 2 atmospheric disposition stations; (5) air-temperature records for 1 data sites; and (6) light incident for 1 record.

This series of annual reports for Oregon began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one or two volumes, data on quantities of surface water, quality of surface and ground water, and ground-water levels. In 1981, the annual report was divided into two volumes: Volume 1 described the activities for Eastern Oregon, while Volume 2 described the activities for Western Oregon. Beginning with the 1985 water year, presentation of ground-water levels in this report was discontinued. In 1991, the annual report returned to a single volume report.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Oregon were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 10, 11, 13, and 14." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." These Water-Supply Papers may be consulted in the libraries of the principal cities of the United States, or if not out of print, may be purchased from the U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, CO 80225. For further ordering information, telephone (303) 236-7476.

Publications similar to this report are published annually by the Geological Survey for all states. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report OR-96-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. For further ordering information, the Customer Inquiries telephone number is (703) 487-4650.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on back of title page or by telephone (503) 251-3201.

The USGS is continually updating the availability of its information on the World Wide Web. Current streamflow conditions (via satellite) for Oregon and other water resource information can be found at the following Universal Resource Locator (URL): http://oregon.usgs.gov. Nationwide information on water resources, including real-time and historic streamflow data, water-use data, publications and USGS program activities, can be found at URL: http://water.usgs.gov.

COOPERATION

The U.S. Geological Survey and organizations of the State of Oregon have had cooperative agreements for the systematic collection of surface-water records since 1905. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

State of Oregon Water Resources Department, Martha O. Pagel, Director.
State of Oregon Department of Fish and Wildlife, Rudy Rosen, Director.
State of Oregon Department of Environmental Quality, Langdon Marsh, Director.
Clackamas County, Helene K. Lichtman, director.
Coos Bay-North Bend Water Board, Robert K. Schab, General Manager.
Eugene Water and Electric Board, Everett Jordan, General Manager.
Coos County, Board of Commissioners, Beverly Owen, Chair.
Douglas County, Natural Resources Division of Public Works, Frank M. Nielsen, Division Manager.
City of Albany, Steve Bryant, City Manager.
City of Ashland, Department of Public Works, Steven M. Hall, Director.
City of Gresham, Department of Environmental Services, Mel Miracle.
City of McMinnville, Kent Taylor, City Manager.
City of McMinnville Water and Light, John L. Harshman, General Manager.
City of Portland, Bureau of Environmental Services, Dean Marriott, Director.
City of Portland, Bureau of Water Works, Michael F. Rosenberger, Administrator.
City of West Linn, David Monson, Director of Public Works.
The Confederated Tribes of the Umatilla Indian Reservation, Donald G. Sampson, Chair, Board of Trustees.
The Confederated Tribes of the Warm Springs Indian Reservation, Bruce Brunoe, Chair of Tribal Council.
Unified Sewage Agency, Bill Gaffi, General Manager.

Assistance in the form of funds or services was provided by the Forest Service, U.S. Department of Agriculture; Corps of Engineers, U.S. Army; Bonneville Power Administration, U.S. Department of Energy; Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, National Park Service, U.S. Department of the Interior in collection of records for stage and discharge stations and water-quality stations published in this report.

The following organizations aided in collecting records for stations under Federal Energy Regulatory Commission licenses: Eugene Water & Electric Board; Grayco Resources, Inc.; Idaho Power Co.; Pacific Power Co.; Portland General Electric Co.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The hydrology of Oregon is influenced by five mountain ranges with the Cascade Range providing a natural division between western and eastern Oregon. These ranges divide the state into drainage basins and greatly affect the distribution of precipitation. Hydrologic patterns are generally uniform from drainage basin to drainage basin throughout western Oregon; whereas in eastern Oregon, hydrologic patterns vary widely between drainage basins.

Western Oregon, which composes about one-third of the total area of the state, has a climate characterized by moderate temperatures, wet winters, and dry summers. About 80 percent of the precipitation occurs between October and March. Annual precipitation ranges from about 20 inches per year in the lower elevations in the southern part of the area to about 200 inches per year in the Coast and Cascade Ranges. In general, streamflow characteristics are similar, with most of the runoff and flooding on both large and small streams being caused by winter rains. Major floods have occurred when winter rains combine with melting snow.

Eastern Oregon has more complex hydrologic patterns than western Oregon. Precipitation is less than 10 inches per year in the semiarid regions, such as parts of the north-central area, the closed basin in south-central Oregon, and southeastern Oregon. The northeastern part of the state receives as much as 80 inches of precipitation per year, much of it occurring as snowfall. On large streams, flooding can result from winter rains and (or) seasonal snowmelt; in smaller drainage basins, flooding can result from winter rains, seasonal snowmelt, and convection storms. Monthly and annual mean discharges for four representative gages are compared with the 30-year median in figures 3 and 4.

Surface-water Conditions

The Great Flood of 1996

The following was prepared by George H. Taylor, State Climatologist, Oregon Climate Service, Oregon State University for the Pacific Northwest Water Issues Conference held in Portland, Oregon, October 7, 8, 1996.

A series of intense surges of subtropical moisture inundated western Oregon during the period February 5-9. The combination of record-breaking rain, warm temperatures, and a deep snowpack led to severe flooding throughout northern sections of the state. River flood stages were comparable in magnitude to the December, 1964 flood, the largest in Oregon since flood control reservoirs were built in the 1940's and 1950's.

The first precursor to the flooding was an unusually wet winter, causing soils to be saturated and streams and reservoirs to be at high levels. Most of northwest Oregon received at least 125% of normal precipitation for the first four months of the Water Year (October - January). Listed below are a few northwest Oregon stations observed and normal seasonal precipitation for October 1995 - January 1996:

Observed and normal seasonal precipitation, October 1995-January 1996

Location	Observed (inches)	Normal (inches)	Percent of Normal
Laurel Mountain	108.66	59.10	184
Portland	27.46	19.50	141
Eugene	41.55	28.13	148
Government Camp	71.42	46.16	155

Fall and winter had very little snowfall. In mid-January, the snow water average for high-elevation sites (National Resources Conservation Services (NRCS) SNOTEL stations) in the Willamette drainage was only 29% of average. Beginning in mid-January, however, unusally high amounts of snow fell in the middle and high elevations of the Cascades and Coast Range (in many locations, several feet per day were reported for many days). By January 31, the average snowpack for the Willamette drainage had risen to 112% of average.

An intense cold spell during the week of the 29th resulted in very low temperatures in the northern half of the state. Many Willamette Valley stations had lows in the teens for 4 or 5 consecutive days. A number of eastern Oregon locations had lows well below zero. A moderate storm on February 3rd dropped rain on top of frozen soil and roads, causing a major freezing rain episode throughout the Willamette Valley. Traffic was slowed or completely halted in many locations. The hardest hit was the Portland area, where icy conditions lasted for three days, and where wind chill factors reached -20°F or lower.

On February 6th, a strong subtropical jet stream reached Oregon. This warm, very humid air mass, which originated near the Equator in the western Pacific (near the Date Line), brought record rainfall amounts to northern sections of the state. Although such subtropical storms are by no means rare, it is unusual for them to persist with such intensity for such a long period of time (3-4 days). Four day total precipitation for northwestern Oregon locations, as well as the all-time 4-day records (some of them now surpassed) are shown below. The most spectacular total was at Laurel Mountain in the Coast Range. The 4-day total was 27.88 inches (8.20, 7.90, 7.05, and 4.73 inches for February 6-9, respectively).

Maximum 4-day precipitation totals, in inches, for western Oregon locations

Site	4-Day Total Feb. 6-9, 1996	Record 4-Day Total	Year of Record
Astoria	8.88	8.24	1975
Corvallis	8.10	7.84	1974
Eugene	9.14	10.30	1964
Government Camp	11.30	13.84	1964
Hillsboro	6.70	5.91	1974
Hood River	7.50	8.67	1964
Newport	9.81	10.17	1965
Oregon City	7.51	7.29	1964
Portland Airport	7.00	5.10	1994
Salem	8.18	8.69	1937

In addition to the wet conditions, temperatures were unusually mild. In the Willamette Valley, daily minimum temperatures were higher than normal maximum values for early February. Nighttime lows in the mid-50's were quite common. The freezing level quickly moved upward, to 7,000 - 8,000 feet. Rain fell even at mountain pass level. The warm rain and air temperatures quickly began to erode the snowpack. In addition to large amounts of rain, high elevation sites saw significant reductions in snow water equivalent (SWE). Listed below are total precipitation and SWE loss for the period Feruary 5-9 for NRCS SNOTEL stations in Oregon (courtesy NRCS, Portland).

Total precipitation and SWE loss, SNOTEL stations, February 5-9,1996

Site Name	Precipitation (inches)	SWE Loss (inches)	Total (inches)	River Basin	Elevation (feet)
Blazed Alder	18.3	1.8	20.1	Willamette	3650
Daly Lake	10.1	6.1	16.2	Santiam	3360
Greenpoint	9.2	2.2	11.4	Hood	3200
Hogg Pass	9.7	5.1	14.8	Santiam	3500
Holland Meadows	3.9	6.9	10.8	Willamette	4900
Jump-Off-Joe	9.8	2.4	12.2	Santiam	3500
King Mountain	3.0	8.9	11.9	Umpqua	4000
Little Meadows	17.6	9.9	27.5	Santiam	4000
Marion Forks	11.1	12.2	23.3	Santiam	2600
McKenzie	10.8	3.1	13.9	McKenzie	4800
Mt. Hood	11.3	3.4	14.7	Sandy	5400
New Crescent	2.4	3.4	5.8	Deschutes	4800
Ochoco Meadows	1.3	2.9	4.2	Crooked	5200
North Fork	12.1	8.5	20.6	Bull Run	3120
Peavine Ridge	10.6	5.5	16.1	Clackamas	3500
Quartz Peak	1.4	4.5	5.9	Klamath	5700
Red Hill	14.5	5.4	19.9	Hood	4400
Saddle Mountain	20.4	14.0	34.4	Tualatin	3250
Salt Creek Falls	10.2	3.0	13.2	Willamette	4000
Seine Creek	14.0	8.0	22.0	Tualatin	2000
Three Creeks	6.5	2.4	8.9	Deschutes	5650

Streams rose quickly on the 6th and 7th, reaching flood stage in many locations. At Vida on the McKenzie River, the flow jumped from 4,000 ft^3/s on the 5th to over 20,000 ft^3/s on the 6th. Major and minor tributaries throughout western Oregon jumped their banks. Gradually the levels in the major tributaries and the main stem rivers increased as well. Several set all-time flood stage records.

Maximum stage and discharge for flood of February 1996 and a comparison to the maximums prior to February 1996 for selected sites are shown in Table 1. Estimates of the recurrence interval for the February peak is also shown.

Table 1. Maximum stage, discharge and recurrence interval for flood of February 1996 at selected gaging stations.
[mi^2, square miles; ft, feet; ft^3/s, cubic feet per second; ND, not determined; <, less than; >, greater than].

Station Number	Stream and Location	Drainage Area (mi^2)	Period of Record	Maximum prior to February 1996			Maximum during February 1996		
				Date	Stage (ft)	Discharge (ft^3/s)	Stage (ft)	Discharge (ft^3/s)	Estimate of Recurrence interval (years)
Eastern Oregon River Basins									
13333000	Grande Ronde River at Troy	3,275	1944-	12-23-64	11.25	42,200	13.76	51,800	>100
14033500	Umatilla River near Umatilla	2,290	1903-	01-30-65	10.75	19,800	8.49	16,300	ND
14048000	John Day River at McDonald Ferry	7,580	1904-	12-24-64	13.59	42,800	13.16	31,300	25
14091500	Metolius River near Grandview	316	1912-13 1921-	12-24-64	6.81	7,530	7.38	8,430	>100
14097100	Warm Springs River near Kahneeta Hot Springs	526	1972-	02-23-86	10.54	9,240	14.32	22,600	100
14103000	Deschutes River at Moody near Biggs	10,500	1897-99 1906-	12-22-64	11.80	75,500	12.08	67,400	ND
14120000	Hood River at Tucker Bridge near Hood River	279	1897-99 1913-17, 65-	12-13-77	15.59	22,300	17.11	23,300	>10
Sandy River Basin									
14137000	Sandy River near Marmot	262	1911-	12-22-64	17.05	61,400	20.40	48,100	<100
14138800	Blazed Alder Creek near Rhododendron	8.17	1963-	12-22-64	8.25	2,610	7.05	2,020	25
14138850	Bull Run River near Multnomah Falls	47.9	1966-	01-20-72	13.22	8,610	13.60	9,140	>25
Willamette River Basin									
14165000	Mohawk River near Springfield	177	1935-52 1963-	12-22-64	22.60	13,000	23.11	13,500	<50
14178000	North Santiam River below Boulder Creek near Detroit	216	1907-09 1928-	12-22-64	13.76	26,700	11.78	24,000	<100
14182500	Little North Santiam River near Mehama	112	1931-	12-22-64	16.73	36,000	15.29	33,900	>50
14187000	Wiley Creek near Foster	51.8	1947-73 1988-	01-21-72	9.28	9,640	10.59	7,790	<25
14190500	Luckiamute River near Suver	240	1905-11 1940-	12-22-64	34.52	32,900	33.00	24,800	<25
14203500	Tualatin River near Dilley	125	1939-	12-22-64	19.34	17,100	19.06	10,100	ND
14206900	Fanno Creek at 56th Avenue	2.37	1975-77 1990-	02-12-75		237	13.2	733	ND
14207500	Tualatin River at West Linn	706	1928-	12-23-33	17.72	23,300	18.32	26,400	ND
14210000	Clackamas River at Estacada	671	1908-	12-22-64	28.36	86,900	27.57	68,900	ND
14211500	Johnson Creek at Sycamore	26.5	1940-	12-22-64	14.68	2,350	14.28	2,350	<25
Oregon Coast River Basins									
14301000	Nehalem River near Foss	667	1939-	01-09-90	25.07	53,400	29.56	70,300	>100
14301500	Wilson River near Tillamook	161	1914-16 1931-	01-20-72	16.91	36,000	19.51	35,000	50
14305500	Siletz River at Siletz	202	1905-11 1924-	01-28-65	27.32	32,200	24.49	34,700	50

NOTE.--The recurrence interval, or return period, of a flood of a given magnitude is the average interval of time within which the given flood will be exceeded once by the annual maximum discharge. The recurrence interval is inversely related to the chance of a specific flood discharge being exceeded by any one year. Thus, a flood with a 50-year recurrence interval would have 1 chance in 50 of being exceeded in any one year. Recurrence intervals are average figures based on historical data; because the occurrence of floods is erratic, the 50-year flood may not necessarily occur in any given 50-year period, or floods of this magnitude may occur several times during that period. A similar relation is true for a flood of any given recurrence interval.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nations's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorgainc and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and remobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives; (1) Provide a long-term, spatial and temporal record of atmospheric depositino generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO2 emissions that began in 1995 as implementation of the Clean Air Act Ammendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO2 and NOx scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

http://nadp.nrel.colostate.edu/NADP

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is avilable through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1996 water year that began October 1, 1995, and ended September 30, 1996. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The two systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for surface-water stations where only miscellaneous measurements are made. Basin designation is based on the Hydrologic Unit Map for Oregon prepared in cooperation with the U.S. Water Resources Council (1974).

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 14105700, which appears just to the left of the station name, includes the two-digit Part number "14" plus the six-digit downstream-order number "105700." The Part number designates the major river basin; for example, part "14" refers to the Pacific slope basins in Oregon and lower Columbia River basin.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude (figure 1, page 6). The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a one-second grid. This site-identification number, once assigned, is a pure number, and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

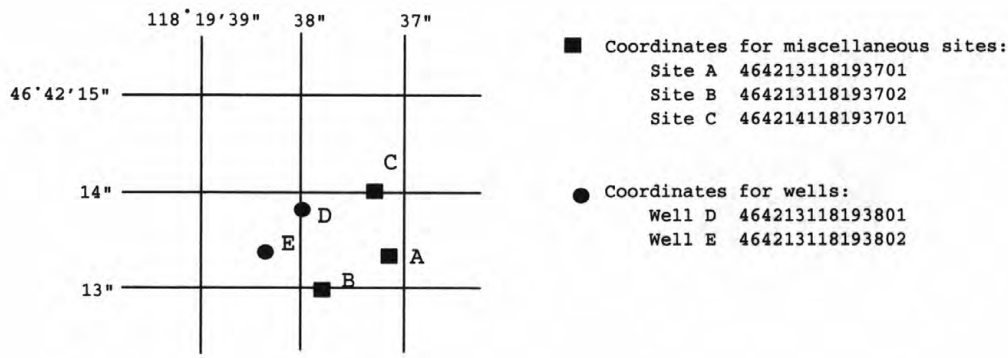

Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude).

Local Identifier Well-Numbering System

In addition to the latitude-longitude based site identification number, wells in the State of Oregon are assigned local well numbers. These numbers are based on and show locations of wells according to the rectangular system for subdivision of public land, indicating township, range, section, and 40-acre tract within the section. For example, in the well number 25/43E-15M1, the part preceding the hyphen indicates successively the township and range (T.25 N., R.43 E.) north and east of the Willamette base line and meridian. The first number following the hyphen indicates the section (sec.15) and the letter (M) given the 40-acre subdivision of the section as shown in figure 2, page 9. The last number (1) is the serial number of the well in that particular 40-acre tract. Thus, the first well recorded in NW 1/4 SW 1/4 sec.15, T.25 N., R.43 E., would have the number 25/43-15M1, and the second well would have the number 25/43-15M2 or 25/43E-15M2.

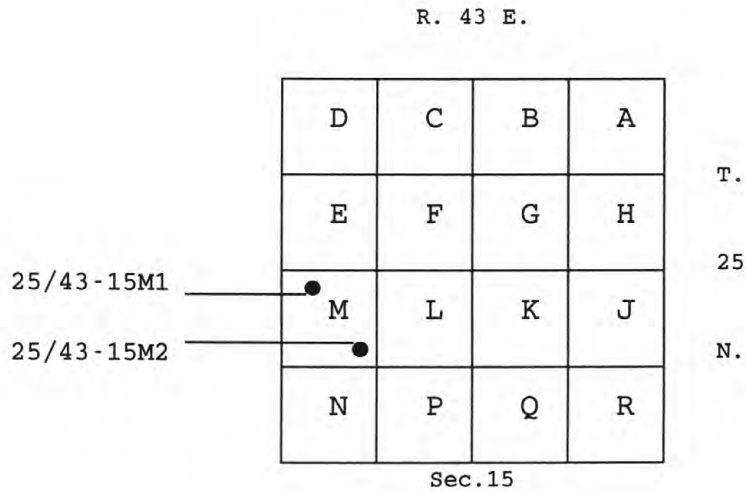

Figure 2. Local identifier well numbering system.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relations between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relation between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey that are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI), Book 3, Chapter A6. These methods are described in standard textbooks, Water-Supply Paper 2175, and the U.S. Geological Survey Techniques of Water Resources Investigations (TWRI's), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross section area. Discharge is computed by multiplying path velocity by the appropriate stage related coefficient and area.

In computing records of lake or reservoir contents, it is necessary to have information available from surveys, curves, or tables that define the relation of stage to content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. Discharges over lake or reservoir spillways are computed from stage-discharge relations much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the validity of the recorded gage height is so questionable that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for

various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharges for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration. Summary statistics were not included for certain sites where these data would be misleading. Contact the District Office for further information concerning summary statistics for these sites.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages are based on information developed by the Hydraulics and Hydrology Committee of the Pacific Northwest River Basins Commission.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means the instantaneous maximum discharge was revised; "(m)" the instantaneous minimum was revised; and "(P)" the peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see "DEFINITION OF TERMS"), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, special methods of computation, conditions that affect natural flow at the station and, possibly, other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic average of the water-year mean discharges. Average discharge is computed only for stations having at least 2 water years of complete record; water years with incomplete record are not included in the computation. The mean-discharge value that uses all published data may differ from that given in the summary statistics data, which is based only on computer-stored data. The summary data does not include values of monthly or yearly data that were determined by various methods for the series of Water-Supply Papers entitled "Compilation of Records of Surface Water of the United States". The average-discharge value is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water projects that significantly alter flow at a station are put into use after the station has been in operation for a period of years, the new average is computed as soon as 2 water years of record have accumulated after the project began.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports

may wish to contact the Oregon office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data table of daily mean values

The daily table for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEAR _____-_____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly and daily flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS_____-_____", will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using computerized data for complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in

footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes. At least 5 complete years of record must be available before this statistic is published for the designated period.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage

stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual state data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under the "REMARKS" paragraph. "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record. Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; the nearest tenth between 1.0 and 10 ft^3/s; whole numbers between 10 and 1,000 ft^3/s; and 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff because of the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation, or other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, changes in contents of reservoirs, or other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Monthly records for several ungaged sites are given in a separate section following the gaged sites. The accuracy of records for ungaged sites is generally lower than that for gaged sites, depending on the precision of the computation method and the accuracy of data used in the computations. For most gaging stations, unpublished, detailed information, on file in the Oregon office, includes discharge measurements, gage-height records, and rating tables. Many gaging-station records in Oregon through 1987 have been analyzed to determine several statistical summaries: (1) The number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

Other Federal and State agencies have collected discharge data at other sites in Oregon during the current water year. Although these records have not been published by the U.S. Geological Survey, the National Water Data Exchange, NAWDEX, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of these sites and will furnish information about them.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, it is important that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, treating the samples to prevent changes in quality pending analysis, and shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are detailed in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapter A1, A3, and A4. These references are listed in the PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. These methods are consistent with ASTM standards and generally follow ISO standards. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey Oregon office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see "DEFINITION OF TERMS") are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S. Geological Survey office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Oregon office.

Sediment

Suspended-sediment concentrations are determined from samples collected by one of the standard sampling techniques discussed in TWRI, Book 3, Chapter C2, "Field methods for measurement of fluvial sediment." Samples are obtained using standard depth- or point-integrating samplers, or by means of an approved pumping sampler. Mean concentrations for the sampled cross section are in turn determined from these samples.

During periods of rapidly changing flow or rapidly changing suspended-sediment concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

At other stations, suspended-sediment samples were collected periodically. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, periodic measurements of particle-size distributions for the suspended-sediment, bed-load, and bed-material samples are included for stations where samples were obtained to measure this parameter.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for identification of biological populations, samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National WATer Data STOrage and REtrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia and consists of related files and data bases.

* Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
* Daily Values File - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
* Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
* Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
* Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk and on CD-ROM discs. For the 1990-93 water years, all water-data reports are available on Compact Disc - Read Only Memory (CD-ROM).

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters (mL) of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warmblooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial

growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Base flow. See Base runoff.

Base runoff refers to sustained or fair weather runoff. In most streams, base runoff is composed largely of ground-water effluent. The term base flow is often used in the same sense as base runoff. However, the distinction is the same as that between streamflow and runoff. When the concept in the terms base flow and base runoff is that of the natural flow in a stream, base runoff is the logical term.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measur of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnance at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second-day [$(ft^3/s)/d$] is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [$(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45-um membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

Hydrologic Bench-Mark Network is a network of more than 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in national or regional water-quality planning and management. The several hundred sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objective of NASQAN is to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting. The design of the network is intended to provide data for (1) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (2) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (3) a nationally consistent data base useful for water-quality assessment and hydrologic research.

National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

NTU (Nephelometric Turbidity Unit) is a method of quantitative analysis in which

the concentration or particle size of suspended matter in a liquid is determined by measurement of light absorption.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and (or) water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	0.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1 x 10E-12) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 10E+10 radioactive disintegrations per second. A picocurie yields 2.22 disintegrations per minute (dpm).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg 0/(m^2.time)] for periphyton and macrophytes and [mg 0/(m^3.time)] for phytoplankton are units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing

such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level, in this report, refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed very close to the bed surface. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total-sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Seven-day 10-year low flow (7 Q10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-um filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-um membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the

constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classificiation of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom..... Animal
Phylum..... Arthropoda
Class..... Insecta
Order..... Ephemeroptera
Family..... Ephemeridae
Genus..... *Hexagenia*
Species..... *Hexagenia limbata*

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. Water temperature--influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. Application of seismic-refraction techniques to hydrologic studies, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

2-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

2-E2. Borehole geophysics applied to ground-water investigations, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.

2-F1. Application of drilling, coring, and sampling techniques to test holes and wells, by Eugene Shuter and W. E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.

3-A1. General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: USGS-TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3. Chapter A5. 1967. 29 pages.

3-A6. General procedure for gaging streams, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. Stage measurement at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. Measurement of time of travel in streams by dye tracing, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

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3-A10. Discharge ratings at gaging stations, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. Measurement of discharge by the moving-boat method, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. Fluorometric procedures for dye tracing, Revised, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS- -TWRI Book 3, Chapter A12. 1986. 34 pages.

3-A13. Computation of continuous records of streamflow, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. Use of flumes in measuring discharge, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. Measurement of discharge using tracers, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

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3-A20. Simulation of soluable waste transport and buildup in surface waters using tracers, by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

3-A21. Stream-gaging cableways, by C. Russell Wagner: USGS--TWRI Book 3, Chapter A21. 1995. 56 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: USGS-- TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

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3-B6. The principle of superposition and its application in ground-water hydraulics, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

3-B7. Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow, by E. J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 pages.

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3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

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4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

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4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

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4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, by M.J. Fishman and L. C. Friedman, editors: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

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5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

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6-A3. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual, by L. J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages

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6-A4. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions, by R. L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.

6-A5. A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details, by L. J. Torak: USGS--TWRI Book 6, Chapter A5, 1993. 243 pages.

6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by Eric D. Swain and Eliezer J. Wexler. 1995. 125 pages.

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

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8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

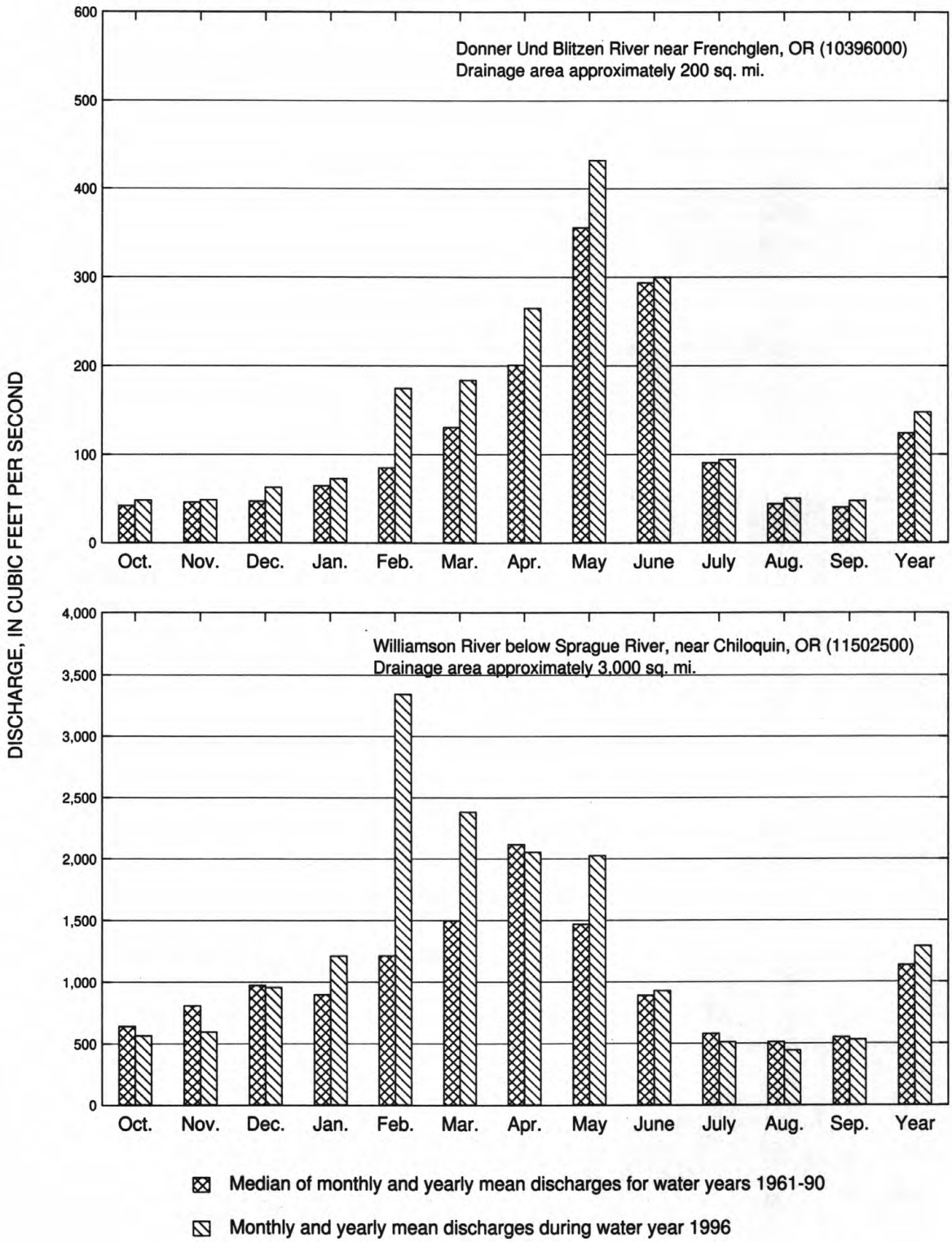

Figure 3. Discharge during 1996 water year compared with median discharge for period 1961-90 for two representative gaging stations in Eastern Oregon.

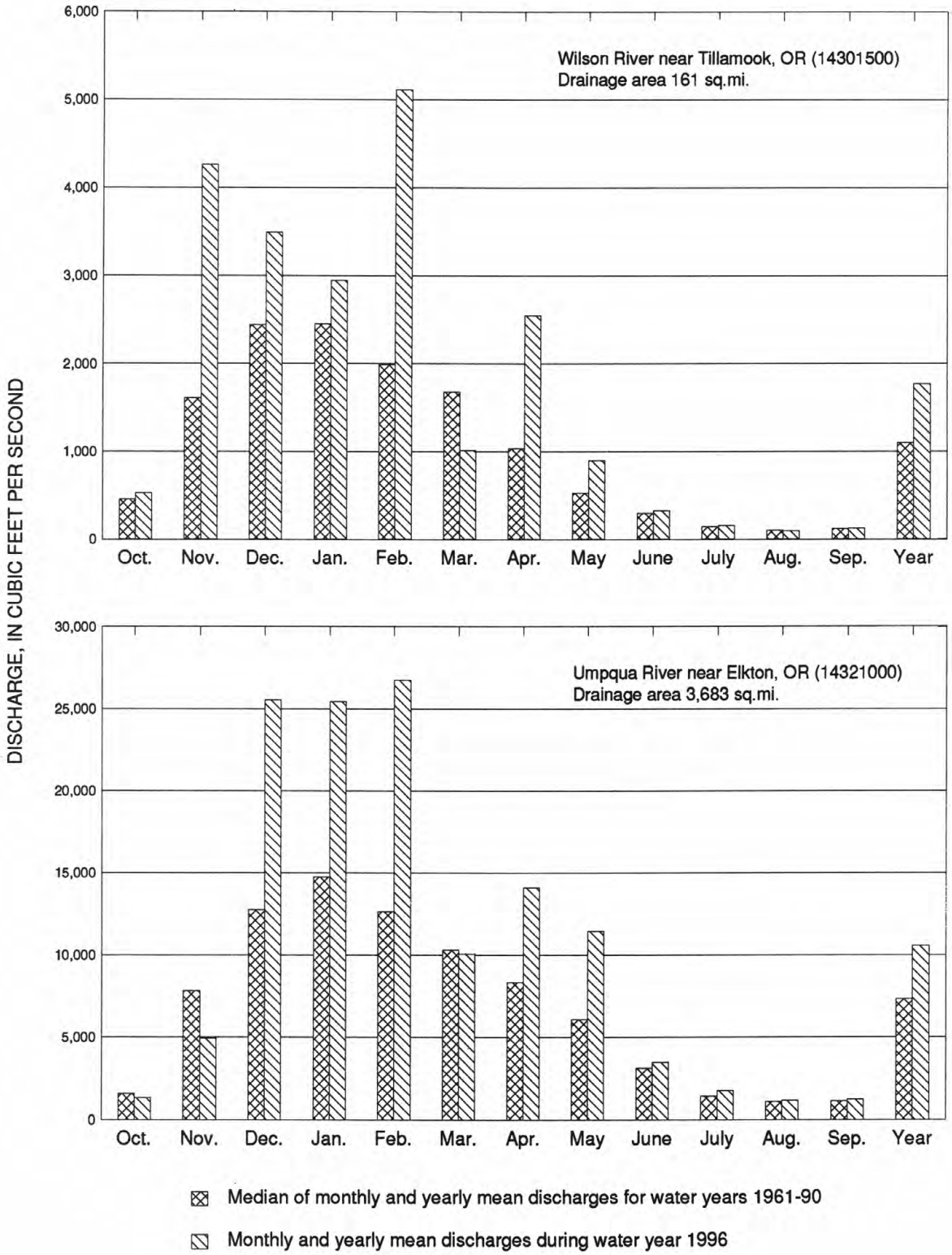

Figure 4. Discharge during 1996 water year compared with median discharge for period 1961-90 for two representative gaging stations in Western Oregon.

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SURFACE-WATER RECORDS

Remark Codes

The following remark codes may appear with the water-quality data in this section:

PRINTED OUTPUT	REMARK
E	Estimated value
<	Actual value is known to be less than the value shown
>	Actual value is known to be greater than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
ND	Materials specifically analyzed for but not detected

Dissolved Trace-Element Concentrations

NOTE.--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network Procedures

NOTE.--Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

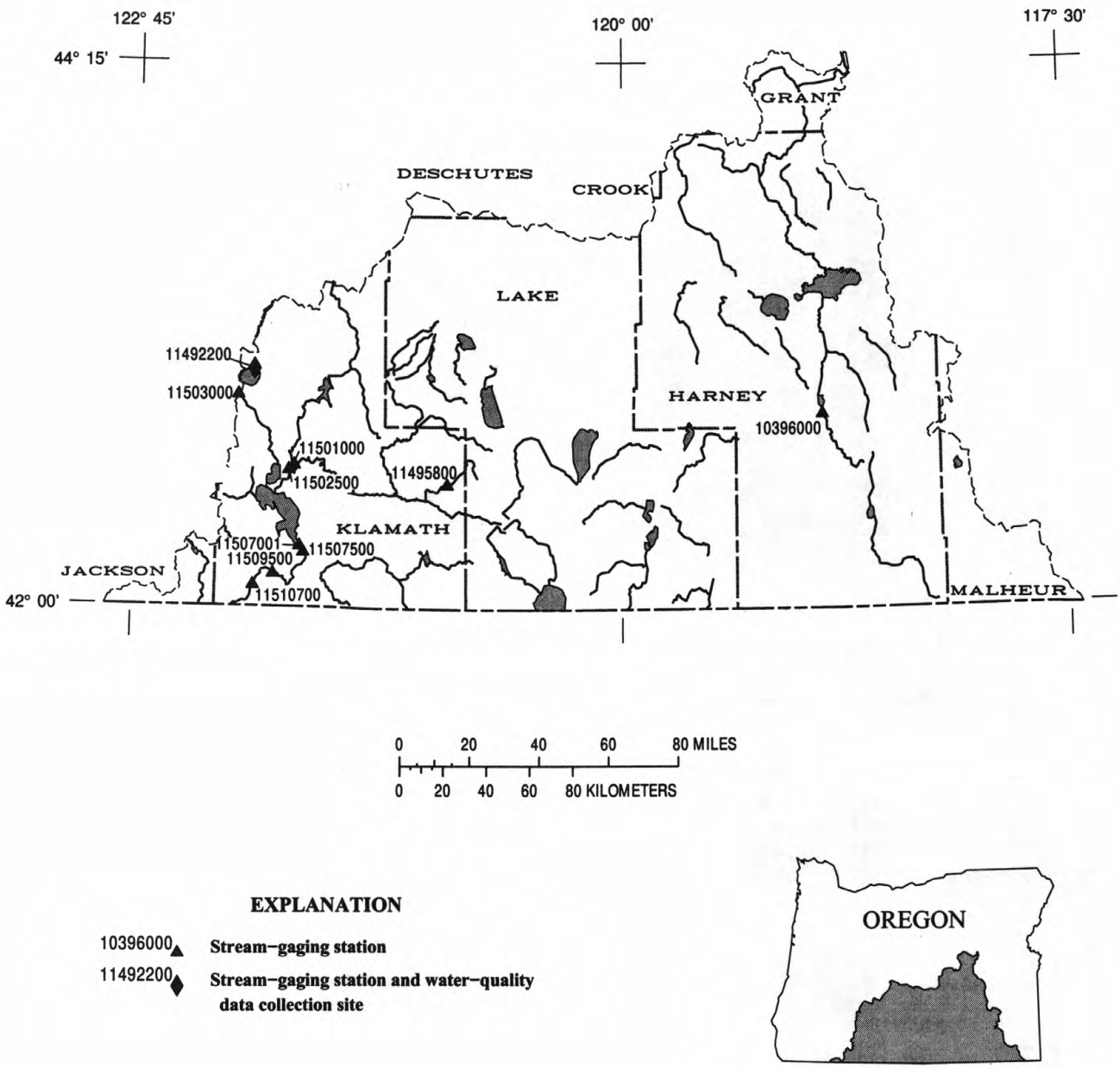


Figure 5. Location of surface-water and water-quality stations in The Great Basin and the Klamath River Basin.

THE GREAT BASIN

MALHEUR AND HARNEY LAKES BASIN

10396000 DONNER UND BLITZEN RIVER NEAR FRENCHGLEN, OR

LOCATION.--Lat 42°47'28", long 118°52'00", in NW 1/4 NW 1/4 sec.20, T.32 S., R.32-1/2 E., Harney County, Hydrologic Unit 17120003, Bureau of Land Management land, on left bank 1.5 mi upstream from upper diversions for Malheur National Wildlife Refuge, 2.0 mi downstream from Fish Creek, and 3.5 mi southeast of Frenchglen.

DRAINAGE AREA.--200 mi^2, approximatly.

PERIOD OF RECORD.--March 1911 to September 1913, March 1914 to September 1916, April 1917 to September 1921, August to November 1929, April to September 1930, December 1937 to current year. Monthly discharge only for some periods, published in WSP 1314. Published as "near Diamond" 1911-21. Records of discharge for January 1909 to September 1910 (published in WSP 270, 290, and 370, for a nonequivalent site as "near Diamond") have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 330: Drainage area (former site). WSP 860: Drainage area (present site). WSP 1564: 1938-39(M), 1942-43(M), 1948(M), 1951(P), 1952-53. WSP 1714: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,254 ft above sea level (levels by Fish and Wildlife Service). Prior to December 1937, nonrecording gage at several sites within 2 mi downstream at different datums. Dec. 6, 1937, to Feb. 14, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. Periodic water-quality records for the period March 1975 to September 1986 and continuous water-quality records for the period October 1975 to September 1981 have been collected at this location. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--66 years (water years 1912-13, 1915-16, 1918-21, 1939-96), 126 ft^3/s, 91,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,270 ft^3/s Apr. 26, 1978, gage height, 7.15 ft, from floodmarks, from rating curve extended above 1,900 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 4.2 ft^3/s Dec. 9, 1972, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	1930	699	3.81	May 15	0530	*1,120	*4.40

Minimum discharge, 25 ft^3/s Dec. 24, result of freezeup.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	44	57	e110	e30	88	193	348	342	158	57	45
2	49	44	61	e95	e30	98	334	360	379	167	56	46
3	49	47	48	e85	e30	194	210	318	475	163	55	45
4	51	52	52	e80	e45	302	182	299	534	153	55	45
5	49	50	58	69	e110	206	169	290	522	136	55	46
6	49	45	78	69	e290	133	182	286	465	118	54	46
7	48	47	60	81	e450	175	223	291	479	110	53	46
8	48	46	54	79	e450	256	294	293	512	111	52	45
9	48	48	71	e95	e360	240	333	287	482	109	51	44
10	48	46	74	e110	e260	194	325	295	416	111	50	45
11	48	46	62	104	209	201	287	317	365	105	50	44
12	52	55	84	80	176	206	277	385	324	97	51	44
13	49	63	86	75	159	198	242	483	309	95	51	45
14	49	54	70	67	147	156	224	705	306	90	52	51
15	48	49	69	72	145	150	229	973	299	86	54	57
16	48	48	66	86	157	153	248	826	303	86	50	53
17	47	47	50	64	173	147	242	675	279	83	48	53
18	48	47	e45	66	226	158	239	577	215	80	48	50
19	47	47	e45	71	253	169	220	601	181	76	48	52
20	46	47	e55	65	284	194	211	499	169	72	47	49
21	47	47	e55	59	169	207	220	433	173	71	48	48
22	47	46	e45	62	141	222	222	566	184	70	47	48
23	47	46	e35	59	129	195	284	406	164	68	46	48
24	47	45	e30	56	133	178	428	374	171	67	46	47
25	47	48	e35	65	113	165	367	348	159	66	45	47
26	49	54	e40	60	111	151	338	358	153	64	45	47
27	49	48	e55	60	103	153	329	370	162	63	48	47
28	48	50	e70	56	109	247	293	372	175	61	52	46
29	47	53	88	59	92	211	290	365	150	62	47	46
30	47	51	e130	57	---	213	319	349	150	61	46	46
31	48	---	e120	e40	---	159	---	339	---	60	45	---
TOTAL	1494	1460	1948	2256	5084	5719	7954	13388	8997	2919	1552	1421
MEAN	48.2	48.7	62.8	72.8	175	184	265	432	300	94.2	50.1	47.4
MAX	52	63	130	110	450	302	428	973	534	167	57	57
MIN	46	44	30	40	30	88	169	286	150	60	45	44
AC-FT	2960	2900	3860	4470	10080	11340	15780	26560	17850	5790	3080	2820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1996, BY WATER YEAR (WY)

MEAN	43.6	47.7	55.0	64.7	92.3	151	222	374	287	98.3	47.8	42.2
MAX	86.4	94.3	181	239	310	500	666	812	802	320	113	87.3
(WY)	1985	1985	1965	1971	1921	1993	1952	1984	1917	1984	1984	1984
MIN	24.2	25.3	25.2	25.0	27.8	40.5	61.2	105	44.7	28.9	21.1	22.2
(WY)	1993	1962	1960	1916	1964	1977	1968	1992	1992	1968	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1911 - 1996	
ANNUAL TOTAL	60361		54192			
ANNUAL MEAN	165		148		126	
HIGHEST ANNUAL MEAN					273	1984
LOWEST ANNUAL MEAN					49.1	1992
HIGHEST DAILY MEAN	1580	May 6	973	May 15	2700	Mar 17 1993
LOWEST DAILY MEAN	15	Jan 1	30	Dec 24	11	Nov 16 1961
ANNUAL SEVEN-DAY MINIMUM	34	Jan 1	42	Jan 29	14	Jan 2 1974
ANNUAL RUNOFF (AC-FT)	119700		107500		91280	
10 PERCENT EXCEEDS	435		344		326	
50 PERCENT EXCEEDS	93		75		58	
90 PERCENT EXCEEDS	47		46		32	

e Estimated

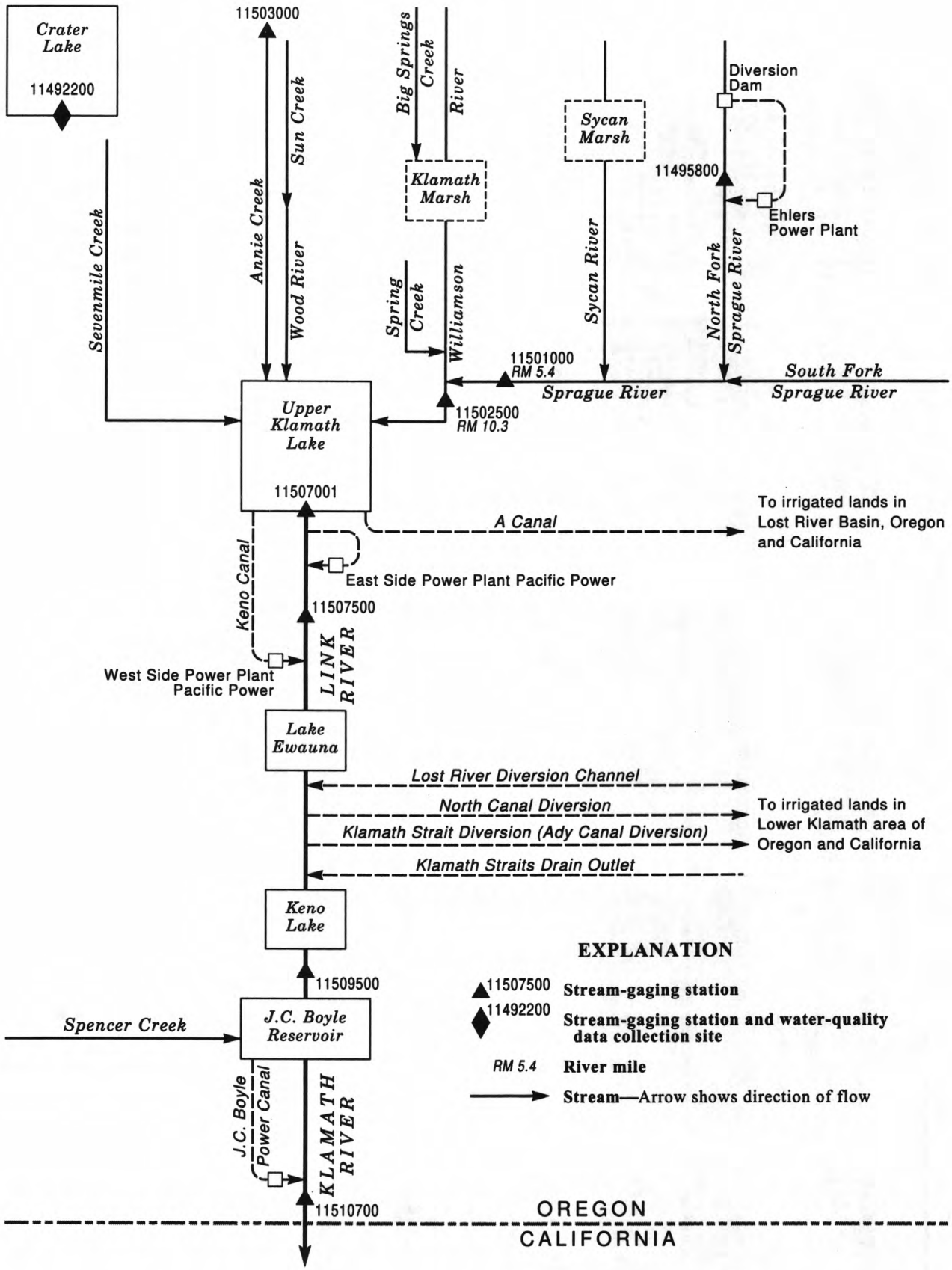


Figure 6. Schematic diagram showing gaging stations and major diversions in the Klamath Basin in Oregon.

11492200 CRATER LAKE NEAR CRATER LAKE, OR
(Hydrologic bench-mark station)

LOCATION.--Lat 42°58'33", long 122°05'17" (revised), Crater Lake National Park and Vicinity Quadrangle, Klamath County, Hydrologic Unit 18010201, at boat harbor at end of trail in Cleetwood Cove and 6 mi northeast of Crater Lake post office.

DRAINAGE AREA.--26.2 mi^2, of which 20.5 mi^2 is lake area at elevation 6,176 ft.

WATER-ELEVATION RECORDS

PERIOD OF RECORD.--October 1961 to current year. 1878 to September 1961 (fragmentary records) available in files of U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to September 1961, nonrecording gage and various reference points used near old boat landing at abandoned trail (Eagle Cove) directly across Lake.

REMARKS.--Crater Lake occupies the caldera of prehistoric Mount Mazama. It has no visible inlet or outlet. Over a period of years precipitation and runoff from snowmelt on the walls of the crater are offset by seepage and evaporation. Records of accumulated annual precipitation, collected at the north rim of Crater Lake as part of the operation of this station, are published annually in reports of the National Weather Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 6,179.34 ft Mar. 25, 1975; minimum observed, 6,163.2 ft Sept. 10, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 6,180.5 ft, average of several observations of line of crustose lichens made between 1916 and 1960; that stage may have occurred near the close of the 19th century. The occurrence of living pine trees slightly higher suggests that the lake has not been materially higher for several centuries.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 6,172.17 ft May 22-24; minimum, 6,167.31 Nov. 5-7.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6167.77	6167.39	6168.32	6169.68	6170.61	6171.21	6171.20	6171.63	6172.10	6171.97	6171.67	6171.13
2	6167.75	6167.37	6168.29	6169.68	6170.60	6171.20	6171.21	6171.62	6172.10	6171.97	6171.64	6171.11
3	6167.78	6167.35	6168.36	6169.70	6170.61	6171.21	6171.21	6171.60	6172.10	6171.96	6171.62	6171.09
4	6167.75	6167.34	6168.38	6169.68	6170.62	6171.24	6171.20	6171.59	6172.10	6171.94	6171.61	6171.06
5	6167.73	6167.31	6168.52	6169.68	6170.71	6171.26	6171.18	6171.57	6172.10	6171.94	6171.56	6171.04
6	6167.71	6167.31	6168.55	6169.67	6170.75	6171.25	6171.17	6171.57	6172.10	6171.93	6171.55	6171.03
7	6167.70	6167.31	6168.54	6169.72	6170.75	6171.24	6171.17	6171.54	6172.09	6171.92	6171.54	6171.00
8	6167.67	6167.47	6168.59	6169.74	6170.83	6171.23	6171.15	6171.53	6172.09	6171.91	6171.53	6170.99
9	6167.64	6167.45	6168.66	6169.77	6170.89	6171.23	6171.14	6171.52	6172.09	6171.91	6171.52	6170.98
10	6167.63	6167.46	6168.75	6169.76	6170.89	6171.22	6171.15	6171.50	6172.07	6171.91	6171.51	6170.97
11	6167.68	6167.62	6168.85	6169.74	6170.88	6171.23	6171.19	6171.50	6172.07	6171.90	6171.48	6170.95
12	6167.67	6167.72	6169.22	6169.74	6170.88	6171.22	6171.21	6171.50	6172.07	6171.89	6171.47	6170.92
13	6167.65	6167.72	6169.25	6169.72	6170.87	6171.20	6171.21	6171.59	6172.06	6171.88	6171.46	6170.90
14	6167.64	6167.71	6169.34	6169.73	6170.86	6171.19	6171.19	6171.72	6172.06	6171.87	6171.44	6170.93
15	6167.65	6167.72	6169.37	6169.84	6170.85	6171.18	6171.19	6171.75	6172.04	6171.86	6171.43	6170.98
16	6167.60	6167.70	6169.36	6169.87	6170.86	6171.16	6171.24	6171.81	6172.04	6171.85	6171.41	6170.98
17	6167.63	6167.75	6169.34	6169.84	6170.92	6171.14	6171.25	6171.96	6172.03	6171.86	6171.38	6170.95
18	6167.59	6167.73	6169.34	6169.95	6170.97	6171.13	6171.23	6172.01	6172.01	6171.82	6171.37	6170.93
19	6167.56	6167.72	6169.33	6170.04	6170.97	6171.12	6171.30	6172.01	6171.99	6171.80	6171.35	6170.93
20	6167.55	6167.70	6169.31	6170.16	6171.04	6171.11	6171.30	6172.00	6171.98	6171.79	6171.34	6170.90
21	6167.52	6167.71	6169.30	6170.19	6171.08	6171.12	6171.29	6172.16	6171.97	6171.78	6171.31	6170.88
22	6167.50	6167.71	6169.28	6170.18	6171.08	6171.14	6171.38	6172.17	6171.97	6171.77	6171.29	6170.86
23	6167.49	6167.70	6169.26	6170.34	6171.17	6171.12	6171.55	6172.17	6172.01	6171.76	6171.28	6170.85
24	6167.46	6167.74	6169.22	6170.40	6171.16	6171.10	6171.68	6172.15	6172.01	6171.75	6171.27	6170.84
25	6167.47	6167.81	6169.23	6170.43	6171.16	6171.07	6171.68	6172.15	6172.00	6171.73	6171.26	6170.81
26	6167.48	6167.81	6169.20	6170.43	6171.14	6171.07	6171.66	6172.14	6172.00	6171.72	6171.25	6170.79
27	6167.47	6167.85	6169.21	6170.56	6171.12	6171.16	6171.65	6172.13	6172.01	6171.71	6171.23	6170.78
28	6167.46	6167.87	6169.25	6170.59	6171.22	6171.14	6171.64	6172.13	6171.99	6171.70	6171.21	6170.77
29	6167.45	6167.98	6169.40	6170.60	6171.22	6171.12	6171.63	6172.12	6171.99	6171.70	6171.19	6170.76
30	6167.44	6168.22	6169.70	6170.62	---	6171.10	6171.63	6172.11	6171.98	6171.69	6171.17	6170.75
31	6167.41	---	6169.68	6170.62	---	6171.16	---	6172.10	---	6171.68	6171.15	---
MAX	6167.78	6168.22	6169.70	6170.62	6171.22	6171.26	6171.68	6172.17	6172.10	6171.97	6171.67	6171.13
MIN	6167.41	6167.31	6168.29	6169.67	6170.60	6171.07	6171.14	6171.50	6171.97	6171.68	6171.15	6170.75

CAL YR 1995 MAX 6169.70 MIN 6166.64
WTR YR 1996 MAX 6172.17 MIN 6167.31

11492200 CRATER LAKE NEAR CRATER LAKE, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1963 to current year.

INSTRUMENTATION.--Temperature recorder from October 1963 to current year. Elevation of probe is approximately 6,157 ft above sea level.

REMARKS.--Samples were collected at boat harbor at end of trail in Cleetwood Cove and 6 mi northeast of Crater Lake post office. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 18.5°C Aug. 9, 10, 1978, several days in July and August, 1994; minimum recorded, 0.5°C on several days in 1969, but may have been as low or lower during period of missing record Oct. 29, 1985 to July 1, 1986.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 16.5°C July 27, Aug. 1, 2, 10, 11, 14, 26; minimum, 3.0°C Feb. 28, 29.

WATER-QUALITY DATA

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)
OCT 1995												
10...	1230	112	7.0	11.0	0.2	--	28	6.8	2.6	10	42	0.8
JUL 1996												
25...	1215	111	7.2	15.0	1.2	600	27	6.5	2.5	10	43	0.8

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY, DIS IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE, DIS IT FIELD (MG/L AS HCO3) (00453)	CARBONATE, DIS IT FIELD (MG/L AS CO3) (00452)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT 1995												
10...	1.6	30	37	0	9.5	9.6	<0.1	17	75	75	0.10	<0.015
JUL 1996												
25...	1.8	30	37	0	9.4	9.0	0.1	18	80	76	0.11	--

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM, DISSOLVED (UG/L AS LI) (01130)
OCT 1995											
10...	<0.01	<0.2	<0.05	<0.01	<0.01	0.02	<10	5	<3	<3	44
JUL 1996											
25...	--	--	--	--	--	--	11	6	<3	8	46

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS, (UG/L) (75990)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)
OCT 1995											
10...	<1	<10	<1	<1	<1	56	<0.01	<0.001	<6	<0.02	0.01
JUL 1996											
25...	1	<10	<1	<1	<1	58	<0.01	0.001	<6	0.04	0.01

11492200 CRATER LAKE NEAR CRATER LAKE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.0	12.5	12.5	9.0	9.0	9.0	6.5	6.0	6.5	5.0	5.0	5.0
2	13.0	12.5	12.5	9.0	9.0	9.0	6.5	6.0	6.0	5.0	5.0	5.0
3	13.0	12.0	12.5	9.0	8.5	8.5	6.0	6.0	6.0	5.0	5.0	5.0
4	12.5	12.0	12.5	8.5	7.5	8.5	6.0	6.0	6.0	5.0	4.5	5.0
5	12.5	12.0	12.0	8.5	7.5	8.0	6.0	6.0	6.0	4.5	4.5	4.5
6	12.0	12.0	12.0	8.5	7.5	8.0	6.0	6.0	6.0	5.0	4.5	5.0
7	12.0	12.0	12.0	8.0	7.5	8.0	6.0	5.5	6.0	4.5	4.5	4.5
8	12.0	11.5	11.5	8.0	7.5	8.0	6.0	6.0	6.0	5.0	4.5	5.0
9	12.0	11.5	11.5	8.0	7.5	7.5	6.0	6.0	6.0	5.0	4.5	4.5
10	11.5	11.5	11.5	7.5	7.5	7.5	6.0	5.5	5.5	5.0	4.5	4.5
11	11.5	11.0	11.5	7.5	7.0	7.5	5.5	5.5	5.5	5.0	4.5	5.0
12	11.0	11.0	11.0	7.5	7.0	7.5	5.5	5.5	5.5	4.5	4.5	4.5
13	11.0	11.0	11.0	7.5	6.5	7.0	5.5	5.5	5.5	4.5	4.5	4.5
14	11.0	11.0	11.0	8.0	6.5	7.5	5.5	5.5	5.5	4.5	4.5	4.5
15	11.0	10.5	11.0	7.5	6.5	7.5	5.5	5.0	5.5	4.5	4.5	4.5
16	11.0	10.5	10.5	7.5	7.0	7.0	5.5	5.0	5.5	4.5	4.5	4.5
17	10.5	10.5	10.5	7.5	7.0	7.0	5.5	5.5	5.5	4.5	4.5	4.5
18	11.0	10.5	10.5	7.5	7.0	7.0	5.5	5.0	5.5	4.5	4.5	4.5
19	10.5	10.0	10.5	7.0	6.5	7.0	5.5	5.0	5.5	4.5	4.5	4.5
20	10.0	10.0	10.0	7.0	6.5	7.0	5.0	5.0	5.0	4.5	4.5	4.5
21	10.0	10.0	10.0	7.0	6.0	7.0	5.0	5.0	5.0	4.5	4.5	4.5
22	10.0	10.0	10.0	7.0	6.0	7.0	5.0	5.0	5.0	4.5	4.5	4.5
23	10.0	9.5	10.0	7.0	7.0	7.0	5.0	5.0	5.0	4.5	4.0	4.5
24	10.0	9.5	9.5	7.0	6.5	7.0	5.0	5.0	5.0	4.5	4.0	4.5
25	9.5	9.5	9.5	7.0	6.5	7.0	5.0	5.0	5.0	4.5	4.0	4.5
26	9.5	9.5	9.5	7.0	6.5	6.5	5.0	5.0	5.0	4.5	4.0	4.0
27	9.5	9.0	9.5	7.0	6.5	6.5	5.0	5.0	5.0	4.0	4.0	4.0
28	9.5	9.5	9.5	7.0	6.5	6.5	5.0	5.0	5.0	4.0	4.0	4.0
29	9.5	9.5	9.5	6.5	6.5	6.5	5.0	5.0	5.0	4.0	4.0	4.0
30	9.5	9.0	9.5	6.5	6.5	6.5	5.0	5.0	5.0	4.0	4.0	4.0
31	9.5	9.0	9.5	---	---	---	5.0	5.0	5.0	4.0	4.0	4.0
MONTH	13.0	9.0	11.0	9.0	6.0	7.5	6.5	5.0	5.5	5.0	4.0	4.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.0	4.0
2	4.0	4.0	4.0	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.0	4.0
3	4.0	3.5	4.0	3.5	3.5	3.5	4.5	4.0	4.0	4.5	4.0	4.5
4	3.5	3.5	3.5	4.0	3.5	3.5	4.5	4.0	4.0	4.5	4.0	4.5
5	4.0	3.5	4.0	4.0	3.5	3.5	4.5	4.0	4.0	4.5	4.0	4.5
6	4.0	4.0	4.0	4.0	3.5	4.0	4.5	4.0	4.0	4.5	4.0	4.5
7	4.0	4.0	4.0	4.0	3.5	4.0	4.5	4.0	4.5	4.5	4.0	4.5
8	4.0	4.0	4.0	4.0	3.5	4.0	4.5	4.0	4.0	4.5	4.0	4.5
9	4.0	4.0	4.0	4.0	3.5	4.0	4.5	4.0	4.0	4.5	4.5	4.5
10	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.0	4.5
11	4.0	4.0	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.5	4.5	4.5
12	4.0	4.0	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.5	4.5	4.5
13	4.0	4.0	4.0	4.0	3.5	3.5	4.5	4.0	4.0	4.5	4.5	4.5
14	4.0	4.0	4.0	4.0	3.5	4.0	4.5	4.0	4.0	4.5	4.5	4.5
15	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
16	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
17	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
18	4.0	4.0	4.0	4.5	4.0	4.5	4.0	4.0	4.0	4.5	4.5	4.5
19	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
20	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
21	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
22	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
23	4.0	4.0	4.0	4.0	3.5	4.0	4.0	4.0	4.0	5.0	4.5	4.5
24	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5
25	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.5	4.5	4.5
26	3.5	3.5	3.5	4.0	4.0	4.0	4.5	4.0	4.0	5.5	4.5	5.0
27	4.0	3.5	3.5	4.0	4.0	4.0	4.5	4.0	4.0	5.5	5.0	5.0
28	3.5	3.0	3.5	4.0	3.5	4.0	4.5	4.0	4.0	5.0	4.5	5.0
29	3.5	3.0	3.5	4.0	4.0	4.0	4.5	4.0	4.5	5.0	4.5	4.5
30	---	---	---	4.0	4.0	4.0	4.5	4.0	4.5	5.0	4.5	4.5
31	---	---	---	4.0	4.0	4.0	---	---	---	5.0	4.5	4.5
MONTH	4.0	3.0	4.0	4.5	3.5	4.0	4.5	4.0	4.0	5.5	4.0	4.5

11492200 CRATER LAKE NEAR CRATER LAKE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	5.5	4.5	5.0	9.5	8.0	9.0	16.5	15.5	16.0	16.0	15.0	15.5
2	5.5	5.5	5.5	12.5	8.5	10.5	16.5	16.0	16.0	15.5	15.0	15.0
3	6.0	5.5	6.0	12.5	10.5	11.5	16.0	14.0	15.0	15.5	15.0	15.0
4	7.5	5.5	6.5	12.0	10.5	11.5	14.5	14.0	14.0	15.0	15.0	15.0
5	8.5	7.0	8.0	11.5	10.5	11.0	14.5	14.0	14.0	15.0	14.5	15.0
6	8.0	7.0	7.5	11.5	11.0	11.0	14.0	13.5	13.5	15.0	14.5	14.5
7	8.0	6.5	7.5	11.5	11.0	11.0	14.0	13.5	14.0	14.5	14.5	14.5
8	9.5	7.0	8.0	11.5	11.0	11.0	14.0	14.0	14.0	14.5	14.5	14.5
9	10.0	8.0	9.5	12.5	11.0	11.5	14.5	13.5	14.0	14.5	14.5	14.5
10	8.5	7.0	8.0	12.5	11.5	12.0	16.5	14.5	15.0	15.0	14.5	14.5
11	8.0	6.0	7.0	13.5	12.0	12.5	16.5	15.5	16.5	15.0	14.5	15.0
12	8.0	7.0	7.5	13.5	12.0	12.5	16.0	15.5	15.5	15.0	15.0	15.0
13	8.0	7.5	8.0	14.0	11.5	13.0	16.0	15.5	15.5	15.0	14.5	14.5
14	8.5	7.0	8.0	14.0	12.5	13.0	16.5	15.5	16.0	14.5	14.0	14.0
15	9.0	7.0	8.0	14.0	12.0	13.0	16.0	15.5	15.5	14.0	13.5	13.5
16	9.0	7.0	8.0	15.5	12.5	14.5	16.0	15.0	16.0	13.5	13.0	13.5
17	10.0	8.0	9.0	15.5	15.0	15.0	16.0	15.5	15.5	13.0	13.0	13.0
18	10.0	8.0	9.5	15.0	13.0	14.5	16.0	15.5	16.0	13.0	12.0	12.5
19	9.5	7.0	8.5	13.0	12.5	13.0	16.0	15.5	15.5	12.5	12.5	12.5
20	8.0	6.5	8.0	13.5	12.5	13.0	16.0	15.5	15.5	12.5	12.5	12.5
21	8.0	6.5	7.5	14.0	12.0	13.5	15.5	15.0	15.5	12.5	12.0	12.5
22	8.0	6.5	7.5	13.5	12.0	13.0	15.5	15.0	15.0	12.5	12.0	12.0
23	9.0	7.5	8.5	13.5	12.5	13.0	15.0	15.0	15.0	12.0	11.5	12.0
24	9.0	8.0	8.5	14.0	12.5	13.5	15.0	15.0	15.0	12.0	11.5	12.0
25	8.5	8.0	8.5	15.5	13.5	14.5	16.0	15.0	15.5	12.0	11.5	12.0
26	9.0	8.0	8.5	15.5	13.0	14.5	16.5	15.5	16.0	12.0	11.5	12.0
27	9.0	7.5	8.5	16.5	14.0	15.5	16.0	15.0	15.5	12.0	11.0	11.5
28	8.5	7.5	8.5	16.0	14.5	15.5	15.5	15.0	15.0	12.0	10.5	12.0
29	9.0	8.0	8.5	16.0	14.5	15.5	15.5	15.0	15.5	12.0	11.0	11.5
30	9.5	8.5	9.0	16.0	15.5	15.5	16.0	15.5	16.0	12.5	11.0	12.0
31	---	---	---	16.0	15.5	15.5	16.0	15.0	16.0	---	---	---
MONTH	10.0	4.5	8.0	16.5	8.0	13.0	16.5	13.5	15.5	16.0	10.5	13.5
YEAR	16.5	3.0	8.0									

11495800 NORTH FORK SPRAGUE RIVER AT POWERPLANT, NEAR BLY, OR

LOCATION.--Lat 42°30'06", long 120°59'13", in SW 1/4 SE 1/4 sec.30, T.35 S., R.15 E., Klamath County, Hydrologic Unit 18010202, at powerplant 0.1 mi upstream from Yaden Creek, and 7.6 mi northeast of Bly.

DRAINAGE AREA.--77.7 mi^2.

PERIOD OF RECORD.--May 1993 to current year.

GAGE.--Water-stage record. Elevation of gage is 4,750 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. All records given herein do not include flow diverted through powerplant.

AVERAGE DISCHARGE.--3 years (water years 1994-96), 74.1 ft^3/s, 53,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft^3/s Apr. 24, 1996, gage height, 7.12 ft; minimum discharge, 12 ft^3/s Dec. 10, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft^3/s Apr. 24, gage height, 7.12 ft; minimum discharge, 17 ft^3/s Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	47	96	52	31	41	90	549	154	39	30	30
2	48	46	63	41	40	40	76	545	144	45	30	30
3	48	46	55	36	31	41	63	488	144	36	30	30
4	48	46	56	34	38	42	61	389	144	34	30	30
5	48	48	104	31	40	36	69	344	138	34	30	30
6	48	48	106	31	43	33	96	321	127	33	30	30
7	48	48	85	32	58	32	176	303	118	33	30	30
8	48	51	76	32	94	33	332	294	110	33	29	32
9	48	60	121	36	129	37	377	287	101	38	30	29
10	48	50	100	33	119	39	389	282	92	46	31	30
11	50	50	106	31	106	41	269	284	99	44	30	29
12	53	60	362	36	89	41	190	304	68	34	36	30
13	49	52	142	36	82	39	170	353	61	41	48	31
14	48	49	95	40	77	38	180	476	55	53	44	31
15	48	49	51	37	75	38	206	569	49	44	29	39
16	48	49	45	41	77	34	218	482	45	33	29	31
17	48	48	62	30	134	34	173	524	41	33	30	31
18	48	49	32	30	187	44	155	451	38	33	30	30
19	47	48	38	32	144	55	132	396	39	32	30	30
20	48	47	41	37	121	64	117	339	45	32	32	29
21	48	47	58	49	101	67	106	354	47	31	29	30
22	48	48	51	53	96	71	120	364	42	31	29	29
23	48	47	60	36	81	61	178	289	43	31	30	30
24	48	47	51	33	71	56	716	260	52	31	30	30
25	48	52	64	32	90	50	548	235	42	31	30	30
26	48	57	61	34	108	45	589	264	82	30	49	30
27	48	49	55	33	54	49	520	244	113	31	46	30
28	48	51	46	32	50	42	436	198	40	32	29	30
29	48	51	43	32	45	37	432	188	40	32	30	30
30	48	69	82	32	---	33	534	174	42	30	30	45
31	48	---	116	32	---	36	---	164	---	30	30	---
TOTAL	1495	1509	2523	1106	2411	1349	7718	10714	2355	1090	1000	926
MEAN	48.2	50.3	81.4	35.7	83.1	43.5	257	346	78.5	35.2	32.3	30.9
MAX	53	69	362	53	187	71	716	569	154	53	49	45
MIN	47	46	32	30	31	32	61	164	38	30	29	29
AC-FT	2970	2990	5000	2190	4780	2680	15310	21250	4670	2160	1980	1840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1996, BY WATER YEAR (WY)

MEAN	39.5	38.7	50.0	36.2	58.6	47.8	153	274	131	42.0	31.7	32.6
MAX	48.2	50.3	81.4	38.9	83.1	62.6	257	386	232	67.2	35.5	43.8
(WY)	1996	1996	1996	1995	1996	1995	1996	1993	1995	1995	1995	1995
MIN	30.2	29.5	30.4	33.9	35.5	37.4	52.6	43.9	36.1	29.9	27.5	25.6
(WY)	1995	1995	1995	1994	1994	1994	1994	1994	1994	1993	1993	1993

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1993 - 1996	
ANNUAL TOTAL	36077		34196			
ANNUAL MEAN	98.8		93.4		74.1	
HIGHEST ANNUAL MEAN					93.4	1996
LOWEST ANNUAL MEAN					37.6	1994
HIGHEST DAILY MEAN	475	May 22	716	Apr 24	716	Apr 24 1996
LOWEST DAILY MEAN	17	Aug 6	29	Aug 8	16	Jan 11 1994
ANNUAL SEVEN-DAY MINIMUM	29	Aug 2	30	Sep 18	23	May 23 1994
ANNUAL RUNOFF (AC-FT)	71560		67830		53690	
10 PERCENT EXCEEDS	251		261		231	
50 PERCENT EXCEEDS	48		48		38	
90 PERCENT EXCEEDS	34		30		29	

11501000 SPRAGUE RIVER NEAR CHILOQUIN, OR

LOCATION.--Lat 42°35'05", long 121°50'55", in NE 1/4 NW 1/4 sec.35, T.34 S., R.7 E., Klamath County, Hydrologic Unit 18010202, on right bank 1.0 mi northeast of Chiloquin, 4.6 mi upstream from Modoc Point Canal intake, and at mile 5.4.

DRAINAGE AREA.--1,580 mi^2, approximately.

PERIOD OF RECORD.--July to October 1920, March 1921 to current year. Monthly discharge only July 1920, published in WSP 1315-B. Prior to October 1931, published as "at McCready Ranch, near Chiloquin."

REVISED RECORDS.--WSP 591: 1922(M). WSP 1011: 1943(M). WSP 1565: 1921-22.

GAGE.--Water-stage recorder. Datum of gage is 4,202.43 ft above sea level. Prior to Oct. 1, 1931, nonrecording gage at site 12 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Minor regulation from irrigation diversions upstream from station.

AVERAGE DISCHARGE.--75 years (water years 1922-96), 577 ft^3/s, 418,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft^3/s Dec. 26, 1964, gage height, 10.37 ft; minimum daily discharge, 50 ft^3/s May 26, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,440 ft^3/s Feb. 11, gage height, 7.53 ft; minimum daily discharge, 141 ft^3/s Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	236	277	312	846	560	1830	1570	1820	1150	548	167	170
2	239	276	318	1220	549	1730	1490	1730	1050	499	170	178
3	238	274	349	1490	540	1720	1470	1660	975	469	158	189
4	241	272	383	1420	582	1790	1620	1620	887	422	152	188
5	235	276	367	1200	691	1940	1770	1610	811	387	155	217
6	248	276	391	1040	1070	2090	1700	1580	773	362	154	228
7	261	278	425	893	1740	2250	1540	1520	718	332	150	220
8	267	281	488	811	2570	2300	1430	1440	677	316	154	217
9	265	282	460	782	3820	2110	1390	1340	636	311	151	234
10	267	279	434	800	5420	1930	1410	1260	625	304	143	237
11	272	289	465	974	6330	1920	1470	1200	620	306	145	230
12	269	293	619	1170	6070	2020	1540	1140	587	299	142	221
13	275	282	825	1090	5180	2090	1610	1100	567	286	143	220
14	287	285	1030	882	4280	2120	1630	1080	567	276	167	215
15	284	293	1350	787	3520	2090	1600	1110	539	292	176	226
16	280	286	1450	769	2870	1960	1530	1230	498	299	183	251
17	276	283	1330	820	2560	1770	1480	1410	476	276	171	284
18	270	284	1270	857	2400	1660	1460	1640	488	260	147	308
19	264	282	1030	798	2450	1590	1510	1820	493	243	141	299
20	266	282	816	717	2670	1560	1570	1940	462	233	151	291
21	269	283	704	649	3020	1540	1580	2100	458	232	151	275
22	270	287	637	623	3450	1530	1550	2240	423	230	157	262
23	272	286	574	584	3740	1500	1500	2290	428	223	161	261
24	272	285	465	572	3860	1500	1470	2220	442	215	158	265
25	272	287	e360	574	3690	1500	1440	2140	488	201	158	258
26	275	289	e370	e540	3150	1460	1470	2070	520	200	173	265
27	280	292	e390	e530	2530	1430	1660	1920	552	187	197	265
28	277	303	e420	583	2160	1410	1860	1730	554	183	181	271
29	274	302	448	584	1960	1420	1930	1550	577	182	166	263
30	275	309	526	562	---	1540	1890	1390	601	191	164	262
31	279	---	667	570	---	1630	---	1250	---	177	168	---
TOTAL	8255	8553	19673	25737	83432	54930	47140	50150	18642	8941	4954	7270
MEAN	266	285	635	830	2877	1772	1571	1618	621	288	160	242
MAX	287	309	1450	1490	6330	2300	1930	2290	1150	548	197	308
MIN	235	272	312	530	540	1410	1390	1080	423	177	141	170
AC-FT	16370	16960	39020	51050	165500	109000	93500	99470	36980	17730	9830	14420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1996, BY WATER YEAR (WY)

MEAN	294	341	466	506	687	938	1263	1131	604	279	218	236
MAX	848	789	2853	1961	2877	2904	4250	3211	1762	560	405	374
(WY)	1963	1974	1965	1965	1996	1972	1956	1956	1983	1983	1956	1956
MIN	183	218	215	196	223	286	263	119	93.8	85.1	76.9	125
(WY)	1934	1995	1933	1937	1933	1992	1977	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1921 - 1996	
ANNUAL TOTAL	280446		337677			
ANNUAL MEAN	768		923		577	
HIGHEST ANNUAL MEAN					1395	1956
LOWEST ANNUAL MEAN					199	1992
HIGHEST DAILY MEAN	2580	Feb 5	6330	Feb 11	14500	Dec 26 1964
LOWEST DAILY MEAN	142	Sep 1	141	Aug 19	50	May 26 1926
ANNUAL SEVEN-DAY MINIMUM	156	Aug 31	147	Aug 7	65	Aug 5 1992
ANNUAL RUNOFF (AC-FT)	556300		669800		418400	
10 PERCENT EXCEEDS	1820		1960		1300	
50 PERCENT EXCEEDS	473		539		344	
90 PERCENT EXCEEDS	208		188		200	

e Estimated

11502500 WILLIAMSON RIVER BELOW SPRAGUE RIVER, NEAR CHILOQUIN, OR

LOCATION.--Lat 42°33'54", long 121°52'42", in NE 1/4 SE 1/4 sec.4, T.35 S., R.7 E., Klamath County, Hydrologic Unit 18010202, on right bank 0.8 mi downstream from Sprague River and 1.2 mi southwest of Chiloquin, and at mile 10.3.

DRAINAGE AREA.--3,000 mi^2, approximately.

PERIOD OF RECORD.--June 1917 to current year. Monthly discharge only for October 1922 to August 1923 published in WSP 1315-B.

REVISED RECORDS.--WSP 981: 1938(M). WSP 1565: 1920(M), 1927(M), 1938.

GAGE.--Water-stage recorder. Datum of gage is 4,148.50 ft above sea level. September 1, 1923 to July 12, 1991 at site 0.6 mi upstream at datum 7.05 ft higher. Prior to Sept. 1, 1923, at different datum.

REMARKS.--No estimated daily discharges. Records excellent. Some regulation by diversion dams and logpond operations on Sprague River. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--78 years (water years 1918-22, 1924-96), 1,039 ft^3/s, 753,600 acre-ft/yr, includes monthly data published in WSP 1315-B.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s Dec. 26, 1964, gage height, 10.56 ft, at site and datum then in use; minimum discharge, 285 ft^3/s Aug. 6, 8, 9, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,700 ft^3/s Feb. 11, gage height, 8.55 ft; minimum discharge, 418 ft^3/s Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	512	580	638	1130	918	2520	2130	2280	1550	748	437	451
2	520	580	632	1500	905	2440	2030	2180	1450	697	438	456
3	521	580	664	1780	889	2420	2000	2100	1370	664	436	466
4	530	580	722	1750	952	2470	2150	2060	1280	610	428	467
5	533	582	708	1540	1030	2570	2310	2060	1190	563	441	489
6	542	586	709	1390	1410	2680	2240	2030	1150	535	439	502
7	554	586	732	1250	2140	2810	2070	1960	1080	504	437	506
8	561	594	803	1180	2900	2870	1950	1860	1020	493	436	501
9	562	598	787	1160	3980	2730	1890	1760	976	485	436	519
10	561	590	755	1170	5620	2580	1890	1670	957	476	432	530
11	577	600	785	1330	6580	2560	1950	1610	950	479	435	522
12	568	610	965	1540	6500	2620	2010	1550	915	477	429	516
13	572	594	1150	1500	5760	2690	2070	1500	886	474	428	512
14	586	591	1330	1310	4850	2710	2100	1480	876	480	448	505
15	590	601	1640	1220	4060	2680	2070	1500	850	489	455	523
16	584	599	1760	1190	3490	2580	2000	1610	810	503	465	539
17	580	593	1660	1230	3190	2420	1940	1780	777	503	458	575
18	573	597	1600	1300	3020	2320	1920	2020	770	486	439	606
19	562	592	1390	1230	3050	2240	1960	2220	776	474	424	605
20	567	592	1150	1150	3230	2190	2030	2340	748	471	436	590
21	569	594	1040	1060	3570	2160	2030	2480	737	472	431	579
22	574	603	965	1010	3920	2140	2010	2600	705	480	436	563
23	575	599	900	1000	4220	2090	1960	2640	695	477	441	548
24	577	597	741	930	4350	2080	1940	2590	697	492	438	550
25	577	603	595	939	4190	2080	1910	2520	726	497	441	543
26	580	600	626	952	3710	2040	1920	2460	754	501	453	547
27	582	601	746	949	3150	2000	2100	2340	787	470	480	544
28	582	615	796	996	2780	1980	2320	2160	781	444	471	547
29	577	616	796	987	2620	1970	2390	1970	787	453	452	537
30	577	641	880	937	---	2070	2360	1810	798	464	446	535
31	581	---	1000	931	---	2160	---	1670	---	451	449	---
TOTAL	17506	17894	29665	37541	96984	73870	61650	62810	27848	15812	13715	15873
MEAN	565	596	957	1211	3344	2383	2055	2026	928	510	442	529
MAX	590	641	1760	1780	6580	2870	2390	2640	1550	748	480	606
MIN	512	580	595	930	889	1970	1890	1480	695	444	424	451
AC-FT	34720	35490	58840	74460	192400	146500	122300	124600	55240	31360	27200	31480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 1996, BY WATER YEAR (WY)

MEAN	653	757	940	975	1233	1608	1971	1648	998	609	538	563
MAX	1237	1345	3682	3075	3846	4256	5488	4376	2658	1278	934	871
(WY)	1963	1974	1965	1965	1958	1972	1952	1956	1953	1958	1958	1958
MIN	488	530	545	524	547	619	583	391	338	311	304	382
(WY)	1993	1995	1993	1937	1933	1992	1992	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1918 - 1996	
ANNUAL TOTAL	391920		471168			
ANNUAL MEAN	1074		1287		1039	
HIGHEST ANNUAL MEAN					2187	1956
LOWEST ANNUAL MEAN					483	1992
HIGHEST DAILY MEAN	2870	Apr 12	6580	Feb 11	16000	Dec 26 1964
LOWEST DAILY MEAN	401	Sep 1	424	Aug 19	288	Aug 6 1994
ANNUAL SEVEN-DAY MINIMUM	413	Sep 1	433	Aug 7	294	Aug 4 1994
ANNUAL RUNOFF (AC-FT)	777400		934600		753000	
10 PERCENT EXCEEDS	2220		2560		1970	
50 PERCENT EXCEEDS	783		800		743	
90 PERCENT EXCEEDS	451		467		506	

11503000 ANNIE SPRING NEAR CRATER LAKE, OR

LOCATION.--Lat 42°52'18", long 122°10'04" (revised), unsurveyed, Klamath County, Hydrologic Unit 18010203, in Crater Lake National Park, at highway bridge 0.1 mi downstream from source.

DRAINAGE AREA.--Indeterminate, normal flow is entirely from Annie Spring.

PERIOD OF RECORD.--June 1977 to current year. Discharge measurement and fragmentary gage-height record August to October 1913. Discharge measurements only Oct. 11, 1967, June 26, Sept. 13, 1968.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 5,982.65 ft above sea level (National Park Service bench mark).

REMARKS.--No estimated daily discharges. Records good. Fluctuations caused by pumps 0.1 mi upstream. Diversion for domestic use by National Park Service 0.1 mi upstream.

COOPERATION.--Records of diversion by pumping furnished by National Park Service.

AVERAGE DISCHARGE.--19 years (water years 1978-96), 2.80 ft^3/s, 2,030 acre-ft/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18 ft^3/s July 6, 1984, gage height, 1.56 ft; minimum daily discharge, 0.28 ft^3/s Mar. 2-5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.0 ft^3/s June 9, 10, 14-20, gage height, 1.23 ft; minimum daily discharge, 1.7 ft^3/s Oct. 26-28, Nov. 1, 9-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.7	2.3	4.3	3.8	4.2	3.6	4.3	7.3	7.3	4.8	3.0
2	2.0	1.8	2.6	4.4	3.8	4.2	3.6	4.4	7.3	7.2	4.7	2.9
3	2.0	1.8	2.8	4.4	3.6	4.2	3.6	4.5	7.4	7.1	4.4	2.9
4	1.9	1.8	2.9	4.5	3.6	4.1	3.5	4.5	7.5	7.1	4.2	2.9
5	1.9	1.8	3.0	4.6	3.6	4.1	3.5	4.7	7.7	6.9	4.1	2.9
6	1.9	1.8	3.1	4.6	3.6	4.0	3.5	5.1	8.0	6.9	4.0	2.8
7	1.9	1.8	3.2	4.6	3.6	4.0	3.5	5.1	8.3	6.9	3.9	2.8
8	1.9	1.8	3.3	4.5	3.5	4.0	3.5	5.1	8.5	6.7	3.9	2.7
9	1.9	1.7	3.4	4.6	3.6	4.0	3.5	5.1	8.8	6.6	3.8	2.7
10	1.8	1.7	3.6	4.6	3.6	3.9	3.6	5.2	9.0	6.6	3.7	2.6
11	1.8	1.7	3.8	4.5	3.6	3.9	3.6	5.2	8.9	6.5	3.7	2.6
12	1.8	1.7	4.2	4.5	3.7	3.8	3.7	5.2	8.7	6.4	3.6	2.6
13	1.8	1.7	4.7	4.4	3.7	3.8	3.7	5.3	8.7	6.3	3.6	2.6
14	1.8	1.8	5.0	4.4	3.7	3.8	3.8	5.7	8.9	6.2	3.6	2.6
15	1.8	1.8	5.1	4.5	3.7	3.8	3.8	6.2	9.0	6.1	3.5	2.6
16	1.9	1.8	5.1	4.4	3.9	3.7	3.9	6.6	9.0	6.1	3.5	2.6
17	1.9	1.8	5.1	4.4	4.0	3.7	3.9	6.8	9.0	6.0	3.5	2.5
18	1.8	1.8	5.0	4.3	4.0	3.7	3.9	6.9	9.0	6.0	3.4	2.4
19	1.8	1.8	5.0	4.3	4.2	3.7	3.9	7.2	9.0	5.9	3.4	2.4
20	1.8	1.8	4.9	4.2	4.3	3.6	3.8	7.3	9.0	5.8	3.3	2.4
21	1.8	1.8	4.9	4.1	4.4	3.6	3.8	7.4	8.7	5.8	3.3	2.4
22	1.8	1.8	4.8	4.1	4.4	3.6	3.8	7.4	8.7	5.7	3.3	2.4
23	1.8	1.9	4.6	4.2	4.4	3.6	3.8	7.4	8.6	5.6	3.3	2.4
24	1.8	1.9	4.6	4.1	4.4	3.6	3.8	7.3	8.4	5.6	3.2	2.3
25	1.8	1.9	4.5	4.0	4.4	3.6	3.9	7.3	8.3	5.4	3.2	2.3
26	1.7	1.9	4.4	4.0	4.3	3.6	4.0	7.3	8.2	5.3	3.2	2.3
27	1.7	1.9	4.3	4.0	4.4	3.6	4.0	7.3	8.0	5.3	3.2	2.2
28	1.7	1.8	4.3	3.9	4.4	3.6	4.1	7.3	7.9	5.2	3.1	2.2
29	1.8	1.8	4.2	3.9	4.4	3.6	4.1	7.3	7.6	5.1	3.0	2.2
30	1.8	2.0	4.1	3.9	---	3.6	4.2	7.3	7.4	5.0	3.0	2.2
31	1.8	---	4.2	3.8	---	3.6	---	7.3	---	4.9	3.0	---
TOTAL	56.9	54.1	127.0	133.0	114.6	117.8	112.9	191.0	250.8	189.5	111.4	76.4
MEAN	1.84	1.80	4.10	4.29	3.95	3.80	3.76	6.16	8.36	6.11	3.59	2.55
MAX	2.0	2.0	5.1	4.6	4.4	4.2	4.2	7.4	9.0	7.3	4.8	3.0
MIN	1.7	1.7	2.3	3.8	3.5	3.6	3.5	4.3	7.3	4.9	3.0	2.2
AC-FT	113	107	252	264	227	234	224	379	497	376	221	152
MEAN†	1.88	1.81	4.11	4.30	3.96	3.81	3.78	6.22	8.44	6.23	3.73	2.68
AC-FT†	116	108	253	265	228	234	225	382	502	383	229	159

CAL YR 1995 TOTAL 924.64 MEAN 2.53 MAX 5.9 MIN .51 AC-FT 1830 MEAN† 2.58 AC-FT† 1870.31
WTR YR 1996 TOTAL 1535.4 MEAN 4.20 MAX 9.0 MIN 1.7 AC-FT 3050 MEAN† 4.25 AC-FT† 3084.06

† Adjusted for diversion by pumping.

11507001 UPPER KLAMATH LAKE NEAR KLAMATH FALLS, OR

LOCATION.--Lat 42°15'00", long 121°48'55", in NW 1/4 SW 1/4 sec.19, T.38 S., R.9 E., Klamath County, Hydrologic Unit 18010203, at southeast end of lake, 1.4 mi upstream from outlet and 2.5 mi northwest of Main Street Bridge at Klamath Falls.

DRAINAGE AREA.--3,810 mi^2, approximately, including 26.2 mi^2 in closed basin of Crater Lake.

PERIOD OF RECORD.--May 1904 to September 1922 (gage heights only), October 1922 to current year. Monthend contents only October 1923 to September 1927, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 4,098.22 ft above sea level, or 4,100.00 ft above Bureau of Reclamation datum. Gage readings have been reduced to elevations above Bureau of Reclamation datum. See WSP 1735 for history of changes prior to Nov. 10, 1923. Since Oct. 1, 1974, supplementary water-stage recorders at sites 7 mi north and 21 mi northwest at same datum (water-surface transfer by Pacific Power and Light Co.).

REMARKS.--Reservoir is formed by concrete dam at outlet of natural lake, completed in 1921, replacing a temporary dam built in 1919; controlled storage began Apr. 15, 1919. Capacity, 523,700 acre-ft between elevations 4,136.0 ft and 4,143.3 ft. Dead storage below elevation 4,136.0 ft is 211,300 acre-ft. Stored water may be diverted through "A" Canal for irrigation on land under Klamath project of Bureau of Reclamation, or released to Link River through dam or powerplants at Klamath Falls. Contents given herein represent those above elevation 4,136.0 ft. Prior to Oct. 1,1973, contents given represented those above elevation 4,135.0 ft. Prior to Sept. 30, 1974, contents at end of month obtained by averaging elevations for last 3 days of month and first 3 days of following month to compensate for wind effect. Since Oct. 1, 1974, daily elevations are weighted mean of elevations at base and supplementary gages; contents at end of month are obtained from weighted midnight elevations of base and supplementary gages.

COOPERATION.--Capacity table furnished by Bureau of Reclamation, Klamath Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 4,144.98 ft about Apr. 20, 1904, from high-water marks; minimum recorded, 4,135.55 ft Oct. 30, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevation, 4,143.33 ft May 23; minimum daily, 4,138.96 ft Sept. 30.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,136	0	4,139	193,700	4,142	414,400
4,137	61,300	4,140	262,600	4,143	498,300
4,138	127,000	4,141	335,400	4,143.3	523,700

ELEVATION (FEET USBR), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4139.71	4139.46	4139.58	4141.37	4141.86	4142.33	4142.64	4143.10	4143.14	4142.17	4140.83	4139.68
2	4139.68	4139.43	4139.61	4141.42	4141.82	4142.32	4142.68	4143.11	4143.14	4142.13	4140.76	4139.62
3	4139.70	4139.42	4139.61	4141.45	4141.79	4142.31	4142.71	4143.11	4143.13	4142.10	4140.72	4139.58
4	4139.65	4139.39	4139.68	4141.49	4141.83	4142.29	4142.75	4143.09	4143.12	4142.07	4140.65	4139.51
5	4139.63	4139.40	4139.76	4141.53	4141.83	4142.35	4142.77	4143.08	4143.10	4142.04	4140.62	4139.47
6	4139.62	4139.36	4139.82	4141.56	4141.80	4142.35	4142.80	4143.10	4143.08	4141.99	4140.56	4139.44
7	4139.60	4139.38	4139.85	4141.57	4141.79	4142.37	4142.83	4143.09	4143.06	4141.95	4140.53	4139.39
8	4139.57	4139.37	4139.88	4141.60	4141.79	4142.40	4142.83	4143.09	4143.03	4141.91	4140.50	4139.36
9	4139.54	4139.43	4139.91	4141.63	4141.87	4142.41	4142.86	4143.09	4143.00	4141.86	4140.48	4139.33
10	4139.54	4139.41	4139.83	4141.66	4141.99	4142.41	4142.87	4143.08	4142.97	4141.81	4140.43	4139.29
11	4139.54	4139.39	4139.92	4141.68	4142.07	4142.42	4142.87	4143.10	4142.92	4141.75	4140.40	4139.26
12	4139.53	4139.43	4140.07	4141.69	4142.17	4142.47	4142.90	4143.10	4142.87	4141.69	4140.36	4139.21
13	4139.52	4139.46	4140.28	4141.70	4142.27	4142.51	4142.91	4143.11	4142.82	4141.63	4140.35	4139.18
14	4139.51	4139.47	4140.35	4141.70	4142.33	4142.47	4142.92	4143.11	4142.77	4141.60	4140.33	4139.12
15	4139.50	4139.47	4140.54	4141.70	4142.37	4142.45	4142.85	4143.13	4142.72	4141.56	4140.31	4139.20
16	4139.48	4139.49	4140.62	4141.83	4142.36	4142.44	4142.94	4143.19	4142.67	4141.50	4140.28	4139.17
17	4139.48	4139.47	4140.69	4141.85	4142.35	4142.42	4142.96	4143.18	4142.62	4141.46	4140.25	4139.17
18	4139.49	4139.50	4140.74	4141.83	4142.31	4142.41	4143.01	4143.25	4142.56	4141.42	4140.17	4139.16
19	4139.48	4139.50	4140.79	4141.94	4142.33	4142.40	4143.00	4143.27	4142.52	4141.37	4140.14	4139.13
20	4139.47	4139.50	4140.84	4141.88	4142.28	4142.38	4143.03	4143.27	4142.46	4141.32	4140.09	4139.12
21	4139.50	4139.47	4140.87	4141.96	4142.37	4142.37	4143.04	4143.23	4142.43	4141.29	4140.05	4139.14
22	4139.47	4139.50	4140.94	4141.94	4142.37	4142.38	4143.04	4143.32	4142.38	4141.26	4140.00	4139.11
23	4139.45	4139.50	4140.97	4141.92	4142.35	4142.40	4143.03	4143.33	4142.32	4141.21	4139.95	4139.09
24	4139.44	4139.47	4140.99	4142.00	4142.40	4142.41	4143.17	4143.32	4142.30	4141.17	4139.91	4139.06
25	4139.42	4139.49	4140.97	4141.96	4142.43	4142.43	4143.17	4143.25	4142.27	4141.12	4139.87	4139.05
26	4139.42	4139.50	4140.99	4141.95	4142.42	4142.44	4143.19	4143.17	4142.25	4141.08	4139.85	4139.04
27	4139.43	4139.47	4141.01	4141.95	4142.36	4142.45	4143.17	4143.17	4142.24	4141.03	4139.82	4139.00
28	4139.44	4139.49	4141.03	4141.94	4142.27	4142.55	4143.14	4143.15	4142.22	4140.97	4139.78	4138.99
29	4139.45	4139.48	4141.11	4141.92	4142.29	4142.54	4143.12	4143.14	4142.21	4140.95	4139.76	4138.97
30	4139.47	4139.51	4141.21	4141.91	---	4142.57	4143.10	4143.14	4142.19	4140.93	4139.72	4138.96
31	4139.45	---	4141.31	4141.89	---	4142.54	---	4143.14	---	4140.88	4139.70	---
MEAN	4139.52	4139.45	4140.44	4141.75	4142.15	4142.42	4142.94	4143.16	4142.68	4141.52	4140.23	4139.23
MAX	4139.71	4139.51	4141.31	4142.00	4142.43	4142.57	4143.19	4143.33	4143.14	4142.17	4140.83	4139.68
MIN	4139.42	4139.36	4139.58	4141.37	4141.79	4142.29	4142.64	4143.08	4142.19	4140.88	4139.70	4138.96
(†)	229200	227800	362300	403800	444300	461900	508400	510100	429300	323500	244400	192400
(‡)	-13800	-1400	+134500	+41500	+40500	+17600	+46500	+1700	-80800	-105800	-79100	-52000

CAL YR 1995 MEAN 4141.35 MAX 4143.29 MIN 4138.62 AC-FT‡ +194700
WTR YR 1996 MEAN 4141.29 MAX 4143.33 MIN 4138.96 AC-FT‡ -50600

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

11507500 LINK RIVER AT KLAMATH FALLS, OR

LOCATION.--Lat 42°13'25", long 121°47'35", in SW 1/4 NW 1/4 sec.32, T.38 S., R.9 E., Klamath County, Hydrologic Unit 18010204, on right bank 600 ft upstream from outlet of Keno Canal and 0.4 mi upstream from Main Street Bridge at Klamath Falls.

DRAINAGE AREA.--3,810 mi^2, approximately, including 26.2 mi^2 in closed basin of Crater Lake.

PERIOD OF RECORD.--May 1904 to current year. Records since October 1983 equivalent to earlier records if flow in Keno Canal is added to flow past station.

GAGE.--Water-stage recorder. Datum of gage is 4,083.71 ft above sea level, or 4,085.50 ft above Bureau of Reclamation datum. Prior to Sept. 14, 1912, water-stage recorder or nonrecording gages at several sites within 0.5 mi of present site at various datums. Sept. 14, 1912, to Nov. 23, 1923, at site 600 ft downstream at datum 5.42 ft lower. Nov. 24, 1923, to Nov. 15, 1961, at site on left bank at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1919 by Upper Klamath Lake (station 11507001). Large diurnal fluctuation caused by powerplant upstream from station. Water diverted upstream from station by main or "A" Canal of Klamath project. Many other diversions upstream from lake. All records presented herein do not include flow in Keno Canal which, since September 1908, has diverted from Upper Klamath Lake at Link River Dam for power generation, and returns flow to Link River downstream from station.

AVERAGE DISCHARGE.--79 years (water years 1905-83), 1,593 ft^3/s, 1,154,000 acre-ft/yr, not adjusted for "A" Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,400 ft^3/s May 12, 1904, gage height at Main Street Bridge, 7.30 ft, datum then in use, from floodmarks; minimum daily discharge, 17 ft^3/s Dec. 13, 1937.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 6,160 ft^3/s Feb. 23; minimum, 211 ft^3/s Dec. 19, 20, result of regulation from Upper Klamath Lake, minimum daily, 369 ft^3/s Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	841	941	1120	1100	3920	4350	1880	2560	1260	1000	1150	1130
2	901	943	1110	1330	3480	3940	1670	2280	1790	1200	895	1040
3	862	941	1100	1660	3130	3950	1490	2290	1590	1290	867	986
4	801	940	1230	1660	3140	3920	1480	2010	1260	1070	1020	991
5	534	935	1440	1770	3490	3810	1450	1790	1090	865	1130	1140
6	726	955	1230	1870	3920	3550	1450	1640	1090	865	989	1400
7	875	921	1170	1870	3910	3550	1480	1560	1090	908	939	1380
8	937	812	1270	1880	3900	3560	1620	1380	1110	945	975	1380
9	1030	812	1320	1870	3930	3570	1720	1220	1120	994	885	1250
10	1030	814	1120	1880	3960	3560	1760	890	1540	1270	944	1210
11	924	813	596	1870	4270	3560	1870	1100	1900	1390	906	1350
12	741	839	451	1880	4770	3590	1850	1250	1860	1410	663	1380
13	765	884	459	1880	4800	3810	1610	1240	1760	856	619	1410
14	875	796	458	1870	4830	4010	1590	1110	1770	760	451	1330
15	873	783	474	1870	5240	4000	1460	1110	1760	717	460	1030
16	834	766	476	1890	5750	4010	1570	1650	1740	807	1000	1010
17	797	767	487	1890	5680	4000	1600	2540	1670	868	1320	1010
18	799	767	683	1880	5570	4000	1810	3040	1670	1180	1210	1120
19	801	938	435	2300	5640	4010	2110	3020	1670	1150	1100	1150
20	805	995	369	2840	5470	3420	2150	3020	1670	818	1330	1050
21	799	991	447	2860	5730	3140	2020	2990	1660	1010	1330	1100
22	804	953	446	2850	5790	2640	1810	3240	1400	1130	1370	1330
23	844	919	475	2850	5660	2180	1910	3980	1410	1000	1300	1320
24	957	1040	535	2860	5760	2190	2270	4790	1490	838	915	1180
25	973	1120	569	2850	5830	1980	2350	5210	1490	794	706	1180
26	972	1120	635	2850	5820	1690	3270	5090	1230	930	736	1180
27	971	1120	854	2860	5640	1880	3810	3440	1180	1050	932	1180
28	949	1060	850	2850	5300	1470	3730	2190	1080	971	1020	1290
29	838	931	489	3290	4790	1550	3620	1840	941	796	1110	1320
30	910	1080	645	3960	---	1570	3120	1220	927	818	1120	1320
31	1050	---	1100	3930	---	1870	---	1230	---	1200	1130	---
TOTAL	26818	27696	24043	71070	139120	98330	61530	71920	43218	30900	30522	36147
MEAN	865	923	776	2293	4797	3172	2051	2320	1441	997	985	1205
MAX	1050	1120	1440	3960	5830	4350	3810	5210	1900	1410	1370	1410
MIN	534	766	369	1100	3130	1470	1450	890	927	717	451	986
AC-FT	53190	54940	47690	141000	275900	195000	122000	142700	85720	61290	60540	71700

CAL YR 1995 TOTAL 398530 MEAN 1092 MAX 5170 MIN 115 AC-FT 790500
WTR YR 1996 TOTAL 661314 MEAN 1807 MAX 5830 MIN 369 AC-FT 1312000

11509500 KLAMATH RIVER AT KENO, OR

LOCATION.--Lat 42°08'00", long 121°57'40", in NW 1/4 SE 1/4 sec.35, T.39 S., R.7 E., Klamath County, Hydrologic Unit 18010206, on left bank 1.7 mi northwest of Keno and 4.5 mi upstream from Spencer Creek, and at mile 231.9.

DRAINAGE AREA.--3,920 mi^2, approximately (not including Lost River or Lower Klamath Lake basins).

PERIOD OR RECORD.--June 1904 to December 1913, October 1929 to current year. Monthly discharge only October to December 1929, published in WSP 1315-B.

GAGE.--Water-stage recorder. Datum of gage is 3,961 ft above sea level (from river-profile survey). See WSP 1735 for history of changes prior to Nov. 6, 1954.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1919 by Upper Klamath Lake (station 11507001). Fluctuation by Keno powerplant 0.9 mi upstream. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--76 years (water years 1905-13, 1930-96), 1,631 ft^3/s, 1,181,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft^3/s Feb. 28, 1986, gage height, 12.82 ft, caused by regulation from Keno powerplant 0.9 mi upstream; minimum discharge, 26 ft^3/s Sept. 23, 1956; minimum daily, 60 ft^3/s May 19, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 15.3 ft, from floodmark (original datum), about May 10, 1904, discharge, 9,250 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,520 ft^3/s Feb. 22, gage height, 12.41 ft; minimum discharge, 107 ft^3/s Oct. 28, 29, Nov. 5; minimum daily, 214 ft^3/s Aug. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	707	583	899	2500	4920	5940	2170	2730	1640	1110	901	639
2	622	554	937	2370	4560	5450	2160	2340	1630	1110	902	649
3	545	572	936	2370	3930	6040	2160	2070	1530	799	898	645
4	622	532	1030	2380	4230	6010	2170	2000	1100	642	900	644
5	540	550	1420	2460	4880	6190	2170	2010	729	644	903	780
6	695	581	1220	2560	7240	6040	2160	1790	673	645	905	921
7	609	605	1260	2560	8120	5540	2160	1580	654	643	915	923
8	535	666	1260	2560	7640	5390	2150	1340	554	640	912	922
9	627	942	1260	2640	7790	5370	2150	1050	543	667	744	1000
10	569	942	1020	2690	7030	5210	2150	1050	841	684	644	1070
11	703	939	540	2510	6330	5350	2130	1040	1190	663	414	1070
12	642	944	1200	2750	6520	5210	2150	1040	1140	524	214	1030
13	597	945	720	2830	6540	4840	2150	1040	1080	282	214	986
14	590	944	982	2580	6580	5200	2150	1050	1080	280	215	990
15	589	942	1160	2570	6770	5140	2180	1050	1080	279	216	990
16	600	945	1200	2890	7250	5030	2160	1950	1080	517	554	986
17	616	941	1140	2390	7040	5030	2160	2950	1080	669	682	985
18	539	941	930	2870	7390	5030	2320	4100	1090	687	825	985
19	597	944	765	3170	7710	5020	2560	3960	1130	692	906	1040
20	557	945	754	3630	7860	4230	2590	3570	1170	692	924	1080
21	563	944	753	3740	8500	3770	2600	3950	1150	687	886	1070
22	561	942	753	3570	9250	3260	2590	3880	1110	691	877	1070
23	621	938	751	3580	9060	2700	2730	4740	1110	692	809	1070
24	599	938	751	3730	8590	2580	3040	5560	1100	678	654	1070
25	550	940	751	3470	8040	2460	3030	5900	1370	678	652	1080
26	570	943	888	3610	7830	2160	3770	5560	1120	677	645	1080
27	563	944	1000	3770	7610	2170	4370	4130	1120	669	646	1060
28	538	939	1010	3680	6640	2160	4350	2510	1180	669	647	1060
29	590	914	1090	3930	6500	2150	4150	1960	1150	662	647	1060
30	618	849	1490	4930	---	2140	3490	1670	1120	804	649	1070
31	589	---	2090	4840	---	2150	---	1580	---	900	649	---
TOTAL	18463	25248	31960	96130	202400	134960	78270	81150	32544	20676	21549	29025
MEAN	596	842	1031	3101	6979	4354	2609	2618	1085	667	695	967
MAX	707	945	2090	4930	9250	6190	4370	5900	1640	1110	924	1080
MIN	535	532	540	2370	3980	2140	2130	1040	543	279	214	639
AC-FT	36620	50080	63390	190700	401500	267700	155200	161000	64550	41010	42740	57570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1996, BY WATER YEAR (WY)

MEAN	1405	1655	1890	1949	2139	2552	2282	1729	1156	851	957	1184
MAX	3055	4673	5732	7702	7564	8197	6594	5258	7075	4177	2513	2214
(WY)	1957	1985	1984	1965	1965	1972	1956	1956	1904	1904	1904	1943
MIN	564	290	391	542	254	215	166	109	97.6	114	146	246
(WY)	1982	1935	1935	1935	1992	1992	1931	1931	1931	1931	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1904 - 1996	
ANNUAL TOTAL	444069		772375			
ANNUAL MEAN	1217		2110		1631	
HIGHEST ANNUAL MEAN					3582	1956
LOWEST ANNUAL MEAN					340	1992
HIGHEST DAILY MEAN	7210	Mar 17	9250	Feb 22	9780	Mar 5 1972
LOWEST DAILY MEAN	263	Feb 10	214	Aug 12	60	May 19 1934
ANNUAL SEVEN-DAY MINIMUM	270	Feb 9	353	Aug 10	78	Jun 4 1931
ANNUAL RUNOFF (AC-FT)	880800		1532000		1181000	
10 PERCENT EXCEEDS	3190		5360		3180	
50 PERCENT EXCEEDS	687		1080		1270	
90 PERCENT EXCEEDS	372		595		409	

11510700 KLAMATH RIVER BELOW JOHN C. BOYLE POWERPLANT, NEAR KENO, OR

LOCATION.--Lat 42°05'05", long 122°04'20", in SE 1/4 SE 1/4 sec.14, T.40 S., R.6 E., Klamath County, Hydrologic Unit 18010206, on right bank 0.7 mi downstream from John C. Boyle powerplant, 8 mi downstream from Spencer Creek, and 8.5 mi southwest of Keno, and at mile 219.7.

DRAINAGE AREA.--4,080 mi^2, approximately (not including Lost River or Lower Klamath Lake basins).

PERIOD OF RECORD.--January 1959 to current year. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

REVISED RECORDS.--WDR OR-87-1: 1967.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3,274.82 ft above sea level (levels by Pacific Power & Light Co.).

REMARKS.--No estimated daily discharges. Records excellent. Flow regulated by Upper Klamath Lake (station 11507001). Large diurnal fluctuation caused by Keno and John C. Boyle powerplants. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--37 years(water years 1960-96), 1,783 ft^3/s, 1,292,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s Feb. 21, 1996, gage height, 9.50 ft; minimum discharge, 283 ft^3/s Feb. 17, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,600 ft^3/s Feb. 21, gage height, 9.50 ft; minimum discharge, 293 ft^3/s Dec. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	1310	1180	3090	4830	6180	2540	3240	1820	1440	1110	812
2	1390	1250	1140	2790	4820	5620	2620	2810	2190	1890	1190	945
3	1130	1290	1110	2550	4140	6310	2690	2450	1880	861	1180	941
4	1390	1200	1580	2620	4410	6290	2600	2420	1440	917	1080	983
5	1120	1240	1430	2800	4510	6340	2580	2450	1110	904	1260	1060
6	1480	1300	1770	3010	7370	6310	2610	1990	1020	922	1250	1260
7	1360	1360	1490	2880	8420	5790	2610	2160	1030	898	1260	1260
8	1110	1260	1550	2850	8110	5640	2610	1470	805	974	1230	1220
9	1400	1280	1560	3030	8080	5630	2580	1600	843	1200	891	1290
10	1180	1220	1260	3040	7600	5450	2600	1440	1060	872	957	1260
11	1510	1160	800	3200	6580	5550	2600	1460	1430	857	1020	1320
12	1380	1160	1420	2850	6500	5590	2600	1470	1430	773	319	1370
13	1280	1240	1470	3020	6780	5140	2610	1360	1440	545	319	1380
14	1260	1250	1160	3140	6780	5370	2600	1340	1460	548	315	1220
15	1260	1280	1550	2840	6890	5400	2640	1840	1410	491	316	979
16	1280	1200	1530	2920	7530	5260	2560	2100	1330	877	1180	1600
17	1320	1040	1520	3180	7350	5300	2660	3110	1440	1150	986	1510
18	1200	1160	1200	2840	7690	5270	2730	4280	1440	931	1270	1030
19	1350	1250	1080	3380	8130	5160	3010	4650	1370	1060	1250	1470
20	1260	1120	984	3880	8310	4900	3190	3790	1440	951	1180	1390
21	1270	1090	976	4080	8940	4150	3010	4270	1440	774	1320	1400
22	1270	1370	977	3830	10200	3640	3070	4330	1440	1120	869	1430
23	1400	1170	972	3760	10000	3170	3110	4750	1440	818	1120	1080
24	1350	1160	976	3760	9310	2950	3580	5960	1440	893	959	1500
25	1240	1170	972	3850	8530	3000	3540	5930	1750	1100	724	1390
26	1290	1160	1160	3620	8150	2620	3950	5950	1460	1040	902	1640
27	1270	1280	1240	3850	8060	2510	4700	4620	1460	926	961	736
28	1210	1290	1300	3920	6940	2670	4720	2900	1460	955	1020	1680
29	1330	1140	1300	4020	6810	2640	4490	2600	1440	891	1080	1300
30	1390	1130	1780	4840	---	2670	3940	2230	1440	1330	1060	1340
31	1330	---	2680	5130	---	2590	---	1650	---	1240	832	---
TOTAL	40520	36530	41117	104570	211770	145110	91350	92620	42158	30148	30410	37796
MEAN	1307	1218	1326	3373	7302	4681	3045	2988	1405	973	981	1260
MAX	1510	1370	2680	5130	10200	6340	4720	5960	2190	1890	1320	1680
MIN	1110	1040	800	2550	4140	2510	2540	1340	805	491	315	736
AC-FT	80370	72460	81560	207400	420000	287800	181200	183700	83620	59800	60320	74970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1996, BY WATER YEAR (WY)

MEAN	1556	1934	2341	2376	2485	2957	2417	1679	893	669	893	1220
MAX	3157	4506	5733	7905	7780	8755	5645	3935	2327	1424	1198	1898
(WY)	1985	1985	1984	1965	1965	1972	1974	1971	1983	1959	1959	1959
MIN	786	735	792	771	489	450	537	418	391	349	349	457
(WY)	1982	1992	1995	1993	1992	1992	1994	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1959 - 1996	
ANNUAL TOTAL	566010		904099			
ANNUAL MEAN	1551		2470		1783	
HIGHEST ANNUAL MEAN					3024	1984
LOWEST ANNUAL MEAN					564	1992
HIGHEST DAILY MEAN	7710	Mar 17	10200	Feb 22	10800	Mar 5 1972
LOWEST DAILY MEAN	302	Aug 30	315	Aug 14	302	Aug 30 1995
ANNUAL SEVEN-DAY MINIMUM	520	Feb 6	591	Aug 9	338	Aug 30 1992
ANNUAL RUNOFF (AC-FT)	1123000		1793000		1292000	
10 PERCENT EXCEEDS	3630		5600		3270	
50 PERCENT EXCEEDS	1140		1440		1290	
90 PERCENT EXCEEDS	628		956		602	

11516530 KLAMATH RIVER BELOW IRON GATE DAM, CA

LOCATION.--Lat 41°55'41", long 122°26'35", in SE 1/4 NE 1/4 sec.17, T.47 N., R.5 W., Siskiyou County, Hydrologic Unit 18010206, on left bank 0.1 mi downstream from Bogus Creek, 0.6 mi downstream from Iron Gate Dam, and 5.9 mi northeast of Hornbrook.

DRAINAGE AREA.--4,630 mi^2, approximately (not including Lost River, Butte Creek, or Lower Klamath Lake basins).

PERIOD OF RECORD.--October 1960 to current year. Chemical data available October 1961 to September 1981. Water temperature data available October 1962 to September 1980.

GAGE.--Water-stage recorder. Datum of gage is 2,162.44 ft above sea level (levels by Pacific Corp., formerly Pacific Power and Light Co.).

REMARKS.--No estimated daily discharges. Records excellent. Flow regulated by Upper Klamath Lake (station 11507001), capacity, 523,700 acre-ft, Iron Gate Reservoir, other smaller reservoirs, and diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft^3/s Dec. 22, 1964, gage height, 13.63 ft, from rating curve extended above 15,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum daily discharge, 389 ft^3/s Aug. 25-28, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft^3/s Feb. 22, gage height, 10.06 ft; minimum daily discharge, 1,030 ft^3/s July 10-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	1340	1350	3320	5480	7270	3100	3630	2030	1090	1060	1080
2	1350	1340	1340	3460	5330	6050	3090	3400	1780	1050	1070	1080
3	1350	1340	1340	3330	4830	6640	3060	2880	1740	1070	1070	1080
4	1350	1340	1360	3210	5620	7130	3040	2680	1690	1070	1060	1080
5	1350	1340	1360	3190	6440	7220	3030	2670	1570	1060	1060	1230
6	1350	1340	1350	3180	8750	7200	3010	2540	1410	1060	1060	1380
7	1350	1340	1350	3170	11300	6640	3000	2250	1420	1060	1060	1380
8	1360	1340	1340	3160	11300	6420	3000	1930	1420	1060	1060	1370
9	1350	1340	1350	3320	11000	6380	3010	1630	1430	1050	1060	1370
10	1350	1340	1350	3430	10700	6320	3010	1420	1410	1030	1060	1360
11	1350	1340	1350	3290	9270	6260	2850	1420	1410	1030	1060	1360
12	1350	1340	2430	3250	8260	6420	2830	1620	1440	1030	1060	1380
13	1350	1340	3170	3230	8380	6030	2810	1640	1440	1030	1050	1360
14	1350	1340	2030	3210	8350	5760	2790	1650	1440	1030	1040	1350
15	1350	1340	2160	3520	8260	6040	2700	1700	1440	1030	1040	1360
16	1340	1340	2300	4420	8940	5920	2870	1850	1440	1030	1050	1350
17	1340	1330	2200	4050	9400	5830	2870	3280	1450	1030	1060	1350
18	1340	1330	2110	3860	9420	5670	3080	4390	1490	1030	1060	1350
19	1340	1330	1840	4010	10400	5530	3280	5190	1540	1030	1050	1350
20	1340	1330	1390	4860	10500	5480	3370	4440	1540	1030	1080	1360
21	1340	1330	1350	4810	10800	4760	3380	4340	1540	1030	1070	1360
22	1340	1330	1350	4600	12000	4060	3360	4820	1540	1030	1070	1350
23	1340	1330	1350	4310	12000	3400	3350	4740	1540	1030	1080	1360
24	1340	1330	1350	4310	11200	3360	3920	5640	1540	1030	1080	1360
25	1340	1330	1350	4290	9970	3110	4140	6390	1540	1030	1080	1360
26	1340	1340	1350	4220	9060	2630	4100	6310	1550	1030	1080	1350
27	1340	1340	1330	4300	9230	2680	4800	5910	1560	1030	1080	1350
28	1340	1340	1340	4280	8360	2740	5050	3540	1540	1040	1080	1340
29	1340	1340	1370	4250	7350	2840	5000	3160	1540	1060	1080	1340
30	1340	1340	2240	4910	---	3080	4360	2380	1540	1060	1080	1340
31	1340	---	3300	5700	---	3050	---	2220	---	1070	1080	---
TOTAL	41700	40110	52150	120450	261900	161920	101260	101660	45960	32340	33030	39490
MEAN	1345	1337	1682	3885	9031	5223	3375	3279	1532	1043	1065	1316
MAX	1360	1340	3300	5700	12000	7270	5050	6390	2030	1090	1080	1380
MIN	1340	1330	1330	3160	4830	2630	2700	1420	1410	1030	1040	1080
AC-FT	82710	79560	103400	238900	519500	321200	200800	201600	91160	64150	65510	78330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1996, BY WATER YEAR (WY)

MEAN	1664	2142	2744	2825	3047	3601	2970	2046	1050	758	970	1303
MAX	3353	5254	6735	9489	9150	10780	6922	4973	2591	1429	1208	2052
(WY)	1985	1985	1984	1965	1965	1972	1971	1971	1983	1982	1965	1965
MIN	852	873	889	888	525	511	572	512	506	428	398	538
(WY)	1982	1992	1992	1992	1992	1992	1994	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1961 - 1996	
ANNUAL TOTAL	657718		1031970			
ANNUAL MEAN	1802		2820		2089	
HIGHEST ANNUAL MEAN					3657	1965
LOWEST ANNUAL MEAN					641	1992
HIGHEST DAILY MEAN	8740	Mar 17	12000	Feb 22	25000	Dec 22 1964
LOWEST DAILY MEAN	729	Jul 17	1030	Jul 10	389	Aug 25 1992
ANNUAL SEVEN-DAY MINIMUM	731	Jul 14	1030	Jul 10	390	Aug 24 1992
INSTANTANEOUS PEAK FLOW			12600	Feb 22	29400	Dec 22 1964
INSTANTANEOUS PEAK STAGE			10.06	Feb 22	13.63	Dec 22 1964
INSTANTANEOUS LOW FLOW					389	Aug 25 1992
ANNUAL RUNOFF (AC-FT)	1305000		2047000		1513000	
10 PERCENT EXCEEDS	4100		6310		4050	
50 PERCENT EXCEEDS	1340		1440		1390	
90 PERCENT EXCEEDS	766		1060		730	

12472800 COLUMBIA RIVER BELOW PRIEST RAPIDS DAM, WA

LOCATION.--Lat 46°37'44", long 119°51'49", in SE 1/4 NW 1/4 sec.7, T.13 N., R.24 E., Grant County, Hydrologic Unit 17020016, on left bank 2.6 mi downstream from Priest Rapids Dam, 14.7 mi south of Beverly, and at mile 394.5.

DRAINAGE AREA.--96,000 mi^2, approximately.

PERIOD OF RECORD.--January 1917 to current year. January 1917 to September 1930, at site 3.4 mi downstream, published as "at Vernita." October 1930 to July 27, 1959, at site 46.5 mi upstream, published as "at Trinidad."

REVISED RECORDS.--WSP 1933: Drainage area. WDR WA-82-2: 1965(m), 1971(m).

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Oct. 1, 1930, nonrecording gages at site 3.4 mi downstream at datum 388.7 ft above sea level. Oct. 1, 1930, to July 27, 1959, water-stage recorder at site 46.5 mi upstream at datum 499.3 ft above sea level (river-profile survey).

REMARKS.--No estimated daily discharges. Records excellent. Diversions for irrigation of about 600,000 acres upstream from station. Flow regulated by 10 major reservoirs and numerous smaller reservoirs and powerplants. U.S. Geological Survey satellite telemeter at station. Water temperatures March 1980 to April 1993. Temperature records for site "at Vernita Bridge, near Priest Rapids Dam" (station 12472900) for period July 1974 to September 1980 are equivalent.

AVERAGE DISCHARGE.--79 years (water years 1918-96), 119,000 ft^3/s, 86,216,000 acre-ft/yr, unadjusted.
37 years (water years 1960-96), 118,900 ft^3/s, 86,120,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 692,600 ft^3/s June 12, 1948, gage height, 59.35 ft, site and datum then in use; minimum discharge, 4,120 ft^3/s Feb. 10, 1932, due to construction at Rock Island Dam, site and datum then in use; minimum daily discharge prior to construction of Rock Island Dam (1932), 22,000 ft^3/s Feb. 1-7, 1930, site and datum then in use; minimum daily discharge after completion of Rock Island Dam (1932), 20,000 ft^3/s Jan. 31 to Feb. 10, 1937, site and datum then in use; minimum discharge since completion of Priest Rapids Dam (1959), 28,300 ft^3/s Nov. 9. 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 7, 1894, reached a discharge of about 740,000 ft^3/s, based on a rating extension for a Weather Bureau gage at Wenatchee.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 350,000 ft^3/s Feb. 27, elevation, 419.61 ft; minimum discharge, 37,100 ft^3/s Oct. 22, elevation, 396.52 ft; minimum daily discharge, 50,600 ft^3/s Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61900	103000	171000	103000	216000	228000	141000	260000	244000	165000	166000	79200
2	95700	101000	166000	130000	213000	196000	126000	199000	258000	182000	142000	84500
3	96900	98000	169000	134000	199000	174000	136000	217000	247000	182000	106000	99900
4	76300	96900	157000	137000	162000	205000	153000	220000	232000	186000	142000	110000
5	82300	72200	157000	141000	156000	220000	151000	220000	223000	187000	163000	93900
6	84500	82300	170000	160000	144000	200000	147000	209000	214000	199000	169000	79900
7	79700	94500	168000	150000	133000	184000	149000	199000	217000	207000	195000	92900
8	79700	95400	181000	139000	77400	185000	163000	215000	258000	196000	177000	93300
9	96200	92600	183000	139000	69200	190000	169000	187000	268000	202000	138000	103000
10	91600	93200	174000	165000	75900	186000	152000	180000	263000	206000	148000	109000
11	76600	94300	161000	168000	121000	186000	172000	189000	241000	222000	141000	113000
12	131000	95100	139000	177000	173000	197000	168000	137000	253000	226000	154000	139000
13	143000	87100	197000	165000	190000	205000	175000	167000	279000	219000	152000	133000
14	109000	99000	184000	169000	196000	205000	180000	163000	250000	212000	166000	83600
15	50600	99000	173000	172000	229000	193000	193000	154000	272000	206000	179000	80500
16	62100	101000	159000	185000	246000	188000	202000	163000	272000	205000	140000	93400
17	81200	101000	154000	163000	249000	194000	243000	178000	268000	172000	130000	95600
18	88300	102000	165000	189000	244000	153000	228000	213000	260000	184000	131000	92200
19	95500	96500	173000	187000	222000	169000	217000	213000	255000	191000	143000	98900
20	92100	127000	164000	192000	197000	178000	223000	222000	233000	187000	159000	101000
21	87500	145000	176000	183000	199000	146000	207000	226000	235000	157000	155000	93200
22	78600	132000	178000	185000	209000	183000	200000	250000	177000	191000	117000	110000
23	84200	93900	176000	206000	212000	155000	235000	239000	192000	194000	96100	107000
24	89800	98900	179000	192000	254000	165000	222000	244000	208000	194000	99900	112000
25	91000	124000	172000	192000	251000	175000	227000	234000	219000	187000	129000	100000
26	98700	134000	172000	181000	248000	155000	238000	220000	226000	177000	139000	98200
27	98300	148000	164000	191000	270000	172000	206000	231000	228000	150000	118000	94900
28	84300	146000	148000	163000	256000	190000	209000	249000	226000	128000	141000	75100
29	74200	153000	130000	178000	244000	153000	215000	269000	203000	125000	130000	80300
30	97000	186000	113000	199000	---	125000	226000	248000	194000	141000	135000	89300
31	104000	---	104000	186000	---	127000	---	250000	---	166000	104000	---
TOTAL	2761800	3291900	5077000	5221000	5655500	5582000	5673000	6565000	7115000	5746000	4405000	2935800
MEAN	89090	109700	163800	168400	195000	180100	189100	211800	237200	185400	142100	97860
MAX	143000	186000	197000	206000	270000	228000	243000	269000	279000	226000	195000	139000
MIN	50600	72200	104000	103000	69200	125000	126000	137000	177000	125000	96100	75100
AC-FT	5478000	6529000	10070000	10360000	11220000	11070000	11250000	13020000	14110000	11400000	8737000	5823000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1996, BY WATER YEAR (WY)

MEAN	80160	87570	98010	104500	108900	108700	116000	162900	209800	159800	110200	79630
MAX	118200	121200	163800	168400	195000	201800	189100	269800	461400	294300	191000	126700
(WY)	1960	1991	1996	1996	1996	1983	1996	1971	1961	1964	1976	1976
MIN	61550	56100	52570	55070	72700	58170	57920	79060	78810	71850	66740	60050
(WY)	1964	1964	1962	1964	1964	1962	1993	1973	1977	1977	1985	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1960 - 1996	
ANNUAL TOTAL	41338000		60029000			
ANNUAL MEAN	113300		164000		118900	
HIGHEST ANNUAL MEAN					164000	1996
LOWEST ANNUAL MEAN					90330	1977
HIGHEST DAILY MEAN	205000	Jun 26	279000	Jun 13	533000	Jun 10 1961
LOWEST DAILY MEAN	47300	Sep 3	50600	Oct 15	36400	Jan 1 1962
ANNUAL SEVEN-DAY MINIMUM	64200	Sep 3	79600	Oct 15	44700	Dec 28 1961
ANNUAL RUNOFF (AC-FT)	81990000		119100000		86120000	
10 PERCENT EXCEEDS	165000		234000		191000	
50 PERCENT EXCEEDS	108000		168000		103000	
90 PERCENT EXCEEDS	74200		92800		64000	

13177985 JORDAN CREEK AT DE LAMAR MINE NEAR JORDAN VALLEY, OR

LOCATION.--Lat 43°01'27", long 116°51'15", in NW 1/4 NW 1/4 sec.6, T.5 S., R.4 W., Owyhee County, Hydrologic Unit 17050108, on left bank, 0.2 mi below road crossing to De Lamar Mine, and 10.5 mi northeast of Jordan Valley.

PERIOD OF RECORD.--October 1993 to September 1996 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 5,280 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 435 ft^3/s May 6, 1995, gage height, 2.38 ft; no flow July 23 to Oct. 10, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 421 ft^3/s May 14, gage height, 2.35 ft; minimum daily discharge, 0.19 ft^3/s Aug. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.8	e15	e45	e10	30	80	274	100	12	1.6	.27
2	1.1	e1.0	e20	e45	e15	29	96	268	98	10	1.3	.28
3	1.1	e1.0	25	e40	e20	27	100	227	102	8.8	1.3	.33
4	1.2	1.2	26	e35	28	29	94	202	108	8.3	1.3	.28
5	1.2	e1.0	32	e35	43	29	95	185	111	8.4	1.3	.33
6	1.2	e1.0	37	e30	69	27	106	178	103	8.0	1.2	.41
7	1.2	e1.0	27	30	80	26	145	184	94	7.5	1.2	.43
8	1.2	e1.5	22	e25	101	28	225	191	88	7.4	1.0	.50
9	1.2	e2.0	31	23	88	39	289	193	84	7.6	.86	.49
10	1.2	2.6	39	22	56	54	279	192	75	6.8	.77	.40
11	1.1	2.9	45	21	46	78	213	198	66	6.0	.70	.39
12	1.9	14	192	22	44	83	206	235	57	5.6	.68	.36
13	1.7	11	113	23	45	83	158	284	50	5.2	.66	.37
14	1.5	6.2	71	22	50	80	130	346	45	4.5	.55	.42
15	1.4	4.5	54	25	56	82	119	379	40	4.6	.56	.74
16	1.4	3.8	43	28	63	82	136	371	33	4.7	.51	1.3
17	1.4	3.4	30	23	72	81	134	337	23	4.5	.45	1.2
18	1.5	3.2	e20	e18	95	81	119	311	19	4.0	.45	1.2
19	1.5	3.1	e30	e19	96	90	105	266	16	3.9	.53	1.2
20	1.4	2.9	e50	e18	84	110	98	214	16	3.6	.54	1.1
21	1.4	2.9	e40	e16	74	125	88	183	15	3.3	.51	1.0
22	1.4	2.9	e20	e15	63	129	85	191	15	3.0	.47	.90
23	1.4	2.8	e10	e15	55	113	125	160	15	2.7	.43	.90
24	1.5	2.6	e10	e13	50	99	230	143	15	2.3	.35	.90
25	1.5	3.4	e15	e12	e45	87	269	129	15	2.0	.26	.90
26	1.7	e4.0	e20	e13	e40	78	305	126	20	1.8	.19	.90
27	1.8	5.9	e25	e14	e45	74	283	129	21	1.6	.31	.92
28	1.6	e7.0	e30	e15	40	75	243	131	17	1.6	.39	1.0
29	1.6	e9.0	43	e13	37	65	229	122	15	2.2	.41	.93
30	1.7	e10	44	e12	---	60	245	112	13	2.1	.30	.90
31	1.9	---	e50	e11	---	66	---	104	---	2.1	.27	---
TOTAL	44.1	119.6	1229	698	1610	2139	5029	6565	1489	156.1	21.35	21.25
MEAN	1.42	3.99	39.6	22.5	55.5	69.0	168	212	49.6	5.04	.69	.71
MAX	1.9	14	192	45	101	129	305	379	111	12	1.6	1.3
MIN	1.1	1.0	10	11	10	26	80	104	13	1.6	.19	.27
AC-FT	87	237	2440	1380	3190	4240	9980	13020	2950	310	42	42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	1.12	2.47	15.1	13.9	38.6	54.7	107	164	46.4	5.88	.83	.51
MAX	1.48	3.99	39.6	22.5	55.5	73.4	168	232	81.5	12.1	1.80	.82
(WY)	1994	1996	1996	1996	1996	1995	1996	1995	1995	1995	1995	1995
MIN	.47	1.68	2.08	2.96	4.50	21.7	63.8	49.4	8.11	.52	.000	.000
(WY)	1995	1995	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	18484.18		19121.40			
ANNUAL MEAN	50.6		52.2		37.5	
HIGHEST ANNUAL MEAN					52.2	1996
LOWEST ANNUAL MEAN					13.0	1994
HIGHEST DAILY MEAN	385	May 7	379	May 15	385	May 7 1995
LOWEST DAILY MEAN	.66	Sep 14	.19	Aug 26	.00	Jul 23 1994
ANNUAL SEVEN-DAY MINIMUM	.68	Sep 13	.29	Aug 30	.00	Jul 23 1994
ANNUAL RUNOFF (AC-FT)	36660		37930		27200	
10 PERCENT EXCEEDS	155		159		109	
50 PERCENT EXCEEDS	20		19		5.3	
90 PERCENT EXCEEDS	1.0		.76		.44	

e Estimated

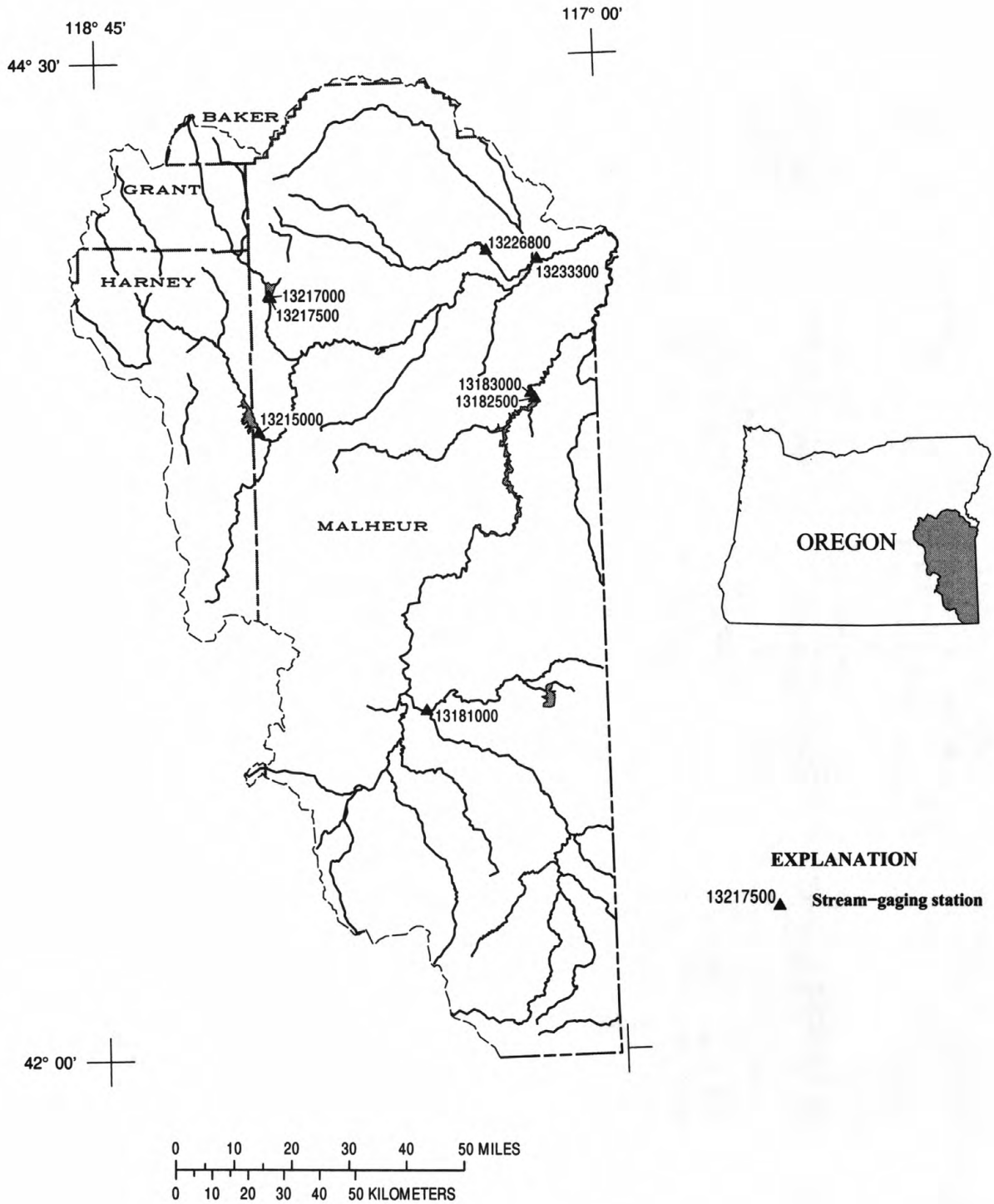


Figure 7. Location of surface-water stations in the Owyhee and Malheur River Basins.

13181000 OWYHEE RIVER NEAR ROME, OR

LOCATION.--Lat 42°52′02″, long 117°38′52″, in SE 1/4 NE 1/4 sec.14, T.31 S., R.41 E., Malheur County, Hydrologic Unit 17050107, on right bank 0.5 mi downstream from Jordan Creek, 2.6 mi north of Rome, and at mile 122.4.

DRAINAGE AREA.--About 8,000 mi^2.

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,344.20 ft above sea level. Prior to Feb 10, 1960, at datum 0.24 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Antelope Reservoir, capacity, 70,000 acre-ft, increased in 1970, and Wild Horse Reservoir, capacity, 32,690 acre-ft, and numerous small reservoirs. Diversions upstream from station for irrigation. Continuous water-quality records for the period October 1972 to June 1977 have been collected at this location. U. S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--47 years (water years 1950-96), 962 ft^3/s, 697,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,700 ft^3/s Mar. 18, 1993, gage height, 20.11 ft; minimum discharge, 42 ft^3/s Aug. 12, 1954, July 28, Aug. 5, 1961, July 31, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,670 ft^3/s Mar. 11, gage height, 8.04 ft; minimum discharge, 111 ft^3/s Sept. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	162	323	1790	386	1190	4690	2250	1040	424	158	116
2	138	159	335	1850	e270	1120	5000	2220	1010	393	156	115
3	135	159	333	1280	e220	1040	5930	2230	919	352	160	115
4	137	157	342	989	e230	986	5140	2130	827	307	163	113
5	137	151	336	798	374	1160	4620	2000	706	274	161	114
6	137	150	351	644	611	2260	4310	1870	664	269	160	118
7	141	150	439	557	1290	2000	4330	1740	605	273	155	120
8	139	146	461	501	3900	1890	4620	1620	578	254	149	121
9	138	151	580	483	3630	2360	5080	1530	568	242	156	121
10	141	154	519	475	3350	3740	5180	1370	569	227	159	123
11	142	158	471	602	2940	5880	4970	1270	523	209	155	126
12	157	164	489	561	2460	6480	4580	1150	479	208	145	122
13	158	163	576	561	2230	6140	4170	1110	459	201	136	116
14	155	166	941	529	2070	5570	3690	1080	442	190	130	114
15	148	171	780	487	2020	5070	3280	1080	419	194	128	117
16	150	172	551	557	2110	5210	2860	1260	405	190	129	126
17	147	172	445	904	2280	4950	2840	1530	385	182	133	137
18	145	174	381	990	2730	4520	2820	1930	340	175	135	154
19	147	172	336	644	4080	4380	2760	2320	336	166	133	153
20	149	168	289	606	4960	4590	2680	2430	347	166	133	152
21	150	167	231	546	5210	5180	2540	2510	347	169	130	153
22	151	167	233	504	4670	5290	2460	2180	370	167	124	149
23	148	167	229	424	3740	4940	2230	2060	354	173	129	145
24	148	167	192	439	2760	3860	2270	1950	353	179	122	151
25	149	171	e170	437	2290	3060	2800	1770	368	178	119	155
26	152	175	e150	420	1820	2670	2880	1560	387	179	120	159
27	156	190	e140	408	1470	2440	2740	1360	391	167	132	155
28	164	222	e170	383	1310	2540	2670	1220	461	163	125	148
29	168	220	206	397	1270	5130	2530	1030	492	163	121	145
30	169	280	272	395	---	4640	2340	1070	446	162	119	143
31	168	---	1020	404	---	4570	---	1100	---	158	117	---
TOTAL	4601	5145	12291	20565	66681	114856	109010	51930	15590	6754	4292	3996
MEAN	148	171	396	663	2299	3705	3634	1675	520	218	138	133
MAX	169	280	1020	1850	5210	6480	5930	2510	1040	424	163	159
MIN	135	146	140	383	220	986	2230	1030	336	158	117	113
AC-FT	9130	10210	24380	40790	132300	227800	216200	103000	30920	13400	8510	7930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1996, BY WATER YEAR (WY)

MEAN	163	216	394	652	1295	2503	2953	1970	893	259	153	138
MAX	442	593	2898	4461	8820	9404	16960	10470	4870	1035	452	361
(WY)	1976	1971	1965	1971	1986	1972	1952	1984	1984	1984	1984	1984
MIN	85.3	107	104	114	129	233	144	86.5	89.6	61.2	56.0	62.5
(WY)	1955	1955	1955	1955	1955	1977	1992	1992	1992	1968	1992	1955

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1950 - 1996	
ANNUAL TOTAL	435951		415711			
ANNUAL MEAN	1194		1136		962	
HIGHEST ANNUAL MEAN					3400	1984
LOWEST ANNUAL MEAN					162	1992
HIGHEST DAILY MEAN	14700	May 7	6480	Mar 12	46900	Mar 18 1993
LOWEST DAILY MEAN	70	Jan 3	113	Sep 4	44	Aug 1 1968
ANNUAL SEVEN-DAY MINIMUM	133	Aug 27	115	Aug 31	47	Jul 26 1968
ANNUAL RUNOFF (AC-FT)	864700		824600		697200	
10 PERCENT EXCEEDS	2890		3740		2550	
50 PERCENT EXCEEDS	399		384		233	
90 PERCENT EXCEEDS	141		137		108	

e Estimated

13182500 LAKE OWYHEE NEAR NYSSA, OR

LOCATION.--Lat 43°38'30", long 117°14'30", in NW 1/4 SE 1/4 sec.20, T.22 S., R.45 E., Malheur County, Hydrologic Unit 17050110, near left abutment on Owyhee Dam on Owyhee River, 21 mi southwest of Nyssa, and at mile 28.5.

DRAINAGE AREA.--11,160 mi^2, approximately.

PERIOD OF RECORD.--October 1932 to September 1996 (discontinued) (month-end contents and change in contents only prior to October 1979). Prior to October 1958, published as Owyhee Reservoir at Owyhee Dam, near Nyssa.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1965, nonrecording gage at same site and datum. U.S. Bureau of Reclamation satellite telemeter at station.

REMARKS.--Reservoir is formed by concrete arch-gravity dam, completed in September 1932; storage began Oct. 16, 1932. Capacity, 1,122,000 acre-ft between elevations 2,367.50 ft bottom of sluice gates and 2,670.00 ft top of spillway gate, 715,000 acre-ft between elevations 2,590.20 ft diversion tunnel and 2,670.00 ft. Dead storage below elevation 2,367.50 ft negligible. Figures given herein are contents above elevation 2,367.50 ft. Reservoir generally will not be drawn below elevation 2,590.2 ft, contents, 406,800 acre-ft, which project considers dead storage. Water is released through diversion tunnel to South Canal for irrigation of lands west of Snake River in vicinity of Homedale, Idaho, and to North Canal for irrigation of lands north and west of Owyhee River and through sluice gates to river for Owyhee Canal, which diverts about 18 mi downstream. Additional data available in files of Oregon Water Resources Department.

COOPERATION.--Capacity tables furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,140,000 acre-ft Apr. 15, 1952, elevation, 2,671.50 ft, furnished by Owyhee Irrigation District; minimum contents observed since full capacity was attained on May 7, 1936, 397,700 acre-ft Aug. 25, 1992, elevation, 2,588.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,132,000 acre-ft May 24, elevation, 2,670.83 ft; minimum contents, 815,700 acre-ft Sept. 30, elevation, 2,642.91 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

2,590	405,700	2,640	787,300
2,600	466,300	2,650	888,300
2,610	535,400	2,660	999,700
2,620	611,900	2,670	1,122,000
2,630	696,800	2,671	1,134,000

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2646.89	2644.95	2646.70	2650.04	2654.28	2660.26	2666.97	2669.80	2670.41	2664.65	2656.93	2648.74
2	2646.72	2645.01	2646.72	2650.40	2654.34	2660.43	2666.89	2669.80	2670.25	2664.45	2656.65	2648.46
3	2646.53	2645.07	2646.82	2650.76	2654.38	2660.57	2666.78	2669.82	2670.16	2664.24	2656.37	2648.17
4	2646.38	2645.11	2646.86	2650.98	2654.49	2660.73	2666.74	2669.82	2670.03	2664.00	2656.10	2647.90
5	2646.19	2645.20	2647.01	2651.15	2654.54	2660.65	2666.62	2669.80	2669.88	2663.73	2655.83	2647.67
6	2646.02	2645.23	2647.10	2651.32	2654.70	2660.60	2666.50	2669.83	2669.71	2663.50	2655.60	2647.43
7	2645.96	2645.28	2647.20	2651.49	2654.77	2660.61	2666.50	2669.94	2669.54	2663.27	2655.34	2647.17
8	2645.84	2645.39	2647.26	2651.56	2655.02	2660.53	2666.51	2669.95	2669.37	2663.03	2655.09	2646.94
9	2645.63	2645.45	2647.39	2651.72	2655.38	2660.52	2666.80	2670.00	2669.19	2662.77	2654.45	2646.71
10	2645.45	2645.46	2647.60	2651.80	2655.67	2660.63	2667.21	2670.01	2669.00	2662.50	2654.17	2646.49
11	2645.39	2645.50	2647.75	2651.90	2655.90	2661.07	2667.58	2669.92	2668.81	2662.28	---	2646.18
12	2645.25	2645.52	2647.98	2652.02	2656.01	2661.74	2668.04	2669.94	2668.64	2662.01	2654.11	2646.07
13	2645.14	2645.55	2648.06	2652.11	2656.05	2662.18	2668.48	2669.93	2668.40	2661.78	2653.78	2645.83
14	2644.99	2645.59	2648.16	2652.24	2656.07	2662.32	2668.89	2669.90	2668.25	2661.53	2653.51	2645.60
15	2644.84	2645.71	2648.40	2652.43	2656.04	2662.24	2669.32	2669.88	2667.97	2661.29	2653.28	2645.42
16	2644.79	2645.74	2648.56	2652.49	2655.99	2662.22	2669.68	2669.93	2667.77	2661.02	2652.98	2645.19
17	2644.61	2645.81	2648.68	2652.58	2656.06	2662.17	2669.99	2669.96	2667.57	2660.79	2652.69	2645.01
18	2644.54	2645.85	2648.78	2652.80	2656.12	2661.96	2670.25	2670.13	2667.32	2660.50	2652.44	2644.84
19	2644.39	2645.91	2648.87	2653.07	2656.34	2661.86	2670.24	2670.27	2667.09	2660.30	2652.16	2644.65
20	2644.38	2645.97	2648.99	2653.15	2656.87	2662.04	2670.15	2670.47	2666.88	2659.98	2651.89	2644.50
21	2644.41	2646.05	2649.01	2653.30	2657.39	2662.68	2669.94	2670.73	2666.65	2659.75	2651.65	2644.31
22	2644.44	2646.08	2649.05	2653.43	2658.02	2663.46	2669.79	2670.76	2666.46	2659.50	2651.39	2644.14
23	2644.47	2646.13	---	2653.52	2658.60	2664.22	2669.65	2670.79	2666.21	2659.27	2651.10	2643.99
24	2644.56	2646.21	---	2653.57	2658.96	2664.84	2669.50	2670.77	2666.01	2659.02	2650.85	2643.90
25	2644.65	2646.27	---	2653.69	2659.25	2665.36	2669.46	2670.76	2665.78	2658.78	2650.56	2643.65
26	2644.65	2646.32	---	2653.76	2659.45	2665.76	2669.53	2670.72	2665.57	2658.51	2650.14	2643.51
27	2644.69	2646.38	---	2653.93	2659.66	2666.12	2669.64	2670.73	2665.44	2658.23	2650.03	2643.39
28	2644.73	2646.45	2649.49	2654.00	2659.85	2666.42	2669.73	2670.66	2665.23	2658.03	2649.81	2643.25
29	2644.79	2646.52	2649.52	2654.05	2660.06	2666.66	2669.78	2670.63	2665.02	2657.72	2649.53	2643.09
30	2644.87	2646.57	2649.70	2654.09	---	2666.97	2669.79	2670.50	2664.84	2657.47	2649.25	2642.92
31	2644.90	---	2649.76	2654.12	---	2666.97	---	2670.45	---	2657.21	2648.99	---
MAX	2646.89	2646.57	---	2654.12	2660.06	2666.97	2670.25	2670.79	2670.41	2664.65	---	2648.74
MIN	2644.38	2644.95	---	2650.04	2654.28	2660.26	2666.50	2669.80	2664.84	2657.21	---	2642.92
(†)	835600	852600	885800	933000	1000500	1083700	1119200	1127600	1057500	967600	877700	815800
(‡)	-21500	+17000	+33200	+47200	+67500	+83200	+35500	+8400	-70100	-89900	-89900	-61900

CAL YR 1995 ACRE-FT‡ +392000
WTR YR 1996 ACRE-FT‡ -41300

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

13183000 OWYHEE RIVER BELOW OWYHEE DAM, OR

LOCATION.--Lat 43°39'17", long 117°15'16", in SE 1/4 sec.18, T.22 S., R.45 E.,Malheur County, Hydrologic Unit 17050110, on left bank 0.8 mi downstream from Owyhee Dam, 20 mi southwest of Nyssa, and at mile 27.3.

DRAINAGE AREA.--11,160 mi^2, approximately.

PERIOD OF RECORD.--February 1929 to current year.

REVISED RECORDS.--WSP 983: 1941-42. WSP 1397: 1930, 1933, 1946.

GAGE.--Water-stage recorder. Datum of gage is 2,343.67 ft above sea level (levels by Bureau of Reclamation).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1932 by Lake Owyhee (station 13182500), and by many smaller reservoirs. Diversion of up to 457,000 acre-ft from Lake Owyhee during the year for irrigation of lands downstream from station and outside the basin. Many smaller diversions upstream from Lake Owyhee for irrigation upstream from station. Computation of monthly and annual adjusted flows discontinued in 1991.

AVERAGE DISCHARGE.--64 years (water years 1933-96), 417 ft^3/s, 302,200 acre-ft/yr, not adjusted for storage or diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft^3/s Apr. 15, 1952, gage height, 15.70 ft; no flow for part of Aug. 8, 9, 1932, when temporary diversion tunnel at Owyhee Dam was closed.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,580 ft^3/s Apr. 2, gage height, 9.33 ft; minimum daily discharge, 11 ft^3/s Oct. 28 to Nov. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	11	14	15	15	225	4910	1390	343	235	229	232
2	224	12	14	15	24	230	5550	1300	300	216	230	232
3	224	12	14	16	31	230	5850	1280	269	213	230	232
4	225	12	14	16	14	632	5800	1270	249	230	229	232
5	224	12	15	15	14	1360	5390	1220	245	230	232	232
6	224	12	15	15	14	2120	4930	591	246	230	220	232
7	224	12	15	15	539	2410	4010	245	234	229	232	230
8	224	12	15	23	2020	2400	4110	244	246	227	232	230
9	224	12	15	30	2430	2400	3130	246	245	226	232	230
10	225	12	15	30	2420	2320	2340	246	245	225	223	230
11	225	12	15	31	2410	2280	2340	246	245	225	225	230
12	225	13	15	31	2400	2760	1760	246	245	225	230	230
13	225	13	15	31	2400	4280	1310	248	244	225	232	230
14	225	13	15	31	2400	5380	957	249	244	226	226	230
15	225	12	15	26	2390	5680	638	248	245	227	232	230
16	225	12	15	21	2390	5630	236	249	245	228	232	230
17	225	12	15	20	2390	5740	238	251	245	227	232	229
18	230	12	15	20	2380	5990	1070	254	244	227	232	229
19	235	12	15	20	2380	5130	2240	275	242	226	228	229
20	117	12	15	21	2390	3400	2880	350	242	226	232	230
21	12	13	15	21	2390	1420	3220	468	240	227	232	230
22	12	13	15	19	1990	944	2970	1150	240	229	232	229
23	12	13	15	15	1250	947	2830	947	240	230	232	228
24	12	13	15	15	936	566	2550	1190	231	229	232	228
25	12	13	15	15	936	158	2200	1340	240	228	234	229
26	12	13	15	15	938	240	1590	848	238	227	231	229
27	12	13	15	15	530	651	1490	598	236	228	221	229
28	11	13	15	15	226	954	1610	587	235	230	233	229
29	11	13	16	15	227	2270	1600	516	235	230	232	229
30	11	14	16	15	---	3340	1630	449	226	230	232	229
31	11	---	16	15	---	4700	---	393	---	228	232	---
TOTAL	4527	373	464	617	40874	76787	81379	19134	7424	7039	7133	6898
MEAN	146	12.4	15.0	19.9	1409	2477	2713	617	247	227	230	230
MAX	235	14	16	31	2430	5990	5850	1390	343	235	234	232
MIN	11	11	14	15	14	158	236	244	226	213	220	228
AC-FT	8980	740	920	1220	81070	152300	161400	37950	14730	13960	14150	13680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1996, BY WATER YEAR (WY)

MEAN	57.7	9.53	25.1	129	381	1063	1754	833	326	168	149	122
MAX	242	196	703	2751	5198	7799	12790	8565	3246	618	312	248
(WY)	1986	1933	1985	1971	1986	1972	1984	1984	1984	1933	1933	1933
MIN	2.80	1.00	1.31	1.17	1.13	1.66	28.2	39.5	45.8	44.3	22.4	8.00
(WY)	1955	1953	1993	1993	1993	1992	1955	1955	1948	1948	1948	1948

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1933 - 1996	
ANNUAL TOTAL	58042.1		252649			
ANNUAL MEAN	159		690		417	
HIGHEST ANNUAL MEAN					2991	1984
LOWEST ANNUAL MEAN					22.3	1948
HIGHEST DAILY MEAN	2660	May 21	5990	Mar 18	21800	Apr 16 1952
LOWEST DAILY MEAN	7.3	Jan 7	11	Oct 28	1.0	Oct 18 1952
ANNUAL SEVEN-DAY MINIMUM	7.5	Jan 1	11	Oct 26	1.0	Oct 18 1952
ANNUAL RUNOFF (AC-FT)	115100		501100		302200	
10 PERCENT EXCEEDS	229		2390		636	
50 PERCENT EXCEEDS	149		230		78	
90 PERCENT EXCEEDS	8.0		13		2.6	

13213100 SNAKE RIVER AT NYSSA, OR

LOCATION.--Lat 43°52'34", long 116°58'53", in NW 1/4 SW 1/4 NE 1/4 sec.7, T.6 N., R.5 W., Canyon County, Hydrologic Unit 17050115, on right bank, 300 upstream from U.S. Highway 20-26 bridge at Nyssa, 2.3 mi downstream from Boise River and at mile 385.2.

DRAINAGE AREA.--58,700 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1974 to September 1986, February 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,170 ft above sea level, from topographic map. Prior to 1989, station located on left bank, in Oregon.

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Flow regulated by many reservoirs upstream from station.

AVERAGE DISCHARGE.--19 years (water years 1976-86;1989-96), 14,030 ft^3/s, 10,160,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,900 ft^3/s Apr. 19, 1984, gage height, 13.34 ft; minimum discharge, 4,110 ft^3/s June 7, 1992, gage height, 4.32 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,600 ft^3/s Apr. 3, gage height, 11.26 ft; minimum discharge, 7,960 ft^3/s July 17, gage height, 5.26 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10500	10100	11200	14500	13900	27100	38300	19800	25500	12300	10100	10400
2	10500	10000	11000	14200	14200	27100	39000	19000	28600	12100	9720	9800
3	10400	10400	10900	14000	13800	27100	41200	17900	28800	12000	10500	e9500
4	10700	10700	11300	14300	13600	27200	41200	17400	27700	11900	9910	e9900
5	10700	10600	11100	14400	14500	27700	41000	17500	27500	11400	9840	10900
6	11000	10600	10900	13900	14700	28700	40400	17200	26900	8730	9300	9780
7	11500	11200	11200	13200	17000	30700	39600	16200	25000	8580	9500	e9600
8	11000	11300	11200	12900	19600	31800	37600	15200	22500	8370	9810	e10000
9	11000	11200	11000	12600	21100	30800	36500	15500	22800	9460	10200	e9900
10	11100	12200	11200	12900	21500	32100	36300	13700	23500	9420	9550	e10000
11	10800	10900	11600	13100	21500	33500	37900	15100	23300	9650	e9500	10200
12	10900	11500	12400	13300	20800	31600	35600	14300	22600	8840	e9500	9650
13	10800	11100	12900	12800	20100	34300	34800	14100	22400	9650	e9100	9660
14	10900	11500	12800	11700	20800	39800	33000	14700	19700	10100	e9200	9240
15	11000	11300	13300	13200	21600	40600	32100	15500	18600	9990	e9300	9510
16	10900	11300	12700	13600	22100	37800	31300	16300	19200	9710	e9700	9830
17	10800	11200	12400	13900	22700	37000	31800	18000	18800	8490	e9500	10100
18	10700	12000	11900	14600	24100	39100	31500	19600	17900	8820	e8800	9690
19	10600	11800	12900	15000	24400	40200	29200	22000	17900	9250	e9500	10900
20	10900	11400	12700	13600	24600	38000	29300	24500	16200	8990	e9300	10900
21	10400	11600	13200	13000	25300	35900	31300	25900	14300	9070	e9800	10100
22	10100	11200	12900	13200	27000	35400	28500	25600	13600	9130	e9600	10000
23	10200	11000	13100	13200	26700	35900	28900	25100	12600	8330	e9600	10400
24	10600	11800	13000	13500	26000	35700	28800	23000	12600	9590	e10000	10600
25	10800	11600	13300	13600	24100	34300	27800	24500	12900	9550	e10000	10600
26	10900	11400	13800	14000	27300	34000	24800	24200	11800	8370	e9700	9880
27	11000	11400	13500	13600	27700	33900	22100	23300	11700	8950	e9800	10200
28	10800	11700	13000	13100	28200	35000	21100	24200	11500	8870	e10000	10400
29	10100	11700	12800	13600	27700	36000	21100	25100	11400	9410	e10000	11200
30	9640	11600	14500	13300	---	36700	21600	25900	12000	9390	9780	11000
31	9580	---	14200	14400	---	36900	---	26400	---	9430	10400	---
TOTAL	330820	337300	383900	420200	626600	1051900	973600	616700	579800	297840	300510	303840
MEAN	10670	11240	12380	13550	21610	33930	32450	19890	19330	9608	9694	10130
MAX	11500	12200	14500	15000	28200	40600	41200	26400	28800	12300	10500	11200
MIN	9580	10000	10900	11700	13600	27100	21100	13700	11400	8330	8800	9240
AC-FT	656200	669000	761500	833500	1243000	2086000	1931000	1223000	1150000	590800	596100	602700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1996, BY WATER YEAR (WY)

MEAN	12280	13020	13350	14100	14920	17560	20850	19670	15870	8713	8592	10490
MAX	21360	24660	24320	30290	26690	40010	43970	49060	41100	16480	11630	13650
(WY)	1985	1985	1984	1984	1986	1986	1984	1984	1984	1983	1984	1984
MIN	8102	8924	8902	8908	8562	8018	6033	5367	5223	5546	5075	6664
(WY)	1993	1993	1993	1993	1992	1991	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1975 - 1996	
ANNUAL TOTAL	4396470		6223010			
ANNUAL MEAN	12050		17000		14030	
HIGHEST ANNUAL MEAN					26260	1984
LOWEST ANNUAL MEAN					7365	1992
HIGHEST DAILY MEAN	32600	Jun 12	41200	Apr 3	57400	Apr 20 1984
LOWEST DAILY MEAN	7630	Apr 5	8330	Jul 23	4240	Jun 7 1992
ANNUAL SEVEN-DAY MINIMUM	7860	Mar 31	8870	Jul 17	4520	Jun 6 1992
ANNUAL RUNOFF (AC-FT)	8720000		12340000		10160000	
10 PERCENT EXCEEDS	19600		31900		26300	
50 PERCENT EXCEEDS	10600		12900		10800	
90 PERCENT EXCEEDS	8510		9590		7250	

e Estimated

13213100 SNAKE RIVER AT NYSSA, OR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1989 to September 1990, October 1992 to September 1993, April to September 1996.

PERIOD OF DAILY RECORD.--April 1989 to September 1990 (discontinued).

INSTRUMENTATION.--Water-quality monitor April 1989 to September 1990.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 544 microsiemens/cm Sept. 3; minimum, 507 microsiemens/cm Sept. 19, 1989.
pH: Maximum, 9.82 units May 29; minimum, 8.00 units Aug. 26, 1989.
WATER TEMPERATURE: Maximum 25.0°C June 12, Aug. 12, 13; minimum, 11.0°C Apr. 23, 25-28, 1989.
DISSOLVED OXYGEN: Maximum, 13.8 mg/L Aug. 11; minimum, 6.7 mg/L Sept. 3, 1989.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
APR											
12...	1230	35400	385	8.6	9.0	12.0	5.2	10.8	108	73	230
MAY											
22...	1400	25400	359	9.2	16.5	15.0	8.5	12.2	132	110	180
JUN											
14...	1225	19400	305	8.8	28.0	19.0	4.5	12.1	142	210	200
JUL											
22...	1305	9220	441	8.6	35.0	22.0	20	10.2	125	300	400
AUG											
19...	1345	11300	482	8.6	27.0	20.0	5.1	10.8	129	240	240
SEP											
27...	1145	10100	527	8.6	14.0	14.0	4.0	10.9	114	K51	470

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
SEP									
27...	190	47	18	36	28	5.1	200	11	178

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
SEP								
27...	57	22	0.6	26	320	324	0.44	8730

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
APR								
12...	<0.01	0.47	<0.015	0.4	0.08	0.01	48	4590
MAY								
22...	0.01	0.35	0.020	0.7	0.09	<0.01	74	5070
JUN								
14...	0.02	0.23	0.030	0.8	0.11	<0.01	65	3400
JUL								
22...	0.03	0.81	0.060	0.7	0.12	0.01	59	1470
AUG								
19...	0.02	0.93	0.030	0.7	0.07	0.03	32	976
SEP								
27...	0.02	1.3	<0.015	0.5	0.08	0.04	22	600

K Results based on counts outside ideal colony range.

13215000 MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OR

LOCATION.--Lat 43°34'29", long 118°12'31", on line between NW 1/4 SW 1/4 and SW 1/4 NW 1/4 sec.17, T.23 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank 0.9 mi downstream from Warmsprings Dam, 3.0 mi upstream from South Fork, 4.0 mi northwest of Riverside, and at mile 113.

DRAINAGE AREA.--1,100 mi^2, approximately.

PERIOD OF RECORD.--January 1906 to March 1907 and December 1908 (gage heights only), January 1909 to September 1910, December 1914 to July 1917, March 1919 to current year. Monthly discharge only for some periods, published in WSP 1317. Figures of discharge for January 1906 to March 1907, published in WSP 272 and 370, have been found to be unreliable and should not be used. Published as Middle Fork of Malheur River at Riverside 1906-7, as Middle Fork of Malheur River above South Fork, at Riverside 1909-10, as Malheur River above South Fork, at Riverside in WSP 370, 1906-10, and as Malheur River at Warmsprings reservoir site, near Riverside 1914-17.

REVISED RECORDS.--WSP 833: 1936. WSP 1063: 1942-45. WSP 1397: 1909-10, 1917. WSP 1447: 1955. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,305 ft above sea level, by barometer. See WSP 1317 or 1737 for history of changes prior to Sept. 29, 1949.

REMARKS.--Records good except for flows below 100 ft^3/s, and estimated daily discharges, which are poor. Flow completely regulated since November 1919 by Warmsprings Reservoir (station 13214500). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--77 years (water years 1920-96), 188 ft^3/s, 136,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,200 ft^3/s Mar. 1, 1910, gage height, 10.7 ft, site and datum then in use, from rating curve extended above 820 ft^3/s; maximum discharge since storage began November 1919, 3,150 ft^3/s Mar. 22, 1984, gage height, 9.70 ft, from floodmark; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 671 ft^3/s March 21-25, gage height, 5.39 ft; minimum daily discharge 0.02 ft^3/s Jan. 30 to Feb. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	e.07	e.04	.27	e.02	e.03	246	212	366	470	451	328
2	138	e.06	e.04	.19	e.02	e.03	278	280	382	510	448	327
3	127	e.06	e.04	.18	e.02	e.04	460	366	393	554	453	323
4	102	e.06	e.04	.21	e.02	e.05	560	376	399	572	453	315
5	90	e.05	e.04	.14	e.02	e.06	560	363	417	561	453	300
6	90	e.05	e.05	e.09	e.02	e.07	454	343	432	567	452	287
7	88	e.05	e.05	e.08	.25	e.06	143	331	431	572	442	271
8	87	.05	e.06	e.07	.50	e.07	558	370	441	570	451	268
9	86	e.06	.12	e.07	.25	e.08	397	412	449	569	466	255
10	85	e.07	.16	e.06	.13	e.08	190	454	476	552	465	240
11	85	e.08	.20	e.06	e.03	e.08	132	474	530	542	465	235
12	85	e.08	.35	e.06	e.03	.10	133	474	544	524	460	230
13	33	e.07	.40	e.06	e.03	.09	204	474	535	509	453	229
14	.56	e.07	.33	e.06	e.03	.09	244	459	555	508	449	231
15	.28	e.06	.41	e.07	e.03	123	409	441	577	508	446	231
16	.23	e.06	.49	e.08	e.03	338	495	402	582	492	450	222
17	.23	e.06	.48	e.09	e.03	339	497	352	569	472	447	200
18	.17	e.06	.41	e.08	e.03	451	461	298	562	463	439	183
19	e.11	e.06	.37	e.07	e.03	583	341	277	555	461	437	172
20	e.11	e.05	.36	e.08	e.03	17	296	174	545	454	431	155
21	e.11	e.05	.40	e.09	e.03	323	296	71	535	449	439	148
22	e.10	e.05	.37	e.08	e.03	669	219	46	529	438	421	148
23	e.10	e.05	.27	e.06	e.03	668	175	46	529	446	406	132
24	e.10	e.05	.24	e.04	e.03	667	182	46	507	453	401	123
25	e.10	e.04	.40	e.03	e.03	583	310	47	495	453	399	117
26	e.09	e.04	.31	e.03	e.03	213	447	47	476	453	385	97
27	e.09	e.04	.17	e.03	e.03	14	450	48	465	451	377	86
28	e.09	e.04	e.06	e.03	e.03	15	430	80	457	448	343	85
29	e.08	e.04	e.05	e.03	e.03	150	304	191	441	466	321	86
30	e.07	e.04	e.06	e.02	---	243	202	295	434	478	326	101
31	e.07	---	.40	e.02	---	244	---	339	---	462	328	---
TOTAL	1236.69	1.67	7.17	2.53	1.82	5640.93	10073	8588	14608	15427	13157	6125
MEAN	39.9	.056	.23	.082	.063	182	336	277	487	498	424	204
MAX	138	.08	.49	.27	.50	669	560	474	582	572	466	328
MIN	.07	.04	.04	.02	.02	.03	132	46	366	438	321	85
AC-FT	2450	3.3	14	5.0	3.6	11190	19980	17030	28970	30600	26100	12150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1996, BY WATER YEAR (WY)

MEAN	34.0	.84	7.68	16.1	34.0	81.1	315	429	343	431	354	198
MAX	138	19.8	323	452	763	1440	1603	1162	557	677	575	394
(WY)	1953	1920	1984	1971	1983	1983	1984	1958	1953	1945	1946	1928
MIN	.000	.000	.000	.000	.000	.000	.000	31.4	92.0	30.3	.041	.000
(WY)	1934	1933	1933	1933	1933	1933	1935	1932	1942	1992	1988	1988

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1920 - 1996	
ANNUAL TOTAL	54776.77		74868.81			
ANNUAL MEAN	150		205		188	
HIGHEST ANNUAL MEAN					566	1983
LOWEST ANNUAL MEAN					46.8	1930
HIGHEST DAILY MEAN	599	Jul 4	669	Mar 22	3030	Mar 22 1984
LOWEST DAILY MEAN	.00	Jan 2	.02	Jan 30	.00	Oct 5 1932
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.02	Jan 30	.00	Oct 5 1932
ANNUAL RUNOFF (AC-FT)	108600		148500		136100	
10 PERCENT EXCEEDS	451		500		497	
50 PERCENT EXCEEDS	.35		129		3.0	
90 PERCENT EXCEEDS	.03		.04		.00	

e Estimated

13217000 BEULAH RESERVOIR AT BEULAH, OR

LOCATION.--Lat 43°54'41", long 118°9'25", in SW 1/4 SE 1/4 sec.15, T.19 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on top of dam near right end of dam on North Fork Malheur River, 0.2 mi northwest of Beulah, and at mile 15.0.

DRAINAGE AREA.--440 mi^2, approximately.

PERIOD OF RECORD.--December 1935 to September 1996 (discontinued). Prior to October 1968, published as Agency Valley Reservoir at Beulah. Prior to March 1979, monthend contents only. Gage heights at 24:00 hours for the period October 1-20, 1992 published in WDR OR-93-1 are in error and should not be used.

REVISED RECORDS.--WSP 1397: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.49 ft above sea level. Prior to Oct. 1, 1978, published as "National Geodetic Vertical Datum of 1929, Bureau of Reclamation construction datum." Prior to Mar. 28, 1979, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began December 1935. Capacity, 59,920 acre-ft between gage heights 3,263.21 ft, bottom of outlet tunnel, and 3,340.0 ft, top of spillway gates; with gates open the capacity is 32,220 acre-ft. No dead storage. Storage below 3,268 ft unusable due to restriction at the trashrack structure. Water is used for irrigation of lands below Juntura, on Vale project, Bureau of Reclamation. U.S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Prior to Mar. 28, 1979, daily gage heights furnished by Vale-Oregon Irrigation District. Capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 62,770 acre-ft May 3, 1941, gage height, 3,341.50 ft; no contents Sept. 17 to Oct. 13, 1950, Aug. 28 to Oct. 4, 1955, Aug. 13 to Oct. 1, 1961, Sept. 21 to Oct. 5, 1968, Aug. 31 to Oct. 3, 1977, Aug. 25 to Sept. 30, 1994, Oct. 1 to Oct. 15, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,600 acre-ft Apr 10, gage height, 3,340.36 ft; minimum daily contents, 19,960 acre-ft Sept. 30, gage height, 3,312.94.

Capacity table (gage height, in feet, and total contents, in acre-feet)

3,263	0	3,290	3,750	3,320	28,250
3,265	3	3,295	6,090	3,325	35,025
3,270	70	3,300	8,980	3,330	42,530
3,275	310	3,305	12,520	3,335	50,820
3,280	925	3,310	16,950	3,340	59,925
3,285	2,020	3,315	22,220	3,341	61,840

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3324.57	---	3328.84	3333.25	---	3337.24	3339.61	3340.03	3339.37	3334.09	3326.68	3317.29
2	3324.56	---	---	3333.39	---	3337.31	3339.68	3339.91	3339.27	3333.90	3326.35	3316.98
3	3324.52	---	3329.10	3333.54	3335.08	3337.37	3339.73	3339.83	3339.16	3333.70	3326.03	3316.64
4	3324.53	3326.09	---	3333.66	3335.13	3337.45	3339.78	3339.77	3339.04	3333.46	3325.78	3316.40
5	3324.54	3326.19	---	3333.76	3335.22	3337.56	3339.84	3339.68	3338.91	3333.26	3325.44	3316.04
6	3324.54	3326.29	3329.40	3333.87	3335.32	3337.60	3339.91	3339.57	3338.79	3333.06	3325.20	3315.79
7	3324.52	3326.39	3329.52	3333.98	3335.90	3337.67	3340.02	3339.43	3338.66	3332.86	3324.91	3315.51
8	3324.51	3326.47	3329.60	3334.12	3336.48	3337.80	3340.15	3339.28	3338.50	3332.66	3324.61	3315.27
9	3324.50	3326.55	3329.72	3334.29	3336.77	3338.02	3340.29	3339.15	3338.31	3332.42	3324.31	3315.04
10	3324.50	3326.65	3329.85	3334.44	3336.84	3338.18	3340.30	3339.01	3338.15	3332.18	3324.02	3314.78
11	3324.49	3326.76	3329.98	3334.57	3336.76	3338.34	3340.27	3338.86	3337.96	3331.98	3323.71	3314.58
12	3324.48	3326.87	3330.40	3334.66	3336.73	3338.88	3340.21	3338.74	3337.78	3331.74	3323.40	3314.36
13	3324.54	3326.99	3330.71	3334.78	3336.74	3339.27	3340.11	3338.69	3337.57	3331.53	3323.10	3314.14
14	3324.62	3327.09	3330.95	3334.91	3336.75	3339.45	3340.00	3338.71	3337.36	3331.30	3322.81	3313.95
15	3324.71	3327.18	3331.22	3334.99	3336.76	3339.45	3340.00	3338.79	3337.12	3331.06	3322.50	3313.82
16	3324.78	3327.27	3331.38	3335.04	3336.81	3339.41	3340.10	3338.95	3336.90	3330.82	3322.20	3313.64
17	3324.86	3327.34	3331.49	3335.03	3336.88	3339.34	3340.13	3339.23	3336.61	3330.57	3321.85	3313.52
18	3324.92	3327.44	3331.64	3334.97	3337.13	3339.27	3340.08	3339.56	3336.38	3330.31	3321.52	3313.46
19	3324.99	3327.52	3331.77	3334.98	3337.29	3339.29	3339.99	3339.90	3336.16	3330.10	3321.21	3313.35
20	3325.07	3327.59	3331.93	3335.05	3337.51	3339.70	3339.96	3340.02	3335.92	3329.88	3320.91	3313.29
21	3325.12	3327.66	3332.07	3335.07	3337.49	3339.76	3339.96	3340.00	3335.70	3329.65	3320.59	3313.21
22	3325.20	3327.74	3332.19	3335.07	3337.37	3339.70	3339.95	3339.98	3335.50	3329.42	3320.26	3313.17
23	3325.28	3327.81	3332.26	3335.12	3337.24	3339.65	3340.00	3339.91	3335.25	3329.19	3319.94	3313.08
24	3325.37	3327.91	3332.30	3335.13	3337.18	3339.56	3340.03	3339.83	3335.05	3328.94	3319.59	3313.06
25	3325.44	3328.00	3332.33	3335.12	3337.11	3339.46	3340.11	3339.80	3334.84	3328.68	3319.24	3313.03
26	3325.52	---	3332.38	3335.12	3337.08	3339.55	3340.12	3339.76	3334.66	3328.37	3318.86	3313.00
27	3325.60	---	3332.44	3335.17	3337.02	3339.75	3340.14	3339.69	3334.53	3328.08	3318.62	3312.98
28	3325.69	3328.38	3332.55	3335.22	3337.11	3339.64	3340.11	3339.64	3334.43	3327.80	3318.41	3312.97
29	3325.76	3328.55	3332.71	3335.23	3337.18	3339.56	3340.06	3339.60	3334.33	3327.51	3318.18	3312.95
30	3325.81	3328.71	3332.89	3335.21	---	3339.56	3340.08	3339.53	3334.20	3327.25	3317.93	3312.94
31	3325.91	---	3333.09	3335.16	---	3339.58	---	3339.46	---	3326.97	3317.63	---
MAX	3325.91	---	---	3335.23	---	3339.76	3340.30	3340.03	3339.37	3334.09	3326.68	3317.29
MIN	3324.48	---	---	3333.25	---	3337.24	3339.61	3338.69	3334.20	3326.97	3317.63	3312.94
(†)	a36340	40540	47550	51100	54690	59130	60070	58900	49430	37920	25340	19960
(‡)	+1880	+4200	+7010	+3550	+3590	+4440	+940	-1170	-9470	-11510	-12580	-5380

CAL YR AC-FT‡ +39750
WTR YR AC-FT‡ -14500

† Contents, in acre-ft, at 2400, on last day of month.
‡ Change in contents, in acre-ft.
a Interpolated.

13217500 NORTH FORK MALHEUR RIVER AT BEULAH, OR

LOCATION.--Lat 43°54'28", long 118°09'08", in NW 1/4 NE 1/4 sec.22, T.19 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank at Beulah, 0.3 mi downstream from Agency Valley Dam, 12 mi northwest of Juntura, and at mile 14.5.

DRAINAGE AREA.--440 mi^2, approximately.

PERIOD OF RECORD.--June 1926 to current year. Published as "near Beulah" June 1926 to September 1935.

REVISED RECORDS.--WSP 1397: 1927-32, 1934, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,261.20 ft above sea level. Prior to Apr. 25, 1926, water-stage recorder at site 1 mi downstream at different datum. Apr. 25, 1936, to Sept. 30, 1949, nonrecording gage at site 20 ft downstream at datum 1.0 ft higher. Oct. 1, 1949, to June 30, 1964, at present site at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good except those below 20 ft^3/s, which are poor. Flow regulated since 1935 by Beulah Reservoir (station 13217000). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1936-96), 143 ft^3/s, 103,300 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft^3/s May 7, 1942, gage height, 9.4 ft, present datum, from floodmark, caused by failure of gates at Agency Valley Dam, from rating curve extended above 1,100 ft^3/s on basis of computation of peak flow over dam; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 547 ft^3/s Feb. 22, 23, gage height, 3.79 ft; minimum daily discharge, no flow Oct. 14-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	.21	.41	.80	70	192	261	363	337	211	261	229
2	59	.23	.41	.80	70	192	261	393	337	234	260	227
3	59	.23	.45	.80	70	192	261	392	335	246	254	227
4	59	.23	.47	.80	70	209	261	392	333	246	255	210
5	43	.21	.54	.80	70	256	261	391	333	246	252	194
6	52	.23	.53	.80	69	246	261	390	333	246	252	184
7	59	.28	.52	.80	95	213	261	389	333	244	253	182
8	59	.30	.52	.80	226	134	270	387	333	244	254	182
9	59	.33	.52	.80	411	128	317	386	333	257	251	182
10	59	.33	.52	.80	453	190	455	385	333	254	249	166
11	59	.34	.52	.80	413	218	526	384	331	250	249	158
12	59	.37	.57	.80	348	305	528	382	330	249	249	158
13	19	.35	.60	.84	305	369	526	382	329	247	247	151
14	.00	.33	.66	.84	304	424	525	382	327	246	244	139
15	.00	.33	.70	62	302	519	358	350	327	246	247	134
16	.00	.33	.75	102	302	520	292	311	324	244	249	135
17	.00	.33	.80	113	302	519	367	238	324	244	248	115
18	.01	.30	.80	119	345	518	426	181	324	242	246	100
19	.15	.31	.80	96	434	416	426	188	324	241	244	99
20	.22	.33	.80	81	491	53	375	338	322	241	244	87
21	.22	.25	.80	80	530	383	333	399	321	241	244	81
22	.13	.20	.80	78	544	476	333	438	317	241	244	82
23	.13	.22	.80	77	501	474	333	444	315	240	251	85
24	.12	.26	.80	76	383	472	335	424	314	247	253	79
25	.13	.31	.80	75	319	470	334	365	300	267	252	75
26	.16	.33	.80	74	299	268	335	338	278	267	239	66
27	.22	.34	.80	73	268	157	345	337	258	267	213	62
28	.12	.39	.80	71	202	420	401	337	242	266	198	61
29	.10	.38	.78	70	150	407	400	336	222	264	191	61
30	.16	.38	.72	69	---	299	337	336	213	262	195	60
31	.17	---	.76	70	---	262	---	337	---	261	218	---
TOTAL	706.04	8.96	20.55	1397.28	8346	9901	10704	11095	9382	7701	7506	3971
MEAN	22.8	.30	.66	45.1	288	319	357	358	313	248	242	132
MAX	59	.39	.80	119	544	520	528	444	337	267	261	229
MIN	.00	.20	.41	.80	69	53	261	181	213	211	191	60
AC-FT	1400	18	41	2770	16550	19640	21230	22010	18610	15270	14890	7880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1996, BY WATER YEAR (WY)

MEAN	36.3	1.06	1.78	7.70	26.7	82.4	292	352	281	274	217	137
MAX	134	35.5	62.7	287	478	936	856	810	510	402	399	341
(WY)	1954	1936	1943	1943	1965	1983	1958	1983	1974	1979	1980	1945
MIN	.086	.000	.000	.000	.000	.000	2.29	120	53.7	39.5	30.4	31.9
(WY)	1974	1938	1938	1936	1938	1938	1981	1977	1939	1992	1992	1961

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1936 - 1996	
ANNUAL TOTAL	40798.69		70738.83			
ANNUAL MEAN	112		193		143	
HIGHEST ANNUAL MEAN					335	1983
LOWEST ANNUAL MEAN					54.6	1936
HIGHEST DAILY MEAN	560	Apr 14	544	Feb 22	3700	May 7 1942
LOWEST DAILY MEAN	.00	Jan 10	.00	Oct 14	.00	Dec 22 1935
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 9	.05	Oct 14	.00	Dec 22 1935
ANNUAL RUNOFF (AC-FT)	80920		140300		103300	
10 PERCENT EXCEEDS	329		391		363	
50 PERCENT EXCEEDS	43		228		43	
90 PERCENT EXCEEDS	.06		.33		.10	

13226800 BULLY CREEK RESERVOIR NEAR VALE, OR

LOCATION.--Lat 44°00'55", long 117°23'45", in SE 1/4 SW 1/4 sec.12, T.18 S., R.43 E., Malheur County, Hydrologic Unit 17050118, U.S. Bureau of Reclamation land, on top of dam over outlet works near right end of dam on Bully Creek, 8.0 mi northwest of Vale, and at mile 12.5.

DRAINAGE AREA.--547 mi^2.

PERIOD OF RECORD.--February 1963 to September 1996 (discontinued). Prior to March 1979, monthend contents only.

REVISED RECORDS.--WDR-OR-94-1: 1993.

GAGE.--Water-stage recorder. Datum of gage is sea level (Bureau of Reclamation datum). Prior to Mar. 22, 1979, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Feb. 1, 1963. Capacity, 29,980 acre-ft between elevations 2,456.58 ft, outlet works, and 2,516.00 ft, spillway crest. Dead storage, 1,650 acre-ft below elevation 2,456.58 ft. Figures given herein do not include dead storage. Water used for irrigation lands of Vale-Oregon Irrigation District. Bully Creek Reservoir feed canal diverts from Malheur River by way of Vale Oregon canal. U.S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents not determined, occurred during period Apr. 4 to May 2, 1969, elevation above 2,516.00 ft, spillway crest; no usable contents at times in 1973, 1977, 1978, 1988, 1989, 1991, 1992, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,480 acre-ft Apr. 20, elevation, 2,516.51 ft; minimum contents, 11,830 acre-ft Sept. 30, elevation, 2493.27 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,456.5	0	2,480	5,430	2,505	20,130
2,460	465	2,485	7,430	2,510	24,370
2,465	1,310	2,490	9,930	2,515	29,000
2,470	2,401	2,495	12,900	2,520	34,040
2,475	3,770	2,500	16,290		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2494.36	2493.66	2494.62	2496.34	---	---	2513.31	2516.06	2516.23	2511.64	2504.07	2496.24
2	2494.29	2493.65	2494.62	2496.40	---	---	2513.34	2515.96	2516.19	2511.44	2503.78	2496.01
3	2494.23	2493.66	2494.65	2496.50	---	---	2513.33	2515.89	2516.16	2511.23	2503.52	2495.87
4	2494.16	2493.70	---	2496.52	---	---	2513.34	2515.85	2516.07	2510.95	2503.30	---
5	2494.14	2493.73	---	2496.57	---	---	2513.41	2515.80	2515.98	2510.66	2503.01	---
6	2494.10	2493.74	2494.77	2496.62	---	---	2513.53	2515.76	2515.87	2510.46	2502.80	---
7	2494.04	2493.77	2494.81	2496.69	---	---	2513.65	2515.67	2515.76	2510.25	2502.58	---
8	2494.01	2493.78	2494.85	2496.76	---	2508.36	2513.72	2515.60	2515.62	2510.04	2502.36	---
9	2493.96	2493.78	2494.92	2496.82	---	2508.45	2513.77	2515.52	2515.44	2509.80	2502.14	---
10	2493.93	2493.81	2494.98	2496.87	---	2508.56	2513.81	2515.43	2515.31	2509.56	2501.91	---
11	2493.87	2493.84	2495.05	2496.93	---	2508.63	2513.99	2515.35	2515.10	2509.33	2501.65	---
12	2493.77	2493.86	2495.20	2497.01	---	2509.30	2514.44	2515.24	2514.93	2509.07	2501.39	---
13	2493.71	2493.91	2495.22	2497.09	---	2510.76	2514.89	2515.13	2514.73	2508.81	2501.09	---
14	2493.66	2493.92	2495.31	2497.18	---	2511.46	2515.31	2515.08	2514.54	2508.53	2500.84	---
15	2493.62	2493.95	2495.41	2497.32	---	2512.05	2515.69	2515.01	2514.33	2508.27	2500.58	---
16	2493.64	2493.94	2495.46	2497.41	---	2512.57	2515.99	2515.02	2514.11	2508.04	2500.28	---
17	2493.67	2493.96	2495.51	2497.69	---	2512.88	2516.21	2515.06	2513.82	2507.76	2499.91	2494.08
18	2493.64	2494.00	2495.56	2498.28	---	2512.95	2516.34	2515.13	2513.59	2507.55	2499.58	2494.00
19	2493.63	2494.01	2495.61	2498.87	---	2512.94	2516.46	2515.22	2513.43	2507.36	2499.26	2493.92
20	2493.64	2494.02	2495.67	2499.51	---	2512.91	2516.42	2515.24	2513.25	2507.15	2499.01	2493.84
21	2493.63	2494.05	2495.74	2500.06	---	2512.87	2516.39	2515.27	2513.08	2506.96	2498.90	2493.76
22	2493.63	2494.09	2495.76	2500.57	---	2512.89	2516.35	2515.37	2512.95	2506.76	2498.70	2493.69
23	2493.66	2494.12	2495.78	2501.08	---	2512.94	2516.33	2515.71	2512.77	2506.53	2498.46	2493.62
24	2493.66	2494.16	2495.82	2501.56	---	2512.96	2516.25	2516.01	2512.62	2506.27	2498.20	2493.56
25	2493.68	2494.20	2495.87	2501.97	---	2513.00	2516.25	2516.25	2512.47	2506.01	2497.94	2493.52
26	2493.68	2494.21	2495.91	2502.32	---	2513.05	2516.20	2516.37	2512.29	2505.75	2497.69	2493.44
27	2493.69	2494.24	2495.96	---	---	2513.10	2516.15	2516.41	2512.16	2505.46	2497.45	2493.40
28	2493.70	---	2496.03	---	---	2513.15	2516.14	2516.39	2512.04	2505.16	---	2493.36
29	2493.71	2494.56	2496.14	---	2507.80	2513.20	2516.13	2516.35	2511.93	2504.87	---	2493.33
30	2493.70	2494.61	2496.20	---	---	2513.24	2516.11	2516.30	2511.79	2504.56	2496.86	2493.27
31	2493.68	---	2496.28	2504.00	---	2513.29	---	2516.28	---	2504.35	2496.48	---
MAX	2494.36	---	---	---	---	---	2516.46	2516.41	2516.23	2511.64	---	---
MIN	2493.62	---	---	---	---	---	2513.31	2515.01	2511.79	2504.35	---	---
(†)	12079	12656	13728	19323	22458	27369	30087	30256	25977	19605	13860	11829
(‡)	-489	+577	+1072	+5595	+3135	+4911	+2718	+169	-4279	-6372	-5745	-2031

CAL YR 1995 AC-FT‡ +9469
WTR YR 1996 AC-FT‡ -739

† Contents, in acre-feet, on last day of month.
‡ Change in contents, in acre-feet.

13233300 MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OR

LOCATION.--Lat 43°59'20", long 117°13'10", in NE 1/4 SW 1/4 sec.21, T.18 S., R.45 E.,Malheur County, Hydrologic Unit 17050117, on right bank, 510 ft downstream from dam and headgates of Nevada Canal, and 1.5 mi northeast of Vale.

DRAINAGE AREA.--3,880 mi^2, approximately.

PERIOD OF RECORD.--June 1926 to September 1934, April 1936 to March 1942, March 1944 to September 1954, October 1993 to current year. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Elevation of gage is 2,220 ft above sea level, from topographic map. Prior to Nov. 17, 1930, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Many diversions for irrigation upstream from station. Since March 1930, Vale-Oregon Canal has diverted in sec.31 T.20 S., R.41 E., for irrigation upstream from station and on Willow Creek, a tributary which enters partly above and partly below station. Gilleman-Frohman Canal diverts on left bank in sec.8 T.19 S., R.44 E., for irrigation above and below station. Nevada Canal diverts on right bank 300 ft above station for irrigation below station. Flow regulated by Warmsprings Reservoir and, since December 1935, by Beulah Reservoir.

AVERAGE DISCHARGE.--74 years (water years 1927-34, 1937-41, 1945-52, 1994-96), 174 ft^3/s, 126,100 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,530 ft^3/s Feb. 28, 1940, gage height, 8.88 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 24, 1957 reached a stage of 14.6 ft, discharge 21,000 ft^3/s. Flood of Mar. 19, 1993 reached a stage of 13.31 ft, discharge 16,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,140 ft^3/s Feb. 9, gage height, 8.59 ft; minimum discharge, 26 ft^3/s Oct. 10-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	157	142	148	162	537	766	205	100	103	157	146
2	144	157	139	147	148	479	776	108	97	78	135	171
3	145	155	138	216	158	509	786	66	108	71	111	167
4	159	156	138	196	151	517	894	94	106	76	121	172
5	164	155	138	181	166	578	1030	166	105	110	157	192
6	173	154	137	171	200	627	999	151	103	102	156	213
7	167	152	141	164	498	648	989	118	107	114	149	212
8	157	152	138	160	3500	585	593	67	110	128	131	205
9	151	152	138	159	4260	540	828	35	91	118	111	205
10	149	152	138	157	3070	460	855	34	92	99	100	204
11	166	149	141	156	2060	519	530	31	77	103	107	199
12	177	146	171	152	1610	598	445	53	72	101	144	189
13	179	146	167	190	1260	747	470	82	89	101	137	182
14	177	146	150	189	973	771	478	114	77	78	119	186
15	202	146	161	175	826	746	539	165	67	94	113	195
16	215	146	173	165	826	784	534	219	93	110	123	261
17	203	145	161	130	840	1010	561	310	109	120	126	267
18	173	143	156	117	887	1110	654	295	98	118	134	247
19	160	142	148	113	962	1220	743	309	91	96	145	240
20	157	141	139	122	1180	1430	734	286	108	108	147	233
21	155	145	138	129	1410	728	589	340	109	130	139	220
22	151	142	135	122	1300	698	476	287	112	131	125	205
23	150	141	133	115	1140	1360	456	260	123	125	156	201
24	161	141	115	116	1080	1370	375	227	153	100	150	203
25	157	141	120	112	950	1370	358	248	162	116	158	197
26	176	141	122	118	811	1310	358	262	143	96	160	179
27	169	141	122	124	730	1050	452	219	143	106	185	176
28	156	145	122	127	658	481	488	177	161	101	200	175
29	154	145	124	128	613	635	463	143	149	104	198	160
30	173	143	134	142	---	710	403	114	127	110	158	145
31	168	---	134	220	---	808	---	83	---	142	149	---
TOTAL	5143	4417	4353	4661	32429	24935	18622	5268	3282	3289	4401	5947
MEAN	166	147	140	150	1118	804	621	170	109	106	142	198
MAX	215	157	173	220	4260	1430	1030	340	162	142	200	267
MIN	144	141	115	112	148	460	358	31	67	71	100	145
AC-FT	10200	8760	8630	9250	64320	49460	36940	10450	6510	6520	8730	11800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1996, BY WATER YEAR (WY)

MEAN	79.7	89.9	98.5	138	353	428	451	211	161	49.7	37.5	65.8
MAX	224	166	149	416	1123	1479	2552	596	1012	164	142	198
(WY)	1994	1954	1954	1953	1951	1952	1952	1952	1953	1928	1996	1996
MIN	.000	13.2	40.5	66.0	80.7	21.8	1.50	.50	.000	.000	.000	.000
(WY)	1931	1932	1931	1930	1933	1930	1934	1931	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1927 - 1996	
ANNUAL TOTAL	72251		116747			
ANNUAL MEAN	198		319		174	
HIGHEST ANNUAL MEAN					484	1952
LOWEST ANNUAL MEAN					22.5	1931
HIGHEST DAILY MEAN	1540	Feb 1	4260	Feb 9	9360	Mar 26 1952
LOWEST DAILY MEAN	32	Jul 2	31	May 11	.00	Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	40	Jun 27	59	May 8	.00	Oct 1 1930
ANNUAL RUNOFF (AC-FT)	143300		231600		126100	
10 PERCENT EXCEEDS	347		785		366	
50 PERCENT EXCEEDS	155		156		88	
90 PERCENT EXCEEDS	82		103		.50	

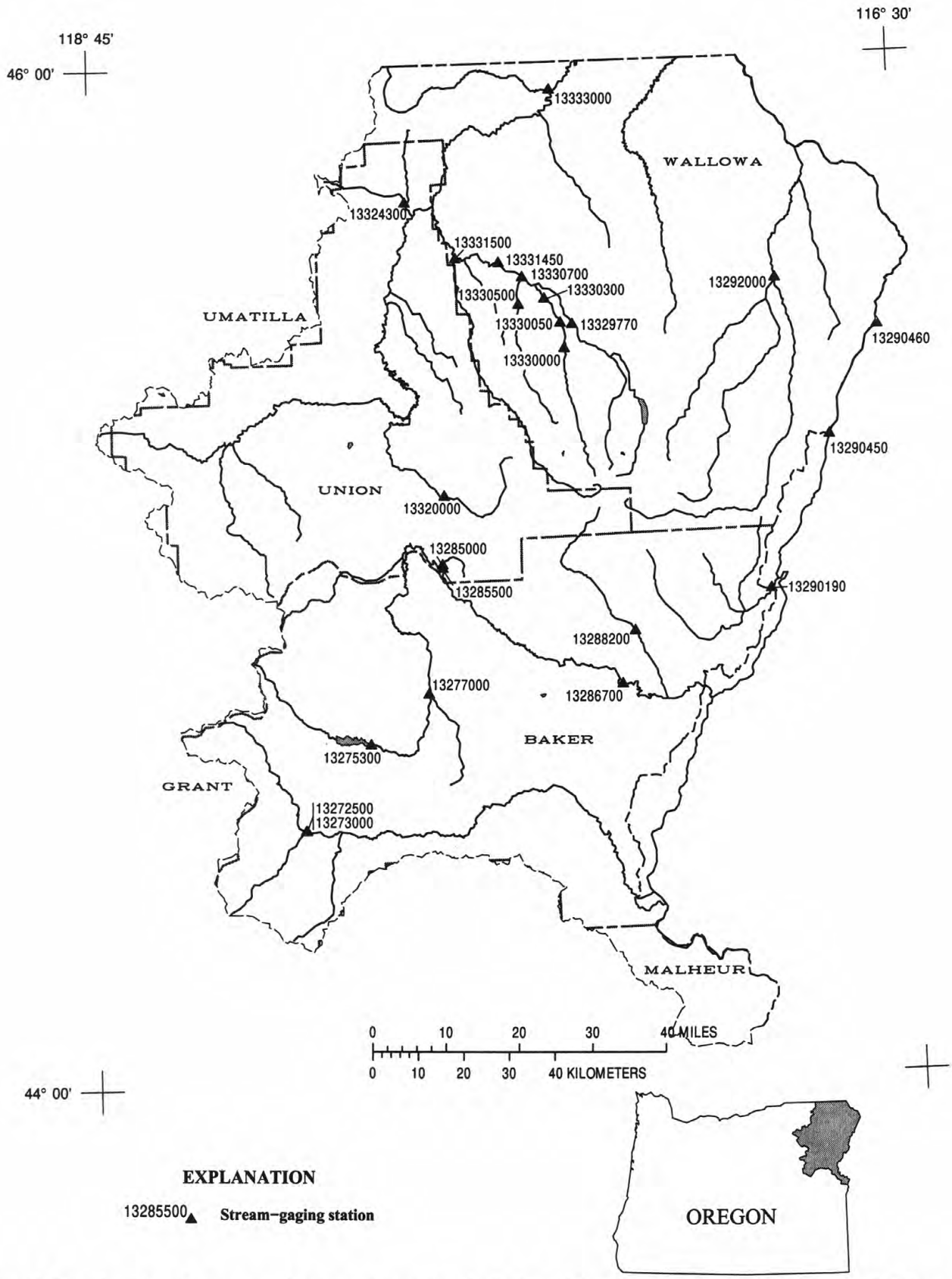
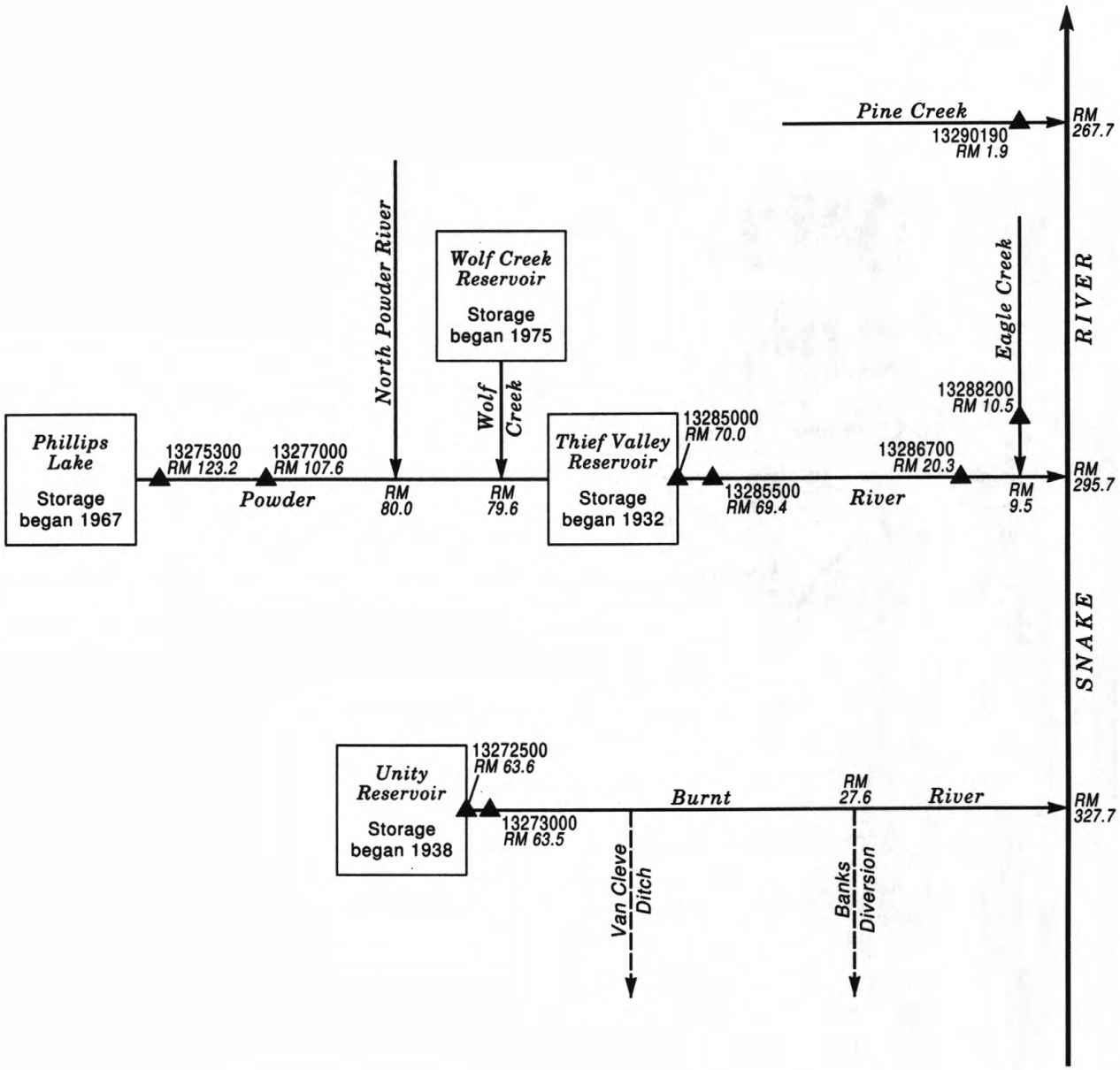


Figure 8. Location of surface-water and water-quality stations in the Burnt River, Powder River, Pine Creek, Imnaha River, and Grande Ronde River Basins.



EXPLANATION

▲13285000 **Stream-gaging station**

RM 70.0 **River mile**

Stream—Arrow shows direction of flow

Tunnel, canal or pipe—Arrow shows direction of flow

Figure 9. Schematic diagram showing gaging stations in Burnt and Powder River Basins.

13272500 UNITY RESERVOIR NEAR UNITY, OR

LOCATION.--Lat 44°30'13", long 118°10'45", in SE 1/4 SW 1/4 sec.21, T.12 S., R.37 E., Baker County, Hydrologic Unit 17050202, at spillway near right end of dam on Burnt River, 4.4 mi north of Unity, and at mile 63.6.

DRAINAGE AREA.--309 mi^2.

PERIOD OF RECORD.--March 1938 to September 1996 (discontinued). Prior to September 1978, monthend contents only.

GAGE.-- Water-stage recorder. Datum of gage is sea level (Bureau of Reclamation bench mark). Mar. 13, 1938, to Nov. 4, 1941, reference mark or manometer pressure gage and Nov. 5, 1941, to Dec. 10, 1978, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway and outlet works, completed by Bureau of Reclamation in 1937; storage began Feb. 19, 1938. Capacity, 25,200 acre-ft between elevations 3,776.5 ft, bottom of outlet gates, and 3,820.0 ft, top of radial gates on spillway when closed. Dead storage, 600 acre-ft below elevation 3,776.5 ft. Records given herein represent usable contents. Water used for irrigation in the Burnt River Irrigation District near Hereford and Bridgeport. U.S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 26,770 acre-ft Apr. 8, 1971, elevation, 3,821.62 ft; no contents Sept. 5 to Oct. 4, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum recorded contents, 25,830 acre-ft April 9, elevation, 3,820.67 ft; minimum observed
contents, 3,560 acre-ft Sept. 30, elevation, 3,789.00.

Capacity table (elevation, in feet, and usable contents, in acre-feet)

3,780	590	3,805	12,960
3,785	1,960	3,810	16,680
3,790	4,020	3,815	20,770
3,795	6,610	3,820	25,220
3,800	9,600	3,821	26,150

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3795.98	3797.70	3803.05	3809.57	---	3814.90	3820.02	3819.99	3819.73	3813.47	3806.04	3797.32
2	3796.06	3797.77	3803.48	3809.75	---	3815.09	3820.10	3820.16	3819.68	3813.27	3805.77	3796.97
3	3796.18	3797.81	3803.77	3809.91	---	3815.29	3820.14	3820.06	3819.58	3813.04	3805.54	3796.65
4	3796.24	3797.86	3804.00	3810.01	---	3815.49	3820.17	3820.02	3819.41	3812.78	3805.24	3796.33
5	3796.28	3797.92	3804.20	3810.14	---	3815.67	3820.18	3819.99	3819.25	3812.58	3805.02	3796.00
6	3796.35	3797.98	3804.36	3810.25	---	3815.84	3820.23	3820.00	3819.07	3812.38	3804.77	3795.70
7	3796.41	3798.08	3804.51	3810.36	---	3816.16	3820.36	3819.95	3818.90	3812.18	3804.50	3795.40
8	3796.47	3798.20	3804.60	3810.50	---	3816.57	3820.50	3819.90	3818.68	3811.96	---	3795.09
9	3796.54	3798.32	3804.75	3810.65	---	3817.00	3820.61	3819.88	3818.43	3811.74	---	3794.78
10	3796.64	3798.45	3804.88	3810.78	3815.08	3817.47	3820.56	3819.90	3818.23	3811.51	---	3794.47
11	3796.67	3798.62	3805.08	3810.90	3814.90	3818.12	3820.37	3819.88	3817.98	3811.28	---	3794.15
12	3796.69	3798.83	3806.41	3811.02	3814.80	3818.60	3820.14	3819.87	3817.78	3811.03	---	3793.84
13	3796.73	3799.06	3807.58	3811.13	3814.73	3818.90	3820.11	3819.89	3817.57	3810.81	---	3793.52
14	3796.79	3799.26	3808.22	3811.28	3814.65	3818.97	3820.07	3819.95	3817.33	3810.57	---	3793.21
15	3796.84	3799.42	3808.69	3811.45	3814.67	3818.95	3819.98	3820.01	3817.06	3810.31	3802.35	3792.92
16	3796.89	3799.56	3808.89	3811.59	3814.80	3818.89	3819.96	3820.08	3816.76	3810.04	3802.07	3792.65
17	3796.94	3799.68	3808.96	3811.69	3815.09	3818.98	3819.97	3820.10	3816.44	3809.76	---	3792.39
18	3796.99	3799.80	3809.06	3811.75	3815.96	3819.35	3819.94	3820.12	3816.15	3809.50	---	3792.13
19	3797.03	3799.91	3809.06	3811.91	3816.70	3819.59	3819.89	3820.02	3815.91	3809.27	---	---
20	3797.09	3800.01	3809.11	3812.04	3817.05	3819.74	3819.90	3819.97	3815.65	3809.05	---	---
21	3797.13	3800.12	3809.15	3812.13	3817.03	3819.86	3819.93	3819.98	3815.38	3808.81	---	---
22	3797.18	3800.24	3809.11	3812.26	3816.77	3819.90	3819.98	3820.29	3815.10	3808.58	---	---
23	3797.22	3800.35	3808.99	3812.39	3816.56	3819.88	3820.23	3820.38	3814.85	3808.32	---	---
24	3797.29	3800.48	3808.85	3812.49	3816.31	3819.76	---	3820.32	3814.67	3808.09	---	---
25	3797.34	3800.61	3808.71	3812.58	3815.96	3819.74	---	3820.18	3814.50	3807.82	---	---
26	3797.41	3800.75	3808.63	3812.69	3815.52	3819.88	---	3820.05	3814.33	3807.58	3799.21	---
27	3797.47	3800.92	3808.66	3812.84	3814.97	3819.95	---	3819.95	3814.16	3807.32	3798.93	---
28	3797.52	3801.30	3808.77	3812.95	3814.78	3820.02	3820.04	3819.90	3813.98	3807.09	3798.64	---
29	3797.58	3801.79	3808.91	3813.04	3814.78	3820.04	3820.00	3819.85	3813.82	3806.82	3798.33	---
30	3797.62	3802.39	3809.11	---	---	3820.03	3819.99	3819.81	3813.66	3806.61	3797.99	---
31	3797.66	---	3809.37	---	---	3820.01	---	3819.78	---	3806.33	3797.65	---
MAX	3797.66	3802.39	3809.37	---	---	3820.04	---	3820.38	3819.73	3813.47	---	---
MIN	3795.98	3797.70	3803.05	---	---	3814.90	---	3819.78	3813.66	3806.33	---	---
(†)	8150	11160	16200	15000	20580	25230	25210	25000	19630	13920	8140	3560
(‡)	+1010	+3010	+5040	-1200	+5580	+4650	-20	-210	-5370	-5710	-5780	-4580

CAL YR 1995 MAX 3820.17 MIN 3790.48 AC-FT‡ +11980
WTR YR 1996 MAX --- MIN --- AC-FT‡ -3580

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

13273000 BURNT RIVER NEAR HEREFORD, OR

LOCATION.--Lat 44°30'14", long 118°10'35", in SE 1/4 sec.21, T.12 S., R.37 E., Baker County, Hydrologic Unit 17050202, on left bank 800 ft downstream from Unity Dam, 0.4 mi upstream from Van Cleve ditch, 7 mi west of Hereford, and at mile 63.5.

DRAINAGE AREA.--309 mi^2.

PERIOD OF RECORD.--March to September 1915, April to September 1916, October 1928 to current year. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 903: 1939. WSP 1397: 1916, 1930, 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 3,758.19 ft above sea level. Oct. 1, 1943, to Oct. 31, 1966, water-stage recorder at site 450 ft downstream at datum 1.44 ft lower. See WSP 1317 or 1737 for history of changes prior to Oct. 1, 1943.

REMARKS.--No estimated daily discharges. Records good except those for Feb. 9-15, which are poor. Flow regulated since 1938 by Unity Reservoir (station 13272500). Diversions for irrigation upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1939-96), 88.7 ft^3/s, 64,230 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft^3/s Apr. 17, 1943, gage height, 5.91 ft, present datum, from rating curve extended above 1,300 ft^3/s; maximum gage height, 9.07 ft Apr. 8, 1971; no flow at times; minimum discharge before construction of Unity Dam, 1.6 ft^3/s Aug. 31, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 590 ft^3/s Feb. 21, 22, gage height, 6.38 ft; minimum discharge, 5.5 ft^3/s Oct. 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	12	33	59	48	143	236	186	122	116	103	99
2	5.8	12	34	60	48	123	237	207	121	115	102	99
3	5.8	12	34	65	48	122	237	212	131	115	101	99
4	5.8	12	34	74	48	123	237	186	134	114	101	98
5	5.8	12	34	60	48	124	237	154	134	114	100	99
6	5.8	12	34	50	48	116	237	145	133	114	99	99
7	5.8	12	34	51	48	41	238	144	133	113	99	98
8	5.6	13	34	51	54	100	275	144	133	113	104	96
9	5.5	13	34	51	191	168	334	134	133	113	115	96
10	5.7	13	33	51	317	187	386	109	132	112	115	94
11	17	13	33	47	418	188	459	100	132	112	115	93
12	23	13	34	37	397	304	458	87	132	111	114	93
13	16	13	35	37	335	413	322	63	131	111	113	92
14	12	13	37	37	334	499	283	86	130	110	112	91
15	12	14	52	38	299	504	289	101	143	110	112	90
16	12	14	93	38	283	493	262	112	150	110	110	89
17	12	14	102	38	283	360	250	138	150	109	110	87
18	12	15	109	38	285	223	250	199	149	109	109	85
19	12	15	113	38	357	281	250	253	150	108	109	84
20	12	15	114	38	474	303	219	221	149	108	108	83
21	12	15	114	38	554	304	194	161	148	108	108	83
22	12	15	114	21	586	334	189	166	148	107	107	82
23	12	15	114	33	493	348	224	219	147	107	107	82
24	12	15	114	33	448	351	293	256	140	107	106	80
25	12	15	114	33	446	296	401	264	118	106	106	79
26	12	15	93	33	445	208	457	226	118	106	106	79
27	12	26	52	33	445	223	414	185	117	105	103	78
28	13	33	40	33	348	237	329	159	117	105	103	77
29	13	34	40	41	206	236	252	144	117	105	102	76
30	12	33	46	48	---	236	216	135	116	104	100	76
31	12	---	58	48	---	236	---	127	---	103	99	---
TOTAL	331.4	478	1959	1352	8334	7824	8665	5023	4008	3400	3298	2656
MEAN	10.7	15.9	63.2	43.6	287	252	289	162	134	110	106	88.5
MAX	23	34	114	74	586	504	459	264	150	116	115	99
MIN	5.5	12	33	21	48	41	189	63	116	103	99	76
AC-FT	657	948	3890	2680	16530	15520	17190	9960	7950	6740	6540	5270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1996, BY WATER YEAR (WY)

MEAN	24.4	14.2	17.0	21.4	38.8	105	247	194	120	101	106	75.6
MAX	93.0	63.2	66.4	86.8	287	485	618	484	326	134	148	128
(WY)	1954	1954	1942	1974	1996	1983	1943	1975	1953	1957	1971	1975
MIN	.20	.23	.18	.082	.000	.72	.23	85.2	41.7	59.7	47.0	.20
(WY)	1978	1989	1989	1989	1939	1991	1955	1994	1944	1940	1977	1977

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1939 - 1996	
ANNUAL TOTAL	35764.6		47328.4			
ANNUAL MEAN	98.0		129		88.7	
HIGHEST ANNUAL MEAN					166	1965
LOWEST ANNUAL MEAN					31.7	1977
HIGHEST DAILY MEAN	809	Apr 8	586	Feb 22	1250	Apr 8 1971
LOWEST DAILY MEAN	3.1	Feb 10	5.5	Oct 9	.00	Jan 14 1939
ANNUAL SEVEN-DAY MINIMUM	3.4	Feb 5	5.7	Oct 4	.00	Jan 14 1939
ANNUAL RUNOFF (AC-FT)	70940		93880		64230	
10 PERCENT EXCEEDS	257		297		178	
50 PERCENT EXCEEDS	79		106		65	
90 PERCENT EXCEEDS	5.8		13		2.6	

13275300 POWDER RIVER NEAR SUMPTER, OR

LOCATION.--Lat 44°40'20", long 117°59'40", in NE 1/4 NE 1/4 sec.25, T.10 S., R.38 E., Baker County, Hydrologic Unit 17050203, Wallowa Whitman National Forest, on left bank 1,200 ft downstream from Mason Dam, 1.4 mi upstream from California Gulch, 11.4 mi southeast of Sumpter, and at mile 123.2.

DRAINAGE AREA.--168 mi^2, approximately. Prior to Oct. 1, 1970, 170 mi^2 at cableway, 0.5 mi downstream.

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,898.47 ft above sea level (Bureau of Reclamation bench mark). Prior to July 29, 1965, nonrecording gage at datum 1.03 ft higher.

REMARKS.--No estimated daily discharges. Records good except for discharges below 5 ft^3/s, which are poor. Flow completely regulated since Oct. 31, 1967, by Phillips Lake, active capacity, 90,540 acre-ft. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--29 years (water years 1968-96), 110 ft^3/s, 80,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 971 ft^3/s Apr. 30, 1965, gage height, 4.43 ft; no flow Nov. 12, 1967; Nov. 23-29, 1988; Sept. 29, 1989; Oct. 13, 1994.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 1,600 ft^3/s, approximately, Mar. 20, 1910, based on comparison with records for station downstream, near Baker.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 439 ft^3/s July 26, 27, gage height, 3.57 ft; minimum discharge, 3.0 ft^3/s Feb. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	9.1	9.6	9.1	4.0	53	164	257	330	143	387	203
2	9.1	9.1	9.6	9.1	3.8	90	164	291	328	133	351	204
3	9.1	9.1	9.6	9.1	3.6	142	164	308	328	129	342	204
4	9.3	9.1	9.6	9.1	3.4	164	164	308	326	130	338	189
5	9.6	9.1	9.6	9.1	3.2	164	164	308	327	133	310	183
6	9.6	9.1	9.6	9.1	5.0	164	167	305	327	153	273	168
7	9.6	9.1	9.6	9.1	7.0	164	167	304	327	204	250	162
8	9.6	9.1	9.6	9.1	7.5	162	167	304	327	214	229	159
9	9.6	9.1	9.6	9.1	7.7	162	167	230	327	214	224	141
10	9.6	9.1	9.6	9.1	7.7	162	168	267	348	214	224	116
11	9.6	9.1	9.6	9.1	8.1	162	169	287	361	227	226	100
12	9.6	9.1	9.6	9.1	8.6	162	170	290	358	233	225	96
13	9.6	9.1	9.6	5.9	8.6	162	187	333	355	251	225	109
14	9.6	9.1	9.6	3.8	8.6	162	197	346	355	259	244	118
15	9.6	9.1	9.6	4.2	8.9	162	262	346	356	294	251	138
16	9.3	9.1	9.6	4.4	9.1	162	300	342	356	308	244	127
17	9.1	9.1	9.6	4.4	7.6	162	300	342	354	295	242	108
18	9.1	9.1	9.6	4.4	6.9	162	300	345	354	294	242	82
19	9.1	9.1	9.6	4.4	7.0	162	300	344	355	293	242	64
20	9.1	9.1	9.6	4.4	7.0	162	300	342	358	311	242	55
21	9.1	9.1	9.6	4.4	7.1	162	300	341	358	322	242	45
22	9.1	9.3	9.6	4.4	7.3	162	298	342	358	321	245	41
23	9.1	9.6	9.6	4.4	7.3	162	236	342	358	319	259	41
24	9.1	9.6	9.6	4.4	7.3	162	202	341	356	349	259	41
25	9.1	9.6	9.6	4.4	7.6	163	197	340	355	392	259	41
26	9.1	9.6	9.6	4.4	7.7	164	197	342	311	429	259	41
27	9.1	9.6	9.1	4.2	7.7	164	197	338	247	423	259	41
28	9.1	9.6	9.1	4.1	7.3	164	194	337	165	417	233	41
29	9.1	9.6	9.1	4.1	7.3	164	240	334	142	417	211	41
30	9.1	9.6	9.1	4.1	---	164	259	334	142	416	203	32
31	9.1	---	9.1	4.1	---	164	---	333	---	415	203	---
TOTAL	288.0	277.2	295.1	192.1	199.9	4842	6461	9923	9649	8652	7943	3131
MEAN	9.29	9.24	9.52	6.20	6.89	156	215	320	322	279	256	104
MAX	9.6	9.6	9.6	9.1	9.1	164	300	346	361	429	387	204
MIN	9.1	9.1	9.1	3.8	3.2	53	164	230	142	129	203	32
AC-FT	571	550	585	381	397	9600	12820	19680	19140	17160	15750	6210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1996, BY WATER YEAR (WY)

MEAN	10.9	8.39	7.96	13.2	16.0	53.8	128	297	274	208	215	86.0
MAX	19.6	16.0	14.0	105	67.7	317	355	519	546	411	301	171
(WY)	1981	1985	1984	1984	1984	1982	1984	1975	1983	1984	1974	1974
MIN	2.55	.46	.50	.36	.78	1.10	4.81	123	101	77.1	56.0	21.7
(WY)	1974	1968	1968	1968	1968	1968	1993	1995	1990	1992	1976	1984

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1968 - 1996	
ANNUAL TOTAL	28379.3		51853.3			
ANNUAL MEAN	77.8		142		110	
HIGHEST ANNUAL MEAN					186	1983
LOWEST ANNUAL MEAN					60.0	1968
HIGHEST DAILY MEAN	358	Aug 3	429	Jul 26	592	Apr 22 1974
LOWEST DAILY MEAN	2.3	Apr 11	3.2	Feb 5	.00	Nov 12 1967
ANNUAL SEVEN-DAY MINIMUM	2.3	Apr 10	3.7	Jan 30	.13	Jan 9 1976
ANNUAL RUNOFF (AC-FT)	56290		102900		80000	
10 PERCENT EXCEEDS	232		342		310	
50 PERCENT EXCEEDS	9.6		142		19	
90 PERCENT EXCEEDS	3.3		7.6		4.5	

13277000 POWDER RIVER AT BAKER CITY, OR

LOCATION.--Lat 44°46'06", long 117°49'50", in SE 1/4 NE 1/4 sec.20, T.9 S., R.40 E., Baker County, Hydrologic Unit 17050203, on right bank 600 ft upstream from Myrtle Street Bridge in Baker City, 0.5 mi downstream from Sutton Creek, and at mile 107.6.

DRAINAGE AREA.--351 mi^2.

PERIOD OF RECORD.--May to September 1913, April to July 1914, November 1971 to current year. Monthly discharge only May 1913, April 1914 published in WSP 1317. November 1971 to September 1978 in reports of Oregon Water Resources Department. Prior to October 1990, published as "at Baker".

REVISED RECORDS.--WSP 1317: 1913.

GAGE.--Water-stage recorder. Datum of gage is 3,441.71 ft above sea level. Prior to Oct. 19, 1971, nonrecording gage at site 0.7 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since Oct. 31, 1967, by Phillips Lake, active capacity, 90,540 acre-ft. Old Settlers Slough diverts from left bank 0.2 mi upstream for irrigation downstream from station. U.S. Bureau of Reclamation satellite telemeter at station. Continuous water-quality records for the period October 1960 to September 1961 have been collected at this location.

AVERAGE DISCHARGE.--24 years (water years 1973-96), 102 ft^3/s, 73,740 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,120 ft^3/s Jan. 15, 1974, gage height, 5.55 ft; maximum gage height, 5.57 ft Jan. 5, 1984 (ice jam); minimum discharge, 0.7 ft^3/s Oct. 28, 29, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 489 ft^3/s Feb. 7, gage height, 3.87 ft; minimum discharge, 4.3 ft^3/s Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	40	87	16	66	209	247	297	121	295	111
2	17	15	35	53	17	138	218	235	296	108	266	113
3	19	16	29	39	18	162	221	245	282	101	250	124
4	17	17	28	34	26	213	218	267	258	95	249	117
5	16	15	26	31	50	225	216	262	255	88	231	114
6	16	15	26	30	82	214	215	257	252	88	198	115
7	16	17	25	29	188	212	217	253	251	126	181	114
8	15	17	24	31	286	216	223	250	259	159	160	116
9	16	18	24	37	390	223	230	217	261	162	143	112
10	15	16	24	39	161	226	236	177	269	161	143	103
11	16	18	32	34	114	233	242	213	278	171	142	83
12	14	20	109	33	99	237	246	223	279	180	139	72
13	13	27	74	32	93	238	246	230	274	184	139	70
14	12	22	53	26	93	234	252	260	278	192	155	76
15	12	20	53	35	94	232	268	281	280	203	167	92
16	13	19	52	37	96	227	312	293	282	221	161	91
17	14	18	38	29	110	224	315	310	286	210	155	80
18	15	18	37	29	167	221	319	323	291	205	155	70
19	13	18	33	40	155	220	320	342	290	199	157	55
20	13	17	34	32	138	218	319	340	290	205	171	50
21	14	17	31	26	126	216	311	345	286	215	159	46
22	14	17	29	25	112	217	309	365	285	217	157	39
23	14	17	26	40	94	217	301	355	289	210	164	36
24	14	17	25	29	87	216	266	355	301	219	167	36
25	14	19	24	34	77	210	259	355	295	256	167	36
26	17	21	24	37	70	210	262	351	274	290	163	37
27	15	19	26	40	67	209	258	350	237	311	168	38
28	15	35	30	36	64	214	251	346	167	309	151	37
29	15	50	34	31	62	210	254	335	119	306	128	37
30	14	40	40	18	---	207	264	316	116	306	117	38
31	14	---	92	16	---	205	---	305	---	308	113	---
TOTAL	459	609	1177	1069	3152	6510	7777	9003	7877	6126	5311	2258
MEAN	14.8	20.3	38.0	34.5	109	210	259	290	263	198	171	75.3
MAX	19	50	109	87	390	238	320	365	301	311	295	124
MIN	12	14	24	16	16	66	209	177	116	88	113	36
AC-FT	910	1210	2330	2120	6250	12910	15430	17860	15620	12150	10530	4480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1996, BY WATER YEAR (WY)

MEAN	14.1	15.9	21.6	29.0	53.1	106	154	249	220	151	159	61.1
MAX	23.7	28.5	49.8	120	145	414	456	536	494	335	208	120
(WY)	1976	1985	1984	1984	1982	1982	1984	1975	1974	1984	1974	1974
MIN	4.16	6.71	6.25	8.45	13.6	16.3	29.7	119	60.8	50.3	43.4	15.5
(WY)	1974	1989	1991	1989	1993	1991	1992	1995	1990	1992	1976	1989

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1972 - 1996	
ANNUAL TOTAL	28247		51328			
ANNUAL MEAN	77.4		140		102	
HIGHEST ANNUAL MEAN					203	1984
LOWEST ANNUAL MEAN					48.5	1988
HIGHEST DAILY MEAN	304	Aug 7	390	Feb 9	636	May 12 1975
LOWEST DAILY MEAN	10	Jan 3	12	Oct 14	2.4	Oct 28 1973
ANNUAL SEVEN-DAY MINIMUM	13	Oct 13	13	Oct 13	3.0	Sep 24 1973
ANNUAL RUNOFF (AC-FT)	56030		101800		73740	
10 PERCENT EXCEEDS	164		290		262	
50 PERCENT EXCEEDS	54		120		49	
90 PERCENT EXCEEDS	16		17		11	

13285000 THIEF VALLEY RESERVOIR NEAR NORTH POWDER, OR

LOCATION.--Lat 45°00'45", long 117°46'50", in NE 1/4 SW 1/4 sec.26, T.6 S., R.40 E., Baker County, Hydrologic Unit 17050203, Bureau of Reclamation land, on top of right end of dam on Powder River, 7.0 mi east of North Powder, and at mile 70.0.

DRAINAGE AREA.--910 mi^2, approximately.

PERIOD OF RECORD.--October 1979 to September 1996 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is sea level (Bureau of Reclamation bench mark).

REMARKS.--Reservoir is formed by concrete dam. Storage began in February 1932. Capacity, 17,400 acre-ft between elevations 3,094.00 ft, minimum pool, and 3,133.00 ft, spillway crest. No dead storage. Water used for irrigation of lands of Lower Powder River Irrigation District. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Capacity table furnished by Oregon Water Resources Department. Table uncertain below about 3,096 ft, due to siltation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 18,900 acre-ft July 2, 1982, elevation, 3,134.99 ft; no contents observed Sept. 17, 1987; probably no contents most days during September 1987, Sept. 7-18, 1988, August to September 1992, several days in October 1992, August 25 to October 2, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,500 acre-ft Feb. 9, elevation, 3,134.46; minimum contents, 3,440 acre-ft Oct. 2, elevation, 3,108.11 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,096	230	3,120	8,950
3,100	966	3,125	11,880
3,105	2,360	3,130	15,210
3,110	4,170	3,135	18,910
3,115	6,370		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3108.14	3115.72	3130.88	3133.47	3133.17	3133.57	3133.81	3133.69	3133.75	3133.42	3127.21	3121.04
2	3108.12	3115.95	3132.00	3133.50	3133.19	3133.61	3133.81	3133.70	3133.72	3133.39	3126.98	3120.79
3	3108.28	3116.15	3132.87	3133.56	3133.20	3133.64	3133.81	3133.65	3133.78	3133.38	3126.81	3120.47
4	3108.38	3116.42	3133.34	3133.52	3133.24	3133.71	3133.81	3133.65	3133.77	3133.25	3126.70	3120.15
5	3108.59	3116.71	3133.38	3133.45	3133.26	3133.73	3133.81	3133.63	3133.76	3133.19	3126.55	3119.89
6	3108.85	3116.99	3133.41	3133.41	3133.36	3133.75	3133.81	3133.62	3133.69	3133.20	3126.48	3119.69
7	3109.07	3117.33	3133.40	3133.40	3133.50	3133.75	3133.86	3133.55	3133.69	3133.09	3126.42	3119.53
8	3109.31	3117.73	3133.37	3133.41	3133.99	3133.77	3133.91	3133.44	3133.73	3132.92	3126.30	3119.42
9	3109.57	3118.01	3133.39	3133.45	3134.39	3133.78	3133.96	3133.40	3133.71	3132.74	3126.17	3119.17
10	3109.84	3118.37	3133.39	3133.46	3134.23	3133.79	3133.95	3133.36	3133.68	3132.51	3126.00	3118.94
11	3110.10	3118.70	3133.46	3133.45	3134.07	3133.80	3133.99	3133.34	3133.60	3132.31	3125.84	3118.75
12	3110.33	3119.13	3133.82	3133.43	3133.91	3133.78	3133.97	3133.36	3133.59	3132.10	3125.69	3118.41
13	3110.63	3119.85	3133.86	3133.41	3133.81	3133.84	3133.96	3133.40	3133.47	3131.89	3125.51	3118.13
14	3110.91	3120.74	3133.75	3133.41	3133.77	3133.84	3133.97	3133.62	3133.44	3131.63	3125.31	3117.81
15	3111.21	3121.36	3133.69	3133.47	3133.75	3133.84	3133.99	3133.94	3133.43	3131.35	3125.08	3117.50
16	3111.49	3121.86	3133.63	3133.52	3133.75	3133.77	3133.98	3134.04	3133.44	3131.10	3124.79	3117.28
17	3111.73	3122.33	3133.54	3133.45	3133.76	3133.78	3134.00	3134.09	3133.42	3130.85	3124.52	3117.01
18	3111.99	3122.78	3133.52	3133.34	3133.85	3133.79	3133.93	3134.17	3133.38	3130.56	3124.25	3116.81
19	3112.24	3123.16	3133.48	3133.37	3133.91	3133.82	3133.91	3134.16	3133.38	3130.33	3124.05	3116.64
20	3112.52	3123.59	3133.48	3133.40	3133.89	3133.81	3133.88	3134.12	3133.30	3130.10	3123.84	3116.48
21	3112.75	3123.93	3133.46	3133.39	3133.85	3133.82	3133.87	3134.12	3133.28	3129.87	3123.58	3116.31
22	3112.99	3124.30	3133.42	3133.35	3133.83	3133.85	3133.87	3134.24	3133.28	3129.61	3123.35	3116.12
23	3113.25	3124.68	3133.35	3133.35	3133.72	3133.82	3133.85	3134.17	3133.30	3129.36	3123.06	3115.96
24	3113.55	3125.05	3133.31	3133.35	3133.66	3133.74	3133.90	3134.10	3133.34	3129.10	3122.77	3115.78
25	3113.84	3125.52	3133.29	3133.35	3133.64	3133.74	3133.90	3134.06	3133.44	3128.81	3122.56	3115.60
26	3114.14	3125.99	3133.26	3133.33	3133.54	3133.80	3133.84	3134.04	3133.50	3128.49	3122.33	3115.45
27	3114.41	3126.55	3133.26	3133.29	3133.50	3133.79	3133.81	3134.01	3133.50	3128.23	3122.11	3115.33
28	3114.66	3127.16	3133.35	3133.23	3133.57	3133.73	3133.80	3133.96	3133.53	3127.99	3121.91	3115.19
29	3114.97	3128.35	3133.33	3133.28	3133.57	3133.77	3133.78	3133.90	3133.52	3127.72	3121.77	3115.08
30	3115.22	3129.50	3133.35	3133.18	---	3133.78	3133.77	3133.84	3133.44	3127.55	3121.55	3114.94
31	3115.46	---	3133.41	3133.15	---	3133.79	---	3133.79	---	3127.39	3121.30	---
MAX	3115.46	3129.50	3133.86	3133.56	3134.39	3133.85	3134.00	3134.24	3133.78	3133.42	3127.21	3121.04
MIN	3108.12	3115.72	3130.88	3133.15	3133.17	3133.57	3133.77	3133.34	3133.28	3127.39	3121.30	3114.94
(†)	6590	14860	17710	17510	17830	17990	17980	17990	17730	13410	9680	6340
(‡)	+3100	+8270	+2850	-200	+320	+160	-10	+10	-260	-4320	-3730	-3340

CAL YR 1995 MAX 3134.01 MIN 3108.12 AC-FT‡ +8750
WTR YR 1996 MAX 3134.39 MIN 3108.12 Ac-FT‡ +2850

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-ft.

13285500 POWDER RIVER BELOW THIEF VALLEY RESERVOIR, NEAR NORTH POWDER, OR

LOCATION.--Lat 45°00'20", long 117°46'50", in NE 1/4 NW 1/4 sec.35, T.6 S., R.40 E., Baker County, Hydrologic Unit 17050203, on right bank 0.6 mi downstream from Thief Valley Reservoir, 7.0 mi east of North Powder, and at mile 69.4.

DRAINAGE AREA.--910 mi^2, approximately.

PERIOD OF RECORD.--March 1909 to June 1912, July to September 1932, August 1978 to current year. Prior to July 1932, published as Powder River near North Powder.

REVISED RECORDS.--WSP 1317: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,080.166 ft above sea level (Bureau of Reclamation bench mark). Prior to Aug. 18, 1978, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Phillips Lake since October 1967, usable capacity, 90,540 acre-ft, by Wolf Creek Reservoir since April 1975, usable capacity, 10,400 acre-ft, by Pilcher Creek Reservoir since April 1984, usable capacity 5,560 acre-ft, and by Thief Valley Reservoir since February 1932, usable capacity, 17,400 acre-ft. Many diversions for irrigation upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1979-96), 196 ft^3/s, 142,100 acre-ft/yr.
12 years (water years 1985-96), 141 ft^3/s, 102,300 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,920 ft^3/s Mar. 21, 1910, gage height, 10.0 ft, site and datum then in use, from rating curve extended above 1,000 ft^3/s; maximum gage height, 10.05 ft July 2, 1982; no flow Aug. 9 to Sept. 10, 1910, Nov. 26, 1992 to Jan. 15, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,370 ft^3/s Feb. 9, gage height, 8.70 ft; minimum discharge, 6.6 ft^3/s Oct. 14-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	7.9	10	269	e90	334	513	498	572	226	103	98
2	35	7.9	10	300	e96	337	542	487	510	194	96	101
3	30	7.9	10	318	e100	395	546	464	542	175	89	106
4	27	8.0	97	344	e110	435	530	448	607	155	89	108
5	19	8.3	234	283	e120	499	519	435	621	109	89	108
6	13	8.3	250	249	135	497	515	406	539	83	89	107
7	13	8.4	240	227	262	479	537	372	489	78	92	107
8	13	8.3	217	219	593	482	566	304	546	99	93	107
9	13	8.3	218	236	1210	489	626	236	586	117	84	107
10	13	8.3	228	253	1150	488	686	189	539	115	84	107
11	13	8.3	231	251	970	496	725	151	470	103	82	107
12	9.8	8.3	401	236	750	513	755	153	402	88	69	107
13	6.9	8.6	642	225	610	513	748	183	350	92	89	107
14	6.8	8.6	589	228	536	495	726	321	293	103	103	107
15	6.6	8.6	504	220	502	502	720	616	291	110	103	107
16	6.6	8.7	446	286	480	480	728	862	295	109	105	100
17	6.9	8.9	383	282	484	477	777	938	302	108	107	95
18	6.9	9.0	342	221	531	497	764	1050	291	107	107	94
19	7.0	9.0	300	172	631	507	724	1110	257	107	104	94
20	7.1	9.0	294	197	662	516	693	1050	190	107	97	91
21	7.3	9.0	278	206	610	520	658	972	172	103	104	89
22	7.3	9.0	255	183	567	533	649	1150	160	98	112	87
23	7.3	9.0	209	171	502	527	608	1200	167	100	117	82
24	7.3	9.3	170	173	459	525	668	1040	191	107	115	77
25	7.7	9.4	162	173	418	490	677	953	265	109	108	77
26	7.6	9.3	148	166	380	502	646	920	313	111	102	74
27	7.6	9.6	138	160	312	505	612	904	337	110	101	72
28	7.6	9.8	e150	e110	335	520	577	861	357	110	110	72
29	7.7	9.7	e160	e100	347	510	547	775	348	108	110	72
30	7.8	9.7	181	e90	---	510	535	714	285	103	109	71
31	7.9	---	214	e86	---	505	---	643	---	103	103	---
TOTAL	375.7	262.4	7711	6634	13952	15078	19117	20405	11287	3547	3065	2838
MEAN	12.1	8.75	249	214	481	486	637	658	376	114	98.9	94.6
MAX	39	9.8	642	344	1210	533	777	1200	621	226	117	108
MIN	6.6	7.9	10	86	90	334	513	151	160	78	69	71
AC-FT	745	520	15290	13160	27670	29910	37920	40470	22390	7040	6080	5630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1996, BY WATER YEAR (WY)

MEAN	29.0	20.6	47.8	70.3	168	289	275	293	246	107	91.9	62.1
MAX	126	169	249	214	572	601	844	658	480	153	119	105
(WY)	1985	1985	1996	1996	1986	1986	1985	1996	1993	1991	1991	1986
MIN	.11	.077	.000	.058	.41	103	55.6	72.5	85.8	71.6	4.11	6.04
(WY)	1989	1989	1993	1989	1989	1992	1988	1988	1988	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1985 - 1996	
ANNUAL TOTAL	62320.9		104272.1			
ANNUAL MEAN	171		285		141	
HIGHEST ANNUAL MEAN					285	1996
LOWEST ANNUAL MEAN					50.9	1988
HIGHEST DAILY MEAN	747	Jun 20	1210	Feb 9	1970	Mar 13 1989
LOWEST DAILY MEAN	6.6	Jan 1	6.6	Oct 15	.00	Nov 26 1992
ANNUAL SEVEN-DAY MINIMUM	6.8	Oct 13	6.8	Oct 13	.00	Nov 26 1992
ANNUAL RUNOFF (AC-FT)	123600		206800		102300	
10 PERCENT EXCEEDS	401		644		383	
50 PERCENT EXCEEDS	115		182		95	
90 PERCENT EXCEEDS	8.8		9.0		1.3	

e Estimated

13286700 POWDER RIVER NEAR RICHLAND, OR

LOCATION.--Lat 44°46'40", long 117°17'30", in SE 1/4 sec.14, T.9 S., R.44 E., Baker County, Hydrologic Unit 17050203, on left bank 0.4 mi upstream from Upper Timber Canyon, 6.0 mi west of Richland, and at mile 20.3.

DRAINAGE AREA.--1,310 mi^2, approximately.

PERIOD OF RECORD.--October 1957 to June 1996 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 2,277.42 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Phillips Lake since October 1967, usable capacity, 90,540 acre-ft, Wolf Creek Reservoir since April 1975, usable capacity, 10,400 acre-ft, Thief Valley Reservoir since February 1932, usable capacity, 17,400 acre-ft, and Pilcher Creek Reservoir since April 1984, usable capacity, 5,560 acre-ft. Diversions for irrigation upstream and downstream from station. Continuous water-quality records for the period June 1959 to September 1961 have been collected at this location.

AVERAGE DISCHARGE.--38 years (water years 1958-95), 249 ft^3/s, 180,400 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,090 ft^3/s Feb. 21, 1982, gage height, 7.50 ft, from floodmark; maximum gage height, 9.29 ft Jan. 15, 1974 (ice jam); minimum discharge, 0.80 ft^3/s Aug. 11, 12, 1966.

EXTREMES FOR PERIOD OCTOBER TO JUNE.--Maximum discharge, 1,490 ft^3/s Feb. 10, gage height, 4.50 ft; minimum discharge, 33 ft^3/s Nov. 3, 4, but may have been lower during ice effect those days.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 1995 TO JUNE 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1	48	38	173	e350	e150	483	608	556	637
2	48	38	178	385	e160	470	657	514	561
3	52	e34	144	457	e180	484	672	498	507
4	62	e34	122	598	e190	545	666	451	557
5	53	36	172	465	e230	596	651	444	598
6	52	41	310	392	355	629	646	421	577
7	49	42	313	353	404	610	665	378	480
8	46	42	301	344	433	602	719	331	457
9	46	41	276	436	505	623	785	274	518
10	43	41	280	492	1030	645	848	212	532
11	43	44	295	436	1380	703	870	163	477
12	46	43	518	406	1140	763	889	129	400
13	47	47	957	375	909	776	872	125	357
14	46	51	913	353	811	749	836	195	292
15	45	52	811	365	752	732	809	408	238
16	45	52	726	423	724	708	786	805	223
17	47	51	595	457	731	680	823	1030	233
18	46	51	505	390	844	668	865	1140	245
19	46	50	451	337	964	683	825	1310	235
20	42	52	403	294	1050	686	795	1300	213
21	39	52	394	314	1010	687	743	1190	166
22	38	52	e350	298	919	699	719	1230	134
23	38	50	e320	293	822	701	700	1400	120
24	38	50	e290	273	737	679	705	1340	148
25	39	51	e260	267	666	652	763	1160	165
26	40	56	e240	262	609	623	755	1050	226
27	39	62	e230	254	522	630	714	1000	268
28	39	87	e240	e230	483	657	674	956	311
29	39	123	e250	e200	498	624	641	886	315
30	38	157	e280	e170	---	618	597	785	292
31	40	---	e310	e160	---	607	---	708	---
TOTAL	1379	1620	11607	10829	19208	20012	22298	22389	10482
MEAN	44.5	54.0	374	349	662	646	743	722	349
MAX	62	157	957	598	1380	776	889	1400	637
MIN	38	34	122	160	150	470	597	125	120
AC-FT	2740	3210	23020	21480	38100	39690	44230	44410	20790

CAL YR 1995 TOTAL 89358.4 MEAN 245 MAX 957 MIN 8.6 AC-FT 177200

e Estimated

13288200 EAGLE CREEK ABOVE SKULL CREEK, NEAR NEW BRIDGE, OR

LOCATION.--Lat 44°52'50", long 117°15'10", in SE 1/4 sec.7, T.8 S., R.45 E., Baker County, Hydrologic Unit 17050203, Wallowa-Whitman National Forest, on left bank 0.5 mi upstream from Skull Creek, 6.5 mi northwest of New Bridge, and at mile 10.5.

DRAINAGE AREA.--156 mi^2.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,800 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation. Some diversions upstream from station for irrigation and one small interbasin diversion for irrigation supply. All diversions are small compared to flow at station during irrigation season. Continuous water-quality records for the period June 1959 to September 1961 have been collected at this location.

AVERAGE DISCHARGE.--39 years (water years 1958-96), 314 ft^3/s, 227,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,310 ft^3/s July 12, 1975, gage height, 5.06 ft, from rating curve extended above 2,500 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 6.88 ft Jan. 25, 1962 (ice jam); minimum daily discharge, 30 ft^3/s Nov. 28, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 15	1130	2,020	3.73	June 28	2200	*2,060	*3.76

Minimum daily discharge, 62 ft^3/s Feb. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	102	525	204	e66	e270	332	541	920	957	253	141
2	96	98	447	199	e64	e270	371	535	1080	1190	245	135
3	124	103	386	193	e62	e280	364	505	1350	1260	224	133
4	126	102	356	183	e66	e300	359	484	1610	1120	208	133
5	105	108	310	177	e72	e330	370	466	1560	924	196	138
6	100	103	282	174	e90	e320	405	455	1380	766	184	133
7	96	110	279	168	e150	e310	482	461	1500	711	176	130
8	93	112	248	174	e350	e300	607	468	1790	721	170	128
9	91	134	249	187	e450	e320	712	476	1790	757	166	126
10	90	117	242	186	e350	e340	733	485	1570	746	162	125
11	94	131	270	178	e330	e360	672	523	1410	669	160	123
12	100	179	731	e160	e310	e380	628	713	1290	643	156	122
13	93	220	594	e160	e300	e420	577	952	1240	621	153	121
14	90	273	473	e160	e280	e400	539	1350	1390	596	151	119
15	88	225	442	e170	e280	e380	519	1850	1440	569	148	145
16	88	211	393	e190	e290	e375	561	1760	1410	536	145	132
17	89	205	348	e210	e320	e370	540	1830	1360	502	142	127
18	100	222	335	e200	e370	e370	519	1680	1020	484	140	124
19	105	207	307	e190	e440	e370	494	1270	828	429	138	123
20	104	192	293	e185	e480	e350	470	1060	743	391	134	119
21	103	183	275	e180	e430	e350	450	946	666	372	132	116
22	102	180	e240	e175	e400	e370	442	1010	626	372	130	116
23	99	186	e220	e170	e370	e365	635	869	647	369	126	116
24	100	211	e210	e165	e350	e350	733	806	713	354	125	113
25	99	277	e200	e160	e320	e340	644	842	649	337	123	110
26	176	257	e190	e155	e290	e330	611	966	624	325	120	110
27	136	240	e180	e150	e280	e320	587	1080	687	311	125	109
28	121	336	e200	e130	e275	322	559	1080	683	303	128	106
29	122	389	213	e120	e270	306	548	1000	694	313	137	103
30	117	468	217	e100	---	293	531	929	798	300	138	103
31	112	---	229	e70	---	287	---	884	---	272	137	---
TOTAL	3255	5881	9884	5223	8105	10448	15994	28276	33468	18220	4872	3679
MEAN	105	196	319	168	279	337	533	912	1116	588	157	123
MAX	176	468	731	210	480	420	733	1850	1790	1260	253	145
MIN	88	98	180	70	62	270	332	455	624	272	120	103
AC-FT	6460	11660	19600	10360	16080	20720	31720	56090	66380	36140	9660	7300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1996, BY WATER YEAR (WY)

MEAN	105	122	116	109	127	193	421	916	997	412	146	105
MAX	323	264	319	191	279	493	658	1747	2134	1011	253	172
(WY)	1960	1974	1996	1974	1996	1986	1990	1958	1974	1975	1983	1978
MIN	56.1	67.9	69.8	52.7	60.0	64.8	191	252	276	84.0	62.8	61.4
(WY)	1989	1988	1994	1993	1994	1977	1967	1977	1977	1977	1977	1988

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1958 - 1996	
ANNUAL TOTAL	151634		147305			
ANNUAL MEAN	415		402		314	
HIGHEST ANNUAL MEAN					519	1974
LOWEST ANNUAL MEAN					118	1977
HIGHEST DAILY MEAN	1910	Jun 5	1850	May 15	3400	Jun 16 1974
LOWEST DAILY MEAN	70	Jan 3	62	Feb 3	30	Nov 28 1976
ANNUAL SEVEN-DAY MINIMUM	80	Jan 21	70	Jan 31	42	Jan 5 1993
ANNUAL RUNOFF (AC-FT)	300800		292200		227700	
10 PERCENT EXCEEDS	1070		925		839	
50 PERCENT EXCEEDS	267		284		139	
90 PERCENT EXCEEDS	99		105		78	

e Estimated

13290450 SNAKE RIVER AT HELLS CANYON DAM, IDAHO-OREGON STATE LINE

LOCATION.--Lat 45°15'05", long 116°41'50", in SE 1/4 SE 1/4 sec.33, T.3 S., R.49 E., unsurveyed (Willamette meridian), Wallowa County, Wallowa-Whitman National Forest, Hydrologic Unit 17050201, on left bank, 0.2 mi upstream from Hells Canyon Creek, 0.4 mi downstream from Deep Creek, 0.6 mi downstream from Hells Canyon Dam, 15.5 mi northeast of Homestead, Oregon, and at mile 247.0.

DRAINAGE AREA.--73,300 mi^2, approximately.

PERIOD OF RECORD.--July 1965 to current year.

REVISED RECORDS.--WDR ID-78-2: 1969-70, 1972-76, WDR ID-79-2: 1972-73(m).

GAGE.--Water-stage recorder. Datum of gage is 1,400 ft above sea level (levels by Idaho Power Company).

REMARKS.--Records good except for estimated daily discharges, which are fair. Station equipment includes satellite telemetry. Flow regulated by many reservoirs upstream from station, with a total usable capacity of more than 10,000,000 acre-feet, the most effective of which is Brownlee Reservoir, 38 mi upstream. Diurnal fluctuations caused by Hells Canyon powerplant. Diversions upstream from station for irrigation of about 3,820,000 acres, of which 742,000 acres are irrigated by withdrawals from ground water (1966 determination).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,800 ft^3/s Feb. 23, 1982, gage height, 84.05 ft; minimum discharge, 1,580 ft^3/s Mar. 19, 1967, gage height, 59.9 ft; minimum daily discharge, 4,360 ft^3/s May 8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 73,400 ft^3/s Apr. 24, gage height, 81.34 ft; minimum discharge, 6,380 ft^3/s Sept. 12, gage height, 63.48 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15500	9630	9610	26600	25300	45400	51500	39400	51000	17700	18500	7380
2	18200	9630	9570	26500	25000	43500	52000	34700	42700	22000	18100	7230
3	16100	9580	9600	25500	24400	43900	53000	33000	48800	20000	18400	7240
4	17000	9560	9690	24500	23600	42800	57600	30400	48100	19100	18400	8800
5	15900	9580	9660	25200	22800	45800	56600	21700	48100	19300	18100	7180
6	16100	9600	9610	27400	24300	47800	e55000	25100	47600	22000	18200	7140
7	16500	9560	9590	25300	26100	40900	e25000	23400	48400	15200	18200	7060
8	14500	9620	9650	26600	21900	51000	54600	26000	45400	16900	18500	7030
9	14800	9630	9670	24900	15400	55500	58700	25800	42300	15000	18400	8290
10	17900	9640	14100	24900	16600	51100	59700	26300	43400	14600	18500	6640
11	12700	9600	17200	23500	16100	50300	63400	26200	42800	14400	18300	6620
12	13000	9600	20300	25900	20800	55100	64400	26700	43600	16500	18100	6620
13	16500	9630	25300	22900	27100	56900	62600	26900	43000	17200	18500	10200
14	15400	9630	29700	24500	27400	58800	62600	23600	42400	12100	19800	10600
15	13600	9620	29900	25600	24800	59500	53300	20600	39100	17000	16700	7100
16	17900	9640	29800	23900	25600	65500	40800	20500	34700	23700	11900	12700
17	16600	9630	27700	25100	29700	64000	54900	23500	38800	21000	11400	18000
18	17700	9630	26500	26700	29800	58600	54900	29500	39100	21500	11600	19200
19	16800	9650	23900	24500	30700	56300	54500	29900	37400	19000	11100	18700
20	12700	9640	26600	24400	48000	60500	47800	29800	34500	19000	11300	20500
21	13600	9650	22900	24800	50200	58800	40200	29800	28900	18600	11500	20100
22	10800	9650	22400	25000	48900	58400	43900	29800	27600	19000	11300	17300
23	9650	9630	20300	27000	45400	55700	58500	29800	22500	19800	11200	20300
24	10100	9610	18400	25400	42900	e59000	63700	30100	25800	18300	10700	17700
25	9830	9660	19500	24200	41000	e56000	55400	36000	24100	18500	10900	18700
26	9600	9690	23400	23200	40000	e53000	56600	33300	21300	18700	11800	19400
27	9500	9670	24400	23500	48900	53200	56600	35600	22700	17800	12300	19100
28	9520	9670	23400	22600	49300	53000	49500	37800	23700	18400	12400	19000
29	9560	9690	20200	25800	46600	53100	40700	47900	22000	18400	14300	15000
30	9540	9650	19700	25600	---	53000	39300	47400	15800	18100	16500	18500
31	9580	---	22300	26000	---	52300	---	43100	---	18100	13000	---
TOTAL	426680	288870	594550	777500	918600	1658700	1587300	943600	1095600	566900	467900	389330
MEAN	13760	9629	19180	25080	31680	53510	52910	30440	36520	18290	15090	12980
MAX	18200	9690	29900	27400	50200	65500	64400	47900	51000	23700	19800	20500
MIN	9500	9560	9570	22600	15400	40900	25000	20500	15800	12100	10700	6620
AC-FT	846300	573000	1179000	1542000	1822000	3290000	3148000	1872000	2173000	1124000	928100	772200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	15510	16270	18360	21830	23760	28240	29840	26760	23820	13730	11120	13680
MAX	24140	28630	30410	38230	44680	66340	61960	68840	59080	25550	17090	19120
(WY)	1972	1985	1984	1984	1971	1986	1984	1984	1984	1983	1983	1984
MIN	9962	9193	9391	12850	11570	10600	7371	6401	5868	6901	6583	6887
(WY)	1989	1993	1993	1991	1988	1991	1988	1977	1992	1977	1992	1977

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	7369200		9715530			
ANNUAL MEAN	20190		26550		20210	
HIGHEST ANNUAL MEAN					36560	1984
LOWEST ANNUAL MEAN					9746	1992
HIGHEST DAILY MEAN	44700	Jun 1	65500	Mar 16	78100	Feb 23 1982
LOWEST DAILY MEAN	9270	Jul 23	6620	Sep 11	4360	May 8 1977
ANNUAL SEVEN-DAY MINIMUM	9560	Oct 26	7060	Sep 6	5330	Jun 4 1992
ANNUAL RUNOFF (AC-FT)	14620000		19270000		14640000	
10 PERCENT EXCEEDS	32200		53000		38100	
50 PERCENT EXCEEDS	18700		22600		16400	
90 PERCENT EXCEEDS	9650		9630		9040	

e Estimated

13290460 SNAKE RIVER AT JOHNSON BAR, ID

LOCATION.--Lat 45°27'50", long 116°33'16", in SE 1/4 NE 1/4 sec.22, T.1 S., R.50 E., (Willamette meridian), Wallowa County, Hydrologic Unit 17060101, Hells Canyon National Recreation Area, on left bank opposite lower end of Johnson Bar, 0.5 mi upstream from mouth of Sheep Creek, and at mile 229.9.

DRAINAGE AREA.--73,400 mi^2, approximately.

PERIOD OF RECORD.--July 1959 to September 1992 (gage heights only), October 1992 to September 1995, October 1995 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1,226.341 ft above sea level (levels by Corps of Engineers.)

REMARKS.--Records good. Station equipment includes satellite telemetry. Diurnal fluctuations in stage are caused by Hells Canyon Powerplant. Records for years prior to the 1991 water year were not published, but are available from the Boise, Idaho Field Office.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft^3/s June 13, 1995, gage height, 15.18 ft; minimum daily discharge, 5,360 ft^3/s Aug. 3, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 19.80 ft Apr. 24; minimum gage height, 4.33 ft Sept. 9.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.08	5.43	5.58	9.84	9.40	14.34	15.94	12.90	15.60	7.57	7.71	4.83
2	7.73	5.44	5.55	9.83	---	13.94	16.05	12.90	13.84	8.69	7.58	4.55
3	7.27	5.42	5.53	9.72	---	13.99	16.20	11.21	14.85	8.42	7.79	4.56
4	7.48	5.42	5.55	9.37	---	13.74	17.19	10.82	15.17	7.95	7.67	5.05
5	7.21	5.42	5.52	9.52	---	14.40	17.00	8.79	15.05	8.04	7.68	4.54
6	7.28	5.43	5.51	10.11	---	14.90	17.07	9.21	14.95	8.54	7.53	4.54
7	7.22	5.41	5.51	9.45	---	13.31	9.70	8.97	15.12	7.10	7.72	4.50
8	7.05	5.40	5.49	9.82	---	15.41	15.81	9.53	14.55	7.42	7.67	4.50
9	6.88	5.35	5.49	9.37	7.23	16.58	17.19	9.46	13.73	6.99	7.51	4.87
10	7.67	5.34	6.66	9.35	7.32	15.76	17.33	9.73	13.95	6.84	7.69	4.46
11	6.54	5.35	7.46	9.18	7.26	15.37	18.10	9.58	13.77	6.67	7.78	4.36
12	6.44	5.37	8.11	9.70	8.05	16.50	18.22	9.71	13.99	7.10	7.48	4.36
13	7.37	5.41	9.58	8.91	10.02	16.87	17.91	9.78	13.84	7.46	7.71	5.44
14	7.14	5.46	10.73	9.34	10.01	17.24	17.91	9.27	13.74	6.43	8.06	5.40
15	6.59	5.47	10.76	9.63	9.44	17.28	16.40	8.41	13.10	7.02	7.30	4.72
16	7.58	5.46	10.73	9.18	9.33	18.52	13.02	8.35	11.83	9.11	6.13	6.04
17	7.40	5.46	10.24	9.45	10.59	18.36	16.39	8.90	12.83	8.44	5.82	7.40
18	7.69	5.45	9.93	9.83	10.62	17.24	16.40	10.57	12.92	8.45	5.86	7.95
19	7.45	5.43	9.22	9.27	10.74	16.79	16.33	10.62	12.50	8.01	5.70	7.75
20	6.61	5.43	9.86	9.24	14.59	17.61	15.04	10.56	11.93	7.87	5.85	8.28
21	6.33	5.43	9.13	9.33	15.45	17.28	13.07	10.51	10.39	7.80	5.79	8.27
22	5.99	5.44	8.83	9.40	15.29	17.23	13.63	10.52	10.02	7.83	5.83	7.38
23	5.47	5.44	8.46	9.83	14.39	16.71	17.05	10.52	8.87	8.06	5.75	8.25
24	5.62	5.45	7.82	9.51	13.75	17.02	18.14	10.54	9.46	7.67	5.64	7.64
25	5.52	5.46	8.08	9.16	13.38	16.83	16.50	11.92	9.32	7.87	5.63	7.83
26	5.48	5.46	9.12	9.09	12.91	16.25	16.75	11.41	8.56	7.81	5.92	8.02
27	5.43	5.47	9.27	8.94	15.04	16.25	16.83	11.96	8.73	7.55	6.05	7.88
28	5.43	5.48	9.19	8.74	15.24	16.24	15.43	12.42	9.08	7.83	6.05	7.93
29	5.43	5.52	8.37	9.70	14.63	16.24	13.33	14.64	8.68	7.68	5.14	7.03
30	5.40	5.57	8.21	9.56	---	16.22	12.86	14.91	7.15	7.61	7.22	7.63
31	5.41	---	8.78	9.51	---	16.10	---	13.47	---	7.56	6.27	---
MEAN	6.62	5.44	8.01	9.45	---	16.15	15.96	10.71	12.25	7.72	6.76	6.20
MAX	7.73	5.57	10.76	10.11	---	18.52	18.22	14.91	15.60	9.11	8.06	8.28
MIN	5.40	5.34	5.49	8.74	---	13.31	9.70	8.35	7.15	6.43	5.14	4.36
MED	6.88	5.43	8.37	9.45	---	16.25	16.40	10.52	13.01	7.80	7.22	5.74

13292000 IMNAHA RIVER AT IMNAHA, OR

LOCATION.--Lat 45°33'45", long 116°50'00", in SW 1/4 sec.16, T.1 N., R.48 E., Wallowa County, Hydrologic Unit 17060102, on left bank at Imnaha, 0.3 mi downstream from Big Sheep Creek, and at mile 19.3.

DRAINAGE AREA.--622 mi^2.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 833: 1938. WSP 1397: 1929, 1932(M), 1949. WSP 1737: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,941.14 ft above sea level. Prior to Aug. 6, 1934, nonrecording gage at site 0.25 mi upstream at different datum. Aug. 6-31, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation. Diversions for irrigation upstream from station. Water is diverted from Big Sheep Creek and tributaries upstream from station for irrigation in Wallowa River basin. National Weather Service satellite telemeter at station. Continuous water-quality records for the period August 1965 to September 1968 and from May 1976 to September 1977 have been collected at this location.

AVERAGE DISCHARGE.--68 years (water years 1929-96), 509 ft^3/s, 368,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft^3/s Jan. 17, 1974, gage height, 7.86 ft, from rating curve extended above 3,500 ft^3/s; minimum discharge observed, 16 ft^3/s Nov. 22, 1931, result of freezeup; minimum daily, 25 ft^3/s Nov. 22, 23, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	2330	*3,840	*5.95	May 18	0530	3,310	5.60
Apr. 10	1200	2,060	4.63	June 9	0330	2,220	4.77
Apr. 24	1200	2,600	5.08	July 3	0400	1,610	4.25

Minimum discharge observed, 74 ft^3/s Jan. 31, but may have been less during period of ice effect Feb. 1-5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	140	649	352	e100	e440	612	1230	1330	1130	387	182
2	159	119	636	330	e95	441	970	1190	1380	1310	378	180
3	186	122	518	328	e98	438	949	1090	1560	1440	358	174
4	227	137	476	323	e105	441	877	1010	1740	1380	340	172
5	185	167	385	311	e150	465	839	923	1810	1240	326	188
6	172	155	380	301	e250	439	884	862	1660	1060	318	185
7	165	193	387	292	397	431	1060	841	1700	961	305	174
8	161	178	345	293	681	444	1390	843	1900	939	292	171
9	158	198	340	290	962	493	1780	850	2020	958	282	167
10	155	178	332	297	888	603	1990	862	1870	960	274	163
11	165	171	380	283	763	758	1810	883	1700	865	264	160
12	202	250	1930	281	667	918	1630	1060	1590	832	259	155
13	177	220	2390	280	611	993	1380	1330	1510	802	258	156
14	164	247	1450	279	583	919	1190	1630	1560	780	258	157
15	158	227	1150	299	572	871	1100	2090	1670	745	255	180
16	156	219	929	310	573	820	1250	2320	1640	715	247	221
17	155	222	776	310	595	768	1350	2490	1720	659	240	184
18	158	223	720	267	682	727	1270	3120	1420	643	236	176
19	157	224	634	303	926	701	1140	2880	1200	594	231	172
20	160	216	599	306	973	696	1070	2450	1110	557	221	169
21	162	209	547	293	924	684	1010	2140	1010	530	217	161
22	168	204	468	267	839	702	960	2330	928	505	211	159
23	161	200	395	261	776	682	1300	2300	922	494	204	158
24	155	202	372	273	704	640	2410	2130	1070	479	197	156
25	151	272	359	250	630	582	2220	1960	971	462	197	155
26	168	307	350	233	570	559	1960	1890	913	448	195	152
27	173	259	e300	248	488	540	1750	1870	970	432	193	151
28	156	274	e290	243	e480	529	1520	1820	997	422	205	149
29	153	320	e320	242	e440	499	1390	1730	967	420	200	146
30	150	444	e370	194	---	475	1280	1550	1030	441	188	142
31	144	---	404	107	---	461	---	1410	---	419	184	---
TOTAL	5123	6497	19581	8646	16522	19159	40341	51084	41868	23622	7920	5015
MEAN	165	217	632	279	570	618	1345	1648	1396	762	255	167
MAX	227	444	2390	352	973	993	2410	3120	2020	1440	387	221
MIN	144	119	290	107	95	431	612	841	913	419	184	142
AC-FT	10160	12890	38840	17150	32770	38000	80020	101300	83050	46850	15710	9950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1996, BY WATER YEAR (WY)

MEAN	157	184	211	197	243	409	934	1548	1320	558	195	144
MAX	501	625	806	855	570	1026	1760	2804	2612	1348	380	256
(WY)	1963	1974	1942	1974	1996	1995	1956	1948	1974	1975	1982	1978
MIN	81.5	80.0	88.6	69.3	82.4	114	345	445	361	123	78.8	82.8
(WY)	1937	1937	1936	1937	1937	1977	1977	1977	1992	1977	1931	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1929 - 1996	
ANNUAL TOTAL	293694		245378			
ANNUAL MEAN	805		670		509	
HIGHEST ANNUAL MEAN					897	1974
LOWEST ANNUAL MEAN					184	1977
HIGHEST DAILY MEAN	4030	May 7	3120	May 18	5880	Apr 27 1978
LOWEST DAILY MEAN	50	Jan 2	95	Feb 2	25	Nov 22 1931
ANNUAL SEVEN-DAY MINIMUM	71	Jan 1	121	Jan 30	43	Jan 8 1993
ANNUAL RUNOFF (AC-FT)	582500		486700		368500	
10 PERCENT EXCEEDS	1830		1630		1380	
50 PERCENT EXCEEDS	476		440		228	
90 PERCENT EXCEEDS	161		159		111	

e Estimated

13320000 CATHERINE CREEK NEAR UNION, OR

LOCATION.--Lat 45°09'20", long 117°46'26", in NW 1/4 SE 1/4 sec.2, T.5 S., R.40 E., Union County, Hydrologic Unit 17060104, on right bank 3.0 mi downstream from Little Catherine Creek, 5.5 mi southeast of Union, and at mile 25.4.

DRAINAGE AREA.--105 mi^2.

PERIOD OF RECORD.--May 1906 to May 1907 (gage heights only), August 1911 to December 1912, March to September 1915, February 1918 to September 1919, October 1925 to September 1996 (discontinued). Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1912-13, 1919, 1926, 1928-33, 1937, 1939, 1940(M), 1941-43, 1950.

GAGE.--Water-stage recorder. Datum of gage is 3,081.76 ft above sea level (Oregon State Highway Department bench mark). Prior to Nov. 28, 1938, nonrecording gage at several sites within 1.8 mi of present site at various datums. Nov. 28, 1938, to May 16, 1939, water-stage recorder at site 400 ft downstream at datum 4.29 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation. Several small diversions for irrigation upstream from station. Since 1937, diversion to Big Creek in Powder River basin provides a small part of the water used for irrigation in that basin.

AVERAGE DISCHARGE.--73 years (water years 1912, 1919, 1926-96), 118 ft^3/s, 85,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft^3/s May 27, 1948, gage height, 4.57 ft; minimum discharge, 6.5 ft^3/s Feb. 4, 1955, result of freezeup; minimum daily, 8 ft^3/s Nov. 7, 1925.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 17	2200	*642	*3.02	June 8	2200	530	2.81
May 22	0230	609	2.96				

Minimum daily discharge, 27 ft^3/s Sept. 30, but may have been less during periods of ice effect Nov. 1-5, Jan. 31 to Feb. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	e34	343	103	e32	141	145	242	320	173	50	32
2	33	e30	299	103	e30	134	164	238	336	187	49	31
3	64	e30	244	108	e32	135	164	221	383	190	50	31
4	60	e32	207	103	e34	135	165	206	438	177	49	31
5	45	e34	176	98	e40	133	173	195	433	158	49	36
6	42	36	153	95	e70	128	199	190	392	139	48	34
7	40	37	144	92	e150	125	253	190	409	128	45	32
8	39	40	128	96	208	136	347	191	470	121	43	31
9	39	48	124	102	275	153	432	191	465	117	42	30
10	38	41	123	109	274	183	430	192	413	112	41	29
11	40	47	135	109	241	234	383	208	369	105	40	28
12	44	73	375	107	213	263	344	265	331	100	40	28
13	38	128	396	103	197	264	303	344	315	95	41	28
14	37	131	308	102	190	256	269	433	322	90	40	29
15	35	115	262	105	191	248	252	569	322	87	39	41
16	35	109	222	107	195	234	283	593	311	84	37	36
17	35	102	191	106	213	219	282	598	298	80	36	33
18	43	108	177	101	281	210	280	585	251	78	37	32
19	36	95	160	102	329	206	257	527	216	74	36	34
20	36	87	149	96	336	205	250	461	197	71	36	35
21	38	81	138	91	311	201	241	426	184	68	36	32
22	37	81	e120	88	271	204	233	553	173	65	35	31
23	36	79	e110	88	245	194	272	511	175	62	33	30
24	35	90	e100	81	221	187	321	467	183	60	33	30
25	35	113	e96	79	200	172	311	436	170	58	32	30
26	100	114	e94	76	182	163	307	435	163	56	31	29
27	61	112	e90	77	e160	158	296	438	176	54	36	29
28	51	213	e90	78	e155	153	273	425	170	52	40	28
29	48	278	181	74	e150	144	259	391	160	57	34	28
30	44	331	183	e50	---	137	246	354	163	56	32	27
31	41	---	155	e34	---	132	---	329	---	53	32	---
TOTAL	1338	2849	5673	2863	5426	5587	8134	11404	8708	3007	1222	935
MEAN	43.2	95.0	183	92.4	187	180	271	368	290	97.0	39.4	31.2
MAX	100	331	396	109	336	264	432	598	470	190	50	41
MIN	33	30	90	34	30	125	145	190	160	52	31	27
AC-FT	2650	5650	11250	5680	10760	11080	16130	22620	17270	5960	2420	1850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1996, BY WATER YEAR (WY)

MEAN	32.5	39.4	44.4	44.8	57.6	99.0	240	411	299	90.6	36.1	29.3
MAX	138	157	183	101	187	268	445	776	686	248	63.0	57.8
(WY)	1960	1928	1996	1971	1996	1986	1952	1912	1974	1984	1912	1959
MIN	17.6	14.2	13.0	12.0	22.0	27.6	83.4	121	65.6	25.7	11.1	15.6
(WY)	1937	1931	1931	1930	1933	1977	1955	1977	1934	1926	1930	1930

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1911 - 1996	
ANNUAL TOTAL	57550		57146			
ANNUAL MEAN	158		156		118	
HIGHEST ANNUAL MEAN					185	1912
LOWEST ANNUAL MEAN					48.7	1977
HIGHEST DAILY MEAN	541	May 18	598	May 17	1500	May 27 1948
LOWEST DAILY MEAN	17	Jan 2	27	Sep 30	8.0	Nov 7 1925
ANNUAL SEVEN-DAY MINIMUM	22	Jan 1	29	Sep 24	10	Aug 26 1930
ANNUAL RUNOFF (AC-FT)	114200		113300		85790	
10 PERCENT EXCEEDS	368		336		330	
50 PERCENT EXCEEDS	109		118		48	
90 PERCENT EXCEEDS	35		33		24	

e Estimated

13324300 LOOKINGGLASS CREEK NEAR LOOKING GLASS, OR

LOCATION.--Lat 45°43'55", long 117°51'50", in NW 1/4 NW 1/4 sec.19, T.3 N., R.40 E., Union County, Hydrologic Unit 17060104, on left bank at Oregon State Fish and Wildlife Service fish hatchery, 310 ft upstream from Jarboe Creek, 2.3 mi northwest of Looking Glass, and at mile 2.3.

DRAINAGE AREA.--78.3 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,530 ft above sea level, from topographic map.

REMARKS.--Records fair. Records include a diversion by the fish hatchery 0.3 mi upstream from station of up to 50 ft^3/s that is returned through the fish ladder to the gage pool.

AVERAGE DISCHARGE.--14 years (water years 1983-96), 135 ft^3/s, 97,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft^3/s Feb. 9, 1996, gage height, 7.41 ft, from rating curve extended above 1,000 ft^3/s; minimum discharge, 25 ft^3/s Oct. 11, 1983, result of regulation at fish hatchery upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	0900	1,510	6.92	Mar. 13	0130	421	5.54
Dec. 12	1030	710	6.02	Apr. 9	2130	548	5.86
Feb. 9	0830	*2,120	*7.41	Apr. 24	1830	1,090	6.80
Feb. 19	0800	825	6.42	May 17	1830	536	5.83

Minimum daily discharge, 40 ft^3/s Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	41	776	172	e65	258	261	435	195	80	66	62
2	40	42	e640	168	e60	250	278	402	183	78	65	59
3	78	44	e470	187	e55	249	271	360	177	78	65	65
4	67	42	388	187	e65	259	268	344	176	73	63	58
5	47	45	323	177	e110	250	275	313	174	68	64	56
6	45	45	284	169	159	238	293	303	155	67	66	58
7	43	47	264	162	598	230	333	313	150	71	62	59
8	43	76	234	174	1230	242	401	284	148	71	64	59
9	44	113	221	192	1740	260	482	271	133	72	67	58
10	44	70	213	212	1090	290	515	267	124	70	67	69
11	45	147	238	198	723	347	488	281	118	71	65	58
12	46	168	519	187	578	399	453	309	111	75	62	58
13	43	164	485	177	487	400	417	330	107	76	58	56
14	43	156	419	171	424	381	384	388	102	75	57	56
15	43	135	371	181	380	372	363	451	97	72	61	56
16	44	123	321	193	346	357	389	458	93	76	62	55
17	45	113	285	188	368	343	384	492	87	72	60	57
18	48	107	263	178	566	330	373	490	85	67	62	57
19	44	95	244	180	760	317	345	475	83	75	59	62
20	43	90	230	175	676	307	326	398	80	71	61	57
21	44	84	220	168	609	298	309	369	77	69	59	57
22	45	89	186	153	525	302	299	380	76	66	58	56
23	44	94	170	147	466	293	507	347	75	64	61	56
24	44	98	155	144	408	281	943	337	84	66	64	56
25	45	161	147	141	359	270	746	306	89	66	68	54
26	52	179	138	130	324	263	646	302	86	67	62	54
27	46	179	132	128	e290	254	568	299	89	68	64	56
28	44	796	130	124	e275	250	506	272	94	69	65	56
29	44	666	128	116	e260	239	457	249	84	68	62	60
30	43	803	147	e95	---	230	435	233	81	66	62	56
31	42	---	186	e70	---	230	---	209	---	65	58	---
TOTAL	1429	5012	8927	5044	13996	8989	12715	10667	3413	2192	1939	1736
MEAN	46.1	167	288	163	483	290	424	344	114	70.7	62.5	57.9
MAX	78	803	776	212	1740	400	943	492	195	80	68	69
MIN	40	41	128	70	55	230	261	209	75	64	57	54
AC-FT	2830	9940	17710	10000	27760	17830	25220	21160	6770	4350	3850	3440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	52.4	71.6	82.7	83.2	142	191	320	346	156	68.1	53.5	52.0
MAX	66.7	167	288	163	483	314	441	588	425	117	65.3	61.9
(WY)	1986	1996	1996	1996	1996	1986	1989	1993	1984	1984	1985	1984
MIN	45.2	46.8	53.2	52.9	54.8	83.3	220	114	57.4	47.0	37.1	40.1
(WY)	1995	1988	1988	1987	1993	1985	1991	1992	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	70032		76059			
ANNUAL MEAN	192		208		135	
HIGHEST ANNUAL MEAN					208	1996
LOWEST ANNUAL MEAN					97.9	1988
HIGHEST DAILY MEAN	803	Nov 30	1740	Feb 9	1740	Feb 9 1996
LOWEST DAILY MEAN	40	Oct 2	40	Oct 2	35	Oct 11 1983
ANNUAL SEVEN-DAY MINIMUM	42	Sep 19	43	Oct 29	35	Aug 16 1994
ANNUAL RUNOFF (AC-FT)	138900		150900		97540	
10 PERCENT EXCEEDS	439		452		319	
50 PERCENT EXCEEDS	143		147		69	
90 PERCENT EXCEEDS	45		53		49	

e Estimated

13329770 WALLOWA RIVER ABOVE CROSS COUNTRY CANAL, NEAR ENTERPRISE, OR

LOCATION.--Lat 45°29'18", long 117°24'10", in SW 1/4 SE 1/4 sec.11, T.1 S., R.42 E., Wallowa County, Hydrologic Unit 17060105, on left bank, 300 ft upstream from Cross Country canal, 6 mi northwest of Enterprise, and at mile 32.5.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,330 ft above sea level, from topographic map.

REMARKS.--Records poor. Regulation by Wallowa Lake. Many diversions for irrigation upstream from gage. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--1 year (water year 1996), 358 ft^3/s, 259,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,260 ft^3/s June 30, 1995, gage height, 3.05 ft; maximum gage height, 3.76 ft July 3, 1996; minimum recorded discharge, 112 ft^3/s Jan. 31, 1996, result of freezeup, but may have been less during period of ice effect Feb. 1-5, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft^3/s Feb. 8, gage height, 3.17 ft; maximum gage height, 3.76 ft July 3; minimum discharge, 112 ft^3/s Jan. 31, result of freezeup, but may have been less during period of ice effect Feb. 1-5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	176	428	260	e150	305	248	241	862	622	314	449
2	276	165	404	249	e145	336	265	238	880	784	332	459
3	317	166	392	262	e140	360	250	215	775	812	341	466
4	295	155	387	250	e135	376	239	216	735	716	352	480
5	251	165	348	245	e150	377	235	211	715	632	353	538
6	235	168	339	245	234	374	235	210	771	542	329	552
7	235	175	351	244	436	386	237	201	818	478	313	566
8	234	200	337	247	748	393	245	203	753	485	303	553
9	234	242	338	248	685	393	244	205	680	500	303	525
10	232	213	348	243	449	393	264	211	661	503	309	499
11	255	247	383	236	363	395	257	217	654	449	309	453
12	278	285	471	225	321	393	262	263	689	423	316	404
13	241	318	478	221	302	388	249	374	703	396	309	362
14	233	333	442	212	280	383	234	495	743	380	302	336
15	223	299	444	233	265	375	225	604	715	372	298	342
16	218	300	428	237	254	375	256	625	688	358	301	338
17	214	302	399	218	257	360	319	686	661	319	325	321
18	223	304	395	192	281	315	345	867	658	333	345	315
19	214	305	382	198	294	287	347	878	671	299	353	307
20	205	301	391	203	276	272	356	843	610	274	348	301
21	204	296	389	198	279	258	345	827	476	266	351	286
22	200	297	368	191	272	261	340	886	423	261	347	277
23	193	297	316	184	274	256	372	846	416	246	337	269
24	190	297	293	190	286	264	520	828	493	257	346	263
25	192	349	264	185	277	251	488	812	446	263	350	256
26	218	341	255	180	282	256	e400	836	412	258	350	250
27	205	307	242	179	261	252	e340	851	450	259	347	241
28	198	361	232	171	264	255	e300	843	474	272	409	231
29	194	359	228	176	263	245	e275	822	490	299	409	221
30	186	424	232	166	---	239	247	802	533	320	410	215
31	176	---	343	154	---	234	---	815	---	319	436	---
TOTAL	7056	8147	11047	6642	8623	10007	8939	17171	19055	12697	10547	11075
MEAN	228	272	356	214	297	323	298	554	635	410	340	369
MAX	317	424	478	262	748	395	520	886	880	812	436	566
MIN	176	155	228	154	135	234	225	201	412	246	298	215
AC-FT	14000	16160	21910	13170	17100	19850	17730	34060	37800	25180	20920	21970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	228	272	356	214	297	323	298	437	644	568	316	311
MAX	228	272	356	214	297	323	298	554	653	727	340	369
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1996	1996
MIN	228	272	356	214	297	323	298	320	635	410	292	252
(WY)	1996	1996	1996	1996	1996	1996	1996	1995	1996	1996	1995	1995

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	131006			
ANNUAL MEAN	358		358	
HIGHEST ANNUAL MEAN			358	1996
LOWEST ANNUAL MEAN			358	1996
HIGHEST DAILY MEAN	886	May 22	1140	Jul 2 1995
LOWEST DAILY MEAN	135	Feb 4	135	Feb 4 1996
ANNUAL SEVEN-DAY MINIMUM	149	Jan 30	149	Jan 30 1996
ANNUAL RUNOFF (AC-FT)	259900		259900	
10 PERCENT EXCEEDS	661		710	
50 PERCENT EXCEEDS	304		313	
90 PERCENT EXCEEDS	203		212	

e Estimated

13330000 LOSTINE RIVER NEAR LOSTINE, OR

LOCATION.--Lat 45°26'20", long 117°25'35", in NW 1/4 sec.34, T.1 S., R.43 E., Wallowa County, Hydrologic Unit 17060105, on left bank, 3.5 mi south of Lostine, and at mile 10.0.

DRAINAGE AREA.--70.9 mi^2.

PERIOD OF RECORD.--August 1912 to March 1914, April to September 1915, July 1925 to September 1991, April 1995 to current year. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1913, 1942. WSP 1737: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,650 ft above sea level, by barometer. See WSP 1317 or 1737 for history of changes prior to Dec. 16, 1953. Dec. 16, 1953 to Aug. 23 1977, at datum 1.04 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Minam Lake, capacity 440 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin. Diversions for irrigation upstream from station. Continuous water-quality records for the period October 1957 to September 1958 have been collected at this location. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--67 years (water years 1926-91, 1996), 193 ft^3/s, 139,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft^3/s June 16, 1974, gage height, 8.59 ft, present datum; minimum discharge, 7.5 ft^3/s Mar. 2, 1966, result of freezeup; minimum daily, 10 ft^3/s Nov. 28-30, 1936.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 4	2230	1,440	6.84	June 16	2315	1,410	6.79
June 8	2245	*1,910	*7.73	July 2	2330	1,710	7.37

Minimum daily discharge, 46 ft^3/s Feb. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	e62	536	100	e56	116	114	214	452	1020	262	75
2	49	e56	394	98	e46	108	122	201	590	1330	243	70
3	82	e58	315	101	e50	102	114	189	901	1430	202	68
4	91	e58	266	97	e56	e100	110	178	1190	1270	177	66
5	69	e60	232	94	e76	e95	108	170	1150	993	161	73
6	63	62	201	92	e100	e90	114	162	1000	768	146	70
7	60	64	185	90	e200	e85	137	158	1200	690	140	68
8	58	88	166	90	437	e90	196	158	1610	713	140	62
9	57	141	164	90	509	e95	282	160	1540	799	144	60
10	57	96	161	89	367	e100	306	164	1260	811	144	58
11	86	199	170	86	281	e105	274	182	1130	703	145	57
12	106	305	286	85	236	e125	255	310	1030	669	141	56
13	82	432	277	83	211	e125	231	515	1000	648	142	56
14	78	438	230	82	197	e120	212	764	1110	625	145	55
15	74	309	210	e84	189	e120	204	996	1160	612	138	69
16	73	266	186	e82	184	e115	227	998	1190	598	131	68
17	74	231	166	e78	193	e110	222	930	1160	523	124	63
18	103	234	161	e72	243	e110	212	854	824	493	114	60
19	82	201	149	e68	247	e110	196	642	615	409	104	60
20	77	178	143	e66	222	e110	186	505	528	360	98	60
21	75	162	134	e65	208	111	175	429	472	343	93	56
22	73	158	e100	e64	189	113	167	444	449	359	89	55
23	68	152	e90	e63	176	111	237	387	487	362	85	53
24	68	177	e86	e63	163	110	429	346	568	352	82	52
25	67	247	e80	e62	152	104	357	333	525	347	80	50
26	143	220	e76	e62	143	104	330	385	520	334	79	50
27	105	194	e74	e61	e135	102	293	461	611	325	83	63
28	92	301	e80	e61	e135	101	261	510	614	319	94	67
29	86	378	e90	e60	e130	97	241	487	655	341	84	65
30	79	605	e100	e60	---	95	224	460	799	313	79	62
31	72	---	110	e60	---	95	---	423	---	280	78	---
TOTAL	2400	6132	5618	2408	5531	3274	6536	13115	26340	19139	3967	1847
MEAN	77.4	204	181	77.7	191	106	218	423	878	617	128	61.6
MAX	143	605	536	101	509	125	429	998	1610	1430	262	75
MIN	49	56	74	60	46	85	108	158	449	280	78	50
AC-FT	4760	12160	11140	4780	10970	6490	12960	26010	52250	37960	7870	3660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1996, BY WATER YEAR (WY)

MEAN	56.8	64.9	59.9	49.6	48.2	55.2	160	512	786	385	85.8	49.7
MAX	291	226	212	158	191	169	393	909	1374	913	180	104
(WY)	1960	1928	1959	1974	1996	1986	1934	1928	1974	1975	1943	1978
MIN	18.0	14.7	15.3	15.0	14.8	16.3	35.7	203	332	59.7	30.6	23.0
(WY)	1937	1937	1937	1937	1937	1955	1975	1977	1926	1977	1931	1931

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1926 - 1996	
ANNUAL TOTAL	96307			
ANNUAL MEAN	263		193	
HIGHEST ANNUAL MEAN			288	1974
LOWEST ANNUAL MEAN			90.9	1977
HIGHEST DAILY MEAN	1610	Jun 8	2290	Jun 17 1974
LOWEST DAILY MEAN	46	Feb 2	10	Nov 28 1936
ANNUAL SEVEN-DAY MINIMUM	54	Sep 20	11	Nov 26 1936
ANNUAL RUNOFF (AC-FT)	191000		139700	
10 PERCENT EXCEEDS	644		602	
50 PERCENT EXCEEDS	143		64	
90 PERCENT EXCEEDS	62		28	

e Estimated

13330050 LOSTINE RIVER AT CAUDLE LANE, AT LOSTINE, OR

LOCATION.--Lat 45°29'22", long 117°26'08", in NW 1/4 SW 1/4 sec.10, T.1 S., R.43 E., Wallowa County, Hydrologic Unit 17060105, on left bank, 500 ft downstream from bridge at Caudle Lane, at Lostine, and at mile 5.4.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--April 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,360 ft above sea level, from topographic map.

REMARKS.--Records fair except for those above 400 ft^3/s and estimated daily discharges, which are poor. Minam Lake, capacity 400 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--1 year (water year 1996), 211 ft^3/s, 153,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,710 ft^3/s July 3, 1996, gage height, 6.60 ft; minimum discharge, 10 ft^3/s Sept. 25, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,710 ft^3/s July 3, gage height, 6.60 ft; minimum discharge 12 ft^3/s Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	e54	464	96	e56	134	e120	197	284	882	158	36
2	30	e48	342	94	e46	126	e130	191	359	1190	145	31
3	77	e50	267	96	e50	122	e115	180	594	1370	119	28
4	66	e51	232	95	e54	118	e120	171	790	1150	105	28
5	49	e52	208	92	e70	116	e110	166	866	914	102	31
6	45	53	191	90	e78	112	e120	159	782	660	91	30
7	43	56	180	89	205	110	e140	156	894	560	88	29
8	41	68	162	89	338	111	e190	163	989	572	87	27
9	41	129	160	88	349	113	e250	165	1260	639	88	23
10	41	91	160	89	262	117	e270	168	1080	664	86	17
11	63	126	167	86	215	123	e240	178	956	550	87	15
12	84	218	236	85	207	127	e230	229	874	514	84	15
13	61	299	242	83	197	127	e210	354	831	497	82	15
14	56	356	207	83	187	128	e190	538	945	467	80	15
15	52	247	197	86	181	128	e180	695	1030	441	78	18
16	51	221	181	85	176	126	e200	698	1030	426	76	18
17	53	200	163	82	181	125	e200	678	1060	344	75	17
18	78	202	158	e70	199	124	e190	624	725	325	69	16
19	64	187	147	e68	196	121	e180	463	476	258	64	16
20	61	172	141	e66	187	e118	e170	354	388	220	59	17
21	59	160	133	e65	183	e120	e160	304	335	209	53	15
22	58	154	e100	e64	172	e121	e150	312	317	210	48	14
23	54	151	e95	e63	164	e120	e190	280	356	205	45	14
24	55	163	e90	e63	156	e118	310	254	452	198	50	22
25	54	211	e85	e62	149	e115	256	241	414	195	46	21
26	119	199	e84	e62	142	e112	242	269	416	196	45	21
27	94	183	e80	e62	135	e110	227	299	520	195	47	33
28	82	239	e84	e61	135	e108	217	322	522	196	56	38
29	77	293	94	e61	132	e104	210	312	554	208	49	36
30	68	538	103	e60	---	e102	202	300	681	192	44	35
31	62	---	111	e60	---	e100	---	278	---	170	40	---
TOTAL	1862	5171	5264	2395	4802	3656	5719	9698	20780	14817	2346	691
MEAN	60.1	172	170	77.3	166	118	191	313	693	478	75.7	23.0
MAX	119	538	464	96	349	134	310	698	1260	1370	158	38
MIN	24	48	80	60	46	100	110	156	284	170	40	14
AC-FT	3690	10260	10440	4750	9520	7250	11340	19240	41220	29390	4650	1370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	60.1	172	170	77.3	166	118	191	313	693	478	69.1	19.9
MAX	60.1	172	170	77.3	166	118	191	313	693	478	75.7	23.0
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	60.1	172	170	77.3	166	118	191	313	693	478	62.5	16.7
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	77201			
ANNUAL MEAN	211		211	
HIGHEST ANNUAL MEAN			211	1996
LOWEST ANNUAL MEAN			211	1996
HIGHEST DAILY MEAN	1370	Jul 3	1370	Jul 3 1996
LOWEST DAILY MEAN	14	Sep 22	11	Sep 24 1995
ANNUAL SEVEN-DAY MINIMUM	16	Sep 17	12	Sep 19 1995
ANNUAL RUNOFF (AC-FT)	153100		153100	
10 PERCENT EXCEEDS	521		463	
50 PERCENT EXCEEDS	129		115	
90 PERCENT EXCEEDS	42		22	

e Estimated

13330300 LOSTINE RIVER AT BAKER ROAD, NEAR LOSTINE, OR

LOCATION.--Lat 45°32'14", long 117°28'43", in NW 1/4 SW 1/4 sec.29, T.1 N., R.42 E., Wallowa County, Hydrologic Unit 17060105, on left bank, 300 ft upstream from bridge at Baker road, 4 mi northwest of Lostine, and at mile 1.3.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--June 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,050 ft above sea level, from topographic map.

REMARKS.--Records fair except for those below 20 ft^3/s and estimated daily discharge, which are poor. Minam Lake, capacity 440 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin. Many diversions for irrigation upstream from gage.

AVERAGE DISCHARGE.--1 year (water year 1996), 251 ft^3/s, 181,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,970 ft^3/s June 9, 1996, gage height, 6.88 ft; minimum discharge, 6.3 ft^3/s Aug. 22, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,970 ft^3/s June 9, gage height, 6.88 ft; minimum discharge, 7.0 ft^3/s Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	e72	662	104	e56	133	92	200	458	947	e210	52
2	89	e60	475	99	e46	126	105	188	598	1330	e240	46
3	151	e62	372	104	e50	121	96	170	1050	1440	e180	47
4	112	e62	315	98	e58	119	90	156	1350	1210	e175	47
5	83	e64	271	94	e80	116	87	147	1300	907	e160	54
6	75	66	252	91	e110	101	94	137	1020	614	e130	50
7	73	69	243	e90	221	88	116	132	1160	522	e110	54
8	70	86	218	e90	436	88	172	139	1620	524	e110	59
9	73	174	215	e88	532	89	253	144	1460	570	e110	46
10	79	115	211	e88	375	92	278	147	1120	603	e90	37
11	107	195	219	84	293	98	249	157	918	496	e90	34
12	147	393	326	81	244	103	233	258	823	475	e90	25
13	105	503	324	78	221	102	212	475	791	466	e90	12
14	93	556	262	77	206	100	194	848	872	445	e90	13
15	85	379	242	81	199	99	186	1230	929	e440	e90	16
16	82	324	217	80	192	96	209	1340	951	e400	e85	21
17	83	282	194	76	199	93	210	1250	1030	e350	e85	17
18	114	287	186	e70	242	92	203	1140	685	e330	e80	12
19	92	248	174	e68	249	91	185	812	459	e270	e75	9.6
20	87	220	168	e66	226	92	176	611	364	e230	e70	11
21	85	201	157	e65	214	92	167	511	303	e225	e70	15
22	82	191	e120	e64	195	94	159	527	283	e225	e70	13
23	76	185	e110	e63	182	92	202	466	340	e215	e70	26
24	76	203	e105	e63	174	93	389	418	460	e200	e70	52
25	74	290	e100	e62	161	85	332	392	419	e200	e70	60
26	159	265	e96	e62	154	86	307	449	413	e210	e70	60
27	128	225	e90	e62	138	84	273	509	526	e200	e70	71
28	108	339	e95	e61	143	84	241	564	544	e210	e80	78
29	101	426	102	e61	137	79	226	535	584	e210	70	75
30	91	760	114	e60	---	76	208	490	710	e210	62	75
31	84	---	128	e60	---	75	---	449	---	e160	57	---
TOTAL	2944	7302	6763	2390	5733	2979	5944	14991	23540	14834	3119	1187.6
MEAN	95.0	243	218	77.1	198	96.1	198	484	785	479	101	39.6
MAX	159	760	662	104	532	133	389	1340	1620	1440	240	78
MIN	70	60	90	60	46	75	87	132	283	160	57	9.6
AC-FT	5840	14480	13410	4740	11370	5910	11790	29730	46690	29420	6190	2360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	95.0	243	218	77.1	198	96.1	198	484	839	507	66.3	31.3
MAX	95.0	243	218	77.1	198	96.1	198	484	894	535	101	39.6
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1996	1996
MIN	95.0	243	218	77.1	198	96.1	198	484	785	479	32.0	23.1
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	91726.6			
ANNUAL MEAN	251		251	
HIGHEST ANNUAL MEAN			251	1996
LOWEST ANNUAL MEAN			251	1996
HIGHEST DAILY MEAN	1620	Jun 8	1620	Jun 8 1996
LOWEST DAILY MEAN	9.6	Sep 19	7.4	Aug 22 1995
ANNUAL SEVEN-DAY MINIMUM	14	Sep 16	14	Sep 16 1996
ANNUAL RUNOFF (AC-FT)	181900		181900	
10 PERCENT EXCEEDS	566		858	
50 PERCENT EXCEEDS	141		131	
90 PERCENT EXCEEDS	62		30	

e Estimated

13330500 BEAR CREEK NEAR WALLOWA, OR

LOCATION.--Lat 45°31'37", long 117°33'05", in NW 1/4 NE 1/4 sec.34, T.1 N., R.42 E., Wallowa County, Hydrologic Unit 17060105, on left bank, at private road bridge, 3.0 mi southwest of Wallowa, and at mile 4.4.

DRAINAGE AREA.--68 mi^2, approximately.

PERIOD OF RECORD.--April to September 1915, April 1924 to September 1985, April 1995 to current year. Monthly discharge only for some periods, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1915, 1927, 1929-30, 1932, 1936-40, 1945, 1949.

GAGE.--Water-stage recorder. Elevation of gage is 3,250 ft above sea level, by barometer. Apr. 13 to Sept. 16, 1915, nonrecording gage at site 1.0 mi upstream at different datum. Apr. 22, 1924 to Nov. 2, 1931, water-stage recorder at site 1.5 mi upstream at different datum.

REMARKS.--Records good. No regulation. Diversions for irrigation upstream from station. Water for irrigation in Lostine River basin diverted from Little Bear Creek, a tributary upstream from station, in sec.32, T.1 S., R.43 E. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1925-85, 1996), 115 ft^3/s, 83,310 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,730 ft^3/s June 15, 1974, gage height, 3.58 ft; maximum gage height, 5.38 ft Jan. 24, 1984 (result of ice jam); minimum daily discharge, 3 ft^3/s Jan. 20, Feb. 1, 1937.

EXTREMES FOR PERIOD APRIL TO SEPTEMBER.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 9	unknown	*1,040	*a3.71	June 4	2030	696	3.33
May 15	1745	746	3.39	June 8	1900	860	3.51

Minimum discharge, 15 ft^3/s Sept. 13, 29, 30.
a From crest-stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	35	502	61	e50	e110	93	211	286	342	45	18
2	16	e34	395	62	e48	e100	117	193	360	398	44	18
3	34	e33	312	70	e49	e95	126	176	525	393	43	18
4	31	e32	265	70	e54	e90	121	161	613	349	40	18
5	25	e31	216	70	e65	e85	115	150	549	284	38	19
6	26	29	184	68	e80	83	119	140	487	233	37	18
7	26	30	164	66	e200	80	143	135	566	213	34	17
8	25	48	139	66	e760	80	199	133	701	213	32	17
9	26	103	128	66	e800	84	271	134	619	222	30	17
10	26	70	123	68	e350	93	280	135	533	213	29	17
11	34	138	131	68	e300	108	255	149	476	186	28	16
12	44	223	231	67	e240	119	231	239	434	175	28	16
13	36	296	265	66	e200	120	202	399	424	166	28	16
14	36	306	228	64	e170	115	180	580	462	158	27	16
15	36	243	199	67	e150	112	171	682	470	145	26	20
16	37	208	174	67	e145	107	189	664	456	133	25	19
17	38	184	149	65	e150	102	187	601	432	117	25	19
18	48	179	135	62	e170	98	181	560	320	109	24	18
19	41	152	121	65	e200	98	168	471	260	96	24	18
20	38	129	111	61	e190	98	160	394	234	87	23	18
21	38	115	101	58	e160	97	151	348	218	80	23	17
22	36	114	86	54	e150	98	146	411	210	77	22	17
23	34	112	82	52	e140	94	230	388	225	72	22	17
24	34	121	103	51	e135	91	450	345	257	68	21	17
25	33	166	153	e50	e130	83	e370	321	244	64	20	16
26	76	164	233	e51	e125	82	e330	336	241	61	20	16
27	63	154	354	e54	e120	80	e300	367	270	57	21	16
28	54	244	340	e52	e115	78	e270	375	263	53	22	16
29	50	325	213	e50	e115	75	e250	339	263	55	20	15
30	44	477	e130	e51	---	72	230	313	297	55	20	15
31	40	---	76	e50	---	72	---	280	---	50	19	---
TOTAL	1142	4495	6043	1892	5561	2899	6235	10130	11695	4924	860	515
MEAN	36.8	150	195	61.0	192	93.5	208	327	390	159	27.7	17.2
MAX	76	477	502	70	800	120	450	682	701	398	45	20
MIN	16	29	76	50	48	72	93	133	210	50	19	15
AC-FT	2270	8920	11990	3750	11030	5750	12370	20090	23200	9770	1710	1020
CFSM	.54	2.20	2.87	.90	2.82	1.38	3.06	4.81	5.73	2.34	.41	.25
IN.	.62	2.46	3.31	1.04	3.04	1.59	3.41	5.54	6.40	2.69	.47	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1996, BY WATER YEAR (WY)

MEAN	25.7	41.3	51.1	44.4	49.1	66.0	171	373	402	120	20.0	15.8
MAX	160	220	195	141	192	186	422	682	869	388	37.5	44.2
(WY)	1928	1928	1996	1984	1996	1972	1936	1928	1974	1943	1975	1941
MIN	7.58	8.20	7.29	5.16	4.46	11.1	49.6	138	112	18.6	8.10	6.33
(WY)	1936	1953	1937	1937	1937	1977	1975	1977	1926	1977	1940	1935

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1925 - 1996	
ANNUAL TOTAL	56391			
ANNUAL MEAN	154		115	
HIGHEST ANNUAL MEAN			178	1974
LOWEST ANNUAL MEAN			46.2	1977
HIGHEST DAILY MEAN	800	Feb 9	1480	Jun 17 1974
LOWEST DAILY MEAN	15	Sep 29	3.0	Jan 20 1937
ANNUAL SEVEN-DAY MINIMUM	16	Sep 24	3.9	Jan 19 1937
ANNUAL RUNOFF (AC-FT)	111900		83310	
ANNUAL RUNOFF (CFSM)	2.27		1.69	
ANNUAL RUNOFF (INCHES)	30.85		22.98	
10 PERCENT EXCEEDS	362		352	
50 PERCENT EXCEEDS	107		43	
90 PERCENT EXCEEDS	20		11	

e Estimated

13330700 BEAR CREEK AT WALLOWA, OR

LOCATION.--Lat 45°34'50", long 117°32'21", in NW 1/4 SW 1/4 sec.11, T.1 N., R.42 E., Wallowa County, Hydrologic Unit 17060105, on right bank, 5 ft upstream from bridge crossing, 0.5 mi northwest of Wallowa, and at mile 0.7.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--May 1995 to curent year.

GAGE.--Water-stage recorder. Elevation of gage is 2,900 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation. Many diversions for irrigation upstream from station. Water for irrigation in the Lostine River basin is diverted from Little Bear Creek, a tributary upstream from station.

AVERAGE DISCHRAGE.--1 year (water year 1996), 142 ft^3/s, 103,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,230 ft^3/s Feb. 9, 1996, gage height, 6.36 ft; minimum discharge, 4.4 ft^3/s Aug. 31, Sept. 25-28, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,230 ft^3/s Feb. 9, gage height, 6.36 ft; minimum discharge, 6.4 ft^3/s Oct. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	e25	485	72	e54	93	81	205	246	282	16	7.7
2	7.0	e23	435	71	e52	83	106	188	301	341	15	7.6
3	21	e22	351	81	e56	81	113	172	411	349	15	7.5
4	26	e21	296	81	e60	80	109	159	480	307	14	7.6
5	e23	e20	246	81	73	78	104	140	460	250	13	7.8
6	e21	e19	209	79	96	73	107	122	412	208	12	8.2
7	e20	19	184	76	340	70	128	115	448	188	11	10
8	e20	26	158	76	801	70	188	107	564	179	11	9.2
9	19	100	144	76	843	73	268	107	514	181	9.7	9.1
10	18	69	138	80	479	82	276	107	420	172	9.2	9.1
11	24	122	146	79	353	97	246	116	388	149	8.8	9.4
12	40	255	238	78	297	107	216	197	362	133	8.6	10
13	30	321	297	76	234	108	189	327	358	122	8.7	10
14	29	372	255	75	203	105	167	438	367	113	9.0	10
15	29	296	227	78	184	102	157	558	372	104	8.4	11
16	29	252	198	79	174	98	174	557	355	92	8.3	11
17	32	217	170	77	177	93	172	468	357	74	8.7	11
18	44	213	158	75	232	88	169	453	267	63	8.9	10
19	36	179	140	77	250	87	154	381	207	56	8.7	10
20	34	157	130	70	237	87	146	348	181	50	9.4	10
21	34	140	119	68	219	86	136	313	161	47	9.8	9.9
22	31	136	103	62	190	87	130	365	163	41	9.5	9.6
23	28	136	98	63	167	83	206	353	179	36	9.4	9.5
24	29	140	104	60	146	81	396	320	211	32	8.8	9.7
25	28	191	129	58	132	74	394	296	199	26	8.4	10
26	79	192	177	59	120	72	365	306	195	23	8.3	9.6
27	73	177	218	67	111	70	322	334	217	20	9.6	e8.5
28	63	263	242	63	110	69	282	340	217	17	11	e8.5
29	56	348	212	55	106	65	251	303	217	19	11	e8.0
30	48	478	149	e56	---	62	223	272	245	22	9.1	e8.0
31	44	---	119	e56	---	61	---	245	---	19	8.3	---
TOTAL	1022.0	4929	6275	2204	6496	2565	5975	8712	9474	3715	316.6	277.5
MEAN	33.0	164	202	71.1	224	82.7	199	281	316	120	10.2	9.25
MAX	79	478	485	81	843	108	396	558	564	349	16	11
MIN	7.0	19	98	55	52	61	81	107	161	17	8.3	7.5
AC-FT	2030	9780	12450	4370	12880	5090	11850	17280	18790	7370	628	550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	33.0	164	202	71.1	224	82.7	199	281	338	126	9.17	7.53
MAX	33.0	164	202	71.1	224	82.7	199	281	360	132	10.2	9.25
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1996	1996
MIN	33.0	164	202	71.1	224	82.7	199	281	316	120	8.13	5.81
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	51961.1			
ANNUAL MEAN	142		142	
HIGHEST ANNUAL MEAN			142	1996
LOWEST ANNUAL MEAN			142	1996
HIGHEST DAILY MEAN	843	Feb 9	843	Feb 9 1996
LOWEST DAILY MEAN	7.0	Oct 1	4.8	Sep 26 1995
ANNUAL SEVEN-DAY MINIMUM	7.8	Aug 31	5.1	Aug 25 1995
ANNUAL RUNOFF (AC-FT)	103100		103100	
10 PERCENT EXCEEDS	348		382	
50 PERCENT EXCEEDS	99		98	
90 PERCENT EXCEEDS	9.6		7.6	

e Estimated

13331450 WALLOWA RIVER BELOW WATER CANYON, NEAR WALLOWA, OR

LOCATION.--Lat 45°36'30", long 117°36'55", in NW 1/4 SW 1/4 sec.31, T.2 N., R.42 E., Wallowa County, Hydrologic Unit 17060105, on left bank, 160 ft upstream from bridge, approximately 6 mi east of Wallowa, and at mile 18.3.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--August 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,760 ft above sea level, from topographic map.

REMARKS.--Records good. Flow regulated by Wallowa Lake. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--1 year (water year 1996), 837 ft^3/s, 607,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft^3/s Feb 9, 1996, gage height, 4.76 ft; minimum discharge, 222 ft^3/s Sept. 20, 21, 1995, gage height, 0.41 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,640 ft^3/s Feb 9, gage height, 4.76 ft; minimum discharge, 285 ft^3/s Jan. 31, result of freezeup, but may have been less during period of ice effect Jan. 31 to Feb. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	333	1940	564	e310	491	435	706	1410	1850	586	506
2	352	314	1590	519	e305	502	641	646	1630	2290	594	516
3	462	322	1330	597	e300	520	602	559	2260	2540	619	515
4	475	318	1200	560	e295	562	534	516	2680	2360	611	545
5	388	329	1000	523	e290	561	491	483	2630	2060	587	615
6	361	322	881	507	506	527	468	444	2310	1660	496	623
7	354	329	835	494	2370	531	499	404	2420	1430	456	623
8	348	352	755	505	3520	602	600	381	2980	1410	428	628
9	347	566	730	525	3900	638	806	368	2990	1470	428	593
10	347	440	719	574	2460	657	913	360	2580	1510	444	553
11	378	536	792	536	1680	743	814	363	2340	1300	433	503
12	471	1010	1340	500	1310	787	766	555	2220	1190	418	461
13	394	1100	1370	479	1080	745	668	1010	2090	1120	377	410
14	373	1390	1150	461	939	680	584	1670	2220	1070	382	368
15	363	1050	1080	502	864	640	535	2330	2320	1020	394	388
16	356	926	967	561	834	604	564	2520	2310	980	393	415
17	358	837	860	522	853	569	663	2400	2410	806	407	391
18	396	825	809	461	1300	519	668	2470	1940	803	438	389
19	376	755	751	473	1530	476	651	2260	1460	703	440	374
20	366	691	729	465	1290	449	631	1950	1180	572	446	368
21	363	647	698	453	1180	428	598	1710	1010	512	457	351
22	359	628	637	428	1000	464	567	2000	936	508	446	345
23	347	628	563	414	875	434	741	1860	989	479	438	366
24	345	637	517	416	783	448	1810	1660	1240	490	450	374
25	342	849	483	405	678	399	1580	1480	1150	500	443	362
26	456	856	461	393	629	415	1440	1530	1100	487	428	355
27	429	749	441	389	524	396	1230	1660	1270	461	419	355
28	398	1250	447	378	507	378	1070	1770	1330	491	486	349
29	384	1370	438	373	479	349	941	1690	1350	575	479	327
30	366	1920	455	342	---	346	758	1610	1530	666	455	308
31	347	---	804	e330	---	342	---	1460	---	631	485	---
TOTAL	11747	22279	26772	14649	32591	16202	23268	40825	56285	33944	14363	13276
MEAN	379	743	864	473	1124	523	776	1317	1876	1095	463	443
MAX	475	1920	1940	597	3900	787	1810	2520	2990	2540	619	628
MIN	342	314	438	330	290	342	435	360	936	461	377	308
AC-FT	23300	44190	53100	29060	64640	32140	46150	80980	111600	67330	28490	26330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	379	743	864	473	1124	523	776	1317	1876	1095	463	360
MAX	379	743	864	473	1124	523	776	1317	1876	1095	463	443
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	379	743	864	473	1124	523	776	1317	1876	1095	463	277
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1995

SUMMARY STATISTICS	FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	306201			
ANNUAL MEAN	837		837	
HIGHEST ANNUAL MEAN			837	1996
LOWEST ANNUAL MEAN			837	1996
HIGHEST DAILY MEAN	3900	Feb 9	3900	Feb 9 1996
LOWEST DAILY MEAN	290	Feb 5	228	Sep 21 1995
ANNUAL SEVEN-DAY MINIMUM	310	Jan 30	249	Sep 19 1995
ANNUAL RUNOFF (AC-FT)	607300		607300	
10 PERCENT EXCEEDS	1780		1670	
50 PERCENT EXCEEDS	564		518	
90 PERCENT EXCEEDS	357		316	

e Estimated

13331500 MINAM RIVER AT MINAM, OR
(Hydrologic bench-mark station)

LOCATION.--Lat 45°37'12", long 117°43'32", in SW 1/4 SW 1/4 sec.29, T.2 N., R.41 E., Wallowa County, Hydrologic Unit 17060105, on left bank 2.3 mi downstream from Squaw Creek, 0.3 mi west of Minam, and at mile 0.3.

DRAINAGE AREA.--240 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1912 to March 1914, September 1965 to current year. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Datum of gage is 2,540.48 ft above sea level. June 1912 to March 1914, nonrecording gage at approximately same site at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation. Minam Lake, capacity 440 acre-ft, has stored and diverted flow from Minam River since 1917 for irrigation in Lostine River basin. Continuous water temperature October 1965 to September 1985. Chemical analysis water years 1966 to 1995.

AVERAGE DISCHARGE.--32 years (water years 1913, 1966-96), 455 ft^3/s, 25.77 in/yr, 329,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,260 ft^3/s June 16, 1974, gage height, 6.89 ft; maximum gage height, 7.3 ft May 28, 1913, datum then in use; minimum discharge, 10 ft^3/s Dec. 6, 1972, Jan. 10, 1973, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1430	2,200	3.69	May 18	0300	2,720	4.14
Dec. 12	1930	1,680	3.16	June 5	0200	2,750	4.16
Feb. 9	1200	*3,370	*4.63	June 9	0100	3,270	4.56
Feb. 19	0700	1,480	2.94	July 3	0330	1,950	3.45
Apr. 24	1230	1,990	3.49				

Minimum discharge, 80 ft^3/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	121	1980	376	e135	471	365	849	1290	1350	322	131
2	85	97	1700	369	e130	444	442	794	1450	1620	308	128
3	152	109	1350	399	e160	441	432	730	1890	1770	296	125
4	194	125	1160	398	212	435	414	676	2360	1650	271	122
5	136	157	986	380	239	424	405	629	2410	1400	255	125
6	122	138	863	358	316	405	416	589	2110	1140	244	136
7	115	137	778	337	1980	391	500	568	2270	1020	230	125
8	110	152	672	346	2960	395	701	557	2790	997	219	119
9	110	285	620	371	3020	408	962	553	2830	1030	212	114
10	109	205	598	445	1890	444	991	552	2430	1060	208	111
11	127	241	627	433	1300	533	905	577	2150	954	205	107
12	175	678	1210	398	1050	581	858	801	1940	899	202	103
13	144	626	1300	370	927	563	780	1140	1840	855	202	102
14	131	873	1080	348	855	525	713	1580	1950	820	206	102
15	127	650	982	350	821	497	683	2230	2060	776	200	115
16	123	571	872	352	806	467	773	2510	1970	734	193	162
17	123	498	767	339	850	440	784	2510	2000	658	186	129
18	148	526	711	309	1250	422	761	2520	1540	625	180	120
19	141	458	633	325	1420	415	708	2150	1190	548	174	113
20	127	417	582	305	1240	414	694	1810	1030	485	167	118
21	128	388	531	289	1120	407	664	1580	926	446	161	108
22	127	381	452	268	987	413	643	1850	860	439	156	104
23	120	384	407	256	892	402	984	1740	880	436	151	103
24	117	411	381	260	805	390	1820	1540	1020	426	145	98
25	116	589	371	246	725	353	1570	1410	978	415	141	96
26	251	652	351	233	654	354	1380	1430	953	400	137	94
27	224	626	332	223	554	345	1230	1510	1060	380	138	93
28	180	1290	e330	214	e530	338	1080	1540	1080	370	175	92
29	166	1510	339	210	508	325	990	1460	1040	370	156	89
30	153	1940	343	181	---	317	902	1380	1150	391	142	85
31	142	---	395	141	---	313	---	1280	---	350	133	---
TOTAL	4314	15235	23703	9829	28336	13072	24550	41045	49447	24814	6115	3369
MEAN	139	508	765	317	977	422	818	1324	1648	800	197	112
MAX	251	1940	1980	445	3020	581	1820	2520	2830	1770	322	162
MIN	85	97	330	141	130	313	365	552	860	350	133	85
AC-FT	8560	30220	47010	19500	56200	25930	48690	81410	98080	49220	12130	6680
CFSM	.58	2.12	3.19	1.32	4.07	1.76	3.41	5.52	6.87	3.34	.82	.47
IN.	.67	2.36	3.67	1.52	4.39	2.03	3.81	6.36	7.66	3.85	.95	.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1996, BY WATER YEAR (WY)

MEAN	96.1	153	192	200	265	319	534	1285	1578	625	157	98.1
MAX	173	508	765	412	977	697	888	2016	3125	1392	276	179
(WY)	1969	1996	1996	1969	1996	1986	1913	1971	1974	1975	1912	1978
MIN	38.1	56.1	62.4	59.6	56.9	66.7	235	484	493	125	72.6	45.9
(WY)	1988	1994	1979	1977	1977	1977	1967	1977	1992	1977	1966	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1912 - 1996	
ANNUAL TOTAL	229276		243829			
ANNUAL MEAN	628		666		455	
HIGHEST ANNUAL MEAN					713	1974
LOWEST ANNUAL MEAN					189	1977
HIGHEST DAILY MEAN	2630	Jun 5	3020	Feb 9	5160	Jun 15 1974
LOWEST DAILY MEAN	72	Sep 26	85	Oct 2	11	Dec 6 1972
ANNUAL SEVEN-DAY MINIMUM	74	Sep 21	92	Sep 24	15	Dec 6 1972
ANNUAL RUNOFF (AC-FT)	454800		483600		329800	
ANNUAL RUNOFF (CFSM)	2.62		2.78		1.90	
ANNUAL RUNOFF (INCHES)	35.54		37.79		25.77	
10 PERCENT EXCEEDS	1560		1570		1290	
50 PERCENT EXCEEDS	411		429		200	
90 PERCENT EXCEEDS	110		123		72	

e Estimated

13331500 MINAM RIVER AT MINAM, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1965 to September 1985.

REMARKS.--Some samples were analyzed by different methods and may have data with different levels of detection.

WATER-QUALITY DATA

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 1995											
28...	1230	1270	49	7.7	5.0	18	13.2	784	100	50	170
AUG 1996											
08...	1340	218	40	7.6	20.0	0.4	8.3	703	100	K2	43

DATE	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, DIS IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE, DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE, DIS IT FIELD (MG/L AS CO3) (00452)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)
NOV 1995											
28...	20	5.2	1.6	2.1	18	0.2	1.3	20	24	0	0.3
AUG 1996											
08...	14	4.2	0.87	1.6	19	0.2	0.9	19	23	0	0.6

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)
NOV 1995											
28...	0.6	<0.1	23	53	47	0.07	<0.015	<0.01	0.4	0.09	0.10
AUG 1996											
08...	0.2	<0.1	13	36	33	0.05	0.020	<0.01	<0.2	0.06	<0.01

DATE	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)
NOV 1995										
28...	0.03	0.03	150	7	<3	180	<4	2	<10	<1
AUG 1996										
08...	<0.01	0.01	10	3	<3	5	<4	<1	<10	<1

DATE	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	URANIUM, NATURAL DIS-SOLVED (UG/L AS U) (22703)	URANIUM, NATURAL 2 SIGMA WATER, DISS, (UG/L) (75990)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
NOV 1995										
28...	<1	<1	23	--	--	<6	--	--	48	165
AUG 1996										
08...	<1	<1	17	0.12	0.005	<6	0.03	<0.01	1	0.59

K - Results based on colony count outside acceptable range (non-ideal colony count).

13333000 GRANDE RONDE RIVER AT TROY, OR

LOCATION.--Lat 45°56'45", long 117°27'00", in NE 1/4 NW 1/4 sec.4, T.5 N., R.43 E., Wallowa County, Hydrologic Unit 17060106, on left bank, on upstream side of bridge at Troy, 100 ft downstream from Wenaha River, and at mile 45.3.

DRAINAGE AREA.--3,275 mi^2.

PERIOD OF RECORD.--August 1944 to current year. Monthly discharge only August 1944, published in WSP 1317.

REVISED RECORDS.--WSP 1397: 1946(M), 1948-50.

GAGE.--Water-stage recorder. Datum of gage is 1,585.98 ft above sea level. Aug. 17, 1944, to Sept. 30, 1949, nonrecording gage at datum 10.85 ft lower. Oct. 1, 1949, to Sept. 5, 1963, water-stage recorder at datum 1.15 ft higher. Sept. 6, 1963 to Oct. 19, 1994, water-stage recorder at site 500 ft downstream, at present datum.

REMARKS.--Records fair. Flow slightly regulated by Wallowa Lake and small reservoirs. Diversions for irrigation upstream from station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Big Sheep Creek and tributaries in Imnaha River basin for irrigation in Wallowa Valley. U.S. Geological Survey satellite telemeter and National Weather Service telemeter at station.

AVERAGE DISCHARGE.--52 years (water years 1945-96), 3,059 ft^3/s, 2,216,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,800 ft^3/s Feb. 9, 1996, gage height, 13.76 ft, from rating curve extended above 20,000 ft^3; minimum discharge, 321 ft^3/s Nov. 25, 1993; result of freezeup, but may have been less during period of ice effect that day.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	1430	20,200	9.37	Apr. 10	1430	9,490	7.55
Dec. 15	1200	9,980	7.21	Apr. 24	1230	19,500	9.85
Feb. 9	1130	*a51,800	*13.76	May 18	0630	13,700	8.61
Feb. 19	0730	25,200	10.89	June 9	0730	9,490	7.46
Mar. 13	0230	10,900	7.94				

Minimum discharge, 822 ft^3/s Oct. 1.
a From rating curve extended above 20,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	827	1000	18000	6680	e2160	5660	4540	7420	6480	3840	1300	980
2	858	919	15300	6690	e2200	5300	6330	6730	6370	4470	1240	984
3	1080	885	12200	7360	2400	5260	6480	6040	7010	5210	1260	975
4	1470	901	10600	7820	2620	5570	6150	5470	7940	4940	1240	967
5	1160	940	8880	6910	2660	5730	5790	4990	8360	4270	1220	979
6	1050	998	7460	6120	3730	5340	5720	4590	7460	3540	1170	997
7	1030	1050	6470	5560	25900	5120	6130	4280	7260	3070	1100	971
8	988	1210	5650	5510	40200	5600	7120	3960	8240	2920	1070	984
9	961	2290	5130	5980	e42200	6610	8400	3780	8560	2920	1020	954
10	953	1890	4860	7340	e28400	7720	9220	3610	7550	3000	1020	973
11	1020	2620	5360	7340	e20500	9320	8830	3610	6730	2740	1020	1010
12	1230	5060	12300	6710	e18500	10500	8260	3980	6090	2530	989	963
13	1190	4010	13700	6070	16600	10500	7600	4850	5550	2410	973	928
14	1100	5460	11100	5520	14100	9780	6870	6730	5590	2280	962	884
15	1040	4480	9970	5420	12700	9240	6340	8900	5760	2200	968	874
16	1010	3880	8910	6090	11700	8620	6270	11100	5600	2100	972	924
17	1000	3430	7780	6340	11800	7930	6540	12000	5800	1910	971	926
18	1080	3210	6900	5770	18600	7310	6300	13200	4960	1820	982	928
19	1110	3020	6190	5500	23400	6810	6060	12300	4150	1730	991	918
20	1040	2750	5640	5240	20100	6410	5800	11100	3610	1560	978	918
21	1010	2560	5220	5040	17600	5980	5500	10200	3240	1430	979	910
22	1030	2440	4730	4650	15500	5970	5230	10700	2960	1380	971	892
23	996	2440	4110	4270	13200	5780	7460	10600	2880	1360	960	872
24	975	2370	3640	4150	11300	5520	16800	9850	3310	1330	954	896
25	976	3070	3280	3910	9940	4990	15300	9130	3250	1310	960	927
26	1080	3910	3120	3690	8820	4720	13500	8790	3120	1290	949	932
27	1450	3920	2960	3540	7510	4490	11800	8690	3290	1230	939	924
28	1210	9670	2960	3370	6770	4260	10200	8430	3500	1220	976	924
29	1180	13900	3040	3250	6150	4120	9050	7930	3400	1240	1030	905
30	1130	18700	3150	2730	---	3910	8040	7470	3520	1390	987	873
31	1070	---	4960	e2160	---	3770	---	6930	---	1380	955	---
TOTAL	33304	112983	223570	166730	417260	197840	237630	237360	161540	74020	32106	28092
MEAN	1074	3766	7212	5378	14390	6382	7921	7657	5385	2388	1036	936
MAX	1470	18700	18000	7820	42200	10500	16800	13200	8560	5210	1300	1010
MIN	827	885	2960	2160	2160	3770	4540	3610	2880	1220	939	872
AC-FT	66060	224100	443500	330700	827600	392400	471300	470800	320400	146800	63680	55720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1996, BY WATER YEAR (WY)

MEAN	877	1242	2001	2140	3234	4204	6241	7355	5692	2179	850	768
MAX	2559	3766	7212	6280	14390	11520	10780	13820	11610	4951	1385	1291
(WY)	1960	1996	1996	1974	1996	1972	1956	1948	1974	1975	1984	1984
MIN	528	618	685	702	769	888	2257	2368	1501	520	438	414
(WY)	1988	1988	1945	1979	1977	1977	1968	1977	1992	1977	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1945 - 1996	
ANNUAL TOTAL	1744999		1922435			
ANNUAL MEAN	4781		5253		3059	
HIGHEST ANNUAL MEAN					5253	1996
LOWEST ANNUAL MEAN					1136	1977
HIGHEST DAILY MEAN	18700	Nov 30	42200	Feb 9	42200	Feb 9 1996
LOWEST DAILY MEAN	614	Sep 22	827	Oct 1	344	Aug 20 1977
ANNUAL SEVEN-DAY MINIMUM	639	Sep 20	905	Sep 19	361	Aug 18 1977
ANNUAL RUNOFF (AC-FT)	3461000		3813000		2216000	
10 PERCENT EXCEEDS	9850		10600		7440	
50 PERCENT EXCEEDS	4010		4130		1620	
90 PERCENT EXCEEDS	830		968		694	

e Estimated

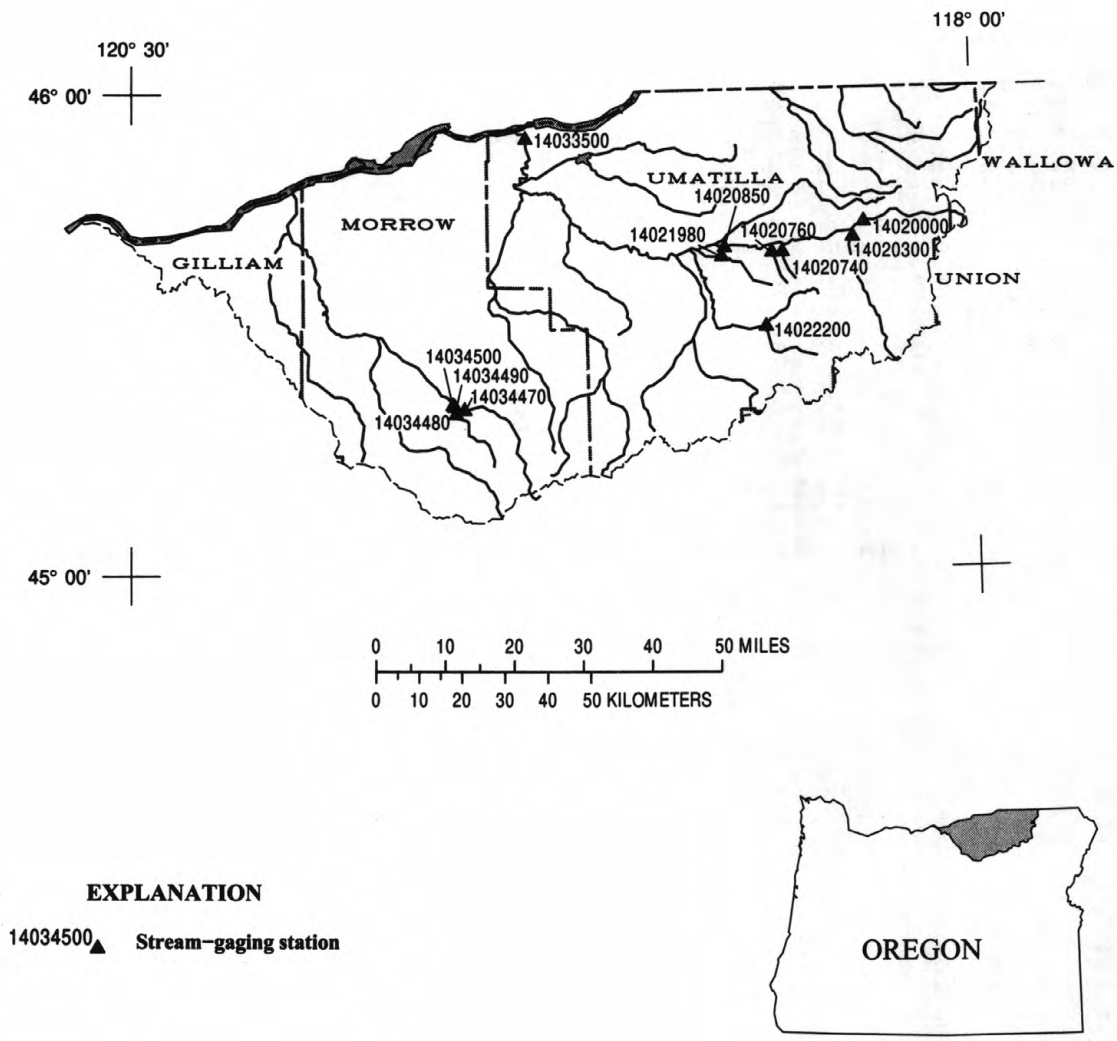


Figure 10. Location of surface-water stations in the Umatilla and Willow Creek Basins.

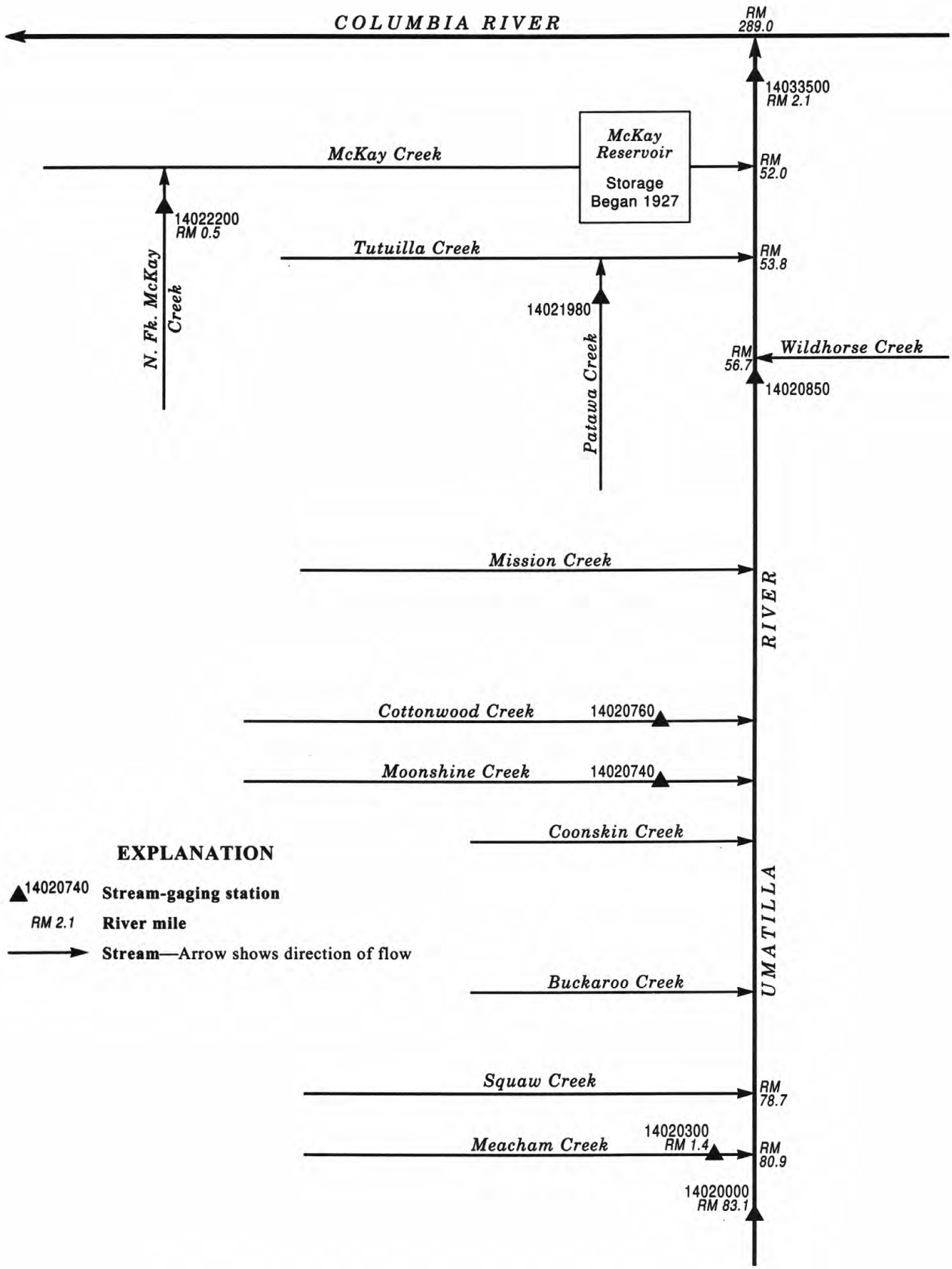


Figure 11. Schematic diagram showing gaging stations in the Umatilla River Basin.

14020000 UMATILLA RIVER ABOVE MEACHAM CREEK, NEAR GIBBON, OR

LOCATION.--Lat 45°43'11", long 118°19'20", in SE 1/4 SW 1/4 sec.21, T.3 N., R.36 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on right bank 0.8 mi downstream from Ryan Creek, 2.2 mi upstream from Meacham Creek, 2.5 mi northeast of Gibbon, and at mile 83.1.

DRAINAGE AREA.--131 mi^2.

PERIOD OF RECORD.--April 1933 to current year.

REVISED RECORDS.--WSP 1935: 1946-48(M), 1950(M), 1953(M), 1956-59(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,854.81 ft above sea level. Prior to June 27, 1939, at site 1 mi downstream at datum 43.94 ft lower.

REMARKS.--Records good except for those above 300 ft^3/s and estimated daily discharges, which are poor. No regulation or diversion upstream from station. Continuous water-quality records for the period June 1959 to September 1980 have been collected at this location.

AVERAGE DISCHARGE.--63 years (water years 1934-96), 226 ft^3/s, 23.43 in/yr, 163,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft^3/s Nov. 28, 1995, gage height, 9.40 ft (high-water mark), from rating curve extended above 3,500 ft^3/s; maximum gage height, 9.50 ft Jan. 29, 1965; minimum discharge, 16 ft^3/s Nov. 9, 1965, momentary regulation from unknown source.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	unknown	*a6,220	*b9.40	Feb. 18	unknown	unknown	unknown
Dec. 12	1130	1,410	5.55	Apr. 24	0700	3,860	7.79
Feb. 9	0700	5,890	9.19				

Minimum discharge, 37 ft^3/s Sept. 7.
a From rating curve extended above 3,500 ft^3/s.
b From high-water mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	48	1340	561	e120	290	305	495	177	72	47	40
2	43	47	982	481	e110	286	399	443	164	70	48	40
3	84	46	686	490	e110	300	404	388	153	68	48	40
4	75	46	537	488	e120	324	380	344	144	66	48	40
5	56	47	424	414	e130	343	364	310	135	64	47	40
6	49	51	346	350	314	326	389	289	127	63	47	40
7	47	57	299	317	2640	319	460	275	120	62	46	39
8	46	63	256	383	4270	361	548	259	115	61	46	40
9	46	129	231	517	4800	490	607	246	108	60	45	42
10	45	101	223	732	2130	614	586	235	104	59	45	44
11	48	179	266	617	1320	725	510	231	99	58	44	42
12	53	318	1020	490	e900	951	466	247	96	57	44	43
13	49	366	942	403	e800	904	420	261	92	56	44	43
14	47	365	694	342	e760	756	388	305	89	56	44	44
15	45	249	638	334	e700	648	371	386	86	55	43	48
16	45	193	530	360	e860	556	402	445	83	53	43	47
17	46	159	432	373	e1100	483	398	513	81	54	44	45
18	50	138	361	346	e2000	428	394	652	82	55	44	45
19	47	121	309	338	e1600	394	370	617	79	54	44	52
20	47	110	274	310	1390	369	383	522	76	53	44	49
21	50	102	245	298	1050	342	405	454	75	52	43	46
22	54	98	221	265	806	346	402	456	73	51	42	46
23	51	97	199	251	669	330	1100	421	73	51	42	45
24	49	95	181	241	560	316	3080	384	80	50	41	44
25	50	157	167	226	481	284	1760	344	80	49	41	43
26	53	400	155	209	417	277	1220	309	81	48	41	43
27	51	457	144	205	363	271	938	278	106	48	44	43
28	50	e4000	139	199	333	263	743	252	95	47	44	43
29	49	1470	147	186	306	252	624	231	81	48	42	43
30	48	1500	270	e140	---	238	536	213	75	49	41	43
31	48	---	553	e130	---	241	---	195	---	48	41	---
TOTAL	1564	11209	13211	10996	31159	13027	19352	11000	3029	1737	1367	1302
MEAN	50.5	374	426	355	1074	420	645	355	101	56.0	44.1	43.4
MAX	84	4000	1340	732	4800	951	3080	652	177	72	48	52
MIN	43	46	139	130	110	238	305	195	73	47	41	39
AC-FT	3100	22230	26200	21810	61800	25840	38380	21820	6010	3450	2710	2580
CFSM	.39	2.85	3.25	2.71	8.20	3.21	4.92	2.71	.77	.43	.34	.33
IN.	.44	3.18	3.75	3.12	8.85	3.70	5.50	3.12	.86	.49	.39	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1996, BY WATER YEAR (WY)

MEAN	57.5	130	234	260	330	386	538	448	190	64.9	47.3	46.8
MAX	169	405	716	656	1074	989	885	1135	591	110	63.4	81.6
(WY)	1952	1948	1976	1965	1996	1972	1974	1948	1974	1948	1975	1959
MIN	39.1	40.2	44.4	45.7	71.8	189	162	67.0	49.4	39.5	36.9	34.9
(WY)	1936	1936	1966	1937	1977	1955	1941	1934	1992	1934	1939	1935

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1933 - 1996	
ANNUAL TOTAL	115211		118953			
ANNUAL MEAN	316		325		226	
HIGHEST ANNUAL MEAN					415	1974
LOWEST ANNUAL MEAN					114	1977
HIGHEST DAILY MEAN	4000	Nov 28	4800	Feb 9	5130	Dec 12 1946
LOWEST DAILY MEAN	38	Sep 21	39	Sep 7	28	Jan 9 1937
ANNUAL SEVEN-DAY MINIMUM	39	Sep 16	40	Sep 1	31	Sep 26 1935
ANNUAL RUNOFF (AC-FT)	228500		235900		163600	
ANNUAL RUNOFF (CFSM)	2.41		2.48		1.72	
ANNUAL RUNOFF (INCHES)	32.72		33.78		23.43	
10 PERCENT EXCEEDS	805		674		550	
50 PERCENT EXCEEDS	167		172		117	
90 PERCENT EXCEEDS	42		44		44	

e Estimated

14020300 MEACHAM CREEK AT GIBBON, OR

LOCATION.--Lat 45°41'20", long 118°21'20", in SE 1/4 SE 1/4 sec.31, T.3. N., R.36 E., Umatilla County, Hydrologic Unit 17070103, on left bank 250 ft downstream from Union Pacific railroad bridge, 0.9 mi southeast of Gibbon, and at mile 1.4.

DRAINAGE AREA.--176 mi^2.

PERIOD OF RECORD.--August 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,803.05 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--21 years (water years 1976-96), 199 ft^3/s, 15.38 in/yr, 144,400 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,930 ft^3/s Nov. 28, 1995, gage height, 7.67 ft, from rating curve extended above 4,600 ft^3/s; maximum gage height, 8.16 ft, from floodmark; minimum discharge, 6.6 ft^3/s Aug. 29, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 25, 1975, reached a stage of 7.21 ft, from floodmark, discharge, about 8,200 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	1030	*5,930	*7.67	Feb. 18	1530	2,120	5.40
Nov. 28	---	---	a8.16	Apr. 24	1330	3,120	5.86
Feb. 8	0530	5,570	7.50				

Minimum discharge, 9.0 ft^3/s Aug. 23.
a From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	1610	544	e84	225	219	422	172	30	14	11
2	12	15	1160	484	e82	220	282	365	e150	29	14	11
3	24	15	655	500	e80	232	308	324	e135	27	14	11
4	19	14	455	530	e84	264	293	288	e120	26	14	11
5	16	13	360	443	e100	297	276	259	e110	25	14	11
6	16	16	297	376	e500	285	270	234	e100	24	15	11
7	17	15	251	333	1740	279	285	217	e92	23	13	11
8	18	15	214	366	4820	383	316	201	e84	23	13	11
9	18	22	189	508	4170	694	333	185	e78	22	13	11
10	17	29	179	933	2820	891	311	173	e70	22	12	11
11	18	40	188	768	e1400	952	270	165	e66	21	12	10
12	19	93	597	559	e880	1160	254	168	e60	20	13	11
13	16	156	801	440	e840	1000	244	176	e56	20	12	12
14	14	230	583	373	815	752	239	215	e52	19	12	11
15	15	177	520	350	800	567	235	292	e49	19	11	12
16	15	142	433	351	787	444	241	356	e46	18	11	12
17	15	117	366	354	989	370	239	415	e43	18	11	12
18	15	101	314	326	1960	314	240	530	e40	18	11	11
19	14	89	271	318	1920	284	237	625	e40	18	11	13
20	14	80	238	305	1530	263	249	599	e40	17	11	13
21	15	73	210	297	1200	247	273	511	e39	17	11	12
22	15	67	187	264	863	243	280	538	e38	18	12	12
23	15	64	163	246	642	240	1070	530	e38	16	10	12
24	14	61	141	236	487	231	2740	481	e37	16	10	12
25	16	80	128	221	404	209	2100	413	e37	16	10	12
26	15	218	117	206	344	202	1530	357	33	15	10	12
27	14	305	107	200	293	198	1130	316	44	15	12	12
28	15	3480	103	194	271	195	811	279	46	15	12	12
29	15	2020	105	183	242	191	617	248	39	15	11	11
30	15	1940	153	134	---	184	496	224	33	15	10	11
31	15	---	365	e94	---	187	---	197	---	14	10	---
TOTAL	487	9702	11460	11436	31147	12203	16388	10303	1987	611	369	345
MEAN	15.7	323	370	369	1074	394	546	332	66.2	19.7	11.9	11.5
MAX	24	3480	1610	933	4820	1160	2740	625	172	30	15	13
MIN	11	13	103	94	80	184	219	165	33	14	10	10
AC-FT	966	19240	22730	22680	61780	24200	32510	20440	3940	1210	732	684
CFSM	.09	1.84	2.10	2.10	6.10	2.24	3.10	1.89	.38	.11	.07	.07
IN.	.10	2.05	2.42	2.42	6.58	2.58	3.46	2.18	.42	.13	.08	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1996, BY WATER YEAR (WY)

MEAN	16.0	81.0	197	224	408	478	533	319	103	24.5	13.0	12.1
MAX	26.7	323	582	503	1074	804	956	668	354	52.2	20.7	16.7
(WY)	1985	1996	1976	1984	1996	1984	1985	1991	1984	1984	1993	1978
MIN	8.48	11.2	18.0	22.2	27.1	134	228	58.3	21.7	13.2	8.48	9.37
(WY)	1988	1988	1977	1977	1977	1977	1986	1992	1992	1977	1986	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1975 - 1996	
ANNUAL TOTAL	94661.9		106438			
ANNUAL MEAN	259		291		199	
HIGHEST ANNUAL MEAN					301	1984
LOWEST ANNUAL MEAN					66.2	1977
HIGHEST DAILY MEAN	3480	Nov 28	4820	Feb 8	4820	Feb 8 1996
LOWEST DAILY MEAN	8.1	Aug 28	10	Aug 23	7.5	Aug 11 1977
ANNUAL SEVEN-DAY MINIMUM	8.4	Aug 26	11	Aug 20	7.7	Aug 8 1977
ANNUAL RUNOFF (AC-FT)	187800		211100		144400	
ANNUAL RUNOFF (CFSM)	1.47		1.65		1.13	
ANNUAL RUNOFF (INCHES)	20.01		22.50		15.38	
10 PERCENT EXCEEDS	796		667		536	
50 PERCENT EXCEEDS	128		134		65	
90 PERCENT EXCEEDS	10		12		11	

e Estimated

14020740 MOONSHINE CREEK NEAR MISSION, OR

LOCATION.--Lat 45°39'37", long 118°35'42", in NW 1/4 NE 1/4 sec.16, T.2 N., R.34 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on left bank, 60 ft upstream from county road crossing, 5.7 mi west of Mission, and at mile 1.1.

DRAINAGE AREA.--4.62 mi^2.

PERIOD OF RECORD.--November 1991 to current year.

REVISED RECORDS.--WDR OR-93-1: 1992(M); WDR OR-94-1: 1993.

GAGE.--Water-stage recorder. Elevation of gage is 1,600 ft above sea level, from topographic map.

REMARKS.--Records fair. No known regulation.

AVERAGE DISCHARGE.--4 years (water years 1993-96), 3.55 ft^3/s, 10.43 in/yr, 2,570 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 247 ft^3/s Feb. 7, 1996, gage height, 6.67 ft, from rating curve extended above 75 ft^3/s; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 247 ft^3/s Feb. 7, gage height, 6.67 ft, from rating curve extended avove 75 ft^3/s; minimum discharge, 0.03 ft^3/s Oct. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.19	11	8.3	e2.0	6.3	3.0	5.3	1.7	.39	.09	.09
2	.04	.18	9.5	7.8	e1.8	6.6	3.3	4.5	1.5	.38	.10	.10
3	.07	.12	8.1	7.4	e2.0	8.5	3.3	3.9	1.3	.35	.11	.10
4	.05	.12	6.7	6.3	e3.4	12	3.3	3.4	1.2	.36	.10	.10
5	.06	.12	4.9	5.3	5.7	13	3.3	3.0	1.0	.33	.11	.09
6	.08	.12	3.0	4.7	42	13	3.2	2.7	1.0	.30	.11	.08
7	.08	.10	2.1	4.8	164	13	3.1	2.4	1.0	.28	.10	.08
8	.11	.10	1.5	7.1	96	15	3.0	2.1	.96	.26	.09	.07
9	.12	.10	1.2	8.2	101	15	2.8	1.8	.91	.24	.09	.07
10	.12	.08	1.1	9.1	56	14	2.7	1.7	.88	.22	.09	.07
11	.14	.13	4.8	8.2	32	13	2.7	1.6	.83	.21	.09	.07
12	.12	.09	18	7.1	22	17	2.8	1.5	.81	.19	.09	.08
13	.15	.12	12	5.6	16	17	2.5	1.4	.77	.18	.10	.08
14	.12	.09	12	4.7	13	15	2.3	1.7	.72	.16	.09	.09
15	.12	.12	16	4.6	10	13	2.3	2.0	.70	.15	.09	.12
16	.12	.12	12	5.8	9.1	10	2.5	2.2	.66	.14	.09	.10
17	.12	.12	9.6	7.3	10	8.5	2.3	3.3	.65	.16	.09	.09
18	.11	.12	8.4	6.8	13	7.3	2.6	5.0	.61	.16	.10	.09
19	.10	.12	7.4	6.4	16	6.3	2.7	5.9	.59	.15	.11	.09
20	.12	.14	6.1	8.8	15	5.5	3.2	5.4	.56	.15	.12	.08
21	.12	.16	4.9	10	16	5.0	3.6	5.0	.55	.14	.12	.08
22	.12	.16	3.9	8.4	15	4.8	4.1	6.0	.52	.12	.10	.08
23	.13	.18	2.9	7.2	14	4.5	22	5.9	.52	.11	.08	.08
24	.16	.19	2.2	6.6	12	4.1	60	5.5	.51	.11	.08	.08
25	.17	.33	1.6	5.4	11	3.5	31	4.9	.47	.10	.08	.08
26	.16	2.6	1.2	4.7	9.0	3.5	20	4.2	.47	.10	.08	.08
27	.16	5.5	.98	4.2	7.8	3.3	13	3.5	.50	.10	.10	.08
28	.18	23	.81	3.7	7.3	3.1	9.6	3.0	.45	.09	.09	.07
29	.19	10	1.1	3.3	6.6	2.9	7.5	2.6	.42	.09	.08	.07
30	.19	8.6	5.9	e2.8	---	2.8	6.2	2.3	.41	.10	.08	.07
31	.19	---	9.1	e2.2	---	2.9	---	2.0	---	.09	.09	---
TOTAL	3.75	53.12	189.99	192.8	728.7	269.4	233.9	105.7	23.17	5.91	2.94	2.51
MEAN	.12	1.77	6.13	6.22	25.1	8.69	7.80	3.41	.77	.19	.095	.084
MAX	.19	23	18	10	164	17	60	6.0	1.7	.39	.12	.12
MIN	.03	.08	.81	2.2	1.8	2.8	2.3	1.4	.41	.09	.08	.07
AC-FT	7.4	105	377	382	1450	534	464	210	46	12	5.8	5.0
CFSM	.03	.38	1.33	1.35	5.44	1.88	1.69	.74	.17	.04	.02	.02
IN.	.03	.43	1.53	1.55	5.87	2.17	1.88	.85	.19	.05	.02	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.12	1.88	4.31	5.65	8.34	7.16	4.21	5.01	.44	.10	.088	.037
MAX	.12	3.65	7.18	8.18	25.1	12.0	7.80	12.6	.77	.19	.19	.084
(WY)	1995	1995	1995	1995	1996	1993	1996	1995	1996	1996	1995	1996
MIN	.098	.26	.48	1.93	1.90	2.41	.58	.13	.000	.002	.001	.000
(WY)	1994	1994	1994	1992	1994	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	1474.08		1811.89			
ANNUAL MEAN	4.04		4.95		3.55	
HIGHEST ANNUAL MEAN					4.95	1996
LOWEST ANNUAL MEAN					1.59	1994
HIGHEST DAILY MEAN	59	May 11	164	Feb 7	164	Feb 7 1996
LOWEST DAILY MEAN	.03	Sep 4	.03	Oct 1	.00	May 17 1992
ANNUAL SEVEN-DAY MINIMUM	.03	Sep 11	.06	Oct 1	.00	May 17 1992
ANNUAL RUNOFF (AC-FT)	2920		3590		2570	
ANNUAL RUNOFF (CFSM)	.87		1.07		.77	
ANNUAL RUNOFF (INCHES)	11.87		14.59		10.43	
10 PERCENT EXCEEDS	12		12		8.8	
50 PERCENT EXCEEDS	.81		1.5		.63	
90 PERCENT EXCEEDS	.06		.09		.03	

e Estimated

14020760 COTTONWOOD CREEK NEAR MISSION, OR

LOCATION.--Lat 45°39'38", long 118°33'52", in SW 1/4 SW 1/4 sec.8, T.2 N., R.34 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on right bank, on downstream side of county road crossing, 4.5 mi west of Mission, and at mile 1.3.

DRAINAGE AREA.--4.01 mi^2.

PERIOD OF RECORD.--November 1991 to current year.

GAGE.--Water-stage recorder, elevation of gage is 1,500 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No known regulation.

AVERAGE DISCHARGE.--4 years (water years 1993-96), 2.56 ft^3/s, 8.66 in/yr, 1,850 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97 ft^3/s Feb. 7, 1996, gage height, 5.45 ft; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97 ft^3/s Feb. 7, gage height, 5.45 ft; no flow many days during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	7.5	5.9	e1.7	3.8	1.0	4.4	.71	.00	.00	.00
2	.00	.00	6.2	5.5	e1.6	4.0	1.2	3.6	.49	.00	.00	.00
3	.00	.00	5.1	5.1	e1.8	6.0	1.1	3.1	.28	.00	.00	.00
4	.00	.00	3.9	4.3	e6.0	8.9	1.1	2.4	.22	.00	.00	.00
5	.00	.00	3.2	3.8	e10	9.3	1.0	2.0	.20	.00	.00	.00
6	.00	.00	2.5	3.6	23	8.5	.99	1.7	.16	.00	.00	.00
7	.00	.00	1.9	3.6	64	8.4	.93	1.4	.10	.00	.00	.00
8	.00	.00	1.5	4.8	48	9.7	.89	1.1	.04	.00	.00	.00
9	.00	.00	1.2	6.1	44	9.6	.77	.85	.00	.00	.00	.00
10	.00	.00	1.1	7.7	26	8.7	.70	.68	.00	.00	.00	.00
11	.00	.00	2.5	6.7	19	8.1	.71	.52	.00	.00	.00	.00
12	.00	.00	11	6.0	14	9.5	.94	.42	.00	.00	.00	.00
13	.00	.00	7.8	5.1	11	10	.65	.34	.00	.00	.00	.00
14	.00	.00	7.5	4.2	8.5	9.0	.58	.73	.00	.00	.00	.00
15	.00	.00	10	4.1	7.0	7.7	.54	1.0	.00	.00	.00	.00
16	.00	.00	7.9	4.9	5.9	6.5	.64	1.1	.00	.00	.00	.00
17	.00	.00	6.2	5.6	5.7	5.2	.56	2.6	.00	.00	.00	.00
18	.00	.00	5.1	5.6	6.7	4.4	.78	4.7	.00	.00	.00	.00
19	.00	.00	4.1	5.3	8.0	3.8	.84	6.0	.00	.00	.00	.00
20	.00	.00	3.5	6.5	7.3	3.1	1.2	5.4	.00	.00	.00	.00
21	.00	.00	3.0	7.4	8.0	2.5	1.5	4.9	.00	.00	.00	.00
22	.00	.00	2.6	6.4	7.6	2.4	2.0	5.5	.00	.00	.00	.00
23	.00	.00	2.1	5.7	7.1	2.1	10	5.4	.00	.00	.00	.00
24	.00	.00	1.8	5.4	6.4	1.9	26	4.9	.00	.00	.00	.00
25	.00	.00	1.4	4.9	5.9	1.4	18	4.4	.00	.00	.00	.00
26	.00	.05	1.2	4.3	5.1	1.4	14	3.6	.00	.00	.00	.00
27	.00	4.2	.96	4.1	4.6	1.3	10	2.8	.00	.00	.00	.00
28	.00	19	.76	3.8	4.4	1.2	8.2	2.2	.00	.00	.00	.00
29	.00	8.0	1.1	e3.0	4.0	1.0	6.7	1.8	.00	.00	.00	.00
30	.00	5.9	4.3	e2.2	---	.88	5.5	1.4	.00	.00	.00	.00
31	.00	---	6.8	e1.9	---	.95	---	1.1	---	.00	.00	---
TOTAL	0.00	37.15	125.72	153.5	372.3	161.23	119.02	82.04	2.20	0.00	0.00	0.00
MEAN	.000	1.24	4.06	4.95	12.8	5.20	3.97	2.65	.073	.000	.000	.000
MAX	.00	19	11	7.7	64	10	26	6.0	.71	.00	.00	.00
MIN	.00	.00	.76	1.9	1.6	.88	.54	.34	.00	.00	.00	.00
AC-FT	.00	74	249	304	738	320	236	163	4.4	.00	.00	.00
CFSM	.00	.31	1.01	1.23	3.20	1.30	.99	.66	.02	.00	.00	.00
IN.	.00	.34	1.17	1.42	3.45	1.50	1.10	.76	.02	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.000	1.39	3.21	4.79	5.07	5.22	2.74	4.15	.065	.000	.001	.000
MAX	.000	3.45	6.62	8.68	12.8	8.07	5.44	10.1	.10	.000	.003	.000
(WY)	1993	1995	1995	1995	1996	1993	1993	1995	1995	1994	1993	1992
MIN	.000	.000	.000	.97	1.12	1.74	.11	.000	.000	.000	.000	.000
(WY)	1993	1994	1994	1992	1994	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	1229.61		1053.16			
ANNUAL MEAN	3.37		2.88		2.56	
HIGHEST ANNUAL MEAN					3.77	1995
LOWEST ANNUAL MEAN					1.32	1994
HIGHEST DAILY MEAN	34	Jan 14	64	Feb 7	64	Feb 7 1996
LOWEST DAILY MEAN	.00	Jun 20	.00	Oct 1	.00	Apr 27 1992
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 20	.00	Oct 1	.00	Apr 27 1992
ANNUAL RUNOFF (AC-FT)	2440		2090		1850	
ANNUAL RUNOFF (CFSM)	.84		.72		.64	
ANNUAL RUNOFF (INCHES)	11.41		9.77		8.66	
10 PERCENT EXCEEDS	11		7.7		7.0	
50 PERCENT EXCEEDS	.48		.57		.07	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

14020850 UMATILLA RIVER AT WEST RESERVATION BOUNDARY, NEAR PENDLETON, OR

LOCATION.--Lat 45°40'18", long 118°44'08", in NE 1/4 NW 1/4 sec.7, T.2 N., R.33 E., Umatilla County, Hydrologic Unit 17070103, on left bank, 0.5 mi east of west line of boundary for Umatilla Indian Reservarion, 1.6 mi upstream from Wildhorse Creek, 2.5 mi east of Post Office in Pendleton, and at mile 58.3.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1995 to September 1996.

GAGE.--Water-stage recorder. Elevation of gage is 1,130 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No known regulation. Many diversions for irrigation upstream from station. Satellite telemeter at station.

AVERAGE DISCHARGE.--1 year (water year 1996), 768 ft^3/s, 557,400 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,700 ft^3/s Feb. 9, gage height, 11.64 ft; minimum discharge, 36 ft^3/s Aug. 25, 26, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e52	67	3500	1460	e280	803	647	1110	399	103	42	39
2	e50	67	2670	1320	e240	786	865	e960	359	96	42	39
3	e64	67	1810	1300	e240	838	965	e860	326	90	44	39
4	e94	67	1390	1340	e270	944	939	e760	299	87	44	39
5	e70	67	1100	1170	e300	1040	885	e640	275	84	43	40
6	e66	70	900	997	1380	1010	872	610	253	81	44	40
7	e62	78	756	881	5330	986	937	564	233	78	44	39
8	e64	81	636	945	11300	1120	1060	524	217	74	42	39
9	e62	122	552	1240	11700	1530	1170	489	202	70	41	39
10	e62	141	508	1940	7170	1870	1170	459	188	69	40	39
11	e66	144	552	1780	4010	2020	1030	434	176	67	39	39
12	e68	369	1780	1410	2770	2550	958	445	168	64	38	39
13	e64	426	2300	1150	2160	2490	871	459	159	62	39	43
14	e62	662	1760	961	1890	2070	818	540	150	60	39	43
15	e60	499	1750	890	1800	1760	781	686	143	59	38	46
16	e60	395	1430	915	1750	1490	794	887	136	58	38	47
17	e60	329	1160	980	1900	1290	824	1010	130	57	37	45
18	e62	286	966	911	3820	1120	816	1330	131	62	39	45
19	e62	253	817	894	4830	1010	784	1440	127	59	40	46
20	e60	228	707	880	3800	931	834	1340	120	58	40	50
21	e62	208	619	926	2950	861	890	1170	117	56	41	48
22	e64	193	547	812	2330	839	920	1150	113	51	41	46
23	e66	187	486	730	1940	814	2030	1120	111	50	41	46
24	e66	180	437	693	1630	772	6830	1040	118	47	38	45
25	e64	209	394	646	1390	685	5080	928	120	46	37	45
26	e66	533	360	590	1200	654	3250	818	116	45	37	44
27	e68	761	330	564	1030	632	2350	714	131	44	38	45
28	e66	e6000	312	542	956	614	1810	626	153	44	42	44
29	e66	e4600	318	510	867	585	1480	556	128	43	40	43
30	e66	4230	484	423	---	558	1250	500	114	45	37	43
31	e67	---	1110	369	---	550	---	449	---	45	38	---
TOTAL	1991	21519	32441	30169	81233	35222	43910	24618	5412	1954	1243	1284
MEAN	64.2	717	1046	973	2801	1136	1464	794	180	63.0	40.1	42.8
MAX	94	6000	3500	1940	11700	2550	6830	1440	399	103	44	50
MIN	50	67	312	369	240	550	647	434	111	43	37	39
AC-FT	3950	42680	64350	59840	161100	69860	87100	48830	10730	3880	2470	2550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1996, BY WATER YEAR (WY)

MEAN	64.2	717	1046	973	2801	1136	1464	794	180	63.0	40.1	42.8
MAX	64.2	717	1046	973	2801	1136	1464	794	180	63.0	40.1	42.8
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	64.2	717	1046	973	2801	1136	1464	794	180	63.0	40.1	42.8
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996

SUMMARY STATISTICS	FOR 1996 WATER YEAR	
ANNUAL TOTAL	280996	
ANNUAL MEAN	768	
HIGHEST DAILY MEAN	11700	Feb 9
LOWEST DAILY MEAN	37	Aug 17
ANNUAL SEVEN-DAY MINIMUM	38	Aug 11
ANNUAL RUNOFF (AC-FT)	557400	
10 PERCENT EXCEEDS	1780	
50 PERCENT EXCEEDS	381	
90 PERCENT EXCEEDS	42	

e Estimated

14021980 PATAWA CREEK AT WEST RESERVATION BOUNDARY, NEAR PENDLETON, OR

LOCATION.--Lat 45°39'11", long 118°44'39", in NW 1/4 SW 1/4 sec. 18, T.2 N., R.33 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on left bank, at downstream side of county road crossing, 2 mi southwest of Pendleton City Hall, and at mile 2.9.

DRAINAGE AREA.--30 mi^2, excludes about 1 mi^2 in upper basin where water has been diverted directly to the Umatilla River.

PERIOD OF RECORD.--December 1973 to April 1975 (discharge measurements only), October 1991 to current year.

REVISED RECORDS.--WDR OR-94-1: 1993 (M).

GAGE.--Water-stage recorder. Elevation of gage is 1,220 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--5 years (water years 1992-96), 6.02 ft^3/s, 2.73 in/yr, 4,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 378 ft^3/s Feb. 7, 1996, gage height, 7.94 ft; minimum discharge, 0.09 ft^3/s Oct. 30, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 378 ft^3/s Feb. 7, gage height, 7.94 ft; minimum discharge, 0.54 ft^3/s several days in October and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	.64	7.8	12	e6.6	15	12	11	5.9	1.7	.89	.63
2	.58	.62	7.1	11	e6.2	16	12	10	5.4	1.7	.91	.64
3	.75	.65	5.9	10	e6.4	20	11	9.6	5.0	1.6	.90	.65
4	.65	.68	5.4	8.8	e7.0	25	11	8.9	4.6	1.6	.90	.64
5	.65	.68	4.8	8.0	11	26	11	8.5	4.4	1.6	.89	.59
6	.60	.65	4.2	7.7	106	25	11	8.1	4.2	1.5	.87	.61
7	.59	.69	3.8	9.5	218	25	10	7.7	4.0	1.5	.81	.62
8	.59	.68	3.4	12	119	29	10	7.3	3.6	1.4	.80	.62
9	.60	.67	3.2	17	87	27	9.8	7.1	3.4	1.4	.80	.62
10	.61	.68	3.2	18	53	25	9.5	6.9	3.2	1.4	.80	.62
11	.65	.76	4.4	15	38	33	9.4	6.7	3.1	1.3	.78	.63
12	.66	.73	15	13	30	38	10	6.8	3.0	1.3	.76	.61
13	.65	.80	9.8	11	26	33	9.4	6.8	2.9	1.2	.74	.57
14	.65	.72	8.3	10	23	29	9.0	9.0	2.7	1.2	.71	.59
15	.64	.71	13	10	20	25	8.7	10	2.5	1.2	.69	.65
16	.64	.71	10	16	18	22	8.7	9.8	2.4	1.2	.68	.59
17	.64	.71	8.7	16	18	20	8.5	17	2.2	1.2	.69	.59
18	.64	.71	7.7	13	19	18	8.7	18	2.2	1.2	.69	.59
19	.60	.71	6.8	12	19	17	9.0	16	2.1	1.1	.69	.63
20	.59	.71	6.1	13	18	15	11	14	2.0	1.1	.65	.58
21	.60	.71	5.6	14	19	15	11	13	1.9	1.1	.62	.57
22	.59	.71	5.3	13	18	15	11	14	1.9	1.1	.62	.57
23	.60	.71	4.9	12	18	14	16	12	1.9	1.1	.62	.59
24	.61	.71	4.6	13	17	13	31	11	1.8	1.1	.63	.59
25	.62	.77	4.4	11	19	12	23	10	1.8	1.0	.63	.59
26	.64	.78	4.2	11	17	12	19	9.2	1.8	1.0	.64	.59
27	.62	2.7	4.0	11	16	12	16	8.3	1.9	1.0	.69	.60
28	.62	37	3.9	10	16	12	14	7.8	1.8	1.0	.63	.54
29	.63	11	4.6	8.7	15	11	13	7.4	1.8	1.0	.62	.55
30	.65	7.2	15	8.0	---	11	12	7.0	1.7	1.0	.61	.55
31	.65	---	16	e7.0	---	11	---	6.4	---	.97	.62	---
TOTAL	19.38	76.20	211.1	361.7	1004.2	621	365.7	305.3	87.1	38.77	22.58	18.01
MEAN	.63	2.54	6.81	11.7	34.6	20.0	12.2	9.85	2.90	1.25	.73	.60
MAX	.75	37	16	18	218	38	31	18	5.9	1.7	.91	.65
MIN	.57	.62	3.2	7.0	6.2	11	8.5	6.4	1.7	.97	.61	.54
AC-FT	38	151	419	717	1990	1230	725	606	173	77	45	36
CFSM	.02	.08	.23	.39	1.15	.67	.41	.33	.10	.04	.02	.02
IN.	.02	.09	.26	.45	1.25	.77	.45	.38	.11	.05	.03	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1996, BY WATER YEAR (WY)

MEAN	.53	2.64	4.57	9.21	13.6	14.8	9.58	13.8	1.77	.76	.63	.60
MAX	.71	5.88	9.08	18.5	34.6	20.2	16.8	37.0	2.90	1.25	.98	.89
(WY)	1994	1992	1995	1995	1996	1993	1993	1995	1996	1996	1993	1993
MIN	.31	.80	.65	1.30	2.84	5.19	1.81	1.01	.48	.22	.24	.41
(WY)	1993	1994	1993	1992	1992	1992	1992	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1992 - 1996	
ANNUAL TOTAL	3771.26		3131.04			
ANNUAL MEAN	10.3		8.55		6.02	
HIGHEST ANNUAL MEAN					10.6	1995
LOWEST ANNUAL MEAN					2.08	1992
HIGHEST DAILY MEAN	141	May 11	218	Feb 7	218	Feb 7 1996
LOWEST DAILY MEAN	.52	Sep 23	.54	Sep 28	.10	Oct 27 1992
ANNUAL SEVEN-DAY MINIMUM	.54	Sep 18	.57	Sep 24	.12	Oct 23 1992
ANNUAL RUNOFF (AC-FT)	7480		6210		4360	
ANNUAL RUNOFF (CFSM)	.34		.29		.20	
ANNUAL RUNOFF (INCHES)	4.68		3.88		2.73	
10 PERCENT EXCEEDS	26		18		17	
50 PERCENT EXCEEDS	3.0		4.3		1.4	
90 PERCENT EXCEEDS	.60		.62		.43	

e Estimated

14022200 NORTH FORK MCKAY CREEK NEAR PILOT ROCK, OR

LOCATION.--Lat 45°30'24", long 118°36'57", in NE 1/4 SE 1/4 sec.1, T.1 S., R.33 E., Umatilla County, Hydrologic Unit 17070103, Umatilla Indian Reservation, on left bank 10 mi northeast of Pilot Rock and at mile 0.5.

DRAINAGE AREA.--48.6 mi^2.

PERIOD OF RECORD.--May 1973 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,870 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation. Minor diversion upstream from station.

AVERAGE DISCHARGE.--23 years (water years 1974-96), 43.0 ft^3/s, 31,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft^3/s Jan. 25, 1975, gage height, 8.48 ft, from floodmark, from rating curve extended above 150 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 0.22 ft^3/s June 26, 1985 (result of temporary construction upstream).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 290 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	0330	1,250	6.34	Apr. 24	0800	580	4.15
Feb. 7	1830	*1,280	*6.41				

Minimum discharge, 0.35 ft^3/s Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.2	182	e125	e23	72	36	72	26	3.6	.99	.84
2	1.3	2.2	149	e138	e23	74	45	64	22	3.2	1.0	.84
3	2.9	2.2	125	e130	e28	95	48	56	19	3.0	1.2	.84
4	2.0	2.2	109	e134	57	126	45	49	17	2.8	1.1	.84
5	1.6	2.2	95	e115	219	135	42	41	15	2.7	1.1	.91
6	1.4	2.2	81	e105	371	125	38	36	14	2.4	1.1	.94
7	1.4	2.6	72	e100	942	127	35	31	13	2.3	.99	.91
8	1.5	2.5	67	e99	978	169	32	27	12	2.1	.89	.88
9	1.6	4.2	e62	156	867	179	29	24	11	1.9	.86	.88
10	1.7	4.3	e60	198	422	161	27	22	10	1.8	.79	.88
11	2.2	6.2	e80	141	254	149	26	20	9.8	1.8	.83	.86
12	2.6	14	e135	107	184	171	30	19	8.9	1.7	.88	.97
13	2.2	24	e140	89	146	162	29	18	8.3	1.6	.92	1.3
14	2.2	23	e100	74	129	139	27	21	7.5	1.5	.93	1.2
15	2.0	18	e88	71	118	121	25	48	6.4	1.4	.87	1.4
16	2.0	15	e76	71	110	106	25	90	6.0	1.4	.82	1.4
17	2.0	14	e68	72	123	92	25	100	5.7	1.3	.80	1.2
18	2.3	12	e60	68	209	80	28	143	5.7	1.4	.84	1.2
19	2.1	11	e53	67	203	71	30	175	5.6	1.3	.87	1.6
20	2.0	10	e48	67	162	62	37	137	4.4	1.3	.87	1.5
21	2.3	9.0	e43	69	144	55	49	110	4.0	1.4	.88	1.3
22	2.5	8.4	e39	63	129	54	52	114	4.1	1.3	.85	1.2
23	2.2	8.2	e35	60	119	51	213	106	4.0	1.2	.82	1.2
24	2.2	8.0	e32	57	108	47	453	92	4.5	1.1	.79	1.2
25	2.3	23	e29	53	101	39	272	77	4.5	1.0	.76	1.2
26	2.5	69	e26	48	93	38	192	70	4.2	.95	.75	1.2
27	2.5	116	e25	47	88	36	143	63	6.1	.92	.87	1.2
28	2.5	623	e24	46	85	36	113	53	6.0	.90	1.0	1.1
29	2.4	232	e24	e40	76	34	93	45	4.6	1.0	.96	1.1
30	2.4	182	e35	e32	---	32	78	39	4.1	1.1	.81	1.2
31	2.3	---	e60	e25	---	32	---	32	---	1.1	.82	---
TOTAL	64.4	1452.6	2222	2667	6511	2870	2317	1994	273.4	52.47	27.96	33.29
MEAN	2.08	48.4	71.7	86.0	225	92.6	77.2	64.3	9.11	1.69	.90	1.11
MAX	2.9	623	182	198	978	179	453	175	26	3.6	1.2	1.6
MIN	1.3	2.2	24	25	23	32	25	18	4.0	.90	.75	.84
AC-FT	128	2880	4410	5290	12910	5690	4600	3960	542	104	55	66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1996, BY WATER YEAR (WY)

MEAN	2.54	23.1	54.1	76.0	96.7	111	85.3	50.2	14.7	2.35	1.15	1.24
MAX	8.50	74.6	197	170	225	223	200	154	60.4	4.97	2.77	2.74
(WY)	1983	1992	1974	1976	1996	1984	1974	1995	1984	1991	1993	1977
MIN	.90	1.30	3.11	5.01	4.39	29.3	16.2	5.08	2.26	.73	.72	.78
(WY)	1988	1988	1977	1977	1977	1992	1992	1992	1992	1985	1987	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1974 - 1996	
ANNUAL TOTAL	21011.10		20485.12			
ANNUAL MEAN	57.6		56.0		43.0	
HIGHEST ANNUAL MEAN					72.5	1974
LOWEST ANNUAL MEAN					10.7	1977
HIGHEST DAILY MEAN	623	Nov 28	978	Feb 8	1070	Feb 23 1986
LOWEST DAILY MEAN	.71	Sep 16	.75	Aug 26	.45	Aug 11 1979
ANNUAL SEVEN-DAY MINIMUM	.74	Sep 14	.82	Aug 20	.50	Jul 29 1979
ANNUAL RUNOFF (AC-FT)	41680		40630		31130	
10 PERCENT EXCEEDS	160		138		122	
50 PERCENT EXCEEDS	28		23		11	
90 PERCENT EXCEEDS	1.1		.96		1.0	

e Estimated

14033500 UMATILLA RIVER NEAR UMATILLA, OR

LOCATION.--Lat 45°54'11", long 119°19'33", in SW 1/4 NW 1/4 sec.21, T.5 N., R.28 E., Umatilla County, Hydrologic Unit 17070103, on left bank, 1.2 mi southeast of Umatilla, 1.6 mi downstream from West Division main canal of Umatilla project, and at mile 2.1.

DRAINAGE AREA.--2,290 mi^2, approximately.

PERIOD OF RECORD.--October 1903 to current year.

REVISED RECORDS.--WSP 794: Drainage area. WSP 1398: 1909, 1911, 1914, 1928, 1935.

GAGE.--Water-stage recorder. Datum of gage is 330.47 ft above sea level. Oct. 21, 1903, to Jan. 25, 1931, nonrecording gage.

REMARKS.--Records good. Some regulation since 1927 by McKay Reservoir. Many diversions upstream from station for irrigation of lands upstream and downstream from station; Brownell Canal diverts downstream from station. Diversions since 1908 to Cold Springs Reservoir, an off-channel reservoir, capacity, 52,380 acre-ft. Continuous water-quality records for the period October 1962 to September 1969 have been collected at this location. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--69 years (water years 1928-96), 469 ft^3/s, 339,600 acre-ft/yr. Water years prior to 1928 not included in computation of average discharge owing to increased regulation and diversion since 1927.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,800 ft^3/s Jan. 30, 1965, gage height, 10.75 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	unknown	13,200	a7.92	Mar. 13	1145	3,700	5.46
Feb. 10	0615	*16,300	*8.49	Apr. 25	0730	9,720	7.21
Feb. 19	1915	5,470	6.08				

Minimum discharge, 1.1 ft^3/s Aug. 2.
a From high-water mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	229	3600	1360	e300	907	877	987	306	41	1.4	76
2	190	216	3030	1360	e260	864	880	845	323	4.1	1.2	76
3	231	204	2110	1180	e260	945	1020	677	352	9.6	7.0	79
4	259	184	1540	1320	e300	1580	1030	468	361	8.7	9.7	78
5	252	169	1170	1320	e500	1720	1100	445	344	17	7.8	74
6	224	167	938	1170	e1200	1560	1030	360	316	27	5.0	78
7	247	168	795	1050	5100	1360	990	276	254	15	3.2	79
8	240	172	681	1020	11200	1250	1010	293	227	9.5	2.4	80
9	240	171	542	1200	14100	1760	1070	266	218	5.7	2.8	75
10	242	197	517	1750	14500	2410	1070	362	170	5.1	3.4	80
11	246	235	534	2100	8420	2510	1030	307	113	3.5	2.6	80
12	249	238	960	1740	5090	3160	1080	298	88	2.0	1.7	87
13	255	473	2580	1410	4030	3640	812	351	79	4.5	3.9	81
14	254	598	1980	1190	3520	3260	787	550	77	3.5	24	107
15	262	715	1700	1060	3180	2530	674	447	78	2.4	73	108
16	257	582	1530	1030	2950	2210	872	748	77	1.9	67	104
17	256	497	1240	1060	2680	1750	670	677	75	2.9	60	117
18	261	443	1030	997	3280	1510	573	1520	75	11	62	112
19	262	395	869	941	5330	1350	539	1430	89	7.2	67	104
20	273	361	732	898	5180	1090	702	1470	84	6.8	74	92
21	272	326	614	940	3810	954	561	1540	78	3.6	76	91
22	273	303	533	904	3200	886	703	1600	78	2.3	70	91
23	272	290	473	779	2420	855	1220	1390	99	1.7	72	91
24	271	278	421	731	2040	800	4970	1040	99	2.3	72	137
25	268	264	385	677	1760	746	7970	832	38	1.3	73	239
26	268	311	355	597	1560	631	4130	735	62	1.3	76	240
27	268	741	300	564	1320	567	2810	589	104	2.5	79	249
28	269	2170	356	576	1200	505	2170	450	114	5.1	85	243
29	267	e8000	363	e500	1090	478	1690	433	129	5.8	72	229
30	258	4270	530	e440	---	449	1240	420	101	1.6	71	226
31	246	---	1000	e320	---	490	---	365	---	1.9	74	---
TOTAL	7816	23367	33408	32184	109780	44727	45280	22171	4608	217.8	1299.1	3603
MEAN	252	779	1078	1038	3786	1443	1509	715	154	7.03	41.9	120
MAX	273	8000	3600	2100	14500	3640	7970	1600	361	41	85	249
MIN	184	167	300	320	260	449	539	266	38	1.3	1.2	74
AC-FT	15500	46350	66260	63840	217700	88720	89810	43980	9140	432	2580	7150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1996, BY WATER YEAR (WY)

MEAN	94.3	264	539	707	966	1132	1152	607	118	19.6	22.1	37.5
MAX	481	1302	1948	2366	3786	3678	3056	3362	805	149	95.0	124
(WY)	1928	1928	1974	1965	1996	1972	1958	1948	1950	1942	1993	1946
MIN	4.18	40.2	70.8	89.3	86.7	154	4.56	1.55	1.33	.81	1.04	.59
(WY)	1978	1932	1988	1930	1977	1977	1968	1977	1979	1985	1985	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1928 - 1996	
ANNUAL TOTAL	305420.1		328460.9			
ANNUAL MEAN	837		897		469	
HIGHEST ANNUAL MEAN					981	1974
LOWEST ANNUAL MEAN					77.5	1977
HIGHEST DAILY MEAN	8000	Nov 29	14500	Feb 10	15600	Jan 30 1965
LOWEST DAILY MEAN	2.9	Jul 21	1.2	Aug 2	.00	Apr 20 1930
ANNUAL SEVEN-DAY MINIMUM	3.5	Jul 15	2.1	Jul 21	.00	Oct 18 1931
ANNUAL RUNOFF (AC-FT)	605800		651500		339600	
10 PERCENT EXCEEDS	2690		2100		1320	
50 PERCENT EXCEEDS	385		355		140	
90 PERCENT EXCEEDS	5.3		9.3		6.0	

e Estimated

14034470 WILLOW CREEK ABOVE WILLOW CREEK LAKE, NEAR HEPPNER, OR

LOCATION.--Lat 45°20'27", long 119°30'53", in NE 1/4 NE 1/4 sec.1, T.3 S., R.26 E., Morrow County, Hydrologic Unit 17070104, on right bank 1.5 mi southeast of Heppner, 1.7 mi upstream from Willow Creek dam, and at mile 54.1.

DRAINAGE AREA.--67.6 mi^2.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,085.41 ft above sea level (levels by Corps of Engineers).

REMARKS.--Records fair. Many diversions for irrigation upstream from station. Part of flow of Ditch Creek (John Day River basin) is diverted to Willow Creek upstream from station. Chemical analysis May 1985 to September 1987.

AVERAGE DISCHARGE.--14 years (water years 1983-96), 22.9 ft^3/s, 16,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 445 ft^3/s Mar. 4, 1983, gage height, 6.93 ft; maximum gage height, 8.69 ft Feb. 7, 1996; minimum discharge, 0.01 ft^3/s July 31 to Sept. 14, 1988, Aug. 20, 1992, but may have been less during period of no gage-height record July 31 to Sept. 14, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 30	2030	200	7.21	Mar. 12	1430	149	6.71
Feb. 7	2400	*393	*8.69				

Minimum discharge, 1.2 ft^3/s Sept. 9, 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.0	26	100	e4.6	48	58	e76	29	9.5	3.3	1.9
2	2.5	3.3	23	83	e4.8	49	63	e74	25	9.1	3.3	1.9
3	3.7	3.4	21	74	e5.0	71	63	e70	22	10	3.4	1.8
4	4.5	3.7	19	71	e6.0	98	61	e66	19	8.6	3.2	1.8
5	3.2	4.0	17	70	e10	111	56	e60	19	8.1	3.3	1.9
6	2.9	4.2	15	67	190	111	52	e50	17	6.9	3.4	1.9
7	2.7	5.4	15	67	300	123	50	e42	16	6.4	3.2	1.7
8	2.7	5.7	12	65	328	127	50	e36	15	6.2	3.0	1.6
9	3.1	6.5	10	69	315	129	50	e32	14	6.1	2.8	1.6
10	3.6	5.5	14	73	232	128	50	e28	14	5.4	2.7	1.5
11	3.8	6.3	21	70	176	126	47	e26	13	4.9	2.6	1.5
12	4.9	9.2	70	58	139	143	47	e24	13	4.6	2.7	1.4
13	3.9	10	73	48	118	141	44	e25	13	3.8	2.7	1.4
14	3.5	7.9	56	40	104	129	39	25	12	3.9	2.8	1.6
15	3.2	6.7	49	37	95	116	36	32	12	3.3	2.5	2.2
16	3.2	6.2	42	34	89	102	36	39	12	3.5	2.2	2.6
17	3.2	5.8	36	31	87	91	35	42	12	4.4	2.1	2.3
18	3.9	5.4	32	28	92	80	36	41	13	7.7	2.3	2.4
19	3.6	5.2	29	27	117	72	35	40	12	6.5	2.4	2.5
20	3.4	5.5	26	25	110	64	36	40	12	6.0	2.3	2.7
21	3.3	5.0	24	25	103	59	37	39	11	5.8	2.4	2.5
22	3.4	4.6	21	22	91	55	35	37	11	5.6	2.3	2.5
23	3.6	4.7	18	21	84	54	41	38	13	5.3	2.1	2.5
24	3.7	4.7	16	20	75	51	84	38	15	4.8	2.1	2.5
25	3.8	7.4	15	18	69	45	89	38	14	2.6	1.8	1.9
26	4.4	12	14	17	59	44	84	39	14	2.5	1.8	1.4
27	3.9	11	14	16	49	42	76	37	19	1.7	2.0	1.4
28	3.9	47	16	15	55	41	e80	37	16	1.6	2.2	1.5
29	3.7	35	21	14	50	39	e85	36	13	2.3	1.9	1.5
30	3.5	29	71	e5.0	---	37	e80	34	11	3.3	1.8	1.5
31	3.5	---	131	e4.6	---	41	---	31	---	4.3	1.8	---
TOTAL	108.7	273.3	967	1314.6	3157.4	2567	1635	1272	451	164.7	78.4	57.4
MEAN	3.51	9.11	31.2	42.4	109	82.8	54.5	41.0	15.0	5.31	2.53	1.91
MAX	4.9	47	131	100	328	143	89	76	29	10	3.4	2.7
MIN	2.5	3.0	10	4.6	4.6	37	35	24	11	1.6	1.8	1.4
AC-FT	216	542	1920	2610	6260	5090	3240	2520	895	327	156	114

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	3.23	8.14	14.4	20.6	40.0	63.0	53.6	47.6	18.1	4.70	1.42	1.49
MAX	7.10	21.2	31.2	53.1	109	128	116	110	55.4	11.2	3.44	6.13
(WY)	1983	1987	1996	1984	1996	1993	1984	1995	1984	1993	1984	1984
MIN	.20	2.79	4.02	6.68	7.52	9.81	11.9	2.73	1.60	.88	.010	.064
(WY)	1989	1988	1991	1990	1994	1988	1992	1992	1992	1985	1988	1988

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	14039.6		12046.5			
ANNUAL MEAN	38.5		32.9		22.9	
HIGHEST ANNUAL MEAN					44.3	1984
LOWEST ANNUAL MEAN					6.84	1992
HIGHEST DAILY MEAN	305	May 6	328	Feb 8	328	Feb 8 1996
LOWEST DAILY MEAN	1.2	Sep 15	1.4	Sep 12	.01	Jul 31 1988
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 11	1.5	Sep 8	.01	Jul 31 1988
ANNUAL RUNOFF (AC-FT)	27850		23890		16610	
10 PERCENT EXCEEDS	102		84		66	
50 PERCENT EXCEEDS	22		15		8.8	
90 PERCENT EXCEEDS	2.5		2.3		.66	

e Estimated

14034480 BALM FORK NEAR HEPPNER, OR

LOCATION.--Lat 45°19'56", long 119°32'24", in NW 1/4 SE 1/4 sec.2, T.3 S., R.26 E., Morrow County, Hydrologic Unit 17070104, on right bank, 0.7 mi upstream from bridge on Willow Creek Road, 1.0 mi southeast of Heppner, 1.2 mi upstream from Willow Creek dam, and at mile 1.1.

DRAINAGE AREA.--26.3 mi^2.

PERIOD OF RECORD.--May 1982 to current year.

REVISED RECORDS.--WDR OR-83-1: Drainage area. WDR OR-88-1: 1987(M).

GAGE.--Water-stage recorder. Concrete control since Aug. 24, 1982. Datum of gage is 2,101.52 ft above sea level (Corps of Engineers bench mark).

REMARKS.--Records fair. Diversion for irrigation of about 170 acres upstream from station. Chemical analysis May 1985 to September 1987.

AVERAGE DISCHARGE.--14 years (water years 1983-96), 2.81 ft^3/s, 2,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190 ft^3/s Mar. 4, 1983, gage height, 4.90 ft, from rating curve extended above 82 ft^3/s on basis of slope-area measurement of peak flow; no flow for part or all of several days in 1982, 1990, 1991, 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 36,000 ft^3/s June 14, 1903, by computation of slope-area measurement (see WSP 96).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	1900	*90	*4.86	No other peak greater than base discharge			

Minimum discharge, 0.05 ft^3/s Oct. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.27	.76	11	e1.8	12	13	e4.1	e3.6	1.1	.13	.07
2	.05	.28	.77	4.9	e1.9	14	13	e4.1	e3.5	1.2	.12	.07
3	.13	.28	.78	5.5	e2.0	23	13	e4.1	e3.8	1.1	.14	.06
4	.11	.29	.79	7.1	e2.2	31	12	e3.6	e3.3	1.1	.14	.06
5	.12	.30	.80	6.2	e2.6	32	12	e3.6	e2.8	1.0	.33	.06
6	.12	.29	.81	7.0	58	32	11	e3.5	e2.6	.66	.43	.07
7	.13	.31	.81	9.0	67	38	11	e3.3	e2.4	.60	.18	.07
8	.14	.30	.77	20	56	34	10	e2.5	e2.2	.57	.11	.07
9	.15	.32	.81	21	49	30	9.2	e3.8	e2.1	.50	.10	.07
10	.14	.30	.81	21	36	26	5.3	e3.6	e1.1	.47	.10	.07
11	.18	.36	.93	17	28	24	5.8	e3.5	e1.0	.43	.09	.07
12	.19	.36	1.2	14	24	31	6.3	e3.5	e.95	.40	.09	.07
13	.17	.41	1.5	12	20	32	5.1	e3.5	e.95	.33	.09	.09
14	.16	.31	1.7	8.1	18	28	4.7	e4.1	e.70	.30	.09	.14
15	.16	.30	2.4	4.7	16	25	4.4	e3.9	e.73	.26	.09	.12
16	.16	.31	2.8	5.0	15	22	4.6	e3.8	e1.4	.22	.10	.09
17	.17	.33	2.6	6.1	14	20	4.4	e3.9	e.86	.21	.20	.09
18	.19	.33	2.6	7.1	13	19	4.1	e3.9	e.95	.23	.31	.09
19	.19	.35	2.6	7.0	13	17	e4.2	e4.2	e1.8	.19	.31	.08
20	.19	.37	2.6	6.8	12	16	e2.8	e4.4	1.6	.18	.30	.08
21	.19	.39	2.6	7.1	13	15	e3.3	e5.9	1.3	.17	.30	.15
22	.20	.40	2.6	6.5	12	14	e4.2	e5.9	1.3	.15	.29	.15
23	.21	.41	2.6	6.6	13	14	e4.1	e6.6	1.8	.13	.26	.16
24	.21	.44	2.5	6.4	12	13	e3.9	e6.1	2.1	.12	.12	.16
25	.21	.55	2.4	5.8	12	13	e4.2	e5.2	1.6	.11	.18	.16
26	.22	.56	2.3	5.4	12	12	e4.2	e4.8	1.2	.10	.23	.17
27	.22	.75	2.2	5.3	11	12	e4.4	e4.2	.94	.11	.13	.16
28	.23	.91	2.2	e3.6	11	12	e4.2	e3.9	1.1	.13	.11	.16
29	.24	.70	2.7	e2.6	11	12	e4.4	e5.6	1.2	.13	.09	.16
30	.26	.70	10	e1.9	---	11	e4.2	e4.1	1.2	.16	.08	.16
31	.27	---	22	e1.8	---	12	---	e3.9	---	.16	.07	---
TOTAL	5.36	12.18	82.94	253.5	556.5	646	197.0	131.1	52.08	12.52	5.31	3.18
MEAN	.17	.41	2.68	8.18	19.2	20.8	6.57	4.23	1.74	.40	.17	.11
MAX	.27	.91	22	21	67	38	13	6.6	3.8	1.2	.43	.17
MIN	.05	.27	.76	1.8	1.8	11	2.8	2.5	.70	.10	.07	.06
AC-FT	11	24	165	503	1100	1280	391	260	103	25	11	6.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	.36	.81	1.85	3.08	6.30	9.46	5.09	4.59	1.55	.45	.18	.22
MAX	1.53	3.01	4.60	8.18	19.2	21.0	16.4	13.0	3.82	1.24	.51	1.02
(WY)	1985	1987	1984	1996	1996	1993	1984	1995	1984	1993	1984	1984
MIN	.000	.002	.038	.28	.66	.47	.29	.24	.077	.034	.012	.006
(WY)	1992	1992	1991	1991	1990	1992	1992	1992	1992	1992	1992	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	1245.63		1957.67			
ANNUAL MEAN	3.41		5.35		2.81	
HIGHEST ANNUAL MEAN					6.15	1984
LOWEST ANNUAL MEAN					.24	1992
HIGHEST DAILY MEAN	33	May 11	67	Feb 7	80	Feb 22 1986
LOWEST DAILY MEAN	.05	Oct 1	.05	Oct 1	.00	Dec 25 1990
ANNUAL SEVEN-DAY MINIMUM	.06	Sep 26	.07	Aug 31	.00	Sep 18 1991
ANNUAL RUNOFF (AC-FT)	2470		3880		2040	
10 PERCENT EXCEEDS	8.4		14		7.7	
50 PERCENT EXCEEDS	2.0		1.6		.82	
90 PERCENT EXCEEDS	.09		.11		.04	

e Estimated

14034490 WILLOW CREEK LAKE AT HEPPNER, OR

LOCATION.--Lat 45°20'50", long 119°32'37", in NW 1/4 SE 1/4 sec.35, T.2 S., R.26 E., Morrow County, Hydrologic Unit 17070104, U.S. Corps of Engineers land, on top left side of spillway on dam on Willow Creek, 2,000 ft upstream from Court Street bridge and at mile 52.4.

DRAINAGE AREA.--96.6 mi^2.

PERIOD OF RECORD.--February 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers). Prior to Dec. 22, 1983, nonrecording gage at nearby site at present datum. U.S. Geological Survey satellite telemeter at station.

REMARKS.--Lake is formed behind roller-compacted, concrete dam; storage began Feb. 16, 1983. Capacity, 14,020 acre-ft between elevations 2,000.0 ft, sill of outlet gates, and 2,113.5 ft, crest of spillway. Average minimum lake elevation 2,047.0 ft, storing 2,540 acre-ft. Dead storage, 73 acre-ft below elevation 2,000.0 ft. Reservoir used for flood control. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,340 acre-ft May 8, 1995, elevation, 2,083.06 ft; no usable contents at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,860 acre-ft Feb. 10, elevation, 2,080.27 ft; minimum contents, 4,060 acre-ft Jan. 31, elevation, 2,060.87 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

2,050	2,840	2,060	3,950	2,070	5,280	2,080	6,820
2,055	3,370	2,065	4,590	2,075	6,020		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2072.51	2066.28	2064.06	2066.61	2061.12	2068.27	2070.37	2076.99	2075.04	2074.42	2073.10	2072.67
2	2072.48	2065.92	2064.22	2067.45	2061.33	2067.56	2070.84	2077.05	2075.09	2074.38	2073.09	2072.65
3	2072.48	2065.54	2064.40	2067.67	2061.58	2067.22	2071.30	2076.29	2075.21	2074.33	2073.09	2072.63
4	2072.47	2065.19	2064.47	2067.41	2061.88	2067.30	2071.73	2075.37	2075.27	2074.24	2073.08	2072.60
5	2072.45	2064.82	2064.37	2066.17	2062.34	2067.58	2072.10	2074.13	2075.34	2074.15	2073.06	2072.57
6	2072.41	2064.50	2064.02	2065.16	2065.90	2067.85	2072.41	2073.29	2075.31	2074.05	2073.07	2072.56
7	2072.35	2064.18	2063.81	2064.46	2070.88	2068.31	2072.71	2073.14	2075.26	2073.94	2073.07	2072.55
8	2072.30	2063.85	2063.73	2064.44	2075.82	2068.78	2072.99	2073.22	2075.17	2073.84	2073.07	2072.53
9	2072.26	2063.52	2063.64	2064.57	2079.31	2069.23	2073.24	2073.25	2075.09	2073.74	2073.06	2072.52
10	2072.22	2063.37	2063.60	2064.73	2080.21	2069.61	2073.50	2073.25	2075.01	2073.69	2073.06	2072.50
11	2072.22	2063.33	2063.68	2064.59	2079.62	2069.94	2073.71	2073.24	2074.90	2073.65	2073.03	2072.48
12	2072.15	2063.33	2064.34	2064.22	2078.56	2070.60	2073.90	2073.22	2074.81	2073.60	2073.02	2072.45
13	2072.00	2063.34	2064.91	2063.68	2077.19	2071.22	2074.03	2073.21	2074.70	2073.54	2073.01	2072.42
14	2071.83	2063.31	2065.13	2063.01	2075.61	2071.61	2074.14	2073.29	2074.61	2073.49	2073.00	2072.42
15	2071.66	2063.25	2065.13	2062.60	2074.38	2072.33	2074.15	2073.42	2074.54	2073.41	2072.98	2072.41
16	2071.49	2063.19	2064.83	2062.32	2074.09	2073.71	2074.18	2073.78	2074.49	2073.35	2072.96	2072.39
17	2071.34	2063.13	2064.46	2062.20	2073.80	2074.20	2074.20	2074.33	2074.44	2073.33	2072.93	2072.38
18	2071.17	2063.05	2064.04	2062.13	2073.52	2073.85	2074.19	2075.18	2074.43	2073.35	2072.92	2072.36
19	2070.93	2062.98	2063.57	2062.04	2073.61	2073.40	2074.19	2076.03	2074.42	2073.36	2072.93	2072.35
20	2070.58	2062.90	2063.15	2061.93	2073.54	2072.88	2074.19	2076.64	2074.41	2073.37	2072.90	2072.34
21	2070.22	2062.82	2063.02	2061.77	2073.45	2072.29	2074.20	2076.96	2074.39	2073.38	2072.88	2072.32
22	2069.86	2062.75	2062.93	2061.72	2073.22	2071.66	2074.25	2077.21	2074.37	2073.37	2072.86	2072.30
23	2069.51	2062.69	2062.79	2061.77	2072.82	2071.02	2074.34	2077.23	2074.44	2073.37	2072.85	2072.29
24	2069.16	2062.62	2062.62	2061.79	2072.35	2070.32	2074.80	2077.06	2074.53	2073.33	2072.84	2072.27
25	2068.81	2062.62	2062.45	2061.76	2071.86	2069.56	2075.32	2076.84	2074.58	2073.28	2072.82	2072.26
26	2068.46	2062.63	2062.33	2061.70	2071.21	2069.04	2075.80	2076.53	2074.66	2073.23	2072.79	2072.24
27	2068.11	2062.71	2062.42	2061.68	2070.43	2069.24	2076.18	2076.11	2074.72	2073.17	2072.77	2072.22
28	2067.76	2063.22	2062.54	2061.60	2069.76	2069.42	2076.49	2075.66	2074.68	2073.10	2072.76	2072.21
29	2067.38	2063.54	2062.78	2061.45	2069.01	2069.56	2076.72	2075.38	2074.60	2073.08	2072.74	2072.18
30	2067.02	2063.83	2063.71	2061.04	---	2069.69	2076.89	2075.28	2074.50	2073.11	2072.71	2072.15
31	2066.66	---	2065.41	2060.96	---	2069.94	---	2075.17	---	2073.13	2072.68	---
MAX	2072.51	2066.28	2065.41	2067.67	2080.21	2074.20	2076.89	2077.23	2075.34	2074.42	2073.10	2072.67
MIN	2066.66	2062.62	2062.33	2060.96	2061.12	2067.22	2070.37	2073.14	2074.37	2073.08	2072.68	2072.15
(†)	4810	4430	4640	4070	5130	5270	6310	6040	5940	5730	5670	5590
(‡)	-840	-380	+210	-570	+1060	+140	+1040	-270	-100	-210	-60	-80

CAL YR 1995 MAX --- MIN --- AC-FT‡ +310
WTR YR 1996 MAX 2080.21 MIN 2060.96 AC-FT‡ -60

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14034500 WILLOW CREEK AT HEPPNER, OR

LOCATION.--Lat 45°21'02", long 119°32'56", in SE 1/4 NW 1/4 sec.35, T.2 S., R.26 E., Morrow County, Hydrologic Unit 17070104, on right bank at Heppner, 100 ft upstream from Court Street bridge, 800 ft southeast of Morrow County courthouse, 0.2 mi downstream from Willow Creek Dam and at mile 52.2.

DRAINAGE AREA.--96.8 mi^2.

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WDR OR-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since September 1985. Datum of gage is 1,952.73 ft above sea level.

REMARKS.--Records good. Flow regulated by Willow Creek Lake, 0.2 mi upstream, since Feb. 16, 1983. Many diversions for irrigation upstream from station. Part of flow of Ditch Creek (John Day River basin) is diverted to Willow Creek upstream from station. Continuous water-quality records for the period February 1963 to June 1968 and March 1972 to September 1973 have been collected at this location. Chemical analysis Oct. 1984 to September 1987.

AVERAGE DISCHARGE.--31 years (water years 1952-82), 19.1 ft^3/s, 13,840 acre-ft/yr.
13 years (water years 1984-96), 22.6 ft^3/s, 16,360 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 812 ft^3/s May 10, 1957, gage height, 6.15 ft, from rating curve extended above 230 ft^3/s; maximum gage height, 6.46 ft May 25, 1971, backwater from Shobe Canyon; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 36,000 ft^3/s June 14, 1903, result of slope-area measurement (see WSP 96). Discharge for flood of Feb. 22, 1949, was 1,700 ft^3/s, result of slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 264 ft^3/s Feb. 13, 14, gage height, 4.89 ft; minimum discharge, 2.6 ft^3/s
Aug. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	25	11	9.9	e5.0	115	36	39	44	16	3.3	3.5
2	4.3	25	11	15	e5.0	114	36	40	26	11	3.3	4.6
3	4.3	25	11	44	e5.0	113	36	98	13	12	3.3	2.9
4	4.2	25	11	65	e5.0	113	36	115	13	14	3.3	3.5
5	4.4	25	20	121	e5.0	113	36	135	13	14	3.3	3.6
6	6.1	25	33	106	e5.0	113	36	107	20	14	3.3	3.1
7	7.6	25	25	92	4.7	113	37	51	20	14	3.3	3.1
8	7.6	25	16	91	4.5	114	37	26	20	13	3.3	3.1
9	7.6	25	16	92	64	115	37	31	20	11	3.2	3.1
10	7.7	18	16	91	175	115	37	31	20	8.8	3.1	3.1
11	7.9	11	16	91	258	115	37	31	20	7.9	3.1	3.1
12	9.7	11	16	91	259	115	37	31	20	7.9	3.1	3.0
13	15	11	21	91	260	115	37	31	20	7.8	3.1	3.0
14	15	11	33	91	261	115	37	31	18	7.7	3.1	3.0
15	15	11	39	72	220	77	38	31	15	7.2	3.1	3.0
16	15	11	50	61	120	5.2	38	30	15	6.4	2.8	3.0
17	15	11	51	51	119	55	38	31	14	5.8	2.7	3.0
18	15	11	51	45	118	116	38	31	13	5.8	2.7	3.0
19	18	11	51	45	118	116	38	31	13	5.8	2.7	3.0
20	25	11	47	45	118	116	38	37	12	5.6	3.8	3.0
21	25	11	31	45	118	116	38	52	12	5.6	4.3	3.0
22	25	11	25	39	118	116	38	58	12	5.6	3.6	3.0
23	25	11	25	31	118	115	38	71	11	5.5	3.1	3.0
24	25	11	25	31	118	115	38	83	11	5.5	3.1	3.0
25	25	11	25	31	118	115	39	83	11	5.3	3.1	3.0
26	25	11	21	31	116	97	39	84	11	5.3	3.1	3.0
27	25	11	9.9	32	116	36	39	84	16	5.3	3.1	3.0
28	25	11	9.9	32	116	36	39	83	19	5.3	3.1	3.0
29	25	11	9.9	32	115	36	39	66	19	4.2	3.1	3.0
30	25	11	9.9	e32	---	36	39	49	19	3.4	3.1	3.0
31	25	---	9.9	e15	---	36	---	44	---	3.3	3.1	---
TOTAL	483.7	463	746.5	1760.9	3182.2	2937.2	1126	1745	510	250.0	98.7	93.7
MEAN	15.6	15.4	24.1	56.8	110	94.7	37.5	56.3	17.0	8.06	3.18	3.12
MAX	25	25	51	121	261	116	39	135	44	16	4.3	4.6
MIN	4.2	11	9.9	9.9	4.5	5.2	36	26	11	3.3	2.7	2.9
AC-FT	959	918	1480	3490	6310	5830	2230	3460	1010	496	196	186

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	6.44	9.57	14.3	21.9	33.0	54.5	51.9	45.6	19.0	6.28	5.11	4.36
MAX	15.6	21.4	37.5	70.1	110	113	152	127	54.2	10.5	14.3	12.4
(WY)	1994	1995	1984	1984	1996	1993	1984	1995	1984	1993	1992	1988
MIN	1.93	1.69	2.65	3.40	5.95	8.09	10.4	2.15	2.17	2.39	2.79	2.56
(WY)	1992	1992	1993	1991	1994	1988	1994	1992	1992	1987	1991	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	12245.2		13396.9			
ANNUAL MEAN	33.5		36.6		22.6	
HIGHEST ANNUAL MEAN					45.5	1984
LOWEST ANNUAL MEAN					7.79	1992
HIGHEST DAILY MEAN	298	May 12	261	Feb 14	298	May 12 1995
LOWEST DAILY MEAN	3.6	Jul 19	2.7	Aug 17	1.4	Oct 27 1991
ANNUAL SEVEN-DAY MINIMUM	4.3	Sep 28	2.9	Aug 13	1.4	Oct 27 1991
ANNUAL RUNOFF (AC-FT)	24290		26570		16360	
10 PERCENT EXCEEDS	59		115		58	
50 PERCENT EXCEEDS	23		20		9.2	
90 PERCENT EXCEEDS	4.6		3.1		2.9	

e Estimated

14038530 JOHN DAY RIVER NEAR JOHN DAY, OR

LOCATION.--Lat 44°25'07", long 118°54'19", in SW 1/4 SE 1/4 sec.19, T.13 S., R.32 E., Grant County, Hydrologic Unit 17070101, on left bank 1,200 ft downstream from Dog Creek, 2.5 mi east of John Day, and at mile 250.8.

DRAINAGE AREA.--386 mi^2.

PERIOD OF RECORD.--October 1968 to September 1994, May to September 1996.

GAGE.--Water-stage recorder. Datum of gage is 3,130.56 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. No regulation upstream. Many diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--26 years (water years 1969-94), 202 ft^3/s, 146,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 812 ft^3/s May 10, 1957, gage height, 6.15 ft, from rating curve extended above 230 ft^3/s; maximum gage height, 6.46 ft May 25, 1971, backwater from Shobe Canyon; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 36,000 ft^3/s June 14, 1903, result of slope-area measurement (see WSP 96). Discharge for flood of Feb. 22, 1949, was 1,700 ft^3/s, result of slope-area measurement.

EXTREMES FOR PERIOD MAY TO SEPTEMBER.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 18	2315	*912	*5.83	May 22	0630	854	5.73

Minimum discharge, 22 ft^3/s Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	332	147	49	30
2	---	---	---	---	---	---	---	---	322	130	47	30
3	---	---	---	---	---	---	---	---	336	122	50	33
4	---	---	---	---	---	---	---	---	361	120	52	36
5	---	---	---	---	---	---	---	---	372	122	52	43
6	---	---	---	---	---	---	---	---	357	119	50	46
7	---	---	---	---	---	---	---	283	344	117	52	44
8	---	---	---	---	---	---	---	265	363	109	52	44
9	---	---	---	---	---	---	---	251	346	100	51	45
10	---	---	---	---	---	---	---	243	312	92	47	45
11	---	---	---	---	---	---	---	232	279	89	42	43
12	---	---	---	---	---	---	---	247	248	82	40	42
13	---	---	---	---	---	---	---	310	225	82	39	42
14	---	---	---	---	---	---	---	441	207	79	44	42
15	---	---	---	---	---	---	---	657	202	78	41	58
16	---	---	---	---	---	---	---	696	197	76	37	68
17	---	---	---	---	---	---	---	730	192	73	36	79
18	---	---	---	---	---	---	---	814	185	71	38	77
19	---	---	---	---	---	---	---	818	171	71	38	78
20	---	---	---	---	---	---	---	679	156	66	38	82
21	---	---	---	---	---	---	---	603	158	61	35	79
22	---	---	---	---	---	---	---	806	151	58	32	78
23	---	---	---	---	---	---	---	686	153	59	27	78
24	---	---	---	---	---	---	---	608	216	57	26	80
25	---	---	---	---	---	---	---	553	188	56	26	86
26	---	---	---	---	---	---	---	525	183	52	26	94
27	---	---	---	---	---	---	---	515	400	50	25	92
28	---	---	---	---	---	---	---	502	282	51	29	89
29	---	---	---	---	---	---	---	459	203	52	27	86
30	---	---	---	---	---	---	---	412	179	51	26	88
31	---	---	---	---	---	---	---	366	---	52	26	---
TOTAL	---	---	---	---	---	---	---	---	7620	2544	1200	1857
MEAN	---	---	---	---	---	---	---	---	254	82.1	38.7	61.9
MAX	---	---	---	---	---	---	---	---	400	147	52	94
MIN	---	---	---	---	---	---	---	---	151	50	25	30
AC-FT	---	---	---	---	---	---	---	---	15110	5050	2380	3680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	93.0	125	154	197	231	321	334	431	327	110	42.4	54.6
MAX	156	244	385	514	689	746	718	845	810	314	116	145
(WY)	1983	1974	1974	1971	1982	1984	1984	1984	1982	1982	1984	1984
MIN	65.8	87.5	90.0	88.1	88.8	88.6	88.1	85.4	53.9	25.9	10.4	24.2
(WY)	1989	1979	1989	1977	1977	1977	1977	1992	1992	1973	1973	1990

SUMMARY STATISTICS	WATER YEARS 1969 - 1996	
ANNUAL MEAN	202	
HIGHEST ANNUAL MEAN	393	1984
LOWEST ANNUAL MEAN	73.5	1977
HIGHEST DAILY MEAN	2640	May 19 1991
LOWEST DAILY MEAN	3.5	Aug 27 1969
ANNUAL SEVEN-DAY MINIMUM	4.3	Aug 24 1969
ANNUAL RUNOFF (AC-FT)	146100	
10 PERCENT EXCEEDS	454	
50 PERCENT EXCEEDS	127	
90 PERCENT EXCEEDS	36	

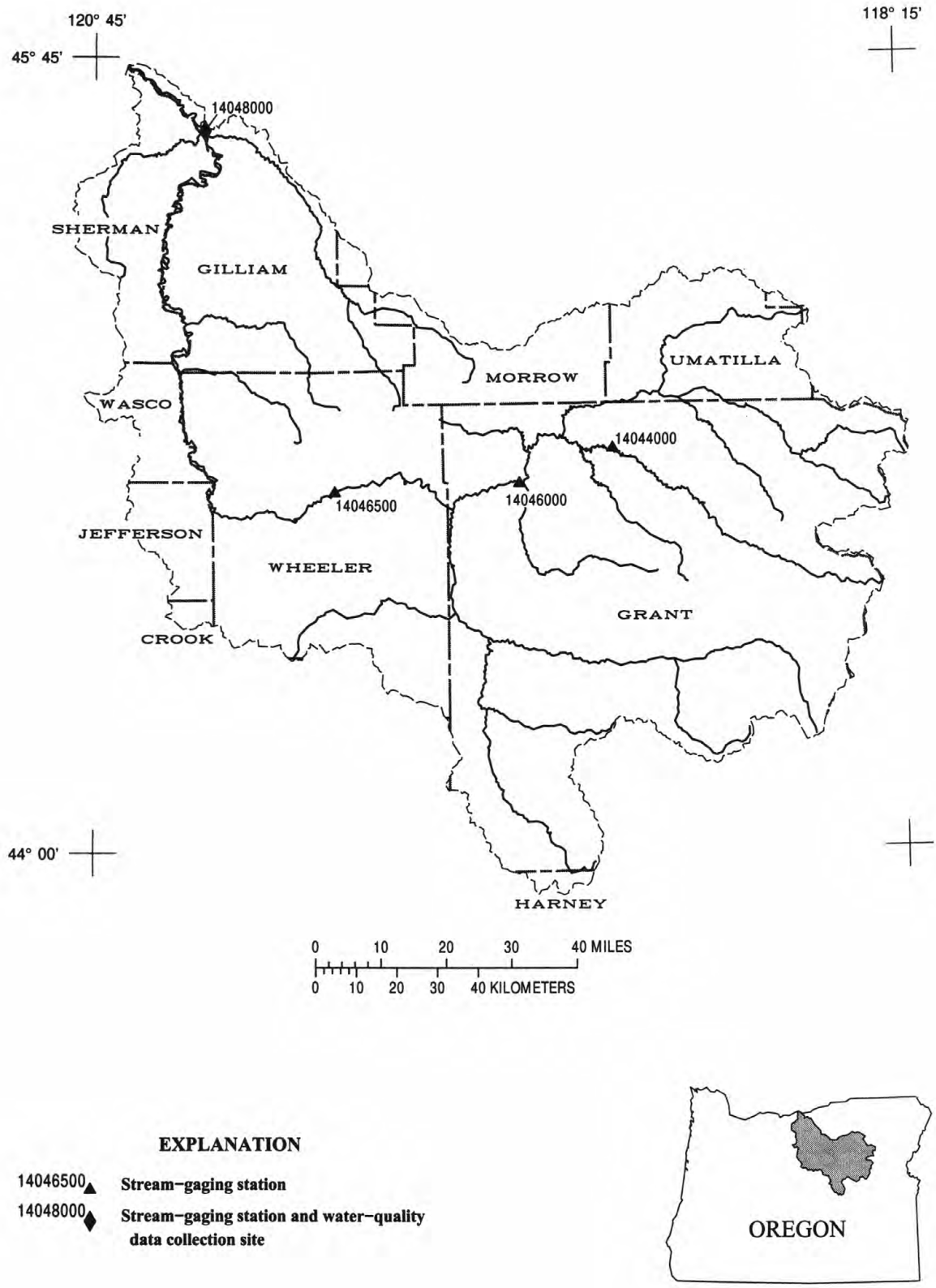


Figure 12. Location of surface-water and water-quality stations in the John Day River Basin.

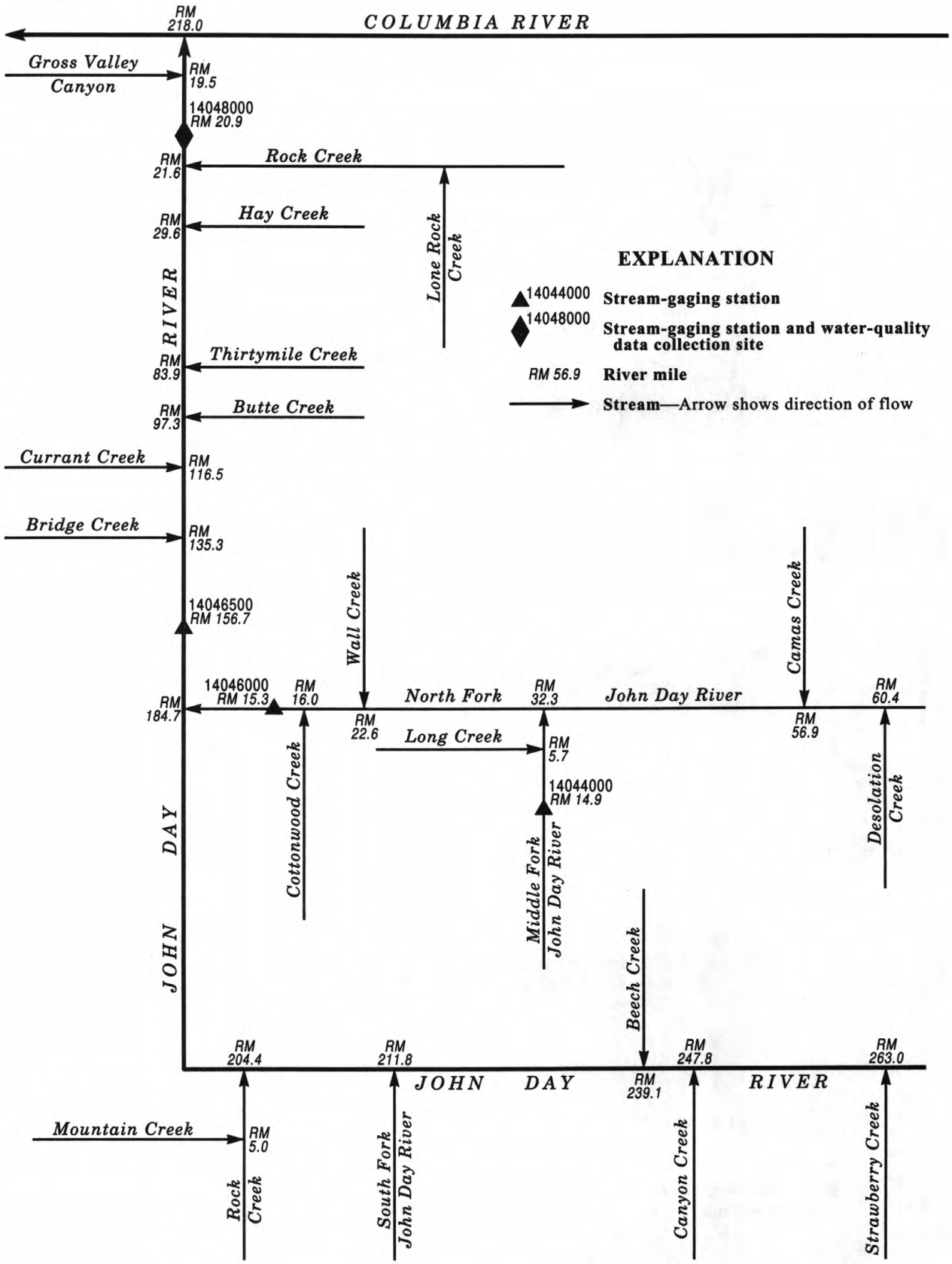


Figure 13. Schematic diagram showing gaging stations in the John Day River Basin.

14044000 MIDDLE FORK JOHN DAY RIVER AT RITTER, OR

LOCATION.--Lat 44°53'20", long 119°08'25", in SW 1/4 NW 1/4 sec.8, T.8 S., R.30 E., Grant County, Hydrologic Unit 17070203, on left bank 0.2 mi south of Ritter, 0.8 mi downstream from Twelvemile Creek, and at mile 14.9.

DRAINAGE AREA.--515 mi^2.

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 739: 1931. WSP 1218: 1950. WSP 1448: 1930-32, 1937, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,544.56 ft above sea level.

REMARKS.--Records fair except those above 3,000 ft^3/s and estimated daily discharges, which are poor. No regulation. Diversions for irrigation upstream from station. Continuous water-quality records for the period July 1966 to September 1968 have been collected at this location.

AVERAGE DISCHARGE.--67 years (water years 1930-96), 255 ft^3/s, 184,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,730 ft^3/s Jan. 30, 1965, gage height, 8.39 ft, from rating curve extended above 2,200 ft^3/s; maximum gage height, 9.13 ft Feb. 1, 1963, ice jam; minimum discharge, 0.90 ft^3/s Aug. 19, 20, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	1930	1,160	5.14	Apr. 24	1330	1,200	5.18
Dec. 12	1330	2,180	6.02	May 18	2300	1,800	5.73
Dec. 31	0930	1,190	5.17	May 22	0830	1,590	5.56
Feb. 9	1130	*3,370	*7.21				

Minimum discharge observed, 19 ft^3/s Nov. 2, but may have been lower during period of ice effect Nov. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	e35	844	747	e110	500	436	607	548	153	48	32
2	50	e28	663	594	e110	483	494	587	527	135	47	33
3	53	e26	468	629	e120	500	497	562	528	124	50	33
4	76	e30	404	597	e160	514	472	529	526	115	50	34
5	59	e50	349	509	e250	536	462	493	504	112	49	35
6	52	e58	298	473	664	501	471	471	464	107	47	37
7	49	e61	280	448	1990	516	520	458	441	98	45	37
8	48	66	235	e700	2470	569	631	446	433	94	43	36
9	48	85	252	e900	3020	676	767	435	410	89	41	36
10	48	88	326	e1000	2390	733	829	428	375	85	39	36
11	50	79	460	e800	1650	805	786	425	347	82	38	35
12	62	118	1550	e660	1270	871	754	458	318	79	36	34
13	59	139	1460	e560	1090	888	688	530	292	76	36	33
14	52	169	951	e520	1000	829	610	723	274	73	42	34
15	49	124	766	e540	966	779	558	1060	258	71	40	40
16	47	109	637	e620	974	728	579	1120	243	70	38	50
17	47	101	502	e600	1080	681	590	1050	228	68	37	52
18	51	97	460	440	1400	644	567	1170	226	69	36	55
19	55	94	389	447	1610	617	539	1290	212	68	36	50
20	49	87	377	433	1440	603	516	1050	199	66	36	51
21	49	83	341	418	1330	580	494	923	188	63	36	49
22	51	84	283	366	1150	586	480	1420	179	61	38	47
23	50	92	e160	357	974	565	609	1270	166	59	38	46
24	50	91	e140	356	861	536	1010	1110	211	55	35	45
25	50	121	e130	328	748	481	986	979	192	53	34	45
26	57	176	e130	314	664	490	880	897	185	52	34	44
27	64	156	e130	310	e520	458	808	839	245	51	31	44
28	56	835	e160	298	589	464	738	774	277	49	35	44
29	53	736	e200	297	521	439	675	702	203	48	36	43
30	51	765	303	e200	---	416	631	644	173	50	33	42
31	49	---	910	e130	---	404	---	590	---	49	32	---
TOTAL	1637	4783	14558	15591	31121	18392	19077	24040	9372	2424	1216	1232
MEAN	52.8	159	470	503	1073	593	636	775	312	78.2	39.2	41.1
MAX	76	835	1550	1000	3020	888	1010	1420	548	153	50	55
MIN	47	26	130	130	110	404	436	425	166	48	31	32
AC-FT	3250	9490	28880	30920	61730	36480	37840	47680	18590	4810	2410	2440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1996, BY WATER YEAR (WY)

MEAN	43.8	73.4	127	158	250	467	742	708	353	80.6	31.8	31.7
MAX	99.5	231	482	580	1073	1214	1426	1457	1127	285	98.4	108
(WY)	1983	1974	1956	1965	1996	1972	1984	1984	1984	1984	1984	1984
MIN	17.4	20.2	29.0	23.4	31.3	69.8	175	79.2	56.6	17.4	3.75	10.0
(WY)	1937	1937	1933	1937	1937	1977	1968	1934	1992	1973	1966	1935

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1930 - 1996	
ANNUAL TOTAL	138101		143443			
ANNUAL MEAN	378		392		255	
HIGHEST ANNUAL MEAN					538	1984
LOWEST ANNUAL MEAN					85.1	1977
HIGHEST DAILY MEAN	1560	Mar 15	3020	Feb 9	4360	Jan 30 1965
LOWEST DAILY MEAN	26	Nov 3	26	Nov 3	.90	Aug 20 1966
ANNUAL SEVEN-DAY MINIMUM	31	Sep 19	33	Aug 27	1.1	Aug 19 1966
ANNUAL RUNOFF (AC-FT)	273900		284500		184800	
10 PERCENT EXCEEDS	917		898		726	
50 PERCENT EXCEEDS	238		278		91	
90 PERCENT EXCEEDS	38		38		25	

e Estimated

14046000 NORTH FORK JOHN DAY RIVER AT MONUMENT, OR

LOCATION.--Lat 44°48'50", long 119°25'50", in SE 1/4 sec.2, T.9 S., R.27 E., Grant County, Hydrologic Unit 17070202, on right bank just downstream from entrance to canyon, 0.7 mi downstream from Cottonwood Creek, 0.8 mi west of Monument, and at mile 15.3.

DRAINAGE AREA.--2,520 mi^2, approximately.

PERIOD OF RECORD.--March 1925 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 754: 1932(M). WSP 1448: 1927, 1931(M), 1949.

GAGE.--Water-stage recorder. Datum of gage is 1,959.64 ft above sea level. Prior to Nov. 24, 1925, nonrecording gage and Nov. 24, 1925, to Oct. 16, 1928, water-stage recorder at datum 1.10 ft higher. Oct. 17, 1928, to Sept. 30, 1930, water-stage recorder at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Very slight regulation by small reservoirs upstream. Many small diversions for irrigation upstream from station. Continuous water-quality records for the period July 1966 to September 1968 have been collected at this location. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--71 years (water years 1926-96), 1,289 ft^3/s, 933,900 acre-ft/yr.
68 years (water years 1929-96), 1,293 ft^3/s, 936,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft^3/s Jan. 30, 1965, gage height, 18.45 ft, from rating curve extended above 17,000 ft^3/s; minimum discharge, 6 ft^3/s sometime during period Nov. 2-13, 1936 (result of freezeup); minimum daily, 17 ft^3/s Dec. 12, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1930	9,560	9.77	Apr. 24	1930	7,520	8.99
Feb. 9	1430	*21,700	*14.63	May 19	1030	7,800	9.07
Feb. 19	1230	9,690	9.97	May 22	1700	7,380	8.86

Minimum discharge, 65 ft^3/s Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	152	3920	3050	e460	2490	2250	3350	2780	690	160	106
2	164	112	3740	2530	e440	2420	3120	3230	2600	629	157	103
3	161	82	2550	2650	e500	2510	3170	3070	2500	571	153	103
4	175	86	2090	2560	e800	2940	3000	2880	2490	514	154	104
5	233	156	1770	2230	e1500	3050	2780	2590	2470	477	158	104
6	200	201	1470	2070	e4000	2780	2690	2360	2350	452	157	107
7	174	214	1240	1980	12900	3050	2850	2180	2180	428	154	111
8	164	206	1150	2660	17200	3370	3420	2030	2090	396	150	112
9	160	215	1020	3510	21000	3920	e4400	1940	2040	371	144	109
10	158	297	1260	4640	13800	4130	e4600	1860	1910	350	138	108
11	159	282	2140	3550	9350	4420	e4400	1800	1720	331	131	105
12	168	288	6150	2910	7210	4920	e4300	1820	1540	311	124	103
13	190	572	6590	2540	6040	5030	3950	2070	1410	295	119	100
14	195	726	4410	2260	5380	4590	3480	2740	1290	284	114	99
15	176	606	3750	2340	4990	4210	3120	3950	1210	270	119	114
16	168	471	3160	2690	4790	3920	3020	5020	1140	258	128	126
17	161	418	2500	2420	5030	3610	3160	5190	1070	248	122	151
18	161	380	2190	2010	6870	3340	3080	6540	1030	247	117	150
19	165	365	1920	1960	8990	3160	2940	7430	995	245	114	153
20	176	343	1720	1970	8130	3040	2770	6540	904	240	113	143
21	166	313	1580	1890	6830	2960	2620	5550	828	233	111	142
22	163	302	1280	1630	5970	2890	2480	6490	775	226	111	137
23	166	308	e800	1580	5040	2860	2830	6650	731	217	113	133
24	168	326	e600	1590	4430	2690	5640	5870	736	205	110	131
25	166	378	e560	1460	3930	2410	6640	5190	826	196	105	129
26	172	593	e540	1350	3430	2320	5670	4640	809	186	104	127
27	181	666	e520	1350	2650	2170	4990	4290	812	176	111	127
28	203	1410	e600	1300	2630	2110	4420	3970	1040	170	126	127
29	190	3580	e900	1260	2710	2050	3950	3650	981	165	124	126
30	176	3610	1410	1000	---	1960	3610	3310	797	161	125	122
31	169	---	3540	e500	---	1870	---	3040	---	160	111	---
TOTAL	5406	17658	67070	67440	177000	97190	109350	121240	44054	9702	3977	3612
MEAN	174	589	2164	2175	6103	3135	3645	3911	1468	313	128	120
MAX	233	3610	6590	4640	21000	5030	6640	7430	2780	690	160	153
MIN	158	82	520	500	440	1870	2250	1800	731	160	104	99
AC-FT	10720	35020	133000	133800	351100	192800	216900	240500	87380	19240	7890	7160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1996, BY WATER YEAR (WY)

MEAN	161	318	713	915	1462	2428	3611	3610	1691	385	134	121
MAX	420	1621	3374	4126	6103	6456	6695	8794	5227	1211	345	423
(WY)	1983	1974	1965	1965	1996	1983	1943	1948	1948	1982	1984	1984
MIN	58.5	64.5	96.6	75.8	134	345	822	378	259	97.4	36.6	45.2
(WY)	1937	1937	1937	1937	1929	1977	1968	1934	1992	1973	1931	1934

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1929 - 1996	
ANNUAL TOTAL	664001		723699			
ANNUAL MEAN	1819		1977		1293	
HIGHEST ANNUAL MEAN					2608	1984
LOWEST ANNUAL MEAN					441	1977
HIGHEST DAILY MEAN	8550	May 6	21000	Feb 9	31900	Jan 30 1965
LOWEST DAILY MEAN	82	Nov 3	82	Nov 3	17	Dec 12 1932
ANNUAL SEVEN-DAY MINIMUM	111	Sep 19	105	Sep 8	29	Aug 28 1931
ANNUAL RUNOFF (AC-FT)	1317000		1435000		936600	
10 PERCENT EXCEEDS	4650		4640		3720	
50 PERCENT EXCEEDS	1180		1260		422	
90 PERCENT EXCEEDS	142		125		96	

e Estimated

14046500 JOHN DAY RIVER AT SERVICE CREEK, OR

LOCATION.--Lat 44°47'38", long 120°00'20", in NW 1/4 NE 1/4 sec.18, T.9 S., R.23 E., Wheeler County, Hydrologic Unit 17070204, on left bank 0.2 mi downstream from bridge on State Highway 207, 0.8 mi downstream from Service Creek, 0.5 mi southwest of town of Service Creek, and at mile 156.7.

DRAINAGE AREA.--5,090 mi^2, approximately.

PERIOD OF RECORD.--March 1925 to September 1926, October 1929 to current year. Monthly discharge only March 1925 to September 1926, published in WSP 1318.

GAGE.--Water-stage recorder. Datum of gage is 1,632.42 ft above sea level. See WSP 1738 for history of changes prior to Feb. 24, 1957.

REMARKS.--Records good except for estimated daily discharges, which are fair. Slight regulation by several small reservoirs upstream from station. Many small diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--67 years (water years 1930-96), 1,932 ft^3/s, 1,399,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s Dec. 23, 1964, gage height, 17.85 ft, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 6.0 ft^3/s Aug. 23, 24, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0200	11,500	9.51	Apr. 25	0030	10,400	9.09
Jan. 10	1100	7,510	7.89	May 19	1800	10,700	9.19
Feb. 9	1930	*25,800	*14.02	May 22	2200	10,600	9.14
Feb. 19	1800	12,700	9.96				

Minimum discharge, 110 ft^3/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	342	378	4700	4870	e900	3930	3400	4760	3700	1250	264	149
2	376	346	5110	3770	e800	3810	4560	4570	3430	1110	249	133
3	382	293	3610	3710	e760	3850	4550	4340	3280	1010	244	126
4	392	252	2840	3890	e900	4440	4280	4100	3240	920	243	119
5	475	263	2580	3510	e1500	4680	4000	3750	3210	851	247	117
6	521	375	2190	3180	e2500	4430	3920	3450	3070	820	246	119
7	468	437	1910	3020	14200	4510	4120	3200	2860	781	239	121
8	429	443	1800	3440	22100	4770	4720	3000	2760	731	225	125
9	415	443	1630	4910	24800	5500	5770	2860	2720	684	210	129
10	407	495	1780	6650	20900	5820	6440	2740	2560	638	199	128
11	404	604	2680	5550	13800	6200	6480	2640	2340	601	185	134
12	409	560	5440	4490	10500	6860	5990	2620	2160	562	177	133
13	426	814	9910	3920	8720	7180	5470	2860	1990	524	170	127
14	458	997	6560	3510	7710	6650	4900	3500	1830	503	157	124
15	438	1160	5260	3360	7190	6210	4410	4840	1710	489	147	128
16	408	915	4700	3860	6900	5770	4300	6600	1620	451	156	148
17	396	794	3940	3730	7040	5360	4590	6840	1550	433	165	175
18	384	729	3230	3310	9120	5020	4360	8700	1520	454	148	230
19	390	675	3010	2960	11500	4790	4200	9840	1480	451	144	267
20	401	665	2600	3050	11000	4620	4010	9030	1410	434	142	279
21	403	621	2500	3010	9560	4510	3850	7660	1320	419	142	268
22	386	596	2260	2810	8710	4400	3690	8510	1250	402	132	274
23	390	589	1810	2550	7380	4380	4090	9510	1200	378	126	271
24	401	618	1490	2580	6560	4150	6970	8370	1230	353	125	267
25	397	645	e1200	2470	5890	3860	9310	7340	1420	331	131	264
26	394	799	e1100	2320	5300	3660	7920	6500	1370	312	122	265
27	407	1110	e1050	2300	4450	3520	7030	5880	1470	297	115	280
28	424	1200	e1050	2280	3980	3460	6330	5370	1820	281	125	290
29	435	4090	e1200	2200	4270	3370	5630	4920	1740	260	180	288
30	404	4250	e1500	2040	---	3170	5130	4480	1400	253	170	281
31	389	---	3720	e1300	---	3050	---	4070	---	277	172	---
TOTAL	12751	26156	94360	104550	238940	145930	154420	166850	62660	17260	5497	5759
MEAN	411	872	3044	3373	8239	4707	5147	5382	2089	557	177	192
MAX	521	4250	9910	6650	24800	7180	9310	9840	3700	1250	264	290
MIN	342	252	1050	1300	760	3050	3400	2620	1200	253	115	117
AC-FT	25290	51880	187200	207400	473900	289500	306300	330900	124300	34240	10900	11420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1996, BY WATER YEAR (WY)

MEAN	325	594	1190	1536	2375	3716	5202	4937	2430	571	181	183
MAX	811	2284	5540	6335	8239	9773	10280	12050	8327	1850	594	862
(WY)	1985	1974	1965	1965	1996	1983	1984	1948	1948	1982	1984	1984
MIN	70.5	152	216	195	358	597	1010	491	302	90.6	15.2	31.4
(WY)	1937	1937	1936	1937	1937	1977	1968	1934	1992	1973	1973	1935

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1930 - 1996	
ANNUAL TOTAL	949219		1035133			
ANNUAL MEAN	2601		2828		1932	
HIGHEST ANNUAL MEAN					4116	1984
LOWEST ANNUAL MEAN					619	1977
HIGHEST DAILY MEAN	11400	Mar 16	24800	Feb 9	36400	Jan 30 1965
LOWEST DAILY MEAN	111	Sep 3	115	Aug 27	6.2	Aug 23 1973
ANNUAL SEVEN-DAY MINIMUM	117	Aug 31	122	Sep 3	7.7	Aug 19 1973
ANNUAL RUNOFF (AC-FT)	1883000		2053000		1399000	
10 PERCENT EXCEEDS	6440		6570		5380	
50 PERCENT EXCEEDS	1710		1810		748	
90 PERCENT EXCEEDS	174		179		131	

e Estimated

14048000 JOHN DAY RIVER AT MCDONALD FERRY, OR

LOCATION.--Lat 45°35'16", long 120°24'30", in NE 1/4 NW 1/4 sec.11, T.1 N., R.19 E., Sherman County, Hydrologic Unit 17070204, on left bank at McDonald Ferry, 0.8 mi downstream from Rock Creek, 10 mi east of Klondike, and at mile 20.9.

GAGE AREA.--7,580 mi^2, approximately.

PERIOD OF RECORD.--December 1904 to September 1996 (discontinued). Prior to Oct. 1, 1930, published as "at McDonald."

REVISED RECORDS.--WSP 1094: 1894(M), 1932(M). WSP 1448: 1908-9, 1912, 1916, 1920(M), 1922, 1932.

GAGE.--Water-stage recorder. Datum of gage is 392.27 ft above sea level. Prior to Aug. 30, 1930, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. No regulation. Many diversions for irrigation upstream from station. Additional water-quality data available for this site.

AVERAGE DISCHARGE.--91 years (water years 1906-96), 2,085 ft^3/s, 1,511,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft^3/s Dec. 24, 1964, gage height, 13.59 ft, from floodmark, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; no flow for part of Sept. 2, 1966, Aug. 15 to Sept. 16, 1973, Aug. 13, 14, 19-25, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1894 reached a stage of 12.8 ft, from floodmarks, discharge, 39,100 ft^3/s, from rating curve extended above 22,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	2400	11,200	7.84	Mar. 14	0800	7,900	6.58
Jan. 11	1100	7,620	6.47	Apr. 25	2230	10,500	7.57
Feb. 10	1100	*31,300	*13.16	May 20	1300	10,800	7.67
Feb. 20	1400	13,900	8.80	May 23	1930	10,500	7.56

Minimum discharge, 116 ft^3/s Aug. 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	470	4080	3140	1480	4830	3630	5460	4320	1530	273	125
2	188	457	4600	5060	993	4500	3860	5080	3960	1340	269	167
3	250	449	4980	3990	795	4430	4930	4890	3670	1210	272	168
4	375	441	3830	3790	829	4650	4960	4660	3470	1090	271	161
5	399	414	2970	3990	1100	5310	4710	4430	3390	989	262	147
6	414	379	2650	3710	3410	5520	4410	4110	3350	916	260	142
7	435	364	2270	3350	9500	5490	4280	3800	3230	871	268	135
8	517	396	1960	3210	21500	5490	4430	3540	3010	840	268	125
9	490	489	1750	3540	28600	5710	4960	3360	2880	805	266	122
10	470	506	1660	5230	30800	6340	5950	3210	2860	750	253	129
11	458	523	1600	6800	22500	6620	6630	3090	2730	703	241	134
12	448	537	2310	5850	14600	6960	6700	3010	2540	657	231	143
13	447	626	5800	4830	11500	7570	6220	2970	2340	624	219	134
14	447	599	9660	4250	9770	7810	5760	3150	2150	596	213	139
15	454	751	6650	3830	8700	7240	5230	3730	1980	548	196	157
16	473	930	5420	3610	8050	6740	4760	5030	1820	510	185	158
17	481	976	4890	4040	7710	6280	4570	6960	1710	498	170	159
18	464	822	4180	4040	7980	5860	4820	7310	1640	491	158	155
19	451	746	3370	3650	10400	5530	4660	9180	1590	457	154	160
20	443	705	3120	3200	12900	5260	4520	10200	1540	455	164	180
21	440	671	2670	3340	11900	5090	4340	9240	1480	473	170	225
22	446	665	2540	3280	10400	4970	4200	7960	1390	464	157	287
23	458	644	2300	3080	9390	4830	4060	8900	1350	442	152	303
24	449	632	1920	2800	8130	4800	4340	9620	1300	420	152	294
25	443	622	1560	2750	7280	4590	7460	8590	1290	394	144	308
26	449	639	1290	2660	6560	4330	9580	7550	1350	368	135	303
27	449	665	1180	2520	5910	4050	8250	6690	1460	344	128	300
28	447	785	1130	2420	5110	3960	7360	6030	1460	331	128	307
29	451	1060	1110	2380	4540	3850	6650	5560	1570	330	140	303
30	460	2670	1340	2360	---	3760	5950	5140	1920	319	124	305
31	481	---	1770	2050	---	3650	---	4710	---	293	119	---
TOTAL	13235	20633	96560	112750	282337	166020	162180	177160	68750	20058	6142	5875
MEAN	427	688	3115	3637	9736	5355	5406	5715	2292	647	198	196
MAX	517	2670	9660	6800	30800	7810	9580	10200	4320	1530	273	308
MIN	158	364	1110	2050	795	3650	3630	2970	1290	293	119	122
AC-FT	26250	40930	191500	223600	560000	329300	321700	351400	136400	39790	12180	11650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	328	610	1202	1662	2680	4014	5659	5207	2706	659	195	184
MAX	892	2310	7030	6402	9736	11450	11900	13180	9531	2131	700	923
(WY)	1985	1974	1965	1965	1996	1983	1984	1917	1948	1984	1984	1984
MIN	59.9	157	221	217	374	557	964	533	285	88.0	5.70	23.8
(WY)	1937	1937	1937	1937	1933	1977	1968	1934	1992	1926	1973	1934

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	1025026		1131700			
ANNUAL MEAN	2808		3092		2085	
HIGHEST ANNUAL MEAN					4724	1984
LOWEST ANNUAL MEAN					603	1977
HIGHEST DAILY MEAN	11700	Mar 17	30800	Feb 10	39400	Dec 24 1964
LOWEST DAILY MEAN	123	Sep 22	119	Aug 31	.00	Aug 15 1973
ANNUAL SEVEN-DAY MINIMUM	125	Sep 22	128	Aug 26	.00	Aug 15 1973
ANNUAL RUNOFF (AC-FT)	2033000		2245000		1511000	
10 PERCENT EXCEEDS	6800		7040		5850	
50 PERCENT EXCEEDS	1870		1940		792	
90 PERCENT EXCEEDS	189		183		142	

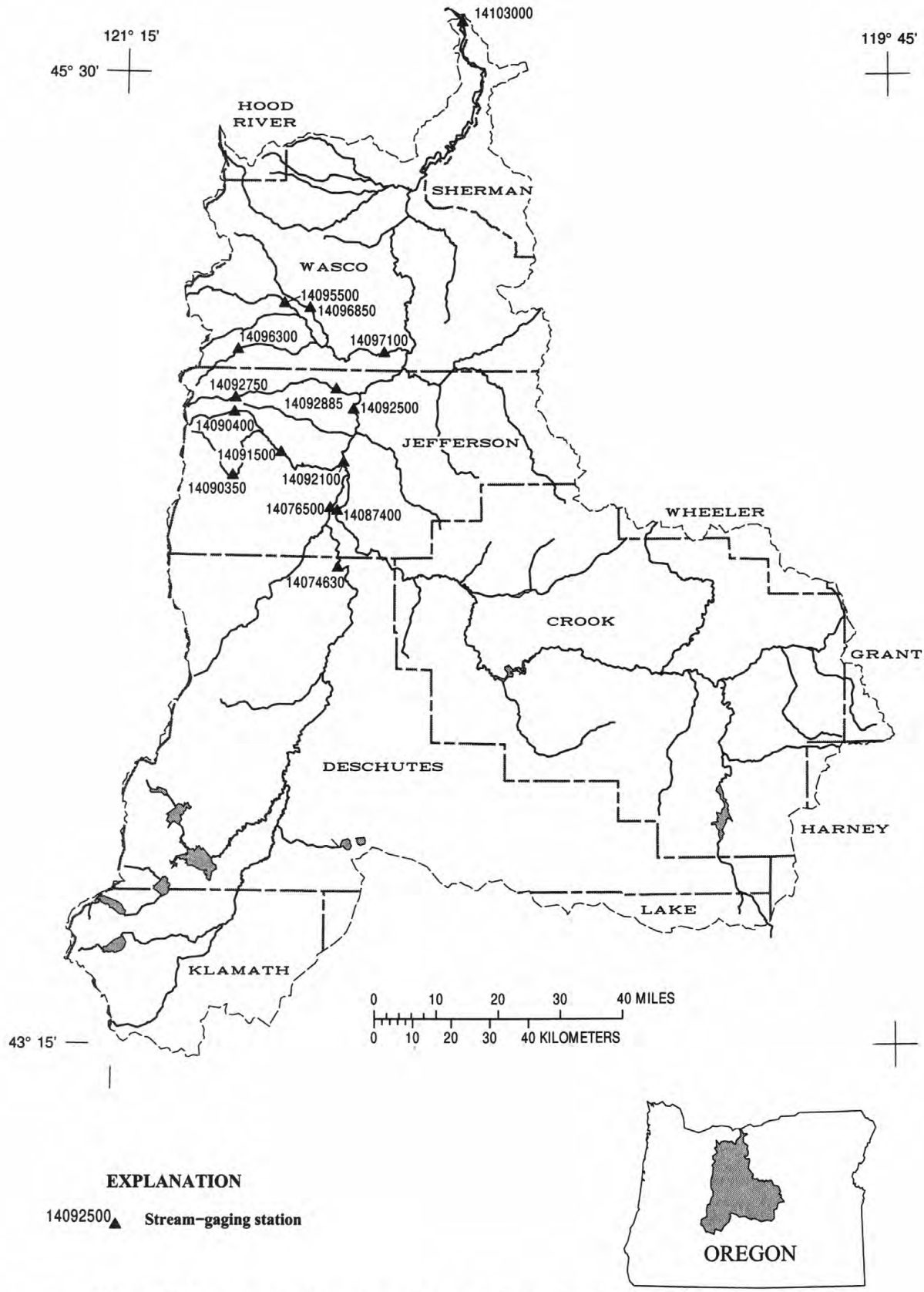


Figure 14. Locaton of surface-water and water-quality stations in the Deschutes River Basin.

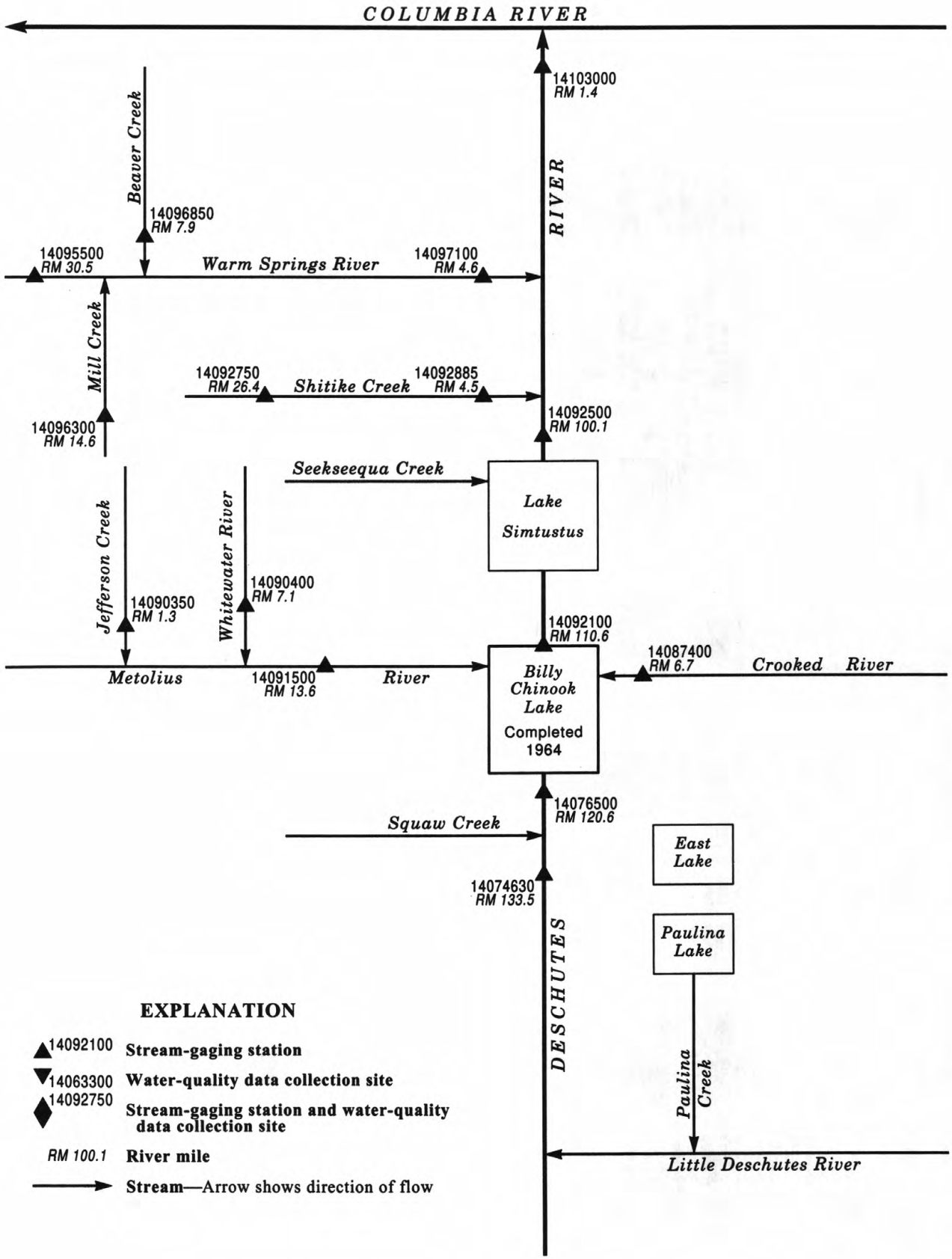


Figure 15. Schematic diagram showing gaging stations in the Deschutes River Basin.

14074630 DESCHUTES RIVER AT LOWER BRIDGE, NEAR TERREBONNE, OR

LOCATION.--(Revised)Lat 44°21'37", long 121°17'36", in SE 1/4 NE 1/4 sec.16, T.14 S., R.12 E., Deschutes County, Hydrologic Unit 17070301, on right bank, at Lower Bridge Road bridge, 7.0 mi northwest of Terrebonne, and at mile 133.5.

DRAINAGE AREA.--2,160 mi^2, approximately.

PERIOD OF RECORD.--June 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,516.32 ft above sea level.

REMARKS.--Records good except for estimated daily discharges and flows above 200 ft^3/s, which are fair. Flow regulated by Crescent Lake, Crane Prairie and Wickiup Reservoirs. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--2 years (water year 1995-96), 371 ft^3/s, 268,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft^3/s Nov. 30, 1995, gage height, 11.16 ft; minimum discharge, 27 ft^3/s July 29, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft^3/s Nov. 30, gage height, 11.16 ft; minimum discharge, 39 ft^3/s, June 21, July 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	359	1190	896	e485	1130	1360	693	46	70	48	47
2	47	358	1000	933	e480	1200	1270	563	46	67	44	48
3	48	367	858	947	e480	1300	1300	313	61	69	44	47
4	50	367	940	949	e470	1430	1320	227	79	94	46	45
5	51	359	952	866	e460	1440	1340	186	89	82	44	48
6	53	364	965	1070	e530	1500	1350	163	85	58	44	51
7	49	380	943	1060	540	1430	1350	122	89	49	46	52
8	50	402	940	1060	714	1410	1350	94	105	48	46	51
9	51	652	1010	978	1020	1380	1360	67	105	54	43	57
10	50	448	1190	909	960	1350	1350	55	92	55	44	49
11	47	418	1120	855	1260	1250	1350	58	78	49	50	48
12	45	954	855	838	1450	709	1360	61	71	46	48	49
13	53	740	952	832	1300	712	1340	70	66	50	47	51
14	52	352	792	821	1280	736	1260	84	67	50	48	54
15	52	175	802	738	1150	866	1290	152	62	49	45	54
16	131	162	1200	308	1130	1380	644	263	58	49	46	62
17	226	166	1220	295	1350	1360	656	308	56	50	46	99
18	209	434	1300	298	1290	1270	610	331	50	49	48	151
19	845	253	958	757	1170	1230	265	225	43	116	48	135
20	666	192	859	797	1110	1230	339	152	43	117	46	95
21	512	173	815	685	1110	1240	208	127	41	81	45	96
22	417	180	873	594	1100	1280	212	202	42	52	45	93
23	342	315	1110	542	1130	1340	246	250	43	70	43	89
24	300	432	1000	506	1240	1330	481	255	47	94	43	97
25	325	665	895	413	1240	1330	456	212	57	102	66	84
26	349	578	754	476	1320	1340	543	209	164	83	68	66
27	354	503	716	521	1310	1260	796	167	204	50	65	55
28	263	513	649	496	1260	1250	877	148	161	48	79	54
29	220	693	612	499	1140	1290	841	89	112	45	84	55
30	218	1210	607	e490	---	1310	727	74	54	48	61	55
31	218	---	1060	e490	---	1350	---	57	---	50	46	---
TOTAL	6341	13164	29137	21919	29479	38633	27851	5977	2316	1994	1566	2037
MEAN	205	439	940	707	1017	1246	928	193	77.2	64.3	50.5	67.9
MAX	845	1210	1300	1070	1450	1500	1360	693	204	117	84	151
MIN	45	162	607	295	460	709	208	55	41	45	43	45
AC-FT	12580	26110	57790	43480	58470	76630	55240	11860	4590	3960	3110	4040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	198	407	654	535	882	903	548	130	66.2	56.5	42.5	52.7
MAX	205	439	940	707	1017	1246	928	193	77.2	64.3	50.5	67.9
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	192	375	368	362	742	560	167	66.9	55.1	48.7	34.4	37.5
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	110463		180414			
ANNUAL MEAN	303		493		371	
HIGHEST ANNUAL MEAN					493	1996
LOWEST ANNUAL MEAN					248	1995
HIGHEST DAILY MEAN	1300	Dec 18	1500	Mar 6	1500	Mar 6 1996
LOWEST DAILY MEAN	29	Jul 29	41	Jun 21	29	Jul 29 1995
ANNUAL SEVEN-DAY MINIMUM	32	Jul 26	44	Jun 18	32	Jul 26 1995
ANNUAL RUNOFF (AC-FT)	219100		357900		268400	
10 PERCENT EXCEEDS	833		1290		1110	
50 PERCENT EXCEEDS	121		299		190	
90 PERCENT EXCEEDS	35		48		39	

e Estimated

14076500 DESCHUTES RIVER NEAR CULVER, OR

LOCATION.--Lat 44°29'56", long 121°19'12", in NW 1/4 SE 1/4 sec.29, T.12 S., R.12 E., Jefferson County, Hydrologic Unit 17070301, on right bank 2.5 mi downstream from Squaw Creek, 6.0 mi southwest of Culver, and at mile 120.1 (revised).

DRAINAGE AREA.--2,705 mi^2.

PERIOD OF RECORD.--July 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,980 ft above sea level (river-profile survey). July 14, 1952, to Sept. 30, 1961, at site 4.1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records excellent. Flow regulated by Crescent Lake and Crane Prairie and Wickiup Reservoirs. Many diversions for irrigation upstream from station. Continuous water-quality records for the period October 1954 to September 1957 and January 1959 to September 1974 have been collected at this location.

AVERAGE DISCHARGE.--44 years (water years 1953-96), 895 ft^3/s, 648,400 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,680 ft^3/s Dec. 24, 1964, gage height, 10.00 ft, from rating curve extended above 2,200 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 418 ft^3/s July 7, 8, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft^3/s Feb. 9, gage height, 5.96 ft; minimum discharge, 481 ft^3/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	488	840	1780	1480	1080	1590	1720	1160	515	605	520	513
2	488	875	1510	1450	1080	1670	1670	1110	515	631	512	514
3	490	879	1370	1440	1080	1780	1680	962	529	641	510	514
4	516	883	1410	1440	1160	1860	1690	863	576	671	510	512
5	505	886	1400	1380	1200	1910	1700	785	630	637	511	513
6	503	882	1380	1470	1440	1880	1700	726	616	573	508	517
7	504	894	1360	1500	1800	1850	1700	662	618	545	508	518
8	503	929	1340	1530	1880	1830	1710	603	665	553	510	517
9	506	1110	1410	1440	2280	1810	1710	552	671	563	507	523
10	504	970	1530	1400	1990	1790	1670	520	641	568	508	517
11	500	1010	1570	1350	2000	1760	1660	521	603	557	512	513
12	502	1470	1550	1330	2050	1350	1640	519	579	545	515	514
13	504	1320	1550	1320	1890	1320	1620	533	568	550	512	516
14	501	1080	1370	1310	1850	1320	1560	581	567	558	511	521
15	499	765	1310	1330	1740	1340	1610	788	564	568	512	525
16	533	704	1520	1030	1650	1760	1210	930	559	572	510	530
17	660	738	1540	979	1810	1750	1130	985	549	560	510	552
18	690	961	1590	976	1800	1710	1150	1020	535	550	511	633
19	933	909	1410	1240	1720	1680	861	896	519	580	512	629
20	1010	776	1350	1330	1650	1670	979	769	519	617	512	589
21	955	740	1290	1290	1630	1670	843	691	517	568	512	571
22	906	745	1280	1180	1620	1670	828	769	514	531	510	574
23	869	831	1440	1170	1650	1710	889	842	513	527	511	568
24	824	1020	1400	1150	1720	1710	1270	851	522	582	509	575
25	842	1220	1330	1080	1720	1700	1210	799	531	601	521	569
26	882	1150	1230	1100	1760	1710	1200	792	621	594	540	545
27	898	1070	1200	1140	1750	1650	1290	742	737	533	531	525
28	823	1200	1180	1130	1730	1600	1320	679	703	525	541	517
29	744	1260	1210	1120	1660	1620	1290	611	654	526	555	519
30	737	1870	1310	1100	---	1640	1200	553	593	525	537	525
31	736	---	1730	1080	---	1670	---	536	---	528	511	---
TOTAL	20555	29987	43850	39265	48390	51980	41710	23350	17443	17684	15999	16168
MEAN	663	1000	1415	1267	1669	1677	1390	753	581	570	516	539
MAX	1010	1870	1780	1530	2280	1910	1720	1160	737	671	555	633
MIN	488	704	1180	976	1080	1320	828	519	513	525	507	512
AC-FT	40770	59480	86980	77880	95980	103100	82730	46310	34600	35080	31730	32070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1996, BY WATER YEAR (WY)

MEAN	702	1130	1249	1308	1372	1332	848	586	623	546	525	548
MAX	1172	1706	2130	2012	2034	2360	1799	1228	1020	766	741	782
(WY)	1985	1985	1985	1975	1975	1972	1984	1956	1956	1975	1953	1953
MIN	470	783	813	853	892	839	510	457	455	430	441	455
(WY)	1964	1995	1995	1995	1993	1964	1968	1964	1964	1964	1964	1963

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1953 - 1996	
ANNUAL TOTAL	282827		366381			
ANNUAL MEAN	775		1001		895	
HIGHEST ANNUAL MEAN					1283	1984
LOWEST ANNUAL MEAN					677	1964
HIGHEST DAILY MEAN	1870	Nov 30	2280	Feb 9	4790	Dec 24 1964
LOWEST DAILY MEAN	471	Aug 30	488	Oct 1	425	Jul 7 1964
ANNUAL SEVEN-DAY MINIMUM	474	Aug 26	499	Oct 1	426	Jul 7 1964
ANNUAL RUNOFF (AC-FT)	561000		726700		648400	
10 PERCENT EXCEEDS	1290		1710		1550	
50 PERCENT EXCEEDS	609		877		734	
90 PERCENT EXCEEDS	477		512		489	

14087400 CROOKED RIVER BELOW OPAL SPRINGS, NEAR CULVER, OR

LOCATION.--Lat 44°29'33", long 121°17'50", in NW 1/4 NE 1/4 sec.33, T.12 S., R.12 E., Jefferson County, Hydrologic Unit 17070305, on right bank 0.2 mi downstream from Opal Springs, 4.8 mi southwest of Culver, and at mile 6.7.

DRAINAGE AREA.--4,300 mi^2, approximately, of which 500 mi^2 is probably noncontributing.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,953.60 ft above sea level (Portland General Electric Co. bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1960 by Prineville Reservoir, active capacity of 152,800 acre-ft and Ochoco Reservoir, active capacity, 46,500 acre-ft. Dam and powerplant 500 ft upstream, completed in 1985, causes brief fluctuations in flow. Many diversions for irrigation upstream from station. Practically all of the summer flow comes from Opal Springs and other springs within 15 mi upstream from station. Simultaneous records (1961-63) at former gaging station 5.6 mi downstream indicated over 15 percent increase to summer flow from springs downstream from this station. Continuous water-quality records for the period October 1963 to September 1974 have been collected at this location.

AVERAGE DISCHARGE.--35 years (water years 1962-96), 1,558 ft^3/s, 1,128,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft^3/s Dec. 24, 1964, gage height, 9.36 ft; minimum daily discharge, 1,090 ft^3/s May 11, 1981, minimum instantaneous discharge after October 1989, 656 ft^3/s many days in the 1990 water year, prior to that date minimum instantaneous discharge was not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,440 ft^3/s Feb. 12, gage height, 8.20 ft, due to powerplant operation; minimum discharge, 667 ft^3/s Mar. 24, due to powerplant operation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	1390	1360	1430	1490	2460	1580	1860	1520	1370	1250	1330
2	1360	1380	1370	1430	1490	2300	1570	1660	1460	1310	1260	1340
3	1360	1380	1370	1430	1490	2280	1560	1530	1460	1270	1260	1330
4	1370	1370	1360	1420	1540	2340	1550	1450	1410	1260	1270	1310
5	1390	1370	1370	1420	1530	2380	1550	1400	1350	1250	1290	1310
6	1410	1370	1370	1410	1560	2340	1540	1400	1320	1250	1300	1310
7	1420	1370	1360	1390	2130	2310	1530	1380	1330	1240	1290	1310
8	1410	1380	1360	1400	2900	2310	1520	1360	1350	1240	1290	1330
9	1420	1370	1360	1410	3440	2360	1500	1350	1340	1240	1290	1350
10	1430	1370	1360	1440	3990	2400	1480	1330	1360	1230	1290	1330
11	1420	1370	1380	1440	4470	2400	1470	1320	1350	1220	1300	1330
12	1430	1370	1460	1430	4400	2440	1470	1320	1340	1220	1300	1350
13	1450	1380	1970	1420	4170	2480	1470	1320	1320	1210	1290	1360
14	1430	1370	2340	1430	3780	2450	1480	1320	1300	1230	1290	1380
15	1410	1390	2340	1430	3510	2420	1470	1320	1260	1220	1280	1400
16	1410	1390	2290	1450	3280	2280	1470	1380	1260	1220	1250	1420
17	1440	1390	2280	1470	3130	2140	1520	1400	1290	1210	1240	1440
18	1410	1370	2280	1470	3130	2100	1510	1510	1310	1230	1250	1460
19	1390	1360	2250	1460	3140	2010	1520	1600	1300	1240	1300	1480
20	1390	1370	2120	1430	3300	1910	1470	1640	1280	1260	1310	1440
21	1380	1370	1970	1440	3360	1770	1470	1770	1270	1270	1300	1440
22	1380	1360	1790	1420	3480	1660	1500	1920	1260	1280	1300	1400
23	1380	1360	1580	1420	3560	1570	1510	1980	1280	1260	1310	1390
24	1380	1360	1440	1460	3540	1560	1550	2000	1320	1240	1310	1390
25	1340	1370	1420	1520	3520	1550	2100	2010	1360	1230	1320	1380
26	1330	1370	1410	1520	3510	1540	2580	2000	1360	1220	1330	1370
27	1330	1360	1410	1530	3280	1540	2580	1970	1360	1230	1350	1360
28	1330	1360	1410	1520	2990	1540	2580	1870	1350	1250	1350	1340
29	1350	1360	1420	1520	2740	1530	2550	1770	1390	1260	1360	1340
30	1390	1360	1430	1510	---	1540	2220	1690	1360	1290	1330	1350
31	1400	---	1430	1470	---	1580	---	1590	---	1260	1330	---
TOTAL	43090	41140	51060	44940	87850	63490	50870	49420	40220	38710	40190	41070
MEAN	1390	1371	1647	1450	3029	2048	1696	1594	1341	1249	1296	1369
MAX	1450	1390	2340	1530	4470	2480	2580	2010	1520	1370	1360	1480
MIN	1330	1360	1360	1390	1490	1530	1470	1320	1260	1210	1240	1310
AC-FT	85470	81600	101300	89140	174300	125900	100900	98020	79780	76780	79720	81460

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1996, BY WATER YEAR (WY)

MEAN	1426	1376	1503	1586	1809	1970	2110	1685	1318	1268	1299	1362
MAX	1650	2069	2686	3551	3490	4208	4793	3295	1777	1475	1593	1541
(WY)	1970	1985	1965	1965	1965	1972	1984	1984	1984	1983	1976	1965
MIN	1239	1232	1179	1182	1245	1232	1192	1173	1196	1122	1133	1187
(WY)	1969	1964	1964	1964	1989	1977	1977	1964	1977	1981	1980	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1962 - 1996	
ANNUAL TOTAL	516370		592050			
ANNUAL MEAN	1415		1618		1558	
HIGHEST ANNUAL MEAN					2196	1984
LOWEST ANNUAL MEAN					1250	1992
HIGHEST DAILY MEAN	2340	Dec 14	4470	Feb 11	6130	Dec 24 1964
LOWEST DAILY MEAN	1180	Jun 3	1210	Jul 13	1090	May 11 1981
ANNUAL SEVEN-DAY MINIMUM	1180	Jun 26	1220	Jul 11	1100	May 10 1981
ANNUAL RUNOFF (AC-FT)	1024000		1174000		1128000	
10 PERCENT EXCEEDS	1780		2340		2190	
50 PERCENT EXCEEDS	1370		1400		1350	
90 PERCENT EXCEEDS	1200		1270		1200	

14090350 JEFFERSON CREEK NEAR CAMP SHERMAN, OR

LOCATION.--Lat 44°34'18", long 121°38'17", in SW 1/4 SE 1/4 sec.34, T.11 S., R.9 E., Jefferson County, Hydrologic Unit 17070301, Warm Springs Indian Reservation, on left bank 100 ft upstream from bridge, 7.6 mi north of Camp Sherman, and at mile 1.3.

DRAINAGE AREA.--27.8 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,780 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 90.3 ft^3/s, 44.12 in/yr, 65,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 730 ft^3/s Feb. 7, 1996, gage height, 3.94 ft, not including 390 ft^3/s which flowed out of the channel 150 ft upstream of gage and flowed into Candle Creek; minimum daily discharge, 36 ft^3/s Dec. 22, 1990, but could have been lower during period of ice effect Dec. 19-25, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1800	413	3.17	Dec. 12	0430	234	2.54
Nov. 11	1730	556	3.55	Dec. 30	1800	473	3.34
Nov. 13	0830	267	2.67	Feb. 7	1000	*730	*3.94
Nov. 25	0530	225	2.50	Feb. 18	0700	311	2.64
Nov. 28	0330	417	3.18	Apr. 24	0030	317	2.66
Nov. 30	0130	552	3.54	May 15	1930	236	2.35
Dec. 4	0230	272	2.69				

Minimum discharge, 66 ft^3/s Nov. 1-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	67	274	167	109	182	131	141	145	136	116	95
2	75	67	171	153	109	179	124	139	155	141	116	94
3	101	67	150	163	109	179	120	131	171	147	115	93
4	86	67	190	141	110	181	118	127	173	143	114	93
5	77	68	141	134	126	171	118	124	161	134	113	93
6	74	70	130	138	312	166	122	123	160	131	112	92
7	73	81	126	162	634	163	130	122	173	130	110	92
8	72	213	119	178	460	163	140	120	167	130	110	91
9	72	123	156	158	445	163	148	119	157	132	110	91
10	70	89	144	147	319	164	142	119	149	130	110	90
11	75	318	178	140	280	165	133	123	150	130	110	90
12	75	154	216	137	262	159	127	134	148	131	109	90
13	73	212	179	134	250	154	124	160	150	131	108	90
14	74	111	161	139	240	150	122	213	150	131	109	91
15	73	98	151	164	233	148	122	224	146	133	108	113
16	75	93	142	148	227	145	126	185	144	131	105	105
17	77	84	139	134	229	143	121	182	137	131	104	98
18	83	93	136	132	285	142	117	186	133	132	103	92
19	73	86	134	132	243	141	115	167	131	127	103	92
20	71	84	132	131	230	138	113	153	133	125	102	90
21	71	83	129	129	226	136	112	153	135	124	101	89
22	70	86	127	123	223	135	118	158	134	123	100	89
23	70	83	124	123	221	133	189	148	148	123	99	88
24	70	91	122	122	216	130	242	144	151	124	98	87
25	72	162	120	118	211	128	166	143	139	123	98	86
26	102	101	119	117	204	126	156	149	136	122	99	86
27	77	121	119	117	196	125	142	151	134	121	99	86
28	73	313	118	114	191	123	135	144	135	120	98	84
29	72	266	154	110	186	121	135	138	134	120	97	84
30	69	390	289	108	---	118	138	137	134	119	96	83
31	68	---	230	108	---	126	---	137	---	119	97	---
TOTAL	2340	3941	4820	4221	7086	4597	4046	4594	4413	3994	3269	2737
MEAN	75.5	131	155	136	244	148	135	148	147	129	105	91.2
MAX	102	390	289	178	634	182	242	224	173	147	116	113
MIN	68	67	118	108	109	118	112	119	131	119	96	83
AC-FT	4640	7820	9560	8370	14060	9120	8030	9110	8750	7920	6480	5430
CFSM	2.72	4.73	5.59	4.90	8.79	5.33	4.85	5.33	5.29	4.63	3.79	3.28
IN.	3.13	5.27	6.45	5.65	9.48	6.15	5.41	6.15	5.91	5.34	4.37	3.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	72.8	81.1	75.6	77.1	88.7	84.3	94.1	115	123	106	88.9	77.9
MAX	90.1	131	155	136	244	148	135	163	153	145	117	98.5
(WY)	1985	1996	1996	1996	1996	1996	1996	1993	1993	1984	1984	1984
MIN	55.5	59.3	58.6	57.8	50.6	57.9	68.9	83.3	80.0	70.5	62.0	56.8
(WY)	1993	1988	1993	1993	1989	1985	1994	1991	1992	1992	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	38409		50058			
ANNUAL MEAN	105		137		90.3	
HIGHEST ANNUAL MEAN					137	1996
LOWEST ANNUAL MEAN					66.8	1994
HIGHEST DAILY MEAN	390	Nov 30	634	Feb 7	634	Feb 7 1996
LOWEST DAILY MEAN	53	Jan 7	67	Nov 1	36	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	55	Jan 2	68	Oct 30	38	Feb 4 1989
ANNUAL RUNOFF (AC-FT)	76180		99290		65400	
ANNUAL RUNOFF (CFSM)	3.79		4.92		3.25	
ANNUAL RUNOFF (INCHES)	51.40		66.98		44.12	
10 PERCENT EXCEEDS	138		190		133	
50 PERCENT EXCEEDS	98		129		82	
90 PERCENT EXCEEDS	71		83		59	

14090400 WHITEWATER RIVER NEAR CAMP SHERMAN, OR

LOCATION.--(Revised)Lat 44°43'04", long 121°38'07", in SE 1/4 NE 1/4 sec.11, T.10 S., R.9 E., Jefferson County, Hydrologic Unit 17070301, Warm Springs Indian Reservation, on right bank bridge abutment, 18 mi north of Camp Sherman, and at mile 7.5.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--July 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,230 ft above sea level, from topographic map. July 1982 to Feb. 7, 1996, at comparable site 1/4 mi downstream, at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years (water years 1983-96), 80.6 ft^3/s, 47.84 in/yr, 58,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,320 ft^3/s Feb. 7, 1996, from slope-area measurement of peak flow, gage height, unknown; maximum gage height, 8.30 ft Feb. 9, 1996, from outside highwater mark caused by debris, channel fill, and channel reconfiguration, datum then in use; minimum daily discharge, 28 ft^3/s Dec. 22, 1990, but could be less because of ice effect.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1830	253	2.79	Dec. 30	1730	477	3.47
Nov. 11	1830	408	3.29	Feb. 7	unknown	*a2,320	unknown
Nov. 13	0900	274	2.87	Feb. 9	unknown	--	b*8.30
Nov. 28	0500	335	3.08	Feb. 18	unknown	--	--
Nov. 30	0100	607	3.77	Apr. 24	unknown	--	--
Dec. 4	0200	284	2.91	May 15	unknown	--	--
Dec. 12	0730	307	2.99				

Minimum discharge, 43 ft^3/s Nov. 3, 4.
a From slope-area measurement of peak flow.
b From outside highwater mark caused by debris, channel fill, and channel reconfiguration.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	45	350	168	82	e105	e90	e130	131	118	91	76
2	49	44	248	e153	78	e100	e95	e125	133	123	86	75
3	104	44	216	127	76	e100	e90	e120	138	128	83	75
4	62	44	229	113	77	e105	e88	e110	144	125	82	73
5	53	45	190	106	103	e105	e86	e105	139	116	80	70
6	48	47	170	104	418	e100	e90	e100	136	112	79	70
7	46	52	155	123	e1400	e95	e100	e96	143	112	79	70
8	45	157	142	138	e1300	e95	e130	e94	144	112	81	72
9	45	95	153	123	e1000	e100	e160	e90	138	115	84	74
10	45	68	166	114	e650	e110	e150	e88	134	112	86	77
11	53	236	219	106	e500	e130	e140	e86	134	110	88	80
12	51	144	285	101	e400	e125	e130	e110	134	110	86	82
13	49	223	233	95	e320	e120	e120	e150	133	110	85	77
14	50	124	214	102	e270	e115	e110	e200	133	110	87	78
15	51	103	191	131	e230	e110	e100	e270	131	113	86	82
16	60	95	172	125	e210	e105	e105	e230	129	110	83	73
17	61	87	160	107	e200	e100	e105	e210	125	106	81	71
18	66	104	150	102	e310	e100	e100	e230	122	103	79	68
19	52	86	140	e101	e280	e96	e95	e210	121	100	78	69
20	50	81	132	101	e250	e94	e90	e200	121	96	75	67
21	50	78	126	101	e220	e92	e85	e180	121	95	74	66
22	48	79	118	101	e200	e90	e90	e190	120	96	74	65
23	47	76	113	101	e170	e88	e180	e170	124	98	75	64
24	47	92	106	99	e160	e86	e320	e150	124	100	78	64
25	49	152	103	94	e150	e82	e270	e140	119	99	80	64
26	92	106	99	93	e140	e80	e210	e145	117	98	80	64
27	58	128	98	92	e130	e78	e170	e150	116	97	81	64
28	52	277	94	93	e120	e76	e150	e145	116	95	80	66
29	50	272	122	90	e110	e74	e140	e135	116	97	81	68
30	48	467	265	87	---	e72	e135	131	116	97	82	69
31	47	---	231	85	---	e86	---	129	---	96	79	---
TOTAL	1677	3651	5390	3376	9554	3014	3924	4619	3852	3309	2523	2133
MEAN	54.1	122	174	109	329	97.2	131	149	128	107	81.4	71.1
MAX	104	467	350	168	1400	130	320	270	144	128	91	82
MIN	45	44	94	85	76	72	85	86	116	95	74	64
AC-FT	3330	7240	10690	6700	18950	5980	7780	9160	7640	6560	5000	4230
CFSM	2.36	5.31	7.59	4.76	14.4	4.25	5.71	6.51	5.61	4.66	3.55	3.10
IN.	2.72	5.93	8.76	5.48	15.52	4.90	6.37	7.50	6.26	5.38	4.10	3.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	49.1	64.7	68.3	68.8	90.8	77.3	90.4	107	116	101	77.0	58.6
MAX	65.3	122	174	121	329	132	134	177	157	139	109	76.1
(WY)	1983	1996	1996	1983	1996	1986	1989	1993	1983	1983	1983	1983
MIN	36.0	34.7	45.5	38.4	37.1	50.1	50.3	64.5	60.7	54.0	54.8	42.2
(WY)	1993	1994	1994	1993	1994	1985	1991	1991	1992	1992	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	34955		47022			
ANNUAL MEAN	95.8		128		80.6	
HIGHEST ANNUAL MEAN					128	1996
LOWEST ANNUAL MEAN					54.0	1994
HIGHEST DAILY MEAN	467	Nov 30	1400	Feb 7	1400	Feb 7 1996
LOWEST DAILY MEAN	44	Nov 2	44	Nov 2	28	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	45	Oct 31	45	Oct 31	31	Oct 19 1994
ANNUAL RUNOFF (AC-FT)	69330		93270		58420	
ANNUAL RUNOFF (CFSM)	4.18		5.61		3.52	
ANNUAL RUNOFF (INCHES)	56.78		76.39		47.84	
10 PERCENT EXCEEDS	149		210		130	
50 PERCENT EXCEEDS	85		101		71	
90 PERCENT EXCEEDS	53		64		42	

e Estimated

14091500 METOLIUS RIVER NEAR GRANDVIEW, OR

LOCATION.--Lat 44°37'33", long 121°28'55", in SE 1/4 SW 1/4 sec.12, T.11 S., R.10 E., Jefferson County, Hydrologic Unit 17070301, Deschutes National Forest, on right bank 1.0 mi upstream from maximum controlled pool of Lake Billy Chinook, 15.0 mi northwest of Culver, and at mile 13.6.

DRAINAGE AREA.--316 mi^2, at cableway 1.0 mi downstream, where all discharge measurements are made. Hydrologic drainage boundary uncertain because of interbasin ground-water exchange.

PERIOD OF RECORD.--April 1910 to February 1912 (gage heights and discharge measurements only), March 1912 to December 1913, October 1921 to current year. Published as "at Hubbard's ranch, near Sisters" 1910, and as "at Hubbard's ranch, near Grandview" 1910-13.

REVISED RECORDS.--WSP 1448: 1913.

GAGE.--Water-stage recorder. Datum of gage is 1,974.36 ft above sea level (levels by Portland General Electric Co.). Prior to Dec. 31, 1913, nonrecording gage at site 2.3 mi upstream at different datum. Oct. 1, 1921, to May 3, 1949, nonrecording gage and May 4, 1949, to June 18, 1963, water-stage recorder at site 2.7 mi downstream at datum 64 ft lower.

REMARKS.--No estimated daily discharges. Records good except those above 3,500 ft^3/s, which are fair. No regulation. Many small diversions for irrigation upstream from station. Stream is spring fed. Records herein are for measuring site. Continuous water-quality records for the period October 1954 to September 1974 have been collected at this location.

AVERAGE DISCHARGE.--76 years (water years 1913, 1922-96), 1,482 ft^3/s, 1,074,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,430 ft^3/s Feb. 7, 1996, gage height, 7.38 ft; minimum discharge, 1,080 ft^3/s Feb. 17, 1932, Oct. 2-31, Nov. 6, 7, 10-14, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,430 ft^3/s Feb. 7, gage height, 7.38 ft; minimum discharge, 1,200 ft^3/s Nov. 1-5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1210	2510	1920	1610	2080	1840	1920	1740	1670	1560	1470
2	1230	1200	2120	1850	1610	2060	1810	1900	1760	1680	1550	1460
3	1340	1200	1980	1870	1610	2080	1780	1870	1790	1710	1540	1460
4	1280	1200	2010	1830	1610	2130	1760	1830	1830	1700	1540	1460
5	1250	1200	1850	1780	1630	2130	1750	1810	1800	1660	1530	1450
6	1230	1210	1750	1770	2670	2060	1760	1790	1780	1640	1520	1450
7	1230	1230	1700	1790	6550	2040	1770	1770	1800	1630	1520	1440
8	1220	1480	1650	1910	6580	2040	1800	1750	1820	1640	1520	1440
9	1220	1470	1680	1840	6550	2040	1830	1730	1780	1650	1520	1450
10	1220	1300	1690	1800	4700	2040	1820	1730	1750	1640	1530	1440
11	1230	1730	1830	1750	3950	2070	1810	1720	1740	1630	1540	1450
12	1250	1660	2180	1730	3520	2050	1810	1730	1730	1620	1530	1450
13	1230	1750	2160	1710	3230	2010	1790	1790	1720	1620	1520	1440
14	1230	1510	2020	1710	2980	1980	1780	1990	1720	1630	1530	1450
15	1230	1420	1970	1870	2780	1960	1770	2100	1710	1630	1520	1530
16	1240	1400	1860	1950	2670	1930	1790	2030	1710	1630	1510	1510
17	1240	1360	1800	1850	2620	1920	1780	2000	1690	1620	1500	1480
18	1270	1410	1750	1830	3080	1910	1750	2050	1680	1620	1500	1460
19	1230	1360	1720	1930	2960	1890	1740	2000	1660	1600	1490	1450
20	1220	1330	1680	1950	2790	1870	1730	1920	1660	1580	1490	1440
21	1220	1320	1650	1920	2670	1860	1720	1900	1660	1580	1480	1440
22	1220	1320	1630	1830	2550	1850	1750	1930	1660	1580	1480	1430
23	1220	1310	1600	1790	2510	1830	1950	1880	1690	1580	1480	1430
24	1210	1340	1580	1770	2420	1810	2520	1830	1720	1580	1480	1430
25	1220	1610	1560	1730	2330	1790	2220	1810	1690	1590	1490	1420
26	1320	1520	1540	1710	2260	1790	2140	1820	1680	1580	1490	1420
27	1250	1500	1530	1710	2200	1790	2050	1820	1670	1580	1500	1420
28	1230	2070	1530	1690	2170	1790	1980	1790	1670	1580	1490	1410
29	1220	1940	1640	1660	2110	1770	1950	1760	1660	1580	1480	1410
30	1210	2650	2010	1620	---	1740	1930	1740	1660	1580	1490	1410
31	1210	---	2240	1610	---	1800	---	1730	---	1570	1480	---
TOTAL	38350	44210	56420	55680	86920	60110	55880	57440	51630	50180	46800	43400
MEAN	1237	1474	1820	1796	2997	1939	1863	1853	1721	1619	1510	1447
MAX	1340	2650	2510	1950	6580	2130	2520	2100	1830	1710	1560	1530
MIN	1210	1200	1530	1610	1610	1740	1720	1720	1660	1570	1480	1410
AC-FT	76070	87690	111900	110400	172400	119200	110800	113900	102400	99530	92830	86080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1996, BY WATER YEAR (WY)

MEAN	1339	1387	1472	1501	1559	1527	1540	1593	1617	1505	1407	1357
MAX	1619	1816	2454	2250	2997	2504	1960	2095	2118	1910	1746	1631
(WY)	1914	1922	1965	1923	1996	1972	1956	1956	1974	1972	1972	1972
MIN	1081	1140	1110	1154	1148	1157	1162	1244	1196	1173	1136	1103
(WY)	1943	1940	1945	1979	1941	1941	1941	1941	1941	1941	1931	1942

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1913 - 1996	
ANNUAL TOTAL	530960		647020			
ANNUAL MEAN	1455		1768		1482	
HIGHEST ANNUAL MEAN					1845	1956
LOWEST ANNUAL MEAN					1167	1941
HIGHEST DAILY MEAN	2670	Feb 1	6580	Feb 8	7100	Dec 24 1964
LOWEST DAILY MEAN	1200	Nov 2	1200	Nov 2	1080	Feb 17 1932
ANNUAL SEVEN-DAY MINIMUM	1200	Oct 30	1200	Oct 30	1080	Oct 2 1942
ANNUAL RUNOFF (AC-FT)	1053000		1283000		1074000	
10 PERCENT EXCEEDS	1750		2090		1780	
50 PERCENT EXCEEDS	1410		1700		1440	
90 PERCENT EXCEEDS	1230		1290		1220	

14092100 LAKE BILLY CHINOOK NEAR METOLIUS, OR

LOCATION.--Lat 44°36'14", long 121°16'40", in SW 1/4 NE 1/4 sec.22, T.11 S., R.12 E., Jefferson County, Hydrologic Unit 17070301, Warm Springs Indian Reservation, near left end of Round Butte Dam on Deschutes River, 5.0 mi west of Metolius, and at mile 110.6.

DRAINAGE AREA.--7,490 mi^2, approximately.

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Nonrecording gage. Datum of gage is sea level (levels by Portland General Electric Co.).

REMARKS.--Reservoir is formed by rock fill dam completed in June 1964 by Portland General Electric Co.; storage began Jan. 2, 1964. Total capacity is 534,700 acre-ft at elevation 1,945.0 ft proposed upper limit of operation, and usable capacity is 273,900 acre-ft between elevations 1,860.0 ft, proposed lower limit of operation, and 1,945.0 ft. Reservoir used for power generation under FERC license 2030. Figures given herein represent total contents.

COOPERATION.--Gage readings and capacity tables furnished by Portland General Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 538,700 acre-ft July 15, 16, 1972, elevation, 1,946.00 ft; minimum contents observed since first filling, 431,100 acre-ft Feb. 13, 1972, elevation, 1,917.13 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 536,300 acre-ft Oct. 9, elevation, 1,945.40 ft; minimum contents observed, 514,800 acre-ft Mar. 2, elevation, 1,939.87 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,944.05	531,000	--
Oct. 31	1,944.35	532,200	+1,200
Nov. 30	1,944.42	532,400	+200
Dec. 31	1,941.76	522,000	-10,400
CAL YR 1995	--	--	-3,600
Jan. 31	1,941.73	521,900	-100
Feb. 29	1,940.25	516,200	-5,700
Mar. 31	1,942.62	525,400	+9,200
Apr. 30	1,943.66	529,400	+4,000
May 31	1,943.86	530,200	+800
June 30	1,944.40	532,400	+2,200
July 31	1,944.33	532,100	-300
Aug. 31	1,944.29	531,900	-200
Sept.30	1,944.29	531,900	0
WTR YR 1996	--	--	+900

14092500 DESCHUTES RIVER NEAR MADRAS, OR

LOCATION.--Lat 44°43'34", long 121°14'45", in SE 1/4 SW 1/4 sec.1, T.10 S., R.12 E., Jefferson County, Hydrologic Unit 17070306, on right bank 400 ft downstream from reregulating dam, 2.7 mi downstream from Pelton Dam, 8.5 mi northwest of Madras, and at mile 100.1.

DRAINAGE AREA.--7,820 mi^2, approximately.

PERIOD OF RECORD.--October 1923 to current year.

REVISED RECORDS.--WSP 1398: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,390.25 ft above sea level (levels by Portland General Electric Co.). See WSP 1738 for history of changes prior to Nov. 23, 1957.

REMARKS.--No estimated daily discharges. Records excellent. Diurnal fluctuation caused by Lake Simtustus and reregulating reservoir since 1957, combined capacity for normal operation, 6,500 acre-ft. Some winter and spring runoff stored in Ochoco Reservoir, capacity, 47,500 acre-ft, in Crescent Lake, Crane Prairie and Wickiup Reservoirs, combined capacity, 354,600 acre-ft, and since 1960, in Prineville Reservoir, capacity, 152,800 acre-ft, and since 1964, in Lake Billy Chinook, capacity, 534,700 acre-ft. Large diversions in upper basin for irrigation. Continuous water-quality records for the period October 1978 to September 1988 have been collected at this location.

AVERAGE DISCHARGE.--73 years (water years 1924-96), 4,524 ft^3/s, 3,278,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft^3/s July 16, 1983, accidental release from Pelton Dam, gage height, 7.70 ft, from floodmarks; minimum discharge, 916 ft^3/s July 4, 1982, caused by power company testing control gates on dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft^3/s Feb. 8, gage height, 7.08 ft; minimum discharge, 3,420 ft^3/s May 13, result of regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3610	4120	6710	4600	5020	7310	5220	6290	4220	4160	3630	3740
2	3600	4090	6670	5040	5020	6730	5640	5870	4200	4040	3510	3780
3	3600	4190	5670	5400	5030	6740	5640	5270	4140	4140	3840	3770
4	3590	4210	5580	5460	5030	7030	5650	5080	3720	4150	3840	3770
5	3600	4240	5550	5470	5190	6780	5660	5080	3910	4160	4070	3900
6	3610	4210	6140	5440	6180	6780	5660	4650	3930	4190	4050	3900
7	3600	4260	5940	5400	9730	6750	5660	3800	4270	3960	4020	3900
8	3600	4450	6140	5400	17800	6290	5650	3810	4270	3810	3780	3790
9	3810	4470	6140	5390	15300	6290	5660	3820	4270	3820	3840	3790
10	4100	4590	6140	5400	12800	6280	5530	3800	4400	3810	3890	3790
11	4090	4610	6130	5400	12100	6280	5510	3470	4420	3950	3890	3790
12	4360	5000	5820	5400	11200	6350	5510	3460	4290	3950	3920	3790
13	4330	5660	5580	5390	10100	6800	5410	3460	4150	3960	3930	3790
14	3980	5650	5600	5400	9500	6480	5380	3500	3900	3960	3910	3800
15	3970	5690	6240	5430	9510	6470	5360	3910	3910	3960	3930	3830
16	3980	5200	6220	5440	9520	6170	5360	4360	4190	3840	3900	4040
17	3980	4630	6210	5440	8300	6130	5340	4850	4210	3810	3900	4150
18	3980	4120	6240	5440	8280	6140	5120	5410	3960	3960	3790	4160
19	3960	4110	6240	5390	8310	6290	4750	5350	3910	4050	3780	4170
20	3960	4150	6230	5440	8670	6210	4740	5320	3910	3950	3790	4170
21	3980	4370	6230	5440	8910	5700	4750	5160	3900	3930	3770	4160
22	4180	4370	5980	5430	8950	5670	4740	4940	3900	3930	3770	3920
23	4220	4150	5720	5430	8950	5520	4520	5020	3900	3930	4030	3780
24	4220	4120	5690	5430	8950	5380	4540	5150	3900	4040	4030	3780
25	4220	4120	5340	5320	8950	5210	5510	5200	3910	4020	4050	3780
26	4180	4240	5280	5090	8880	5210	5540	5230	4120	4020	4060	3870
27	3830	5150	5250	5050	8100	5210	5610	5220	4250	3930	4070	3870
28	3880	5040	4910	5060	8100	5210	5880	5180	4280	3920	3890	3880
29	4110	5060	4630	5070	7870	5220	6110	5160	4270	3920	3880	3860
30	4210	5650	4600	5420	---	5220	6140	4630	4160	3910	3870	3870
31	4100	---	4600	5410	---	5220	---	4600	---	3920	3790	---
TOTAL	122440	137920	179420	165320	260250	189070	161790	146050	122770	123100	120420	116590
MEAN	3950	4597	5788	5333	8974	6099	5393	4711	4092	3971	3885	3886
MAX	4360	5690	6710	5470	17800	7310	6140	6290	4420	4190	4070	4170
MIN	3590	4090	4600	4600	5020	5210	4520	3460	3720	3810	3510	3740
AC-FT	242900	273600	355900	327900	516200	375000	320900	289700	243500	244200	238900	231300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1996, BY WATER YEAR (WY)

MEAN	3955	4458	4839	4984	5276	5461	5303	4429	4172	3870	3765	3799
MAX	5097	6124	6655	8097	8974	9590	8988	6949	5759	4786	4718	4553
(WY)	1973	1985	1982	1965	1996	1972	1984	1956	1948	1974	1976	1984
MIN	3085	3521	3731	3305	3094	3455	3602	3431	3239	3059	3015	3022
(WY)	1965	1965	1932	1964	1964	1964	1968	1931	1931	1964	1931	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1924 - 1996	
ANNUAL TOTAL	1581100		1845140			
ANNUAL MEAN	4332		5041		4524	
HIGHEST ANNUAL MEAN					5878	1984
LOWEST ANNUAL MEAN					3558	1964
HIGHEST DAILY MEAN	6710	Dec 1	17800	Feb 8	17800	Feb 8 1996
LOWEST DAILY MEAN	3370	Aug 20	3460	May 12	2440	Dec 3 1957
ANNUAL SEVEN-DAY MINIMUM	3460	Aug 17	3600	Oct 2	2590	Nov 30 1957
ANNUAL RUNOFF (AC-FT)	3136000		3660000		3278000	
10 PERCENT EXCEEDS	5650		6310		5900	
50 PERCENT EXCEEDS	4100		4560		4220	
90 PERCENT EXCEEDS	3600		3800		3480	

14092750 SHITIKE CREEK AT PETERS PASTURE, NEAR WARM SPRINGS, OR

LOCATION.--Lat 44°45'02", long 121°37'56", in NW 1/4 NE 1/4 sec.35, T.9 S., R.9 E., Jefferson County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on left bank 0.5 mi downstream from Peters Pasture, and 18 mi west of town of Warm Springs, and at mile 26.4.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--July 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,580 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--14 years (water years 1983-96), 74.5 ft^3/s, 44.20 in/yr, 53,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,430 ft^3/s Feb. 7, 1996, gage height, 6.66 ft, slope area measurement of peak flow; minimum discharge, 17 ft^3/s Dec. 22, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2000	787	3.37	Feb. 7	1600	*2,430	a*6.66
Nov. 28	0630	669	3.12	Feb. 9	0230	1,860	5.63
Nov. 30	0300	1,250	4.44	Feb. 18	1100	420	2.42
Dec. 12	1000	510	2.81	Apr. 24	0400	697	3.12
Dec. 30	2030	535	2.86				

Minimum discharge, 22 ft^3/s, Oct. 10, 11.
a From crest-stage gage.

REVISIONS.--The maximum discharge for some water years have been revised as shown in the following table. They supercede figures published in the reports for 1983, 1985-86, 1988, 1990, and 1995.

Year	Date	Discharge (ft^3/s)	Gage height (ft))
1983	12- 4-82	397	2.39
	1- 6-83	*500	*2.67
1985	6- 7-85	*605	*2.94
1986	2-23-86	*892	*3.65
1988	12-10-87	*799	*3.49
1990	1- 8-90	610	2.95
	4-27-90	*660	*3.08
1995	2- 1-95	*1,110	*3.92

The maximum discharge for calendar years 1983 and 1986, water years 1983, 1986, and 1995 have been revised as given below; revised daily discharges, in cubic feet per second, for periods in the 1983, 1986, and 1995 water years are given below. These figures supercede those published in the reports for 1983, 1986, and 1995.

Dec. 4, 1982....340	Feb. 23, 1986....760
Dec. 5.....232	Feb. 24.....742
Dec. 6.....275	Feb. 25.....554
Jan. 6, 1983....408	Jan. 31, 1995....586
Jan. 7.....457	
Jan. 8.....412	Feb. 1, 1995....960
Jan. 9.....298	Feb. 2.....601

	TOTAL	MEAN	MAX	MIN	AC-FT	CFSM	IN
December 1982	3479	112	340	50	6900	4.90	5.65
January 1983	4355	140	457	51	8640	6.13	7.07
WTR YR 1983	38198	105	457	41	75770	4.57	62.05
CAL YR 1983	36382.8	99.7	457	32	72170	4.35	59.10
February 1986	4949	177	760	44	9820	7.72	8.04
WTR YR 1986	29690	81.3	760	29	58890	3.55	48.23
CAL YR 1986	29969	82.1	760	25	59440	3.59	35.24
January 1995	3276	106	586	56	6500	4.61	5.32
February 1995	5983	214	960	75	11870	9.33	9.72
WTR YR 1995	30455	83.4	960	18	60410	3.64	49.47

14092750 SHITKE CREEK AT PETERS PASTURE, NEAR WARM SPRINGS, OR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	27	653	215	e58	98	85	144	106	95	60	44
2	26	25	348	172	e56	95	87	141	125	104	60	43
3	66	24	248	182	e54	96	84	128	149	109	60	43
4	48	24	305	167	e65	100	81	115	159	102	59	43
5	35	24	223	144	84	98	79	106	138	85	58	43
6	30	27	181	136	485	92	81	99	128	79	57	42
7	27	32	156	159	2020	90	93	93	145	79	56	42
8	25	178	136	214	1530	91	124	90	147	81	55	41
9	25	161	146	177	1340	95	153	87	125	90	54	41
10	23	94	171	153	667	104	152	84	111	83	53	41
11	31	388	289	133	450	119	131	83	110	80	52	40
12	39	321	451	121	345	120	117	95	108	80	52	40
13	33	274	365	113	284	114	107	150	110	79	51	40
14	34	161	281	110	242	106	100	263	112	79	51	41
15	37	121	235	153	216	103	96	298	104	83	50	58
16	49	104	189	174	198	99	101	243	101	80	50	58
17	46	88	162	146	197	96	101	219	90	77	49	53
18	52	116	143	131	368	94	95	232	85	79	49	48
19	36	94	129	121	323	92	90	212	80	74	49	47
20	32	82	117	116	255	90	85	173	80	71	48	44
21	32	75	107	106	210	88	83	158	86	70	48	43
22	30	74	99	100	180	87	86	177	88	70	47	42
23	28	70	92	94	164	84	206	155	101	69	47	41
24	27	80	87	90	150	81	563	139	114	68	46	41
25	29	229	81	85	137	78	321	130	100	67	46	40
26	78	169	76	80	125	76	247	138	94	65	46	39
27	49	167	73	78	115	75	197	142	94	64	46	39
28	37	532	71	75	109	74	166	128	94	64	45	38
29	33	510	104	71	102	72	149	115	92	64	44	37
30	31	970	280	e62	---	70	144	106	91	62	44	37
31	29	---	350	e60	---	77	---	101	---	61	44	---
TOTAL	1127	5241	6348	3938	10529	2854	4204	4544	3267	2413	1576	1289
MEAN	36.4	175	205	127	363	92.1	140	147	109	77.8	50.8	43.0
MAX	78	970	653	215	2020	120	563	298	159	109	60	58
MIN	23	24	71	60	54	70	79	83	80	61	44	37
AC-FT	2240	10400	12590	7810	20880	5660	8340	9010	6480	4790	3130	2560
CFSM	1.59	7.63	8.94	5.55	15.9	4.02	6.12	6.40	4.76	3.40	2.22	1.88
IN.	1.83	8.51	10.31	6.40	17.10	4.64	6.83	7.38	5.31	3.92	2.56	2.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	34.5	66.6	68.8	74.2	104	86.4	100	116	105	67.1	42.0	32.3
MAX	60.2	175	205	140	363	166	140	197	154	111	67.8	48.6
(WY)	1983	1996	1996	1983	1996	1986	1996	1993	1983	1983	1983	1983
MIN	20.3	23.4	34.9	35.9	28.2	41.4	50.4	69.4	41.7	33.4	24.5	20.1
(WY)	1988	1994	1991	1993	1994	1985	1991	1991	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	37066		47330			
ANNUAL MEAN	102		129		74.5	
HIGHEST ANNUAL MEAN					129	1996
LOWEST ANNUAL MEAN					43.2	1994
HIGHEST DAILY MEAN	970	Nov 30	2020	Feb 7	2020	Feb 7 1996
LOWEST DAILY MEAN	19	Sep 21	23	Oct 10	17	Dec 22 1990
ANNUAL SEVEN-DAY MINIMUM	19	Sep 20	26	Oct 31	18	Oct 2 1994
ANNUAL RUNOFF (AC-FT)	73520		93880		53970	
ANNUAL RUNOFF (CFSM)	4.43		5.65		3.25	
ANNUAL RUNOFF (INCHES)	60.21		76.89		44.20	
10 PERCENT EXCEEDS	173		230		135	
50 PERCENT EXCEEDS	79		90		57	
90 PERCENT EXCEEDS	27		40		27	

e Estimated

14092885 SHITIKE CREEK BELOW WOLFORD CANYON, NEAR WARM SPRINGS, OR

LOCATION.--Lat 44°46'20", long 121°18'15", in NW 1/4 SE 1/4 sec.21, T.9 S., R.12 E., Jefferson County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on left bank at bridge crossing 2.3 mi upstream from Tenino Creek, and 2.1 mi northwest of Warm Springs, and at mile 4.53.

DRAINAGE AREA.--75.8 mi^2.

PERIOD OF RECORD.--October 1974 to September 1996 (discontinued). Records for June 1911 to October 1916, April 1923 to September 1928, and October 1972 to September 1974 (see sta 14093000) at sites downstream not equivalent owing to difference in drainage areas.

GAGE.--Water-stage recorder. Elevation of gage is 1,600 ft above sea level, from topographic map.

REMARKS.--Discharge records poor. No regulation. Some diversion for irrigation and Warm Springs water supply.

AVERAGE DISCHARGE.--22 years (water years 1975-96), 96.5 ft^3/s, 17.29 in/yr, 69,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,600 ft^3/s Feb. 7, 1996, gage height, 7.93 ft, slope-area measurement of peak flow; minimum daily discharge, 17 ft^3/s Oct. 12-15, 17-22, 24-27, Nov. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 9	0400	481	4.92	Dec. 31	0030	583	5.08
Nov. 12	0330	999	5.54	Feb. 7	1030	*3,600	*a7.93
Nov. 28	1500	857	5.39	Feb. 9	0500	3,340	7.73
Nov. 30	0930	1,810	6.27	Feb. 19	unknown	unknown	unknown
Dec. 4	1130	416	4.83	Apr. 24	unknown	unknown	unknown
Dec. 12	1600	604	5.10	May 18	unknown	unknown	unknown

Minimum discharge, 26 ft^3/s Oct. 3, but may have been lower during periods of missing record.
a From extreme indicator reading.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	40	855	285	e40	e140	e160	e165	e150	e110	e86	e53
2	29	38	472	219	e38	e130	e150	e165	e160	e120	e84	e53
3	67	37	315	216	e36	e130	e140	e160	e170	e130	e82	e53
4	87	37	343	212	e45	e210	e130	e150	e190	e125	e80	e52
5	54	37	282	172	193	e220	e120	e140	e180	e120	e78	e52
6	44	37	219	154	657	e190	e110	e130	e170	e115	e76	e52
7	40	41	178	161	2570	e160	e130	e120	e190	e110	e74	e52
8	37	95	147	264	2140	e140	e160	e110	e195	e110	e73	e52
9	37	332	134	223	2510	e130	e190	e105	e165	e115	e72	e51
10	35	135	173	190	948	e140	e200	e100	e150	e120	e70	e51
11	36	242	282	155	e750	e170	e190	e95	e145	e115	e68	e51
12	57	622	488	138	e550	e200	e180	e110	e140	e110	e67	e50
13	49	371	488	126	e440	e190	e170	e180	e135	e110	e66	e50
14	45	271	353	116	e380	e180	e160	e290	e140	e105	e65	e50
15	49	174	304	171	e350	e170	e150	e340	e130	e110	e64	e75
16	56	144	238	229	e340	e160	e160	e320	e120	e105	e63	e75
17	70	111	195	192	e320	e150	e160	e360	e115	e110	e62	e70
18	73	133	163	165	e460	e140	e150	e400	e110	e115	e61	e65
19	58	124	141	151	e500	e135	e140	e380	e130	e110	e60	e60
20	47	99	125	152	e420	e130	e135	e360	e120	e108	e59	e55
21	44	85	113	141	e360	e125	e130	e340	e120	e106	e58	e52
22	44	82	103	121	e310	e120	e210	e360	e130	e104	e57	e50
23	41	76	92	113	e270	e118	e380	e400	e140	e100	e56	e49
24	39	79	84	108	e240	e116	e600	e320	e150	e98	e55	e48
25	39	230	77	97	e220	e114	e500	e270	e145	e96	e55	e47
26	85	275	71	90	e190	e112	e360	e220	e140	e94	e55	e46
27	89	199	68	89	e175	e110	e270	e180	e130	e92	e54	e45
28	59	601	65	83	e160	e130	e220	e190	e125	e90	e54	e45
29	49	497	86	76	e150	e140	e190	e200	e120	e94	e54	e44
30	45	1320	225	58	---	e120	e170	e180	e115	e90	e54	e44
31	42	---	463	42	---	e130	---	e150	---	e88	e53	---
TOTAL	1580	6564	7342	4709	15762	4550	6115	6990	4320	3325	2015	1592
MEAN	51.0	219	237	152	544	147	204	225	144	107	65.0	53.1
MAX	89	1320	855	285	2570	220	600	400	195	130	86	75
MIN	29	37	65	42	36	110	110	95	110	88	53	44
AC-FT	3130	13020	14560	9340	31260	9020	12130	13860	8570	6600	4000	3160
CFSM	.67	2.89	3.12	2.00	7.17	1.94	2.69	2.97	1.90	1.42	.86	.70
IN.	.78	3.22	3.60	2.31	7.74	2.23	3.00	3.43	2.12	1.63	.99	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1996, BY WATER YEAR (WY)

MEAN	47.8	82.8	110	99.8	148	119	115	131	123	84.0	55.1	45.0
MAX	76.5	219	238	183	544	263	204	225	217	147	86.5	67.9
(WY)	1983	1996	1978	1976	1996	1986	1996	1996	1982	1982	1983	1982
MIN	17.9	29.7	43.9	40.4	35.8	40.3	50.8	56.3	57.5	37.6	29.0	25.7
(WY)	1979	1979	1986	1979	1994	1977	1977	1977	1992	1977	1978	1978

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1975 - 1996	
ANNUAL TOTAL	45743		64864			
ANNUAL MEAN	125		177		96.5	
HIGHEST ANNUAL MEAN					177	1996
LOWEST ANNUAL MEAN					46.8	1977
HIGHEST DAILY MEAN	1320	Feb 1	2570	Feb 7	2570	Feb 7 1996
LOWEST DAILY MEAN	21	Sep 25	29	Oct 2	17	Oct 12 1978
ANNUAL SEVEN-DAY MINIMUM	22	Sep 19	38	Nov 1	17	Oct 12 1978
ANNUAL RUNOFF (AC-FT)	90730		128700		69900	
ANNUAL RUNOFF (CFSM)	1.65		2.34		1.27	
ANNUAL RUNOFF (INCHES)	22.45		31.83		17.29	
10 PERCENT EXCEEDS	253		341		170	
50 PERCENT EXCEEDS	82		125		74	
90 PERCENT EXCEEDS	34		49		38	

e Estimated

14095500 WARM SPRINGS RIVER NEAR SIMNASHO, OR

LOCATION.--Lat 44°58'10", long 121°28'35", in SE 1/4 SW 1/4 sec.7, T.7 S., R.11 E., Wasco County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on right bank abutment of log bridge at Hehe Butte rodeo grounds, 3.3 mi upstream from Badger Creek, and 6.2 mi west of Simnasho, and at mile 30.5.

DRAINAGE AREA.--107 mi^2.

PERIOD OF RECORD.--June to September 1915, August 1949 to September 1954, October 1983 to current year. Prior to October 1983, published as "at Hehe Mill near Warm Springs."

GAGE.--Water-stage recorder. Datum of gage is 2,533.78 ft above sea level. June to September 1915 1.0 mi downstream at different datum. August 1949 to September 1954 0.5 mi downstream at datum 7.12 ft lower.

REMARKS.--Discharge records good except for estimated daily discharges, which are fair. No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--18 years (water years 1950-54, 1984-96), 161 ft^3/s, 20.40 in/yr, 116,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,670 ft^3/s Feb. 7, 1996, gage height, 6.98 ft, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 89 ft^3/s Aug. 14, 1994, due to temporary diversion.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1000	424	3.81	Feb. 7	2130	*4,670	*6.98
Dec. 13	0500	534	4.09	Feb. 18	1300	734	4.51
Dec. 31	0530	382	3.71	Mar. 4	1900	378	3.63
Jan. 16	1130	473	3.94	Apr. 24	1000	500	4.01

Minimum discharge, 99 ft^3/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	100	393	297	e170	314	257	281	190	140	129	123
2	100	100	319	271	e160	307	252	272	186	140	129	123
3	108	100	260	279	e155	317	241	265	183	139	129	123
4	105	100	289	280	e150	340	234	257	180	138	129	123
5	101	101	238	258	e145	347	231	249	177	138	129	123
6	101	104	212	246	481	319	234	241	175	137	129	123
7	101	105	200	253	2920	315	241	235	172	136	128	123
8	101	113	187	313	3000	316	247	227	170	136	128	122
9	101	111	181	297	2660	318	252	221	168	135	128	122
10	101	107	174	291	1740	325	255	216	166	134	128	122
11	105	123	217	266	1190	337	255	211	164	134	127	122
12	106	128	386	253	927	336	253	209	162	134	127	122
13	103	128	494	242	781	329	250	210	161	133	127	122
14	102	116	435	231	681	319	243	222	160	133	126	124
15	102	110	407	314	606	312	237	229	159	133	126	133
16	102	108	336	456	551	303	242	223	159	133	125	127
17	103	107	295	409	519	294	242	232	159	134	125	124
18	103	109	264	364	678	287	233	247	164	135	125	123
19	101	107	238	366	677	284	229	244	156	133	125	123
20	101	105	220	362	631	278	224	228	147	132	125	122
21	102	105	208	332	574	272	221	224	146	131	125	122
22	101	104	197	288	515	269	233	244	145	131	124	122
23	101	105	187	272	491	261	273	236	147	131	124	122
24	101	106	180	259	454	256	466	224	151	130	124	122
25	103	120	171	236	421	247	415	217	147	130	124	122
26	105	129	164	223	397	243	374	211	146	129	124	121
27	102	147	160	220	373	245	341	206	144	130	125	121
28	101	264	156	212	361	248	319	204	143	131	124	121
29	101	212	170	202	339	241	304	202	142	131	123	121
30	100	364	237	e190	---	232	291	199	141	130	123	121
31	100	---	359	e180	---	249	---	195	---	129	123	---
TOTAL	3164	3838	7934	8662	22747	9060	8089	7081	4810	4140	3907	3684
MEAN	102	128	256	279	784	292	270	228	160	134	126	123
MAX	108	364	494	456	3000	347	466	281	190	140	129	133
MIN	100	100	156	180	145	232	221	195	141	129	123	121
AC-FT	6280	7610	15740	17180	45120	17970	16040	14050	9540	8210	7750	7310
CFSM	.95	1.20	2.39	2.61	7.33	2.73	2.52	2.13	1.50	1.25	1.18	1.15
IN.	1.10	1.33	2.76	3.01	7.91	3.15	2.81	2.46	1.67	1.44	1.36	1.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1996, BY WATER YEAR (WY)

MEAN	115	127	143	161	241	206	220	203	158	126	118	115
MAX	140	197	272	300	784	374	307	310	310	160	140	134
(WY)	1951	1951	1951	1951	1996	1986	1951	1951	1950	1950	1951	1951
MIN	102	106	104	107	106	112	120	106	102	97.9	95.6	96.9
(WY)	1993	1953	1953	1993	1993	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1950 - 1996	
ANNUAL TOTAL	63269		87116			
ANNUAL MEAN	173		238		161	
HIGHEST ANNUAL MEAN					238	1996
LOWEST ANNUAL MEAN					107	1994
HIGHEST DAILY MEAN	692	Feb 2	3000	Feb 8	3000	Feb 8 1996
LOWEST DAILY MEAN	99	Sep 18	100	Oct 1	93	Dec 14 1992
ANNUAL SEVEN-DAY MINIMUM	99	Sep 15	100	Oct 29	95	Jul 25 1994
ANNUAL RUNOFF (AC-FT)	125500		172800		116400	
ANNUAL RUNOFF (CFSM)	1.62		2.22		1.50	
ANNUAL RUNOFF (INCHES)	22.00		30.29		20.40	
10 PERCENT EXCEEDS	274		361		249	
50 PERCENT EXCEEDS	138		172		130	
90 PERCENT EXCEEDS	101		105		106	

e Estimated

14096300 MILL CREEK NEAR BADGER BUTTE, NEAR WARM SPRINGS, OR

LOCATION.--Lat 44°51'42", long 121°37'35", in SW 1/4 sec.23, T.8 S., R.9 E., Wasco County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on right bank 200 ft upstream from bridge on road B241, 3.4 mi upstream from headworks of Mill Creek Canal, and 19.3 mi northwest of Warm Springs, and at mile 14.6.

DRAINAGE AREA.--26.8 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 3,380 ft above sea level, from topographic map.

REMARKS.--Records good except for period Oct. 1 to Mar. 18, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 64.6 ft^3/s, 32.75 in/yr, 46,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft^3/s Feb. 7, 1996, from rating curve extended above 800 ft^3/s on basis of slope-area measurement of peak flow, gage height, 8.42; maximum gage height, 9.49 ft, Feb. 7, 1996, from high-water mark on crest-stage gage; minimum discharge recorded, 23 ft^3/s Feb. 15, 25, 1993, but may have been lower during period of estimated record.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	unknown	unknown	unknown	Feb. 7	1330	*1,300	a8.42
Nov. 11	unknown	unknown	unknown	Feb. 7	1330	-	*b9.49
Nov. 30	unknown	unknown	unknown	Apr. 24	0800	374	6.13
Dec. 12	1230	457	6.52	May 19	0830	190	5.62
Dec. 31	1230	369	6.31				

Minimum daily discharge, 27 ft^3/s Oct. 10, Nov, 4.
a Affected by drawdown.
b High-water mark from crest-stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e29	e30	e500	234	e141	e92	101	111	90	65	54	53
2	e28	e29	e320	e178	159	e94	98	111	88	65	55	52
3	e49	e28	e340	174	e189	e96	95	107	89	64	55	52
4	e40	e27	e280	e180	e180	e94	93	102	89	63	55	52
5	e33	e30	e230	173	e174	e90	91	98	89	61	55	52
6	e31	e32	e200	e156	394	e88	93	95	87	61	54	52
7	e30	e65	e170	175	1060	e88	95	92	85	61	54	52
8	e29	e130	e140	e181	890	e92	101	90	83	60	54	52
9	e28	e110	e125	193	728	e98	112	88	81	60	54	52
10	e27	e90	e140	e166	e500	e105	114	86	79	58	53	51
11	e32	e280	e160	e144	e390	e115	111	85	77	58	53	51
12	e37	e230	378	e141	e300	e120	110	89	75	58	52	51
13	e33	e180	355	e125	e250	e115	106	99	74	58	53	51
14	e34	e140	282	e143	e220	e110	101	121	72	58	53	54
15	e35	e120	245	169	e200	e105	98	150	70	57	52	70
16	e45	e105	195	206	e180	e100	102	162	70	57	52	65
17	e41	e95	181	e149	e210	e97	102	156	71	58	52	58
18	e43	e105	166	187	e290	e94	100	174	73	60	52	55
19	e37	e95	151	169	e230	94	98	175	70	59	52	54
20	e33	e85	149	174	e190	93	96	154	68	58	52	53
21	e32	e75	142	143	e170	91	95	139	66	58	52	52
22	e32	e70	e124	e137	e150	91	98	138	65	57	52	52
23	e32	e65	129	e156	e135	89	132	131	70	56	52	52
24	e31	e90	119	e145	e125	86	308	120	74	56	52	51
25	e32	e150	110	e139	e115	85	203	113	71	55	52	51
26	e55	e140	e111	e138	e105	83	169	107	73	55	52	50
27	e40	e170	113	153	e100	83	147	105	71	55	54	50
28	e33	e240	e110	159	e98	85	132	104	70	56	53	50
29	e33	e460	150	132	e94	84	120	100	68	56	52	50
30	e32	e600	187	e132	---	82	115	97	67	56	53	49
31	e31	---	281	e159	---	93	---	92	---	54	53	---
TOTAL	1077	4066	6283	5010	7967	2932	3536	3591	2275	1813	1643	1589
MEAN	34.7	136	203	162	275	94.6	118	116	75.8	58.5	53.0	53.0
MAX	55	600	500	234	1060	120	308	175	90	65	55	70
MIN	27	27	110	125	94	82	91	85	65	54	52	49
AC-FT	2140	8060	12460	9940	15800	5820	7010	7120	4510	3600	3260	3150
CFSM	1.30	5.06	7.56	6.03	10.3	3.53	4.40	4.32	2.83	2.18	1.98	1.98
IN.	1.49	5.64	8.72	6.95	11.06	4.07	4.91	4.98	3.16	2.52	2.28	2.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	39.9	64.7	71.9	74.2	91.9	75.0	85.1	85.4	67.4	45.0	39.0	38.0
MAX	50.6	136	203	162	275	106	118	116	92.1	58.5	53.0	53.0
(WY)	1985	1996	1996	1996	1996	1986	1996	1993	1984	1996	1996	1996
MIN	30.0	38.2	44.1	43.8	40.0	58.1	62.4	43.7	33.3	34.2	31.1	28.2
(WY)	1993	1988	1994	1992	1993	1994	1991	1992	1992	1994	1992	1995

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	31524		41782			
ANNUAL MEAN	86.4		114		64.6	
HIGHEST ANNUAL MEAN					114	1996
LOWEST ANNUAL MEAN					46.5	1994
HIGHEST DAILY MEAN	678	Feb 1	1060	Feb 7	1060	Feb 7 1996
LOWEST DAILY MEAN	25	Sep 21	27	Oct 10		
ANNUAL SEVEN-DAY MINIMUM	25	Sep 20	30	Oct 30	25	Sep 20 1995
ANNUAL RUNOFF (AC-FT)	62530		82870		46800	
ANNUAL RUNOFF (CFSM)	3.22		4.26		2.41	
ANNUAL RUNOFF (INCHES)	43.76		58.00		32.75	
10 PERCENT EXCEEDS	162		189		101	
50 PERCENT EXCEEDS	65		91		55	
90 PERCENT EXCEEDS	30		49		35	

e Estimated

14096850 BEAVER CREEK BELOW QUARTZ CREEK, NEAR SIMNASHO, OR

LOCATION.--Lat 44°57'32", long 121°23'35", in NE 1/4 SW 1/4 sec.14, T.7 S., R.11 E., Wasco County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on right bank 600 ft downstream from culvert on Warm Springs Reservation Highway 9, 200 ft downstream from Quartz Creek, and 2.4 mi west of Simnasho, and at mile 7.92.

DRAINAGE AREA.--145 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,260 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 80.5 ft^3/s, 7.54 in/yr, 58,310 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,760 ft^3/s, Feb. 7, 1996, gage height, 10.57 ft; minimum discharge, 4.5 ft^3/s Jan. 7, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	2400	505	3.94	Mar. 3	1930	605	4.22
Feb. 7	unknown	*5,760	a*10.57	Mar. 5	1930	512	4.00

Minimum discharge, 31 ft^3/s Nov. 3.
a From outside high-water mark.

REVISIONS.--The maximum discharge for calendar and water year 1986 has been revised to 3,460 ft^3/s, Feb. 23, 1986, gage height, 7.96 ft; revised daily discharges, in cubic feet per second, for February 1986 are given below. These figures supercede those published in the reports for 1986 and 1987.

Feb. 22....2670 Feb. 23....3080 Feb. 24....1990

	TOTAL	MEAN	MAX	MIN	(ft^3/s)/mi^2	CFSM	IN
February 1986	16706	597	3080	67	33140	4.11	4.29
WTR YR 1986	43959	120	3080	37	87190	0.83	11.28
CAL YR 1986	44448	122	3080	39	88160	0.84	11.40

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	36	235	280	e125	198	262	130	71	49	41	36
2	36	36	198	240	e115	212	193	125	70	49	41	36
3	39	36	167	225	e105	390	162	121	67	48	41	36
4	39	36	163	214	e100	408	148	116	66	48	41	36
5	36	36	142	197	e100	452	139	112	64	48	41	36
6	36	38	127	190	e145	360	136	107	64	47	41	36
7	36	40	117	193	e3600	306	138	103	62	47	40	36
8	36	43	106	282	e3400	294	142	99	61	46	40	36
9	36	52	97	254	e2200	275	144	96	60	46	40	36
10	36	46	95	241	e1600	273	142	93	59	46	40	36
11	39	57	118	210	e1000	289	138	90	59	46	40	36
12	42	87	336	196	e700	283	135	88	58	45	40	36
13	39	77	461	184	e500	256	131	87	57	44	40	36
14	37	67	327	174	e400	236	124	93	56	44	39	37
15	37	60	277	265	e360	220	118	96	56	44	38	43
16	37	55	219	468	e340	207	119	91	55	43	38	41
17	37	52	190	353	e320	195	118	99	55	44	39	40
18	37	52	171	284	e430	186	115	107	56	44	39	39
19	37	50	156	267	e420	179	112	100	55	44	39	39
20	36	48	142	353	e410	174	109	93	55	44	39	38
21	37	46	131	424	e370	168	107	91	54	43	39	37
22	37	46	121	300	e330	163	122	101	53	43	38	37
23	37	46	112	256	e290	155	138	97	53	43	38	37
24	37	46	103	233	e270	150	238	90	57	42	37	37
25	37	58	97	214	e250	141	228	85	55	42	37	37
26	39	77	91	197	e230	137	196	82	54	42	37	37
27	38	76	87	183	e220	137	173	79	53	42	38	37
28	37	178	84	175	201	150	158	78	51	41	38	37
29	37	154	93	161	197	153	147	77	51	42	37	37
30	36	228	223	e137	---	149	137	75	50	41	36	37
31	36	---	383	e130	---	199	---	73	---	41	36	---
TOTAL	1152	1959	5369	7480	18728	7095	4469	2974	1737	1378	1208	1115
MEAN	37.2	65.3	173	241	646	229	149	95.9	57.9	44.5	39.0	37.2
MAX	42	228	461	468	3600	452	262	130	71	49	41	43
MIN	36	36	84	130	100	137	107	73	50	41	36	36
AC-FT	2280	3890	10650	14840	37150	14070	8860	5900	3450	2730	2400	2210
CFSM	.26	.45	1.19	1.66	4.45	1.58	1.03	.66	.40	.31	.27	.26
IN.	.30	.50	1.38	1.92	4.80	1.82	1.15	.76	.45	.35	.31	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	37.2	49.5	62.0	103	204	155	116	79.7	55.1	40.8	36.9	36.0
MAX	42.6	104	173	244	646	305	175	110	95.5	45.4	40.2	40.4
(WY)	1985	1985	1996	1984	1996	1986	1988	1993	1993	1984	1984	1986
MIN	33.1	35.6	40.0	47.6	42.7	58.9	60.8	44.6	36.6	32.3	30.5	30.4
(WY)	1995	1988	1986	1987	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	39272		54664			
ANNUAL MEAN	108		149		80.5	
HIGHEST ANNUAL MEAN					149	1996
LOWEST ANNUAL MEAN					41.6	1994
HIGHEST DAILY MEAN	962	Feb 18	3600	Feb 7	3600	Feb 7 1996
LOWEST DAILY MEAN	35	Sep 12	36	Oct 1	5.8	Jan 7 1991
ANNUAL SEVEN-DAY MINIMUM	35	Sep 12	36	Oct 30	8.3	Jan 2 1991
ANNUAL RUNOFF (AC-FT)	77900		108400		58310	
ANNUAL RUNOFF (CFSM)	.74		1.03		.56	
ANNUAL RUNOFF (INCHES)	10.08		14.02		7.54	
10 PERCENT EXCEEDS	194		281		150	
50 PERCENT EXCEEDS	63		78		47	
90 PERCENT EXCEEDS	36		37		35	

e Estimated

14097100 WARM SPRINGS RIVER NEAR KAHNEETA HOT SPRINGS, OR

LOCATION.--Lat 44°51'24", long 121°08'55", in SE 1/4 SW 1/4 sec.23, T.8 S., R.13 E., Wasco County, Hydrologic Unit 17070306, Warm Springs Indian Reservation, on right bank 25 ft upstream from bridge, 2.5 mi east of Kahneeta Hot Springs, and at mile 4.6.

DRAINAGE AREA.--526 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft above sea level, from topographic map.

REMARKS.--Records good. No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--24 years(water years 1973-96), 431 ft^3/s, 11.14 in/yr, 312,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,600 ft^3/s Feb. 7, 1996, gage height, 14.32 ft, from inside highwater mark and slope-area computation; minimum discharge, 149 ft^3/s Dec. 20, 1990, but may have been less during period of ice effect Dec. 20, 1990 to Jan. 10, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0830	1,890	4.47	Feb. 13	1830	2,340	5.20
Jan. 31	1330	2,020	4.63	Feb. 18	1930	2,160	5.01
Feb. 7	unknown	a*22,600	b*14.32	Mar. 3	2230	2,070	4.90

Minimum discharge, 210 ft^3/s Nov. 2, 3.
a From slope-area computation.
b From inside highwater mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	224	1570	1070	532	807	887	738	475	336	289	273
2	223	221	1300	914	528	822	819	718	465	332	288	274
3	237	220	985	868	506	1140	735	697	456	332	291	276
4	264	223	951	879	556	1360	687	672	444	327	291	277
5	239	231	886	813	560	1470	661	643	435	322	291	279
6	231	234	748	771	2300	1260	651	619	429	322	291	279
7	228	248	665	757	e15800	1050	657	596	422	320	291	274
8	225	e253	602	965	14000	1040	676	579	413	319	289	273
9	227	341	551	945	10100	1000	704	562	407	316	286	274
10	226	331	531	918	6270	994	731	548	401	311	285	273
11	230	e327	633	821	4240	1050	733	534	394	310	285	271
12	254	569	1360	768	3160	1060	723	525	389	310	282	273
13	245	541	1760	733	2490	992	709	528	384	307	282	274
14	235	466	1320	702	2040	937	682	565	376	306	282	277
15	230	402	1220	816	1740	900	655	643	370	305	280	307
16	228	361	1020	1360	1530	865	643	666	366	301	279	311
17	229	332	895	1210	1420	832	651	661	368	303	278	296
18	235	333	811	1030	1820	807	641	716	372	311	278	287
19	231	334	746	977	2050	791	621	725	374	312	280	283
20	228	315	694	1090	1870	772	613	677	365	308	281	279
21	228	298	649	1250	1660	751	594	632	362	306	279	276
22	231	290	606	1020	1430	738	605	659	352	301	278	276
23	229	282	566	897	1330	717	658	656	350	299	276	276
24	227	283	531	848	1240	694	1230	612	368	297	276	276
25	227	329	502	783	1110	673	1300	580	371	296	276	276
26	236	489	477	734	1020	653	1080	555	363	294	276	274
27	234	449	457	712	928	645	959	537	364	294	280	273
28	229	831	443	681	866	670	873	524	351	294	282	273
29	227	851	473	648	836	686	814	517	346	297	277	273
30	226	1310	647	567	---	657	769	506	342	295	274	271
31	225	---	1270	716	---	683	---	492	---	292	273	---
TOTAL	7190	11918	25869	27263	83932	27516	22761	18882	11674	9575	8746	8354
MEAN	232	397	834	879	2894	888	759	609	389	309	282	278
MAX	264	1310	1760	1360	15800	1470	1300	738	475	336	291	311
MIN	223	220	443	567	506	645	594	492	342	292	273	271
AC-FT	14260	23640	51310	54080	166500	54580	45150	37450	23160	18990	17350	16570
CFSM	.44	.76	1.59	1.67	5.50	1.69	1.44	1.16	.74	.59	.54	.53
IN.	.51	.84	1.83	1.93	5.94	1.95	1.61	1.34	.83	.68	.62	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1996, BY WATER YEAR (WY)

MEAN	253	314	470	552	769	634	561	498	375	275	252	247
MAX	318	570	1210	1520	2894	1285	814	819	803	401	323	301
(WY)	1973	1985	1978	1974	1996	1986	1993	1974	1974	1974	1974	1974
MIN	211	229	242	201	239	274	278	278	235	198	196	197
(WY)	1993	1994	1994	1979	1994	1977	1977	1977	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1973 - 1996	
ANNUAL TOTAL	188343		263680			
ANNUAL MEAN	516		720		431	
HIGHEST ANNUAL MEAN					720	1996
LOWEST ANNUAL MEAN					246	1994
HIGHEST DAILY MEAN	3240	Feb 2	15800	Feb 7	15800	Feb 7 1996
LOWEST DAILY MEAN	215	Sep 21	220	Nov 3	160	Jan 1 1979
ANNUAL SEVEN-DAY MINIMUM	216	Sep 18	224	Oct 29	174	Dec 31 1978
ANNUAL RUNOFF (AC-FT)	373600		523000		312600	
ANNUAL RUNOFF (CFSM)	.98		1.37		.82	
ANNUAL RUNOFF (INCHES)	13.32		18.65		11.14	
10 PERCENT EXCEEDS	911		1120		716	
50 PERCENT EXCEEDS	387		497		309	
90 PERCENT EXCEEDS	225		251		226	

e Estimated

14103000 DESCHUTES RIVER AT MOODY, NEAR BIGGS, OR

LOCATION.--Lat 45°37'20", long 120°54'05", in SW 1/4 SE 1/4 sec.26, T.2 N., R.15 E., Sherman County, Hydrologic Unit 17070306, on right bank at Moody, 4.0 mi southwest of Biggs, and at mile 1.4.

DRAINAGE AREA.--10,500 mi^2, approximately.

PERIOD OF RECORD.--October 1897 to December 1899 (published as "near Moro"), July 1906 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 754: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 167.54 ft above sea level. Oct. 19, 1897, to Dec. 31, 1899, nonrecording gage at site 10 mi upstream at different datum. July 22, 1906, to July 18, 1930, nonrecording gage at site 300 ft downstream at datum 0.50 ft lower.

REMARKS.--No estimated daily discharges. Records good. Some fluctuation caused by regulation at Lake Simtustus since 1957. Some winter and spring runoff stored in Ochoco Reservoir, capacity, 46,420 acre-ft, in Crescent Lake, Crane Prairie, and Wickiup Reservoirs, combined capacity, 323,390 acre-ft, and since 1960, in Prineville Reservoir, and since 1964 in Lake Billy Chinook (station 14092100). Large diversions in upper river basin for irrigation. Water-quality records for periods 1911-12, 1953-58, 1962-90, have been collected at this location.

AVERAGE DISCHARGE.--92 years (water years, 1898, 1899, 1907-96), 5,805 ft^3/s, 4,206,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft^3/s Feb. 8, 1996, gage height, 12.08 ft, from rating curve extended above 47,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 2,400 ft^3/s Dec. 5, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70,300 ft^3/s Feb. 8, gage height, 12.08 ft, from rating curve extended above 47,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 3,950 ft^3/s Aug. 2, 3.

REVISIONS.--The maximum discharge for the water year 1965 has been revised to 67,300 ft/s, Dec. 22, 1964, gage height, 11.80. This supersedes figures published in the 1965 annual data report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4010	4470	11400	7790	6000	10100	7700	8240	5620	4850	4400	4260
2	3990	4480	10900	7090	5700	9460	7920	8080	5290	4840	4030	4240
3	4000	4450	9280	7430	5680	9450	7850	7560	5290	4740	4080	4270
4	4080	4530	8160	7580	5720	10500	7700	6950	5090	4830	4330	4270
5	4050	4540	7930	7390	5840	10800	7610	6780	4860	4800	4390	4300
6	4010	4600	7730	7210	11100	11000	7590	6710	4930	4860	4550	4410
7	4010	4650	7850	7090	37400	10300	7610	5820	5000	4790	4540	4400
8	3970	4830	7450	7770	63400	9910	7710	5280	5220	4570	4490	4380
9	3980	5460	7480	7990	48000	9560	7820	5210	5200	4460	4270	4300
10	4330	5410	7410	7820	33300	9480	7870	5190	5180	4460	4370	4290
11	4540	5640	7580	7520	23700	9650	7730	5040	5280	4480	4390	4280
12	4650	7100	9360	7240	20500	9770	7660	4780	5210	4570	4390	4270
13	4970	7320	11100	7040	17500	9840	7550	4790	5060	4570	4430	4270
14	4770	7490	9580	6910	15400	9850	7400	4940	4880	4570	4410	4310
15	4420	7080	9180	7140	14600	9300	7250	5290	4720	4560	4400	4420
16	4410	6730	9050	9000	14100	9120	7240	5820	4760	4550	4430	4520
17	4440	6030	8510	8860	13200	8710	7250	6300	5000	4390	4380	4690
18	4460	5310	8180	8200	12800	8640	7130	6950	4950	4480	4350	4750
19	4460	4950	7950	7930	13900	8620	6770	7320	4730	4600	4280	4740
20	4390	4890	7790	8360	13900	8620	6470	7170	4670	4640	4260	4720
21	4360	4950	7640	9450	13800	8240	6390	6980	4650	4520	4270	4720
22	4420	5090	7420	8420	13400	7910	6450	6760	4640	4500	4240	4670
23	4630	5020	7010	7730	13100	7760	6600	6680	4670	4480	4300	4430
24	4640	4780	6680	7530	12800	7550	7280	6630	4730	4500	4490	4350
25	4630	4880	6490	7280	12500	7300	8830	6710	4760	4560	4490	4340
26	4670	5310	6100	6880	12200	7120	8840	6630	4750	4540	4520	4360
27	4600	5730	6000	6580	11500	7080	8430	6600	4970	4520	4550	4430
28	4250	7650	5890	6460	10800	7140	8290	6540	5040	4450	4520	4430
29	4370	8410	5560	6350	10600	7120	8330	6480	5020	4470	4380	4430
30	4520	9640	5720	6210	---	7050	8290	6250	4970	4430	4360	4420
31	4570	---	7810	6150	---	7120	---	5780	---	4410	4360	---
TOTAL	135600	171420	246190	232400	492440	274070	227560	196260	149140	141990	135650	132670
MEAN	4374	5714	7942	7497	16980	8841	7585	6331	4971	4580	4376	4422
MAX	4970	9640	11400	9450	63400	11000	8840	8240	5620	4860	4550	4750
MIN	3970	4450	5560	6150	5680	7050	6390	4780	4640	4390	4030	4240
AC-FT	269000	340000	488300	461000	976800	543600	451400	389300	295800	281600	269100	263200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1996, BY WATER YEAR (WY)

MEAN	4654	5356	6459	7066	7511	7260	6676	5828	5193	4594	4388	4435
MAX	5594	7814	13150	11290	16980	13580	10930	8267	7643	5917	5359	5185
(WY)	1973	1985	1965	1974	1996	1972	1984	1984	1974	1974	1976	1984
MIN	3385	3910	4446	4873	4401	4418	4467	4141	3988	3606	3748	3809
(WY)	1965	1965	1994	1992	1977	1994	1977	1977	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1965 - 1996	
ANNUAL TOTAL	2090990		2535390			
ANNUAL MEAN	5729		6927		5776	
HIGHEST ANNUAL MEAN					7376	1984
LOWEST ANNUAL MEAN					4290	1994
HIGHEST DAILY MEAN	15200	Feb 2	63400	Feb 8	63400	Feb 8 1996
LOWEST DAILY MEAN	3840	Aug 21	3970	Oct 8	3320	Oct 14 1964
ANNUAL SEVEN-DAY MINIMUM	3930	Sep 3	4010	Oct 3	3360	Oct 10 1964
ANNUAL RUNOFF (AC-FT)	4147000		5029000		4185000	
10 PERCENT EXCEEDS	8120		9690		8110	
50 PERCENT EXCEEDS	5090		5690		5080	
90 PERCENT EXCEEDS	4040		4360		4140	

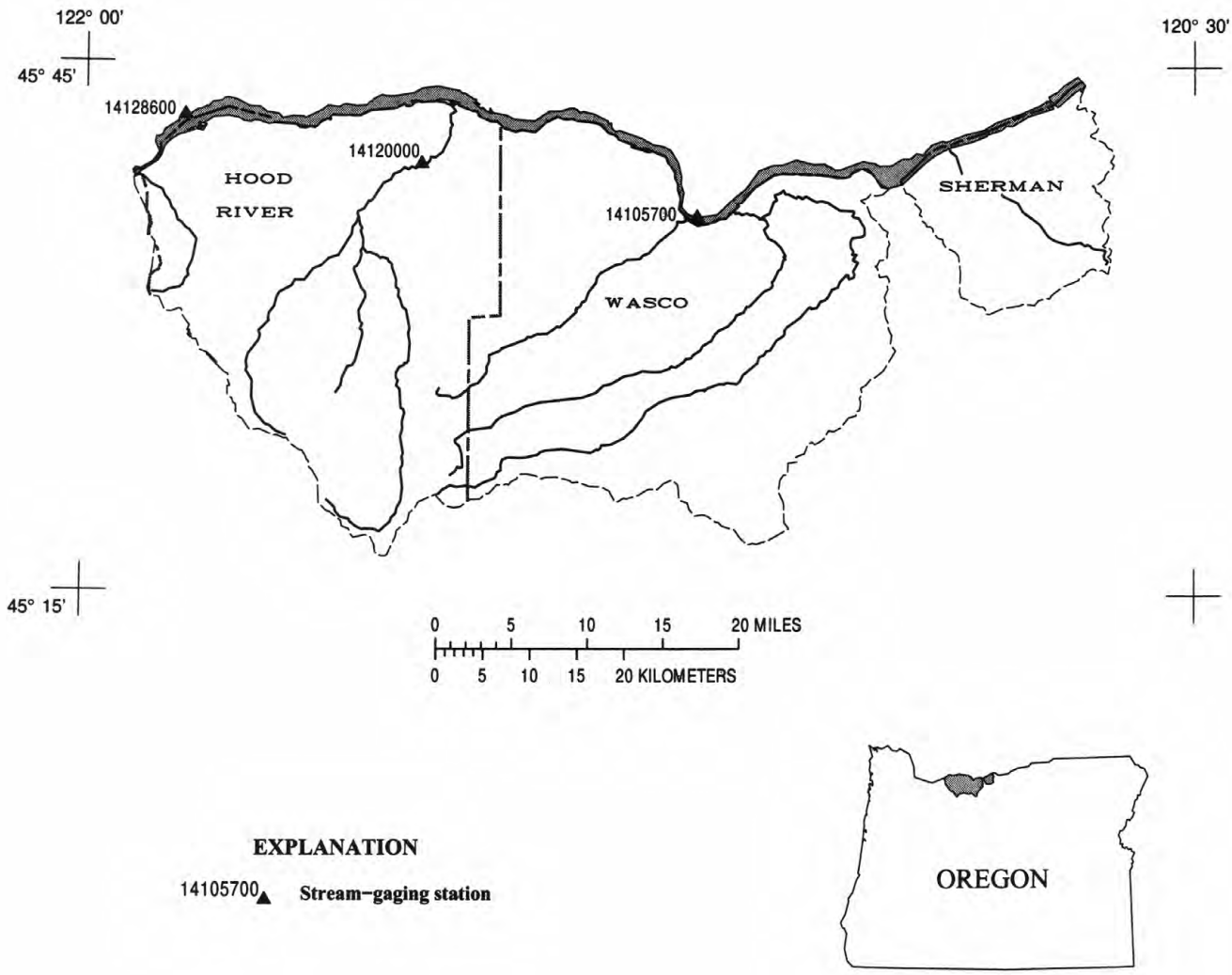
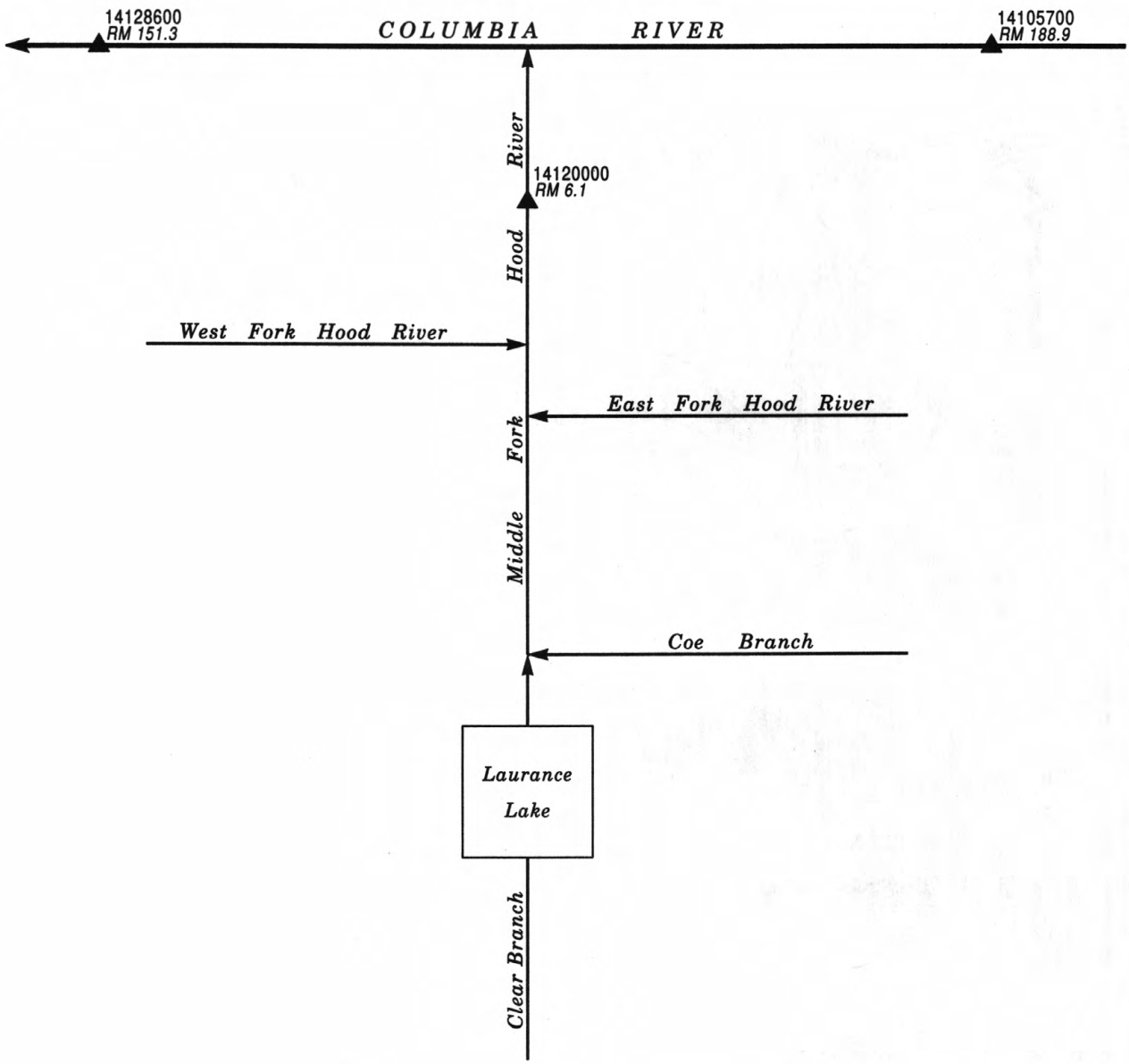


Figure 16. Location of surface-water stations in the Columbia River between the Deschutes River and Bonneville Dam and in the Hood River Basin.



EXPLANATION

▲14128600 **Stream-gaging station**

RM 6.1 **River mile**

→ **Stream**—Arrow shows direction of flow

Figure 17. Schematic diagram showing gaging stations in the Columbia River between the Deschutes River and Bonneville Dam and in the Hood River Basin.

14105700 COLUMBIA RIVER AT THE DALLES, OR

LOCATION.--Lat 45°36'27", long 121°10'20", in SW 1/4 SW 1/4 sec.34, T.2 N., R.13 E., Wasco County, Hydrologic Unit 17070105, Corps of Engineers land, on left bank 0.3 mi downstream from Mill Creek, 2.6 mi downstream from The Dalles Dam, and at mile 188.9.

DRAINAGE AREA.--237,000 mi^2, approximately.

PERIOD OF RECORD.--October 1857 to September 1877 (annual maximum only, at Lower Cascades Landing, published in WSP 1318), June 1878 to current year. Published as "near The Dalles" 1936-56.

REVISED RECORDS.--WSP 534: 1920(m). WSP 1094: 1894. WSP 1248: 1866, 1888, 1899, 1909. WSP 1518: 1876(M).

GAGE.--Acoustic velocity meter (AVM) with water-stage and velocity-index recorder. Datum of gage is sea level. See WSP 1738 for history of changes prior to Mar. 16, 1957. Mar. 16, 1957, to Sept 30, 1968, water-stage recorder at site 0.4 mi upstream at same datum.

REMARKS.--Records good. Daily discharge estimates for period Jan. 30 to Feb. 4, Feb. 7, Feb.9 to Sept. 30 determined from records provided by U.S. Army Corps of Engineers. Considerable regulation by many large reservoirs. Diurnal fluctuations caused by powerplant and gates at The Dalles Dam. Many diversions for irrigation upstream from station. Continuous water-quality records for the period October 1957 to February 1985 have been collected at this location.

AVERAGE DISCHARGE.--118 years (water years 1879-1996), 191,200 ft^3/s, 138,600,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (since 1858), 1,240,000 ft^3/s June 6, 1894, elevation, 106.5 ft; minimum discharge (since 1878), 12,100 ft^3/s Apr. 16, 1968 (due to closure of John Day dam, recorded by AVM).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 456,000 ft^3/s June 11; maximum elevation, 83.94 ft June 11; minimum daily discharge, 84,200 ft^3/s Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98200	165000	298000	192000	e254000	e364000	e235000	e345000	e399000	e241000	e193000	e133000
2	110000	148000	303000	195000	e250000	e325000	e240000	e346000	e391000	e248000	e203000	e97600
3	113000	126000	340000	212000	e248000	e274000	e248000	e312000	e372000	e256000	e175000	e136000
4	130000	112000	316000	220000	e224000	e299000	e265000	e328000	e393000	e268000	e136000	e122000
5	120000	86300	251000	223000	231000	e370000	e244000	e317000	e416000	e260000	e181000	e127000
6	117000	110000	245000	216000	265000	e318000	e292000	e323000	e420000	e255000	e222000	e137000
7	117000	123000	247000	216000	e266000	e309000	e257000	e284000	e402000	e269000	e201000	e116000
8	111000	116000	261000	227000	350000	e326000	e224000	e292000	e421000	e272000	e207000	e122000
9	120000	111000	268000	218000	e311000	e312000	e235000	e304000	e432000	e261000	e199000	e132000
10	132000	127000	247000	220000	e376000	e278000	e313000	e275000	e454000	e270000	e170000	e137000
11	139000	131000	242000	273000	e375000	e321000	e349000	e247000	e456000	e256000	e149000	e126000
12	130000	150000	274000	279000	e349000	e338000	e353000	e261000	e452000	e264000	e200000	e118000
13	152000	153000	316000	247000	e345000	e339000	e344000	e241000	e439000	e273000	e206000	e148000
14	167000	153000	303000	265000	e373000	e353000	e339000	e288000	e418000	e258000	e216000	e155000
15	122000	171000	271000	254000	e337000	e357000	e342000	e322000	e400000	e258000	e208000	e98600
16	84200	154000	279000	261000	e353000	e338000	e319000	e319000	e424000	e241000	e185000	e120000
17	109000	156000	279000	265000	e369000	e332000	e333000	e337000	e418000	e258000	e157000	e122000
18	124000	173000	241000	275000	e372000	e324000	e360000	e386000	e426000	e210000	e157000	e116000
19	141000	175000	236000	277000	e376000	e296000	e356000	e409000	e406000	e235000	e187000	e127000
20	150000	183000	245000	288000	e408000	e314000	e333000	e416000	e366000	e224000	e190000	e141000
21	119000	173000	266000	275000	e368000	e301000	e331000	e406000	e334000	e192000	e182000	e138000
22	121000	196000	264000	303000	e370000	e303000	e322000	e379000	e292000	e244000	e201000	e137000
23	120000	171000	270000	279000	e374000	e303000	e354000	e404000	e276000	e211000	e159000	e135000
24	123000	166000	253000	289000	e383000	e289000	e383000	e386000	e288000	e249000	e158000	e135000
25	142000	164000	245000	271000	e400000	e291000	e384000	e385000	e282000	e214000	e157000	e137000
26	119000	171000	210000	264000	e383000	e293000	e393000	e354000	e327000	e240000	e157000	e137000
27	144000	202000	247000	248000	e381000	e288000	e396000	e360000	e300000	e196000	e145000	e144000
28	129000	254000	227000	213000	e382000	e296000	e407000	e366000	e312000	e159000	e160000	e105000
29	121000	306000	197000	259000	e398000	e288000	e339000	e404000	e319000	e187000	e166000	e103000
30	117000	272000	186000	e249000	---	e237000	e327000	e430000	e297000	e173000	e159000	e114000
31	118000	---	180000	e249000	---	e208000	---	e372000	---	e189000	e163000	---
TOTAL	3859400	4898300	8007000	7722000	9871000	9584000	9617000	10598000	11332000	7331000	5549000	3816200
MEAN	124500	163300	258300	249100	340400	309200	320600	341900	377700	236500	179000	127200
MAX	167000	306000	340000	303000	408000	370000	407000	430000	456000	273000	222000	155000
MIN	84200	86300	180000	192000	224000	208000	224000	241000	276000	159000	136000	97600
AC-FT	7655000	9716000	15880000	15320000	19580000	19010000	19080000	21020000	22480000	14540000	11010000	7569000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1879 - 1996, BY WATER YEAR (WY)

MEAN	103700	107100	113600	115600	125700	144600	203100	340800	442800	302800	172900	120000
MAX	174800	200800	258300	252600	340400	345000	386400	624400	1002000	793300	385700	198200
(WY)	1960	1928	1996	1974	1996	1983	1881	1897	1894	1880	1880	1880
MIN	69430	57830	52380	42430	51420	69820	98350	136100	123700	88600	91970	75760
(WY)	1930	1937	1937	1937	1937	1937	1944	1977	1977	1977	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1879 - 1996	
ANNUAL TOTAL	67848900		92184900			
ANNUAL MEAN	185900		251900		191200	
HIGHEST ANNUAL MEAN					313600	1894
LOWEST ANNUAL MEAN					118100	1926
HIGHEST DAILY MEAN	340000	Dec 3	456000	Jun 11	1230000	Jun 6 1894
LOWEST DAILY MEAN	67400	Sep 10	84200	Oct 16	36000	Jan 12 1937
ANNUAL SEVEN-DAY MINIMUM	92500	Sep 4	112000	Nov 3	38200	Jan 7 1937
ANNUAL RUNOFF (AC-FT)	134600000		182800000		138600000	
10 PERCENT EXCEEDS	277000		383000		385000	
50 PERCENT EXCEEDS	174000		254000		140000	
90 PERCENT EXCEEDS	116000		123000		79800	

e Estimated

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

LOCATION.--Lat 45°39'20", long 121°32'50", in SE 1/4 sec.15, T.2 N., R.10 E., Hood River County, Hydrologic Unit 17070105, on right bank 25 ft downstream from Tucker Bridge, 0.5 mi upstream from Odell Creek, 4.0 mi, southwest of town of Hood River, and at mile 6.1.

DRAINAGE AREA.--279 mi^2.

PERIOD OF RECORD.--October 1897 to December 1899, September 1913 to September 1914, August 1915 to September 1917, January 1965 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1318: 1899. WSP 1935: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 383.2 ft above sea level (Oregon State Highway Department bench mark). Prior to July 23, 1915, nonrecording gage at bridge at various datums. July 23 to Dec. 21, 1915, water-stage recorder at site 0.8 mi upstream at different datum. January 1916 to September 1917, nonrecording gage at bridge at different datum. Jan. 16 to July 23, 1965, nonrecording gage at bridge.

REMARKS.--No estimated daily discharges. Records good. Some daily fluctuation possibly caused by diversion dam upstream from station and sawmill at Dee. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--36 years (water years 1898-99, 1914, 1916-17, 1966-96), 1,015 ft^3/s, 735,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft^3/s Feb. 7, 1996, gage height, 17.11 ft, from rating curve extended above 8,700 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge recorded, 136 ft^3/s Sept. 16, 1915, caused by temporary storage behind dam at Dee.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 20.6 ft, present datum, discharge, 33,200 ft^3/s, from rating curve extended above 1,500 ft^3/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1830	5,230	8.57	Dec. 31	0430	5,830	9.01
Nov. 11	1300	13,600	13.23	Jan. 16	0430	5,510	8.78
Nov. 13	1230	5,150	8.51	Feb. 7	2100	*23,300	*17.11
Nov. 28	0430	10,500	11.77	Feb. 8	2230	20,300	16.03
Nov. 29	2300	12,000	12.51	Feb. 18	1000	5,160	8.52
Dec. 1	0430	9,240	11.12	Apr. 24	0430	6,580	9.53
Dec. 4	0330	4,920	8.34				

Minimum discharge, 271 ft^3/s Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	448	7220	3090	1270	1420	1350	1630	1040	631	414	334
2	359	431	4720	2560	1250	1400	1370	1520	1040	652	411	301
3	823	419	3570	3530	1260	1480	1250	1420	1110	727	440	295
4	570	420	3950	3020	1260	1950	1190	1340	1120	749	399	303
5	448	464	2800	2500	1460	1910	1180	1270	1040	662	410	295
6	402	756	2280	2240	7400	1720	1250	1210	985	606	383	291
7	374	1180	1960	2930	19200	1700	1410	1190	1020	596	367	282
8	361	2940	1710	3390	17400	1830	1560	1140	1020	591	375	285
9	352	2500	1700	2780	13600	1750	1610	1090	945	604	402	294
10	342	1650	1730	2590	6650	1800	1530	1060	877	587	412	287
11	1060	8860	2130	2280	4650	2050	1470	1050	846	539	441	306
12	943	4030	2710	2080	3620	2120	1510	1120	819	545	408	324
13	686	4140	3220	1920	3160	1930	1590	1380	800	556	377	319
14	576	2750	3300	1910	2820	1770	1430	1500	776	564	408	325
15	566	2050	3120	3290	2580	1720	1370	1540	758	558	390	517
16	646	1720	2590	4620	2410	1620	1570	1430	740	538	353	431
17	706	1420	2290	3120	2520	1540	1500	1500	720	525	347	377
18	908	1440	2050	2540	4390	1500	1400	1590	760	513	333	341
19	670	1190	1790	2480	3880	1500	1320	1880	689	471	324	350
20	606	1070	1680	2520	3260	1440	1240	1620	648	435	312	343
21	651	980	1530	2540	2800	1380	1210	1490	632	440	310	330
22	644	1050	1430	2190	2480	1360	1350	1810	621	458	317	333
23	563	1020	1350	2040	2430	1300	3210	1880	682	459	302	325
24	498	1330	1270	1930	2120	1250	5570	1600	741	473	330	319
25	467	3160	1210	1740	1920	1180	3630	1470	697	491	363	318
26	1120	2930	1160	1620	1770	1150	2960	1380	693	474	386	316
27	710	3420	1120	1560	1650	1130	2420	1300	692	482	393	324
28	576	7460	1100	1480	1590	1100	2060	1230	685	462	381	321
29	523	6570	1350	1400	1480	1080	1860	1200	663	486	375	322
30	490	8570	3500	1320	---	1040	1720	1140	645	494	391	328
31	463	---	4930	1310	---	1210	---	1090	---	459	373	---
TOTAL	18494	76368	76470	74520	122280	47330	54090	43070	24504	16827	11627	9836
MEAN	597	2546	2467	2404	4217	1527	1803	1389	817	543	375	328
MAX	1120	8860	7220	4620	19200	2120	5570	1880	1120	749	441	517
MIN	342	419	1100	1310	1250	1040	1180	1050	621	435	302	282
AC-FT	36680	151500	151700	147800	242500	93880	107300	85430	48600	33380	23060	19510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1996, BY WATER YEAR (WY)

MEAN	470	1048	1443	1574	1615	1337	1314	1193	931	588	398	375
MAX	929	2546	4109	3313	4217	2915	2358	2418	2439	1687	1088	804
(WY)	1900	1996	1978	1974	1996	1972	1916	1969	1899	1899	1899	1899
MIN	218	282	438	363	430	681	704	532	278	229	209	188
(WY)	1988	1988	1977	1979	1977	1977	1973	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1898 - 1996	
ANNUAL TOTAL	439737		575416			
ANNUAL MEAN	1205		1572		1015	
HIGHEST ANNUAL MEAN					1664	1899
LOWEST ANNUAL MEAN					465	1977
HIGHEST DAILY MEAN	8860	Nov 11	19200	Feb 7	19200	Feb 7 1996
LOWEST DAILY MEAN	244	Sep 24	282	Sep 7	144	Sep 13 1994
ANNUAL SEVEN-DAY MINIMUM	254	Aug 23	291	Sep 4	155	Sep 10 1994
ANNUAL RUNOFF (AC-FT)	872200		1141000		735700	
10 PERCENT EXCEEDS	2430		3100		1900	
50 PERCENT EXCEEDS	893		1190		779	
90 PERCENT EXCEEDS	297		351		310	

14128600 COLUMBIA RIVER AT STEVENSON, WA

LOCATION.--Lat 45°41'58", long 121°52'02", in NW 1/4 SE 1/4 sec.36, T.3 N., R.7-1/2 E., Skamania County, Hydrologic Unit 17070105, on right bank 0.9 mi east of Stevenson, and at mile 151.3.

DRAINAGE AREA.--239,800 mi^2, approximately.

PERIOD OF RECORD.--October 1973 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Flow regulated by many reservoirs upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 79.79 ft June 20, 1974; minimum, 70.39 ft Oct. 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 79.63 ft Feb. 8; minimum, 73.00 ft Dec. 19.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	75.76	74.96	75.27	75.85	74.80	75.24	77.06	76.53	76.85	75.28	73.94	74.40
2	75.42	74.49	74.93	75.96	75.08	75.62	76.80	76.13	76.56	73.94	73.33	73.59
3	75.32	73.98	74.38	75.84	75.28	75.49	77.01	76.68	76.92	74.20	73.30	73.74
4	75.43	74.40	74.70	75.40	74.74	75.02	77.53	76.61	77.02	74.31	73.90	74.13
5	75.37	74.14	74.68	75.44	74.38	74.72	77.17	76.29	76.64	74.42	74.24	74.34
6	75.56	74.96	75.23	75.69	73.70	74.60	76.63	76.11	76.43	74.24	73.32	73.78
7	75.90	75.39	75.63	76.50	74.61	75.64	76.34	75.85	76.06	73.67	73.44	73.56
8	75.78	74.93	75.22	76.79	76.20	76.51	76.94	76.28	76.78	74.47	73.39	73.67
9	75.81	74.84	75.22	76.46	75.92	76.10	77.02	76.29	76.65	74.47	73.42	73.75
10	76.03	75.10	75.42	76.58	75.40	76.02	77.02	76.23	76.45	76.32	73.72	75.00
11	75.95	75.19	75.51	76.37	75.37	76.01	76.65	74.88	75.72	77.26	76.27	76.83
12	76.74	74.20	75.16	76.00	74.40	74.85	76.80	75.99	76.40	77.29	76.90	77.01
13	76.60	74.74	75.50	75.25	74.15	74.62	77.44	76.54	77.15	77.20	75.40	76.13
14	76.37	75.63	76.05	75.54	74.18	74.94	77.95	77.08	77.49	75.70	75.30	75.53
15	76.43	75.44	76.02	76.31	74.72	75.34	77.52	76.28	76.72	75.46	74.26	74.77
16	76.24	74.51	75.18	76.20	74.76	75.08	77.00	76.32	76.61	76.35	74.51	75.25
17	75.76	74.34	74.94	75.44	74.69	75.14	76.92	76.09	76.33	77.33	76.11	76.62
18	75.66	75.25	75.41	76.52	74.88	75.52	76.17	73.62	74.61	77.55	76.63	77.09
19	76.08	75.35	75.69	76.47	74.52	75.37	74.94	73.00	73.77	76.63	76.18	76.38
20	76.43	75.90	76.09	75.02	73.06	74.31	75.93	74.82	75.37	77.55	76.44	76.89
21	75.91	74.78	75.15	74.73	73.43	74.04	76.22	75.64	75.99	77.68	77.12	77.40
22	75.76	75.38	75.60	76.09	73.58	74.59	77.17	75.60	76.36	77.26	77.16	77.22
23	75.65	75.01	75.26	75.91	74.55	75.25	77.30	76.68	76.97	77.29	75.67	76.62
24	76.02	74.89	75.36	74.93	73.27	73.90	77.01	75.77	76.31	75.83	75.57	75.72
25	76.30	75.23	75.79	75.92	73.30	74.55	76.40	75.00	75.72	75.84	74.62	75.27
26	76.27	75.22	75.60	75.89	73.60	74.67	76.20	74.77	75.39	75.41	74.53	74.88
27	75.85	74.81	75.33	77.16	75.49	76.27	76.90	75.17	76.20	75.17	73.79	74.38
28	75.84	74.76	75.18	76.55	75.09	75.86	76.72	75.89	76.43	75.79	74.35	75.22
29	76.09	75.05	75.53	77.53	76.51	77.09	76.33	74.59	75.49	74.88	74.24	74.66
30	75.80	74.34	74.86	77.18	76.04	76.51	76.85	74.78	75.89	75.07	74.17	74.71
31	75.36	74.39	74.87	---	---	---	76.77	75.28	75.80	74.47	73.73	73.98
MONTH	76.74	73.98	75.31	77.53	73.06	75.30	77.95	73.00	76.23	77.68	73.30	75.24

14128600 COLUMBIA RIVER AT STEVENSON, WA--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	75.27	73.64	74.24	77.35	76.32	76.78	76.31	74.00	74.78	77.36	76.79	77.12
2	75.36	74.05	74.73	76.84	75.62	76.12	76.32	74.80	75.63	78.17	76.51	77.21
3	75.56	74.03	74.72	76.62	75.35	75.99	77.12	75.23	75.85	77.06	75.23	76.39
4	75.73	75.22	75.50	76.66	75.90	76.20	77.30	76.49	76.98	77.22	75.44	76.09
5	76.00	74.92	75.42	76.14	75.58	75.89	77.05	76.02	76.64	77.36	76.78	77.13
6	78.16	75.86	76.73	77.13	75.43	76.45	77.49	75.89	76.67	76.94	75.81	76.23
7	78.18	77.54	77.86	76.71	75.91	76.32	77.28	76.09	76.54	77.15	75.50	76.42
8	79.63	77.88	78.89	76.78	75.56	76.05	76.90	74.43	75.41	76.94	76.58	76.75
9	79.11	76.93	78.26	76.14	74.85	75.55	76.40	74.65	75.50	77.57	76.60	77.17
10	78.78	77.63	78.16	75.87	74.80	75.32	76.66	75.38	76.10	77.25	75.75	76.61
11	78.06	77.26	77.76	75.95	75.18	75.58	77.92	76.43	77.37	76.68	75.92	76.24
12	77.97	76.64	77.22	77.11	75.37	76.07	78.23	77.17	77.66	76.61	75.80	76.08
13	77.11	76.06	76.72	77.27	76.02	76.67	77.71	76.80	77.28	76.52	74.42	74.89
14	77.87	75.78	76.55	76.16	75.16	75.68	77.65	77.06	77.35	76.01	74.38	75.27
15	77.67	76.71	77.06	77.01	75.12	75.79	77.74	77.22	77.53	76.55	75.54	76.06
16	77.21	76.20	76.75	78.13	75.39	76.88	77.84	76.52	77.35	75.80	74.87	75.34
17	77.67	76.75	77.23	77.10	75.99	76.65	76.99	75.69	76.09	75.88	75.15	75.52
18	77.80	76.76	77.21	77.61	75.75	76.85	78.12	76.99	77.67	76.08	75.51	75.83
19	78.13	77.31	77.86	77.24	76.08	76.67	77.58	76.36	76.96	76.65	75.73	76.07
20	78.51	76.80	77.34	76.86	75.20	76.00	77.42	76.35	77.04	76.79	76.41	76.60
21	78.80	77.19	78.05	77.31	75.08	76.16	77.81	77.32	77.48	76.96	76.59	76.87
22	77.60	75.96	76.78	76.99	74.79	76.10	77.35	75.71	76.50	76.84	75.81	76.48
23	77.53	76.79	77.08	78.00	75.91	77.09	77.11	76.51	76.78	77.93	76.60	77.03
24	76.92	76.15	76.59	78.06	75.68	76.85	77.60	76.28	76.76	78.03	77.51	77.74
25	77.19	75.88	76.40	77.95	75.84	76.91	77.69	76.90	77.29	78.46	77.99	78.20
26	77.77	76.96	77.36	77.95	76.03	77.21	78.14	77.58	77.82	78.13	76.74	77.23
27	77.25	76.11	76.60	76.47	74.73	75.37	78.14	76.42	77.12	77.22	76.84	77.05
28	77.22	76.55	76.94	76.91	75.75	76.23	78.12	76.96	77.58	77.05	76.31	76.68
29	77.26	75.50	76.48	78.13	75.95	76.92	78.25	77.03	77.47	76.50	75.52	75.95
30	---	---	---	78.13	76.07	76.97	77.04	76.38	76.88	78.66	76.50	77.59
31	---	---	---	76.07	74.54	75.35	---	---	---	78.61	77.55	78.26
MONTH	79.63	73.64	76.84	78.13	74.54	76.28	78.25	74.00	76.80	78.66	74.38	76.58

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	77.85	77.46	77.63	75.94	73.76	74.57	77.19	75.95	76.46	76.61	75.11	75.70
2	77.94	76.53	77.42	75.34	73.65	74.37	76.40	75.73	76.06	75.60	74.02	74.52
3	76.53	75.84	76.15	76.92	75.04	75.89	76.39	75.91	76.11	74.60	73.52	74.02
4	76.24	75.83	76.07	76.74	76.36	76.53	76.13	74.92	75.75	74.76	73.16	73.92
5	76.95	76.19	76.72	76.79	76.14	76.50	76.12	74.70	75.47	75.50	74.50	75.00
6	76.92	76.53	76.77	76.82	76.06	76.48	76.83	75.88	76.25	76.13	73.90	74.95
7	77.00	76.03	76.53	76.71	75.66	76.09	76.98	76.44	76.64	76.01	75.23	75.67
8	77.24	75.76	76.40	77.25	76.10	76.54	77.20	76.15	76.74	75.92	74.72	75.20
9	77.62	77.10	77.43	77.55	76.06	76.77	77.13	75.92	76.26	75.61	74.25	74.77
10	78.37	77.08	77.96	77.56	76.33	76.96	76.53	76.13	76.30	74.80	73.80	74.26
11	78.22	77.78	78.05	76.33	75.86	76.12	76.25	74.34	75.40	75.93	74.07	74.95
12	78.22	77.53	77.89	76.15	75.05	75.59	75.38	73.65	74.51	76.46	75.10	75.80
13	77.64	77.10	77.38	76.52	75.55	76.09	75.65	74.27	74.91	76.28	75.40	75.93
14	77.23	76.51	76.94	76.41	75.86	76.06	75.93	74.18	75.31	76.53	75.52	75.97
15	77.09	75.72	76.29	76.64	76.25	76.46	75.35	73.24	74.04	76.53	75.72	75.99
16	77.30	76.62	76.93	76.89	75.68	76.20	76.32	73.92	74.79	76.18	75.51	75.88
17	77.41	76.95	77.19	76.69	76.08	76.41	76.51	75.66	76.17	76.09	75.24	75.71
18	77.54	76.94	77.19	76.46	75.38	75.82	75.68	75.52	75.61	76.47	75.15	75.73
19	77.60	76.23	77.09	76.48	75.03	75.75	75.92	75.32	75.70	76.44	75.09	75.44
20	78.46	77.31	77.82	76.13	75.09	75.62	76.23	75.27	75.69	75.22	74.08	74.43
21	77.60	76.97	77.20	76.83	75.30	75.89	76.50	75.86	76.23	75.12	74.01	74.37
22	77.84	77.16	77.50	77.01	75.47	76.04	77.11	76.25	76.53	76.58	74.69	75.44
23	77.38	76.86	77.21	77.01	75.21	75.70	77.06	74.35	75.63	76.65	75.54	76.03
24	77.03	76.41	76.66	77.47	75.80	76.64	74.35	73.68	73.97	75.99	75.38	75.65
25	76.94	75.76	76.08	77.51	75.30	75.96	73.92	73.58	73.76	76.33	75.87	76.06
26	77.19	75.52	76.47	76.37	76.05	76.25	74.62	73.64	74.04	76.40	75.49	75.77
27	76.95	76.32	76.50	76.64	75.60	76.10	74.67	73.93	74.38	75.73	75.19	75.41
28	76.50	75.68	76.07	76.43	74.80	75.29	74.73	73.42	74.23	75.73	74.93	75.17
29	76.91	76.22	76.69	75.88	74.94	75.39	75.39	74.04	74.68	76.05	74.79	75.30
30	76.94	75.52	76.16	75.84	74.41	75.04	76.48	75.39	76.03	75.94	75.24	75.57
31	---	---	---	77.09	75.01	75.83	76.45	75.74	76.07	---	---	---
MONTH	78.46	75.52	76.95	77.56	73.65	75.97	77.20	73.24	75.47	76.65	73.16	75.29
YEAR	79.63	73.00	76.02									

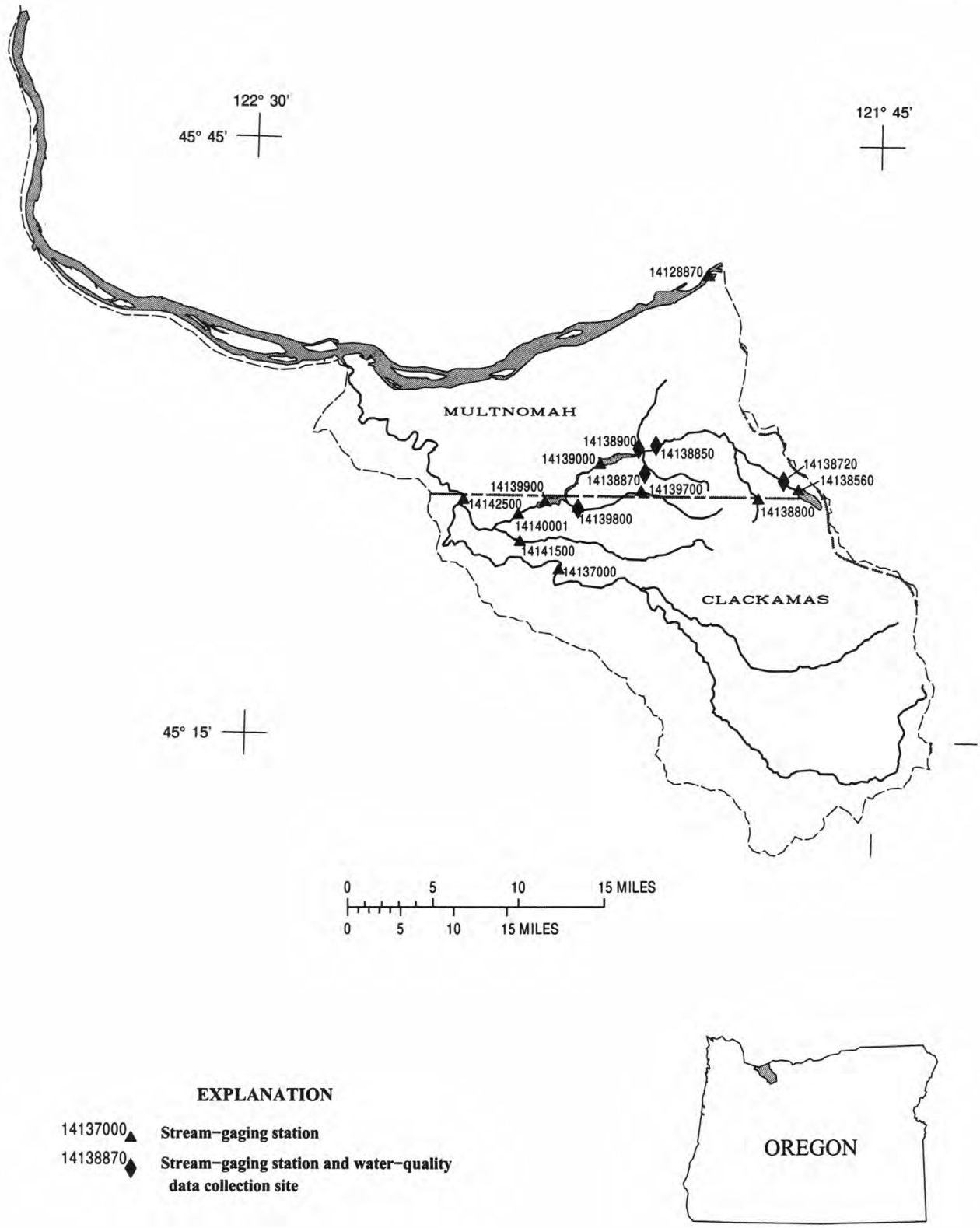


Figure 18. Location of surface-water and water-quality stations in the Columbia River between Bonneville Dam and confluence with the Willamette river and the Sandy River Basin.

14128870 COLUMBIA RIVER BELOW BONNEVILLE DAM, OR

LOCATION.--Lat 45°38'00", long 121°57'33", in sec.21, T.2 N., R.7 E., Multnomah County, Hydrologic Unit 17080001, on left bank 0.9 mi downstream from Bonneville Dam left bank powerhouse, 50 ft upstream from Tanner Creek, and at mile 144.5.

DRAINAGE AREA.--239,900 mi^2, approximately.

PERIOD OF RECORD.--May 1981 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to August 15, 1990, at a site 0.5 mi upstream at the same datum.

REMARKS.--Flow regulated by many reservoirs upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 35.11 ft Feb. 9, 1996; minimum, 6.22 ft Sept. 26, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 35.11 ft Feb. 9; minimum, 8.26 ft Oct. 1, 2.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.72	8.26	10.26	16.21	10.71	13.24	27.66	26.69	27.11	19.57	18.53	19.07
2	12.54	8.26	10.50	14.67	10.61	13.19	27.42	26.30	26.76	19.83	15.84	18.22
3	12.55	9.73	11.45	14.23	9.92	12.00	27.58	27.14	27.34	20.14	16.82	19.15
4	13.73	8.99	11.76	12.13	10.47	10.85	27.51	24.71	26.78	19.99	19.73	19.88
5	12.57	9.03	11.12	11.11	9.15	10.11	24.72	22.41	23.50	19.95	19.40	19.61
6	11.66	9.56	10.96	12.63	8.89	10.35	22.65	21.76	22.20	19.93	19.00	19.56
7	12.25	10.22	11.29	13.51	9.22	11.36	21.90	20.97	21.58	20.63	18.95	19.88
8	11.89	10.88	11.27	15.80	8.96	12.65	21.26	20.81	20.96	20.94	19.01	20.58
9	12.55	10.52	11.41	14.01	10.02	12.62	21.22	20.59	20.90	21.14	19.70	20.66
10	13.87	10.73	12.48	15.42	10.88	13.76	21.09	20.12	20.57	19.71	18.64	19.05
11	14.29	12.10	13.21	17.89	12.54	15.43	22.01	19.96	20.66	22.48	18.66	21.26
12	14.00	10.32	12.51	18.05	15.32	17.14	24.62	21.48	22.95	22.84	22.48	22.67
13	15.84	12.10	14.13	17.87	14.27	16.44	26.23	24.01	25.43	22.90	21.31	22.23
14	15.25	13.80	14.33	17.35	13.42	15.44	26.16	25.17	25.79	22.13	21.10	21.54
15	14.66	10.61	12.30	17.31	15.03	16.19	25.40	24.90	25.13	22.45	20.73	22.06
16	11.50	8.40	10.08	16.67	14.61	15.67	25.00	23.95	24.69	22.56	20.85	22.19
17	11.24	8.32	9.72	15.74	14.23	14.88	24.40	23.41	23.79	22.72	22.14	22.49
18	13.81	8.42	11.55	16.57	12.96	15.24	23.67	20.98	22.99	23.27	22.25	22.74
19	13.35	9.26	11.92	17.28	16.09	16.60	21.72	19.52	20.70	23.41	23.12	23.25
20	14.51	10.92	13.27	18.07	14.88	16.66	21.80	20.38	20.82	23.67	23.21	23.45
21	13.53	11.37	12.12	18.05	14.93	16.20	21.95	20.46	21.24	24.59	23.29	23.83
22	12.55	10.32	11.63	16.91	13.92	15.75	21.64	20.40	20.80	24.90	24.53	24.74
23	12.69	10.52	11.80	17.09	16.29	16.53	22.01	19.81	21.40	24.91	23.87	24.61
24	12.02	9.74	11.25	16.96	14.41	16.12	21.80	19.62	20.73	24.84	24.12	24.29
25	14.35	11.59	12.85	16.97	13.96	15.78	21.22	19.90	20.31	24.26	22.40	23.61
26	14.28	11.79	12.77	17.34	16.83	17.06	20.04	16.14	17.46	23.58	22.21	23.11
27	14.06	12.90	13.38	21.79	15.73	18.30	19.61	18.53	19.25	22.21	20.15	21.15
28	14.23	12.04	13.12	26.10	19.87	22.27	19.50	17.68	18.58	20.62	19.78	20.33
29	12.53	9.84	11.27	26.93	25.35	26.03	18.91	16.93	17.79	21.75	19.50	20.65
30	12.77	10.56	11.37	27.01	25.53	26.07	17.97	15.33	16.98	21.77	20.08	20.76
31	11.97	10.30	11.24	---	---	---	19.33	17.54	18.64	21.03	19.96	20.65
MONTH	15.84	8.26	11.88	27.01	8.89	15.66	27.66	15.33	22.06	24.91	15.84	21.52

14128870 COLUMBIA RIVER BELOW BONNEVILLE DAM, OR--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	20.37	19.49	20.01	27.95	26.12	26.93	19.99	18.11	18.82	26.82	25.33	25.88
2	21.27	20.04	20.75	26.34	24.56	25.51	21.57	18.69	20.07	27.87	24.40	26.38
3	21.23	18.84	19.31	24.56	21.97	22.96	21.25	19.28	19.90	25.42	23.87	24.57
4	20.98	17.06	19.37	24.53	21.88	23.16	22.25	19.89	21.23	25.68	23.56	24.79
5	20.43	17.06	18.39	27.43	24.40	26.60	22.35	20.80	21.33	24.83	24.06	24.49
6	26.35	19.45	21.81	27.36	23.46	25.04	22.71	21.33	21.87	25.31	23.64	24.53
7	30.88	26.31	28.34	25.12	24.17	24.46	23.22	20.81	21.74	23.66	22.52	23.01
8	34.64	30.79	33.16	26.30	23.96	25.01	22.72	19.38	20.43	23.35	21.95	22.82
9	35.11	33.53	34.28	26.15	23.24	24.51	20.23	18.38	19.60	24.53	21.94	23.29
10	34.09	33.10	33.74	24.75	21.34	23.28	23.80	19.87	22.37	24.19	21.27	22.22
11	33.64	31.21	32.69	25.52	22.95	24.32	25.61	23.80	24.41	22.34	20.02	20.88
12	31.40	29.46	30.48	25.88	24.49	25.06	26.46	25.25	25.62	21.58	20.49	21.12
13	29.64	28.27	29.02	26.61	24.62	25.74	26.10	24.99	25.35	22.18	20.16	20.75
14	29.46	26.79	28.63	27.06	25.75	26.40	25.31	24.90	25.06	24.32	20.03	21.71
15	28.05	25.88	27.09	27.90	23.72	26.04	25.38	24.44	25.08	25.54	23.53	24.46
16	28.15	26.21	27.37	27.47	23.38	25.25	25.49	24.64	25.11	25.18	23.64	24.49
17	29.32	26.99	28.00	26.75	23.77	25.15	25.05	24.67	24.83	25.82	24.70	25.16
18	29.24	26.90	28.29	26.86	23.17	24.40	26.79	24.88	25.87	28.29	24.96	27.03
19	29.83	28.75	29.14	25.17	22.77	23.80	26.87	26.45	26.59	28.97	27.89	28.50
20	30.64	29.63	30.04	26.16	22.84	24.01	26.59	24.28	25.18	29.45	28.21	28.98
21	30.00	29.35	29.68	25.34	21.58	23.86	26.12	24.40	25.10	29.12	28.57	28.94
22	29.69	27.52	28.96	25.02	22.18	23.01	25.76	24.19	24.65	29.15	27.50	28.12
23	29.62	28.69	28.97	24.64	21.71	23.09	27.93	25.22	26.44	28.70	27.48	28.16
24	29.46	28.37	28.99	24.85	21.70	22.87	29.22	27.54	28.33	29.29	27.48	28.20
25	29.23	28.58	28.98	24.51	20.59	22.20	29.48	28.38	28.68	28.11	27.56	27.80
26	29.07	28.07	28.60	24.83	21.66	23.41	29.47	29.07	29.25	28.26	26.47	27.30
27	28.23	27.70	27.90	24.83	21.44	22.52	29.65	29.17	29.36	26.88	25.80	26.56
28	27.82	26.91	27.34	21.93	20.95	21.62	29.66	28.65	29.34	27.80	26.30	26.83
29	28.16	26.95	27.51	22.04	20.75	21.68	28.85	26.03	27.05	28.50	26.67	27.78
30	---	---	---	21.92	19.49	20.98	26.82	24.96	25.83	28.95	27.94	28.51
31	---	---	---	19.57	18.25	19.00	---	---	---	28.76	26.57	27.80
MONTH	35.11	17.06	27.48	27.95	18.25	23.93	29.66	18.11	24.48	29.45	20.02	25.52

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.63	26.31	27.62	23.03	20.16	21.21	18.22	17.18	17.67	16.28	13.07	13.80
2	28.69	27.80	28.19	21.08	18.76	20.46	18.30	16.97	17.48	13.51	10.34	11.66
3	28.12	26.39	27.18	21.31	17.71	19.97	18.08	15.43	16.36	14.08	10.20	12.13
4	27.87	26.78	27.52	22.64	20.12	21.22	16.02	13.13	14.09	12.82	10.30	11.60
5	28.87	27.49	28.25	22.60	20.80	21.41	16.79	13.39	15.25	12.11	10.29	11.42
6	29.11	28.14	28.69	21.72	19.07	20.45	19.38	16.52	17.79	12.26	11.41	11.82
7	28.83	27.69	28.25	22.36	20.91	21.72	19.31	15.57	17.26	12.01	9.69	11.41
8	29.26	27.44	28.34	21.71	20.28	20.77	19.49	16.47	17.28	12.87	9.00	10.97
9	29.54	28.74	29.22	22.25	20.24	20.92	19.84	16.24	17.97	14.24	11.83	12.97
10	30.04	28.82	29.42	22.49	20.12	21.89	16.41	15.12	15.70	13.45	11.82	12.34
11	30.36	29.77	30.11	22.48	20.13	20.97	16.48	14.32	15.34	11.82	10.43	11.03
12	30.30	29.85	30.12	21.91	20.84	21.26	17.71	14.69	16.10	12.94	9.01	11.03
13	30.25	29.42	29.77	22.11	20.60	21.24	17.80	16.67	17.09	15.00	11.09	13.44
14	29.71	28.25	28.90	21.79	19.85	20.97	20.27	17.02	18.60	14.85	12.82	13.91
15	28.47	27.69	28.10	21.20	20.40	20.75	18.97	15.96	17.51	13.93	10.00	11.24
16	28.95	27.98	28.47	21.05	18.59	20.00	17.57	14.33	15.85	13.50	10.17	11.72
17	29.42	27.62	28.51	21.51	20.46	20.95	15.51	14.04	14.90	12.99	9.99	11.66
18	29.21	27.66	28.73	20.66	18.19	18.81	15.07	14.36	14.57	11.93	10.08	11.07
19	29.18	27.37	28.40	20.22	18.30	19.14	17.26	14.59	16.11	14.18	10.35	12.43
20	27.45	26.06	26.72	19.83	18.19	18.93	16.96	15.06	16.03	14.40	12.54	13.74
21	26.36	24.50	25.30	19.70	17.00	17.70	17.00	15.20	16.08	12.55	11.30	12.02
22	25.80	21.76	23.59	20.37	16.14	18.57	17.93	15.45	16.77	13.45	10.43	11.61
23	22.40	20.73	21.96	20.30	16.70	18.53	16.80	15.49	16.26	14.09	11.56	12.65
24	22.79	22.24	22.47	20.99	17.46	19.03	16.33	14.30	14.98	13.89	10.98	12.23
25	23.24	22.37	22.58	20.51	17.88	19.28	14.63	13.99	14.33	13.75	12.01	12.55
26	25.36	22.43	23.40	20.54	18.38	19.58	14.67	11.82	13.80	13.87	12.88	13.34
27	25.34	23.06	23.62	19.77	16.62	17.58	14.66	12.59	13.67	14.51	12.07	13.28
28	24.98	22.65	23.69	18.02	14.29	15.85	16.10	13.58	14.70	13.59	10.17	11.38
29	24.09	23.23	23.73	17.79	14.80	16.17	16.10	13.26	14.63	11.04	8.84	10.01
30	24.18	23.01	23.70	17.90	14.84	16.29	15.21	13.39	14.27	11.64	10.71	11.23
31	---	---	---	17.88	14.06	15.46	16.28	13.78	14.90	---	---	---
MONTH	30.36	20.73	26.82	23.03	14.06	19.58	20.27	11.82	15.91	16.28	8.84	12.06
YEAR	35.11	8.26	20.55									

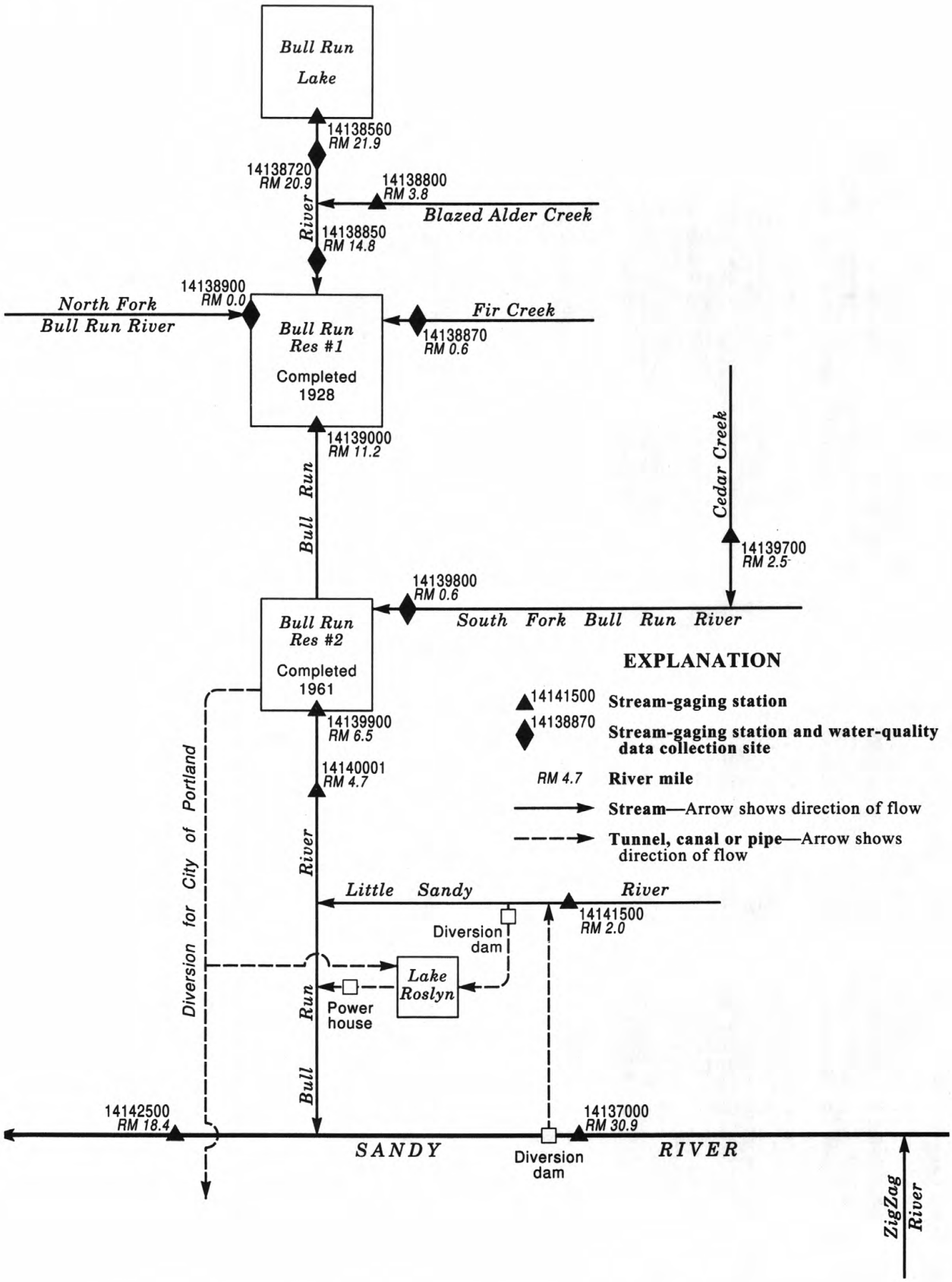


Figure 19. Schematic diagram showing gaging stations and diversions in the Sandy River Basin.

14137000 SANDY RIVER NEAR MARMOT, OR

LOCATION.--Lat 45°23'30", long 122°07'40", in SE 1/4 sec.13, T.2 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, on right bank 0.7 mi southwest of Marmot, 0.8 mi upstream from Sandy River Dam of Portland General Electric Co., 6.6 mi downstream from Salmon River, and at mile 30.9.

DRAINAGE AREA.--262 mi^2.

PERIOD OF RECORD.--August 1911 to current year. Monthly discharges only, January to September 1916, October 1918 to June 1919, published in WSP 1318. Published as "at Marmot" October 1912 to September 1913. Records for January 1916 to June 1919, published as "below dam, near Marmot," obtained by combining records for Sandy River below dam, near Marmot, with records for Sandy River Canal near Marmot.

REVISED RECORDS.--WSP 594: Drainage area. WSP 1288: 1912(M), 1915, 1922, 1924, 1934(M). WSP 1318: 1932(M).

GAGE.--Water-stage recorder. Elevation of gage is 730 ft above sea level, from river-profile map. Aug. 15, 1911, to Dec. 20, 1915, and July 2, 1919, to Oct. 19, 1933, nonrecording gage at site 1.0 mi upstream at different datum. Oct. 20, 1933, to Sept. 30, 1958, water-stage recorder at site 0.6 mi upstream at different datum.

REMARKS.--Records good except for those above 6,000 ft^3/s and estimated daily discharges, which are fair and those above 10,000 ft^3/s, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--85 years (water years 1912-96), 1,355 ft^3/s, 70.23 in/yr, 981,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,400 ft^3/s Dec. 22, 1964, gage height, 17.05 ft, from rating curve extended above 7,000 ft^3/s; maximum gage height, 20.40 ft, Feb. 7, 1996; minimum, 190 ft^3/s Oct. 13, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	2130	7,890	11.53	Dec. 1	0530	18,400	14.07
Nov. 11	1600	34,400	16.65	Dec. 30	1800	13,700	13.16
Nov. 28	0400	36,000	16.87	Feb. 7	2100	*a48,100	*20.40
Nov. 30	0400	22,400	14.81				

Minimum discharge, 299 ft^3/s Sept. 7-11.
a From rating curve extended above 4,600 ft^3/s on basis of runoff comparisons with nearby stations.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	556	752	14300	4820	e1000	e1240	1240	1650	1180	646	434	338
2	495	696	7780	3220	e960	e1270	1310	1520	1130	638	423	326
3	2020	654	5220	3710	e930	e1470	1220	1460	1130	647	445	318
4	1450	624	5430	3560	e980	e2860	1140	1390	1080	670	436	313
5	913	667	3950	2890	e1600	e2980	1110	1310	1010	649	429	315
6	708	1180	3080	3200	11000	e1900	1160	1230	961	604	433	311
7	613	1680	2580	4540	33800	1790	1250	1180	960	580	417	304
8	572	3460	2170	5450	e18000	2030	1350	1120	927	571	408	299
9	555	4740	2340	3910	e16000	2150	1380	1060	872	571	410	301
10	639	3450	2790	3300	e7500	2170	1320	1010	825	564	414	301
11	2900	20000	4060	2610	e4900	2350	1290	981	799	553	423	302
12	2670	9740	5040	2190	e3440	2420	1380	1000	784	549	405	309
13	1720	6220	4240	1900	e2810	2190	1750	1270	769	549	390	315
14	1240	4210	3790	1800	e2620	1950	1620	1460	755	547	403	320
15	993	3170	3520	2930	e2530	1800	1580	1700	736	544	397	430
16	939	2650	2880	4550	e2360	1640	1980	1620	716	534	378	567
17	1050	2150	2390	3210	e2550	1510	1810	1620	698	516	366	621
18	1540	2040	2060	2480	e5050	1430	1630	1750	757	519	357	543
19	1120	1730	1830	2690	e5050	1410	1500	2080	729	512	350	477
20	965	1520	1650	3300	e3790	1330	1410	1830	664	486	345	456
21	979	1390	1490	3250	e3060	1260	1360	1660	639	472	341	410
22	1030	1360	1360	2380	e2350	1240	1640	2590	623	468	336	381
23	909	1320	1250	2050	e2380	1180	3090	3320	691	471	332	367
24	832	1620	1160	1870	e2020	1130	6010	2630	859	478	341	346
25	837	4260	1090	1650	e1750	1050	4230	2130	759	488	357	329
26	2290	4180	1030	1490	e1580	1020	3470	1820	700	477	378	318
27	1690	6540	988	1400	e1540	992	2810	1600	678	475	380	314
28	1300	22500	980	1310	e1360	956	2340	1480	712	466	363	311
29	1070	11100	1910	1230	e1260	938	2020	1460	718	462	349	307
30	926	17700	7380	e1170	---	900	1800	1410	678	465	359	306
31	828	---	9560	e1070	---	1070	---	1270	---	455	357	---
TOTAL	36349	143303	109298	85130	144170	49626	57200	49611	24539	16626	11956	10855
MEAN	1173	4777	3526	2746	4971	1601	1907	1600	818	536	386	362
MAX	2900	22500	14300	5450	33800	2980	6010	3320	1180	670	445	621
MIN	495	624	980	1070	930	900	1110	981	623	455	332	299
AC-FT	72100	284200	216800	168900	286000	98430	113500	98400	48670	32980	23710	21530
CFSM	4.48	18.2	13.5	10.5	19.0	6.11	7.28	6.11	3.12	2.05	1.47	1.38
IN.	5.16	20.35	15.52	12.09	20.47	7.05	8.12	7.04	3.48	2.36	1.70	1.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1996, BY WATER YEAR (WY)

MEAN	651	1607	2066	2010	1888	1644	1886	1804	1223	643	428	417
MAX	2168	4777	6278	4752	4971	3983	3134	3443	3457	1385	663	1056
(WY)	1960	1996	1965	1953	1996	1972	1962	1949	1917	1917	1974	1959
MIN	239	236	445	498	464	631	658	743	420	354	268	244
(WY)	1988	1937	1977	1937	1977	1941	1941	1992	1992	1992	1940	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1912 - 1996	
ANNUAL TOTAL	657917		738663			
ANNUAL MEAN	1803		2018		1351	
HIGHEST ANNUAL MEAN					2018	1996
LOWEST ANNUAL MEAN					766	1977
HIGHEST DAILY MEAN	22500	Nov 28	33800	Feb 7	41400	Dec 22 1964
LOWEST DAILY MEAN	318	Sep 24	299	Sep 8	193	Oct 13 1994
ANNUAL SEVEN-DAY MINIMUM	328	Sep 20	304	Sep 6	196	Oct 7 1994
ANNUAL RUNOFF (AC-FT)	1305000		1465000		978600	
ANNUAL RUNOFF (CFSM)	6.88		7.70		5.16	
ANNUAL RUNOFF (INCHES)	93.41		104.88		70.05	
10 PERCENT EXCEEDS	3450		3830		2620	
50 PERCENT EXCEEDS	1180		1240		990	
90 PERCENT EXCEEDS	417		378		350	

e Estimated

14138560 BULL RUN LAKE NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°27'39", long 121°50'34", in SE 1/4 SE 1/4 sec.20, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, in Mount Hood National Forest, in main cabin on northwest side of Bull Run Lake, near outlet structure, 10.7 mi northeast of Brightwood, and at mile 21.9.

DRAINAGE AREA.--3.5 mi^2.

PERIOD OF RECORD.--October 1992 to current year.

REVISED RECORDS.--WDR- OR-95-1: 1993, 1994.

GAGE.--Water-stage recorder. Datum of gage is 3,147.2 ft above sea level, Portland Water Bureau datum.

REMARKS.--Bull Run Lake was formed by natural processes, including a large landslide. A temporary log crib dam was constructed in 1917 to increase the capacity of the lake. In 1920 the log crib dam was reconstructed. A concrete dam and improved outlet valve were constructed in 1958. A lower outlet and tunnel was constucted in 1961. Portland Water Bureau releases water from the lake to augment streamflows during periods of low flow.

COOPERATION.--Capacity table provided by Portland Water Bureau.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 48,340 acre-ft Feb. 9, 1996, elevation, 3,185.02 ft; minimum contents observed, 31,080 acre-ft Oct. 29, 1992, elevation, 3,143.97 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 48,340 acre-ft Feb. 9, elevation, 3,185.02 ft; minimum contents, 39,350 acre-ft Oct. 10, elevation, 3,164.70 ft.

Capacity Table (elevation, in feet and contents, in acre-feet)

2,905	0	3,100	17,280
2,940	229	3,140	29,510
2,980	1,270	3,150	33,410
3,020	3,740	3,160	37,380
3,060	8,880	3,180	46,080

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3164.78	3166.04	3177.73	3180.32	3179.78	---	---	3180.44	3180.07	3177.16	3173.42	3170.00
2	3164.79	3165.98	3178.03	3180.43	3179.69	---	---	3180.39	3180.00	3177.04	3173.37	3169.90
3	3165.01	3165.92	3178.20	3180.81	3179.73	---	---	3180.34	3179.93	3176.91	3173.25	3169.79
4	3164.98	3165.87	3178.51	3180.88	3179.64	---	3178.90	3180.27	3179.83	3176.82	3173.11	3169.69
5	3164.93	3166.00	3178.57	3180.84	3179.81	---	3178.84	3180.19	3179.76	3176.71	3173.04	3169.59
6	3164.88	3166.16	3178.57	3180.82	3181.50	---	3178.83	3180.10	3179.66	3176.59	3172.93	3169.49
7	3164.83	3166.42	3178.57	3181.12	3183.25	---	3178.89	3180.03	3179.55	3176.47	3172.82	3169.38
8	3164.81	3167.27	3178.49	3181.17	3184.47	---	3178.97	3179.95	3179.46	3176.34	3172.71	3169.28
9	3164.76	3167.64	3178.57	3181.13	3184.94	---	3179.02	3179.87	3179.35	3176.19	3172.59	3169.18
10	3164.96	3168.06	3178.59	3181.02	3184.76	---	3179.09	3179.78	3179.23	3176.09	3172.48	3169.08
11	3165.31	3170.06	3178.76	3180.90	3184.57	---	3179.14	3179.70	3179.12	3175.97	3172.35	---
12	3165.51	3170.44	3178.97	3180.77	3184.40	---	3179.29	3179.71	3179.00	3175.84	3172.24	3168.84
13	3165.54	3170.96	3179.06	3180.64	3183.99	---	3179.30	3179.82	3178.88	3175.71	3172.12	3168.76
14	3165.54	3171.14	3179.29	3180.70	3183.82	---	3179.28	3179.87	3178.76	3175.60	3172.00	---
15	3165.54	3171.31	3179.36	3180.89	3183.39	---	3179.35	3179.94	3178.63	3175.45	3171.89	3168.78
16	3165.60	3171.36	3179.36	3181.04	3183.24	---	3179.43	3179.95	3178.51	3175.33	3171.77	3168.74
17	3165.80	3171.46	3179.29	3180.95	3183.22	---	3179.52	3179.97	3178.44	3175.23	3171.67	3168.66
18	3165.82	3171.45	3179.28	3180.94	3183.29	---	3179.51	3180.15	3178.37	3175.13	3171.54	3168.57
19	3165.79	3171.43	3179.22	3180.93	3183.19	---	3179.51	3180.20	3178.25	3175.01	3171.42	3168.50
20	3165.81	3171.40	3179.15	3180.97	3182.75	---	3179.48	3180.20	3178.13	3174.89	3171.31	3168.40
21	3165.91	3171.40	3179.07	3180.87	3182.31	---	3179.44	3180.24	3178.01	3174.77	3171.21	3168.33
22	3165.89	3171.42	3178.97	3180.74	3182.07	---	3179.64	3180.43	3177.88	3174.64	3171.09	3168.27
23	3165.86	3171.44	3178.86	3180.73	3181.77	---	3180.32	3180.50	3177.87	3174.53	3170.98	3168.13
24	3165.84	3171.79	3178.81	3180.66	3181.34	---	3180.79	3180.47	3177.81	3174.41	3170.86	3168.05
25	3166.03	3172.44	3178.65	3180.56	---	---	3180.90	3180.44	3177.72	3174.29	3170.76	3167.96
26	3166.20	3172.84	3178.57	3180.45	---	---	3180.86	3180.38	3177.65	3174.17	3170.65	3167.85
27	3166.23	3173.65	3178.46	3180.41	---	---	3180.79	3180.31	3177.56	3174.05	3170.54	3167.75
28	3166.24	3174.62	3178.43	3180.39	---	---	3180.68	3180.30	3177.48	3173.93	3170.43	3167.66
29	3166.21	3175.89	3178.70	3180.30	---	---	3180.59	3180.26	3177.38	3173.81	3170.33	3167.57
30	3166.15	3177.02	3179.75	3180.06	---	---	3180.51	3180.22	3177.27	3173.68	3170.23	3167.47
31	3166.07	---	3180.22	3179.95	---	---	---	3180.14	---	3173.56	3170.11	---
MAX	3166.24	3177.02	3180.22	3181.17	---	---	---	3180.50	3180.07	3177.16	3173.42	---
MIN	3164.76	3165.87	3177.73	3179.95	---	---	---	3179.70	3177.27	3173.56	3170.11	---
(†)	39940	44740	46180	46060	a45870	a45310	46310	46150	44850	43200	41680	40540
(‡)	+530	+4800	+1440	-120	-190	-560	+1000	-160	-1300	-1650	-1520	-1140

CAL YR 1995 MAX 3180.22 MIN 3164.67 AC-FT‡ +5550
WTR YR 1996 MAX --- MIN --- AC-FT‡ +1130

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.
a Interpolated.

14138720 BULL RUN RIVER AT LOWER FLUME, NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°28'14", long 121°51'55", in SE 1/4 NE 1/4 sec.19, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, at flume, 1.0 mi downstream from outlet structure at Bull Run Lake, 10.4 mi northeast of Brightwood, and at mile 20.9.

DRAINAGE AREA.--5.08 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,840 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges Jan. 26 to Mar. 5, which are poor. Regulation at times by Bull Run Lake.

AVERAGE DISCHARGE.--4 years (water years 1993-96), 24.2 ft^3/s, 17,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 148 ft^3/s Feb. 7, 1996, gage height, 3.05 ft, from rating curve extended above 63 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 8.2 ft^3/s Oct. 28, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148 ft^3/s Feb. 7, gage height, 3.05 ft, from rating curve extended above 63 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 16 ft^3/s Oct. 1-3, 5-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	97	43	e28	e48	30	74	38	26	22	18
2	16	19	91	41	e26	e48	30	69	37	26	22	18
3	17	19	86	45	e26	e48	30	62	36	25	22	18
4	17	18	85	46	e26	e55	30	56	35	25	22	18
5	16	18	76	47	e26	e60	29	51	34	25	21	18
6	16	19	67	53	e42	55	29	47	33	25	21	18
7	16	20	60	65	e130	49	29	44	32	25	21	18
8	16	25	53	75	e110	45	30	41	32	25	21	18
9	16	29	48	80	e70	42	30	39	31	24	21	18
10	16	28	46	86	e60	41	31	37	31	24	21	18
11	19	62	45	95	e60	40	31	36	30	24	21	e18
12	19	48	45	100	e55	39	31	34	30	24	21	18
13	19	45	46	99	e55	38	32	34	30	24	21	19
14	18	42	45	93	e55	37	33	33	29	24	20	e18
15	18	42	45	88	e55	36	33	33	29	24	20	e18
16	18	41	43	91	e55	35	34	33	29	24	20	18
17	18	40	41	82	e60	35	35	33	29	24	20	18
18	18	38	40	80	e65	34	34	33	e28	23	20	17
19	18	36	39	82	e65	34	34	34	e28	23	20	17
20	18	34	38	81	e60	34	34	34	28	23	19	17
21	18	32	37	78	e60	33	34	34	28	23	19	17
22	18	30	36	75	e60	33	34	35	27	23	19	17
23	18	29	35	73	e55	33	43	37	27	23	19	17
24	18	30	33	68	e55	32	54	38	27	23	19	17
25	18	40	32	63	e55	32	52	39	27	23	19	17
26	19	38	31	e60	e55	32	53	39	27	22	19	17
27	19	44	31	e55	e50	31	58	40	27	22	19	17
28	19	61	30	e46	e50	31	67	40	26	22	19	17
29	19	71	32	e36	e50	30	74	41	26	22	19	17
30	19	94	42	e32	---	30	76	40	26	22	18	17
31	19	---	47	e28	---	30	---	39	---	22	18	---
TOTAL	549	1111	1522	2086	1619	1200	1174	1279	897	734	623	528
MEAN	17.7	37.0	49.1	67.3	55.8	38.7	39.1	41.3	29.9	23.7	20.1	17.6
MAX	19	94	97	100	130	60	76	74	38	26	22	19
MIN	16	18	30	28	26	30	29	33	26	22	18	17
AC-FT	1090	2200	3020	4140	3210	2380	2330	2540	1780	1460	1240	1050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1996, BY WATER YEAR (WY)

MEAN	13.2	21.1	27.4	33.9	32.2	29.7	29.7	29.3	23.4	19.7	16.9	14.9
MAX	17.7	37.0	49.1	67.3	55.8	38.7	39.1	41.3	29.9	23.7	20.1	17.6
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	10.5	11.9	16.4	15.3	15.6	21.5	25.2	21.2	18.5	16.2	13.4	11.6
(WY)	1993	1994	1993	1993	1993	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1993 - 1996	
ANNUAL TOTAL	10215		13322			
ANNUAL MEAN	28.0		36.4		24.2	
HIGHEST ANNUAL MEAN					36.4	1996
LOWEST ANNUAL MEAN					17.6	1994
HIGHEST DAILY MEAN	97	Dec 1	130	Feb 7	130	Feb 7 1996
LOWEST DAILY MEAN	16	Sep 25	16	Oct 1	8.4	Oct 27 1992
ANNUAL SEVEN-DAY MINIMUM	16	Oct 4	16	Oct 4	8.6	Oct 22 1992
ANNUAL RUNOFF (AC-FT)	20260		26420		17570	
10 PERCENT EXCEEDS	41		64		39	
50 PERCENT EXCEEDS	26		31		21	
90 PERCENT EXCEEDS	18		18		12	

e Estimated

14138720 BULL RUN RIVER AT LOWER FLUME, NEAR BRIGHTWOOD, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April to September 1996.
TEMPERATURE: October 1995 TO September 1996.

INSTRUMENTATION.--Water-quality monitor and data logger.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum during period April to September 1996, 30 microsiemens Sept. 4-30; minimum during period April to September 1996, 25 microsiement Apr. 23.
TEMPERATURE: Maximum 6.5°C many days during October to January; minimum, 3.0°C Feb. 6.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE ,APRIL TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	26	26	26	29	28	29
2	---	---	---	---	---	---	27	26	26	29	28	29
3	---	---	---	---	---	---	28	26	27	29	28	29
4	---	---	---	---	---	---	27	26	27	29	28	28
5	---	---	---	---	---	---	28	26	27	29	28	28
6	---	---	---	---	---	---	27	26	27	29	28	28
7	---	---	---	---	---	---	27	26	27	29	28	28
8	---	---	---	---	---	---	28	26	27	29	28	28
9	---	---	---	---	---	---	27	27	27	29	28	28
10	---	---	---	---	---	---	27	26	27	29	28	28
11	---	---	---	---	---	---	27	26	27	29	28	28
12	---	---	---	---	---	---	27	26	27	29	28	28
13	---	---	---	---	---	---	28	27	28	29	28	28
14	---	---	---	---	---	---	28	27	28	29	28	28
15	---	---	---	---	---	---	28	27	28	29	28	28
16	---	---	---	---	---	---	28	27	28	29	28	28
17	---	---	---	---	---	---	28	27	28	29	28	28
18	---	---	---	---	---	---	28	27	28	29	28	28
19	---	---	---	---	---	---	28	27	28	28	28	28
20	---	---	---	---	---	---	28	28	28	28	28	28
21	---	---	---	---	---	---	28	28	28	28	27	28
22	---	---	---	---	---	---	28	27	28	28	27	27
23	---	---	---	---	---	---	27	25	27	27	27	27
24	---	---	---	---	---	---	27	26	26	28	27	27
25	---	---	---	---	---	---	28	27	27	28	27	27
26	---	---	---	---	---	---	28	28	28	28	27	28
27	---	---	---	27	26	26	28	28	28	28	27	27
28	---	---	---	27	26	26	28	28	28	28	27	27
29	---	---	---	27	26	26	28	28	28	28	27	27
30	---	---	---	27	26	26	29	28	28	28	27	27
31	---	---	---	27	26	26	---	---	---	28	27	27
MONTH	---	---	---	---	---	---	29	25	27	29	27	28

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28	27	28	28	28	28	29	28	29	29	28	29
2	28	27	28	28	28	28	29	28	29	29	29	29
3	28	27	28	28	28	28	29	29	29	29	28	29
4	28	28	28	28	28	28	29	28	29	30	29	29
5	28	27	28	28	28	28	29	28	29	30	30	30
6	28	28	28	28	28	28	29	28	28	30	29	30
7	28	28	28	28	28	28	29	28	29	30	29	30
8	28	28	28	28	28	28	29	28	29	30	30	30
9	28	28	28	28	28	28	29	28	29	30	30	30
10	28	28	28	28	28	28	29	29	29	30	30	30
11	28	28	28	28	28	28	29	29	29	30	30	30
12	28	28	28	28	28	28	29	29	29	30	30	30
13	28	28	28	28	28	28	29	29	29	30	30	30
14	28	28	28	28	28	28	29	29	29	30	30	30
15	28	28	28	29	28	28	29	29	29	30	30	30
16	28	28	28	29	28	28	29	29	29	30	30	30
17	28	28	28	28	28	28	29	29	29	30	30	30
18	28	28	28	28	28	28	29	29	29	30	30	30
19	28	28	28	29	28	28	29	28	29	30	30	30
20	28	28	28	29	28	28	29	28	29	30	30	30
21	28	28	28	29	28	28	29	29	29	30	29	30
22	28	28	28	29	28	28	29	29	29	30	29	30
23	28	28	28	29	28	28	29	29	29	30	29	30
24	28	28	28	29	28	28	29	29	29	30	29	30
25	28	28	28	29	28	28	29	29	29	30	29	30
26	28	28	28	29	28	29	29	29	29	30	29	30
27	28	28	28	29	28	29	29	29	29	30	30	30
28	28	28	28	29	28	29	29	29	29	30	30	30
29	28	28	28	29	28	29	29	29	29	30	30	30
30	28	28	28	29	28	29	29	28	29	30	30	30
31	---	---	---	29	28	29	29	29	29	---	---	---
MONTH	28	27	28	29	28	28	29	28	29	30	28	30

14138720 BULL RUN RIVER AT LOWER FLUME, NEAR BRIGHTWOOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0
2	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
3	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.0	6.5
4	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.5
5	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
6	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
7	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.0	6.5
8	6.0	6.0	6.0	6.5	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5
9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.5	6.5	6.5
10	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5
11	6.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5
12	6.5	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
13	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
14	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
15	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.0	6.5	6.5	6.5
16	6.0	6.0	6.0	6.5	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5
17	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.0	6.5	6.5	6.5	6.5
18	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.0	6.5	6.5	6.0	6.5
19	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
20	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.5
21	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.5
22	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.5
23	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0
24	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0
25	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0
26	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	6.0	6.0	6.0
27	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	6.0	6.0	6.0
28	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	6.0	5.5	6.0
29	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.0	6.5	6.0	5.5	6.0
30	6.0	6.0	6.0	6.5	6.0	6.5	6.5	5.5	6.0	5.5	5.5	5.5
31	6.0	6.0	6.0	---	---	---	6.0	6.0	6.0	5.5	5.5	5.5
MONTH	6.5	6.0	6.0	6.5	6.0	6.0	6.5	5.5	6.5	6.5	5.5	6.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
2	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
3	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
5	5.5	5.0	5.5	4.5	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5
6	5.0	3.0	4.5	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5
7	4.5	3.5	4.0	4.5	4.5	4.5	5.0	4.5	4.5	4.5	4.5	4.5
8	5.0	4.5	5.0	5.0	4.5	4.5	5.0	4.5	4.5	4.5	4.5	4.5
9	5.5	4.5	5.0	5.0	4.5	4.5	5.0	4.5	4.5	4.5	4.5	4.5
10	5.5	5.0	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
11	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
12	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
13	5.5	5.5	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
14	5.5	5.5	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
15	5.5	5.5	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
16	5.5	5.5	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
17	5.5	5.5	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
18	5.5	5.0	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
19	5.5	5.0	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
20	5.5	5.0	5.5	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
21	5.0	5.0	5.0	5.0	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
22	5.0	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.0	4.5
23	5.0	4.5	5.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
24	5.0	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
25	5.0	5.0	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	5.0
26	5.0	4.5	5.0	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
27	5.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
28	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5	5.0	4.5	4.5
29	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5	4.5	4.5	4.5
30	---	---	---	4.5	4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5
31	---	---	---	4.5	4.5	4.5	---	---	---	5.0	4.5	4.5
MONTH	5.5	3.0	5.0	5.0	4.5	4.5	5.0	4.5	4.5	5.0	4.0	4.5

14138720 BULL RUN RIVER AT LOWER FLUME, NEAR BRIGHTWOOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	5.0	4.5	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
2	5.0	4.5	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
3	5.0	4.5	5.0	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
4	5.0	4.5	5.0	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
5	5.0	4.5	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
6	5.0	4.5	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
7	5.0	5.0	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0
8	5.0	5.0	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
9	5.0	5.0	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
10	5.0	4.5	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
11	5.0	5.0	5.0	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
12	5.0	4.5	5.0	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
13	5.0	5.0	5.0	5.5	5.0	5.5	6.0	5.5	5.5	6.0	6.0	6.0
14	5.0	4.5	5.0	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
15	5.0	5.0	5.0	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
16	---	---	---	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
17	---	---	---	5.0	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
18	---	---	---	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
19	---	---	---	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
20	---	---	---	5.5	5.0	5.0	5.5	5.5	5.5	6.0	6.0	6.0
21	---	---	---	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
22	5.0	5.0	5.0	5.5	5.0	5.5	5.5	5.5	5.5	6.0	6.0	6.0
23	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	5.5	6.0	6.0	6.0
24	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	5.5	6.0	6.0	6.0
25	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0	6.0	6.0	6.0
26	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	5.5	6.0	6.0	6.0
27	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	5.5	6.0	6.0	6.0
28	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	5.5	6.0	6.0	6.0
29	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0	6.0	6.0	6.0
30	5.0	5.0	5.0	5.5	5.5	5.5	6.0	5.5	6.0	6.0	6.0	6.0
31	---	---	---	5.5	5.5	5.5	6.0	5.5	6.0	---	---	---
MONTH	---	---	---	5.5	5.0	5.5	6.0	5.5	5.5	6.0	5.5	6.0

14138800 BLAZED ALDER CREEK NEAR RHODODENDRON, OR

LOCATION.--Lat 45°27'10", long 121°53'25", in NW 1/4 SE 1/4 sec.25, T.1 S., R.7 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 600 ft downstream from the confluence of Bedrock and Hickman Creeks and 8.6 mi north of Rhododendron, and at mile 3.78.

DRAINAGE AREA.--8.17 mi^2.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,540 ft above sea level, from topographic map.

REMARKS.--Records good except for period Jan. 28 to Mar. 7, which is fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--33 years (water years 1964-96), 57.6 ft^3/s, 95.78 in/yr, 41,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,610 ft^3/s Dec. 22, 1964, gage height, 8.25 ft, from rating curve extended above 330 ft^3/s, on basis of slope-area measurement of peak flow; minimum discharge, 1.2 ft^3/s Oct. 16, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1800	686	4.04	Dec. 30	1830	917	4.66
Nov. 11	1100	1,390	5.78	Feb. 7	0230	*2,020	*7.05
Nov. 25	0300	627	3.87	Feb. 8	2400	1,130	5.18
Nov. 28	0330	1,150	5.24	Feb. 18	0500	637	3.90
Nov. 30	0230	809	4.38				

Minimum discharge, 1.9 ft^3/s Sept. 10-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	20	499	174	e14	24	77	41	24	15	3.7	2.3
2	21	18	260	93	e13	23	93	36	22	13	5.1	2.3
3	121	16	150	182	e13	31	65	34	20	12	6.0	2.1
4	63	15	184	148	e12	77	51	30	19	13	4.3	2.1
5	35	33	109	90	e80	77	50	28	17	11	5.5	2.4
6	23	112	70	125	907	63	62	25	16	9.9	4.4	2.2
7	18	169	53	302	1510	56	77	25	15	9.0	3.9	2.1
8	18	355	40	302	840	74	83	23	14	8.5	3.7	2.1
9	17	266	48	161	655	86	74	21	12	8.0	3.5	2.1
10	55	194	89	133	240	116	63	20	12	7.8	3.4	2.0
11	240	974	170	81	137	166	65	19	11	7.4	3.3	1.9
12	184	313	190	57	94	155	85	21	11	6.9	3.3	1.9
13	91	285	153	42	77	101	116	40	9.9	6.6	3.1	2.0
14	53	164	162	48	83	73	81	43	9.4	6.5	3.0	3.5
15	36	107	137	126	93	63	89	50	8.9	6.1	2.9	13
16	48	85	96	229	94	53	166	44	8.5	5.8	2.9	12
17	76	61	65	109	160	45	113	50	9.9	5.9	2.9	9.5
18	93	58	48	67	475	42	87	77	14	7.1	2.9	5.2
19	55	42	39	86	280	46	71	109	9.7	6.8	2.8	7.3
20	40	35	33	95	172	43	60	73	8.4	5.9	2.7	5.3
21	48	31	28	67	109	38	55	56	7.9	5.7	2.7	4.4
22	42	44	24	42	77	38	122	154	7.5	5.4	2.6	4.6
23	33	42	21	35	63	34	326	206	14	5.2	2.5	4.0
24	28	111	19	30	48	32	404	116	18	4.9	2.5	3.5
25	39	462	17	26	41	27	239	68	16	4.6	2.4	3.3
26	170	322	16	23	35	25	174	48	21	4.5	2.4	3.2
27	81	426	16	20	32	23	120	39	22	4.2	2.5	3.0
28	51	696	20	e17	e30	21	78	34	24	4.2	2.4	2.9
29	37	467	154	e16	e26	21	57	36	19	4.2	2.3	2.8
30	29	630	566	e15	---	20	47	33	17	3.9	2.3	2.7
31	24	---	485	e14	---	47	---	28	---	3.8	2.3	---
TOTAL	1896	6553	3961	2955	6410	1740	3250	1627	438.1	222.8	100.2	117.7
MEAN	61.2	218	128	95.3	221	56.1	108	52.5	14.6	7.19	3.23	3.92
MAX	240	974	566	302	1510	166	404	206	24	15	6.0	13
MIN	17	15	16	14	12	20	47	19	7.5	3.8	2.3	1.9
AC-FT	3760	13000	7860	5860	12710	3450	6450	3230	869	442	199	233
CFSM	7.49	26.7	15.6	11.7	27.1	6.87	13.3	6.42	1.79	.88	.40	.48
IN.	8.63	29.84	18.04	13.45	29.19	7.92	14.80	7.41	1.99	1.01	.46	.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	29.4	88.9	103	104	85.2	66.4	78.5	72.0	38.7	10.8	5.67	11.1
MAX	82.5	218	288	207	221	167	150	165	115	35.4	27.6	35.5
(WY)	1968	1996	1965	1974	1996	1972	1990	1969	1964	1983	1968	1977
MIN	1.57	12.5	22.6	19.2	17.5	17.7	33.1	18.1	4.74	3.95	2.37	1.67
(WY)	1988	1994	1977	1985	1969	1992	1983	1992	1992	1992	1967	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	24937.9		29270.8			
ANNUAL MEAN	68.3		80.0		57.6	
HIGHEST ANNUAL MEAN					88.1	1974
LOWEST ANNUAL MEAN					33.5	1977
HIGHEST DAILY MEAN	974	Nov 11	1510	Feb 7	1780	Dec 22 1964
LOWEST DAILY MEAN	3.1	Sep 24	1.9	Sep 11	1.3	Oct 1 1991
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 19	2.0	Sep 7	1.3	Oct 1 1991
ANNUAL RUNOFF (AC-FT)	49460		58060		41720	
ANNUAL RUNOFF (CFSM)	8.36		9.79		7.05	
ANNUAL RUNOFF (INCHES)	113.55		133.28		95.78	
10 PERCENT EXCEEDS	157		174		130	
50 PERCENT EXCEEDS	33		34		31	
90 PERCENT EXCEEDS	4.5		3.2		3.5	

e Estimated

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR

LOCATION.--Lat 45°29'50", long 122°00'50", near center of sec.12, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 1.2 mi upstream from North Fork, 7.0 mi southeast of Multnomah Falls, and at mile 14.8.

DRAINAGE AREA.--47.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1966 to current year.

REVISED RECORDS.--WDR OR-91-1: 1990.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,080 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges and for period Apr. 19 to May 23, which are fair. Regulation at times since 1915 by Bull Run Lake, usable capacity, 12,270 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--30 years (water years 1967-96), 408 ft^3/s, 115.86 in/yr, 295,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,140 ft^3/s Feb. 6, 1996, gage height, 13.60 ft; minimum discharge, 30 ft^3/s Oct. 28-31, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1530	3,960	9.45	Dec. 1	0430	4,180	9.65
Nov. 11	0930	7,780	12.57	Dec. 30	1530	4,180	9.65
Nov. 28	0330	6,510	11.53	Feb. 6	2400	*9,140	*13.60

Minimum discharge, 42 ft^3/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	184	3030	1030	e160	252	468	358	289	162	59	45
2	283	162	1740	630	e150	248	541	320	266	147	70	45
3	968	146	1060	1320	e150	334	418	305	250	137	80	45
4	513	136	1220	999	e180	716	349	287	235	142	66	45
5	337	215	763	696	466	620	327	258	220	127	76	47
6	256	627	547	851	4730	526	341	231	204	117	68	46
7	211	1080	456	1740	7480	512	373	219	193	111	62	45
8	209	2280	383	1560	4920	618	392	202	184	105	59	44
9	199	1620	417	947	3440	606	375	184	174	101	57	44
10	574	1220	661	800	1240	657	358	172	166	98	56	43
11	1920	5230	1220	584	752	834	376	165	157	94	55	42
12	1330	1760	1310	473	569	805	548	176	153	90	54	43
13	700	1850	1210	401	503	602	845	373	148	87	53	45
14	439	1030	1290	396	502	474	576	444	142	85	52	59
15	323	773	1050	887	529	424	531	507	136	82	51	149
16	326	704	760	1820	532	377	840	434	131	79	51	123
17	515	523	550	841	773	338	696	494	136	80	51	103
18	633	485	438	567	2270	318	565	627	175	89	51	69
19	405	385	373	771	1490	337	494	1150	142	91	50	89
20	327	327	324	954	924	318	415	792	128	80	50	73
21	390	292	287	761	661	290	376	613	122	77	49	62
22	368	379	261	496	517	294	666	1240	118	74	48	67
23	297	367	237	413	450	272	2300	1540	188	71	47	59
24	260	746	214	361	391	254	2860	908	237	70	47	54
25	301	2180	195	313	348	227	1600	631	213	68	46	52
26	896	1770	182	282	317	212	1160	490	211	66	46	50
27	512	2710	173	261	292	198	798	409	236	65	47	49
28	374	3980	183	244	272	186	588	367	240	64	47	48
29	296	2970	703	219	261	188	469	394	205	63	46	47
30	245	3610	2550	185	---	179	398	360	179	61	46	47
31	212	---	2460	e170	---	309	---	320	---	60	46	---
TOTAL	14957	39741	26247	21972	35269	12525	21043	14970	5578	2843	1686	1779
MEAN	482	1325	847	709	1216	404	701	483	186	91.7	54.4	59.3
MAX	1920	5230	3030	1820	7480	834	2860	1540	289	162	80	149
MIN	199	136	173	170	150	179	327	165	118	60	46	42
AC-FT	29670	78830	52060	43580	69960	24840	41740	29690	11060	5640	3340	3530
CFSM	10.1	27.7	17.7	14.8	25.4	8.43	14.6	10.1	3.88	1.91	1.14	1.24
IN.	11.62	30.86	20.38	17.06	27.39	9.73	16.34	11.63	4.33	2.21	1.31	1.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	235	611	699	694	621	497	518	435	282	114	84.8	125
MAX	535	1325	1434	1238	1216	1120	834	885	699	292	231	294
(WY)	1968	1996	1978	1975	1996	1972	1993	1969	1974	1983	1968	1977
MIN	36.5	72.4	193	177	167	148	242	150	54.8	54.0	43.7	40.9
(WY)	1988	1994	1977	1985	1993	1992	1967	1992	1992	1977	1967	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	173717		198610			
ANNUAL MEAN	476		543		408	
HIGHEST ANNUAL MEAN					643	1974
LOWEST ANNUAL MEAN					249	1977
HIGHEST DAILY MEAN	5230	Nov 11	7480	Feb 7	7480	Feb 7 1996
LOWEST DAILY MEAN	49	Sep 24	42	Sep 11	30	Oct 29 1987
ANNUAL SEVEN-DAY MINIMUM	51	Sep 19	44	Sep 7	31	Oct 25 1987
ANNUAL RUNOFF (AC-FT)	344600		393900		295900	
ANNUAL RUNOFF (CFSM)	9.94		11.3		8.53	
ANNUAL RUNOFF (INCHES)	134.91		154.24		115.86	
10 PERCENT EXCEEDS	1040		1220		868	
50 PERCENT EXCEEDS	284		311		255	
90 PERCENT EXCEEDS	63		52		59	

e Estimated

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
pH: August 1990 to September 1992.
WATER TEMPERATURE: October 1977 to current year.
TURBIDITY: August 1990 to July 1994.
SUSPENDED SEDIMENT DISCHARGE: October 1977 to September 1986.

INSTRUMENTATION.--Water-quality monitor, turbidimeter with data recording interval dependent upon river stage.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 44 microsiemens Sept. 17, 1988; minimum recorded, 9 microsiemens Jan. 23, 1982, Feb. 23, 1986, Dec. 4, 1989.
pH: Maximum recorded, 8.1 units Aug. 30, Sept. 1, 1990; minimum recorded, 5.7 units Jan. 18, 1991.
WATER TEMPERATURE: Maximum, 18.0°C June 22-25, 1992, July 23, 1994; minimum, 0.0°C on many days during winter periods.
TURBIDITY: Maximum recorded, 44 NTU Jan. 15, 1991; minimum recorded, 0.08 NTU Aug. 30, 31, 1992.
SEDIMENT CONCENTRATION: Maximum daily, 290 mg/L Dec. 2, 1977; minimum, 0 mg/L on many days.
SEDIMENT DISCHARGE: Maximum daily, 5,930 tons Dec. 2, 1977; minimum, 0 tons on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 30 microsiemens several days in August and September; minimum recorded, 11 microsiemens Feb. 6, 7.
WATER TEMPERATURE: Maximum, 17.0°C July 26; minimum, 0.0°C Jan. 30 to Feb. 5.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21	---	---	22	21	22	16	---	15	16	15	16
2	21	20	20	22	20	21	17	16	16	17	16	17
3	22	---	---	23	20	22	18	17	17	17	14	15
4	---	---	---	23	---	---	17	15	16	16	15	16
5	---	---	---	23	21	---	17	16	17	17	16	17
6	---	18	---	21	18	19	18	17	18	17	16	16
7	21	20	20	18	17	17	19	18	18	16	14	15
8	21	20	21	17	15	16	19	18	19	16	14	15
9	21	21	21	17	16	17	20	17	19	17	16	16
10	21	---	20	18	16	17	18	16	17	17	16	16
11	---	---	---	16	13	14	16	15	15	18	17	17
12	---	---	---	17	15	16	15	15	15	19	18	18
13	---	---	---	17	15	16	16	15	15	20	19	19
14	---	---	---	18	17	17	16	14	15	20	18	20
15	---	---	---	19	17	18	16	15	16	18	14	17
16	---	---	---	19	17	18	17	16	17	16	14	15
17	---	---	---	19	18	19	18	17	17	17	16	16
18	---	---	---	20	19	19	18	17	18	18	17	17
19	---	---	---	20	19	20	19	18	18	18	16	17
20	---	---	---	21	20	20	19	19	19	17	15	16
21	---	---	---	21	21	21	20	19	20	17	15	16
22	---	---	---	21	20	20	20	19	20	18	17	18
23	---	---	---	20	19	20	21	19	20	19	18	18
24	---	---	---	20	16	18	21	20	21	19	18	19
25	21	19	20	16	15	16	21	20	21	19	19	19
26	---	---	---	16	16	16	21	20	21	19	19	19
27	20	19	19	17	14	16	21	20	21	20	19	20
28	---	---	---	16	12	14	21	20	21	20	19	20
29	21	---	20	16	---	---	21	15	17	21	20	20
30	21	20	21	15	---	---	15	13	14	22	20	21
31	21	20	21	---	---	---	15	13	14	22	21	22
MONTH	---	---	---	23	---	---	21	---	18	22	14	18

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	22	21	21	21	19	20	18	17	18	20	19	19
2	22	21	21	21	19	20	17	17	17	20	19	20
3	22	21	22	21	17	20	18	17	18	20	19	20
4	22	20	21	17	16	16	18	18	18	20	20	20
5	20	15	19	17	16	16	19	18	18	20	20	20
6	16	11	14	17	17	17	19	18	18	21	20	20
7	12	11	12	17	16	17	18	18	18	21	20	21
8	13	12	12	16	16	16	18	17	18	21	20	20
9	14	---	---	16	16	16	18	18	18	21	21	21
10	16	14	15	16	15	16	18	18	18	21	21	21
11	17	16	16	16	15	15	18	17	18	21	21	21
12	18	17	18	16	15	15	18	16	17	22	20	21
13	18	18	18	16	16	16	17	16	16	21	18	19
14	18	18	18	17	16	17	17	17	17	18	18	18
15	18	17	18	17	17	17	18	16	17	18	18	18
16	18	17	18	18	17	17	16	16	16	19	18	18
17	18	15	17	18	17	17	17	16	17	19	17	18
18	15	13	14	18	17	18	17	17	17	18	17	18
19	15	14	15	18	17	17	18	17	18	17	16	17
20	16	15	16	18	17	17	18	18	18	18	17	17
21	17	16	17	18	17	18	18	18	18	18	18	18
22	18	17	17	18	17	18	18	16	18	18	16	17
23	18	18	18	18	18	18	16	14	15	17	16	16
24	19	18	18	19	18	18	15	14	15	18	17	17
25	19	19	19	20	18	20	16	15	16	19	18	18
26	20	19	19	20	19	20	17	16	16	19	18	19
27	20	19	19	20	20	20	18	17	17	20	19	19
28	20	20	20	21	20	20	18	18	18	20	19	20
29	21	19	20	21	20	21	19	18	19	20	19	20
30	---	---	---	21	20	21	20	19	19	20	19	20
31	---	---	---	21	18	19	---	---	---	20	---	20
MONTH	22	---	---	21	15	18	20	14	17	22	---	19

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21	20	20	22	22	22	26	26	26	30	29	29
2	21	20	21	23	22	22	26	25	25	30	29	29
3	21	21	21	23	22	22	25	25	25	30	29	29
4	21	---	---	23	22	22	26	25	25	30	29	29
5	---	---	---	23	22	23	26	24	25	29	29	29
6	22	---	---	23	22	23	26	25	25	29	28	29
7	---	21	---	24	23	23	27	25	26	30	29	29
8	---	---	---	24	23	24	27	26	26	29	28	29
9	22	21	22	24	23	24	28	26	27	29	28	29
10	22	21	22	24	23	24	28	26	27	30	28	29
11	22	22	22	25	24	24	28	26	27	30	25	28
12	23	---	---	---	---	---	28	26	27	27	25	25
13	23	22	23	---	---	---	28	26	27	26	25	25
14	23	22	23	---	---	---	29	26	28	25	24	25
15	23	22	23	29	25	---	28	27	27	24	22	23
16	23	23	23	29	25	---	29	27	28	22	22	22
17	23	22	23	28	21	---	29	28	29	23	22	22
18	23	22	22	28	24	---	29	28	28	23	22	23
19	23	22	23	26	24	---	29	27	29	23	22	23
20	24	23	23	27	24	---	29	28	29	23	22	23
21	24	23	23	29	24	---	29	28	29	23	23	23
22	24	23	24	---	---	---	30	29	29	23	22	23
23	24	21	23	---	---	---	30	29	29	23	23	23
24	22	21	21	27	25	26	30	29	29	23	23	23
25	22	21	21	26	24	25	30	29	29	24	23	23
26	23	19	22	26	24	25	30	29	30	24	23	24
27	21	19	20	---	---	---	30	29	29	26	24	25
28	21	20	20	---	---	---	30	29	29	26	25	25
29	21	20	21	---	---	---	30	29	29	26	25	25
30	22	20	21	---	---	---	30	29	30	26	25	26
31	---	---	---	---	---	---	30	29	29	---	---	---
MONTH	---	---	---	---	---	---	30	24	28	30	22	26

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.0	8.5	9.5	4.5	3.5	4.0	7.5	6.5	7.0	6.0	5.0	5.5
2	10.5	9.5	9.5	4.0	3.0	3.5	6.5	6.0	6.0	6.5	5.5	6.0
3	10.5	9.5	10.0	4.0	3.0	3.5	7.0	5.5	6.0	6.5	5.0	6.0
4	10.0	9.0	9.5	5.0	3.5	4.0	7.0	5.0	5.5	5.0	4.5	4.5
5	9.5	8.0	8.5	5.5	5.0	5.5	5.0	4.5	4.5	4.5	4.0	4.5
6	9.0	8.5	9.0	6.0	5.5	6.0	5.0	4.0	4.0	5.0	4.0	4.5
7	9.5	9.0	9.0	7.5	6.0	7.0	5.0	4.5	5.0	5.5	5.0	5.5
8	9.0	8.0	8.5	8.5	7.0	8.0	4.5	1.5	3.0	6.0	5.5	5.5
9	9.5	8.5	9.0	7.0	6.0	6.5	2.5	.5	1.5	6.0	5.5	5.5
10	10.0	9.0	9.0	7.0	6.0	6.0	4.5	2.5	3.5	6.0	5.5	5.5
11	10.0	8.5	9.0	8.0	7.0	7.5	5.5	4.5	5.0	5.5	4.5	5.0
12	9.0	8.0	8.5	7.5	7.0	7.5	6.0	5.0	5.5	5.5	5.0	5.0
13	9.0	7.0	8.0	8.5	7.0	8.0	6.0	5.5	5.5	5.5	5.0	5.5
14	9.5	8.0	8.5	8.5	8.0	8.5	5.5	5.0	5.5	6.0	5.5	6.0
15	10.0	8.5	9.0	8.5	7.5	8.0	5.5	5.0	5.5	6.5	6.0	6.0
16	10.0	9.5	9.5	8.5	8.0	8.5	5.5	5.0	5.0	6.0	4.5	5.0
17	9.5	9.0	9.0	8.5	7.5	8.0	5.0	4.0	4.5	4.5	4.0	4.0
18	9.0	8.0	8.5	8.5	7.5	8.0	5.0	4.0	4.5	4.0	2.0	3.0
19	8.0	7.0	7.5	7.5	7.0	7.0	5.5	5.0	5.0	4.0	3.0	3.5
20	8.5	7.5	8.0	7.0	6.5	6.5	5.5	4.5	5.0	4.5	4.0	4.0
21	8.0	7.5	8.0	7.0	6.0	6.5	4.5	3.5	4.0	4.0	3.5	3.5
22	7.5	6.5	7.5	8.0	7.0	8.0	3.5	3.0	3.5	4.0	3.5	4.0
23	8.0	7.0	7.5	8.0	7.5	8.0	3.0	2.5	3.0	3.5	2.0	3.0
24	8.0	7.5	8.0	8.5	8.0	8.5	2.5	2.0	2.0	3.0	2.0	2.5
25	8.0	8.0	8.0	8.5	7.0	7.5	2.0	2.0	2.0	3.5	2.5	3.0
26	9.0	8.0	8.5	7.0	6.5	7.0	2.0	1.5	2.0	3.5	2.5	3.0
27	8.0	7.0	7.5	8.0	6.5	6.5	2.0	2.0	2.0	3.5	1.5	2.5
28	7.0	6.0	6.5	8.0	8.0	8.0	3.5	2.0	2.5	2.5	1.5	2.0
29	7.0	6.0	6.5	8.5	8.0	8.0	4.5	3.0	3.5	2.0	.5	1.5
30	6.0	5.0	5.5	8.0	7.5	8.0	5.5	4.5	5.0	.5	.0	.0
31	5.0	4.0	4.5	---	---	---	5.5	5.0	5.5	.0	.0	.0
MONTH	10.5	4.0	8.0	8.5	3.0	7.0	7.5	.5	4.5	6.5	.0	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.0	.0	.0	3.5	2.0	2.5	6.0	4.5	5.0	7.0	6.0	6.5
2	.0	.0	.0	4.0	2.5	3.0	5.5	4.5	5.0	6.5	5.5	6.0
3	.0	.0	.0	4.0	3.5	3.5	6.0	4.0	5.0	5.5	4.5	5.0
4	2.0	.0	1.0	4.0	3.0	3.5	7.0	4.0	5.5	7.5	4.5	5.5
5	1.5	.0	1.5	4.0	3.0	3.5	7.5	5.0	6.5	8.0	5.5	6.5
6	2.5	.5	2.0	5.0	3.5	4.0	8.5	6.0	7.0	8.0	5.0	6.5
7	4.0	2.5	3.5	4.5	4.0	4.0	9.0	6.0	7.5	6.5	5.5	6.0
8	5.0	4.0	4.5	5.5	4.0	4.5	9.0	6.5	8.0	6.5	4.5	5.5
9	4.0	3.5	4.0	5.5	4.5	5.0	8.5	7.0	7.5	6.5	4.5	5.5
10	4.0	3.5	3.5	5.5	4.5	5.0	7.0	6.0	6.5	8.0	5.5	6.5
11	4.5	3.5	4.0	5.5	4.5	5.0	6.0	5.5	5.5	8.5	7.0	7.5
12	4.5	3.5	4.0	5.0	4.5	4.5	5.5	4.0	4.5	9.5	8.0	8.5
13	5.0	4.0	4.5	5.5	4.5	5.0	6.5	4.0	5.0	9.5	8.5	9.0
14	5.0	4.0	4.5	6.0	3.5	4.5	7.0	4.5	6.0	9.0	8.0	8.5
15	5.5	4.5	5.0	5.5	5.0	5.0	7.5	5.5	6.5	8.5	8.0	8.0
16	5.5	4.0	5.0	5.0	3.5	4.5	6.5	5.5	6.0	9.5	7.0	8.0
17	5.5	5.0	5.0	6.0	4.5	5.0	5.5	4.5	5.0	8.5	8.0	8.0
18	5.0	4.5	5.0	6.5	4.0	5.0	5.0	4.5	5.0	8.0	7.0	7.5
19	5.0	4.5	4.5	6.0	5.0	5.5	5.0	4.0	4.5	7.5	6.5	7.0
20	5.0	4.0	4.5	5.5	4.5	5.0	5.5	4.0	5.0	8.0	6.0	7.0
21	4.5	3.0	4.0	5.5	4.0	4.5	6.0	4.5	5.0	7.5	6.5	7.0
22	3.5	3.0	3.5	5.5	5.0	5.0	6.0	5.5	5.5	7.0	5.5	6.5
23	3.0	1.5	2.0	5.0	4.5	5.0	6.5	5.5	6.0	6.5	6.0	6.0
24	3.5	2.5	3.0	5.0	3.0	4.0	6.0	5.0	5.0	10.0	6.0	7.5
25	3.0	2.0	2.5	3.5	1.5	2.5	6.0	5.0	5.5	11.0	7.0	9.0
26	3.0	2.0	2.5	4.5	2.0	3.0	6.0	5.0	5.5	9.5	8.0	8.5
27	2.5	2.0	2.0	4.5	3.0	3.5	6.5	5.0	5.5	8.0	7.0	7.5
28	2.0	1.5	1.5	4.5	3.0	4.0	7.5	4.0	6.0	7.5	6.5	7.0
29	3.0	2.0	2.0	4.0	3.5	4.0	8.5	6.5	7.0	8.0	6.5	7.0
30	---	---	---	5.0	3.5	4.0	8.0	5.5	6.5	8.0	7.0	7.5
31	---	---	---	5.0	4.5	4.5	---	---	---	10.0	6.5	8.0
MONTH	5.5	.0	3.0	6.5	1.5	4.0	9.0	4.0	6.0	11.0	4.5	7.0

14138850 BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.0	8.0	9.5	14.0	10.0	12.0	14.0	12.5	13.5	12.5	11.5	12.0
2	12.5	9.5	11.0	14.5	11.5	12.5	14.0	12.0	13.0	12.0	11.5	11.5
3	13.0	10.5	12.0	13.5	11.5	12.5	12.0	11.5	12.0	11.5	11.0	11.5
4	12.0	10.5	11.0	13.0	11.5	12.0	12.0	11.5	11.5	11.5	10.5	11.0
5	12.5	9.0	10.5	13.0	9.5	11.0	11.5	11.0	11.0	10.5	10.0	10.5
6	13.5	9.5	11.5	13.5	10.0	11.5	12.5	10.0	11.0	10.5	10.0	10.5
7	12.5	10.5	11.5	14.5	11.0	12.5	14.0	11.5	12.5	11.5	10.5	11.0
8	13.0	10.0	11.0	15.0	11.5	13.5	15.0	12.5	14.0	11.5	11.0	11.0
9	11.5	9.5	10.5	14.5	12.0	13.0	15.5	13.5	14.5	12.5	11.5	12.0
10	12.5	9.0	10.5	14.0	11.0	12.5	15.5	14.0	15.0	12.5	11.5	12.0
11	12.5	9.5	11.0	15.0	12.0	13.0	15.5	14.0	14.5	12.5	12.0	12.0
12	12.5	9.0	10.5	15.5	12.5	14.0	14.0	12.0	13.0	12.5	11.5	12.0
13	12.5	9.5	11.0	16.5	13.5	15.0	14.5	12.5	13.5	11.5	11.0	11.0
14	12.5	9.5	11.0	16.5	14.0	15.0	15.0	13.5	14.5	11.0	10.5	11.0
15	12.5	9.5	11.0	16.5	14.5	15.5	14.5	13.0	13.5	11.0	10.5	11.0
16	11.5	9.5	10.0	16.0	13.5	14.5	14.0	12.5	13.0	10.5	10.0	10.0
17	10.0	8.5	9.0	14.5	11.5	12.5	13.5	12.0	12.5	11.0	10.0	10.5
18	9.5	7.5	8.5	11.5	10.5	11.0	12.0	11.5	11.5	10.5	9.0	9.5
19	11.5	7.5	9.5	12.0	10.5	11.0	12.0	10.0	11.0	10.0	9.5	10.0
20	12.5	9.0	10.5	12.5	10.5	11.5	12.5	11.5	12.0	10.0	9.5	10.0
21	11.5	9.5	10.5	14.5	11.5	12.5	12.5	11.0	12.0	10.0	9.0	9.0
22	11.5	9.5	10.5	15.5	12.5	14.0	13.0	11.5	12.0	9.0	9.0	9.0
23	11.5	9.5	10.5	16.0	13.5	15.0	13.5	12.0	12.5	9.0	8.0	8.5
24	10.5	9.5	10.0	16.5	14.5	15.5	14.5	13.0	13.5	9.0	8.0	8.5
25	12.5	9.5	10.5	16.5	14.5	15.5	14.5	13.5	14.0	8.5	8.0	8.5
26	12.5	9.5	11.0	17.0	14.5	16.0	14.0	13.5	14.0	9.0	8.0	8.5
27	10.5	10.0	10.0	16.5	15.0	16.0	13.5	12.0	13.0	9.5	9.0	9.0
28	10.5	9.5	10.0	16.0	14.0	15.0	12.5	11.5	12.0	10.0	9.5	9.5
29	12.5	9.0	10.5	16.0	13.5	14.5	13.5	12.0	13.0	10.0	9.0	9.5
30	13.0	10.0	11.5	16.0	14.5	15.5	13.5	13.0	13.5	9.5	9.0	9.5
31	---	---	---	15.5	13.0	14.0	13.5	12.5	13.0	---	---	---
MONTH	13.5	7.5	10.5	17.0	9.5	13.5	15.5	10.0	13.0	12.5	8.0	10.5
YEAR	17.0	.0	7.5									

14138870 FIR CREEK NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°28'49", long 122°01'28", in NE 1/4 SE 1/4 sec.14, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, on right bank, 6.4 mi north of Brightwood and 0.6 mi above Bull Run Reservoir Number One.

DRAINAGE AREA.--5.46 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

REVISED RECORDS.--WDR OR-78-1: 1976. WDR OR-82-2: 1976(P), 1978-79(P), 1981, WDR OR-91-1: 1976.

GAGE.--Water-stage recorder. Elevation of gage is 1,440 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--21 years (water years 1976-96), 34.8 ft^3/s, 86.52 in/yr, 25,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft^3/s Dec. 2, 1977, gage height, 5.64 ft; minimum discharge, 1.5 ft^3/s Oct. 19-21, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0830	729	4.98	Feb. 7	1900	*820	*5.10
Nov. 28	0130	668	4.88				

Minimum discharge, 1.6 ft^3/s Sept. 10, 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	18	230	86	8.7	18	36	29	28	11	3.5	1.8
2	28	16	152	55	7.9	18	44	26	26	11	4.4	1.8
3	108	14	98	112	7.4	26	34	25	25	9.9	5.9	1.8
4	55	14	105	84	8.9	70	28	24	23	12	4.2	1.9
5	34	16	67	62	56	62	26	22	21	10	6.1	2.1
6	25	47	46	86	e380	54	25	20	20	9.2	4.6	1.9
7	21	75	36	140	e560	52	26	19	19	8.8	4.0	1.8
8	21	185	25	128	314	60	27	17	18	8.3	3.6	1.7
9	19	155	45	83	236	58	25	16	17	7.8	3.4	1.7
10	60	137	78	65	106	57	25	15	16	7.6	3.3	1.7
11	181	503	97	48	73	62	27	15	15	7.4	3.1	1.6
12	118	180	96	35	57	58	40	15	14	6.9	3.0	1.6
13	67	159	81	27	50	48	68	30	13	6.6	2.8	1.7
14	44	94	101	27	48	39	54	37	12	6.2	2.7	3.2
15	31	74	92	62	47	34	50	49	12	5.9	2.6	16
16	28	70	67	157	44	29	68	42	11	5.7	2.5	13
17	44	50	47	75	59	26	58	49	12	5.9	2.5	11
18	52	39	33	49	128	24	50	56	13	6.6	2.4	5.8
19	36	26	24	69	100	25	44	89	11	6.6	2.4	11
20	29	19	18	100	73	23	40	66	10	5.6	2.3	7.1
21	32	15	14	87	56	22	38	55	9.4	5.3	2.3	5.4
22	32	18	11	52	45	22	58	109	9.1	5.0	2.2	5.5
23	27	18	9.7	37	38	21	120	142	15	4.8	2.1	4.6
24	24	58	8.5	29	32	19	129	90	19	4.6	2.0	3.9
25	28	168	7.3	22	28	18	98	65	17	4.4	2.0	3.5
26	68	120	6.4	18	25	17	80	50	14	4.3	2.0	3.2
27	44	246	5.7	15	23	16	61	41	13	4.1	2.0	3.0
28	33	327	6.6	14	21	15	49	36	16	3.9	2.0	2.8
29	26	201	50	12	19	15	39	36	14	3.9	1.9	2.7
30	22	251	170	9.9	---	14	33	33	12	3.7	1.9	2.6
31	20	---	171	9.5	---	24	---	30	---	3.6	1.9	---
TOTAL	1388	3313	1998.2	1855.4	2650.9	1046	1500	1348	474.5	206.6	91.6	127.4
MEAN	44.8	110	64.5	59.9	91.4	33.7	50.0	43.5	15.8	6.66	2.95	4.25
MAX	181	503	230	157	560	70	129	142	28	12	6.1	16
MIN	19	14	5.7	9.5	7.4	14	25	15	9.1	3.6	1.9	1.6
AC-FT	2750	6570	3960	3680	5260	2070	2980	2670	941	410	182	253
CFSM	8.20	20.2	11.8	11.0	16.7	6.18	9.16	7.96	2.90	1.22	.54	.78
IN.	9.46	22.57	13.61	12.64	18.06	7.13	10.22	9.18	3.23	1.41	.62	.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1996, BY WATER YEAR (WY)

MEAN	18.3	56.0	62.8	53.4	57.5	43.6	47.9	33.5	23.0	8.86	5.31	8.82
MAX	44.8	110	133	96.9	126	81.8	73.2	53.0	58.6	27.3	13.0	27.7
(WY)	1996	1996	1978	1976	1982	1993	1993	1977	1981	1983	1978	1977
MIN	1.97	6.09	15.3	16.6	16.9	14.0	28.6	14.6	3.80	3.50	2.95	2.57
(WY)	1988	1994	1977	1979	1977	1992	1983	1992	1992	1992	1996	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1976 - 1996	
ANNUAL TOTAL	14736.5		15999.6			
ANNUAL MEAN	40.4		43.7		34.8	
HIGHEST ANNUAL MEAN					47.4	1976
LOWEST ANNUAL MEAN					23.4	1977
HIGHEST DAILY MEAN	503	Nov 11	560	Feb 7	616	Dec 2 1977
LOWEST DAILY MEAN	3.2	Sep 23	1.6	Sep 11	1.5	Oct 19 1991
ANNUAL SEVEN-DAY MINIMUM	3.4	Sep 20	1.7	Sep 7	1.6	Oct 10 1991
ANNUAL RUNOFF (AC-FT)	29230		31740		25190	
ANNUAL RUNOFF (CFSM)	7.39		8.01		6.37	
ANNUAL RUNOFF (INCHES)	100.40		109.01		86.52	
10 PERCENT EXCEEDS	94		100		74	
50 PERCENT EXCEEDS	21		25		21	
90 PERCENT EXCEEDS	4.6		3.0		3.6	

e Estimated

14138870 FIR CREEK NEAR BRIGHTWOOD, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
pH: August 1990 to September 1992.
WATER TEMPERATURE: October 1977 to current year.
TURBIDITY: August 1990 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: October 1977 to September 1986.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Turbidity data prior to October 1990 are available in the files of the Portland field office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 49 microsiemens May 6, 1988, Aug. 13, 1990; minimum, 7 microsiemens Nov. 30, 1994.
pH: Maximum recorded, 7.7 units Sept. 13, 1990, but may have been higher during periods of missing record; minimum recorded, 6.0 units Sept. 5, 6, 8, 1991, but may have been lower during periods of missing record.
WATER TEMPERATURE: Maximum recorded, 16.0°C Sept. 1, 1987, June 23, 24, July 18, 19, 1992; minimum recorded, 0.0°C on several days in 1978-80, 1983, 1989, 1991, 1993, Nov. 24-26, 1994, Feb. 13, 15, 1995, Jan. 30, 31, 1996.
TURBIDITY: Maximum recorded, 11 NTU Nov. 25, 1991; minimum recorded, 0.04 NTU Feb. 15, 16, 1993.
SEDIMENT CONCENTRATION: Maximum, 200 mg/L Jan. 23, Feb. 20, 1982; minimum, 0 mg/L on many days.
SEDIMENT DISCHARGE: Maximum, 345 tons Dec. 2, 1977; minimum, 0 tons on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 29 microsiemens July 29, Aug. 11, 26, Sept. 11; minimum, 11 microsiemens Nov. 11, Feb. 6, but may have been less during period of missing record.
WATER TEMPERATURE: Maximum, 15.0°C July 25-27; minimum, 0.0°C Jan. 30, 31, which may have also occurred on days of missing record .

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21	20	21	21	21	21	16	14	15	18	16	17
2	21	21	21	22	21	21	17	16	17	19	18	18
3	21	18	19	22	22	22	18	17	18	18	16	16
4	20	18	19	22	22	22	18	16	17	17	16	17
5	21	18	20	22	22	22	19	18	18	18	17	18
6	21	20	21	22	20	21	20	19	19	18	17	17
7	22	21	21	20	19	19	20	20	20	17	15	16
8	22	21	21	19	15	18	20	20	20	17	15	16
9	22	21	22	20	19	19	21	18	19	18	17	17
10	22	19	21	20	15	19	18	16	17	18	18	18
11	19	18	18	---	11	---	17	16	17	19	18	19
12	19	18	19	---	---	---	17	16	16	20	19	20
13	20	19	20	18	---	---	18	16	17	21	20	20
14	21	19	21	20	18	19	18	15	17	21	20	21
15	22	21	21	21	19	20	18	16	17	20	16	19
16	22	21	22	21	19	20	19	18	18	17	15	16
17	22	20	22	21	21	21	19	19	19	18	17	17
18	21	20	21	22	21	21	20	19	20	19	18	19
19	21	20	21	22	22	22	20	20	20	19	18	18
20	22	20	21	22	22	22	21	20	21	18	16	17
21	21	20	20	23	22	23	21	21	21	19	17	18
22	21	20	20	23	21	23	21	21	21	19	19	19
23	21	20	20	23	22	22	22	21	22	20	19	20
24	21	21	21	22	17	20	22	22	22	20	20	20
25	21	20	21	17	16	17	22	22	22	21	20	20
26	20	19	19	17	17	17	22	22	22	21	21	21
27	20	18	19	18	14	16	22	22	22	21	21	21
28	20	19	20	17	13	15	22	22	22	21	21	21
29	21	20	20	18	14	16	22	16	19	22	21	21
30	21	20	21	15	14	15	16	13	15	22	21	22
31	21	21	21	---	---	---	16	14	15	22	22	22
MONTH	22	18	20	---	---	---	22	13	19	22	15	19

14138870 FIR CREEK NEAR BRIGHTWOOD, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	22	22	22	---	---	---	---	---	---	---	---	---
2	22	22	22	---	---	---	---	---	---	---	---	---
3	22	22	22	---	---	---	---	---	---	---	---	---
4	22	22	22	---	---	---	---	---	---	---	---	---
5	22	15	20	---	---	---	---	---	---	---	---	---
6	15	11	13	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	22	21	22
12	---	---	---	---	---	---	---	---	---	22	21	22
13	---	---	---	---	---	---	---	---	---	22	19	20
14	---	---	---	---	---	---	---	---	---	19	19	19
15	---	---	---	---	---	---	---	---	---	19	18	18
16	---	---	---	---	---	---	---	---	---	19	18	19
17	---	---	---	---	---	---	---	---	---	19	18	18
18	---	---	---	---	---	---	---	---	---	19	17	18
19	---	---	---	---	---	---	---	---	---	18	17	17
20	---	---	---	---	---	---	---	---	---	18	17	18
21	---	---	---	---	---	---	---	---	---	19	18	18
22	---	---	---	---	---	---	---	---	---	18	16	17
23	---	---	---	---	---	---	---	---	---	17	16	17
24	---	---	---	---	---	---	---	---	---	18	17	18
25	---	---	---	---	---	---	---	---	---	19	18	19
26	---	---	---	---	---	---	---	---	---	19	19	19
27	---	---	---	---	---	---	---	---	---	20	19	19
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	24	23	24	27	26	26	27	26	26
2	---	---	---	25	24	24	26	25	26	27	25	26
3	---	---	---	25	23	24	26	25	25	26	26	26
4	---	---	---	24	23	23	26	25	26	27	25	26
5	---	---	---	24	23	23	26	25	25	26	25	26
6	23	22	23	24	24	24	26	25	26	26	26	26
7	23	22	23	25	24	24	27	26	26	27	26	26
8	23	22	22	25	24	25	28	26	27	27	26	27
9	23	22	22	25	24	24	28	27	27	27	26	27
10	23	22	22	25	24	24	28	26	28	28	27	27
11	24	22	23	25	24	25	29	26	27	29	26	27
12	24	22	23	26	25	25	27	26	26	28	26	27
13	24	22	23	26	25	26	28	26	27	27	26	26
14	24	23	23	26	25	26	28	26	27	27	26	26
15	24	23	23	26	25	26	27	26	26	27	25	26
16	24	23	23	26	25	25	27	26	26	27	26	27
17	24	23	23	25	24	25	26	25	26	27	25	26
18	24	23	23	25	24	25	26	25	26	26	25	25
19	24	23	23	25	24	25	26	25	26	25	24	25
20	24	23	24	26	25	25	26	25	26	25	24	25
21	24	23	24	26	25	26	26	26	26	25	24	25
22	24	23	24	27	25	26	27	26	26	25	24	24
23	24	22	23	27	26	26	28	26	27	25	24	24
24	23	22	23	28	26	26	28	26	27	25	24	25
25	23	22	22	27	26	26	28	26	28	26	24	25
26	24	23	23	28	26	27	29	26	27	26	25	25
27	24	23	23	28	26	27	28	26	27	25	25	25
28	24	22	23	28	26	27	27	26	27	26	25	26
29	24	23	23	29	26	27	28	26	27	26	25	25
30	24	23	23	28	26	27	28	26	27	26	25	25
31	---	---	---	28	26	26	27	26	26	---	---	---
MONTH	---	---	---	29	23	25	29	25	26	29	24	26

14138870 FIR CREEK NEAR BRIGHTWOOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.5	8.5	9.0	5.0	4.5	4.5	7.5	6.5	7.0	6.0	5.5	6.0
2	9.5	9.0	9.0	4.5	4.0	4.5	6.5	6.0	6.5	6.5	6.0	6.0
3	10.0	9.0	9.5	5.0	4.0	4.5	6.5	6.0	6.0	6.5	5.5	6.0
4	9.0	8.5	9.0	5.5	4.5	5.0	6.5	5.0	5.5	5.5	5.0	5.0
5	8.5	8.0	8.5	5.5	5.5	5.5	5.5	5.0	5.0	5.5	5.0	5.0
6	8.5	8.5	8.5	6.0	5.5	5.5	5.0	5.0	5.0	5.5	5.0	5.5
7	8.5	8.5	8.5	7.0	6.0	7.0	5.0	4.5	5.0	6.0	5.5	5.5
8	8.5	8.0	8.5	8.0	7.0	7.5	4.5	3.0	3.5	6.0	6.0	6.0
9	9.0	8.5	8.5	7.0	6.0	6.5	4.0	3.0	3.5	6.0	6.0	6.0
10	9.5	8.5	8.5	6.5	6.0	6.0	5.5	4.0	5.0	6.0	5.5	6.0
11	9.0	8.5	8.5	---	---	---	6.0	5.5	5.5	5.5	5.5	5.5
12	8.5	7.5	8.0	---	---	---	6.5	5.5	6.0	5.5	5.5	5.5
13	8.0	7.5	7.5	---	---	---	6.0	6.0	6.0	5.5	5.5	5.5
14	8.5	8.0	8.0	8.0	7.5	7.5	6.0	5.5	5.5	6.0	5.5	6.0
15	8.5	8.0	8.5	8.0	7.5	7.5	6.0	5.5	5.5	6.5	6.0	6.0
16	9.0	8.5	9.0	8.0	7.5	7.5	6.0	5.5	5.5	6.0	5.0	5.5
17	8.5	8.5	8.5	8.0	7.5	7.5	5.5	5.0	5.0	5.0	4.5	4.5
18	8.5	7.5	8.0	8.0	7.0	7.5	5.5	5.0	5.5	4.5	3.0	4.0
19	7.5	7.0	7.0	7.0	6.5	7.0	6.0	5.5	5.5	5.0	4.0	4.5
20	8.0	7.0	7.5	6.5	6.5	6.5	6.0	5.0	5.5	5.0	5.0	5.0
21	7.5	7.0	7.0	7.0	6.5	6.5	5.0	4.5	4.5	5.0	4.5	5.0
22	7.0	6.5	7.0	7.5	7.0	7.5	4.5	4.0	4.0	5.0	4.5	4.5
23	7.5	7.0	7.0	7.5	7.5	7.5	4.0	3.5	3.5	4.5	3.0	4.0
24	7.5	7.0	7.5	8.0	7.5	8.0	3.5	3.0	3.0	3.5	3.0	3.5
25	8.0	7.5	7.5	8.0	7.0	7.5	3.0	2.5	3.0	4.0	3.5	3.5
26	8.0	7.5	8.0	7.0	6.5	7.0	3.0	2.5	3.0	4.0	3.5	3.5
27	7.5	7.0	7.5	7.5	6.5	6.5	3.5	3.0	3.0	4.0	2.5	3.0
28	7.0	6.5	6.5	8.0	7.5	7.5	4.0	3.0	3.5	3.5	2.0	3.0
29	6.5	6.0	6.5	8.0	7.5	8.0	4.5	4.0	4.0	2.5	1.5	2.5
30	6.0	5.5	6.0	8.0	7.5	7.5	5.5	4.5	5.0	1.5	.0	.5
31	5.5	5.0	5.0	---	---	---	5.5	5.5	5.5	.5	.0	.5
MONTH	10.0	5.0	8.0	---	---	---	7.5	2.5	5.0	6.5	.0	4.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.0	.5	.5	---	---	---	5.0	4.0	4.5	6.0	5.5	6.0
2	1.0	.5	.5	---	---	---	4.5	4.0	4.0	6.0	5.0	5.5
3	1.5	.5	1.0	---	---	---	5.0	4.0	4.5	5.0	4.5	4.5
4	2.5	1.5	2.0	---	---	---	5.5	4.0	5.0	5.5	4.0	5.0
5	2.5	1.0	2.0	---	---	---	6.5	5.0	5.5	6.5	5.0	5.5
6	3.5	2.0	3.0	---	---	---	6.5	5.5	6.0	6.5	4.5	5.5
7	---	---	---	---	---	---	7.5	6.0	6.5	6.0	5.0	5.5
8	---	---	---	---	---	---	7.5	6.5	7.0	5.5	4.5	5.0
9	---	---	---	---	---	---	7.0	6.5	7.0	---	---	---
10	---	---	---	---	---	---	6.5	5.5	6.0	---	---	---
11	---	---	---	---	---	---	5.5	5.0	5.5	7.0	6.0	6.5
12	---	---	---	---	---	---	5.0	4.0	4.5	8.0	7.0	7.5
13	---	---	---	---	---	---	5.5	4.0	4.5	8.0	7.5	7.5
14	---	---	---	---	---	---	6.0	4.5	5.0	7.5	7.0	7.5
15	---	---	---	---	---	---	6.0	5.0	5.5	7.5	7.0	7.0
16	---	---	---	---	---	---	5.5	5.0	5.0	7.5	6.5	7.0
17	---	---	---	---	---	---	5.0	4.5	4.5	7.5	7.0	7.0
18	---	---	---	---	---	---	5.0	4.5	4.5	7.0	6.5	6.5
19	---	---	---	---	---	---	5.0	4.0	4.5	6.5	6.0	6.5
20	---	---	---	---	---	---	5.0	4.0	4.5	7.0	5.5	6.5
21	---	---	---	---	---	---	5.5	4.5	5.0	6.5	6.0	6.5
22	---	---	---	---	---	---	5.5	5.0	5.0	6.5	3.5	5.5
23	---	---	---	---	---	---	5.5	5.0	5.5	5.5	5.0	5.5
24	---	---	---	---	---	---	5.5	4.5	4.5	7.0	5.5	6.5
25	---	---	---	3.0	2.0	---	5.5	4.5	5.0	8.0	6.5	7.5
26	---	---	---	3.5	2.5	3.0	5.5	4.5	5.0	7.5	7.0	7.0
27	---	---	---	4.0	3.0	3.5	5.5	4.5	5.0	7.0	6.5	6.5
28	---	---	---	4.0	3.0	3.5	6.0	4.5	5.5	6.5	6.0	6.5
29	---	---	---	3.5	3.0	3.5	7.0	6.0	6.5	7.0	6.0	6.5
30	---	---	---	4.5	3.5	4.0	6.5	5.5	6.0	7.0	6.0	6.5
31	---	---	---	4.5	4.0	4.0	---	---	---	8.0	6.0	7.0
MONTH	---	---	---	---	---	---	7.5	4.0	5.0	---	---	---

14138870 FIR CREEK NEAR BRIGHTWOOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.0	7.0	8.0	11.5	9.5	10.5	13.0	11.5	12.5	12.0	11.5	12.0
2	10.0	8.0	9.0	12.0	10.0	11.0	12.5	11.0	12.0	12.0	11.0	11.5
3	10.5	9.0	9.5	12.0	10.5	11.0	11.0	10.5	11.0	11.5	11.0	11.0
4	9.5	8.5	9.0	11.0	10.0	10.5	11.0	10.5	11.0	11.0	10.5	11.0
5	10.0	8.0	9.0	11.0	8.5	10.0	11.0	10.0	10.5	10.5	10.0	10.5
6	11.0	8.5	9.5	11.5	9.0	10.5	11.0	9.5	10.5	10.5	9.5	10.0
7	10.0	9.0	9.5	12.5	10.0	11.0	12.5	10.5	11.5	11.0	10.0	10.5
8	10.0	8.5	9.0	13.0	10.5	11.5	13.0	11.5	12.5	11.0	10.5	11.0
9	9.5	8.5	9.0	12.0	11.0	11.5	14.0	12.0	13.0	11.5	11.0	11.0
10	10.0	8.0	9.0	12.0	10.0	11.0	14.5	13.0	13.5	11.5	10.5	11.0
11	10.0	8.5	9.5	12.5	10.5	11.5	14.0	12.5	13.0	12.0	11.5	11.5
12	10.5	8.0	9.0	13.5	11.5	12.5	13.0	11.5	12.5	12.0	11.0	11.5
13	10.0	8.5	9.0	14.5	12.0	13.0	13.5	12.0	13.0	11.0	11.0	11.0
14	10.5	8.5	9.0	14.5	12.5	13.5	14.0	12.5	13.0	11.0	10.5	11.0
15	10.0	8.5	9.0	14.5	13.0	14.0	13.0	12.0	12.5	10.5	9.5	10.0
16	9.0	8.5	9.0	13.5	12.0	12.5	13.0	12.0	12.5	9.5	9.5	9.5
17	8.5	7.5	8.0	12.5	10.5	11.5	12.5	11.5	12.0	9.5	9.0	9.5
18	8.0	7.0	7.5	10.5	10.0	10.5	11.5	11.0	11.0	9.5	8.5	9.0
19	9.5	7.0	8.0	10.5	9.5	10.0	11.5	10.0	10.5	9.5	9.0	9.0
20	10.0	8.0	9.0	11.0	10.0	10.5	11.5	11.0	11.0	9.0	8.5	9.0
21	9.5	8.5	9.0	12.0	10.5	11.5	11.5	10.5	11.0	9.0	8.5	8.5
22	9.5	8.5	9.0	13.5	11.0	12.5	12.0	10.5	11.5	8.5	8.0	8.5
23	9.0	8.5	9.0	14.0	12.0	13.0	13.0	11.0	12.0	8.5	7.5	8.0
24	9.0	8.5	8.5	14.5	13.0	14.0	13.5	12.0	13.0	8.5	7.5	8.0
25	10.0	8.5	9.0	15.0	13.0	14.0	14.0	13.0	13.5	8.5	7.5	8.0
26	10.5	8.5	9.5	15.0	13.5	14.5	14.0	13.5	13.5	9.0	8.0	8.5
27	10.0	9.0	9.5	15.0	14.0	14.5	13.5	12.0	12.5	9.5	8.5	9.0
28	9.0	8.5	9.0	14.5	13.5	14.0	12.5	11.5	12.0	9.5	9.0	9.5
29	10.5	8.0	9.5	14.5	13.0	14.0	13.0	12.0	12.5	9.5	9.0	9.5
30	11.0	9.0	10.0	14.5	13.0	14.0	13.0	12.5	12.5	9.5	9.0	9.0
31	---	---	---	13.5	12.0	13.0	13.0	12.0	12.5	---	---	---
MONTH	11.0	7.0	9.0	15.0	8.5	12.0	14.5	9.5	12.0	12.0	7.5	10.0

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR

LOCATION.--Lat 45°29'40", long 122°02'05", near line between SE 1/4 and SW 1/4 sec.11, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, Mount Hood National Forest, on left bank 7.0 mi southeast of Multnomah Falls and at mouth.

DRAINAGE AREA.--8.32 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1965 to current year.

REVISED RECORDS.--WDR OR-91-1: 1976.

GAGE.--Water-stage recorder. Elevation of gage is 1,060 ft above sea level, from topographic map. Prior to Oct. 1, 1978, and from June 13, 1989 to July 1990 (during bridge construction), at site 700 ft upstream at datum 18.7 ft higher. From Oct. 1, 1978 to June 13, 1989, and July 1990 to present, site located 5 ft upstream from bridge, on left bank wing wall.

REMARKS.--Records good except those above 100 ft^3/s, which are fair. Regulation at times since 1958 by North Fork Reservoir, capacity, about 1,030 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--31 years (water years 1966-96), 73.3 ft^3/s, 119.68 in/yr, 53,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft^3/s, probably affected by surge from release of water temporarily impounded by landslide upstream from station, Jan. 20, 1972, gage height, 9.89 ft, from floodmark, from rating curve extended above 850 ft^3/s on basis of estimate of peak flow from slope-area survey; minimum discharge, 8.6 ft^3/s Oct. 19-29, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1500	979	6.26	Nov. 30	0100	1,030	5.56
Nov. 11	0900	1,630	*6.98	Dec. 1	0500	993	5.53
Nov. 28	0600	1,160	5.63	Feb. 7	2030	*2,440	6.11

Minimum discharge, 9.6 ft^3/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	35	600	167	49	e41	e118	60	42	22	12	10
2	46	32	321	112	50	e40	e94	56	38	21	15	10
3	146	30	199	296	51	e60	e73	56	36	20	17	10
4	70	28	205	183	52	e136	e63	53	34	20	14	11
5	51	47	125	131	90	e111	61	47	32	19	17	11
6	43	88	94	172	e650	e100	60	43	30	19	14	11
7	38	158	78	365	e1900	e90	62	43	28	18	13	10
8	39	417	65	260	907	e100	64	40	27	17	13	10
9	37	238	102	164	580	e115	63	37	26	17	12	10
10	82	200	150	128	230	e120	65	35	25	17	12	10
11	247	735	227	93	e152	e130	73	34	24	16	12	9.9
12	177	252	205	76	e120	e115	106	37	23	16	12	10
13	96	335	194	65	e100	e90	168	72	22	16	12	10
14	66	172	224	70	e90	e80	111	75	22	15	11	16
15	53	134	186	179	e85	e70	99	91	21	15	11	36
16	57	112	137	332	e86	e65	138	73	21	15	11	21
17	89	82	102	147	e130	e60	120	82	22	15	11	16
18	83	83	82	101	332	e58	103	93	30	18	11	13
19	58	60	70	144	276	e65	94	131	22	18	11	16
20	52	51	61	188	e168	e62	86	97	20	16	11	13
21	63	50	55	146	e111	e60	78	85	19	15	11	12
22	56	76	51	93	e90	e66	137	139	19	14	11	13
23	48	66	50	80	e80	e55	304	149	34	14	11	12
24	44	163	49	70	e70	e50	351	96	38	14	11	11
25	53	276	49	61	e60	e45	221	76	31	14	11	11
26	122	293	48	55	e54	e46	172	65	25	13	11	10
27	67	457	48	51	e50	e41	121	57	26	13	11	10
28	55	696	49	49	e47	e40	91	55	32	13	11	10
29	47	603	149	49	e44	e40	76	61	27	13	11	10
30	42	689	328	48	---	e40	66	52	24	13	11	9.9
31	39	---	357	49	---	e60	---	46	---	13	11	---
TOTAL	2214	6658	4660	4124	6704	2251	3438	2136	820	499	373	372.8
MEAN	71.4	222	150	133	231	72.6	115	68.9	27.3	16.1	12.0	12.4
MAX	247	735	600	365	1900	136	351	149	42	22	17	36
MIN	37	28	48	48	44	40	60	34	19	13	11	9.9
AC-FT	4390	13210	9240	8180	13300	4460	6820	4240	1630	990	740	739
CFSM	8.58	26.7	18.1	16.0	27.8	8.73	13.8	8.28	3.29	1.93	1.45	1.49
IN.	9.90	29.77	20.84	18.44	29.97	10.06	15.37	9.55	3.67	2.23	1.67	1.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	42.0	107	127	131	111	87.3	88.6	72.9	48.5	25.0	17.6	24.1
MAX	88.2	222	285	309	231	200	147	137	111	62.7	35.2	54.4
(WY)	1969	1996	1976	1975	1996	1972	1993	1972	1974	1983	1968	1977
MIN	9.08	16.9	33.4	32.1	35.3	28.8	49.5	28.3	14.6	12.6	10.6	10.9
(WY)	1988	1994	1977	1979	1993	1992	1967	1992	1992	1992	1994	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	29297		34249.8			
ANNUAL MEAN	80.3		93.6		73.3	
HIGHEST ANNUAL MEAN					121	1974
LOWEST ANNUAL MEAN					46.1	1977
HIGHEST DAILY MEAN	814	Jan 31	1900	Feb 7	1910	Dec 2 1977
LOWEST DAILY MEAN	10	Sep 21	9.9	Sep 11	8.6	Oct 24 1987
ANNUAL SEVEN-DAY MINIMUM	10	Sep 19	10	Sep 7	8.7	Oct 23 1987
ANNUAL RUNOFF (AC-FT)	58110		67930		53090	
ANNUAL RUNOFF (CFSM)	9.65		11.2		8.81	
ANNUAL RUNOFF (INCHES)	130.99		153.14		119.68	
10 PERCENT EXCEEDS	185		196		150	
50 PERCENT EXCEEDS	48		54		47	
90 PERCENT EXCEEDS	13		11		15	

e Estimated

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.
pH: October 1980 to September 1981, August 1990 to September 1992.
WATER TEMPERATURE: October 1978 to current year.
TURBIDITY: August 1990 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1986.

INSTRUMENTATION.--Water-quality monitor, turbidimeter with data recording interval dependent upon river stage.

REMARKS.--Turbidity values herein are recorded values and may not reflect actual extremes for the day. Turbidity data prior to October 1990 are available in the files of the Portland field office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 103 microsiemens Jan. 13, 1981 (cement spill); minimum, 7 microsiemens Jan. 31, 1995, Feb. 19, 1995.
pH: Maximum recorded, 9.8 units Jan. 13, 1981 (cement spill); minimum recorded, 6.3 units June 19, 1981.
WATER TEMPERATURE: Maximum, 14.5°C several days in 1988, 1992, 1993, 1994; minimum, 0.0°C on several days during winter periods.
TURBIDITY: Maximum recorded, 25 NTU Nov. 24, 1990; minimum recorded, 0.06 NTU Sept. 7, 13, 14, 1992.
SEDIMENT CONCENTRATION: Maximum daily, 205 mg/L Dec. 25, 1980; minimum, 0 mg/L on many days.
SEDIMENT DISCHARGE: Maximum daily, 765 tons Feb. 23, 1986; minimum, 0 tons on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 48 microsiemens Aug. 26; minimum, 9 microsiemens Feb. 8.
WATER TEMPERATURE: Maximum recorded, 14.0°C July 26; minimum, 0.0°C Jan. 30, 31, Feb. 1-3, 28.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	27	25	26	26	26	26	14	12	14	18	16	17
2	27	24	26	27	26	27	15	14	15	19	17	19
3	24	19	20	28	27	28	16	15	16	17	14	15
4	23	21	22	29	28	28	17	15	16	17	16	16
5	25	23	24	28	23	27	18	17	17	18	17	17
6	26	25	25	23	20	22	20	18	19	17	16	17
7	27	26	26	20	18	19	20	19	20	16	14	15
8	27	25	26	19	13	16	21	20	21	16	14	15
9	27	26	27	17	15	16	21	17	19	17	16	16
10	28	19	25	18	14	17	18	16	17	18	17	17
11	19	16	17	14	11	12	16	15	16	19	18	19
12	18	16	17	16	14	15	16	15	16	20	19	20
13	20	18	19	16	14	15	17	16	16	21	20	21
14	21	20	20	17	16	17	17	15	16	22	19	21
15	24	21	22	18	17	18	17	15	17	20	14	18
16	24	22	23	19	17	18	18	17	17	16	14	15
17	25	18	22	20	19	19	19	18	18	18	16	17
18	22	18	20	20	18	19	20	19	20	19	18	18
19	23	20	21	21	20	20	21	20	21	18	17	17
20	22	21	22	22	21	21	22	21	22	18	16	17
21	23	21	22	24	22	22	23	22	22	18	17	18
22	23	22	22	22	20	20	24	23	23	20	19	19
23	24	23	23	21	20	21	25	24	24	21	20	20
24	24	23	24	20	16	18	26	25	25	21	20	21
25	25	21	24	16	15	16	27	26	26	22	21	22
26	21	18	19	16	15	15	28	26	27	24	22	23
27	22	20	21	16	12	15	28	27	28	24	24	24
28	23	22	22	15	12	14	27	24	27	25	24	25
29	24	23	23	15	12	14	25	16	19	26	23	25
30	25	24	24	14	12	13	16	13	15	27	26	27
31	26	25	25	---	---	---	16	14	15	27	26	27
MONTH	28	16	23	29	11	19	28	12	19	27	14	19

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	28	27	27	25	23	25	22	19	20	23	22	22
2	28	28	28	26	23	25	20	19	20	24	23	23
3	29	28	29	25	19	23	22	20	21	24	23	23
4	29	28	28	19	17	18	22	21	22	24	23	24
5	28	17	25	19	17	18	22	22	22	25	24	25
6	20	13	15	19	18	18	23	22	22	26	25	25
7	13	10	12	19	18	19	22	22	22	26	25	26
8	14	9	12	18	17	18	22	22	22	27	25	26
9	14	10	13	18	18	18	22	22	22	28	27	27
10	16	14	15	18	17	18	22	21	22	28	27	28
11	17	16	16	17	17	17	22	20	21	29	28	28
12	18	17	17	17	17	17	20	18	19	29	27	28
13	18	17	18	19	17	18	18	17	17	28	21	24
14	19	18	18	20	19	20	18	17	18	23	21	22
15	19	18	18	21	20	20	19	17	19	23	20	21
16	19	18	19	22	21	21	17	17	17	23	21	22
17	19	15	17	22	22	22	18	17	18	23	20	21
18	15	14	14	23	22	22	19	18	19	22	19	21
19	15	14	15	22	22	22	19	18	19	20	18	19
20	17	15	16	23	22	23	20	19	20	21	19	20
21	18	17	17	24	23	23	21	20	20	21	19	21
22	19	18	18	23	22	23	21	15	19	19	18	19
23	19	19	19	24	23	23	15	14	15	20	17	18
24	20	19	20	25	24	24	15	13	14	21	19	20
25	22	20	21	26	25	25	16	15	15	22	21	21
26	22	21	22	26	25	26	18	15	16	23	22	22
27	24	22	23	27	26	26	19	17	18	24	23	23
28	24	22	24	27	25	26	20	18	19	24	23	24
29	25	23	24	27	26	27	21	20	20	24	23	23
30	---	---	---	27	25	26	22	21	22	25	24	24
31	---	---	---	27	21	23	---	---	---	26	25	25
MONTH	29	9	19	27	17	22	23	13	19	29	17	23

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27	26	26	36	35	35	43	41	42	44	43	44
2	29	27	27	37	35	36	42	39	41	44	43	43
3	29	28	28	38	35	36	40	38	39	44	43	43
4	30	28	29	36	35	36	42	40	41	44	43	43
5	32	29	30	37	36	36	41	38	39	44	42	42
6	33	31	32	38	36	37	41	40	41	43	42	42
7	33	32	32	38	37	38	42	41	42	43	42	43
8	34	32	33	39	37	38	43	42	42	44	43	43
9	34	33	33	39	37	38	43	42	43	44	43	43
10	34	33	34	39	38	38	43	42	43	44	43	43
11	34	33	34	39	38	39	43	42	43	45	43	44
12	35	34	34	40	38	39	43	42	42	45	43	43
13	35	34	34	40	39	39	43	42	43	44	42	43
14	35	34	35	40	39	40	44	42	43	43	38	41
15	35	35	35	41	39	40	43	42	43	39	34	36
16	36	35	35	40	39	40	43	42	43	38	35	37
17	36	34	35	40	39	39	43	42	43	41	38	38
18	34	32	33	39	38	39	43	42	43	43	39	41
19	36	34	35	39	37	38	44	42	43	41	38	39
20	37	36	36	40	39	39	43	42	43	41	38	40
21	37	36	36	40	39	40	44	43	43	43	40	41
22	37	36	37	41	40	40	44	43	43	42	39	40
23	37	29	33	42	40	41	44	43	44	42	40	41
24	32	30	31	42	40	41	44	43	44	43	41	41
25	34	31	32	42	41	42	45	43	44	43	41	42
26	35	34	34	43	41	42	48	44	45	44	42	42
27	35	33	34	43	41	42	46	43	44	44	42	43
28	33	32	32	44	42	43	44	43	43	44	42	43
29	35	33	34	43	42	42	44	43	44	44	42	43
30	36	34	35	43	41	42	44	43	44	44	42	43
31	---	---	---	43	41	42	44	43	43	---	---	---
MONTH	37	26	33	44	35	39	48	38	43	45	34	42
YEAR	48	9	27									

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.0	7.5	8.5	5.0	4.0	4.5	---	---	---	6.0	5.5	5.5
2	9.0	8.0	8.5	5.0	4.0	4.5	---	---	---	7.0	6.0	6.5
3	9.5	8.5	9.0	5.0	3.5	4.5	---	---	---	7.0	5.0	6.0
4	8.5	7.5	8.0	5.5	4.0	5.0	---	---	---	5.0	4.5	4.5
5	9.5	6.5	8.0	5.5	5.0	5.5	---	---	---	4.5	4.5	4.5
6	9.0	8.5	8.5	6.0	5.5	5.5	---	---	---	5.5	4.5	5.0
7	9.5	8.5	9.0	7.5	6.0	7.0	---	---	---	6.0	5.5	5.5
8	9.0	8.0	8.5	8.5	7.5	8.0	---	---	---	6.5	6.0	6.0
9	9.0	8.5	9.0	7.5	5.5	6.5	---	---	---	6.0	6.0	6.0
10	10.0	8.5	9.0	6.5	5.5	6.0	---	---	---	6.0	5.5	6.0
11	10.0	8.5	9.0	8.0	6.5	8.0	---	---	---	5.5	4.5	5.0
12	8.5	8.0	8.5	7.5	7.5	7.5	---	---	---	5.5	5.0	5.0
13	8.5	7.0	8.0	9.0	7.5	8.5	---	---	---	6.0	5.0	5.5
14	9.5	8.0	8.5	9.0	8.5	9.0	---	---	---	6.0	5.5	6.0
15	9.5	8.5	9.0	9.0	8.0	8.5	---	---	---	6.5	6.0	6.0
16	9.5	9.0	9.5	9.0	8.5	8.5	---	---	---	6.0	4.5	5.0
17	9.5	8.5	9.0	9.0	8.0	8.5	---	---	---	4.5	4.0	4.0
18	9.0	7.5	8.5	9.0	8.0	8.5	---	---	---	4.0	2.5	3.5
19	8.0	7.0	7.5	8.0	7.0	7.5	---	---	---	4.0	3.5	4.0
20	8.0	7.5	8.0	7.5	6.5	7.0	---	---	---	4.5	4.0	4.0
21	8.0	7.5	7.5	7.5	6.5	7.0	---	---	---	4.0	3.0	3.5
22	8.0	7.0	7.5	8.0	7.5	8.0	---	---	---	4.0	3.5	3.5
23	8.0	7.0	7.5	8.0	8.0	8.0	---	---	---	3.5	2.5	3.0
24	8.0	7.5	7.5	9.0	8.0	8.5	3.0	2.5	3.0	2.5	2.5	2.5
25	8.5	7.5	7.5	9.0	7.0	8.0	3.0	2.5	2.5	3.0	2.5	3.0
26	8.5	8.0	8.5	7.0	6.5	7.0	3.0	2.5	2.5	3.0	2.5	3.0
27	8.0	7.0	7.5	8.0	6.5	7.0	3.0	2.5	3.0	3.0	2.0	2.5
28	7.5	6.5	7.0	8.5	8.0	8.0	4.0	3.0	3.5	2.5	1.5	2.0
29	7.0	6.0	6.5	---	---	---	4.5	3.5	4.0	2.0	.5	1.5
30	6.5	5.0	6.0	---	---	---	6.0	4.5	5.5	.5	.0	.5
31	5.5	4.5	5.0	---	---	---	6.0	5.5	5.5	.5	.0	.5
MONTH	10.0	4.5	8.0	---	---	---	---	---	---	7.0	.0	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.5	3.0	1.0	2.0	5.5	4.5	5.0	7.0	6.5	7.0
2	.5	.0	.5	3.5	1.0	2.5	5.5	4.5	5.0	6.5	5.5	6.0
3	1.5	.0	.5	3.5	2.5	3.0	---	---	---	5.5	5.0	5.0
4	2.5	1.5	2.0	3.5	2.5	3.0	---	---	---	7.0	4.5	5.5
5	2.5	1.0	2.0	3.5	2.5	3.0	8.5	6.5	7.5	7.5	5.5	6.5
6	2.5	2.0	2.5	4.5	3.5	3.5	9.0	7.0	8.0	8.0	5.5	6.5
7	3.0	2.5	2.5	4.0	3.5	3.5	10.0	8.0	9.0	6.5	5.5	6.0
8	4.0	3.0	3.5	5.0	3.5	4.0	10.5	8.5	9.5	6.5	5.0	5.5
9	4.0	3.0	3.5	4.5	4.0	4.5	9.5	8.5	9.0	7.0	4.5	5.5
10	3.5	2.5	3.0	5.0	4.0	4.5	8.5	7.5	8.0	8.0	5.5	6.5
11	4.5	3.0	3.5	4.5	4.0	4.5	7.5	6.5	7.0	8.0	6.5	7.5
12	5.0	3.5	4.0	4.5	4.0	4.0	6.5	5.0	5.5	9.0	7.5	8.5
13	5.5	4.0	4.0	5.0	3.5	4.5	6.5	5.0	5.5	9.5	8.5	9.0
14	4.5	3.5	4.0	5.5	4.0	4.5	7.5	5.0	6.5	9.0	8.5	9.0
15	5.0	4.0	4.5	5.0	4.5	5.0	8.0	6.5	7.0	8.5	8.5	8.5
16	5.0	4.0	4.5	5.0	4.0	4.5	7.5	6.5	7.0	9.0	7.5	8.5
17	5.0	4.5	5.0	6.0	4.5	5.0	6.5	5.0	6.0	9.0	8.0	8.5
18	5.0	4.5	4.5	6.0	4.5	5.5	6.0	5.5	5.5	8.5	7.5	8.0
19	4.5	4.0	4.0	6.0	5.0	5.5	5.5	5.0	5.5	7.5	7.0	7.5
20	4.5	3.0	4.0	5.5	4.5	5.0	6.0	5.0	5.5	8.0	6.5	7.5
21	3.5	2.5	3.0	5.5	4.0	5.0	6.5	5.5	6.0	8.0	7.5	7.5
22	3.0	2.0	2.5	5.0	4.5	5.0	6.5	6.0	6.5	7.5	6.0	6.5
23	2.5	1.0	1.5	5.0	4.5	4.5	7.5	6.5	7.0	7.0	6.0	6.5
24	2.5	1.5	2.0	4.5	3.0	4.0	7.0	5.5	6.0	9.0	6.5	7.5
25	2.5	1.0	2.0	4.0	1.5	3.0	7.0	5.5	6.0	10.5	8.0	9.0
26	2.5	1.0	1.5	5.0	2.0	3.5	6.5	5.5	6.0	9.5	8.5	9.0
27	2.0	1.0	1.0	4.5	2.5	3.5	6.5	5.5	6.0	8.5	7.5	8.0
28	1.5	.0	.5	5.5	2.0	4.0	7.5	5.5	6.5	7.5	7.0	7.5
29	2.5	1.0	1.5	5.0	3.0	4.0	---	7.5	8.0	8.0	7.0	7.5
30	---	---	---	6.0	3.5	4.5	8.0	6.5	7.0	8.0	7.0	7.5
31	---	---	---	4.5	4.5	4.5	---	---	---	9.5	6.5	8.0
MONTH	5.5	.0	2.5	6.0	1.0	4.0	---	---	---	10.5	4.5	7.5

14138900 NORTH FORK BULL RUN RIVER NEAR MULTNOMAH FALLS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.5	8.0	9.0	12.0	9.0	10.5	12.0	10.0	10.5	11.0	9.0	10.0
2	11.5	9.0	10.5	12.0	9.5	11.0	10.5	10.0	10.5	10.5	9.0	9.5
3	12.0	10.0	11.0	12.0	10.0	11.0	10.5	10.0	10.0	10.0	9.0	9.5
4	11.0	9.5	10.0	10.5	9.5	10.0	10.0	9.5	10.0	9.5	9.0	9.0
5	11.5	9.0	10.0	11.0	8.5	9.5	10.0	9.5	9.5	9.5	8.5	8.5
6	12.0	9.0	10.5	11.5	8.5	10.0	11.0	9.0	10.0	10.0	8.0	9.0
7	11.0	9.5	10.0	12.0	9.5	10.5	12.0	9.5	10.5	10.5	8.5	9.0
8	11.0	9.0	10.0	12.5	9.5	11.0	12.5	10.5	11.5	10.5	9.0	9.5
9	10.0	9.0	9.5	11.5	10.0	10.5	13.0	10.5	12.0	11.0	9.5	10.0
10	11.0	8.5	9.5	11.5	9.0	10.0	13.5	11.0	12.0	11.0	9.0	10.0
11	11.0	8.5	9.5	12.5	9.5	11.0	12.0	10.5	11.5	11.0	9.5	10.5
12	11.0	8.0	9.5	13.0	10.0	11.5	12.0	9.5	10.5	10.5	9.5	10.0
13	11.0	8.5	9.5	13.5	11.0	12.0	12.5	10.0	11.0	9.5	9.0	9.0
14	11.0	8.5	9.5	13.5	11.0	12.0	13.0	10.5	11.5	9.5	9.0	9.0
15	10.5	8.5	9.0	13.5	11.5	12.5	12.0	10.0	10.5	10.5	9.5	10.0
16	9.0	8.5	9.0	12.5	10.5	11.0	12.0	10.0	10.5	9.5	9.0	9.5
17	8.5	7.5	8.0	11.0	9.5	10.0	10.5	9.5	10.0	10.0	9.0	9.5
18	9.0	7.5	8.0	10.0	9.0	9.5	10.0	9.0	9.5	9.0	8.0	8.5
19	10.0	7.0	8.5	10.5	9.0	9.5	10.5	8.5	9.5	9.0	8.5	9.0
20	10.5	7.5	9.0	10.5	9.5	10.0	11.0	9.0	10.0	9.5	8.0	8.5
21	9.0	8.5	8.5	12.0	9.5	10.5	11.0	8.5	9.5	8.5	7.5	8.0
22	9.5	8.0	8.5	13.0	10.0	11.5	11.5	9.0	10.0	9.0	7.5	8.0
23	10.0	8.5	9.0	13.5	10.5	12.0	12.0	9.5	10.5	8.5	7.0	7.5
24	10.0	9.0	9.5	13.5	11.5	12.0	12.5	10.0	11.0	8.5	7.0	8.0
25	11.0	9.0	10.0	13.5	11.0	12.0	12.5	11.0	11.5	8.5	7.0	8.0
26	11.5	8.5	10.0	14.0	11.5	12.5	11.5	11.0	11.0	9.0	7.5	8.0
27	10.0	9.0	9.5	13.5	11.5	12.5	11.0	9.5	10.0	9.5	8.0	8.5
28	9.5	9.0	9.5	12.5	11.5	12.0	11.0	9.0	10.0	10.0	8.5	9.0
29	11.0	8.0	9.5	13.5	11.0	12.0	12.0	10.0	10.5	9.5	8.0	9.0
30	11.0	8.5	10.0	13.0	11.0	12.0	11.5	10.5	11.0	9.5	8.0	8.5
31	---	---	---	12.5	10.0	11.0	11.5	10.0	10.5	---	---	---
MONTH	12.0	7.0	9.5	14.0	8.5	11.0	13.5	8.5	10.5	11.0	7.0	9.0

14139000 BULL RUN RESERVOIR NUMBER ONE NEAR BULL RUN, OR

LOCATION.--Lat 45°28'50", long 122°04'50", in NW 1/4 SW 1/4 sec.16, T.1 S., R.6 E., Multnomah County, Hydrologic Unit 17080001, in Mount Hood National Forest, in control house of Bear Creek Dam on Bull Run River, 8.2 mi northeast of Bull Run, and at mile 11.2.

DRAINAGE AREA.--74.6 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Prior to October 1937, published as Bull Run Reservoir. October 1937 to September 1967, published as Lake Ben Morrow. Prior to October 1975, monthend contents only.

REVISED RECORDS.--WSP 814: 1935(M). WSP 1935: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Portland Water Bureau). Prior to Oct. 9, 1930, Oct. 1, 1962, to Dec. 31, 1975, nonrecording gage and Oct. 9, 1930, to Sept. 30, 1962, water-stage recorder at present site and datum.

REMARKS.--Midnight readings Oct. 1-5, July 12-14, Feb. 9-17, furnished by Portland General Electric. Lake is formed by concrete dam completed in March 1929 for water supply of city of Portland. Storage began about Apr. 29, 1929; first filling occurred May 15, 1929. Capacity, 26,930 acre-ft at crest of spillway, elevation, 1,036.0 ft; capacity increased in October 1954 to 30,140 acre-ft at elevation 1,044.0 ft by installation of three gates 40 ft wide and 8 ft high. No dead storage. Water is used for power generation by Portland General Electric Co. and municipal supply for city of Portland.

COOPERATION.--Capacity table furnished by Portland Water Bureau.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,600 acre-ft Mar. 31, 1931, elevation, 1,047.40 ft; minimum contents observed, 169 acre-ft Jan. 10, 1960, elevation, 887.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 31,100 acre-ft Feb. 7, elevation, 1,046.23 ft; minimum contents, 13,830 acre-ft Sept. 13, elevation, 995.72 ft.

Capacity table (elevation, in feet, and capacity, in acre-feet)

870	0	970	8,050
890	213	990	12,370
910	1,130	1,010	17,950
930	2,680	1,030	24,680
950	4,900	1,048	31,860

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1011.1	1034.37	1038.62	1035.54	1036.86	1034.27	1039.32	1039.69	1044.44	1044.77	1025.15	996.05
2	1013.6	1035.01	1037.16	1034.65	1034.43	1034.28	1039.21	1040.97	1044.78	1044.58	1024.78	996.54
3	1021.9	1034.97	1035.86	1035.89	1035.72	1034.45	1039.55	1041.11	1043.84	1044.43	1024.34	997.03
4	1026.2	1034.66	1035.42	1035.88	1036.81	1034.83	1039.38	1041.83	1043.54	1044.43	1024.90	997.52
5	1028.9	1034.52	1035.46	1035.34	1035.67	1034.08	1039.66	1042.59	1044.17	1044.38	1023.58	995.99
6	1031.02	1034.74	1034.46	1035.34	1045.67	1034.36	1039.33	1043.56	1043.95	1044.16	1022.44	996.50
7	1032.67	1035.12	1034.44	1038.24	1045.07	1034.52	1039.52	1043.78	1043.94	1044.15	1021.32	996.99
8	1034.31	1039.10	1034.39	1036.44	1043.33	1034.85	1039.42	1043.42	1044.04	1043.72	1020.74	997.46
9	1034.77	1036.52	1034.44	1036.17	1038.63	1034.84	1039.34	1043.37	1044.34	1043.42	1019.52	996.80
10	1035.98	1037.27	1035.45	1035.69	1035.81	1034.73	1039.47	1043.51	1044.98	1042.62	1017.88	997.28
11	1037.23	1041.04	1035.90	1034.22	1034.17	1034.91	1039.66	1043.65	1045.27	1041.96	1017.14	996.10
12	1035.75	1036.88	1038.66	1034.45	1033.38	1034.82	1039.77	1043.82	1045.18	1041.08	1017.62	996.56
13	1034.79	1037.35	1038.76	1034.52	1033.42	1034.67	1039.93	1043.62	1045.14	1040.44	1015.01	995.93
14	1034.71	1035.87	1039.59	1034.26	1033.34	1034.45	1039.43	1043.67	1044.74	1039.35	1013.55	996.70
15	1034.50	1035.76	1036.86	1036.02	1033.36	1034.38	1039.20	1043.20	1044.62	1038.95	1012.65	996.79
16	1034.34	1035.12	1035.52	1036.72	1034.11	1034.37	1039.93	1043.65	1044.70	1037.48	1011.19	996.54
17	1035.29	1034.40	1034.03	1035.61	1035.60	1034.48	1039.41	1043.93	1044.69	1037.27	1009.96	996.49
18	1034.94	1034.22	1034.05	1034.18	1037.55	1034.51	1039.58	1044.38	1045.02	1036.95	1009.13	997.23
19	1034.93	1034.53	1034.14	1035.23	1036.30	1034.47	1039.27	1044.24	1045.06	1036.53	1008.14	998.14
20	1034.41	1034.46	1034.60	1035.73	1035.93	1034.28	1039.30	1043.87	1044.93	1036.38	1006.98	996.10
21	1034.55	1034.51	1034.47	1035.60	1034.74	1034.31	1039.56	1043.96	1044.58	1035.66	1005.72	996.79
22	1034.00	1034.51	1034.31	1034.19	1034.21	1034.27	1039.72	1044.88	1044.33	1034.66	1004.41	997.51
23	1034.26	1034.51	1034.35	1034.24	1034.22	1034.20	1042.33	1044.49	1044.93	1033.95	1003.20	996.27
24	1035.00	1034.88	1034.18	1034.47	1034.09	1034.50	1039.91	1043.81	1044.80	1032.89	1001.81	996.79
25	1034.25	1037.51	1034.34	1034.34	1034.26	1035.20	1038.75	1044.01	1044.91	1032.06	999.47	997.30
26	1034.45	1037.24	1034.78	1034.33	1034.36	1036.78	1041.56	1044.42	1044.98	1030.87	999.25	996.26
27	1034.41	1042.43	1034.73	1034.11	1034.21	1037.40	1040.82	1044.28	1044.88	1030.00	999.75	996.78
28	1034.45	1039.06	1034.85	1034.21	1034.26	1038.00	1039.15	1043.91	1044.89	1028.58	1000.25	995.96
29	1034.77	1041.29	1035.73	1034.45	1034.29	1038.92	1039.30	1043.64	1044.96	1027.69	1000.73	996.47
30	1034.24	1040.05	1039.41	1034.35	---	1039.25	1039.27	1043.79	1044.77	1027.37	997.87	996.04
31	1034.65	---	1037.65	1035.80	---	1040.18	---	1044.17	---	1026.68	996.53	---
MAX	1037.23	1042.43	1039.59	1038.24	1045.67	1040.18	1042.33	1044.88	1045.27	1044.77	1025.15	998.14
MIN	1011.10	1034.22	1034.03	1034.11	1033.34	1034.08	1038.75	1039.69	1043.54	1026.68	996.53	995.93
(†)	26420	28520	27570	26850	26280	28570	28210	30210	30470	23490	14040	13910
(‡)	+9050	+2100	-950	-720	-570	+2290	-360	+2000	+260	-6980	-9450	-130

CAL YR 1995 MAX 1046.19 MIN 998.00 AC-FT‡ +1300
WTR YR 1996 MAX 1045.67 MIN 995.93 AC-Ft‡ -3460

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14139700 CEDAR CREEK NEAR BRIGHTWOOD, OR

LOCATION.--Lat 45°27'30", long 122°01'50", in NE 1/4 sec.26, T.1 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 5.8 mi north of Brightwood and at mile 2.5.

DRAINAGE AREA.--7.93 mi^2.

PERIOD OF RECORD.--July to November 1964, June 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,960 ft above sea level, from topographic map.

REMARKS.--Records good except those for Jan. 29 to Feb. 4, which are fair, and Nov. 16 to Jan. 4 which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--31 years (water years 1966-96), 66.0 ft^3/s, 113.04 in/yr, 47,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,990 ft^3/s Dec. 22, 1964, gage height, 7.20 ft, from rating curve extended above 940 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 4.7 ft^3/s Oct. 28, 29, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1330	1,300	4.81	Dec. 30	unknown	unknown	unknown
Nov. 28	unknown	unknown	unknown	Feb. 7	1930	*1,720	*a5.40
Nov. 30	unknown	unknown	unknown	Feb. 9	0230	1,060	4.50

Minimum discharge, 7.0 ft^3/s Sept. 11, 12.
a From inside highwater mark.

REVISION.--The maximum discharges for the water years 1989 and 1991 have been revised to 1,380 ft^3/s, Jan. 9, 1989, gage height, 4.92 ft and 1,330 ft^3/s Jan. 15, 1991, gage height, 4.85 ft. These figures supersede those figures published in reports for 1989 and 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	31	e480	e170	e30	40	90	51	35	20	12	8.2
2	57	28	e260	e130	e28	39	98	46	33	20	14	8.0
3	187	26	e150	e180	e28	53	74	47	30	19	16	8.0
4	101	24	e180	e150	e26	149	61	44	29	22	13	8.1
5	65	36	e130	113	75	128	55	40	27	19	16	8.6
6	48	106	e100	137	685	111	52	36	25	18	14	8.2
7	40	139	e80	219	1440	102	51	34	25	18	13	7.9
8	41	257	e75	217	750	122	49	32	24	17	12	7.7
9	38	263	e100	154	627	124	47	31	23	17	12	7.4
10	89	223	e140	138	219	128	48	29	22	17	11	7.3
11	289	897	e170	87	126	146	55	28	22	16	11	7.2
12	204	287	e190	66	92	129	115	29	20	16	11	7.1
13	112	236	e170	54	86	103	178	54	20	15	11	7.3
14	74	137	e170	55	87	83	109	59	20	15	10	9.9
15	55	107	e140	102	89	73	94	81	19	15	10	27
16	57	e95	e120	232	87	63	149	66	19	15	10	28
17	92	e85	e100	118	129	56	121	82	20	15	10	24
18	101	e85	e90	79	308	52	100	100	24	17	10	14
19	65	e75	e80	141	242	57	90	152	20	17	10	19
20	55	e65	e70	196	156	50	82	102	19	15	9.6	15
21	64	e60	e65	148	111	45	75	83	18	15	9.6	12
22	59	e65	e55	82	85	50	128	193	18	14	9.2	12
23	47	e65	e50	63	72	46	234	227	28	14	9.1	11
24	41	e120	e45	53	61	43	289	125	31	13	8.9	9.8
25	53	e440	e40	44	53	39	201	85	28	13	8.8	9.2
26	150	e300	e40	39	48	36	160	66	23	13	8.8	8.8
27	82	e400	e40	36	44	35	116	54	22	13	8.8	8.4
28	61	e650	e40	34	43	33	86	47	27	13	8.8	8.2
29	48	e440	e150	e32	41	34	68	49	24	13	8.4	8.0
30	41	e600	e550	e32	---	33	57	46	21	12	8.5	7.7
31	35	---	e460	e30	---	64	---	40	---	12	8.4	---
TOTAL	2518	6342	4530	3331	5868	2266	3132	2158	716	488	332.9	333.0
MEAN	81.2	211	146	107	202	73.1	104	69.6	23.9	15.7	10.7	11.1
MAX	289	897	550	232	1440	149	289	227	35	22	16	28
MIN	35	24	40	30	26	33	47	28	18	12	8.4	7.1
AC-FT	4990	12580	8990	6610	11640	4490	6210	4280	1420	968	660	661
CFSM	10.2	26.7	18.4	13.6	25.5	9.22	13.2	8.78	3.01	1.99	1.35	1.40
IN.	11.81	29.75	21.25	15.63	27.53	10.63	14.69	10.12	3.36	2.29	1.56	1.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1996, BY WATER YEAR (WY)

MEAN	38.7	96.0	110	114	100	83.1	85.8	64.4	43.2	21.6	15.7	21.7
MAX	86.5	211	232	218	202	181	130	136	115	53.9	38.1	51.4
(WY)	1968	1996	1978	1975	1996	1972	1974	1969	1981	1983	1968	1977
MIN	5.43	15.5	29.4	31.9	29.8	22.6	46.5	30.6	12.8	10.9	8.68	7.86
(WY)	1988	1994	1977	1981	1993	1992	1967	1992	1992	1992	1970	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1966 - 1996	
ANNUAL TOTAL	28559.4		32014.9			
ANNUAL MEAN	78.2		87.5		66.0	
HIGHEST ANNUAL MEAN					105	1974
LOWEST ANNUAL MEAN					41.8	1977
HIGHEST DAILY MEAN	897	Nov 11	1440	Feb 7	1440	Feb 7 1996
LOWEST DAILY MEAN	9.5	Sep 23	7.1	Sep 12	4.8	Oct 28 1987
ANNUAL SEVEN-DAY MINIMUM	9.8	Sep 20	7.4	Sep 7	4.9	Oct 23 1987
ANNUAL RUNOFF (AC-FT)	56650		63500		47800	
ANNUAL RUNOFF (CFSM)	9.87		11.0		8.32	
ANNUAL RUNOFF (INCHES)	133.97		150.18		113.04	
10 PERCENT EXCEEDS	170		182		140	
50 PERCENT EXCEEDS	47		49		41	
90 PERCENT EXCEEDS	13		10		12	

e Estimated

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR

LOCATION.--Lat 45°26'38", long 122°06'20", in NE 1/4 NE 1/4 sec.31, T.1 S., R.6 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on right bank 6.2 mi northeast of Bull Run, and at mile 0.6.

DRAINAGE AREA.--15.4 mi^2

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR OR-91-1: 1989.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 990 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1975-96), 109 ft^3/s, 96.00 in/yr, 78,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,630 ft^3/s Feb. 7, 1996, gage height, 9.54 ft, from rating curve extended above 1,800 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 5.4 ft^3/s Oct. 13, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1130	2,450	7.84	Feb. 7	1900	*a3,630	*b9.54
Nov. 28	0400	2,150	7.52	Feb. 9	0130	1,760	7.15

Minimum discharge, 12 ft^3/s Sept. 2, 3, 7-13.
a From rating curve extended above 1,800 ft^3/s.
b From crest-stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	60	861	302	83	59	141	93	59	28	17	13
2	105	54	484	216	80	58	170	81	54	27	19	12
3	263	49	323	289	79	75	137	79	50	26	22	12
4	185	47	323	276	83	242	112	74	46	30	19	13
5	127	57	244	235	135	256	98	66	43	27	21	13
6	96	144	188	266	1070	221	90	59	40	25	19	13
7	80	208	160	369	2830	203	87	55	38	25	18	12
8	76	362	136	395	1390	222	84	52	37	24	17	12
9	71	406	171	303	1000	228	78	48	35	23	17	12
10	112	358	229	294	404	229	78	45	34	23	16	12
11	399	1480	286	221	224	265	87	43	32	22	16	12
12	318	481	282	175	155	244	163	44	31	22	16	12
13	204	338	251	145	132	203	307	76	30	21	16	12
14	143	242	289	137	130	161	220	95	29	21	15	15
15	109	193	293	191	130	134	177	143	28	21	15	34
16	101	178	250	363	129	113	251	131	27	20	15	39
17	130	135	200	254	171	98	226	149	28	20	15	35
18	169	126	165	195	462	89	193	167	33	22	15	22
19	124	102	139	257	406	94	172	269	28	23	15	28
20	104	88	122	346	259	85	151	209	26	21	14	23
21	108	76	110	314	185	77	140	167	26	20	14	20
22	105	89	101	220	135	81	204	313	25	19	14	20
23	89	85	93	177	111	74	392	414	37	19	14	18
24	81	146	87	154	93	69	497	254	41	19	13	17
25	86	385	83	132	85	62	349	181	39	18	13	16
26	209	318	79	118	79	58	289	131	31	18	13	16
27	149	543	77	111	73	55	225	104	30	17	13	15
28	117	1290	82	104	68	51	171	86	35	17	13	15
29	94	540	207	96	63	51	131	86	32	17	13	14
30	79	812	511	87	---	49	107	77	29	17	13	14
31	69	---	523	86	---	88	---	67	---	17	13	---
TOTAL	4233	9392	7349	6828	10244	3994	5527	3858	1053	669	483	521
MEAN	137	313	237	220	353	129	184	124	35.1	21.6	15.6	17.4
MAX	399	1480	861	395	2830	265	497	414	59	30	22	39
MIN	69	47	77	86	63	49	78	43	25	17	13	12
AC-FT	8400	18630	14580	13540	20320	7920	10960	7650	2090	1330	958	1030
CFSM	8.87	20.3	15.4	14.3	22.9	8.37	12.0	8.08	2.28	1.40	1.01	1.13
IN.	10.23	22.69	17.75	16.49	24.75	9.65	13.35	9.32	2.54	1.62	1.17	1.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1996, BY WATER YEAR (WY)

MEAN	59.1	165	186	178	181	141	146	100	71.4	32.2	22.4	32.4
MAX	137	313	379	315	353	235	215	162	180	91.2	53.2	93.4
(WY)	1996	1996	1978	1975	1996	1989	1976	1977	1981	1983	1978	1977
MIN	8.31	23.3	50.4	58.3	54.7	53.8	89.6	47.1	15.4	14.8	11.7	9.03
(WY)	1988	1994	1977	1979	1977	1992	1983	1992	1992	1992	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1975 - 1996	
ANNUAL TOTAL	45840		54151			
ANNUAL MEAN	126		148		109	
HIGHEST ANNUAL MEAN					150	1976
LOWEST ANNUAL MEAN					75.4	1977
HIGHEST DAILY MEAN	1480	Nov 11	2830	Feb 7	2830	Feb 7 1996
LOWEST DAILY MEAN	14	Aug 4	12	Sep 2	5.6	Oct 11 1994
ANNUAL SEVEN-DAY MINIMUM	15	Jul 31	12	Sep 7	5.7	Oct 7 1994
ANNUAL RUNOFF (AC-FT)	90920		107400		78820	
ANNUAL RUNOFF (CFSM)	8.16		9.61		7.07	
ANNUAL RUNOFF (INCHES)	110.73		130.81		96.00	
10 PERCENT EXCEEDS	272		313		229	
50 PERCENT EXCEEDS	82		87		72	
90 PERCENT EXCEEDS	19		16		16	

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.
pH: November 1980 to September 1981, June 1990 to September 1992.
WATER TEMPERATURE: October 1978 to current year.
TURBIDITY: June 1990 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1986.

INSTRUMENTATION.--Water-quality monitor, turbidimeter with data recording interval dependent upon river stage.

REMARKS.--Turbidity values herein are recorded values and may not reflect extremes for the day. Turbidity data prior to October 1990 are available in the files of the Portland field office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 56 microsiemens Oct. 31, 1988; minimum, 9 microsiemens Jan. 4, 1983.
pH: Maximum recorded, 8.0 units Aug. 17, Oct. 2, 1990, but may have been higher in water year 1990, 1992 during period of missing record; minimum recorded, 6.4 units Dec. 6, 1991, but may have been lower during period of missing record.
WATER TEMPERATURE: Maximum, 18.0°C June 23, 24, July 18, 19, 1992; minimum, 0.0°C on many days during winter periods.
TURBIDITY: Maximum recorded, 16 NTU Oct. 16, 1993; minimum recorded, 0.08 NTU Sept. 2, 1994.
SEDIMENT CONCENTRATION: Maximum daily, 212 mg/L Nov. 7, 1985; minimum, 0 mg/L on many days.
SEDIMENT DISCHARGE: Maximum daily, 794 tons Nov. 7, 1985; minimum, 0 tons on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 42 microsiemens Aug. 24-26, 28-31, Sept. 8-12; minimum, 10 microsiemens Feb. 7, but may have been less during period of missing record.
WATER TEMPERATURE: Maximum, 17.0°C July 15, 25-27; minimum, 0.0°C Jan. 30 to Feb. 3.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	24	22	23	26	25	26	16	14	15	19	17	18
2	25	23	24	27	26	26	18	16	17	20	19	20
3	24	21	22	27	26	27	18	18	18	20	17	18
4	22	21	22	28	27	27	19	18	18	19	18	18
5	23	22	23	28	28	28	20	19	19	19	19	19
6	25	23	24	28	23	25	21	20	21	19	19	19
7	26	25	25	23	20	21	22	21	21	19	16	18
8	26	25	26	22	17	20	22	22	22	18	16	17
9	27	26	26	19	17	18	22	20	21	19	17	18
10	27	22	26	20	18	19	20	19	20	19	17	18
11	22	18	20	18	13	14	19	18	19	21	19	20
12	20	19	19	18	15	17	19	18	19	22	21	21
13	21	20	21	19	18	18	20	19	19	23	22	22
14	23	21	22	20	19	19	20	17	19	23	22	23
15	23	23	23	21	20	20	20	18	19	22	19	21
16	24	23	24	21	20	21	20	20	20	19	16	17
17	24	22	23	22	21	21	21	20	21	20	18	19
18	22	21	21	22	21	21	22	21	22	21	20	20
19	22	22	22	23	22	22	23	22	23	20	18	19
20	23	22	23	23	23	23	24	23	24	19	16	18
21	23	23	23	24	23	24	25	24	24	19	17	18
22	23	23	23	24	23	24	26	25	25	21	19	20
23	24	23	24	24	23	24	26	26	26	22	21	21
24	25	24	24	23	20	22	27	26	27	23	22	22
25	25	24	25	20	16	17	28	27	27	24	23	23
26	24	20	21	18	17	18	28	28	28	25	24	24
27	22	21	22	18	13	17	28	28	28	26	24	25
28	23	22	23	17	13	14	29	27	28	27	26	26
29	24	23	23	17	15	17	27	19	22	27	27	27
30	25	24	24	16	15	15	19	15	17	28	27	28
31	25	25	25	---	---	---	17	15	16	29	28	28
MONTH	27	18	23	28	13	21	29	14	21	29	16	21

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	29	28	29	---	---	---	---	---	---	---	---	---
2	30	29	29	---	---	---	---	---	---	---	---	---
3	30	30	30	---	---	---	---	---	---	24	24	24
4	30	29	29	---	---	---	---	---	---	24	24	24
5	29	18	27	---	---	---	---	---	---	25	24	25
6	18	11	15	---	---	---	---	---	---	25	25	25
7	11	10	11	---	---	---	---	---	---	26	25	26
8	---	---	---	---	---	---	---	---	---	26	26	26
9	---	---	---	---	---	---	---	---	---	27	25	27
10	---	---	---	---	---	---	---	---	---	27	25	27
11	---	---	---	---	---	---	---	---	---	28	---	---
12	---	---	---	---	---	---	---	---	---	29	26	28
13	---	---	---	---	---	---	---	---	---	28	24	26
14	---	---	---	---	---	---	---	---	---	24	23	24
15	---	---	---	---	---	---	---	---	---	24	21	22
16	---	---	---	---	---	---	---	---	---	22	21	21
17	---	---	---	---	---	---	---	---	---	22	21	21
18	---	---	---	---	---	---	---	---	---	21	20	21
19	---	---	---	---	---	---	---	---	---	20	19	19
20	---	---	---	---	---	---	---	---	---	20	19	20
21	---	---	---	---	---	---	---	---	---	21	20	21
22	---	---	---	---	---	---	---	---	---	20	18	19
23	---	---	---	---	---	---	---	---	---	18	17	17
24	---	---	---	---	---	---	---	---	---	20	18	19
25	---	---	---	---	---	---	---	---	---	21	20	20
26	---	---	---	---	---	---	---	---	---	22	21	22
27	---	---	---	---	---	---	---	---	---	23	22	22
28	---	---	---	---	---	---	---	---	---	24	23	23
29	---	---	---	---	---	---	---	---	---	24	23	24
30	---	---	---	---	---	---	---	---	---	25	24	24
31	---	---	---	---	---	---	---	---	---	25	25	25
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26	25	26	34	33	34	40	39	40	41	40	41
2	27	26	26	34	34	34	40	39	39	41	40	41
3	28	27	27	34	34	34	39	37	38	41	40	41
4	28	27	27	34	33	33	39	38	39	41	40	41
5	28	26	28	34	33	34	39	38	38	41	40	40
6	29	---	---	35	34	34	39	38	38	41	40	41
7	---	---	---	35	35	35	40	39	39	41	40	41
8	---	---	---	36	35	35	40	39	40	42	41	41
9	---	---	---	36	34	35	41	40	40	42	41	41
10	---	---	---	36	35	36	41	40	41	42	41	41
11	---	---	---	37	36	36	41	39	40	42	41	42
12	---	---	---	37	36	37	41	40	40	42	41	41
13	---	---	---	37	37	37	41	40	40	41	41	41
14	---	---	---	38	37	37	41	40	41	41	40	41
15	32	32	32	38	37	38	41	40	40	40	34	37
16	33	32	33	37	37	37	41	40	41	34	32	33
17	34	33	33	37	37	37	40	40	40	33	32	33
18	33	32	33	37	36	37	40	40	40	35	33	34
19	34	33	33	37	36	37	41	40	40	35	33	34
20	34	34	34	38	37	37	41	40	40	34	33	33
21	34	34	34	38	38	38	41	40	41	34	34	34
22	35	34	34	39	38	38	41	41	41	34	34	34
23	35	31	34	39	38	39	41	41	41	35	34	35
24	32	31	31	39	39	39	42	41	41	35	35	35
25	32	31	31	40	39	39	42	41	41	36	35	36
26	33	32	32	40	39	40	42	41	41	36	36	36
27	33	33	33	40	39	40	41	41	41	37	36	37
28	33	32	32	40	40	40	42	41	41	37	37	37
29	33	32	32	40	40	40	42	41	41	37	37	37
30	33	33	33	40	39	40	42	41	41	37	37	37
31	---	---	---	40	38	40	42	40	41	---	---	---
MONTH	---	---	---	40	33	37	42	37	40	42	32	38

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.0	9.0	9.5	4.5	4.5	4.5	8.0	7.0	7.5	6.5	6.0	6.5
2	10.0	9.0	9.5	4.5	4.0	4.0	7.0	7.0	7.0	7.0	6.0	6.5
3	10.0	9.5	10.0	4.0	3.5	4.0	7.5	6.5	7.0	7.0	6.0	6.5
4	9.5	9.0	9.5	5.0	4.0	4.5	7.5	5.5	6.0	6.0	5.5	5.5
5	9.5	8.0	8.5	6.0	5.0	5.5	6.0	5.5	5.5	5.5	5.5	5.5
6	9.0	8.5	9.0	6.0	6.0	6.0	5.5	5.0	5.0	6.0	5.5	6.0
7	9.5	9.0	9.0	7.5	6.0	7.0	5.5	5.0	5.5	6.5	6.0	6.5
8	9.0	8.5	8.5	8.5	7.5	8.0	5.0	3.5	4.0	6.5	6.5	6.5
9	9.5	8.5	9.0	7.5	5.5	7.0	4.5	3.5	4.0	6.5	6.5	6.5
10	9.5	9.0	9.0	6.5	5.5	6.0	6.0	4.5	5.0	6.5	6.0	6.5
11	9.5	8.5	9.0	7.5	6.5	7.5	6.5	6.0	6.0	6.0	5.5	5.5
12	8.5	8.0	8.5	---	---	---	7.0	6.0	7.0	6.0	5.5	5.5
13	8.5	7.5	8.0	8.5	7.0	8.0	7.0	6.5	6.5	6.0	5.5	6.0
14	9.0	8.0	8.5	8.5	7.5	8.0	6.5	6.0	6.5	6.5	6.0	6.0
15	9.0	8.0	8.5	8.5	7.5	8.0	6.5	6.0	6.0	6.5	6.5	6.5
16	9.5	9.0	9.5	8.0	7.5	8.0	6.5	6.0	6.0	6.5	5.0	6.0
17	9.0	9.0	9.0	8.0	7.5	8.0	6.0	5.5	5.5	5.0	5.0	5.0
18	9.0	8.0	8.5	8.0	7.5	8.0	6.5	5.5	6.0	5.0	4.0	4.5
19	8.0	7.0	7.5	7.5	6.5	7.0	6.5	6.0	6.5	5.0	4.0	4.5
20	8.5	7.5	8.0	6.5	6.5	6.5	6.5	5.5	6.0	5.0	4.5	5.0
21	8.5	8.0	8.0	7.0	6.5	6.5	5.5	4.5	5.0	4.5	4.5	4.5
22	8.0	7.0	7.5	7.5	7.0	7.5	4.5	4.0	4.0	5.0	4.5	4.5
23	8.0	7.5	7.5	7.5	7.5	7.5	4.0	3.5	3.5	4.5	3.0	4.0
24	8.5	8.0	8.0	8.5	7.5	8.0	3.5	3.0	3.0	3.5	3.0	3.0
25	8.5	8.0	8.0	8.5	7.5	8.0	3.0	2.5	2.5	3.5	3.0	3.5
26	9.0	8.5	8.5	7.5	7.0	7.0	3.0	2.5	3.0	3.5	3.5	3.5
27	8.5	7.5	8.0	8.0	6.5	7.0	3.5	3.0	3.5	3.5	2.0	3.0
28	7.5	6.5	7.0	8.5	8.0	8.5	4.5	3.5	4.0	3.0	2.5	2.5
29	7.0	6.0	6.5	8.5	8.0	8.0	5.5	4.5	4.5	2.5	1.5	2.0
30	6.5	5.5	6.0	8.5	8.0	8.5	6.0	5.0	5.5	1.5	.0	.5
31	5.5	4.5	5.0	---	---	---	6.5	6.0	6.0	.5	.0	.0
MONTH	10.0	4.5	8.5	---	---	---	8.0	2.5	5.5	7.0	.0	5.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.5	2.5	1.5	2.0	6.0	4.5	5.0	7.0	6.0	6.5
2	.5	.0	.0	3.0	2.5	2.5	5.5	4.5	5.0	6.5	5.5	6.0
3	1.0	.0	.5	3.5	3.0	3.5	6.0	4.5	5.0	6.0	5.0	5.5
4	2.0	1.0	1.5	3.5	3.0	3.5	6.5	4.5	5.5	7.0	5.0	6.0
5	2.5	1.5	2.0	4.0	3.5	3.5	7.0	5.5	6.5	7.5	6.0	6.5
6	2.5	1.5	2.5	5.0	4.0	4.5	8.0	6.5	7.0	7.5	5.5	6.5
7	4.0	2.5	3.5	5.0	4.0	4.5	8.5	7.0	7.5	7.0	6.0	6.5
8	---	---	---	5.5	4.0	4.5	9.0	7.5	8.5	6.0	5.0	5.5
9	4.5	3.0	4.0	5.0	4.5	5.0	8.5	7.5	8.0	6.5	5.0	5.5
10	5.0	2.5	3.5	5.0	4.5	5.0	7.5	7.0	7.0	7.0	5.5	6.5
11	4.5	2.0	3.0	5.0	4.5	5.0	7.0	6.0	6.5	8.0	7.0	7.5
12	5.0	2.5	3.5	5.0	4.5	5.0	6.0	5.0	5.5	8.5	7.5	8.0
13	4.5	3.5	4.0	5.5	4.5	5.0	6.5	4.5	5.5	9.0	8.5	8.5
14	4.0	3.5	4.0	5.5	4.0	4.5	7.0	5.0	6.0	8.5	8.0	8.5
15	4.5	3.5	4.0	5.5	5.0	5.0	7.0	6.0	6.5	8.5	8.0	8.0
16	4.5	3.5	4.0	5.0	4.0	4.5	6.5	6.0	6.0	8.5	7.0	8.0
17	5.0	4.5	4.5	5.5	4.5	5.0	6.0	5.0	5.5	8.0	7.5	8.0
18	4.5	4.5	4.5	6.0	4.0	5.0	5.5	5.0	5.5	7.5	7.0	7.5
19	4.5	4.0	4.5	6.0	5.5	5.5	5.5	4.5	5.0	7.5	6.5	7.0
20	5.0	3.5	4.5	5.5	5.0	5.5	5.5	4.5	5.0	7.5	6.5	7.0
21	4.0	3.0	3.5	5.5	4.5	5.0	6.0	5.0	5.5	7.0	6.5	7.0
22	3.0	2.5	3.0	5.5	4.5	5.0	6.0	5.5	6.0	7.0	6.0	6.5
23	2.5	1.0	1.5	5.0	4.5	5.0	6.5	5.0	6.0	6.5	6.0	6.5
24	2.5	2.0	2.5	5.0	3.5	4.5	6.0	5.0	5.5	9.0	6.0	7.5
25	2.0	1.5	2.0	3.5	2.5	3.0	6.0	5.0	5.5	10.0	7.0	8.5
26	2.0	1.5	1.5	4.0	2.5	3.5	6.0	5.0	5.5	9.0	8.0	8.0
27	1.5	1.0	1.0	4.0	3.5	4.0	6.0	5.0	5.5	8.0	7.0	7.5
28	1.0	.5	1.0	4.5	3.5	4.0	7.0	4.5	5.5	7.5	7.0	7.0
29	1.5	1.0	1.0	4.5	4.0	4.0	8.0	6.5	7.0	8.0	7.0	7.0
30	---	---	---	5.0	4.0	4.5	7.5	6.0	7.0	8.0	7.0	7.5
31	---	---	---	5.0	4.5	5.0	---	---	---	9.0	6.5	8.0
MONTH	---	---	---	6.0	1.5	4.5	9.0	4.5	6.0	10.0	5.0	7.0

14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.5	8.0	9.0	13.5	11.5	12.5	14.5	13.0	14.0	13.0	12.5	12.5
2	11.5	9.5	10.5	14.0	12.0	13.0	14.0	12.5	13.5	12.5	12.0	12.5
3	12.0	10.5	11.5	13.5	12.5	13.0	12.5	12.0	12.5	12.5	11.5	12.0
4	11.5	10.5	10.5	13.0	11.5	12.5	12.5	12.0	12.0	12.0	11.5	11.5
5	11.5	9.5	10.5	12.5	10.5	11.5	12.0	11.5	11.5	11.5	11.0	11.5
6	12.0	10.0	11.5	13.5	11.0	12.0	12.5	10.5	11.5	11.5	10.5	11.0
7	12.0	10.5	11.0	14.5	12.0	13.0	13.5	11.5	12.5	11.5	11.0	11.5
8	11.0	10.0	10.5	14.5	12.5	13.5	14.5	12.5	13.5	12.0	11.0	11.5
9	10.5	10.0	10.5	14.0	13.0	13.5	15.0	13.5	14.0	12.0	11.5	12.0
10	11.5	8.5	10.5	14.0	12.0	13.0	15.5	14.0	15.0	12.5	11.0	12.0
11	12.0	10.0	11.0	14.5	12.5	13.5	15.0	14.0	14.5	12.5	11.5	12.0
12	12.0	9.5	11.0	15.5	13.0	14.5	14.5	13.0	13.5	12.5	12.0	12.0
13	11.5	9.5	10.5	16.5	14.0	15.5	14.5	13.0	14.0	12.0	11.5	12.0
14	12.0	9.0	11.0	16.5	14.5	15.5	15.0	13.5	14.0	12.0	11.5	11.5
15	12.0	10.5	11.5	17.0	15.0	16.0	14.0	13.0	14.0	11.5	10.5	11.0
16	11.0	10.0	11.0	15.5	14.5	15.0	14.0	13.0	13.5	10.5	10.5	10.5
17	10.5	9.0	10.0	14.5	12.5	13.5	13.5	12.5	13.0	11.0	10.5	10.5
18	10.0	8.5	9.0	12.5	11.5	12.0	12.5	12.0	12.5	10.5	9.5	10.0
19	11.0	8.5	10.0	12.5	11.5	12.0	12.5	11.0	12.0	10.5	10.0	10.0
20	12.0	10.0	11.0	13.0	12.0	12.5	12.5	11.5	12.0	10.0	9.5	10.0
21	11.5	10.5	11.0	14.0	12.0	13.0	12.5	11.5	12.0	10.0	9.5	9.5
22	11.0	10.0	10.5	15.5	13.0	14.0	13.0	11.5	12.5	9.5	9.0	9.5
23	11.0	10.5	10.5	16.0	14.0	15.0	13.5	12.0	12.5	9.5	8.5	9.0
24	11.0	10.0	10.5	16.5	15.0	16.0	14.0	12.5	13.5	9.0	8.5	9.0
25	12.0	10.0	10.5	17.0	15.0	16.0	14.5	13.5	14.0	9.0	8.5	8.5
26	12.5	10.5	11.5	17.0	15.5	16.5	14.5	14.0	14.0	9.0	8.5	9.0
27	12.0	11.0	11.5	17.0	15.5	16.5	14.0	13.0	13.5	9.5	9.0	9.0
28	11.0	10.5	10.5	16.5	15.5	15.5	13.5	12.5	13.0	10.0	9.0	9.5
29	12.0	9.5	11.0	16.5	14.5	15.5	14.0	12.5	13.0	9.5	9.0	9.5
30	12.5	10.5	11.5	16.0	15.0	15.5	14.0	13.0	13.5	9.5	9.0	9.5
31	---	---	---	15.0	14.0	14.5	13.5	13.0	13.5	---	---	---
MONTH	12.5	8.0	10.5	17.0	10.5	14.0	15.5	10.5	13.0	13.0	8.5	10.5

14139900 BULL RUN RESERVOIR NUMBER TWO NEAR BULL RUN, OR

LOCATION.--Lat 45°26'55", long 122°08'45", on line between secs.25 and 26, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on headworks dam on Bull Run River, 4.4 mi northeast of Bull Run, and at mile 6.5.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--December 1961 to current year. Prior to October 1975, monthend contents only.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Portland Water Bureau). Prior to Dec. 31, 1975, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth and rockfill dam with concrete spillway built by Portland Water Bureau. Storage began about Dec. 20, 1961; first filling occurred Dec. 24, 1961. Capacity, 20,990 acre-ft at crest of spillway, elevation, 860.0 ft. Dead storage negligible. Water is used as municipal supply for city of Portland and for power generation by Portland General Electric Co.

COOPERATION.--Capacity table furnished by Portland Water Bureau.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 23,660 acre-ft Dec. 22, 1964, elevation, 866.00 ft; no contents at times during low-flow periods.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,190 acre-ft Feb. 7, elevation, 864.97 ft; minimum contents, 16,800 acre-ft Sept. 15, elevation, 850.01 ft.

Capacity table (elevation, in feet, and capacity in acre-feet)

752	0	830	10,000
770	234	850	16,800
790	1,860	870	25,500
810	5,070		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	857.98	859.76	861.64	860.09	857.21	859.20	859.79	859.67	859.67	859.83	859.40	856.49
2	857.80	859.20	861.09	859.24	859.31	859.03	859.78	859.07	859.59	859.85	859.21	855.61
3	858.78	859.18	860.50	860.64	858.14	859.10	859.71	859.49	859.58	859.87	859.26	854.63
4	859.22	859.33	860.46	860.05	857.27	858.73	859.76	859.54	859.73	859.85	858.48	853.89
5	859.30	859.79	859.34	858.97	859.55	859.68	859.38	859.48	859.16	859.85	859.12	854.49
6	859.22	858.86	858.87	858.93	864.47	859.69	859.95	859.13	859.43	859.84	859.44	853.75
7	859.02	858.73	859.27	861.28	864.66	859.72	859.93	859.16	859.64	859.42	859.59	853.00
8	858.77	861.59	859.35	860.84	863.59	859.55	859.72	859.77	859.82	859.26	859.23	852.23
9	859.32	860.88	858.90	860.27	861.69	859.17	859.81	859.53	859.87	859.01	859.25	852.10
10	860.35	860.90	859.02	859.65	860.28	859.56	859.66	859.72	859.56	859.32	859.49	851.27
11	861.03	862.83	860.49	859.40	859.61	859.68	859.61	859.73	859.46	859.39	859.13	851.47
12	860.43	861.04	860.72	859.52	859.60	859.62	859.72	859.83	859.65	859.60	858.09	850.64
13	859.48	861.09	860.59	859.44	859.60	859.49	859.42	859.61	859.61	859.39	859.26	850.63
14	859.16	860.15	860.89	859.05	859.96	859.85	859.62	859.89	859.89	859.56	859.43	850.13
15	859.32	859.43	860.87	859.46	859.95	859.59	859.95	859.46	859.93	859.09	859.15	850.79
16	859.64	859.11	859.70	860.94	859.79	859.38	859.28	859.75	859.73	859.57	859.35	851.46
17	859.26	859.72	859.48	859.79	859.61	859.54	859.27	859.74	859.82	859.36	859.43	851.84
18	859.03	859.67	859.93	858.49	861.02	859.44	859.38	859.65	859.88	859.54	859.32	851.41
19	859.39	859.71	860.00	859.02	860.39	859.73	859.84	859.48	859.88	859.57	859.31	851.05
20	859.37	858.93	859.68	860.54	859.26	859.57	859.59	859.60	859.82	859.31	859.33	852.51
21	859.59	859.80	859.39	860.03	858.82	859.72	859.71	859.81	859.87	859.55	859.39	852.03
22	859.90	859.75	859.61	859.55	859.77	859.66	859.45	860.26	859.88	859.75	859.37	851.50
23	859.17	859.54	859.73	859.73	859.69	859.73	860.95	860.29	859.88	859.47	859.24	852.18
24	858.63	859.02	859.53	859.30	859.65	859.67	861.42	859.49	859.73	859.52	859.20	851.57
25	859.86	861.17	859.52	859.27	859.80	859.35	860.38	859.68	859.65	859.44	859.76	850.93
26	859.49	861.04	859.23	859.47	859.90	858.57	859.49	859.59	859.90	859.57	859.07	851.39
27	859.62	863.02	859.19	859.66	859.66	858.69	859.63	859.51	859.56	859.34	858.05	850.75
28	859.64	861.91	859.34	859.80	859.53	858.71	859.88	859.73	859.90	859.60	857.15	851.01
29	859.60	862.51	859.40	859.04	859.34	858.55	859.47	859.65	859.86	859.70	856.07	850.34
30	859.28	862.12	861.79	859.26	---	858.84	859.84	859.73	859.91	859.18	856.92	850.28
31	859.29	---	861.20	858.08	---	859.74	---	859.70	---	858.95	856.89	---
MAX	861.03	863.02	861.79	861.28	864.66	859.85	861.42	860.29	859.93	859.87	859.76	856.49
MIN	857.80	858.73	858.87	858.08	857.21	858.55	859.27	859.07	859.16	858.95	856.07	850.13
(†)	20690	21930	21530	20160	20710	20890	20930	20870	20960	20540	19630	16910
(‡)	+550	+1240	-400	-1370	+550	+180	+40	-60	+90	-420	-910	-2720

CAL YR 1995 MAX --- MIN --- AC-FT‡ +970
WTR YR 1996 MAX 864.66 MIN 850.13 AC-FT‡ -3230

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14140001 BULL RUN RIVER NEAR BULL RUN, OR

LOCATION.--Lat 45°26'15", long 122°10'40", in NE 1/4 SW 1/4 sec.34, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on left bank 1.8 mi downstream from Bull Run Reservoir Number Two, 2.7 mi northeast of Bull Run, and at mile 4.7.

DRAINAGE AREA.--107 mi^2.

PERIOD OF RECORD.--September 1907 to current year. Records for January 1895 to August 1907, published in WSP 370, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1288: 1910-11, 1913, 1920-23, 1926, 1929. WSP 1318: 1919(M). WSP 1568: 1952. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 567.90 ft above sea level (levels by Portland Water Bureau). Prior to July 27, 1909, nonrecording gage at site 1.5 mi upstream at different datum. July 27, 1909, to Sept. 30, 1959, water-stage recorder at site 2.5 mi upstream at different datums.

REMARKS.--Records good above 2,000 ft^3/s, records fair except those below 50 ft^3/s and estimated daily discharges, which are poor. Flow regulated since 1915 by Bull Run Lake capacity, 12,270 acre-ft, since 1929 by Bull Run Reservoir Number One (station 14139000), since 1958 by North Fork Reservoir, capacity, 1,030 acre-ft, and since 1961 by Bull Run Reservoir Number Two (station 14139900). All records given herein include flow diverted from Bull Run Reservoir Number Two for city of Portland, and that used by Portland General Electric Co. for power generation, which returns to Bull Run River downstream from station. Total diversion, 179,500 acre-ft of which 58,760 acre-ft were used for power generation and returned to Bull Run River.

COOPERATION.--Records of daily diversion furnished by Portland Water Bureau.

AVERAGE DISCHARGE.--89 years (water years 1908-96), 775 ft^3/s, 98.36 in/yr, 561,500 acre-ft/yr, adjusted for storage in Bull Run Reservoir Number One since 1929 and Bull Run Reservoir Number Two since 1961.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 24,800 ft^3/s Dec. 22, 1964, gage height, 17.21 ft, from rating curve extended above 8,800 ft^3/s on basis of computation of peak flow over dam; minimum discharge, 1.1 ft^3/s Oct. 4, 1974.

Combined flow, maximum discharge, 25,100 ft^3/s Dec. 22, 1964; minimum daily, 11 ft^3/s Nov. 16, 1987.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 20,200 ft^3/s Feb. 7, gage height, 16.00 ft; minimum discharge, 2.3 ft^3/s Sept. 11, 12.

Combined flow, maximum discharge, 20,500 ft^3/s (of which approximately 295 ft^3/s were diverted for Portland water supply) Feb. 7; minimum daily, 114 ft^3/s Sept. 18-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	e340	e6860	e2790	380	526	1040	e695	450	253	276	231
2	195	e337	e4390	e1780	e373	524	1040	e470	371	248	250	203
3	197	e345	e2930	e1980	e359	594	756	e456	600	225	202	216
4	172	e337	e2740	e2150	364	1530	704	e716	432	220	200	167
5	163	e347	e2030	e1890	641	1400	657	e797	354	200	223	164
6	160	e1310	e1660	e1820	6210	1200	555	e447	300	223	247	165
7	159	e1850	e1020	e2290	18200	1170	640	e313	243	270	272	163
8	174	e2410	e917	e3650	11600	1320	755	e366	208	295	291	163
9	165	e4110	e1210	2270	9300	1400	e570	e480	183	279	306	173
10	e421	e2580	e1350	2000	3800	1290	e531	e312	178	250	319	179
11	e2860	e11100	e1990	1660	2200	1530	e557	e322	187	273	303	168
12	e2940	e5580	e1940	989	1480	1550	e912	e317	195	275	266	174
13	e1830	e3750	e2250	916	1110	1270	e1410	e793	233	325	262	164
14	e1080	e2860	e2340	976	1000	965	e1100	e979	222	321	292	135
15	e719	e2030	e2830	1260	1040	944	e934	e1140	219	317	297	138
16	e677	e1850	e2280	2960	933	821	e1580	e795	218	311	276	137
17	e903	e1290	e1670	2320	1080	629	e1230	e861	195	224	262	127
18	e1310	e1200	e955	1860	2670	654	e893	e1100	147	176	246	114
19	e768	e888	e885	1460	3020	607	e991	e1610	180	227	241	114
20	e815	e981	e774	1910	2100	688	e1040	e1310	232	228	258	114
21	e732	e505	e775	2240	1670	502	e769	e1160	234	217	263	119
22	e813	e839	e578	1790	e1020	613	e1240	e1510	222	282	290	129
23	e749	e895	e496	1140	1070	527	e2290	e2330	198	323	288	129
24	e569	e1580	e586	1100	900	453	e4290	e1630	364	310	291	138
25	e479	e2740	e443	901	681	386	e2910	1030	316	284	291	142
26	e1660	e3430	e406	727	624	269	e1420	841	202	319	265	144
27	e1030	e4200	e433	696	705	228	e1410	761	403	325	253	143
28	e796	e10700	e415	576	556	215	e1250	725	249	315	219	142
29	e617	e5400	e1180	679	546	215	e983	751	266	256	250	143
30	e720	e7500	e3000	426	---	199	e778	573	288	287	274	140
31	e407	---	e4990	436	---	227	---	451	---	281	274	---
TOTAL	24473	83284	56323	49642	75632	24446	35235	26041	8089	8339	8247	4578
MEAN	789	2776	1817	1601	2608	789	1175	840	270	269	266	153
MAX	2940	11100	6860	3650	18200	1550	4290	2330	600	325	319	231
MIN	159	337	406	426	359	199	531	312	147	176	200	114
AC-FT	48540	165200	111700	98460	150000	48490	69890	51650	16040	16540	16360	9080
MEAN†	945	2833	1796	1567	2607	829	1169	872	275	149	98	105
CFSM†	8.84	26.5	16.8	14.6	24.4	7.75	10.9	8.15	2.57	1.39	0.91	0.98
IN.†	10.2	29.6	19.4	16.9	26.3	8.94	12.2	9.40	2.87	1.60	1.05	1.09
AC-FT†	58130	168590	110420	96360	149960	50990	69580	53600	16390	9133	5997	6230

CAL YR 1995 TOTAL 350465 MEAN 960 MAX 11100 MIN 159 AC-FT 695100 MEAN† 964 CFSM† 9.01 IN.† 122 AC-FT† 697670
WTR YR 1996 TOTAL 404329 MEAN 1105 MAX 18200 MIN 114 AC-FT 802000 MEAN† 1096 CFSM† 10.2 IN.† 139 AC-FT† 795510

e Estimated
† Adjusted for change in contents in Bull Run Reservoir Number One and Bull Run Reservoir Number Two.

14141500 LITTLE SANDY RIVER NEAR BULL RUN, OR

LOCATION.--Lat 45°24'55", long 122°10'20", in NE 1/4 NE 1/4 sec.10, T.2 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on left bank 0.25 mi upstream from Portland General Electric Co. dam and tunnel from Sandy River, 3.0 mi east of Bull Run, and at mile 1.95.

DRAINAGE AREA.--22.3 mi^2.

PERIOD OF RECORD.--May to July 1911, October 1911 to March 1912, June 1912 to April 1913, July 1919 to current year. Monthly discharge only for some periods in water years 1911-13, published in WSP 1318.

REVISED RECORDS.--WSP 1154: 1949. WSP 1248: Drainage area. WSP 1288: 1912, 1920-21(M), 1922-23, 1931, 1945. WSP 1318: 1920. WDR OR-82-2: 1972(P), 1974-76(P), 1978-81(P).

GAGE.--Water-stage recorder. Elevation of gage is 720 ft above sea level, from topographic map. May 23, 1911, to Apr. 29, 1913, nonrecording gage at site 0.85 mi downstream at different datum, 0.5 mi downstream from Sandy River diversion tunnel. July 1, 1919, to Sept. 30, 1931, water-stage recorder at site 0.1 mi downstream at different datum. Oct 1, 1931, to Nov. 3, 1967, at site 0.1 mi downstream at datum 712 ft above sea level. Nov. 4, 1967, to Aug. 8, 1971, water-stage recorder at site 0.1 mi downstream at datum 697.44 ft above sea level (Portland General Electric Co. bench mark).

REMARKS.--Records good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--77 years (water years 1920-96), 144 ft^3/s, 87.94 in/yr, 104,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,320 ft^3/s Nov. 20, 1921, gage height, 9.18 ft, site and datum then in use, from rating curve extended above 2,200 ft^3/s; minimum discharge, 8.o ft^3/s Aug. 20, Sept. 16, 17, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1330	3,060	6.32	Dec. 30	1700	1,580	5.08
Nov. 28	0300	*4,820	7.42	Feb. 7	1900	3,960	*7.99
Nov. 30	0300	1,560	5.05	Feb. 9	0230	2,110	6.19

Minimum discharge, 14 ft^3/s Sept. 9-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	71	1090	412	97	95	168	130	93	38	18	15
2	120	64	709	263	90	92	176	117	83	36	20	15
3	373	58	479	340	89	111	142	114	76	34	29	15
4	214	55	460	304	95	295	121	108	71	41	22	15
5	139	68	317	256	151	312	114	99	66	35	27	16
6	103	189	250	359	991	265	114	89	62	32	23	16
7	84	229	214	551	2820	241	115	84	58	30	20	15
8	83	412	181	616	1610	265	113	81	55	e29	19	15
9	83	465	242	444	1410	283	106	74	52	e29	18	14
10	127	432	306	455	625	276	106	70	50	28	18	14
11	574	1880	374	288	398	314	116	67	47	27	17	14
12	418	739	369	223	301	291	138	68	45	26	17	14
13	242	573	296	184	266	239	282	112	43	25	17	14
14	160	360	342	171	248	192	203	140	41	24	16	18
15	121	271	351	244	230	166	183	201	40	23	16	37
16	120	256	308	458	213	141	303	178	38	22	16	53
17	164	196	243	310	258	125	229	190	42	24	16	62
18	208	188	202	237	560	117	193	212	57	27	16	28
19	138	152	174	279	457	125	170	287	44	27	16	44
20	119	128	153	355	322	115	155	222	38	24	16	33
21	132	114	136	353	253	103	156	186	36	23	16	25
22	134	123	122	263	210	106	256	443	35	22	15	24
23	108	121	111	224	195	99	476	504	50	21	15	22
24	98	199	100	202	171	94	607	298	66	20	15	20
25	106	774	93	179	145	84	405	211	65	20	15	18
26	311	536	87	160	130	79	336	162	46	19	15	17
27	183	887	84	150	118	76	272	134	42	19	15	17
28	139	2470	89	137	107	72	216	119	60	19	15	16
29	111	922	329	126	100	70	172	136	51	19	15	16
30	93	1180	936	108	---	68	144	123	42	18	15	16
31	80	---	861	100	---	111	---	105	---	18	15	---
TOTAL	5244	14112	10008	8751	12660	5022	6287	5064	1594	799	543	658
MEAN	169	470	323	282	437	162	210	163	53.1	25.8	17.5	21.9
MAX	574	2470	1090	616	2820	314	607	504	93	41	29	62
MIN	80	55	84	100	89	68	106	67	35	18	15	14
AC-FT	10400	27990	19850	17360	25110	9960	12470	10040	3160	1580	1080	1310
CFSM	7.59	21.1	14.5	12.7	19.6	7.26	9.40	7.33	2.38	1.16	.79	.98
IN.	8.75	23.54	16.69	14.60	21.12	8.38	10.49	8.45	2.66	1.33	.91	1.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1996, BY WATER YEAR (WY)

MEAN	86.5	210	243	238	211	185	196	162	103	39.6	23.4	38.7
MAX	271	588	585	589	452	407	325	328	268	121	96.1	184
(WY)	1960	1956	1965	1953	1961	1932	1920	1945	1933	1983	1968	1927
MIN	10.6	14.3	57.5	45.9	59.2	49.9	54.0	55.8	19.2	13.8	10.1	12.4
(WY)	1988	1930	1977	1937	1977	1941	1941	1947	1992	1940	1940	1938

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1920 - 1996	
ANNUAL TOTAL	62384		70742			
ANNUAL MEAN	171		193		144	
HIGHEST ANNUAL MEAN					223	1974
LOWEST ANNUAL MEAN					87.6	1944
HIGHEST DAILY MEAN	2470	Nov 28	2820	Feb 7	3500	Mar 31 1931
LOWEST DAILY MEAN	17	Aug 3	14	Sep 9	8.0	Sep 16 1940
ANNUAL SEVEN-DAY MINIMUM	17	Jul 31	14	Sep 7	9.0	Aug 16 1940
ANNUAL RUNOFF (AC-FT)	123700		140300		104600	
ANNUAL RUNOFF (CFSM)	7.66		8.67		6.47	
ANNUAL RUNOFF (INCHES)	104.07		118.01		87.94	
10 PERCENT EXCEEDS	367		412		302	
50 PERCENT EXCEEDS	114		114		96	
90 PERCENT EXCEEDS	22		17		18	

e Estimated

14142500 SANDY RIVER BELOW BULL RUN RIVER, NEAR BULL RUN, OR

LOCATION.--Lat 45°26'57", long 122°14'38", in SW 1/4 sec.30, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, on left bank 0.1 mi downstream from Bull Run River, 0.2 mi downstream from Dodge Park, 400 ft below city of Portland water conduit crossing Sandy River, and at mile 18.4.

DRAINAGE AREA.--436 mi^2.

PERIOD OF RECORD.--April 1910 to September 1914, October 1929 to September 1966, May 1984 to current year. Monthly discharge only for some periods, published in WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 240 ft above sea level, from topographic map. April 1910 to September 1914, staff gage at present site at different datum. October 1929 to September 1966, water-stage recorder at site 0.8 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated since 1915 by Bull Run Lake, since 1929 by Bull Run Reservoir Number One (station 14139000), and since 1961 by Bull Run Reservoir Number Two (station 14139900). Some fluctuation caused by Bull Run powerplant of Portland General Electric Company. Portland Water Bureau diverted 193,800 acre-ft from Bull Run River during the 1995 water year, of which 64,430 acre-ft were used for power generation by Portland General Electric Company and returned to Bull Run River.

AVERAGE DISCHARGE.--53 years (water years 1911-14, 1930-66, 1985-96) 2,293 ft^3/s, 1,661,000 acre-ft/yr.
12 years (water years 1985-96), 2,080 ft^3/s, 1,507,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,400 ft^3/s Dec. 22, 1964, gage height, 22.3 ft, site and datum then in use; minimum discharge, 45 ft^3/s Sept. 26, 1962, minimum daily, 63 ft^3/s Oct. 12, Nov. 9, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68,600 ft^3/s Feb. 7, gage height, 22.59 ft, from rating curve extended above 28,000 ft^3/s on basis of estimate derived from slope-area measurement; minimum discharge, 199 ft^3/s Aug. 23.

REVISIONS.--The maximum discharge for water year 1986 has been revised to 52,700 ft^3/s Feb. 23, 1986, gage height, 20.89 ft. These figures supersede those published in the report for 1986.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	807	1090	20900	8680	1690	2130	2710	2710	2080	955	514	336
2	652	1070	12600	5880	1600	2170	2820	2480	1870	893	489	331
3	2240	971	8850	6450	1550	2310	2420	2370	2180	888	498	317
4	1870	942	8720	6600	1640	4490	2220	2240	1770	877	494	322
5	1210	993	6640	5580	2120	4670	2150	2150	1560	794	528	342
6	954	2400	5330	5860	18100	3680	2050	2110	1490	683	512	310
7	784	3490	4180	7520	57500	3420	2210	1900	1270	668	446	315
8	737	5470	3600	10100	37100	3880	2450	1810	1310	718	474	315
9	699	9700	4050	7180	32200	4060	2300	1730	1230	690	466	313
10	986	6790	4780	6380	13300	3950	2240	1560	1160	622	442	313
11	6160	30900	6570	5160	8150	4420	2290	1480	1060	632	446	307
12	6210	16500	7510	3820	5890	4570	2630	1510	1110	645	420	327
13	3940	10900	7070	3340	4810	4080	3970	2310	980	634	390	335
14	2560	8200	6870	3230	4470	3550	3400	2690	1070	618	433	373
15	1830	5890	7430	4640	4310	3310	3040	3280	901	660	395	604
16	1680	5080	6270	8210	4000	3000	4130	2840	957	570	390	764
17	1990	3910	5070	6390	4310	2630	3830	3020	1010	595	372	725
18	3060	3650	3830	5100	8570	2560	3220	3240	1050	626	366	533
19	2020	2980	3440	4850	8560	2470	3080	4540	966	576	356	480
20	1860	2760	2950	6040	6390	2470	2880	3670	897	529	363	521
21	1740	2090	2790	6560	5150	2170	2700	3150	915	547	341	378
22	2000	2340	2420	5100	3930	2320	3580	4920	878	516	348	374
23	1730	2400	2180	3980	3980	2110	6460	6950	945	541	348	360
24	1530	3490	2140	3760	3350	1990	12100	5250	1350	567	358	333
25	1340	7760	1860	3250	2890	1810	8820	3820	1150	592	371	349
26	4040	8490	1750	2840	2590	1530	5780	3360	952	490	397	358
27	2860	10700	1750	2690	2520	1570	5310	2820	1090	563	420	326
28	2190	34800	1680	2420	2230	1430	4300	2720	1040	509	386	312
29	1750	16400	3570	2380	2100	1390	3630	2640	988	521	353	345
30	1670	24300	10400	1950	---	1360	2900	2410	996	511	373	290
31	1290	---	15000	1780	---	1650	---	2180	---	498	382	---
TOTAL	64389	236456	182200	157720	255000	87150	111620	89860	36225	19728	12871	11608
MEAN	2077	7882	5877	5088	8793	2811	3721	2899	1208	636	415	387
MAX	6210	34800	20900	10100	57500	4670	12100	6950	2180	955	528	764
MIN	652	942	1680	1780	1550	1360	2050	1480	878	490	341	290
AC-FT	127700	469000	361400	312800	505800	172900	221400	178200	71850	39130	25530	23020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1996, BY WATER YEAR (WY)

MEAN	837	3372	3024	3111	3762	2749	3140	2161	1444	658	434	414
MAX	2077	7882	5877	5088	8793	4200	4010	2920	2465	1212	620	812
(WY)	1996	1996	1996	1996	1996	1993	1988	1993	1985	1993	1993	1985
MIN	242	354	1568	1204	1196	1183	2155	998	479	390	308	310
(WY)	1988	1994	1987	1985	1993	1992	1986	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1985 - 1996	
ANNUAL TOTAL	1029040		1264827			
ANNUAL MEAN	2819		3456		2080	
HIGHEST ANNUAL MEAN					3456	1996
LOWEST ANNUAL MEAN					1463	1994
HIGHEST DAILY MEAN	34800	Nov 28	57500	Feb 7	57500	Feb 7 1996
LOWEST DAILY MEAN	323	Sep 23	290	Sep 30	190	Oct 9 1990
ANNUAL SEVEN-DAY MINIMUM	349	Sep 20	314	Sep 6	232	Oct 15 1987
ANNUAL RUNOFF (AC-FT)	2041000		2509000		1507000	
10 PERCENT EXCEEDS	6390		6890		4300	
50 PERCENT EXCEEDS	1810		2170		1420	
90 PERCENT EXCEEDS	453		385		343	

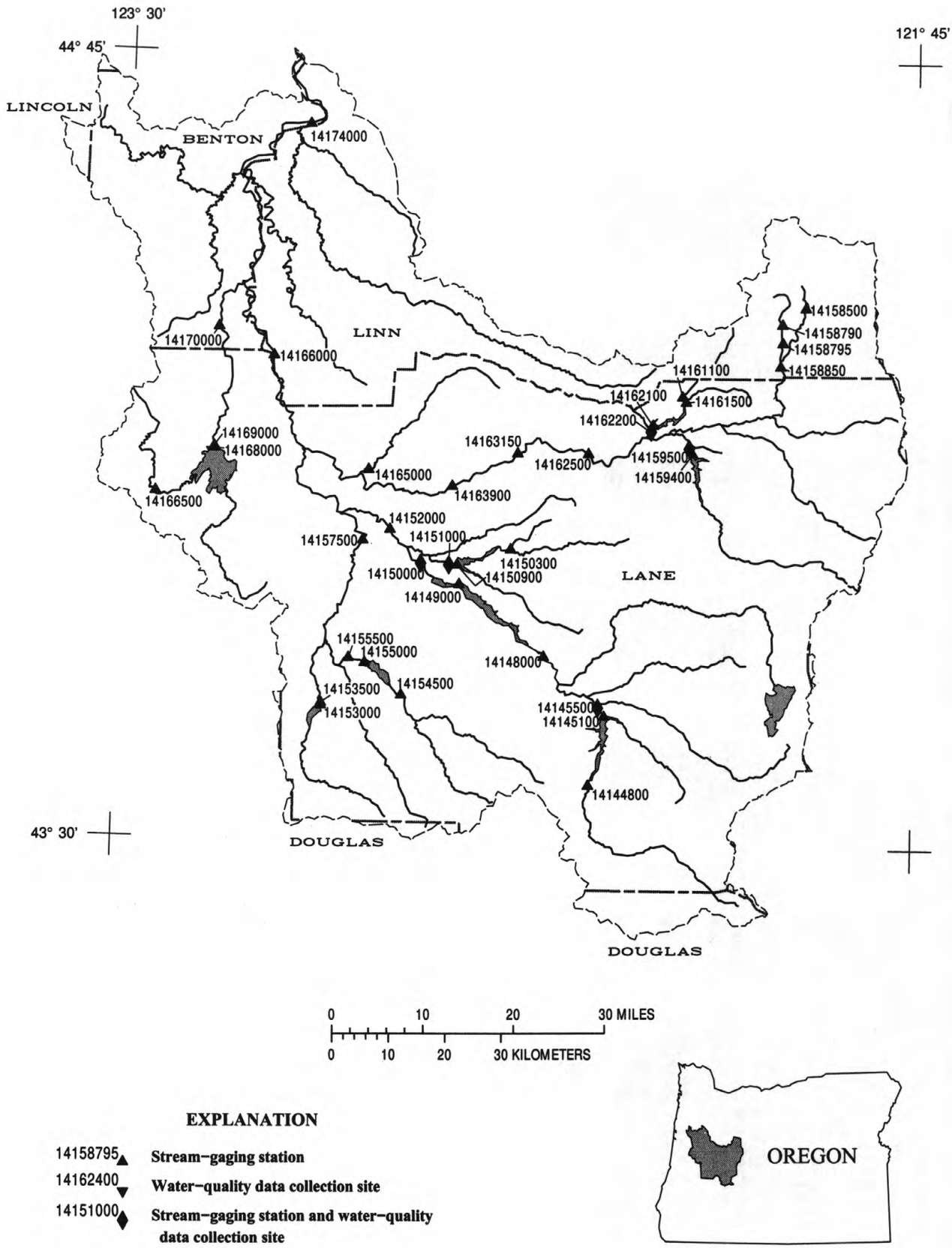


Figure 20. Location of surface-water and water-quality stations in the Willamette River Basin upstream from the Luckiamute River..

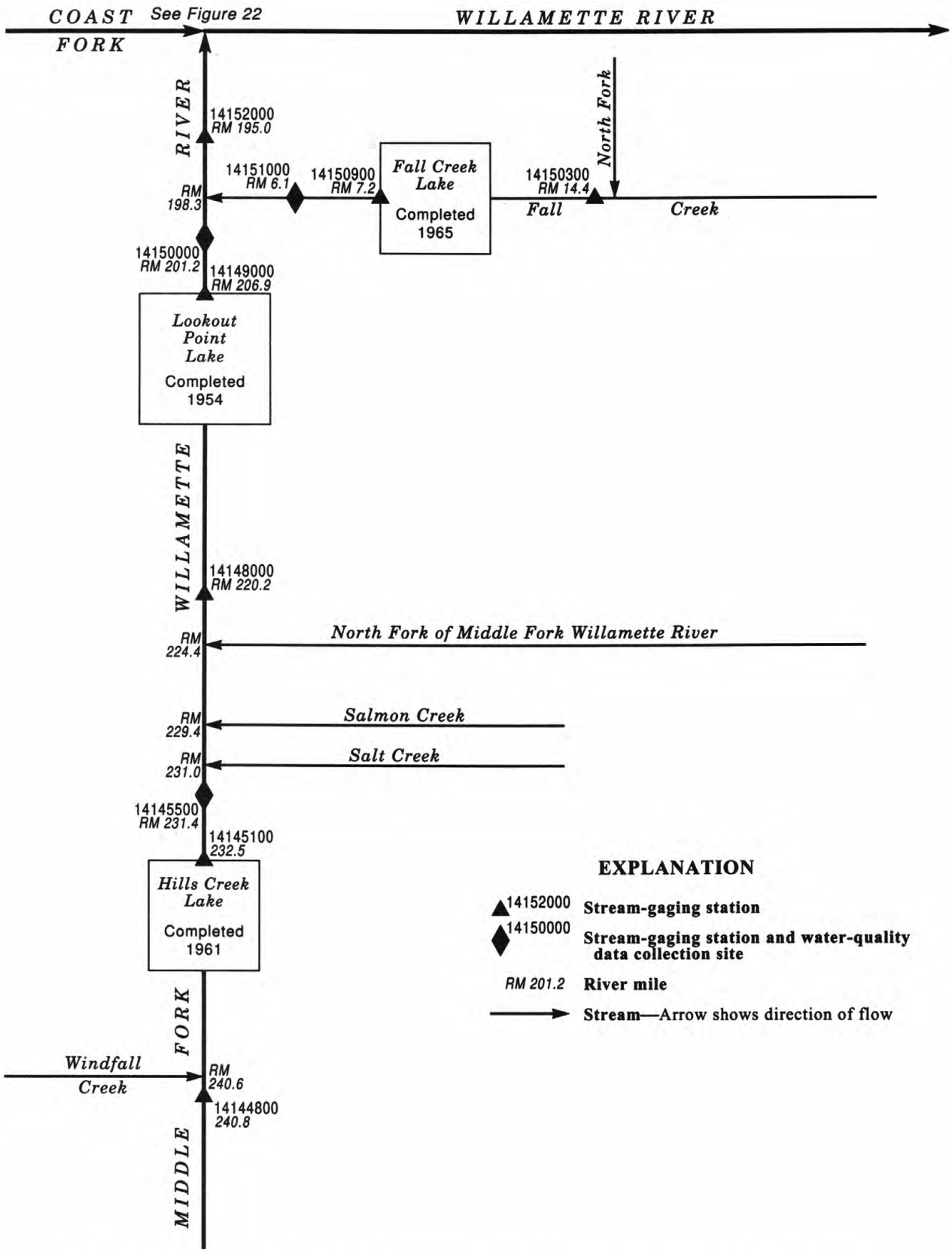


Figure 21. Schematic diagram showing gaging stations in the Middle Fork Willamette River Basin..

14144800 MIDDLE FORK WILLAMETTE RIVER NEAR OAKRIDGE, OR

LOCATION.--Lat 43°35'50", long 122°27'20", in NW 1/4 NE 1/4 sec.9, T.23 S., R.3 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 0.2 mi upstream from Windfall Creek, 8.3 mi upstream from Hills Creek Dam, 10.2 mi south of Oakridge, and at mile 240.8.

DRAINAGE AREA.--258 mi^2.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,556.83 ft above sea level (levels by Corps of Engineers). Prior to June 21, 1967, at site 0.5 mi upstream at different datums. June 22, 1967, to June 23, 1971, water-stage recorder at same site at datum 5.00 ft higher.

REMARKS.--Records fair. No regulation or diversion upstream from station. Continuous water-quality records for the period October 1956 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--38 years (water years 1959-96), 799 ft^3/s, 42.10 in/yr, 579,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,800 ft^3/s Dec. 22, 1964, gage height, 16.96 ft, from floodmark, site and datum then in use, from rating curve extended above 5,100 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 164 ft^3/s Aug. 25, 26, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	0700	8,320	10.53	Dec. 14	2130	4,370	8.30
Dec. 5	2000	3,940	8.01	Dec. 30	2000	7,150	9.92
Dec. 9	1200	3,690	7.84	Feb. 9	0900	*9,350	*11.04
Dec. 12	1930	7,660	10.19	Apr. 24	0700	7,390	10.05

Minimum discharge, 251 ft^3/s Oct. 9-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	272	6260	2610	868	851	1640	1300	910	457	330	289
2	258	268	3330	2050	813	846	1650	1250	883	447	331	288
3	313	265	2250	1810	788	973	1440	1150	876	442	331	286
4	319	263	2500	1690	1030	1140	1220	1050	868	435	327	287
5	277	262	3020	1480	1630	1220	1100	972	837	425	328	289
6	265	278	3080	1380	e7000	1060	1080	919	799	414	325	286
7	259	309	2580	1440	e6500	e1200	1140	886	774	405	320	283
8	257	403	2230	2190	e6000	e1500	1270	857	750	400	316	282
9	253	732	3190	2510	7970	e1400	1350	827	709	398	314	281
10	251	538	2690	2550	4420	e1600	1310	805	670	392	311	280
11	344	946	2880	1950	e3800	e1800	1190	801	640	386	310	278
12	385	2100	5900	1630	e3200	e1600	1150	849	615	379	309	279
13	314	1730	5630	1400	e3000	e1400	1070	972	596	373	308	283
14	288	1110	3860	1250	e2600	1140	1020	1560	581	375	306	291
15	275	836	3310	1450	e2600	1040	989	2450	567	370	306	445
16	268	722	2410	1560	e2600	968	1050	2350	558	364	304	433
17	268	620	1980	1420	e2400	e900	1060	2390	544	387	304	358
18	300	705	1690	1410	e2600	e900	1010	2410	528	400	303	319
19	277	616	1470	1910	e2600	e900	1020	2570	513	375	303	312
20	268	553	1300	2340	e2200	913	975	1970	502	365	301	304
21	271	510	1170	2030	e1900	881	952	1930	492	360	300	298
22	276	489	1060	1460	e1800	901	1230	2440	482	354	297	293
23	268	458	970	1300	1450	854	2590	2090	515	350	294	290
24	262	756	906	1350	1290	813	6250	1860	591	347	293	287
25	264	2210	842	1130	1130	766	3690	1680	541	343	294	285
26	354	2340	797	1020	1030	732	2370	1490	524	341	296	284
27	331	1920	774	1390	957	723	1840	1350	549	338	317	283
28	303	2900	789	1400	906	724	1670	1220	511	344	303	283
29	291	2280	2130	1170	856	688	1470	1110	484	343	294	283
30	283	4880	4530	1030	---	667	1360	1020	470	345	291	285
31	277	---	4560	937	---	840	---	954	---	334	291	---
TOTAL	8890	32271	80088	50247	75938	31940	47156	45482	18879	11788	9557	9024
MEAN	287	1076	2583	1621	2619	1030	1572	1467	629	380	308	301
MAX	385	4880	6260	2610	7970	1800	6250	2570	910	457	331	445
MIN	251	262	774	937	788	667	952	801	470	334	291	278
AC-FT	17630	64010	158900	99660	150600	63350	93530	90210	37450	23380	18960	17900
CFSM	1.11	4.17	10.0	6.28	10.1	3.99	6.09	5.69	2.44	1.47	1.19	1.17
IN.	1.28	4.65	11.55	7.24	10.95	4.61	6.80	6.56	2.72	1.70	1.38	1.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1996, BY WATER YEAR (WY)

MEAN	326	775	1173	1193	1162	1061	1071	1106	775	402	294	278
MAX	636	1805	3922	2730	2619	2842	1839	1898	1538	740	415	377
(WY)	1963	1974	1965	1970	1996	1972	1993	1993	1974	1971	1976	1971
MIN	210	261	271	273	271	432	518	407	262	234	183	196
(WY)	1988	1994	1977	1977	1977	1977	1968	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1959 - 1996	
ANNUAL TOTAL	387726		421260			
ANNUAL MEAN	1062		1151		799	
HIGHEST ANNUAL MEAN					1197	1972
LOWEST ANNUAL MEAN					360	1977
HIGHEST DAILY MEAN	6710	Feb 1	7970	Feb 9	23700	Dec 22 1964
LOWEST DAILY MEAN	230	Sep 21	251	Oct 10	171	Aug 26 1992
ANNUAL SEVEN-DAY MINIMUM	234	Sep 18	269	Oct 4	172	Aug 24 1992
ANNUAL RUNOFF (AC-FT)	769100		835600		579100	
ANNUAL RUNOFF (CFSM)	4.12		4.46		3.10	
ANNUAL RUNOFF (INCHES)	55.90		60.74		42.10	
10 PERCENT EXCEEDS	2200		2500		1520	
50 PERCENT EXCEEDS	780		836		589	
90 PERCENT EXCEEDS	265		284		255	

e Estimated

14145100 HILLS CREEK LAKE NEAR OAKRIDGE, OR

LOCATION.--Lat 43°42'30", long 122°25'25", in NW 1/4 sec.35, T.21 S., R.3 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, near right end of Hills Creek Dam on Middle Fork Willamette River, 600 ft downstream from Hills Creek, 3.5 mi southeast of Oakridge, and at mile 232.5.

DRAINAGE AREA.--389 mi^2.

PERIOD OF RECORD.--August 1961 to current year. Prior to October 1971, published as Hills Creek Reservoir near Oakridge.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway completed in 1961 by the Corps of Engineers; storage began August 1961. Total capacity is 355,600 acre-ft at elevation 1,543.0 ft, top of spillway gates, and usable capacity is 248,900 acre-ft between elevations 1,414.0 ft, minimum power pool, and 1,543.0 ft. Reservoir used for flood control and power generation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 354,200 acre-ft June 25, 1971, elevation, 1,542.52 ft; minimum contents, 104,800 acre-ft Jan. 2, 1969, elevation, 1,412.52 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 351,500 acre-ft June 24, 25, elevation, 1,541.53 ft; minimum contents, 175,700 acre-ft Jan. 27, elevation, 1,460.48 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,410	101,500	1,460	174,900	1,520	297,200
1,420	114,600	1,480	211,000	1,540	347,300
1,440	143,000	1,500	251,900	1,544	358,500

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1513.64	1488.36	1476.82	1476.00	1462.80	1500.00	1521.25	1538.88	1541.00	1541.25	1540.93	1539.67
2	1512.56	1487.82	1478.46	1477.08	1463.73	1500.92	1523.27	1538.75	1541.03	1541.26	1540.92	1539.60
3	1511.54	1487.27	1478.44	1476.04	1464.63	1502.07	1524.67	1538.61	1541.05	1541.28	1540.91	1539.25
4	1510.50	1486.02	1478.87	1474.60	1465.99	1503.55	1525.57	1538.46	1541.05	1541.28	1540.88	1538.56
5	1509.39	1484.60	1480.28	1472.75	1468.90	1504.94	1526.28	1538.30	1541.05	1541.28	1540.86	1537.73
6	1508.62	1483.31	1481.73	1470.77	1479.62	1505.77	1526.93	1538.57	1541.11	1541.27	1540.83	1536.89
7	1507.49	1482.79	1482.28	1468.99	1490.90	1506.46	1527.58	1539.07	1541.24	1541.27	1540.82	1536.06
8	1506.36	1482.43	1482.30	1468.60	1499.57	1507.20	1528.36	1539.54	1541.35	1541.26	1540.79	1535.22
9	1505.19	1482.48	1484.33	1468.92	1511.32	1508.17	1529.22	1539.98	1541.42	1541.25	1540.77	1534.40
10	1504.61	1481.93	1486.27	1469.46	1516.29	1509.20	1530.04	1540.21	1541.47	1541.22	1540.74	1533.59
11	1504.56	1481.99	1486.36	1468.75	1517.61	1509.98	1530.65	1540.22	1541.48	1541.19	1540.70	1532.69
12	1504.36	1483.01	1492.34	1468.07	1516.81	1510.49	1531.11	1540.28	1541.49	1541.18	1540.65	1531.82
13	1503.30	1483.45	1497.09	1468.41	1515.24	1510.69	1531.51	1540.37	1541.48	1541.18	1540.64	1530.96
14	1502.19	1483.12	1498.78	1467.35	1513.15	1510.66	1531.82	1540.59	1541.48	1541.20	1540.60	1530.14
15	1501.05	1482.69	1499.72	1465.17	1510.78	1510.77	1532.15	1541.06	1541.50	1541.22	1540.56	1529.51
16	1499.88	1482.59	1498.64	1463.66	1508.30	1511.31	1532.53	1541.17	1541.51	1541.22	1540.51	1528.87
17	1498.86	1482.07	1495.54	1463.16	1506.07	1511.78	1532.73	1541.42	1541.48	1541.13	1540.46	1528.10
18	1498.05	1481.60	1491.29	1462.20	1505.38	1512.18	1532.69	1541.33	1541.48	1541.15	1540.40	1527.28
19	1497.22	1481.37	1486.70	1463.03	1505.24	1512.59	1532.65	1541.16	1541.48	1541.16	1540.34	1526.45
20	1496.40	1480.62	1481.84	1465.77	1504.00	1512.98	1532.57	1540.95	1541.47	1541.16	1540.28	1525.58
21	1495.68	1479.46	1476.73	1466.71	1502.28	1513.46	1532.46	1541.01	1541.46	1541.16	1540.23	1524.70
22	1495.04	1477.85	1472.47	1465.38	1500.52	1514.06	1532.71	1541.20	1541.44	1541.16	1540.17	1523.80
23	1494.38	1474.62	1468.83	1463.94	1499.81	1514.60	1534.36	1541.18	1541.48	1541.15	1540.11	1522.90
24	1493.96	1471.75	1465.62	1462.97	1499.84	1515.07	1539.42	1541.07	1541.53	1541.14	1540.06	1522.00
25	1493.55	1470.95	1464.61	1461.48	1499.59	1515.60	1539.57	1541.07	1541.51	1541.11	1540.00	1521.08
26	1493.26	1470.62	1463.59	1460.49	1499.40	1516.13	1538.87	1541.05	1541.48	1541.09	1539.98	1520.18
27	1492.92	1469.18	1462.65	1461.20	1499.33	1516.67	1538.71	1541.12	1541.50	1541.06	1539.95	1519.27
28	1491.92	1469.05	1461.79	1461.98	1499.18	1517.23	1538.49	1541.25	1541.47	1541.05	1539.92	1518.35
29	1490.58	1467.50	1463.30	1462.17	1499.33	1517.72	1538.61	1541.27	1541.40	1541.03	1539.86	1517.43
30	1489.40	1470.35	1468.76	1462.12	---	1518.20	1538.85	1541.18	1541.31	1541.02	1539.80	1516.48
31	1488.90	---	1473.80	1462.13	---	1519.09	---	1541.04	---	1540.98	1539.74	---
MAX	1513.64	1488.36	1499.72	1477.08	1517.61	1519.09	1539.57	1541.42	1541.53	1541.28	1540.93	1539.67
MIN	1488.90	1467.50	1461.79	1460.49	1462.80	1500.00	1521.25	1538.30	1541.00	1540.98	1539.74	1516.48
(†)	228600	193000	199300	178500	250400	295100	344300	350100	350900	350000	346700	288900
(‡)	-56200	-35600	+6300	-20800	+71900	+44700	+49200	+5800	+800	-900	-3300	-57800

CAL YR 1995 MAX 1541.62 MIN 1448.73 AC-FT‡ +38700
WTR YR 1996 MAX 1541.53 MIN 1460.49 AC-FT‡ +4100

† Contents, in acre-feet, 1t 2400, on last day of month.
‡ Change in contents, in acre-feet.

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°43'20", long 122°26'15", in NW 1/4 NE 1/4 sec.27, T.21 S., R.3 E., Lane County, Hydrologic Unit 17090001, in Willamette National Forest, on right bank 90 ft upstream from highway bridge, 0.4 mi upstream from Salt Creek, 1.1 mi downstream from Hills Creek Dam, 2.3 mi southeast of Oakridge, and at mile 231.4.

DRAINAGE AREA.--392 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to September 1914, September 1935 to current year. Monthly discharge only September 1935, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1914.

GAGE.--Water-stage recorder. Datum of gage is 1,208.01 ft above sea level (levels by Corps of Engineers). Oct. 3, 1913, to Sept. 30, 1914, nonrecording gage and Sept. 1, 1935, to Aug. 18, 1960, water-stage recorder at sites 400 ft and 1,000 ft downstream, respectively, at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1961 by Hills Creek Lake (station 14145100). No diversions upstream from station.

AVERAGE DISCHARGE.--62 years (water years 1914, 1936-96), 1,141 ft^3/s, 39.53 in/yr, 826,700 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,000 ft^3/s Dec. 28, 1945, gage height, 12.06 ft, site and datum then in use, from rating curve extended above 13,000 ft^3/s; minimum observed discharge, 0.70 ft^3/s Sept. 8-11, 13, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,030 ft^3/s Dec. 22, gage height, 7.73 ft; minimum discharge, 281 ft^3/s Mar. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1540	840	3030	1590	648	548	331	1650	1190	615	424	401
2	1540	829	3080	1610	300	313	330	1760	1070	529	400	400
3	1550	846	3080	3210	303	320	547	1630	1070	529	399	744
4	1560	1520	3060	3420	306	321	756	1490	1070	529	399	1230
5	1570	1720	3050	3530	316	505	758	1400	990	523	401	1400
6	1160	1610	3050	3470	334	796	759	736	865	509	401	1400
7	1560	846	3040	3420	338	796	759	392	744	504	401	1390
8	1550	851	3030	3410	332	790	755	392	740	506	396	1390
9	1570	888	2500	3390	389	772	758	389	741	505	396	1390
10	962	1220	1790	3360	1280	778	762	612	748	511	393	1380
11	564	1230	3980	3420	3120	1200	893	922	745	508	400	1420
12	708	1770	3590	2840	5020	1610	1010	919	745	475	401	1420
13	1560	1760	3590	1530	5530	1720	1010	1100	744	447	398	1420
14	1550	1760	4040	2500	5960	1740	1010	1910	690	433	396	1400
15	1550	1480	4070	3970	5990	1400	1010	3580	668	432	398	1400
16	1570	997	4630	3560	5920	780	1010	4030	666	433	400	1400
17	1430	1290	6040	2470	5950	783	1220	4050	667	631	399	1400
18	1210	1370	6970	2880	4840	784	1510	4570	636	441	402	1390
19	1190	1010	6860	2620	4520	784	1510	4740	618	441	407	1390
20	1170	1400	6790	2580	5010	771	1510	3880	605	442	415	1390
21	1080	1780	6670	3050	4990	621	1510	3100	604	442	402	1410
22	1000	2130	5590	3530	4510	493	1510	4040	606	440	401	1410
23	982	3600	4480	3320	3150	497	2160	3910	638	440	401	1410
24	740	3560	4010	2990	2000	495	3260	3290	705	437	399	1400
25	747	3620	1820	2950	2010	395	5670	2530	699	437	399	1400
26	740	3660	1770	2340	1750	310	5010	2200	699	436	401	1400
27	746	4160	1670	1670	1500	311	3040	1760	710	435	401	1390
28	1370	4610	1660	1680	1500	315	2600	1470	710	432	399	1390
29	1680	4550	1670	1670	1080	319	1770	1480	695	433	396	1390
30	1530	4000	1700	1580	---	322	1450	1470	701	436	399	1410
31	820	---	1720	1300	---	333	---	1410	---	439	401	---
TOTAL	38499	60907	112030	84860	78896	21922	46188	66812	22779	14750	12425	39165
MEAN	1242	2030	3614	2737	2721	707	1540	2155	759	476	401	1305
MAX	1680	4610	6970	3970	5990	1740	5670	4740	1190	631	424	1420
MIN	564	829	1660	1300	300	310	330	389	604	432	393	400
AC-FT	76360	120800	222200	168300	156500	43480	91610	132500	45180	29260	24640	77680
MEAN†	328	1432	3715	2398	3970	1434	2367	2249	773	461	347	334
CFSM†	0.84	3.65	9.48	6.12	10.13	3.66	6.04	5.74	1.97	1.18	0.89	0.85
IN.†	0.96	4.08	10.93	7.06	10.92	4.22	6.73	6.62	2.20	1.36	1.02	0.95
AC-FT†	20160	85200	228500	147500	228400	88180	140800	138300	45980	28360	21340	19880

CAL YR 1995 TOTAL 504686 MEAN 1383 MAX 6970 MIN 296 AC-FT 1001000 MEAN† 1436 CFSM† 3.66 IN.† 49.74 AC-FT† 1040000
WTR YR 1996 TOTAL 599233 MEAN 1637 MAX 6970 MIN 300 AC-FT 1189000 MEAN† 1644 CFSM† 4.19 IN.† 57.06 AC-FT† 1193000

† Adjusted for change in contents in Hills Creek Lake.

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1960 to current year.

INSTRUMENTATION.--Temperature recorder since October 1960.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 25.0°C Sept. 4, 1960; minimum, 1.5°C Jan. 4, 1961.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 15.0°C Oct. 5, 7-10, 12-19; minimum, 5.0°C Feb. 1, 2.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.0	14.0	14.0				---	---	---	7.0	7.0	7.0
2	14.5	14.0	14.0				---	---	---	7.0	6.5	7.0
3	14.5	14.0	14.0				---	---	---	7.0	7.0	7.0
4	14.5	14.0	14.5				---	---	---	7.0	7.0	7.0
5	15.0	14.5	14.5				---	---	---	7.0	7.0	7.0
6	14.5	12.5	14.0				9.0	8.5	9.0	7.0	7.0	7.0
7	15.0	14.5	14.5				8.5	8.5	8.5	7.0	7.0	7.0
8	15.0	14.5	15.0				8.5	8.5	8.5	7.0	7.0	7.0
9	15.0	14.5	15.0				9.0	8.5	8.5	7.0	7.0	7.0
10	15.0	13.0	14.0				9.0	8.5	8.5	7.0	7.0	7.0
11	13.5	11.5	12.5				9.0	9.0	9.0	7.0	7.0	7.0
12	15.0	11.5	13.0				9.0	9.0	9.0	7.0	6.5	7.0
13	15.0	15.0	15.0				9.0	9.0	9.0	7.0	6.5	6.5
14	15.0	15.0	15.0				9.0	8.5	8.5	7.0	6.5	6.5
15	15.0	14.5	15.0				8.5	8.5	8.5	7.0	7.0	7.0
16	15.0	14.5	15.0				8.5	8.5	8.5	7.0	6.5	6.5
17	15.0	14.5	15.0				8.5	8.0	8.5	6.5	6.5	6.5
18	15.0	14.0	14.5				8.5	8.0	8.0	6.5	6.5	6.5
19	15.0	14.5	14.5				8.0	8.0	8.0	6.5	6.5	6.5
20	14.5	14.0	14.5				8.0	8.0	8.0	6.5	6.0	6.5
21	14.5	14.0	14.5				8.0	8.0	8.0	6.5	6.0	6.0
22	14.5	14.0	14.0				8.0	7.5	8.0	6.5	6.0	6.0
23	14.5	14.0	14.0				7.5	7.5	7.5	6.0	6.0	6.0
24	14.5	12.5	13.5				7.5	7.0	7.0	6.0	6.0	6.0
25	14.5	12.5	13.5				7.0	7.0	7.0	6.0	6.0	6.0
26	14.5	12.5	13.5				7.0	6.5	7.0	6.0	5.5	6.0
27	14.5	12.5	13.5				7.0	6.5	7.0	6.0	5.5	5.5
28	---	14.5	---				7.0	6.5	6.5	5.5	5.5	5.5
29	---	---	---				7.0	6.5	7.0	5.5	5.5	5.5
30	---	---	---				7.0	6.5	7.0	5.5	5.5	5.5
31	---	---	---				7.0	6.5	7.0	5.5	5.5	5.5
MONTH	---	---	---				---	---	---	7.0	5.5	6.5

14145500 MIDDLE FORK WILLAMETTE RIVER ABOVE SALT CREEK, NEAR OAKRIDGE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	5.0	5.5	6.5	5.5	6.0	6.5	6.0	6.0	7.5	6.5	7.5
2	5.5	5.0	5.5	6.5	5.5	6.0	7.0	6.0	6.0	8.0	7.0	7.5
3	5.5	5.5	5.5	6.0	5.5	6.0	7.0	6.0	6.5	7.5	7.0	7.5
4	6.0	5.5	5.5	6.0	5.5	6.0	7.0	6.5	6.5	7.5	7.0	7.5
5	6.0	5.5	5.5	6.5	5.5	6.0	6.5	6.0	6.5	8.0	7.0	7.5
6	6.0	6.0	6.0	6.5	6.0	6.0	7.0	6.0	6.5	8.0	6.5	7.0
7	6.5	6.0	6.0	6.0	6.0	6.0	7.0	6.0	6.5	8.0	6.0	7.0
8	6.5	6.0	6.0	6.5	6.0	6.0	7.0	6.0	6.5	8.0	6.0	7.0
9	6.5	5.5	6.0	6.5	6.0	6.0	7.0	6.5	6.5	7.5	6.0	6.5
10	6.0	5.5	5.5	6.0	6.0	6.0	7.0	6.0	6.5	7.5	6.0	7.0
11	6.5	5.5	6.0	6.5	6.0	6.0	7.0	6.0	6.5	7.5	6.5	7.0
12	6.5	6.0	6.5	6.5	6.0	6.0	7.0	6.5	7.0	7.5	6.5	7.0
13	6.5	6.5	6.5	6.5	6.0	6.5	7.0	6.5	6.5	7.5	6.5	7.0
14	6.5	6.5	6.5	7.0	6.5	7.0	7.0	6.5	7.0	8.0	7.0	7.5
15	6.5	6.0	6.5	7.0	6.0	6.5	7.0	6.5	7.0	9.0	8.0	8.5
16	6.5	6.5	6.5	6.5	5.5	6.0	7.0	6.5	7.0	9.0	8.5	8.5
17	6.5	6.5	6.5	6.5	5.5	6.0	7.5	6.0	7.0	9.0	8.5	9.0
18	6.5	6.0	6.5	6.5	5.5	6.0	7.5	6.5	7.0	9.5	8.5	9.0
19	6.5	6.0	6.5	6.5	6.0	6.0	7.5	6.5	7.0	9.5	9.0	9.0
20	7.0	6.5	6.5	6.5	5.5	6.0	7.5	7.0	7.0	9.5	9.0	9.0
21	6.5	6.5	6.5	6.5	6.0	6.0	7.5	7.0	7.0	9.5	9.0	9.0
22	6.5	6.0	6.5	6.5	6.0	6.0	7.5	7.0	7.5	9.5	9.0	9.5
23	6.5	6.0	6.0	6.5	6.0	6.0	7.5	7.0	7.5	9.5	9.0	9.0
24	6.5	6.0	6.0	6.5	5.5	6.0	8.0	7.5	7.5	9.5	9.0	9.5
25	6.5	6.0	6.0	6.5	5.5	6.0	8.0	7.5	7.5	9.5	9.0	9.0
26	6.0	5.5	6.0	7.0	5.5	6.0	8.0	7.5	7.5	9.0	8.5	9.0
27	6.0	5.5	6.0	6.0	5.5	6.0	8.0	7.5	7.5	9.0	8.0	8.5
28	6.0	5.5	6.0	6.5	5.5	6.0	8.0	7.5	7.5	8.5	7.5	8.0
29	6.0	5.5	5.5	6.5	5.5	6.0	7.5	7.0	7.0	8.5	7.5	8.0
30	---	---	---	7.0	6.0	6.0	7.5	6.5	7.0	9.0	8.0	8.5
31	---	---	---	6.0	6.0	6.0	---	---	---	8.5	7.5	8.0
MONTH	7.0	5.0	6.0	7.0	5.5	6.0	8.0	6.0	7.0	9.5	6.0	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.0	7.5	8.0	9.5	8.0	8.5	9.5	8.0	9.0	10.0	8.5	9.0
2	9.0	7.5	8.0	9.0	8.0	8.5	9.0	8.0	8.5	10.0	9.0	9.0
3	9.0	7.5	8.0	9.0	8.0	8.5	9.5	8.5	8.5	10.5	8.5	9.5
4	8.5	7.5	8.0	9.0	8.0	8.5	9.5	8.5	8.5	10.5	10.0	10.5
5	9.0	7.0	8.0	9.0	8.0	8.5	9.0	8.5	8.5	11.0	10.5	10.5
6	9.0	7.5	8.0	9.0	8.0	8.5	9.5	8.5	8.5	11.0	10.5	11.0
7	9.0	7.5	8.0	9.0	8.0	8.5	9.5	8.5	9.0	11.5	10.5	11.0
8	9.0	7.0	8.0	9.0	8.0	8.5	9.5	8.5	9.0	11.0	11.0	11.0
9	9.0	7.5	8.0	9.0	8.0	8.5	10.0	8.5	9.0	11.5	11.0	11.0
10	8.5	7.5	8.0	9.0	8.0	8.5	9.5	8.5	9.0	11.5	11.0	11.0
11	9.0	7.5	8.0	9.0	8.0	8.5	9.5	8.5	9.0	11.5	11.0	11.5
12	9.0	7.5	8.0	9.0	8.0	8.5	10.0	8.0	9.0	12.0	11.0	11.5
13	9.0	7.5	8.0	9.5	8.0	8.5	9.5	8.5	9.0	11.5	11.0	11.5
14	9.0	7.5	8.0	8.5	8.0	8.5	10.0	8.5	9.0	12.0	11.5	12.0
15	8.5	7.5	8.0	9.5	8.0	8.5	10.0	8.5	9.0	12.0	11.5	12.0
16	8.5	7.5	8.0	9.0	8.0	8.5	10.0	8.5	9.0	12.0	11.5	12.0
17	8.5	7.5	8.0	9.0	8.0	8.5	9.5	8.5	9.0	12.5	12.0	12.0
18	8.5	7.5	8.0	9.0	7.5	8.5	10.0	8.5	9.0	12.5	12.0	12.0
19	8.5	7.5	8.0	9.5	7.5	8.5	9.5	8.5	9.0	12.5	12.5	12.5
20	9.0	7.5	8.0	9.0	8.0	8.5	10.5	8.5	9.0	13.0	12.0	12.5
21	8.5	7.5	8.0	9.0	8.5	8.5	9.5	8.5	9.0	13.0	12.5	12.5
22	9.0	7.5	8.0	9.5	8.0	8.5	10.0	8.5	9.0	13.0	12.5	13.0
23	9.0	7.5	8.0	9.5	8.0	8.5	9.5	8.5	9.0	13.0	12.5	13.0
24	8.5	8.0	8.5	9.5	8.0	8.5	9.5	8.5	9.0	13.5	13.0	13.0
25	9.0	8.0	8.5	9.5	8.0	8.5	9.5	8.5	9.0	13.5	13.0	13.0
26	9.0	8.0	8.5	9.5	8.0	8.5	9.5	9.0	9.0	13.5	13.0	13.0
27	9.0	8.0	8.5	9.5	8.0	8.5	9.5	8.5	9.0	13.5	13.0	13.5
28	8.5	8.0	8.5	8.5	8.0	8.5	10.0	8.5	9.0	13.5	13.0	13.5
29	9.0	8.0	8.5	10.0	8.0	8.5	10.0	8.5	9.0	14.0	13.5	13.5
30	9.0	8.0	8.5	9.5	8.0	9.0	10.0	8.5	9.0	14.0	13.5	14.0
31	---	---	---	9.5	8.0	9.0	10.0	8.5	9.0	---	---	---
MONTH	9.0	7.0	8.0	10.0	7.5	8.5	10.5	8.0	9.0	14.0	8.5	12.0

14148000 MIDDLE FORK WILLAMETTE RIVER BELOW NORTH FORK, NEAR OAKRIDGE, OR

LOCATION.--Lat 43°48'05", long 122°33'35", in SW 1/4 sec.27, T.20 S., R.2 E., Lane County, Hydrologic Unit 17090001, on left bank 0.5 mi downstream from Whitehead Creek, 4.2 mi downstream from North Fork of Middle Fork Willamette River, 7.0 mi northwest of Oakridge, and at mile 220.2.

DRAINAGE AREA.--924 mi^2.

PERIOD OF RECORD.--March 1911 to September 1912, July 1923 to current year. Monthly discharge only for some periods, published in WSP 1318. Published as "near Hazeldell" 1911-12 and as "at Eula" 1923-50.

REVISED RECORDS.--WSP 694: 1925-28. WSP 814: Drainage area at Eula. WSP 1248: 1924, 1925(M), 1926-28, 1929(M), 1930, 1933, 1946(M). WSP 1398: 1927(M). WSP 1638: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 934.76 ft above sea level. Mar. 22, 1911, to Sept. 30, 1912, nonrecording gage at site 4.0 mi upstream, just downstream from North Fork at different datum. July 1, 1923, to Aug, 11, 1935, nonrecording gage and Aug. 12, 1935, to Sept. 30, 1950, water-stage recorder at site 4.0 mi downstream at different datum.

REMARKS.--No estimated daily disharges. Records good. Flow regulated since 1961 by Hills Creek Lake (station 14145100); slight regulation at times by logponds upstream from station. No diversion upstream from station. Continuous water-quality records for the period September 1950 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--39 years (water years 1912, 1924-61), 2,725 ft^3/s, 2,004,000 acre-ft/yr.
35 years (water years 1962-96), 2,811 ft^3/s, 2,037,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,800 ft^3/s Dec. 28, 1945, gage height, 18.8 ft, from floodmark, site and datum then in use, from rating curve extended above 39,000 ft^3/s; minimum discharge, 322 ft^3/s Aug. 30, 1961, caused by closing outlet gates at Hills Creek Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1861 and prior to March 1911, 17.0 ft in February 1890 at site used 1923-50, from information by local resident, discharge, about 55,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,500 ft^3/s Feb. 9, gage height, 8.11 ft; minimum discharge, 803 ft^3/s Sept. 1-3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2130	1460	19000	8010	2700	2590	3080	4290	3230	1550	953	816
2	2080	1420	12800	6210	2130	2270	3400	4290	2970	1400	921	815
3	2160	1410	9370	6960	2020	2450	3400	4000	2920	1370	933	1100
4	2330	2030	9660	7020	2260	2770	3300	3640	2850	1360	914	1680
5	2180	2310	9480	6690	2940	3080	3050	3400	2700	1340	911	1920
6	1720	2320	9480	6550	8830	3240	2950	2680	2450	1290	907	1920
7	2090	1690	8570	6580	15700	3090	2980	2120	2270	1260	895	1920
8	2080	1950	7700	7940	13500	3140	3120	2040	2200	1250	881	1910
9	2080	3440	8860	8160	21200	3360	3220	1970	2140	1240	873	1900
10	1540	3370	7410	8670	13900	3550	3210	2080	2070	1230	859	1890
11	1290	4980	8880	7590	11200	4190	3250	2420	2010	1210	866	1940
12	1630	9570	12200	6420	11700	5040	3410	2460	1960	1170	863	1950
13	2340	8300	13000	4510	11500	4890	3330	2740	1920	1120	858	1950
14	2250	6070	11200	4930	11400	4550	3230	4430	1830	1100	848	1960
15	2190	4580	10500	6820	11000	4030	3150	9310	1770	1090	849	2210
16	2170	3410	9310	6700	10600	3080	3260	10200	1740	1080	843	2360
17	2050	3200	9550	5460	10800	2920	3400	9670	1730	1310	843	2270
18	1950	3490	9780	5720	10300	2820	3610	10400	1690	1180	846	2090
19	1830	2790	9180	6840	10500	2790	3530	10900	1610	1130	849	2030
20	1770	2910	8780	8290	10300	2720	3440	9260	1560	1090	855	2010
21	1690	3230	8380	8190	9630	2510	3410	7760	1540	1070	836	2020
22	1600	3350	7370	7130	8600	2410	3770	9880	1520	1050	831	2000
23	1550	4960	6190	6460	7030	2310	5740	9930	1630	1030	825	1990
24	1280	5230	5770	6180	5340	2210	11800	8530	1920	1020	817	1970
25	1280	7890	3460	5700	4960	2010	13000	6890	1800	1010	818	1970
26	1800	10400	3330	4870	4430	1810	11000	5880	1750	996	828	1950
27	1810	10700	3150	4470	3910	1770	7720	5020	1920	986	865	1950
28	2180	16400	3150	4660	3740	1770	6430	4360	1830	987	850	1930
29	2480	12800	5280	4360	3230	1690	5010	4080	1710	994	824	1940
30	2320	18400	10600	3960	---	1630	4320	3820	1660	982	817	1950
31	1500	---	12800	3480	---	1820	---	3600	---	971	819	---
TOTAL	59350	164060	274190	195530	245350	88510	137520	172050	60900	35866	26697	56311
MEAN	1915	5469	8845	6307	8460	2855	4584	5550	2030	1157	861	1877
MAX	2480	18400	19000	8670	21200	5040	13000	10900	3230	1550	953	2360
MIN	1280	1410	3150	3480	2020	1630	2950	1970	1520	971	817	815
AC-FT	117700	325400	543900	387800	486700	175600	272800	341300	120800	71140	52950	111700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1996, BY WATER YEAR (WY)

MEAN	1854	3372	4767	4405	3439	2974	3162	3260	2385	1269	1202	1683
MAX	2929	7306	13540	10120	8460	7802	5606	5550	4969	1901	1753	2639
(WY)	1963	1985	1965	1965	1996	1972	1993	1996	1974	1971	1982	1966
MIN	625	1414	1073	874	710	1167	1464	1113	811	703	629	1117
(WY)	1962	1994	1977	1977	1977	1992	1968	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1962 - 1996	
ANNUAL TOTAL	1314350		1516334			
ANNUAL MEAN	3601		4143		2811	
HIGHEST ANNUAL MEAN					4301	1974
LOWEST ANNUAL MEAN					1416	1977
HIGHEST DAILY MEAN	19000	Dec 1	21200	Feb 9	43500	Dec 23 1964
LOWEST DAILY MEAN	834	Sep 4	815	Sep 2	334	Oct 5 1961
ANNUAL SEVEN-DAY MINIMUM	844	Aug 29	829	Aug 27	349	Oct 1 1961
ANNUAL RUNOFF (AC-FT)	2607000		3008000		2037000	
10 PERCENT EXCEEDS	8560		9700		5390	
50 PERCENT EXCEEDS	2580		2730		2060	
90 PERCENT EXCEEDS	1030		987		1020	

14149000 LOOKOUT POINT LAKE NEAR LOWELL, OR

LOCATION.--Lat 43°54'50", long 122°45'00", in SE 1/4 sec.13, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, in elevator house at right end of spillway section of dam on Middle Fork Willamette River, 1.5 mi east of Lowell, and at mile 206.9.

DRAINAGE AREA.--991 mi^2.

PERIOD OF RECORD.--November 1953 to current year. Prior to October 1971, published as Lookout Point Reservoir near Lowell.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers). Nov. 7, 1953, to Dec. 4, 1954, approximate elevations obtained from reference marks and Dec. 5, 1954, to Feb. 4, 1955, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam with concrete gate and spillway section, completed in 1954 by Corps of Engineers. Planned storage began in November 1953. Total capacity is 455,800 acre-ft at elevation 929 ft, and usable capacity is 349,200 acre-ft between elevations 819 ft and 929 ft, top of spillway gates. Reservoir used for flood control, improvement of navigation, power generation, pollution abatement, and other purposes. Figures given herein represent total contents. Lake elevation data for periods June 6-30, July 1-8, Aug. 24-31, Sept. 1-30 obtained from U.S. Army Corps of Engineers Columbia River Operational Hydromet System (CROHMS) database.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 464,900 acre-ft Dec. 26, 1964, elevation, 931.09 ft; minimum contents observed since first filling, 91,450 acre-ft Dec. 1, 1954, elevation, 811.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 448,100 acre-ft June 15, elevation, 927.21 ft; minimum contents, 103,800 acre-ft Nov. 19, elevation, 817.55 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

810	89,600	860	205,500	900	338,900
820	108,600	870	235,500	910	377,400
830	129,500	880	267,800	920	417,800
840	152,500	890	302,300	930	460,200
850	177,700				

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	870.99	848.67	867.77	859.88	835.26	879.81	900.85	921.54	925.65	924.31	909.47	882.55
2	870.75	846.55	872.92	858.23	836.21	880.40	902.13	921.98	925.62	924.15	908.72	881.62
3	870.58	844.40	875.33	857.10	837.04	881.28	903.24	922.46	925.54	923.99	907.85	880.85
4	870.52	841.76	876.25	856.18	837.93	882.39	904.40	922.72	925.61	923.82	907.02	880.35
5	870.34	838.84	876.63	855.15	839.72	883.65	905.39	923.23	925.60	923.68	906.18	880.01
6	869.85	835.72	876.04	851.54	846.47	884.67	906.23	923.69	925.47	923.53	905.34	879.67
7	869.65	831.87	873.28	847.33	857.56	885.49	907.02	924.03	925.29	923.23	904.49	879.31
8	869.46	828.35	869.69	844.17	866.06	886.35	907.94	924.36	925.64	923.03	903.63	878.96
9	869.28	826.16	868.97	841.50	878.44	887.18	909.00	924.65	925.97	922.74	902.76	878.61
10	868.71	823.87	868.39	839.97	885.22	888.28	910.19	925.01	926.21	922.53	901.86	878.13
11	868.06	823.01	867.71	840.13	887.23	889.72	911.23	925.29	926.53	922.30	901.01	877.75
12	867.54	825.72	871.78	839.43	888.74	891.06	912.43	925.20	926.86	922.04	900.13	877.44
13	867.49	826.86	875.87	836.94	888.32	891.84	913.39	925.08	926.92	921.60	899.25	877.12
14	867.37	825.80	878.09	834.88	887.26	892.05	914.28	925.57	926.93	921.17	898.37	876.82
15	867.20	823.41	880.73	834.94	885.96	892.35	915.17	926.73	926.84	920.75	897.47	876.82
16	867.03	819.77	879.54	834.90	884.42	892.55	915.94	926.64	926.79	920.35	896.57	876.82
17	866.85	817.67	877.01	833.62	883.01	893.02	916.40	926.36	926.77	919.97	895.71	876.67
18	866.54	817.68	874.07	832.72	882.86	893.44	916.44	926.34	926.69	919.76	894.85	876.43
19	866.14	817.66	870.89	834.13	883.22	894.20	916.46	926.43	926.58	919.06	893.95	876.17
20	865.68	819.03	867.12	839.37	881.65	895.00	916.49	925.93	926.45	918.33	893.09	875.87
21	865.13	819.10	862.67	845.29	879.83	895.63	916.46	925.86	926.07	917.65	892.20	875.52
22	864.53	819.78	857.18	845.16	878.23	896.25	916.64	926.11	925.75	916.97	891.31	875.19
23	863.56	820.48	855.68	844.50	877.42	896.86	917.59	926.09	925.53	916.29	890.43	874.85
24	861.79	821.55	854.60	843.72	878.17	897.42	920.53	926.01	925.45	915.55	889.66	874.50
25	859.96	825.29	853.11	842.38	878.64	897.82	921.96	926.13	925.33	914.83	888.79	874.13
26	858.32	831.20	851.63	840.27	878.88	898.14	922.11	926.14	925.14	914.09	887.87	873.79
27	856.77	835.54	850.09	838.08	879.22	898.48	920.76	925.88	925.07	913.40	887.01	873.41
28	855.34	844.05	848.50	836.02	879.54	898.76	920.24	925.97	925.11	912.71	886.14	873.08
29	854.05	847.64	848.92	834.76	879.45	899.02	920.53	925.98	924.81	911.92	885.25	872.56
30	852.77	857.06	853.34	835.06	---	899.26	920.88	925.88	924.59	911.16	884.36	872.45
31	850.72	---	859.32	834.85	---	899.69	---	925.61	---	910.31	883.47	---
MAX	870.99	857.06	880.73	859.88	888.74	899.69	922.11	926.73	926.93	924.31	909.47	882.55
MIN	850.72	817.66	848.50	832.72	835.26	879.81	900.85	921.54	924.59	910.31	883.47	872.45
(†)	179700	197100	203500	140400	266000	337700	421500	441300	437000	378700	279600	243300
(‡)	-59600	+17400	+6400	-63100	+125600	+71700	+83800	+19800	-4300	-58300	-99100	-36300

CAL YR 1995 MAX 926.93 MIN 817.66 AC-FT‡ +79900
WTR YR 1996 MAX 926.93 MIN 817.66 AC-FT‡ +4000

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14150000 MIDDLE FORK WILLAMETTE RIVER NEAR DEXTER, OR

LOCATION.--Lat 43°56'45", long 122°50'10", in SE 1/4 NW 1/4 sec.5, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, on right bank 0.6 mi upstream from Lost Creek, 2.0 mi northwest of Dexter, 2.6 mi downstream from Dexter Dam, and at mile 201.2.

DRAINAGE AREA.--1,001 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year. Prior to October 1954, published as "at Lowell".

REVISED RECORDS.--WSP 1638: 1948(P).

GAGE.--Water-stage recorder. Datum of gage is 592.30 ft above sea level (levels by Corps of Engineers). Prior to Aug. 23, 1950, nonrecording gage and Aug. 23, 1950, to Sept. 30, 1954, at site 4.0 mi upstream at different datum, and June 9, 1955, to Feb. 18, 1977, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1953 by Lookout Point Lake (station 14149000), since 1955 by Dexter Lake (re-regulating), and since 1961 by Hills Creek Lake (station 14145100).

AVERAGE DISCHARGE.--50 years (water years 1947-96), 3,093 ft^3/s, 2,241,000 acre-ft/yr, unadjusted.
43 years (water years 1954-96), 3,019 ft^3/s, 2,187,000 acre-ft/yr, regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,600 ft^3/s Jan. 18, 1953, gage height, 12.46 ft, site and datum then in use, from rating curve extended above 33,000 ft^3/s; minimum daily discharge, 100 ft^3/s Nov. 25, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 13.9 ft Dec. 28, 1945, former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,000 ft^3/s Dec. 17, gage height, 10.88 ft; minimum discharge, 1,190 ft^3/s Feb. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2480	4270	3190	8260	2600	2340	1330	3220	3170	2160	2540	2340
2	2470	4270	4730	9310	1420	1470	1360	3010	3040	1920	2530	2340
3	2430	4250	6170	9350	1320	1350	1370	3260	3140	1830	2550	2360
4	2440	5100	8970	9340	1370	1350	1350	3160	2730	1660	2550	2350
5	2450	6160	10100	9110	1370	1350	1350	2520	2740	1690	2530	2370
6	2450	6270	11700	11800	1470	1680	1340	1730	2740	1710	2530	2380
7	2470	6240	14000	12800	1410	1950	1330	1370	2740	1720	2520	2370
8	2470	6220	14400	12800	1430	1970	1370	1350	1590	1720	2520	2370
9	2460	6190	11300	12800	1450	1950	1380	1350	1460	1730	2520	2370
10	2440	6080	9460	11800	2180	1950	1390	1340	1470	1680	2500	2350
11	2470	6050	11200	8470	7770	1970	1380	1940	1320	1750	2510	2350
12	2470	6980	7780	8360	8970	2760	1370	2530	1320	1760	2520	2350
13	2470	7380	7970	8000	11900	3610	1570	3110	1860	1990	2520	2350
14	2460	7370	9280	7830	13000	4410	1590	3860	1840	1990	2510	2350
15	2450	7250	7420	7930	13000	3860	1590	7590	1860	2000	2510	2360
16	2450	6910	12500	7960	13000	2920	2080	11000	1870	1990	2370	2360
17	2440	5820	14400	7970	13000	2250	2640	11000	1860	2130	2420	2350
18	2440	3300	15500	7890	10800	2180	3680	11000	1870	2150	2430	2320
19	2460	2930	15000	6970	10100	1600	3770	11000	1880	2160	2430	2300
20	2480	2140	15400	4820	13000	1480	3800	10500	1870	2440	2430	2360
21	2490	1960	15800	2860	13000	1570	3810	8470	1880	2460	2420	2430
22	2500	2900	15700	8560	11500	1370	3970	9710	2220	2450	2420	2390
23	3100	3860	9120	8610	9150	1360	4380	10200	2230	2470	2410	2390
24	3940	4290	8160	8460	4770	1360	6230	9330	2260	2490	2380	2390
25	4240	4310	5720	8470	4380	1370	9930	7100	2090	2490	2380	2380
26	4250	4330	5690	8440	4370	1350	10700	5930	2130	2490	2380	2380
27	4240	6430	5690	8360	3780	1340	10800	5770	2190	2450	2380	2380
28	4230	5790	5690	8380	3710	1340	7900	4360	2230	2340	2360	2360
29	4250	8190	5690	7030	3710	1360	4770	4240	2170	2510	2340	2350
30	4260	5460	5680	4590	---	1350	3940	4210	2210	2550	2340	2360
31	4260	---	5630	4450	---	1370	---	4220	---	2580	2360	---
TOTAL	90910	158700	299040	261780	188930	59540	103470	169380	63980	65460	76110	70860
MEAN	2933	5290	9646	8445	6515	1921	3449	5464	2133	2112	2455	2362
MAX	4260	8190	15800	12800	13000	4410	10800	11000	3170	2580	2550	2430
MIN	2430	1960	3190	2860	1320	1340	1330	1340	1320	1660	2340	2300
AC-FT	180300	314800	593100	519200	374700	118100	205200	336000	126900	129800	151000	140600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1996, BY WATER YEAR (WY)

MEAN	2969	4527	5307	4690	2915	2342	2242	2749	2403	1624	1911	2527
MAX	5266	8779	11300	13510	7634	8084	4854	5464	5072	2189	2981	3932
(WY)	1963	1985	1965	1965	1972	1957	1993	1996	1984	1993	1993	1972
MIN	1051	1627	981	1050	668	525	437	526	816	1053	1083	1366
(WY)	1993	1955	1955	1977	1977	1977	1977	1977	1977	1957	1966	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1954 - 1996	
ANNUAL TOTAL	1322629		1608160			
ANNUAL MEAN	3624		4394		3019	
HIGHEST ANNUAL MEAN					4653	1956
LOWEST ANNUAL MEAN					1392	1977
HIGHEST DAILY MEAN	15800	Dec 21	15800	Dec 21	28900	Dec 27 1964
LOWEST DAILY MEAN	989	Jan 14	1320	Feb 3	100	Nov 25 1960
ANNUAL SEVEN-DAY MINIMUM	1090	Apr 6	1350	Apr 1	344	May 4 1977
ANNUAL RUNOFF (AC-FT)	2623000		3190000		2187000	
10 PERCENT EXCEEDS	7370		9980		6110	
50 PERCENT EXCEEDS	2530		2520		2160	
90 PERCENT EXCEEDS	1140		1430		1160	

14150000 MIDDLE FORK WILLAMETTE RIVER NEAR DEXTER, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1955 to current year.

INSTRUMENTATION.--Temperature recorder since August 1955.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 20.5°C several days in September, 1992; minimum recorded, 2.5°C Feb. 6-8, 1989, but may have been lower during period of missing record Feb. 9 to Mar. 30, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 17.0 °C several days in October and September; minimum not determined, occurred during period of missing record, Dec. 26 to May 14.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.0	16.0	16.0	13.5	13.0	13.5	---	---	---			
2	17.0	16.0	16.0	13.5	13.0	13.0	---	---	---			
3	16.5	16.0	16.0	13.0	13.0	13.0	---	---	---			
4	17.0	15.5	16.0	13.0	12.5	13.0	---	---	---			
5	16.5	15.5	16.0	13.0	13.0	13.0	---	---	---			
6	16.5	15.5	16.0	13.0	12.5	13.0	---	---	---			
7	16.5	15.5	16.0	13.0	12.5	12.5	9.0	9.0	9.0			
8	16.0	15.5	15.5	13.0	12.5	13.0	9.0	8.5	9.0			
9	16.5	15.5	16.0	12.5	12.5	12.5	8.5	8.5	8.5			
10	16.0	15.5	16.0	12.5	12.5	12.5	9.0	8.5	9.0			
11	16.0	15.5	15.5	12.5	12.5	12.5	9.0	9.0	9.0			
12	16.0	15.0	15.5	12.5	12.0	12.0	9.0	9.0	9.0			
13	16.0	15.0	15.5	12.0	12.0	12.0	9.0	9.0	9.0			
14	16.0	15.0	15.5	12.0	11.5	12.0	9.0	8.5	9.0			
15	16.0	15.0	15.5	12.0	11.5	12.0	8.5	8.5	8.5			
16	16.0	15.0	15.5	12.0	11.5	11.5	8.5	8.5	8.5			
17	15.5	15.0	15.5	11.5	11.5	11.5	8.5	8.5	8.5			
18	15.5	15.0	15.0	11.5	11.0	11.5	8.5	8.5	8.5			
19	15.5	14.5	15.0	13.0	11.0	12.0	8.5	8.5	8.5			
20	15.0	14.5	15.0	14.5	13.0	14.0	8.5	8.0	8.0			
21	15.0	14.5	15.0	14.5	13.5	14.0	8.0	8.0	8.0			
22	15.0	14.5	14.5	14.0	13.5	14.0	8.0	8.0	8.0			
23	15.0	14.5	14.5	14.5	---	---	8.0	7.5	7.5			
24	15.0	14.5	14.5	---	---	---	7.5	7.5	7.5			
25	14.5	14.5	14.5	---	---	---	7.5	7.0	7.0			
26	14.5	14.5	14.5	---	---	---	---	---	---			
27	14.5	14.5	14.5	---	---	---	---	---	---			
28	14.5	14.0	14.5	---	---	---	---	---	---			
29	14.5	14.0	14.0	---	---	---	---	---	---			
30	14.0	14.0	14.0	---	---	---	---	---	---			
31	14.0	13.5	13.5	---	---	---	---	---	---			
MONTH	17.0	13.5	15.0	---	---	---	---	---	---			

14150000 MIDDLE FORK WILLAMETTE RIVER NEAR DEXTER, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										---	---	---
9										---	---	---
10										---	---	---
11										---	---	---
12										---	---	---
13										---	---	---
14										10.5	---	---
15										10.5	9.5	10.0
16										10.5	10.0	10.5
17										10.5	10.0	10.5
18										10.5	10.5	10.5
19										10.5	10.5	10.5
20										11.0	10.0	10.5
21										11.0	10.0	10.5
22										10.0	10.0	10.0
23										10.5	10.0	10.0
24										10.5	10.0	10.5
25										11.0	10.0	10.5
26										10.5	10.0	10.5
27										10.5	9.5	10.0
28										10.5	9.5	10.0
29										10.5	9.5	10.0
30										11.0	9.5	10.0
31										11.0	10.0	10.5
MONTH										---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.5	10.0	10.5	14.0	11.5	12.5	14.5	12.5	13.5	16.5	15.0	15.5
2	11.5	10.5	11.0	13.5	11.5	12.5	13.5	13.0	13.0	16.5	15.0	15.5
3	11.5	10.5	11.0	13.5	12.0	12.5	14.0	13.0	13.5	16.5	15.5	15.5
4	12.0	10.5	11.0	14.0	11.5	12.5	14.5	13.0	13.5	16.5	15.5	16.0
5	12.0	11.0	11.5	14.5	11.5	12.5	14.0	13.0	13.5	17.0	15.5	16.0
6	12.5	11.0	11.5	14.5	12.0	13.0	14.5	13.0	13.5	17.0	15.5	16.0
7	11.5	11.0	11.5	14.5	12.0	13.0	14.5	13.0	13.5	17.0	15.5	16.0
8	13.5	11.0	12.0	14.5	12.0	13.0	14.5	13.0	13.5	17.0	15.5	16.0
9	13.5	10.5	11.5	14.5	12.0	13.0	14.5	13.0	13.5	17.0	16.0	16.5
10	13.5	10.5	12.0	14.5	12.0	13.0	15.0	13.0	14.0	17.0	16.0	16.5
11	14.0	11.0	12.0	15.0	12.5	13.0	15.0	13.5	14.0	17.0	16.0	16.5
12	14.5	11.0	12.5	15.0	12.5	13.5	15.0	13.5	14.0	17.0	16.0	16.0
13	13.0	11.5	12.0	15.0	12.5	13.5	15.0	13.5	14.0	16.5	16.0	16.0
14	14.0	11.5	12.5	14.0	12.5	13.0	15.0	13.5	14.0	16.5	16.0	16.5
15	14.0	11.5	12.5	14.5	12.5	13.5	15.0	13.5	14.0	16.5	16.0	16.0
16	12.5	11.5	12.0	14.5	12.0	13.0	15.5	13.5	14.5	16.0	15.5	16.0
17	13.0	11.5	12.0	13.5	12.5	12.5	15.5	14.0	14.5	17.0	15.5	16.0
18	14.0	11.0	12.0	14.0	12.5	13.0	15.5	14.0	14.5	16.5	15.5	16.0
19	13.0	11.0	12.0	14.5	12.5	13.0	15.5	14.0	14.5	16.5	15.5	16.0
20	14.0	11.5	12.5	14.0	12.5	13.0	15.5	14.0	14.5	16.0	15.5	15.5
21	13.5	11.5	12.0	14.0	12.5	13.0	15.5	14.0	14.5	16.5	15.0	15.5
22	13.5	11.5	12.0	14.0	12.0	13.0	16.0	14.0	15.0	16.5	15.0	15.5
23	13.0	11.5	12.0	14.0	12.0	13.0	16.0	14.5	15.0	16.0	15.0	15.5
24	12.5	11.5	12.0	14.0	12.0	13.0	16.0	14.5	15.0	16.5	15.0	15.5
25	13.5	11.5	12.0	14.0	12.0	13.0	15.5	14.5	15.0	16.5	15.0	15.5
26	13.5	11.5	12.0	14.0	12.0	13.0	15.5	14.5	15.0	16.5	15.0	15.5
27	12.5	11.0	12.0	14.0	12.5	13.0	16.0	14.5	15.0	16.5	15.5	16.0
28	12.5	11.0	12.0	14.0	12.5	13.0	16.0	14.5	15.0	16.5	15.5	16.0
29	13.5	11.0	12.0	14.0	12.5	13.5	16.5	14.5	15.5	17.0	15.5	16.5
30	13.5	11.5	12.0	14.0	12.5	13.0	16.5	15.0	15.5	17.0	16.0	16.0
31	---	---	---	14.0	12.5	13.5	16.5	15.0	15.5	---	---	---
MONTH	14.5	10.0	12.0	15.0	11.5	13.0	16.5	12.5	14.5	17.0	15.0	16.0

14150300 FALL CREEK NEAR LOWELL, OR

LOCATION.--Lat 43°58'15", long 122°38'15", in SW 1/4 sec.25, T.18 S., R.1 E., Lane County, Hydrologic Unit 17090001, on right bank 0.1 mi downstream from North Fork, 8.0 mi northeast of Lowell, and at mile 14.4.

DRAINAGE AREA.--118 mi^2.

PERIOD OF RECORD.--August 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 844.42 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. Continuous water-quality records for the period August 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--33 years (water years 1964-96), 405 ft^3/s, 46.58 in/yr, 293,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft^3/s Apr. 27, 1990, gage height, 12.28 ft; minimum discharge, 15 ft^3/s Aug. 30, 31, Sept. 1, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2130	4,540	7.19	Dec. 30	1830	5,950	8.22
Nov. 25	2300	3,530	6.42	Feb. 7	0030	6,450	8.57
Nov. 28	0100	4,950	7.50	Feb. 9	0530	*6,690	*8.73
Dec. 1	0700	5,350	7.79				

Minimum discharge, 19 ft^3/s Sept. 8-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	79	4240	1800	580	422	1040	368	261	84	35	21
2	56	72	2270	1200	504	521	801	327	239	79	37	21
3	125	66	1490	1010	458	723	667	296	221	78	43	21
4	144	63	2010	1130	748	921	505	267	206	78	38	20
5	78	65	1770	1010	1580	1000	404	242	193	75	36	20
6	60	134	1540	999	4420	776	345	224	182	71	36	21
7	51	259	1230	1130	5820	648	312	211	171	68	34	20
8	46	459	1010	1670	3990	634	287	198	162	65	32	19
9	48	1000	1700	1750	e4800	617	292	186	152	64	31	19
10	44	823	1350	1860	e2100	550	293	176	145	63	30	19
11	184	1900	1090	1240	e1500	543	321	167	140	60	29	19
12	306	2420	2060	891	e1200	618	505	160	135	58	29	19
13	145	1730	2190	687	e1100	528	608	178	129	56	28	20
14	97	990	1950	624	903	441	484	365	124	54	27	27
15	76	617	1920	1050	764	382	416	1530	118	54	26	175
16	67	436	1240	1290	667	338	466	1630	114	51	26	259
17	68	339	893	1090	658	309	538	1470	113	57	25	142
18	153	347	684	1080	830	285	470	1730	112	73	25	66
19	102	286	540	2300	1390	270	432	1470	104	59	25	48
20	81	246	450	2720	1050	251	416	1050	99	53	25	41
21	86	221	393	2570	910	237	429	893	95	50	25	35
22	104	202	346	1570	803	264	769	1600	93	49	24	32
23	87	186	308	1270	752	251	1370	1820	116	46	24	30
24	74	287	278	1350	666	236	2620	1270	154	44	23	28
25	72	1790	251	1030	567	217	1680	875	121	42	23	27
26	363	2640	234	822	488	205	1220	644	119	41	23	26
27	268	2470	227	1330	434	200	873	507	135	39	24	25
28	169	3540	243	1490	398	206	657	425	116	40	25	24
29	126	2100	2020	1120	375	198	519	369	100	42	23	24
30	104	3270	3810	862	---	192	428	324	90	38	22	24
31	90	---	3280	692	---	348	---	290	---	36	21	---
TOTAL	3555	29037	43017	40637	40455	13331	20167	21262	4259	1767	874	1292
MEAN	115	968	1388	1311	1395	430	672	686	142	57.0	28.2	43.1
MAX	363	3540	4240	2720	5820	1000	2620	1820	261	84	43	259
MIN	44	63	227	624	375	192	287	160	90	36	21	19
AC-FT	7050	57590	85320	80600	80240	26440	40000	42170	8450	3500	1730	2560
CFSM	.97	8.20	11.8	11.1	11.8	3.64	5.70	5.81	1.20	.48	.24	.36
IN.	1.12	9.15	13.56	12.81	12.75	4.20	6.36	6.70	1.34	.56	.28	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	114	553	790	873	677	600	545	346	200	72.0	45.5	54.7
MAX	312	1389	2282	1849	1691	1326	1002	707	662	163	99.8	188
(WY)	1983	1974	1965	1972	1986	1972	1993	1991	1984	1983	1968	1986
MIN	18.8	44.4	60.6	102	91.8	108	220	98.6	53.8	45.7	21.1	23.7
(WY)	1988	1994	1977	1977	1977	1992	1987	1966	1966	1979	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	180577		219653			
ANNUAL MEAN	495		600		405	
HIGHEST ANNUAL MEAN					644	1972
LOWEST ANNUAL MEAN					183	1977
HIGHEST DAILY MEAN	4870	Jan 14	5820	Feb 7	9900	Jan 28 1965
LOWEST DAILY MEAN	24	Sep 23	19	Sep 8	15	Aug 30 1992
ANNUAL SEVEN-DAY MINIMUM	27	Sep 18	19	Sep 7	16	Aug 28 1992
ANNUAL RUNOFF (AC-FT)	358200		435700		293100	
ANNUAL RUNOFF (CFSM)	4.19		5.09		3.43	
ANNUAL RUNOFF (INCHES)	56.93		69.25		46.58	
10 PERCENT EXCEEDS	1310		1670		959	
50 PERCENT EXCEEDS	246		260		208	
90 PERCENT EXCEEDS	39		27		33	

e Estimated

14150900 FALL CREEK LAKE NEAR LOWELL, OR

LOCATION.--Lat 43°56'40", long 122°45'20", in SW 1/4 sec.1, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, in regulating tower near the center of Fall Creek Dam on Fall Creek, 2.2 mi northeast of Lowell, and at mile 7.2.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--January 1966 to current year. Prior to October 1971, published as Fall Creek Reservoir near Lowell.

GAGE.--Water-stage recorder. Datum of gage is sea level. Levels by U.S. Army Corps of Engineers (USACE).

REMARKS.--Lake elevation data for periods Oct. 28 to Dec. 4, Jan. 14 to Feb. 12, Mar. 8-11, July 13 to Aug. 16 obtained from the U.S. Army Corps of Engineers Columbia River Operational Hydromet System (CROHMS) database. Reservoir is formed by earthfill dam with concrete gate and spillway section, completed in 1965 by Corps of Engineers; storage began January 1966. Total capacity is 125,100 acre-ft at elevation 834 ft and usable capacity is 115,500 acre-ft between elevation 728 ft and 834 ft. Reservoir used for flood control, conservation, and recreation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by USACE.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 123,200 acre-ft May 30, 31, 1972, May 19, 1991; maximum elevation, 832.98 ft May 31, 1972; minimum contents, no contents Nov. 7 to Dec. 6, 1969, Nov. 14-16, 1970, Nov. 18-25, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 119,200 acre-ft June 25, elevation, 830.77 ft; minimum contents, 1,300 acre-ft Nov. 8, elevation, 694.22.

Capacity table (elevation, in feet, and total contents, in acre-feet)

670.4	0	725	8,340	785	53,120
679	59	735	13,270	795	64,590
685	366	745	19,480	805	77,880
695	1,400	755	26,130	815	92,750
705	2,850	765	33,770	825	109,200
715	5,200	775	42,580	833	123,200

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	757.33	695.25	737.02	762.75	741.67	788.03	811.34	826.05	830.28	830.54	826.88	814.84
2	754.01	694.94	739.32	758.47	743.93	789.80	812.87	826.16	830.21	830.51	826.68	814.30
3	750.58	694.79	737.87	753.51	745.92	791.37	813.96	826.32	830.29	830.53	826.37	813.48
4	747.16	694.89	738.68	748.87	748.89	793.30	814.71	826.55	830.41	830.46	826.14	811.97
5	743.35	694.49	741.06	743.64	754.65	---	815.38	826.77	830.46	830.46	825.76	810.55
6	739.90	695.59	741.75	738.49	768.33	---	815.99	826.91	830.47	830.38	825.53	809.07
7	736.71	694.71	738.60	734.53	783.20	798.73	816.49	827.00	830.45	830.32	825.36	807.60
8	733.36	697.86	734.47	734.04	791.97	799.93	816.88	827.13	830.47	830.24	825.10	806.07
9	729.80	704.14	735.59	733.67	803.15	801.07	817.20	827.24	830.46	829.30	824.90	804.53
10	726.32	702.75	736.30	733.71	806.31	801.99	817.59	827.36	830.40	830.28	824.65	803.01
11	724.13	710.08	735.78	731.62	804.28	802.65	818.02	827.52	---	830.26	824.35	801.44
12	722.68	710.42	740.82	730.31	801.00	803.25	818.71	827.71	---	830.21	824.14	799.87
13	719.93	703.85	746.83	730.34	---	803.68	819.55	828.00	830.62	830.13	823.90	798.32
14	716.83	694.80	751.40	730.61	---	803.90	820.17	828.35	830.58	830.07	823.52	796.73
15	712.97	694.26	755.44	731.50	---	804.16	820.76	829.85	830.52	829.98	823.30	795.38
16	710.00	694.92	755.23	731.60	783.29	804.52	821.35	830.16	830.61	829.93	822.87	794.15
17	708.60	694.93	752.42	731.73	779.63	804.76	821.71	830.33	830.52	829.79	822.41	---
18	708.01	696.03	748.90	731.91	780.37	804.99	821.88	830.23	830.55	829.78	822.10	790.99
19	706.89	695.77	744.65	737.23	781.88	805.34	821.90	829.82	830.53	829.72	821.52	789.46
20	705.44	696.20	740.43	747.55	782.80	805.71	822.12	829.76	830.50	829.67	821.06	787.36
21	703.98	696.18	737.44	754.62	782.34	805.98	822.65	829.99	830.51	829.55	820.62	785.24
22	702.73	696.47	736.32	751.86	782.07	806.31	823.25	830.13	830.46	829.50	820.11	782.95
23	701.18	696.45	735.88	748.13	782.66	806.54	823.49	830.35	830.56	829.25	819.61	780.60
24	699.33	698.17	735.22	745.11	783.35	806.76	825.25	830.05	830.66	828.91	819.10	778.16
25	698.17	711.79	734.43	740.33	783.67	807.14	825.27	830.14	830.72	828.80	818.59	775.63
26	700.21	713.41	733.94	736.71	784.51	807.36	825.08	830.24	830.58	828.47	818.09	773.07
27	699.80	715.66	733.74	738.50	785.43	807.75	825.31	830.35	830.59	828.27	---	770.29
28	698.90	723.49	733.58	740.21	786.50	808.13	825.40	830.38	830.57	827.97	---	767.49
29	698.02	717.54	741.36	740.36	787.16	808.33	825.72	830.18	830.56	827.70	816.30	764.59
30	697.05	723.35	754.41	740.13	---	808.71	825.93	830.35	830.56	827.34	815.80	761.65
31	696.17	---	762.14	740.18	---	809.38	---	830.24	---	827.20	815.36	---
MAX	757.33	723.49	762.14	762.75	---	---	825.93	830.38	---	830.54	---	---
MIN	696.17	694.26	733.58	730.31	---	---	811.34	826.05	---	827.20	---	---
(†)	1540	7720	31480	16400	55510	84200	110800	118200	118800	112900	93320	31090
(‡)	-28550	+6180	+23760	-15080	+39110	+28690	+26600	+7400	+600	-5900	-19580	-62230

CAL YR 1995 MAX 830.52 MIN 694.26 AC-FT‡ +21780
WTR YR 1996 MAX --- MIN --- AC-FT‡ +1000

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR

LOCATION.--Lat 43°56'40", long 122°46'25", in NW 1/4 SE 1/4 sec.2, T.19 S., R.1 W., Lane County, Hydrologic Unit 17090001, on right bank 10 ft upstream from highway bridge, 1.1 mi downstream from Fall Creek Dam, 2.3 mi southeast of town of Fall Creek, and at mile 6.1.

DRAINAGE AREA.--186 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October to December 1911 (published as Big Fall Creek near Fall Creek; gage heights and discharge measurements only), September 1935 to current year.

REVISED RECORDS.--WSP 1094: 1946(M). WSP 1248: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 637.81 ft above sea level (Corps of Engineers bench mark). Oct. 1 to Dec. 31, 1911, nonrecording gage at site 0.25 mi downstream at different datum. Sept. 9, 1935, to Aug. 3, 1950, nonrecording gage on left bank at present site and datum. Aug. 4, 1950 to Aug. 27, 1982 water-stage recorder. Aug. 27, 1982 gage moved to right bank at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1966 by Fall Creek Lake (station 14150900). No diversion upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1936-96), 575 ft^3/s, 41.98 in/yr, 416,600 acre-ft/yr, adjusted for storage in Fall Creek Lake since January 1965.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,700 ft^3/s Dec. 11, 1956, gage height, 18.80 ft, from rating curve extended above 9,700 ft^3/s; minimum discharge, 1.5 ft^3/s Oct. 7, 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,030 ft^3/s Nov. 28, gage height, 7.48 ft; minimum discharge, 21 ft^3/s Feb. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	165	2160	1900	390	50	57	393	398	139	281	424
2	1240	116	2270	3020	28	46	55	357	344	139	281	425
3	1290	102	2270	2940	28	47	105	276	217	139	281	771
4	1270	78	2260	2850	31	47	176	186	217	139	281	1110
5	1240	108	1690	2760	32	47	104	165	217	139	271	1100
6	1050	101	1880	2650	42	47	51	165	217	139	259	1090
7	909	386	2530	2390	50	47	51	165	216	139	256	1100
8	891	350	2450	2050	50	82	114	165	217	139	256	1110
9	896	797	1920	2390	62	134	176	165	217	139	256	1100
10	825	1210	1630	2390	1290	134	176	105	195	139	256	1100
11	718	1360	1630	2110	3500	352	176	56	147	139	256	1090
12	710	2930	1320	1450	3800	505	179	56	149	139	256	1080
13	697	2900	1080	859	3840	497	179	99	149	139	256	1070
14	678	2010	1130	735	3760	497	179	338	149	139	256	1100
15	699	886	1150	1080	3690	390	179	1160	148	139	256	1110
16	527	605	1760	1530	3610	290	257	2050	147	139	346	1100
17	285	498	2180	1330	2860	287	441	2080	147	139	417	1090
18	282	438	2140	1330	794	230	560	2310	147	139	417	941
19	279	429	2080	1380	924	141	563	2360	147	139	424	955
20	276	332	1860	549	1150	139	427	1580	147	139	433	1260
21	270	322	1370	1030	1600	149	227	1190	147	139	433	1250
22	266	271	745	2970	1310	164	471	2050	147	184	433	1240
23	262	271	554	2940	834	168	1470	2200	149	262	433	1250
24	257	272	551	2870	714	168	1780	1950	149	281	433	1260
25	210	690	549	2840	598	125	2100	1180	149	281	433	1250
26	279	2900	448	2190	287	48	1770	784	146	281	433	1240
27	386	2930	386	1380	56	47	1070	590	139	281	429	1260
28	314	3430	386	1590	58	47	752	583	139	281	429	1270
29	240	3760	306	1560	54	47	465	647	139	283	429	1250
30	213	2740	344	1290	---	47	446	394	139	282	429	1230
31	188	---	1180	948	---	53	---	415	---	281	428	---
TOTAL	18917	33387	44209	59301	35442	5072	14756	26214	5375	5616	10737	32626
MEAN	610	1113	1426	1913	1222	164	492	846	179	181	346	1088
MAX	1290	3760	2530	3020	3840	505	2100	2360	398	283	433	1270
MIN	188	78	306	549	28	46	51	56	139	139	256	424
AC-FT	37520	66220	87690	117600	70300	10060	29270	52000	10660	11140	21300	64710
MEAN†	146	1217	1812	1667	1901	630	939	966	189	85	28	42
CFSM†	0.78	6.54	7.74	8.96	10.22	3.39	5.05	5.19	1.02	0.46	0.15	0.22
IN.†	0.90	7.30	11.23	10.33	11.03	3.91	5.63	5.99	1.14	0.53	0.17	0.25
AC-FT†	8970	72400	111400	102500	109400	38750	55870	59400	11260	5240	1720	2480

CAL YR 1995 TOTAL 236894 MEAN 649 MAX 3760 MIN 55 AC-FT 469900 MEAN† 679 CFSM† 3.65 IN.† 49.57 AC-FT† 491700
WTR YR 1996 TOTAL 291652 MEAN 797 MAX 3840 MIN 28 AC-FT 578500 MEAN† 799 CFSM† 4.29 IN.† 58.42 AC-FT† 579500

† Adjusted for change in contents in Fall Creek Lake.

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1950 to current year.

INSTRUMENTATION.--Temperature recorder since August 1950.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 26.0°C July 28, 1958; minimum, 0.0°C Dec. 23, 24, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 19.5°C Oct. 3; minimum, 3.5°C Feb. 2.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.5	17.5	18.0	10.0	8.0	9.0	10.5	10.0	10.5	7.5	6.5	7.0
2	19.0	18.5	18.5	8.0	7.0	7.5	10.0	9.5	10.0	8.0	7.5	7.5
3	19.5	19.0	19.0	7.0	6.0	6.5	9.5	9.0	9.5	8.0	7.5	8.0
4	19.0	19.0	19.0	7.0	6.5	6.5	9.0	9.0	9.0	8.0	8.0	8.0
5	19.0	18.5	18.5	7.5	6.5	7.0	9.0	8.5	9.0	8.5	8.0	8.5
6	18.5	18.5	18.5	7.5	7.0	7.0	8.5	8.5	8.5	8.5	8.0	8.0
7	18.5	18.5	18.5	7.0	6.5	7.0	8.5	8.5	8.5	8.0	8.0	8.0
8	18.5	18.0	18.5	7.0	5.5	6.0	8.5	8.5	8.5	8.5	8.0	8.0
9	18.5	18.0	18.0	7.0	6.0	6.5	8.5	8.5	8.5	8.5	8.5	8.5
10	18.0	18.0	18.0	7.0	6.5	6.5	9.0	8.5	9.0	8.5	8.5	8.5
11	18.0	17.5	17.5	6.5	6.5	6.5	9.5	8.5	9.0	8.5	8.0	8.5
12	17.5	17.0	17.0	7.0	6.5	6.5	9.5	9.5	9.5	8.0	8.0	8.0
13	17.0	16.5	16.5	7.5	6.5	7.0	9.5	9.5	9.5	8.0	8.0	8.0
14	16.5	16.0	16.0	11.5	6.0	8.0	9.5	9.5	9.5	8.0	7.5	8.0
15	16.0	14.5	15.0	11.0	10.5	10.5	9.5	8.5	9.0	8.0	7.5	7.5
16	15.0	14.0	14.5	12.0	10.5	11.0	9.0	8.5	9.0	8.0	7.5	8.0
17	15.0	14.0	14.5	11.0	10.0	10.5	9.0	8.5	9.0	8.0	8.0	8.0
18	14.5	14.0	14.5	11.0	10.5	10.5	8.5	8.5	8.5	8.0	7.5	7.5
19	14.5	14.0	14.5	10.5	9.5	9.5	8.5	8.5	8.5	7.5	7.0	7.5
20	14.5	14.0	14.0	9.5	8.5	8.5	8.5	8.0	8.5	7.0	7.0	7.0
21	14.5	14.0	14.0	9.0	8.0	8.5	8.0	8.0	8.0	7.0	7.0	7.0
22	14.5	12.5	13.5	9.5	9.0	9.5	8.0	7.5	8.0	7.0	7.0	7.0
23	13.5	12.0	13.0	10.0	9.5	9.5	7.5	6.5	7.0	7.0	7.0	7.0
24	13.5	12.5	13.0	11.0	10.0	10.5	6.5	6.0	6.5	7.0	6.5	6.5
25	13.5	12.5	13.0	11.0	10.5	11.0	6.5	6.0	6.0	6.5	6.0	6.5
26	13.0	12.5	13.0	10.5	9.5	10.0	6.0	5.5	6.0	6.5	6.0	6.0
27	13.0	12.5	13.0	9.5	9.0	9.5	5.5	5.5	5.5	6.0	6.0	6.0
28	12.5	11.0	11.5	10.0	9.5	9.5	6.0	5.5	6.0	6.0	5.5	6.0
29	11.0	10.5	11.0	10.0	10.0	10.0	6.5	6.0	6.0	6.0	5.5	5.5
30	10.5	10.0	10.5	10.5	10.0	10.5	7.0	5.5	6.5	5.5	5.5	5.5
31	10.5	10.0	10.5	---	---	---	7.5	6.0	6.5	5.5	5.5	5.5
MONTH	19.5	10.0	15.5	12.0	5.5	8.5	10.5	5.5	8.0	8.5	5.5	7.5

14151000 FALL CREEK BELOW WINBERRY CREEK, NEAR FALL CREEK, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	4.5	5.5	9.0	5.5	7.0	9.5	7.5	8.0	10.0	8.5	9.0
2	5.5	3.5	4.5	8.5	6.5	7.0	8.5	7.5	8.0	9.5	9.0	9.0
3	5.0	4.0	4.5	8.5	7.0	7.5	10.5	7.5	8.0	11.0	9.0	10.0
4	6.0	4.5	5.0	8.0	7.0	7.5	8.5	7.5	8.0	12.0	10.0	11.0
5	6.0	4.5	5.5	8.5	7.0	7.5	10.0	7.5	8.5	12.0	10.0	11.0
6	6.0	5.5	6.0	9.0	7.0	7.5	11.0	7.5	9.0	12.5	10.0	11.0
7	7.5	6.0	7.0	10.0	7.5	8.0	10.5	8.0	9.0	12.0	10.0	11.0
8	7.5	6.5	7.0	10.0	7.0	8.0	9.5	8.0	8.0	12.0	10.0	11.0
9	8.0	6.0	7.0	8.0	7.0	7.5	8.0	7.5	8.0	12.5	10.0	11.5
10	6.0	5.5	5.5	8.0	7.0	7.5	8.0	7.5	7.5	14.0	10.0	11.5
11	6.0	5.5	6.0	7.0	6.5	6.5	8.0	7.5	7.5	14.5	10.5	11.5
12	6.5	6.0	6.5	7.0	6.5	6.5	8.0	7.5	7.5	13.5	10.5	11.5
13	7.0	6.5	6.5	7.0	6.5	6.5	8.5	7.5	8.0	12.0	11.0	11.5
14	7.0	7.0	7.0	7.0	6.5	7.0	8.5	7.5	8.0	11.5	9.0	10.5
15	7.0	7.0	7.0	7.5	6.5	7.0	8.5	7.5	8.0	9.5	8.0	8.5
16	7.5	7.0	7.5	7.5	7.0	7.0	11.0	7.5	8.5	8.5	8.0	8.0
17	7.5	7.5	7.5	7.5	6.5	7.0	10.0	8.0	9.0	8.5	8.0	8.5
18	7.5	7.0	7.5	8.0	7.0	7.5	8.5	8.0	8.0	8.5	8.0	8.5
19	7.5	7.5	7.5	8.0	7.0	7.5	8.5	8.0	8.5	8.5	8.5	8.5
20	7.5	7.5	7.5	8.5	7.0	7.5	10.5	8.5	9.0	9.0	8.5	8.5
21	7.5	7.5	7.5	8.5	7.0	7.5	11.5	10.0	11.0	9.0	8.5	9.0
22	7.5	7.0	7.5	8.5	7.0	7.5	10.5	7.5	9.0	9.0	8.5	9.0
23	7.0	7.0	7.0	8.5	7.0	7.5	7.5	7.5	7.5	9.0	8.5	9.0
24	7.0	6.5	7.0	8.0	7.0	7.5	7.5	7.5	7.5	9.0	9.0	9.0
25	6.5	6.0	6.5	8.5	6.5	8.0	7.5	7.5	7.5	9.5	9.0	9.0
26	7.0	5.5	6.0	10.5	6.5	8.0	7.5	7.5	7.5	9.5	9.5	9.5
27	6.5	5.5	6.0	8.0	7.0	7.5	8.0	7.5	8.0	10.0	9.5	10.0
28	7.0	5.5	6.0	9.5	7.0	8.0	8.5	8.0	8.0	10.0	9.5	10.0
29	8.0	5.5	6.5	9.0	7.0	8.0	9.5	8.5	9.0	10.0	9.5	10.0
30	---	---	---	10.0	7.0	8.0	9.5	8.5	9.0	11.0	10.0	10.5
31	---	---	---	8.0	7.5	7.5	---	---	---	11.0	10.0	10.5
MONTH	8.0	3.5	6.5	10.5	5.5	7.5	11.5	7.5	8.5	14.5	8.0	10.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.0	10.0	10.5	14.5	13.5	14.0	12.0	11.5	12.0	11.5	11.0	11.0
2	12.0	10.5	11.0	14.5	13.5	14.0	12.0	11.5	12.0	11.5	11.0	11.0
3	13.0	12.0	12.0	14.5	13.5	14.0	12.5	11.5	12.0	11.0	10.5	11.0
4	12.5	12.0	12.0	14.5	13.5	14.0	12.5	11.5	12.0	11.0	10.5	10.5
5	13.0	11.5	12.0	14.5	13.5	14.0	12.5	12.0	12.0	11.0	10.5	11.0
6	13.0	12.0	12.5	15.0	14.0	14.5	13.0	12.0	12.5	11.0	11.0	11.0
7	12.5	12.0	12.0	15.0	14.0	14.5	13.0	12.0	12.5	11.5	11.0	11.5
8	13.0	11.5	12.5	15.0	14.0	14.5	13.0	12.0	12.5	11.5	11.5	11.5
9	13.0	12.0	12.5	15.0	14.0	14.5	13.0	12.5	12.5	12.0	11.5	11.5
10	13.0	12.0	12.5	15.0	14.0	14.5	13.0	12.5	13.0	12.0	12.0	12.0
11	13.5	12.0	12.5	15.5	14.0	14.5	13.5	12.5	12.5	12.5	12.0	12.0
12	13.5	12.0	12.5	15.5	14.5	15.0	13.5	12.5	13.0	12.5	12.0	12.5
13	13.0	12.0	12.5	16.0	14.5	15.0	13.5	12.5	13.0	12.5	12.5	12.5
14	14.0	12.0	12.5	15.5	14.5	15.0	13.5	12.5	13.0	12.5	12.5	12.5
15	13.5	12.5	13.0	15.5	14.5	15.0	13.5	12.5	13.0	12.5	12.5	12.5
16	13.0	12.5	12.5	15.5	14.5	15.0	13.5	11.5	12.5	12.5	12.5	12.5
17	13.5	12.5	12.5	15.0	14.0	15.0	12.0	11.5	12.0	12.5	12.5	12.5
18	13.5	12.5	13.0	15.5	14.0	15.0	12.5	11.5	12.0	13.5	12.5	13.0
19	13.5	12.5	13.0	16.0	14.5	15.0	12.5	10.5	11.5	13.5	12.5	13.0
20	14.0	12.5	13.0	16.0	14.5	15.5	11.0	10.5	10.5	12.5	11.5	12.0
21	14.0	12.5	13.0	16.0	15.0	15.5	11.0	10.5	10.5	12.5	12.0	12.0
22	14.0	13.0	13.5	16.0	14.5	15.5	11.0	10.5	10.5	13.0	12.5	13.0
23	13.5	12.5	13.0	14.5	11.0	12.5	11.0	10.5	10.5	14.0	13.0	13.5
24	13.5	13.0	13.0	12.0	11.0	11.0	11.0	10.5	10.5	15.0	14.0	14.5
25	14.0	12.5	13.5	12.0	11.0	11.5	11.0	10.5	10.5	16.0	15.0	15.5
26	14.0	13.0	13.5	12.0	11.0	11.5	11.0	10.5	10.5	16.5	16.0	16.5
27	14.0	12.5	13.5	12.0	11.0	11.5	11.0	10.5	10.5	17.5	16.5	17.0
28	14.0	13.0	13.5	12.0	11.0	11.5	11.0	10.5	11.0	17.5	17.5	17.5
29	14.5	13.0	13.5	12.0	11.0	11.5	11.0	10.5	11.0	18.0	17.5	18.0
30	14.5	13.5	14.0	12.0	11.5	11.5	11.0	10.5	11.0	18.0	18.0	18.0
31	---	---	---	12.0	11.5	11.5	11.5	11.0	11.0	---	---	---
MONTH	14.5	10.0	12.5	16.0	11.0	14.0	13.5	10.5	11.5	18.0	10.5	13.0
YEAR	19.5	3.5	10.0									

14152000 MIDDLE FORK WILLAMETTE RIVER AT JASPER, OR

LOCATION.--Lat 43°59'54", long 122°54'17", in SW 1/4 SW 1/4 sec.14, T.18 S., R.2 W., Lane County, Hydrologic Unit 17090001, on right bank 25 ft downstream from highway bridge at Jasper, 0.1 mi downstream from Hills Creek, and at mile 195.0.

DRAINAGE AREA.--1,340 mi^2.

PERIOD OF RECORD.--September 1905 to February 1912, July 1913 to March 1917, October 1952 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1288: 1907-8, 1910-12, 1914-16, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 513.45 ft above sea level. September 1905 to February 1912 and July 1913 to March 1917, nonrecording gage at approximately same site at datum about 1.5 ft higher Oct. 22, 1952, to Sept. 30, 1953, nonrecording gage at site 25 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1953 by Lookout Point Lake (station 14149000), since 1961 by Hills Creek Lake (station 14145100), and since 1966 by Fall Creek Lake (station 14150900). Continuous water-quality records for the period October 1953 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--53 years (water years 1906-11, 1914-16, 1953-96), 4,050 ft^3/s, 2,934,000 acre-ft/yr.
30 years (water years 1967-96), 4,037 ft^3/s, 2,925,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft^3/s Nov. 23, 1909, gage height, 17.4 ft, datum then in use, from graph based on gage readings, from rating curve extended above 42,000 ft^3/s; minimum discharge, 366 ft^3/s Dec. 5, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,000 ft^3/s Dec. 17, gage height, 9.61 ft; minimum discharge, 1,570 ft^3/s Mar. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4000	4590	9070	11500	4170	3170	2240	4090	3990	2370	2910	2880
2	3950	4540	9080	13800	2280	2260	2090	3730	3690	2150	2900	2890
3	3960	4500	9980	13700	1990	2140	2040	3870	3610	2050	2930	3190
4	3990	5270	12800	13800	2080	2410	2000	3680	3220	1870	2920	3640
5	3930	6300	14300	13300	2390	2550	1870	3030	3180	1890	2890	3650
6	3750	6500	15400	15900	4400	2650	1730	2210	3160	1910	2880	3650
7	3590	6800	18800	17300	7140	2830	1690	1770	3140	1910	2880	3660
8	3570	6880	19400	17200	5150	2820	1730	1740	2060	1920	2880	3670
9	3560	7700	15600	18300	6710	2810	1820	1720	1830	1920	2870	3650
10	3480	7900	12500	17300	5930	2750	1810	1660	1800	1870	2850	3630
11	3440	8490	14300	12300	13100	2950	1830	2120	1610	1930	2860	3620
12	3490	12000	11900	11200	14400	4020	1990	2710	1590	1950	2870	3620
13	3380	12000	11500	9850	17600	4690	2210	3310	2080	2170	2870	3610
14	3320	10800	13200	9440	19300	5440	2170	4670	2100	2190	2860	3650
15	3310	9110	10800	10600	19100	4800	2140	9990	2110	2190	2870	3790
16	3180	8210	16100	11600	18800	3740	2760	14700	2110	2190	2800	3780
17	2850	7040	19000	11100	18100	2980	3620	15000	2110	2330	2930	3720
18	2890	4240	20100	10900	13600	2780	4680	15400	2120	2370	2940	3510
19	2880	3790	19100	11500	12900	2110	4840	15500	2110	2370	2950	3400
20	2890	2920	19200	9380	16400	1920	4800	13900	2100	2660	2960	3850
21	2900	2570	19200	7510	17400	1980	4590	11200	2100	2690	2950	3920
22	2910	3440	18200	14100	15200	1830	5130	13400	2420	2700	2940	3870
23	3430	4310	10700	13900	11800	1790	7020	14500	2480	2810	2930	3870
24	4240	4880	9240	14100	7240	1770	9830	12900	2570	2840	2910	3890
25	4570	6180	6650	13500	6140	1740	13600	9580	2390	2850	2910	3870
26	4730	8960	6420	12600	5640	1600	14100	7470	2380	2840	2920	3850
27	4870	11300	6330	12100	4620	1590	13100	7020	2430	2800	2920	3860
28	4750	12000	6340	12500	4490	1600	9880	5540	2490	2700	2900	3870
29	4670	14000	7890	10900	4440	1600	5920	5380	2410	2880	2880	3850
30	4630	11300	8200	7460	---	1590	4950	5040	2440	2920	2880	3830
31	4610	---	9220	6630	---	1760	---	5010	---	2940	2900	---
TOTAL	115720	218520	400520	385270	282510	80670	138180	221840	73830	73180	89860	109740
MEAN	3733	7284	12920	12430	9742	2602	4606	7156	2461	2361	2899	3658
MAX	4870	14000	20100	18300	19300	5440	14100	15500	3990	2940	2960	3920
MIN	2850	2570	6330	6630	1990	1590	1690	1660	1590	1870	2800	2880
AC-FT	229500	433400	794400	764200	560400	160000	274100	440000	146400	145200	178200	217700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	3888	6190	7456	6424	3998	3296	3014	3316	2875	1971	2453	3542
MAX	5392	12730	14630	12430	9742	10550	6834	7156	6746	2562	3395	4823
(WY)	1985	1985	1978	1996	1996	1972	1993	1996	1984	1969	1993	1984
MIN	1586	2618	1517	1327	787	1111	729	844	1187	1248	1766	1830
(WY)	1993	1988	1977	1977	1977	1977	1977	1973	1977	1978	1984	1968

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	1793180		2189840			
ANNUAL MEAN	4913		5983		4037	
HIGHEST ANNUAL MEAN					6215	1972
LOWEST ANNUAL MEAN					1877	1977
HIGHEST DAILY MEAN	20100	Dec 18	20100	Dec 18	20900	Feb 27 1986
LOWEST DAILY MEAN	1410	Apr 4	1590	Mar 27	536	Apr 30 1977
ANNUAL SEVEN-DAY MINIMUM	1480	Mar 30	1640	Mar 25	555	Apr 24 1977
ANNUAL RUNOFF (AC-FT)	3557000		4344000		2925000	
10 PERCENT EXCEEDS	11300		13900		8020	
50 PERCENT EXCEEDS	3450		3680		3020	
90 PERCENT EXCEEDS	1730		1990		1520	

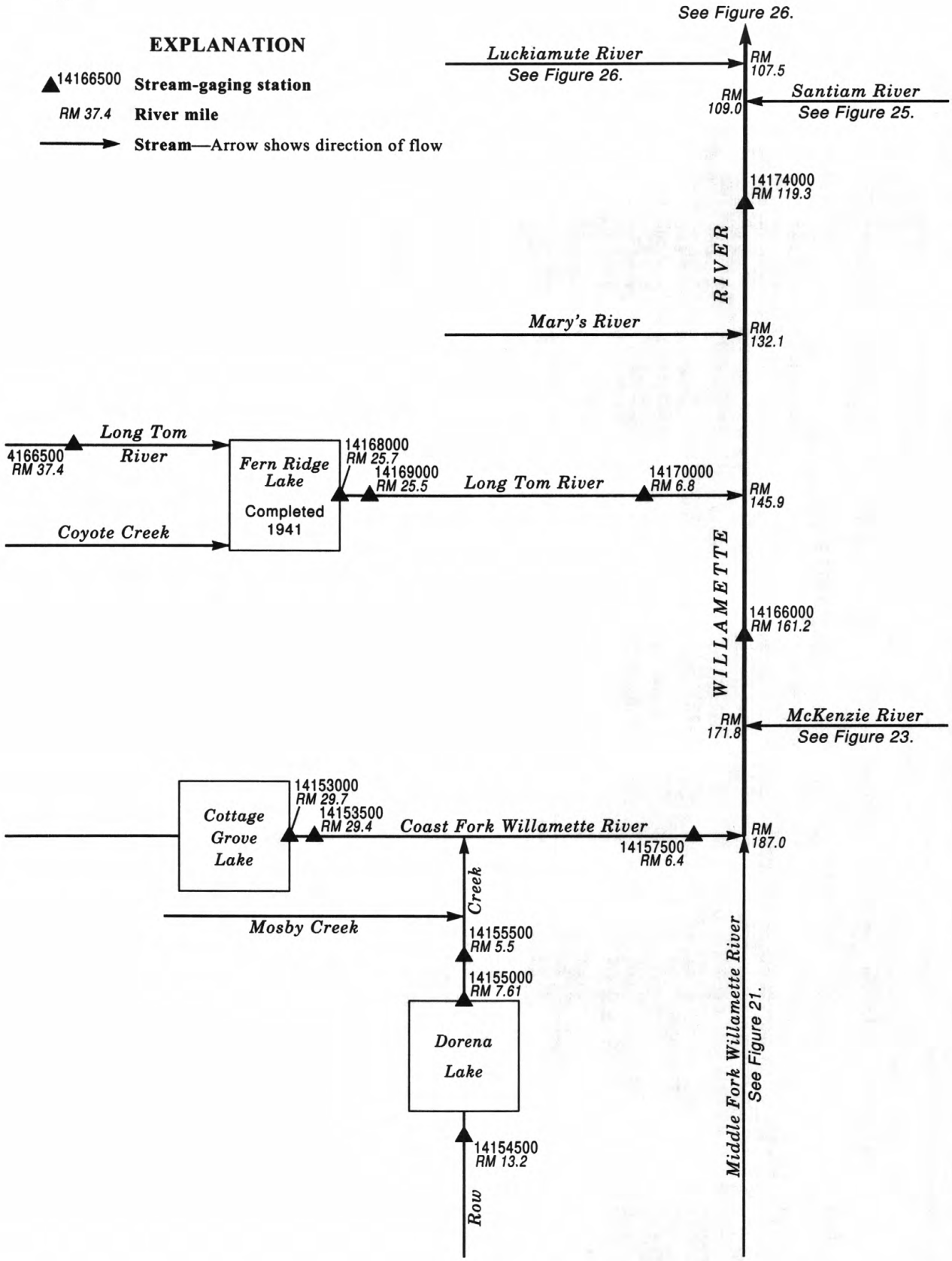


Figure 22. Schematic diagram showing gaging stations in the Long Tom, Coast Fork Willamette and upper Willamette River Basins.

14153000 COTTAGE GROVE LAKE NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°43'00", long 123°02'55", in NE 1/4 sec.28, T.21 S., R.3 W., Lane County, Hydrologic Unit 17090002, in east abutment of dam on Coast Fork Willamette River 5.8 mi south of Cottage Grove, and at mile 29.7.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--October 1942 to current year. Prior to October 1971, published as Cottage Grove Reservoir near Cottage Grove.

REVISED RECORDS.--WSP 1218: 1950.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by earthfill dam with concrete spillway completed by Corps of Engineers in 1942; storage began Oct. 31, 1942. Capacity, 32,930 acre-ft between elevation 719.0 ft, outlet conduit, and 791.0 ft, crest of spillway. Dead storage negligible. Reservoir used for flood control and improvement of navigation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 36,750 acre-ft Dec. 24, 1964, elevation, 794.23 ft; minimum contents since first filling, no contents Sept. 26 to Oct. 19, 1966, and Nov. 14, 15, Nov. 20 to Dec. 8, 1969.

EXTREMES FOR CURRENT YEAR.-- Maximum contents, 32,170 acre-ft June 8-10, elevation, 790.34 ft; minimum contents, 2,920 acre-ft Nov. 12, elevation, 749.22 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

710.9	0	755	4,860	780	21,460
730	151	760	7,150	785	26,370
740	926	765	9,970	790	31,780
745	1,840	770	13,260	793	35,270
750	3,140	775	17,070		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	774.80	751.59	757.53	750.91	754.78	---	779.56	785.82	790.13	790.24	789.36	786.91
2	773.98	751.42	758.52	750.54	755.87	---	780.85	786.06	790.16	790.25	789.29	786.82
3	773.20	751.23	758.32	750.73	756.62	---	781.48	786.32	790.23	790.26	789.23	786.74
4	772.42	751.04	758.45	---	757.58	---	781.49	786.55	790.29	790.26	789.16	786.66
5	771.57	750.87	759.81	---	757.93	769.19	781.34	786.74	790.28	790.27	789.09	786.48
6	770.71	750.71	760.10	---	762.67	769.78	781.08	786.91	790.30	790.27	789.02	786.18
7	769.84	750.59	758.71	---	768.26	770.02	780.77	787.07	790.33	790.26	788.95	785.86
8	768.95	750.72	756.99	---	772.30	770.12	780.72	787.19	790.34	790.26	788.88	785.52
9	768.02	751.36	756.63	753.59	778.54	770.10	781.00	787.31	790.34	790.25	788.80	785.19
10	767.02	751.31	755.47	755.38	780.40	769.95	781.34	787.42	790.33	790.24	788.73	784.85
11	766.35	751.98	754.11	754.76	776.68	770.23	781.74	787.52	790.30	790.23	788.65	784.52
12	765.66	749.45	759.49	753.49	772.25	770.74	782.29	787.62	790.29	790.22	788.57	784.18
13	764.75	749.97	764.22	753.72	767.70	771.09	782.69	787.80	790.29	790.20	788.49	783.85
14	763.76	749.93	767.02	754.10	764.89	771.44	782.96	788.19	790.28	790.19	788.41	783.59
15	762.65	749.91	768.98	754.39	763.94	771.99	783.20	788.90	790.26	790.17	788.33	783.37
16	761.50	749.98	768.02	754.94	764.03	772.55	783.47	788.83	790.23	790.15	788.24	783.02
17	760.32	750.20	765.65	755.85	764.50	773.03	783.51	789.30	790.21	790.17	788.15	782.56
18	759.15	750.72	762.75	756.43	765.08	773.45	783.55	789.99	790.18	790.17	788.07	782.06
19	757.91	751.08	759.19	760.47	765.69	773.82	783.68	790.25	790.15	790.14	787.98	781.55
20	756.75	751.42	756.14	771.17	765.48	774.14	783.88	790.04	790.11	790.09	787.90	781.01
21	755.69	751.66	754.58	774.84	765.41	774.47	784.23	790.00	790.09	790.03	787.82	780.47
22	754.60	751.83	753.84	772.21	765.06	774.87	784.51	789.93	790.08	789.98	787.74	779.91
23	753.73	751.68	753.14	769.06	766.40	775.22	784.73	789.84	790.14	789.93	787.66	779.35
24	753.01	751.34	752.25	765.60	767.51	775.53	785.70	789.92	790.20	789.87	787.58	778.79
25	752.49	752.37	751.17	758.86	767.49	775.79	785.63	789.95	790.25	789.81	787.50	778.23
26	752.23	751.89	751.01	752.77	767.00	776.04	785.51	790.01	790.27	789.75	787.41	777.66
27	752.16	750.51	751.11	753.58	766.62	776.28	785.58	790.04	790.29	789.69	787.34	777.09
28	752.11	750.91	751.10	754.38	---	776.55	785.62	790.09	790.29	789.64	787.26	776.48
29	752.01	750.35	752.46	753.93	e766.17	776.78	785.66	790.09	790.27	789.58	787.18	775.85
30	751.89	752.71	756.42	753.35	---	776.99	785.69	790.16	790.25	789.51	787.09	775.22
31	751.75	---	754.50	753.60	---	777.72	---	790.17	---	789.43	787.00	---
MAX	774.80	752.71	768.98	---	---	---	785.70	790.25	790.34	790.27	789.36	786.91
MIN	751.75	749.45	751.01	---	---	---	779.56	785.82	790.08	789.43	787.00	775.22
(†)	3680	4010	4670	4330	10700	19390	27090	31980	32070	31140	28470	17260
(‡)	-13880	+330	+660	-340	+6370	+8690	+7700	+4890	+90	-930	-2670	-11210

CAL YR 1995 MAX --- MIN --- AC-FT‡ +1470
WTR YR 1996 MAX 790.34 MIN 749.45 AC-FT‡ -300

e Estimated
† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14153500 COAST FORK WILLAMETTE RIVER BELOW COTTAGE GROVE DAM, OR

LOCATION.--Lat 43°43'15", long 123°02'55", in NE 1/4 sec.28, T.21 S., R.3 W., Lane County, Hydrologic Unit 17090002, on right bank at bridge 0.3 mi downstream from Cottage Grove Dam, 5.5 mi south of Cottage Grove, and at mile 29.4.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--January 1939 to current year. Prior to October 1944, published as "near Cottage Grove."

REVISED RECORDS.--WSP 1448: 1949(M).

GAGE.--Water-stage recorder. Datum of gage is 711.00 ft above sea level (Corps of Engineers bench mark). Jan. 1 to Oct. 12, 1939, nonrecording gage and Oct. 13, 1939, to Sept. 30, 1944, water-stage recorder at several sites and datums 0.8 mi downstream.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1942 by Cottage Grove Lake (station 14153000). Small diversions for irrigation upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years (water years 1940-96), 264 ft^3/s, 34.47 in/yr, 191,300 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft^3/s Dec. 24, 1964, gage height, 11.83 ft; no flow July 5-7, 1945, and for part of Aug. 24, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,060 ft^3/s Jan. 24, gage height, 8.76 ft; minimum discharge, 30 ft^3/s many days in July.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	347	57	620	1180	410	494	65	186	205	51	54	52
2	344	57	635	533	319	494	64	95	152	30	54	52
3	342	57	635	416	322	495	230	62	109	30	54	52
4	340	57	635	465	332	500	409	62	109	30	52	52
5	337	57	642	429	770	508	409	62	143	30	52	105
6	333	56	870	297	480	509	406	62	107	30	50	176
7	331	55	998	333	125	509	406	62	109	30	52	196
8	327	72	974	397	130	509	258	62	109	30	52	196
9	337	125	964	665	153	508	87	62	109	30	52	196
10	346	161	951	690	549	506	59	62	109	30	52	195
11	345	366	931	795	2450	392	60	62	109	30	52	193
12	342	1090	988	747	2340	317	131	63	100	30	52	193
13	338	494	1070	397	2050	320	190	63	92	30	52	193
14	334	304	1090	365	1290	257	190	155	92	30	52	193
15	345	207	1130	676	682	135	191	566	92	30	52	193
16	346	146	1370	761	370	80	253	785	92	30	52	261
17	342	101	1480	579	289	80	390	578	92	31	52	294
18	338	76	1420	692	441	80	354	512	92	30	52	291
19	331	74	1360	848	805	80	297	627	92	47	52	291
20	296	55	1050	129	981	80	255	708	92	57	52	288
21	264	55	660	1200	1010	68	198	730	73	57	52	288
22	259	56	460	2410	906	57	321	972	70	53	52	285
23	207	108	414	2300	657	57	496	791	70	50	52	285
24	168	161	409	2640	571	57	615	537	70	51	52	283
25	132	383	402	2910	690	58	807	444	70	52	52	281
26	102	829	233	2090	716	58	651	350	70	52	52	281
27	77	692	191	1400	623	59	426	302	70	52	52	278
28	57	566	235	1290	580	59	362	255	70	52	52	292
29	57	560	360	1230	529	59	310	248	70	52	52	291
30	57	574	136	995	---	59	265	185	70	52	52	290
31	57	---	1350	690	---	60	---	201	---	53	52	---
TOTAL	8178	7651	24663	30549	21570	7504	9155	9911	2909	1242	1616	6516
MEAN	264	255	796	985	744	242	305	320	97.0	40.1	52.1	217
MAX	347	1090	1480	2910	2450	509	807	972	205	57	54	294
MIN	57	55	136	129	125	57	59	62	70	30	50	52
AC-FT	16220	15180	48920	60590	42780	14880	18160	19660	5770	2460	3210	12920
MEAN†	38.1	261	806	980	854	383	435	399	98.5	24.9	8.78	28.7
CFSM†	0.36	2.51	7.75	9.42	8.21	3.68	4.18	3.84	0.95	0.24	0.08	0.28
IN.†	0.42	2.80	8.94	10.87	8.86	4.25	4.66	4.43	1.06	0.28	0.10	0.31
AC-FT†	2340	15510	49580	60250	49150	23570	25860	24550	5860	1530	540	1710

CAL YR 1995 TOTAL 103268 MEAN 283 MAX 2010 MIN 48 AC-FT 204800 MEAN† 285 CFSM† 2.74 IN.† 37.20 AC-FT† 206270
WTR YR 1996 TOTAL 131464 MEAN 359 MAX 2910 MIN 30 AC-FT 260800 MEAN† 359 CFSM† 3.45 IN.† 46.98 AC-FT† 260500

† Adjusted for change in contents, in Cottage Grove Lake.

14154500 ROW RIVER ABOVE PITCHER CREEK, NEAR DORENA, OR

LOCATION.--Lat 43°44'10", long 122°52'20", in NE 1/4 sec.24, T.21 S., R.2 W., Lane County, Hydrologic Unit 17090002, on right bank 0.5 mi upstream from Pitcher Creek, 1.2 mi northwest of Dorena, and at mile 13.2.

DRAINAGE AREA.--211 mi^2.

PERIOD OF RECORD.--September 1935 to current year. Prior to October 1949, published as "at Star."

GAGE.--Water-stage recorder. Datum of gage is 856.16 ft above sea level. Sept. 16, 1935, to Oct. 17, 1938, nonrecording gage at site 450 ft upstream at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Slight regulation caused by upstream logponds. No diversions upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years (water years 1936-96), 591 ft^3/s, 38.09 in/yr, 428,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft^3/s Dec. 22, 1964, gage height, 18.19 ft, from rating curve extended above 12,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum discharge, 10 ft^3/s Sept. 24, 25, 1951, Oct. 7, 8, 1958.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1230	7,100	9.15	Feb. 7	0100	8,050	9.57
Dec. 13	0300	7,840	9.48	Feb. 9	0700	*10,600	*10.58
Jan. 20	1700	7,630	9.39				

Minimum discharge, 18 ft^3/s Sept. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	73	4930	1920	960	691	2200	492	336	136	39	20
2	54	65	2900	1220	815	880	1800	441	307	121	38	20
3	60	60	1610	915	708	1340	1350	395	283	111	41	20
4	175	56	1900	917	1400	1770	933	356	261	108	39	19
5	90	56	2200	800	3330	1750	700	322	242	105	37	19
6	63	65	2960	788	7240	1210	587	294	224	95	37	20
7	51	120	1970	793	6780	976	535	275	210	89	35	20
8	45	146	1520	1670	5300	1100	502	257	202	84	33	20
9	42	842	2630	2620	8440	1230	482	240	190	80	31	19
10	40	629	2280	2970	3920	1040	496	227	178	79	30	19
11	196	1150	1540	1690	2480	1080	558	215	167	75	29	19
12	516	3250	4950	1130	1920	1310	870	211	159	72	28	19
13	236	2040	6240	820	1600	1080	1020	222	152	69	27	19
14	141	1020	3720	670	1330	839	851	641	146	66	26	22
15	101	630	4580	1040	1110	677	731	3800	138	68	25	82
16	80	455	2470	1500	969	564	893	3610	132	63	24	154
17	69	349	1630	1350	967	492	989	3060	131	65	24	144
18	111	505	1200	1320	1380	445	838	3050	129	87	24	68
19	100	463	911	3180	2150	421	814	3070	119	75	23	47
20	78	356	722	5320	1580	388	746	2070	113	65	23	42
21	75	297	592	4090	1420	355	709	1650	109	60	23	37
22	88	261	505	2080	1210	361	979	3090	106	57	22	34
23	79	228	435	1500	1150	343	2100	2670	126	55	22	31
24	68	262	383	1790	1060	322	5300	1870	189	51	22	30
25	62	1660	340	1280	846	294	2860	1300	152	48	21	28
26	183	3450	309	967	699	273	1770	929	133	46	22	27
27	257	2100	287	2100	608	265	1210	712	318	44	24	26
28	167	4700	286	2190	565	277	880	577	255	44	25	26
29	123	2070	1360	1540	554	268	687	494	196	47	24	24
30	99	3280	3380	1160	---	258	568	428	159	43	22	23
31	84	---	3910	972	---	475	---	375	---	40	21	---
TOTAL	3605	30638	64650	52302	62491	22774	34958	37343	5562	2248	861	1098
MEAN	116	1021	2085	1687	2155	735	1165	1205	185	72.5	27.8	36.6
MAX	516	4700	6240	5320	8440	1770	5300	3800	336	136	41	154
MIN	40	56	286	670	554	258	482	211	106	40	21	19
AC-FT	7150	60770	128200	103700	124000	45170	69340	74070	11030	4460	1710	2180
CFSM	.55	4.84	9.88	8.00	10.2	3.48	5.52	5.71	.88	.34	.13	.17
IN.	.64	5.40	11.40	9.22	11.02	4.02	6.16	6.58	.98	.40	.15	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1996, BY WATER YEAR (WY)

MEAN	155	751	1140	1160	1094	995	834	563	276	76.8	37.8	45.7
MAX	1152	2569	4114	2606	2321	2168	2161	1333	847	236	107	259
(WY)	1951	1974	1965	1971	1986	1972	1937	1963	1993	1983	1976	1978
MIN	12.8	19.2	58.0	86.0	81.1	159	290	116	52.1	26.3	15.0	15.7
(WY)	1988	1937	1977	1977	1977	1992	1941	1987	1987	1940	1940	1951

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1936 - 1996	
ANNUAL TOTAL	267577		318530			
ANNUAL MEAN	733		870		591	
HIGHEST ANNUAL MEAN					1008	1974
LOWEST ANNUAL MEAN					233	1977
HIGHEST DAILY MEAN	8900	Jan 14	8440	Feb 9	23800	Dec 22 1964
LOWEST DAILY MEAN	19	Sep 22	19	Sep 4	11	Sep 24 1951
ANNUAL SEVEN-DAY MINIMUM	21	Sep 18	19	Sep 7	11	Oct 21 1987
ANNUAL RUNOFF (AC-FT)	530700		631800		428500	
ANNUAL RUNOFF (CFSM)	3.47		4.12		2.80	
ANNUAL RUNOFF (INCHES)	47.17		56.16		38.09	
10 PERCENT EXCEEDS	1930		2340		1420	
50 PERCENT EXCEEDS	340		338		276	
90 PERCENT EXCEEDS	36		27		27	

14155000 DORENA LAKE NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°47'10", long 122°57'15", in SE 1/4 sec.32, T.20 S., R.2 W., Lane County, Hydrologic Unit 17090002, on left end of Dorena Dam on Row River, 5.0 mi east of Cottage Grove, and at mile 7.61.

DRAINAGE AREA.--265 mi^2.

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1971, published as Dorena Reservoir near Cottage Grove.

REVISED RECORDS.--WRD OR-78-1: 1969.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with concrete outlet and spillway, completed in 1949 by Corps of Engineers; controlled storage began Oct. 11, 1949. Capacity, 77,580 acre-ft between elevations 739.0 ft, sill of outlet gates, and 835.0 ft, crest of spillway. Dead storage, 18 acre-ft below elevation 739.0 ft. Reservoir used for flood control and improvement of navigation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 95,550 acre-ft Dec. 23, 1964, elevation, 844.03 ft; minimum contents observed since first filling, 159 acre-ft Dec. 14, 1970, elevation, 743.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 73,060 acre-ft June 10, 11, elevation, 832.55 ft; minimum contents, 6,480 acre-ft Dec. 26, elevation, 769.29 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

760	2,810	785	15,850	810	39,380	835	77,600
765	4,560	790	19,580	815	45,620	840	87,320
770	6,840	795	23,780	820	52,480		
775	9,540	800	28,490	825	60,060		
780	12,530	805	33,700	830	68,470		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811.93	773.09	789.51	782.83	778.60	796.85	814.77	826.30	832.19	832.12	831.06	828.21
2	810.75	772.56	790.51	777.67	779.76	798.27	817.56	826.42	832.07	832.16	830.97	828.12
3	809.67	772.09	788.62	773.47	780.48	800.68	819.19	826.67	832.27	832.18	830.90	827.98
4	808.73	771.86	788.42	771.79	783.04	802.73	819.59	826.96	832.30	832.19	830.84	827.92
5	807.64	771.68	789.31	770.11	785.74	803.90	819.49	827.21	832.35	832.19	830.77	827.66
6	806.49	771.58	789.24	769.81	800.23	803.72	819.16	827.40	832.42	832.20	830.67	827.07
7	805.28	771.53	785.82	769.30	812.56	802.91	818.73	827.57	832.48	832.18	830.58	826.76
8	804.06	771.56	781.44	771.81	820.36	802.21	818.67	827.71	832.52	832.16	830.51	826.26
9	802.76	772.34	782.61	775.14	829.83	801.22	819.15	827.81	832.53	832.15	830.43	825.76
10	801.37	771.19	782.76	778.68	829.46	799.86	819.76	827.90	832.53	832.12	830.33	825.28
11	800.48	774.08	781.51	777.32	827.20	799.99	820.37	827.97	832.53	832.08	830.25	824.77
12	799.82	776.59	794.05	774.80	824.01	801.29	821.13	828.06	832.51	832.07	830.13	824.26
13	798.25	774.85	804.17	774.96	819.99	802.05	821.85	828.23	832.48	832.05	830.06	823.77
14	796.44	771.51	807.72	775.47	815.34	802.76	822.31	828.85	832.44	831.98	829.94	823.34
15	794.50	770.77	811.02	776.90	809.92	803.78	822.65	831.87	832.39	831.96	829.86	823.03
16	792.46	770.47	809.36	778.26	803.86	804.78	823.12	832.03	832.34	831.91	829.75	822.70
17	790.42	770.32	805.56	778.08	798.07	805.60	823.33	831.92	832.28	831.91	829.65	822.25
18	788.44	771.32	800.07	778.50	795.77	806.28	823.12	831.95	832.22	831.88	829.57	821.69
19	786.40	770.92	793.53	784.07	796.27	806.86	822.98	831.95	832.15	831.87	829.46	821.10
20	784.70	770.63	786.88	798.66	795.03	807.39	822.94	831.52	832.08	831.84	829.37	820.34
21	783.43	770.63	781.02	804.62	793.61	807.83	822.98	831.93	831.98	831.77	829.28	819.47
22	782.10	770.45	777.27	802.61	792.52	808.27	823.27	832.35	831.91	831.72	829.16	818.58
23	780.77	770.27	775.06	799.22	793.40	808.70	824.06	832.07	831.88	831.69	829.08	817.66
24	779.41	770.52	772.33	795.44	794.27	809.05	828.03	832.16	831.97	831.62	828.97	816.64
25	778.06	775.25	769.35	788.37	794.49	809.23	827.14	832.16	831.90	831.56	828.90	815.64
26	777.04	776.27	769.33	781.08	794.25	809.53	826.11	832.06	831.89	831.47	828.78	814.62
27	776.38	774.88	769.52	780.10	794.45	809.78	826.25	832.18	832.06	831.41	828.72	813.59
28	775.61	780.59	769.62	779.76	795.16	810.03	826.35	832.24	832.16	831.35	828.63	812.55
29	774.70	776.76	774.46	777.77	795.83	810.26	826.33	832.18	832.18	831.28	828.33	811.47
30	774.00	780.10	785.51	776.79	---	810.47	826.33	832.27	832.15	831.23	828.43	810.41
31	773.60	---	786.99	777.11	---	811.18	---	832.25	---	831.14	828.33	---
MAX	811.93	780.59	811.02	804.62	829.83	811.18	828.03	832.35	832.53	832.20	831.06	828.21
MIN	773.60	770.27	769.33	769.30	778.60	796.85	814.77	826.30	831.88	831.14	828.33	810.41
(†)	8760	12590	17280	10770	24530	40800	62220	72510	72330	70500	65570	39870
(‡)	-34250	+3830	+4690	-6510	+13760	+16270	+21420	+10290	-180	-1830	-4930	-25700

CAL YR 1995 MAX 832.33 MIN 769.33 AC-FT‡ +10270
WTR YR 1996 MAX 832.53 MIN 769.30 AC-FT‡ -3140

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14155500 ROW RIVER NEAR COTTAGE GROVE, OR

LOCATION.--Lat 43°47'35", long 122°59'25", in NE 1/4 sec.36, T.20 S., R.3 W., Lane County, Hydrologic Unit 17090002, on right bank 1.7 mi upstream from Mosby Creek, 2.1 mi downstream from Dorena Dam, 3.5 mi east of Cottage Grove, and at mile 5.5.

DRAINAGE AREA.--270 mi^2.

PERIOD OF RECORD.--January 1939 to current year. Prior to October 1947, published as "near Dorena."

GAGE.--Water-stage recorder. Datum of gage is 685.24 ft above sea level (levels by Corps of Engineers). Jan. 5 to Oct. 12, 1939, nonrecording gage at site 180 ft upstream at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1949 by Dorena Lake (station 14155000). No diversion upstream from station.

AVERAGE DISCHARGE.--57 years (water years 1940-96), 740 ft^3/s, 37.22 in/yr, 536,100 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft^3/s Dec. 28, 1945, gage height, 18.20 ft; minimum discharge, 0.20 ft^3/s Sept. 25 to Oct. 7, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,140 ft^3/s Jan. 26, gage height, 8.28 ft; minimum discharge, 93 ft^3/s July 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	747	209	2730	3950	805	523	215	631	476	163	106	103
2	760	206	2880	3290	693	527	212	445	366	106	106	103
3	757	185	2850	2410	699	500	458	306	278	109	106	103
4	750	125	2830	1570	715	1130	851	203	278	109	106	104
5	745	125	2830	1410	2580	1540	946	191	239	108	106	207
6	737	125	3510	1090	2000	1640	942	191	202	106	106	369
7	731	166	3900	1150	599	1700	940	191	202	106	106	415
8	724	236	3710	1410	642	1840	677	191	202	106	106	412
9	742	862	3140	2290	2160	1960	287	191	202	106	106	412
10	764	1040	2570	2500	4990	1940	209	191	202	106	106	412
11	759	1080	2540	2520	4930	1290	290	191	202	106	106	410
12	911	3060	1760	2180	4930	913	506	191	202	106	106	408
13	1030	3030	1520	1050	4980	920	652	193	202	106	106	408
14	1010	2080	2650	805	4920	695	655	383	202	106	106	408
15	996	940	2750	1040	4920	344	656	1730	202	105	106	409
16	977	615	4010	1500	4790	198	725	4010	202	103	106	470
17	958	467	4470	1790	4240	198	987	3690	201	105	106	502
18	939	406	4780	1580	2770	198	1180	3530	200	105	106	499
19	918	618	4540	2140	2250	198	1090	3530	198	103	106	499
20	748	477	3880	582	2540	198	932	2840	198	103	106	589
21	565	342	3000	2030	2520	198	870	1710	198	103	105	667
22	556	342	1840	3890	2060	198	954	3270	198	103	106	662
23	532	299	1170	3900	1260	200	1780	3460	200	103	106	692
24	512	295	1160	4300	1090	202	2620	2170	202	106	106	724
25	502	1350	1030	4950	1100	202	3990	1590	200	106	106	718
26	495	3580	379	4240	1090	202	2970	1250	199	106	106	713
27	466	3480	324	3100	792	202	1340	808	202	106	106	708
28	398	3770	377	3020	517	202	993	703	202	106	106	703
29	385	3880	806	2720	521	202	811	674	202	106	105	697
30	294	2990	478	1900	---	202	779	466	202	106	103	691
31	209	---	3720	1230	---	207	---	478	---	106	103	---
TOTAL	21617	36380	78134	71537	68103	20669	30517	39598	6661	3330	3278	14217
MEAN	697	1213	2520	2308	2348	667	1017	1277	222	107	106	474
MAX	1030	3880	4780	4950	4990	1960	3990	4010	476	163	106	724
MIN	209	125	324	582	517	198	209	191	198	103	103	103
AC-FT	42880	72160	155000	141900	135100	41000	60530	78540	13210	6610	6500	28200
MEAN†	140	1280	2600	2200	2590	931	1380	1440	219	77.7	25.5	42.0
CFSM†	0.52	4.74	9.63	8.15	9.59	3.45	5.11	5.33	0.81	0.29	0.09	0.16
IN.†	0.60	5.28	11.09	9.40	10.34	3.98	5.69	6.17	0.90	0.33	0.11	0.17
AC-FT†	8630	75990	159690	135390	148860	57270	81950	88830	13030	4780	1570	2500

CAL YR 1995 TOTAL 328968 MEAN 901 MAX 4940 MIN 93 AC-FT 652500 MEAN† 915 CFSM† 3.39 IN.† 46.04 AC-FT† 662770
WTR YR 1996 TOTAL 394041 MEAN 1077 MAX 4990 MIN 103 AC-FT 781600 MEAN† 1070 CFSM† 3.96 IN.† 54.07 AC-FT† 778460

† Adjusted for change in contents in Dorena Lake.

14157500 COAST FORK WILLAMETTE RIVER NEAR GOSHEN, OR

LOCATION.--Lat 43°58'50", long 122°57'55", in NW 1/4 sec.29, T.18 S., R.2 W., Lane County, Hydrologic Unit 17090002, on right bank at downstream side of bridge on State Highway 58, 2.5 mi southeast of Goshen, and at mile 6.4.

DRAINAGE AREA.--642 mi^2.

PERIOD OF RECORD.--August 1905 to February 1912, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1218: Drainage area. WSP 1248: 1905-12. WSP 1935: 1956.

GAGE.--Water-stage recorder. Datum of gage is 473.80 ft above sea level. Aug. 23, 1905, to Feb. 7, 1912, nonrecording gage at site 600 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1942 by Cottage Grove Lake (station 14153000) and since 1949 by Dorena Lake (station 14155000). Several small diversions for logponds and irrigation upstream from station. Several observations of water temperature were made during the year. Continuous water-quality records for the period October 1961 to September 1975 have been collected at this location.

AVERAGE DISCHARGE.--52 years (water years 1906-11, 1951-96), 1,588 ft^3/s, 1,151,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,500 ft^3/s Nov. 22, 1909, gage height, 19.5 ft, site and datum then in use, from rating curve extended above 15,000 ft^3/s; minimum discharge, 36 ft^3/s Sept. 29, 30, Oct. 11, 12, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,100 ft^3/s Jan. 25, gage height, 11.23 ft; minimum discharge, 130 ft^3/s Aug. 12-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	300	6800	6640	2540	2340	2010	1350	990	313	132	138
2	1120	295	5580	5110	1970	2240	1590	981	826	194	133	137
3	1120	289	4710	4020	1830	2310	1450	788	644	171	137	133
4	1120	228	5030	3110	1960	3370	1940	597	591	165	138	132
5	1120	211	5420	2690	3870	4070	1940	537	575	165	136	144
6	1100	211	6100	2320	7330	3550	1840	507	493	161	133	458
7	1090	216	6210	2190	6400	3340	1770	482	457	159	132	595
8	1080	350	5970	2850	4160	3260	1540	460	452	153	132	599
9	1080	1040	6670	5210	7240	3350	843	442	439	141	132	589
10	1130	1390	5390	5700	7610	3270	643	430	427	144	132	583
11	1180	1450	5470	4820	8670	3000	675	417	415	144	132	583
12	1330	5260	8030	4430	8390	2310	1200	407	404	141	131	587
13	1450	4380	8130	2450	7960	2120	1540	426	380	139	130	588
14	1400	3320	8010	1980	7190	1820	1410	1020	378	138	130	595
15	1370	1610	8420	3510	6270	1250	1340	3790	371	138	130	658
16	1360	1170	7060	5130	5700	835	1610	6320	364	136	132	719
17	1340	842	7010	4550	5500	764	2020	6100	364	139	134	852
18	1320	781	7220	4060	5990	709	2250	6360	361	150	137	829
19	1290	892	6750	7220	6050	670	2090	5810	353	147	140	817
20	1190	820	5980	6910	5980	630	1980	5130	344	155	141	839
21	890	605	4570	9670	6600	599	1780	4050	337	156	140	953
22	872	566	3200	9490	5470	582	2090	5740	318	153	141	953
23	833	539	2080	8370	5050	585	3430	6150	335	143	144	964
24	737	584	1980	9910	4550	561	6140	4280	361	141	146	1010
25	717	1890	1910	10600	3630	527	6620	2960	384	138	148	1010
26	670	5460	1100	9110	3230	504	5460	2480	348	140	151	999
27	671	5250	873	7610	2720	492	2880	1700	345	135	152	992
28	561	5580	943	8350	2330	510	2150	1460	350	135	150	991
29	515	5340	3190	6960	2420	495	1750	1350	341	138	147	995
30	475	5740	2620	5360	---	480	1550	1080	326	136	144	987
31	308	---	6230	3720	---	744	---	973	---	133	143	---
TOTAL	31549	56609	158656	174050	148610	51287	65531	74577	13073	4741	4280	20429
MEAN	1018	1887	5118	5615	5124	1654	2184	2406	436	153	138	681
MAX	1450	5740	8420	10600	8670	4070	6620	6360	990	313	152	1010
MIN	308	211	873	1980	1830	480	643	407	318	133	130	132
AC-FT	62580	112300	314700	345200	294800	101700	130000	147900	25930	9400	8490	40520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	757	1953	3317	3567	2830	2239	1593	1052	597	260	382	538
MAX	3119	6305	9820	7814	6891	5716	4020	3285	2424	588	1115	1057
(WY)	1951	1974	1965	1909	1961	1957	1963	1963	1993	1957	1955	1978
MIN	147	121	196	200	203	385	459	247	129	90.3	49.7	63.5
(WY)	1911	1953	1977	1977	1977	1992	1987	1987	1987	1910	1910	1910

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	650782		803392			
ANNUAL MEAN	1783		2195		1588	
HIGHEST ANNUAL MEAN					2701	1956
LOWEST ANNUAL MEAN					512	1977
HIGHEST DAILY MEAN	12000	Jan 14	10600	Jan 25	36500	Jan 4 1907
LOWEST DAILY MEAN	146	Aug 3	130	Aug 13	36	Sep 29 1908
ANNUAL SEVEN-DAY MINIMUM	149	Jul 31	131	Aug 9	42	Aug 28 1911
ANNUAL RUNOFF (AC-FT)	1291000		1594000		1151000	
10 PERCENT EXCEEDS	5350		6220		4180	
50 PERCENT EXCEEDS	866		1010		736	
90 PERCENT EXCEEDS	169		141		177	

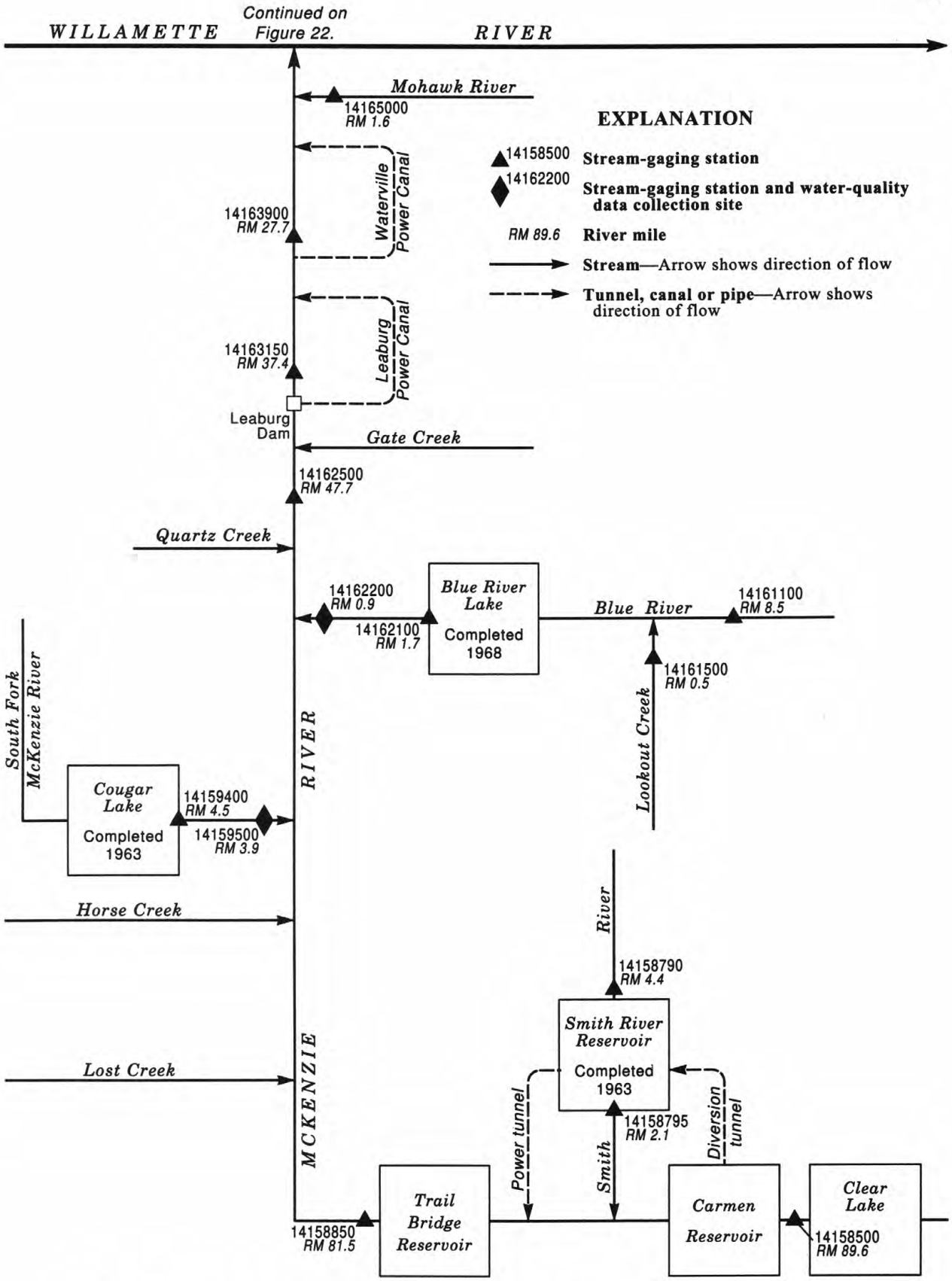


Figure 23. Schematic diagram showing gaging stations and diversions in the McKenzie River Basin.

14158500 MCKENZIE RIVER AT OUTLET OF CLEAR LAKE, OR

LOCATION.--Lat 44°21'40", long 121°59'40", in SE 1/4 sec.8, T.14 S., R.7 E., Linn County, Hydrologic Unit 17090004, Willamette National Forest, on west bank of Clear Lake in narrow channel, 150 ft upstream from outlet and at mile 89.6.

DRAINAGE AREA.--92.4 mi^2, hydrologic drainage boundary uncertain owing to ground-water exchange.

PERIOD OF RECORD.--June 1912 to September 1915, October 1947 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1288: 1949. WSP 1318: 1915(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,015.32 ft above sea level (levels by Eugene Water and Electric Board). June 20, 1912, to July 31, 1915, nonrecording gage at site 1.0 mi north at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by natural storage in lake. At high stages an undetermined flow enters numerous sinkholes in lava rock along south edge of lake upstream from station.

AVERAGE DISCHARGE.--52 years (water years 1913-15, 1948-96), 454 ft^3/s, 66.76 in/yr, 328,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,300 ft^3/s Dec. 23, 1964, gage height, 8.15 ft; minimum discharge, 116 ft^3/s Oct. 27, 28, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,600 ft^3/s Feb. 7, gage height, 7.01 ft; minimum discharge, 202 ft^3/s several days in October.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	225	1470	1000	592	923	715	960	730	457	352	283
2	202	221	1290	889	575	892	749	937	700	455	351	281
3	208	219	1160	895	563	866	752	910	677	454	347	280
4	206	216	1190	926	558	850	744	877	655	452	343	279
5	205	215	1150	912	561	832	741	846	634	449	340	277
6	206	216	1090	921	789	798	748	815	615	446	338	275
7	207	217	1050	938	2070	776	767	783	599	443	334	274
8	206	236	992	1020	2300	763	793	750	584	441	331	273
9	205	257	1010	1030	2430	766	815	719	572	439	329	272
10	203	282	1040	1020	2160	788	807	692	559	435	327	270
11	206	340	1100	962	1900	826	798	669	548	432	324	269
12	206	379	1280	917	1770	860	801	655	538	429	322	268
13	204	448	1340	883	1630	857	783	655	528	425	319	267
14	206	573	1240	863	1520	844	772	697	520	422	317	267
15	209	581	1190	946	1420	838	771	774	514	419	315	273
16	211	569	1080	1060	1350	828	804	816	509	415	313	270
17	212	562	1010	1010	1320	819	816	820	503	412	310	269
18	214	588	962	948	1540	806	800	915	499	410	309	268
19	212	598	919	938	1600	799	788	1010	488	404	306	269
20	216	592	881	907	1420	791	776	971	482	399	304	269
21	217	580	844	870	1310	778	766	922	475	395	302	268
22	217	565	808	822	1230	778	786	948	469	390	299	268
23	215	543	772	799	1190	760	940	969	472	387	298	267
24	214	539	735	773	1150	744	1480	951	472	382	296	265
25	216	620	696	738	1100	726	1280	933	465	378	294	264
26	220	717	658	722	1060	711	1130	905	463	374	293	262
27	217	736	624	704	1020	699	1070	877	463	369	293	261
28	223	1030	600	678	989	686	1030	850	461	366	290	259
29	229	1080	637	658	956	671	999	825	459	362	287	258
30	231	1320	833	631	---	657	979	793	458	359	286	256
31	228	---	1200	609	---	664	---	762	---	356	284	---
TOTAL	6573	15264	30851	26989	38073	24396	26000	26006	16111	12756	9753	8081
MEAN	212	509	995	871	1313	787	867	839	537	411	315	269
MAX	231	1320	1470	1060	2430	923	1480	1010	730	457	352	283
MIN	202	215	600	609	558	657	715	655	458	356	284	256
AC-FT	13040	30280	61190	53530	75520	48390	51570	51580	31960	25300	19350	16030
CFSM	2.29	5.51	10.8	9.42	14.2	8.52	9.38	9.08	5.81	4.45	3.40	2.92
IN.	2.65	6.15	12.42	10.87	15.33	9.82	10.47	10.47	6.49	5.14	3.93	3.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1996, BY WATER YEAR (WY)

MEAN	246	368	534	510	531	503	587	678	561	386	299	250
MAX	428	828	1209	999	1313	1205	872	1178	1202	737	499	392
(WY)	1951	1951	1965	1974	1996	1972	1993	1949	1974	1950	1974	1974
MIN	122	141	209	191	180	224	341	319	203	173	149	132
(WY)	1993	1988	1977	1977	1977	1977	1955	1992	1992	1977	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1913 - 1996	
ANNUAL TOTAL	185417		240853			
ANNUAL MEAN	508		658		454	
HIGHEST ANNUAL MEAN					683	1972
LOWEST ANNUAL MEAN					241	1977
HIGHEST DAILY MEAN	1510	Feb 1	2430	Feb 9	3100	Dec 23 1964
LOWEST DAILY MEAN	199	Sep 23	202	Oct 1	116	Oct 27 1992
ANNUAL SEVEN-DAY MINIMUM	200	Sep 21	205	Oct 1	117	Oct 22 1992
ANNUAL RUNOFF (AC-FT)	367800		477700		328900	
ANNUAL RUNOFF (CFSM)	5.50		7.12		4.91	
ANNUAL RUNOFF (INCHES)	74.65		96.97		66.76	
10 PERCENT EXCEEDS	866		1080		792	
50 PERCENT EXCEEDS	452		635		391	
90 PERCENT EXCEEDS	212		229		208	

14158790 SMITH RIVER ABOVE SMITH RIVER RESERVOIR, NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat 44°20'05", long 122°02'45", in SW 1/4 SW 1/4 sec.24, T.14 S., R.6 E., Linn County, Hydrologic Unit 17090004, in Willamette National Forest, on right bank 200 ft upstream from Smith River Reservoir, 0.7 mi downstream from Browder Creek, 10 mi north of town of Belknap Springs, and at mile 4.4.

DRAINAGE AREA.--16.2 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WDR OR 80-2: 1978(P).

GAGE.--Water-stage recorder. Datum of gage is 2,610.00 ft above sea level (levels by Eugene Water and Electric Board). Prior to Sept. 10, 1964, at datum 1.56 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Eugene Water and Electric Board (EWEB) telemetry at station. No regulation or diversion upstream from station. Discharges for periods Oct. 1-16, 19-24 computed from data provided by EWEB.

AVERAGE DISCHARGE.--36 years (water years 1961-96), 89.4 ft^3/s, 74.96 in/yr, 64,750 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,160 ft^3/s Dec. 22, 1964, gage height, 11.9 ft, from floodmark, from rating curve extended above 560 ft^3/s, on basis of slope-area measurement of peak flow; minimum discharge, 1.2 ft^3/s Oct. 13, 1991, result of log jam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1730	913	7.67	Feb. 9	0100	1,740	8.55
Dec. 1	0330	964	7.73	Feb. 18	0900	948	7.70
Dec. 30	1600	987	7.75	Apr. 23	2400	1,460	8.28
Feb. 7	1230	*2,960	*9.48				

Minimum discharge, 3.5 ft^3/s Sept. 9-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	22	788	370	54	55	192	128	65	19	6.5	3.9
2	11	20	435	251	58	53	186	115	60	18	7.3	3.9
3	29	18	306	254	48	60	160	101	58	17	6.8	3.8
4	25	17	390	238	57	90	137	88	53	16	6.5	3.8
5	18	19	262	200	135	96	129	79	48	15	6.6	3.8
6	15	32	213	216	1160	85	137	71	44	15	6.4	3.8
7	13	65	194	271	1910	83	153	65	41	14	6.0	3.7
8	11	326	161	343	1250	99	171	60	38	13	5.8	3.6
9	11	332	258	330	1230	141	169	55	35	13	5.6	3.6
10	9.9	211	281	292	525	170	151	52	33	12	5.5	3.6
11	23	581	389	223	308	217	145	52	30	12	5.3	3.5
12	38	496	557	177	231	216	134	55	28	11	5.2	3.5
13	28	466	509	142	218	178	124	79	27	11	5.1	3.5
14	22	297	451	145	223	150	132	150	25	11	5.0	5.0
15	19	202	347	368	227	135	149	258	24	10	4.9	19
16	18	157	233	515	228	121	189	220	22	10	4.8	13
17	e20	128	178	319	295	110	181	270	22	11	4.7	11
18	e36	145	141	235	778	105	159	360	22	11	4.6	7.1
19	25	113	116	203	493	108	145	381	20	10	4.6	6.4
20	21	95	98	167	314	103	133	261	19	9.7	4.6	5.6
21	23	83	84	135	222	97	128	214	18	9.4	4.4	5.1
22	21	80	73	112	172	101	225	247	17	9.1	4.4	4.9
23	19	72	64	99	143	91	722	253	24	8.8	4.2	4.6
24	17	117	56	90	117	82	939	220	29	8.5	4.2	4.4
25	20	437	50	80	98	72	440	184	24	8.2	4.1	4.2
26	60	357	46	72	84	66	316	153	23	7.8	4.3	4.1
27	47	352	43	70	73	63	230	128	25	7.5	4.8	4.1
28	37	562	47	63	64	57	183	110	25	7.5	4.3	3.9
29	31	581	205	62	58	54	156	95	22	7.3	4.1	3.9
30	27	797	621	58	---	51	140	83	20	6.9	4.1	3.8
31	25	---	642	54	---	89	---	72	---	6.7	4.0	---
TOTAL	733.9	7180	8238	6154	10773	3198	6555	4659	941	346.4	158.7	158.1
MEAN	23.7	239	266	199	371	103	219	150	31.4	11.2	5.12	5.27
MAX	60	797	788	515	1910	217	939	381	65	19	7.3	19
MIN	9.9	17	43	54	48	51	124	52	17	6.7	4.0	3.5
AC-FT	1460	14240	16340	12210	21370	6340	13000	9240	1870	687	315	314
CFSM	1.46	14.8	16.4	12.3	22.9	6.37	13.5	9.28	1.94	.69	.32	.33
IN.	1.69	16.49	18.92	14.13	24.74	7.34	15.05	10.70	2.16	.80	.36	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1996, BY WATER YEAR (WY)

MEAN	22.0	114	149	135	140	117	146	151	73.1	16.7	6.72	7.34
MAX	75.9	239	404	293	371	321	270	318	260	51.5	11.7	23.5
(WY)	1969	1996	1965	1970	1996	1993	1993	1971	1974	1971	1968	1978
MIN	3.33	4.47	9.88	13.5	12.8	41.2	50.3	28.1	8.63	5.23	3.22	3.74
(WY)	1988	1994	1977	1977	1977	1992	1967	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1961 - 1996	
ANNUAL TOTAL	44290.7		49095.1			
ANNUAL MEAN	121		134		89.4	
HIGHEST ANNUAL MEAN					136	1974
LOWEST ANNUAL MEAN					38.5	1977
HIGHEST DAILY MEAN	1100	Feb 1	1910	Feb 7	2590	Dec 22 1964
LOWEST DAILY MEAN	3.1	Sep 22	3.5	Sep 11	2.5	Sep 15 1981
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 18	3.6	Sep 7	2.6	Sep 12 1981
ANNUAL RUNOFF (AC-FT)	87850		97380		64750	
ANNUAL RUNOFF (CFSM)	7.49		8.28		5.52	
ANNUAL RUNOFF (INCHES)	101.70		112.74		74.96	
10 PERCENT EXCEEDS	315		331		212	
50 PERCENT EXCEEDS	67		63		52	
90 PERCENT EXCEEDS	5.3		4.8		4.9	

e Estimated

14158795 SMITH RIVER RESERVOIR NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat 44°18'20", long 122°02'40", in SW 1/4 SW 1/4 sec.36, T.14 S., R.6 E., Linn County, Hydrologic Unit 17090004, Willamette National Forest, in intake tower near left end of Smith River Dam on Smith River, 800 ft upstream from Bunchgrass Creek, 8 mi north of town of Belknap Springs, and at mile 2.1.

DRAINAGE AREA.--18.2 mi^2.

PERIOD OF RECORD.--March 1963 to current year.

REVISED RECORDS.--WDR OR-86-2: 1985.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Eugene Water and Electric Board).

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway completed in 1963 by Eugene Water and Electric Board; storage began Mar. 18, 1963. Total capacity is 15,000 acre-ft at elevation 2,605.0 ft, top of spillway gates, and usable capacity is 9,900 acre-ft between elevations 2,525.0 ft, minimum power pool, and 2,605.0 ft. Storage of 5,100 acre-ft, below elevation 2,525.0 ft, not normally available for release. Water used for power generation. Figures herein represent total contents and are furnished by Eugene Water and Electric Board.

COOPERATION.--Elevations and area-volume curves furnished by Eugene Water and Electric Board.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 15,200 acre-ft Dec. 22, 1964, elevation, 2,606.5 ft; minimum contents, 5,700 acre-ft Apr. 11, 14, 1964, elevation, 2,532.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,720 acre-ft Oct. 13, elevation, 2,603.64 ft; minimum contents, 12,400 acre-ft Feb. 8, elevation, 2,589.38 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,601.98	14,440	--
Oct. 31	2,600.23	14,140	-300
Nov. 30	2,596.85	13,600	-540
Dec. 31	2,595.92	13,450	-150
CAL YR 1995	--	--	+100
Jan. 31	2,594.27	13,180	-270
Feb. 29	2,591.77	12,780	-400
Mar. 31	2,594.34	13,190	+410
Apr. 30	2,595.02	13,300	+110
May 31	2,599.46	14,010	+710
June 30	2,598.89	14,920	-90
July 31	2,597.86	13,760	-160
Aug. 31	2,599.36	14,000	+240
Sept.30	2,599.41	14,010	+10
WTR YR 1996	--	--	-430

14158850 MCKENZIE RIVER BELOW TRAIL BRIDGE DAM, NEAR BELKNAP SPRINGS, OR

LOCATION.--Lat 44°16'05", long 122°02'55", in T.15 S., R.6 E., (unsurveyed), Linn County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 0.4 mi downstream from Trail Bridge Dam, 0.5 mi upstream from Anderson Creek, 5 mi north of town of Belknap Springs, and at mile 81.5.

DRAINAGE AREA.--184 mi^2.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,980.00 ft above sea level (levels by Eugene Water and Electric Board). Prior to Oct. 11, 1963, at datum 5.60 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1963 by Smith River Reservoir (station 14158795). Diurnal fluctuations by powerplants and by Trail Bridge re-regulating reservoir upstream. Water is diverted from McKenzie River in SW 1/4 sec.20, T.14 S., R.7 E., to Smith River Reservoir and returned to river upstream from station. Continuous water-quality records for the period November 1976 to September 1985, July 1992 September 1993 have been collected at this location.

AVERAGE DISCHARGE.--37 years (water years 1960-96), 1,004 ft^3/s, 74.10 in/yr, 727,400 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft^3/s Dec. 22, 1964, gage height, 12.45 ft, from rating curve extended above 3,700 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 185 ft^3/s Feb. 3, 1963; minimum daily, 423 ft^3/s Nov. 22, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,270 ft^3/s Feb. 7, gage height, 10.59 ft; minimum discharge, 432 ft^3/s Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	658	689	3050	1830	1210	1580	1460	1620	1390	1010	898	742
2	662	689	2340	1670	1100	1540	1430	1590	1370	1010	841	728
3	696	690	2030	1630	1100	1510	1410	1550	1330	990	840	721
4	701	682	2130	1670	1130	1560	1380	1520	1300	972	821	718
5	666	678	1900	1600	1180	1560	1380	1480	1300	965	785	708
6	657	699	1830	1580	2630	1520	1380	1450	1240	972	783	709
7	658	766	1780	1640	5150	1480	1380	1440	1210	977	781	709
8	654	1130	1700	1780	4440	1490	1430	1390	1220	963	780	710
9	653	1270	1770	1790	5040	1510	1470	1330	1200	969	780	708
10	654	1060	1820	1790	3850	1560	1440	1290	1170	967	782	708
11	670	1440	1910	1700	2990	1530	1430	1220	1140	990	790	708
12	698	1530	2290	1620	2650	1530	1430	1220	1140	975	811	709
13	697	1480	2440	1570	2470	1560	1430	1220	1120	946	800	710
14	676	1370	2290	1520	2320	1540	1410	1250	1100	923	779	705
15	674	1300	2160	1710	2250	1530	1450	1400	1100	921	770	757
16	673	1210	1910	1980	2150	1520	1460	1470	1100	925	770	719
17	673	1200	1770	1860	2170	1480	1500	1510	1100	929	771	717
18	693	1240	1690	1720	2890	1470	1500	1670	1090	934	772	710
19	694	1170	1590	1710	2760	1440	1470	1820	1070	906	772	708
20	694	1150	1570	1660	2420	1450	1440	1720	1050	866	770	698
21	689	1130	1510	1640	2160	1440	1420	1650	1050	887	762	685
22	691	1120	1450	1540	2010	1420	1520	1680	1010	942	760	685
23	690	1090	1400	1480	1940	1420	2060	1750	1060	929	752	685
24	690	1070	1370	1460	1830	1420	2800	1730	1080	891	744	684
25	699	1600	1330	1390	1760	1420	2300	1630	1040	866	745	681
26	770	1580	1300	1370	1700	1380	1990	1600	1040	843	744	688
27	744	1540	1250	1380	1690	1330	1860	1550	1040	855	744	688
28	711	1860	1230	1340	1640	1290	1770	1530	1010	859	744	688
29	705	1940	1390	1280	1590	1270	1640	1460	1020	860	744	679
30	703	2550	1970	1220	---	1250	1630	1450	1020	888	745	653
31	704	---	2060	1220	---	1280	---	1410	---	943	746	---
TOTAL	21297	36923	56230	49350	68220	45280	47670	46600	34110	28873	24126	21118
MEAN	687	1231	1814	1592	2352	1461	1589	1503	1137	931	778	704
MAX	770	2550	3050	1980	5150	1580	2800	1820	1390	1010	898	757
MIN	653	678	1230	1220	1100	1250	1380	1220	1010	843	744	653
AC-FT	42240	73240	111500	97890	135300	89810	94550	92430	67660	57270	47850	41890
MEAN†	682	1222	1811	1587	2345	1467	1591	1514	1136	929	782	704
CFSM†	3.71	6.64	9.84	8.63	12.74	7.97	8.65	8.23	6.17	5.05	4.25	3.83
IN.†	4.27	7.41	11.35	9.95	13.75	9.19	9.65	9.49	6.89	5.82	4.90	4.27
AC-FT†	41940	72700	111400	97620	134900	90220	94660	93140	67570	57110	48090	41900

CAL YR 1995 TOTAL 412808 MEAN 1131 MAX 3180 MIN 638 AC-FT 818800 MEAN† 1131 CFSM† 6.15 IN.† 83.45 AC-FT† 818900
WTR YR 1996 TOTAL 479797 MEAN 1311 MAX 5150 MIN 653 AC-FT 951700 MEAN† 1311 CFSM† 7.12 IN.† 96.94 AC-FT† 951300

† Adjusted for change in contents in Smith River Reservoir.

14159400 COUGAR LAKE NEAR RAINBOW, OR

LOCATION.--Lat 44°07'40", long 122°14'25", in SE 1/4 SE 1/4 sec.31, T.16 S., R.5 E., Lane County, Hydrologic Unit 17090004, Willamette National Forest, in intake tower near left end of Cougar Dam on South Fork McKenzie River, 2.7 mi south of Rainbow, and at mile 4.5.

DRAINAGE AREA.--207 mi^2.

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1971, published as Cougar Reservoir near Rainbow.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by earthfill dam with concrete spillway completed in 1963 by the Corps of Engineers; storage began September 1963. Total capacity is 219,100 acre-ft at elevation 1,699 ft, maximum pool, and usable capacity is 164,800 acre-ft between elevations 1,516 ft, minimum power pool, and 1,699 ft. Lake used for flood control and power generation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 215,900 acre-ft Apr. 28, 1990, elevation, 1,696.51 ft; minimum contents, 33,690 acre-ft Oct. 31 to Nov. 2, 1965, elevation, 1,475.40 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 210,000 acre-ft June 18, elevation, 1,691.84 ft; minimum contents, 65,700 acre-ft Dec. 29, elevation, 1,534.80 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,510	50,920	1,650	162,300
1,550	75,940	1,696	215,300
1,600	114,800		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1616.95	1572.19	1615.13	1572.96	1553.03	1615.30	1654.91	1685.69	1690.60	1690.26	1685.84	1648.07
2	1616.57	1570.13	1619.85	1572.52	1554.21	1616.47	1657.32	1685.58	1690.74	1690.21	1684.81	1646.65
3	1616.87	1568.02	1619.48	1565.42	1555.36	1617.89	1658.98	1685.60	1690.94	1690.15	1683.75	1645.24
4	1616.02	1565.82	1619.10	1557.29	1556.85	1619.71	1659.87	1685.68	1691.07	1690.09	1682.67	1644.04
5	1614.55	1563.61	1616.76	1548.67	1559.66	1621.47	1661.02	1686.23	1691.14	1690.02	1681.58	1643.01
6	1613.01	1561.63	1612.91	1541.26	1577.17	1622.70	1662.48	1687.11	1691.17	1689.93	1680.50	1641.98
7	1611.41	1559.94	1606.10	1537.20	1606.56	1623.81	1663.99	1687.91	1691.18	1689.84	1679.41	1640.94
8	1609.81	1559.81	1597.09	1536.97	1624.69	1625.08	1665.59	1688.66	1691.21	1689.74	1678.31	1639.90
9	1608.16	1561.64	1593.84	1536.93	1645.74	1626.93	1667.07	1689.34	1691.24	1689.64	1677.20	1638.85
10	1606.48	1562.29	1592.80	1536.82	1655.25	1629.03	1668.51	1689.68	1691.24	1689.53	1676.07	1637.77
11	1605.31	1568.42	1591.43	1536.66	1655.94	1631.55	1669.44	1689.65	1691.22	1689.43	1674.92	1636.70
12	1604.41	1576.79	1595.37	1536.95	1651.64	1633.50	1670.01	1689.66	1691.23	1689.32	1673.77	1635.66
13	1603.12	1581.94	1600.94	1537.43	1645.27	1634.50	1670.39	1689.71	1691.32	1689.21	1672.62	1634.60
14	1601.67	1582.54	1603.54	1538.02	1637.00	1635.05	1670.73	1690.04	1691.46	1689.09	1671.43	1633.64
15	1600.12	1581.26	1605.02	1540.17	1628.30	1635.95	1671.10	1691.06	1691.57	1688.97	1670.22	1633.09
16	1598.50	1578.95	1602.80	1541.60	1619.04	1637.12	1671.68	1690.83	1691.66	1688.70	1669.00	1632.50
17	1596.93	1576.13	1595.45	1541.77	1611.22	1638.15	1672.15	1690.72	1691.79	1688.62	1667.78	1631.66
18	1595.43	1573.32	1586.53	1543.26	1610.60	1639.32	1672.45	1690.51	1691.83	1688.51	1666.54	1630.68
19	1593.78	1570.03	1576.88	1546.07	1612.50	1640.65	1672.63	1690.21	1691.79	1688.39	1665.30	1629.68
20	1592.08	1566.47	1567.68	1549.34	1612.67	1641.93	1672.74	1689.78	1691.74	1688.25	1664.04	1628.66
21	1590.37	1562.76	1559.05	1551.96	1611.25	1643.14	1672.95	1689.84	1691.70	1688.11	1662.78	1627.61
22	1588.60	1558.91	1552.69	1553.02	1609.65	1644.49	1673.88	1690.16	1691.63	1687.97	1661.51	1626.53
23	1586.78	1554.96	1548.74	1553.69	1609.86	1645.66	1676.21	1690.11	1691.70	1687.82	1660.20	1625.44
24	1584.90	1551.58	1544.66	1553.99	1610.39	1646.70	1682.70	1690.03	1691.65	1687.66	1658.90	1624.33
25	1583.10	1554.16	1540.32	1553.78	1610.59	1647.65	1684.26	1690.06	1691.39	1687.49	1657.57	1623.23
26	1582.24	1557.98	1537.75	1553.27	1611.20	1648.50	1684.13	1689.97	1691.11	1687.32	1656.25	1622.12
27	1581.03	1560.31	1536.23	1552.99	1612.22	1649.33	1684.04	1689.94	1690.85	1687.16	1654.94	1621.01
28	1579.53	1573.23	1534.83	1552.72	1613.10	1650.13	1684.26	1690.25	1690.68	1686.99	1653.60	1619.89
29	1577.82	1582.62	1539.50	1552.13	1614.13	1650.83	1684.77	1690.54	1690.51	1686.81	1652.25	1618.77
30	1576.05	1599.22	1554.48	1551.79	---	1651.50	1685.47	1690.66	1690.34	1686.64	1650.86	1617.30
31	1574.17	---	1567.13	1552.02	---	1652.64	---	1690.65	---	1686.45	1649.46	---
MAX	1616.95	1599.22	1619.85	1572.96	1655.94	1652.64	1685.47	1691.06	1691.83	1690.26	1685.84	1648.07
MIN	1574.17	1551.58	1534.83	1536.66	1553.03	1615.30	1654.91	1685.58	1690.34	1686.45	1649.46	1617.30
(†)	93660	114100	88310	77350	127300	165100	202200	208600	208200	203400	161800	130200
(‡)	-37040	+20440	-25790	-10960	+49950	+37800	+37100	+6400	-400	-4800	-41600	-31600

CAL YR 1995 MAX --- MIN 1534.05 AC-FT‡ +18980
WTR YR 1996 MAX 1691.83 MIN 1534.83 AC-FT‡ -500

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR

LOCATION.--Lat 44°08'10", long 122°14'50", in NE 1/4 sec.31, T.16 S., R.5 E., Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on right bank 0.2 mi upstream from Cougar Creek, 0.6 mi downstream from Cougar Dam, 2.1 mi south of Rainbow, and at mile 3.9.

DRAINAGE AREA.--208 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1638: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,236.42 ft above sea level (Federal Highway Administration bench mark). Oct. 1 to Nov. 4, 1947, nonrecording gage at site 40 ft upstream at datum 0.80 ft higher.

REMARKS.--No estimated daily discharges. Records good except for flows below 300 ft^3/s, which are fair. Flow regulated since 1963 by Cougar Lake (station 14159400), usable capacity, 164,800 acre-ft. No diversion upstream from station.

AVERAGE DISCHARGE.--49 years (water years 1948-96), 846 ft^3/s, 55.23 in/yr, 612,900 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft^3/s Dec. 11, 1956, gage height, 8.66 ft, from rating curve extended above 8,100 ft^3/s; maximum gage height, 8.90 ft Dec. 22, 1955 (backwater from debris); minimum discharge, 17 ft^3/s Nov. 18, 1965; minimum daily, 85 ft^3/s Apr. 26-28, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s Dec. 28, 1945, gage height, 8.8 ft, from floodmarks, at Corps of Engineers gage at site 40 ft upstream at datum 0.80 ft higher; gage height at present site and datum, about 9.3 ft, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,650 ft^3/s Feb. 13, gage height, 5.42 ft; minimum discharge, 254 ft^3/s Feb. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	724	1090	732	1180	398	307	305	1060	771	419	616	931
2	452	1100	2070	2410	310	307	304	1180	618	387	871	931
3	330	1100	2990	4660	307	307	493	1010	558	392	874	927
4	752	1110	3850	4880	309	307	687	881	557	393	878	825
5	971	1130	4300	4620	314	392	465	543	555	396	879	735
6	969	1140	4670	4060	332	501	303	293	557	397	871	727
7	978	1150	5520	3130	320	502	307	290	536	392	874	732
8	985	1170	5970	2500	308	500	379	290	496	395	872	731
9	983	1160	4490	2480	308	497	445	290	478	392	879	732
10	986	1150	3050	2520	510	497	445	456	480	386	875	743
11	991	1150	3040	2010	3080	498	671	655	459	387	886	736
12	998	1100	2180	1510	5000	815	850	650	442	383	885	731
13	999	1530	1580	1210	5840	1020	848	747	369	387	884	726
14	999	2060	2040	1070	6530	1020	846	1100	325	387	895	730
15	999	2080	2050	1080	6460	734	839	2290	325	387	903	729
16	1010	2080	2990	1570	6470	504	846	2950	325	458	903	734
17	1020	2080	4730	1640	5870	501	850	2620	325	394	899	734
18	1020	2080	5010	1090	3130	387	883	2790	378	390	901	729
19	1030	2080	4950	1110	2010	303	896	2730	425	388	906	731
20	1030	2060	4470	1110	2270	305	900	2340	414	388	905	729
21	1030	2030	3980	1120	2520	310	818	1880	406	387	906	732
22	1040	2000	3020	1130	2280	307	812	2210	385	387	908	741
23	1050	1970	2060	1130	1400	307	1250	2430	372	388	914	741
24	1060	1950	2020	1120	1040	307	1490	2130	492	387	921	740
25	1060	1670	2020	1120	1040	307	2560	1730	578	390	925	738
26	1060	1700	1430	1120	763	306	2730	1540	581	388	924	738
27	1070	2340	1090	1120	520	306	2100	1290	581	389	928	735
28	1070	333	1080	1120	518	306	1530	940	534	388	924	734
29	1070	506	835	1120	395	308	1120	826	496	390	928	728
30	1070	472	607	927	---	306	870	826	496	385	937	881
31	1090	---	1150	684	---	305	---	826	---	386	933	---
TOTAL	29896	44571	89974	57551	60552	13579	27842	41793	14314	12163	27604	22831
MEAN	964	1486	2902	1856	2088	438	928	1348	477	392	890	761
MAX	1090	2340	5970	4880	6530	1020	2730	2950	771	458	937	931
MIN	330	333	607	684	307	303	303	290	325	383	616	726
AC-FT	59300	88410	178500	114200	120100	26930	55220	82900	28390	24130	54750	45290
MEAN†	362	1829	2484	1679	2956	1053	1552	1452	470	314	214	230
CFSM†	1.74	8.80	11.9	8.07	14.2	5.06	7.46	6.98	2.26	1.51	1.03	1.11
IN.†	2.01	9.82	13.8	9.31	15.3	5.84	8.32	8.05	2.52	1.74	1.19	1.23
AC-FT†	22260	108850	152710	103240	170050	64730	92320	89300	27990	19330	13150	13690

CAL YR 1995 TOTAL 387374 MEAN 1061 MAX 5970 MIN 304 AC-FT 768400 MEAN† 1088 CFSM† 5.23 IN.† 71.00 AC-FT† 787400
WTR YR 1996 TOTAL 442670 MEAN 1209 MAX 6530 MIN 290 AC-FT 878000 MEAN† 1209 CFSM† 5.81 IN.† 79.12 AC-FT† 877500

† Adjusted for change in contents in Cougar Lake.

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: July 1955 to current year.

INSTRUMENTATION.--Temperature recorder since July 1955.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 20.0°C July 28, 1958; minimum, 0.5°C Jan. 20-23, 1962.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 14.0°C Oct. 1, 3-11; minimum, 4.0°C Feb. 2, 3.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.0	13.0	13.5	12.5	12.0	12.5	8.5	8.0	8.0	6.5	6.0	6.5
2	13.5	12.0	13.0	12.5	12.0	12.0	8.0	7.5	7.5	6.5	6.5	6.5
3	14.0	12.5	13.0	12.0	12.0	12.0	7.5	7.5	7.5	6.5	6.0	6.5
4	14.0	12.5	13.5	12.0	11.5	12.0	8.0	7.5	7.5	6.5	6.0	6.0
5	14.0	13.5	13.5	11.5	11.0	11.5	8.0	7.5	7.5	6.0	6.0	6.0
6	14.0	13.5	13.5	11.5	11.0	11.5	7.5	7.5	7.5	6.0	6.0	6.0
7	14.0	13.5	13.5	11.5	11.0	11.0	7.5	7.5	7.5	6.0	6.0	6.0
8	14.0	13.5	13.5	11.0	11.0	11.0	7.5	7.0	7.5	6.5	6.0	6.0
9	14.0	13.5	13.5	11.0	10.0	10.5	7.5	7.0	7.0	6.5	6.0	6.5
10	14.0	13.5	13.5	10.5	10.0	10.5	7.5	7.0	7.5	6.5	6.5	6.5
11	14.0	13.5	13.5	10.0	9.5	10.0	7.5	7.5	7.5	6.5	6.0	6.5
12	13.5	13.5	13.5	9.5	9.0	9.5	7.5	7.5	7.5	6.5	6.0	6.0
13	13.5	13.0	13.5	9.5	9.0	9.5	7.5	7.5	7.5	6.0	6.0	6.0
14	13.5	13.0	13.5	9.5	9.0	9.5	7.5	7.0	7.0	6.0	6.0	6.0
15	13.5	13.0	13.5	9.5	9.0	9.0	7.0	7.0	7.0	6.0	6.0	6.0
16	13.5	13.0	13.5	9.0	9.0	9.0	7.0	7.0	7.0	6.0	6.0	6.0
17	13.5	13.0	13.0	9.5	9.0	9.0	7.0	7.0	7.0	6.0	6.0	6.0
18	13.5	13.0	13.5	9.0	9.0	9.0	7.0	7.0	7.0	6.0	6.0	6.0
19	13.5	13.0	13.0	9.5	9.0	9.5	7.0	7.0	7.0	6.0	6.0	6.0
20	13.0	13.0	13.0	9.5	9.0	9.0	7.0	7.0	7.0	6.0	6.0	6.0
21	13.5	13.0	13.0	9.0	9.0	9.0	7.0	6.5	6.5	6.0	5.5	5.5
22	13.5	13.0	13.0	9.0	8.5	9.0	6.5	6.5	6.5	5.5	5.5	5.5
23	13.5	13.0	13.0	9.0	9.0	9.0	6.5	6.0	6.0	5.5	5.5	5.5
24	13.0	13.0	13.0	9.0	8.5	9.0	6.0	6.0	6.0	5.5	5.0	5.0
25	13.0	13.0	13.0	9.5	9.0	9.0	6.0	6.0	6.0	5.0	5.0	5.0
26	13.0	12.5	13.0	9.0	8.5	9.0	6.0	5.5	5.5	5.0	5.0	5.0
27	13.0	12.5	12.5	8.5	8.0	8.0	5.5	5.5	5.5	5.0	5.0	5.0
28	13.0	12.5	12.5	9.0	8.0	8.5	5.5	5.5	5.5	5.0	5.0	5.0
29	12.5	12.0	12.5	8.0	8.0	8.0	6.0	5.5	5.5	5.0	5.0	5.0
30	12.5	12.0	12.5	8.0	8.0	8.0	7.0	6.0	6.5	5.0	4.5	4.5
31	12.5	12.0	12.0	---	---	---	6.5	6.0	6.0	4.5	4.5	4.5
MONTH	14.0	12.0	13.0	12.5	8.0	10.0	8.5	5.5	7.0	6.5	4.5	6.0

14159500 SOUTH FORK MCKENZIE RIVER NEAR RAINBOW, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.5	4.5	4.5	5.5	4.5	4.5	5.5	5.0	5.0	6.0	5.0	5.5
2	4.5	4.0	4.5	5.0	4.5	5.0	6.0	5.0	5.0	6.5	5.0	6.0
3	4.5	4.0	4.5	5.5	4.5	5.0	5.5	5.0	5.0	6.5	5.5	6.0
4	4.5	4.5	4.5	5.0	4.5	5.0	5.5	5.0	5.0	6.5	5.5	6.0
5	4.5	4.5	4.5	5.0	4.5	4.5	6.0	5.0	5.0	7.5	5.0	6.0
6	5.0	4.5	5.0	5.0	4.5	4.5	6.0	5.0	5.0	7.0	5.0	5.5
7	5.5	5.0	5.5	5.0	4.5	5.0	6.0	5.0	5.0	7.5	5.0	6.0
8	5.5	4.5	5.0	5.5	4.5	5.0	5.5	5.0	5.0	7.5	5.0	6.0
9	5.5	4.5	5.0	5.0	4.5	4.5	5.5	5.0	5.0	7.0	5.0	5.5
10	5.0	4.5	4.5	5.0	4.5	4.5	5.0	5.0	5.0	7.0	5.5	6.0
11	5.0	4.5	4.5	5.0	4.5	4.5	5.5	5.0	5.0	6.5	5.5	6.0
12	5.0	5.0	5.0	5.0	4.5	4.5	5.5	5.0	5.0	6.5	5.5	6.0
13	5.5	5.0	5.0	5.0	4.5	5.0	5.5	5.0	5.0	6.5	5.5	6.0
14	5.5	5.0	5.0	5.5	4.5	5.0	5.5	5.0	5.5	6.0	6.0	6.0
15	5.5	5.0	5.0	5.0	4.5	4.5	5.5	5.0	5.0	6.5	6.0	6.5
16	5.5	5.0	5.0	5.5	4.5	5.0	5.5	5.0	5.5	6.5	6.0	6.5
17	5.5	5.0	5.0	5.5	4.5	5.0	5.5	5.0	5.0	7.0	6.0	6.5
18	5.5	5.0	5.0	6.0	4.5	5.0	5.5	5.0	5.5	7.0	6.0	6.5
19	5.0	5.0	5.0	5.5	4.5	5.0	5.5	5.0	5.0	7.0	6.0	6.5
20	5.5	5.0	5.5	6.0	4.5	5.0	5.5	5.0	5.5	7.0	6.0	6.5
21	5.5	5.0	5.5	6.0	4.5	5.0	5.5	5.0	5.0	7.0	5.5	6.5
22	5.5	5.0	5.0	5.5	4.5	5.0	6.0	5.0	5.5	7.0	6.0	6.5
23	5.5	5.0	5.0	5.5	4.5	5.0	6.0	5.0	5.5	7.0	6.0	6.5
24	5.0	5.0	5.0	5.5	4.5	5.0	6.0	5.0	5.5	7.0	6.0	6.5
25	5.0	5.0	5.0	6.0	4.5	5.0	6.5	5.5	6.0	7.0	6.0	6.5
26	5.5	5.0	5.0	6.0	4.5	5.0	6.0	5.5	6.0	7.5	6.0	6.5
27	5.0	4.5	5.0	5.0	4.5	5.0	6.5	5.5	6.0	7.0	6.0	6.5
28	5.0	4.5	5.0	5.5	4.5	5.0	6.0	5.0	5.5	7.0	6.0	6.5
29	5.5	4.5	5.0	5.5	4.5	5.0	6.5	5.5	6.0	7.5	5.5	6.5
30	---	---	---	6.0	4.5	5.0	6.5	5.5	6.0	7.5	6.5	7.0
31	---	---	---	5.0	4.5	5.0	---	---	---	7.0	6.5	7.0
MONTH	5.5	4.0	5.0	6.0	4.5	5.0	6.5	5.0	5.5	7.5	5.0	6.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.5	6.0	7.0	9.0	7.0	8.0	9.0	7.0	8.0	10.0	9.0	10.0
2	7.5	6.0	7.0	9.0	7.0	7.5	8.5	8.0	8.5	10.0	9.0	10.0
3	7.5	6.0	7.0	9.0	6.5	7.5	9.0	8.0	8.5	10.5	9.0	10.0
4	7.5	6.5	7.0	9.0	6.0	7.5	9.0	8.0	8.5	10.5	9.0	10.0
5	7.5	6.0	7.0	9.0	6.5	7.5	9.0	8.0	8.5	10.5	9.5	10.0
6	7.5	6.5	7.0	9.0	6.5	7.5	9.0	8.0	8.5	10.5	9.0	10.0
7	7.5	6.5	7.0	9.0	6.5	8.0	9.0	8.0	8.5	11.0	9.0	10.0
8	8.0	6.5	7.5	9.0	6.5	8.0	9.0	8.0	8.5	10.5	9.5	10.0
9	8.0	6.0	7.0	9.0	7.0	8.0	9.0	8.0	8.5	11.0	9.5	10.0
10	7.5	6.0	7.0	9.0	6.5	8.0	9.0	8.5	8.5	11.0	10.0	10.5
11	7.5	6.5	7.0	9.0	7.0	8.0	9.5	7.5	8.5	11.0	10.0	10.5
12	8.0	6.5	7.0	9.0	7.0	8.0	9.0	7.5	8.5	11.0	10.0	10.5
13	8.0	6.5	7.5	9.0	7.5	8.0	9.5	8.0	9.0	11.0	10.5	10.5
14	8.0	6.0	7.0	9.0	7.0	8.0	9.5	8.0	8.5	11.0	10.0	10.5
15	8.5	6.0	7.0	9.5	7.0	8.0	9.5	8.5	9.0	11.0	10.5	11.0
16	7.5	6.5	7.0	9.5	6.5	8.0	9.5	8.0	9.0	11.0	10.5	11.0
17	7.5	6.0	7.0	8.5	6.5	8.0	9.5	8.0	9.0	11.5	11.0	11.5
18	8.0	6.5	7.0	9.0	6.5	8.0	9.5	8.0	9.0	11.5	10.5	11.0
19	8.0	6.5	7.5	8.5	7.5	8.0	9.5	8.0	9.0	11.5	10.5	11.0
20	8.0	6.5	7.5	9.5	7.0	8.0	9.5	8.5	9.0	12.0	11.0	11.5
21	8.5	6.5	7.5	9.5	7.0	8.0	9.5	8.5	9.0	12.0	11.0	11.5
22	8.5	6.5	7.5	9.5	7.0	8.0	9.5	8.5	9.0	12.0	11.5	12.0
23	8.0	6.5	7.5	9.5	7.5	8.0	9.5	8.5	9.0	12.5	11.5	12.0
24	8.0	7.0	7.5	9.5	7.5	8.0	9.5	8.5	9.0	12.5	11.5	12.0
25	8.0	7.5	7.5	9.5	7.5	8.0	9.5	9.0	9.5	13.0	12.0	12.5
26	8.5	7.0	7.5	9.5	7.0	8.0	9.5	8.5	9.5	12.5	12.0	12.5
27	8.5	7.0	7.5	9.0	7.5	8.0	9.5	8.5	9.5	13.0	12.0	12.5
28	8.5	7.0	7.5	8.5	7.5	8.0	10.0	9.0	9.5	13.0	12.0	12.5
29	8.5	7.0	8.0	9.0	8.0	8.5	10.0	9.0	9.5	13.0	12.5	12.5
30	8.5	6.5	7.5	9.5	7.0	8.5	10.0	9.0	9.5	13.5	12.5	13.0
31	---	---	---	9.5	7.0	8.0	10.0	8.5	9.5	---	---	---
MONTH	8.5	6.0	7.5	9.5	6.0	8.0	10.0	7.0	9.0	13.5	9.0	11.0
YEAR	14.0	4.0	7.5									

14161100 BLUE RIVER BELOW TIDBITS CREEK, NEAR BLUE RIVER, OR

LOCATION.--Lat 44°13'05", long 122°15'50", in SE 1/4 NE 1/4 sec.36, T.15 S., R.4 E., Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 0.2 mi downstream from Tidbits Creek, 5.5 mi northeast of town of Blue River, and at mile 8.5.

DRAINAGE AREA.--45.8 mi^2.

PERIOD OF RECORD.--September 1963 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,386.90 ft above sea level (Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Continuous water-quality records for the period September 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--33 years (water years 1964-96), 250 ft^3/s, 74.05 in/yr, 180,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft^3/s Dec. 22, 1964, gage height, 15.32 ft, from floodmarks, from rating curve extended above 2,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily discharge, 6.0 ft^3/s Oct. 27-29, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1830	2,800	7.72	Feb. 7	1200	*8,990	11.43
Nov. 25	1700	2,170	7.10	Feb. 7	1200	---	*a12.04
Nov. 27	2330	2,500	7.44	Feb. 9	0200	4,390	8.97
Dec. 1	0500	2,860	7.78	Apr. 23	2330	3,280	8.14
Dec. 30	1730	2,930	7.84				

Minimum discharge, 12 ft^3/s Sept. 9-13.
a From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	65	2220	869	146	167	534	222	135	49	20	13
2	54	58	1200	538	138	175	451	198	125	47	22	13
3	180	53	855	551	133	229	365	183	115	45	24	13
4	149	50	1130	549	179	367	292	165	106	43	22	13
5	88	55	827	452	440	434	254	151	99	41	21	14
6	64	140	698	539	4080	349	240	139	92	39	21	13
7	52	281	565	670	6990	320	234	129	87	38	20	13
8	45	940	442	1010	3150	362	229	121	82	37	19	13
9	42	942	867	874	3030	453	217	115	79	37	19	12
10	38	559	763	823	1310	453	198	109	74	35	18	12
11	85	1660	793	546	786	490	217	105	70	34	17	12
12	167	1390	1460	393	674	483	284	103	67	33	17	12
13	110	1200	1370	310	705	388	326	115	65	32	17	12
14	81	718	1300	310	678	320	332	215	62	31	16	15
15	65	445	1100	924	641	283	336	589	60	30	16	69
16	58	336	672	1310	617	249	342	528	59	29	15	57
17	63	276	469	813	741	225	349	604	61	33	15	46
18	129	336	359	561	1640	212	336	800	60	38	15	29
19	88	273	296	882	1250	212	365	830	54	33	15	23
20	72	227	254	744	833	201	348	584	52	30	15	21
21	76	197	223	570	589	188	348	443	50	28	15	19
22	83	191	199	389	440	188	741	616	48	27	15	18
23	71	174	179	319	370	174	1800	696	71	26	14	17
24	61	297	164	272	304	162	2170	516	101	25	14	16
25	67	1670	151	234	259	147	981	381	84	24	14	16
26	257	1320	139	210	227	138	663	304	74	24	14	15
27	178	1290	133	218	204	132	466	252	67	23	16	15
28	127	1710	146	213	186	126	364	217	63	23	15	15
29	100	1310	966	191	172	119	290	190	57	23	14	14
30	85	2010	1870	170	---	113	248	167	52	22	13	14
31	73	---	1660	158	---	211	---	150	---	21	13	---
TOTAL	2888	20173	23470	16612	30912	8070	14320	9937	2271	1000	521	584
MEAN	93.2	672	757	536	1066	260	477	321	75.7	32.3	16.8	19.5
MAX	257	2010	2220	1310	6990	490	2170	830	135	49	24	69
MIN	38	50	133	158	133	113	198	103	48	21	13	12
AC-FT	5730	40010	46550	32950	61310	16010	28400	19710	4500	1980	1030	1160
CFSM	2.03	14.7	16.5	11.7	23.3	5.68	10.4	7.00	1.65	.70	.37	.43
IN.	2.35	16.39	19.06	13.49	25.11	6.55	11.63	8.07	1.84	.81	.42	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	66.0	334	490	489	442	374	351	253	124	39.2	21.3	25.6
MAX	180	731	1471	1033	1066	995	597	521	320	90.9	51.9	82.2
(WY)	1969	1974	1965	1970	1996	1972	1993	1971	1974	1983	1968	1978
MIN	6.42	21.0	33.0	48.3	65.0	84.6	147	70.7	27.3	17.7	9.51	8.62
(WY)	1988	1994	1977	1977	1977	1992	1968	1992	1992	1992	1992	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	121428		130758			
ANNUAL MEAN	333		357		250	
HIGHEST ANNUAL MEAN					404	1974
LOWEST ANNUAL MEAN					106	1977
HIGHEST DAILY MEAN	3200	Feb 1	6990	Feb 7	10000	Dec 22 1964
LOWEST DAILY MEAN	12	Sep 22	12	Sep 9	6.0	Oct 27 1987
ANNUAL SEVEN-DAY MINIMUM	13	Sep 18	12	Sep 7	6.1	Oct 23 1987
ANNUAL RUNOFF (AC-FT)	240900		259400		180800	
ANNUAL RUNOFF (CFSM)	7.26		7.80		5.45	
ANNUAL RUNOFF (INCHES)	98.63		106.21		74.05	
10 PERCENT EXCEEDS	862		870		571	
50 PERCENT EXCEEDS	174		167		139	
90 PERCENT EXCEEDS	21		16		16	

14161500 LOOKOUT CREEK NEAR BLUE RIVER, OR

LOCATION.--Lat 44°12'35", long 122°15'20", in T.15, R.5 E. (unsurveyed), Lane County, Hydrologic Unit 17090004, in Willamette National Forest, on left bank 6.0 mi northeast of town of Blue River, and at mile 0.5.

DRAINAGE AREA.--24.1 mi^2.

PERIOD OF RECORD.--August 1949 to September 1955, September 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,377.76 ft above sea level (Corps of Engineers bench mark).

REMARKS.--Records good except for the period Feb. 7 to Apr. 24, which are poor. No regulation or diversion upstream from station. Continuous water-quality records for the period August 1950 to September 1955 and September 1963 to September 1981 have been collected at this location. On Feb. 6, 7, 1996, a series of debris flows from contributing tributaries caused extreme scour and fill throughout the channel.

AVERAGE DISCHARGE.--39 years (water years 1950-55, 1964-96), 122 ft^3/s, 68.88 in/yr, 88,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s Feb. 7, 1996, gage height, 10.03 ft, on basis of slope-area measurement of peak flow; minimum discharge, 4.8 ft^3/s Sept. 16, 17, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1900	1,260	5.38	Feb. 7	1130	*8,000	*10.03
Dec. 1	0530	1,260	5.39	Feb. 9	0400	2,490	6.62
Dec. 30	1700	1,210	5.32	Apr. 24	0300	1,260	5.38

Minimum discharge, 9.2 ft^3/s Sept. 7-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	30	1040	449	88	74	232	196	110	39	15	9.9
2	17	27	625	311	81	68	254	175	101	37	16	9.8
3	41	25	446	308	77	94	221	158	94	34	16	9.7
4	36	23	503	294	100	166	178	143	87	34	15	9.7
5	25	28	427	251	184	211	157	130	81	32	15	10
6	20	65	378	261	1690	189	152	119	76	31	15	9.7
7	18	135	317	310	e4700	171	153	110	71	29	14	9.7
8	17	310	263	433	1870	180	157	102	67	28	14	9.5
9	16	357	392	401	1870	226	147	96	63	28	13	9.3
10	16	258	359	376	954	246	133	91	60	26	13	9.3
11	36	719	338	297	596	283	134	88	57	26	13	9.2
12	70	695	483	241	456	272	159	88	55	25	13	9.2
13	47	613	544	195	431	230	173	99	53	24	12	9.2
14	35	398	515	184	415	192	171	162	51	23	12	11
15	28	273	462	316	394	166	179	311	49	23	12	39
16	26	203	338	433	384	146	207	307	48	22	12	31
17	28	159	263	350	437	125	198	346	48	25	11	27
18	45	145	213	290	754	107	187	458	47	26	11	17
19	32	118	175	421	724	105	192	468	44	23	11	14
20	28	102	147	417	528	94	187	392	41	22	11	13
21	32	90	127	379	396	82	186	329	39	21	11	12
22	33	85	111	267	305	91	348	368	37	20	11	11
23	29	77	100	215	260	76	734	387	56	19	11	11
24	26	122	91	182	215	64	1080	339	65	19	10	10
25	29	605	83	151	178	52	694	285	58	18	11	10
26	100	586	77	131	156	46	518	232	55	18	11	9.8
27	72	579	73	132	132	41	394	195	61	17	13	9.7
28	57	788	77	129	105	37	310	171	52	17	11	9.7
29	46	679	349	117	86	32	255	152	46	17	11	9.7
30	40	999	770	104	---	29	219	136	42	16	10	9.7
31	35	---	768	95	---	74	---	122	---	16	10	---
TOTAL	1102	9293	10854	8440	18566	3969	8309	6755	1814	755	384	378.8
MEAN	35.5	310	350	272	640	128	277	218	60.5	24.4	12.4	12.6
MAX	100	999	1040	449	4700	283	1080	468	110	39	16	39
MIN	16	23	73	95	77	29	133	88	37	16	10	9.2
AC-FT	2190	18430	21530	16740	36830	7870	16480	13400	3600	1500	762	751
CFSM	1.48	12.9	14.5	11.3	26.6	5.31	11.5	9.04	2.51	1.01	.51	.52
IN.	1.70	14.34	16.75	13.03	28.66	6.13	12.83	10.43	2.80	1.17	.59	.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1996, BY WATER YEAR (WY)

MEAN	35.9	148	225	237	221	169	170	135	73.8	25.8	15.0	15.3
MAX	179	322	794	591	640	420	300	255	212	46.6	22.2	40.5
(WY)	1951	1978	1965	1953	1996	1972	1993	1950	1950	1983	1976	1978
MIN	5.46	9.36	19.9	25.1	27.0	48.2	69.8	39.2	17.3	12.2	8.26	6.81
(WY)	1988	1994	1977	1977	1977	1992	1968	1992	1992	1992	1992	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1950 - 1996	
ANNUAL TOTAL	54927.3		70619.8			
ANNUAL MEAN	150		193		122	
HIGHEST ANNUAL MEAN					193	1996
LOWEST ANNUAL MEAN					49.2	1977
HIGHEST DAILY MEAN	1260	Feb 1	4700	Feb 7	4890	Dec 22 1964
LOWEST DAILY MEAN	9.8	Sep 22	9.2	Sep 11	5.1	Sep 15 1981
ANNUAL SEVEN-DAY MINIMUM	10	Sep 18	9.3	Sep 7	5.2	Oct 22 1987
ANNUAL RUNOFF (AC-FT)	108900		140100		88510	
ANNUAL RUNOFF (CFSM)	6.24		8.01		5.07	
ANNUAL RUNOFF (INCHES)	84.78		109.01		68.88	
10 PERCENT EXCEEDS	373		440		274	
50 PERCENT EXCEEDS	85		93		74	
90 PERCENT EXCEEDS	14		11		12	

e Estimated

14162100 BLUE RIVER LAKE NEAR BLUE RIVER, OR

LOCATION.--Lat 44°10'20", long 122°19'40", in SE 1/4 SE 1/4 sec.16, T.16 S., R.4 E., Lane County, Hydrologic Unit 17090004, in intake tower near left end of Blue River Dam on Blue River, 1.4 mi north of town of Blue River, and at mile 1.7.

DRAINAGE AREA.--87.3 mi^2.

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1971, published as Blue River Reservoir near Blue River.

REVISED RECORDS.--WDR OR-92-1: 1975-77.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with concrete gate and spillway section, completed in 1968 by Corps of Engineers; storage began October 1968. Total capacity is 89,520 acre-ft at elevation 1,357 ft, maximum pool, and usable capacity is 85,550 acre-ft between elevations 1,180 ft, minimum flood control pool, and 1,357 ft, maximum pool. Reservoir used for flood control. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 86,260 acre-ft Apr. 28, 1990, elevation, 1,353.63 ft; minimum contents observed since first filling in 1968, 305 acre-ft Dec. 7, 1973, elevation, 1,125.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 85,240 acre-ft June 24, 25, elevation, 1,352.56 ft; minimum contents recorded, 4,710 acre-ft Jan. 11, 14, elevation, 1,185.32 ft.

CORRECTIONS.--Change in contents for July 1995 is -740 acre-ft, this figure supercedes data published in the report for that year.

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,120	136	1,160	1,880	1,250	19,260
1,130	437	1,180	3,970	1,290	36,960
1,140	764	1,200	7,030	1,340	73,710
1,150	1,210	1,220	11,040	1,354	86,620

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1284.34	1234.57	1299.31	1251.70	1198.76	1290.38	1323.03	1345.15	1351.28	1351.89	1351.92	1348.04
2	1283.35	1231.55	1300.98	1244.28	1202.14	1291.42	1325.36	1345.15	1351.31	1351.97	1351.08	1347.96
3	1283.55	1228.36	1299.69	1232.08	1205.19	1292.91	1326.63	1345.18	1351.33	1352.02	1349.92	1347.87
4	1283.05	1224.71	1298.86	1220.19	1209.31	1295.26	1326.87	1345.21	1351.37	1352.08	1349.86	1347.11
5	1281.57	1220.94	1296.59	1205.58	1218.45	1298.01	1327.56	1345.56	1351.39	1352.12	1349.82	1345.99
6	1279.94	1218.82	1291.91	1197.81	1268.67	1300.15	1328.66	1346.06	1351.44	1352.16	1349.77	1344.77
7	1278.21	1218.12	1284.78	1201.40	1319.12	1301.99	1329.68	1346.50	1351.38	1352.19	1349.71	1343.49
8	1276.43	1224.38	1276.21	1205.76	1336.24	1303.74	1330.63	1346.91	1351.36	1352.22	1349.67	1342.22
9	1274.61	1227.09	1274.36	1199.01	1348.75	1305.70	1331.46	1347.27	1351.35	1352.24	1349.62	1340.93
10	1272.74	1222.74	1273.97	1191.70	1346.16	1307.71	1332.20	1347.62	1351.33	1352.25	1349.56	1339.64
11	1271.37	1235.44	1273.44	1188.76	1340.71	1308.45	1333.03	1347.96	1351.29	1352.26	1349.50	1338.32
12	1270.55	1239.42	1279.81	1187.76	1334.59	1308.15	1334.05	1348.28	1351.26	1352.27	1349.44	1337.04
13	1269.14	1237.66	1285.18	1185.85	1328.30	1307.73	1335.03	1348.74	1351.35	1352.28	1349.36	1335.75
14	1267.48	1228.89	1287.78	1187.80	1321.67	1307.80	1335.90	1349.22	1351.50	1352.28	1349.31	1334.55
15	1265.65	1218.19	1289.15	1199.50	1314.40	1308.67	1336.83	1349.36	1351.65	1352.27	1349.25	1333.61
16	1263.76	1208.65	1285.24	1205.42	1306.65	1309.49	1337.51	1348.99	1351.79	1352.25	1349.18	1332.57
17	1261.93	1196.63	1276.52	1203.34	1299.08	1310.15	1337.67	1349.82	1351.95	1352.30	1349.10	1331.42
18	1260.57	1192.63	1265.99	1202.29	1299.30	1310.95	1337.57	1350.39	1352.07	1352.31	1349.03	1330.17
19	1258.84	1192.36	1253.50	1212.97	1300.27	1311.97	1337.66	1350.33	1352.12	1352.31	1348.95	1328.89
20	1256.89	1190.71	1242.26	1221.31	1297.35	1312.91	1337.62	1349.68	1352.15	1352.30	1348.88	1327.48
21	1254.95	1187.98	1231.13	1220.54	1291.05	1313.78	1337.60	1349.60	1352.18	1352.28	1348.81	1325.96
22	1253.02	1187.17	1221.82	1214.65	1285.04	1314.68	1339.21	1350.23	1352.20	1352.28	1348.73	1324.43
23	1250.97	1186.89	1214.94	1209.14	1284.10	1315.48	1343.58	1350.20	1352.40	1352.25	1348.67	1322.80
24	1248.84	1189.87	1207.07	1204.93	1284.67	1316.21	1348.84	1349.91	1352.56	1352.23	1348.58	1321.08
25	1246.69	1220.88	1197.23	1198.60	1284.81	1316.80	1347.52	1350.03	1352.48	1352.20	1348.49	1319.34
26	1246.77	1235.64	1193.64	1190.25	1285.64	1317.37	1346.33	1350.12	1352.38	1352.17	1348.47	1317.60
27	1245.71	1242.30	1194.37	1188.47	1287.06	1317.91	1346.03	1350.01	1352.24	1352.14	1348.41	1315.84
28	1244.05	1260.53	1195.52	1190.96	1288.32	1318.44	1345.50	1350.12	1352.12	1352.11	1348.35	1314.05
29	1241.98	1271.53	1217.00	1191.70	1289.37	1318.91	1345.23	1350.28	1352.02	1352.07	1348.27	1312.28
30	1239.74	1286.44	1242.19	1192.39	---	1319.36	1345.14	1350.64	1351.89	1352.03	1348.20	1310.48
31	1237.31	---	1251.33	1194.76	---	1320.40	---	1351.09	---	1351.98	1348.12	---
MAX	1284.34	1286.44	1300.98	1251.70	1348.75	1320.40	1348.84	1351.09	1352.56	1352.31	1351.92	1348.04
MIN	1237.31	1186.89	1193.64	1185.85	1198.76	1290.38	1323.03	1345.15	1351.26	1351.89	1348.12	1310.48
(†)	15420	34950	19700	6150	36600	57550	78320	83850	84610	84690	81060	50220
(‡)	-19120	+19530	-15250	-13550	+30450	+20950	+20770	+5530	+760	+80	-3630	-30840

CAL YR 1995 MAX 1351.50 MIN --- AC-FT‡ +15440
WTR YR 1996 MAX 1352.56 MIN 1185.85 AC-FT‡ +15680

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14162200 BLUE RIVER AT BLUE RIVER, OR

LOCATION.--Lat 44°09'45", long 122°19'55", in NW 1/4 SE 1/4 sec.21, T.16 S., R.4 E., Lane County, Hydrologic Unit 17090004, on right bank 0.3 mi upstream from Simmonds Creek, 0.7 mi north of town of Blue River, 0.8 mi downstream from Blue River Dam, and at mile 0.9.

DRAINAGE AREA.--87.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,056.53 ft above sea level (Corps of Engineers bench mark). Prior to Aug. 25, 1966, nonrecording gage at datum 0.80 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1968 by Blue River Lake (station 14162100). No diversion upstream from station. Discharge not adjusted for storage or release from Blue River Lake as losses from reservoir at times exceed natural flow.

AVERAGE DISCHARGE.--30 years (water years 1967-96), 452 ft^3/s, 327,100 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,270 ft^3/s Feb. 23, 1968, gage height, 8.93 ft; minimum discharge, 0.80 ft^3/s Oct. 8, 10, 11, 1968; minimum daily, 3.7 ft^3/s Oct. 8, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964 reached a stage of 16.5 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,870 ft^3/s Feb. 15, gage height, 8.23 ft; maximum discharge measured, 3,980 ft^3/s Feb. 10, gage height, 8.18 ft; minimum discharge, 10 ft^3/s June 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	486	495	500	1580	39	49	46	437	181	86	49	46
2	349	488	1740	2310	40	49	47	391	226	49	383	46
3	263	481	1970	2850	41	49	280	341	211	49	521	46
4	380	502	2200	2450	42	50	488	296	186	49	46	328
5	514	504	2240	2150	47	51	224	129	186	49	46	492
6	512	495	2650	1570	77	51	41	40	155	49	46	519
7	509	626	2990	997	82	51	41	40	191	49	46	543
8	506	832	2960	1560	46	130	79	40	162	49	46	539
9	502	1330	2100	2070	988	198	110	40	150	49	46	539
10	499	1490	1470	1970	3610	201	102	40	150	49	46	537
11	497	1510	1470	1220	3780	676	114	40	150	48	46	535
12	510	2110	897	829	3760	962	198	40	138	48	46	535
13	513	2500	978	714	3740	853	274	40	81	48	46	531
14	510	2440	1510	502	3740	574	285	239	38	48	46	531
15	506	1970	1520	808	3790	238	285	1100	38	48	46	531
16	502	1430	2200	1730	3780	201	395	1140	38	48	46	531
17	498	1320	3000	1600	3750	201	596	768	38	48	46	526
18	495	817	2980	1130	2630	115	685	1220	58	48	46	526
19	491	488	2970	976	1960	41	687	1540	74	48	46	522
20	505	484	2400	911	2460	41	689	1330	74	48	46	560
21	508	484	1920	1470	2980	41	689	887	74	49	46	588
22	504	365	1380	1430	2460	42	761	895	74	49	46	585
23	499	304	962	1180	1000	42	1270	1280	74	49	46	615
24	493	354	917	966	513	42	1860	1090	143	49	46	638
25	510	625	935	954	513	42	2490	691	189	49	46	634
26	522	834	472	948	245	42	1780	563	188	49	46	632
27	521	1580	197	630	40	42	1020	535	186	49	46	629
28	519	49	198	414	40	42	902	375	169	49	46	625
29	515	273	156	420	45	42	681	298	154	49	46	623
30	508	219	487	338	---	42	534	166	154	49	46	620
31	502	---	1560	188	---	43	---	90	---	49	46	---
TOTAL	15148	27399	49929	38865	46238	5243	17653	16121	3930	1546	2241	15152
MEAN	489	913	1611	1254	1594	169	588	520	131	49.9	72.3	505
MAX	522	2500	3000	2850	3790	962	2490	1540	226	86	521	638
MIN	263	49	156	188	39	41	41	40	38	48	46	46
AC-FT	30050	54350	99030	77090	91710	10400	35010	31980	7800	3070	4450	30050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	260	633	942	821	487	374	334	341	242	312	421	243
MAX	611	1459	2189	1371	1594	1766	853	676	549	626	765	536
(WY)	1985	1974	1978	1972	1996	1972	1993	1971	1984	1979	1971	1972
MIN	45.7	39.4	63.1	68.1	32.6	12.0	12.0	35.0	63.9	46.6	26.6	27.1
(WY)	1993	1988	1977	1977	1977	1977	1977	1973	1973	1967	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	209236		239465			
ANNUAL MEAN	573		654		452	
HIGHEST ANNUAL MEAN					727	1972
LOWEST ANNUAL MEAN					192	1977
HIGHEST DAILY MEAN	3000	Dec 17	3790	Feb 15	5650	Feb 23 1968
LOWEST DAILY MEAN	49	Jun 27	38	Jun 14	3.7	Oct 8 1968
ANNUAL SEVEN-DAY MINIMUM	57	Mar 7	40	May 6	7.0	Oct 5 1968
ANNUAL RUNOFF (AC-FT)	415000		475000		327100	
10 PERCENT EXCEEDS	1510		1930		970	
50 PERCENT EXCEEDS	466		454		289	
90 PERCENT EXCEEDS	61		46		50	

14162200 BLUE RIVER AT BLUE RIVER, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1966 to current year.

INSTRUMENTATION.--Temperature recorder since August 1966.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 26.0°C July 6, 1968; minimum, 0.0°C Jan. 5-9, 1974, Dec. 23, 24, 1983.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 17.0°C Oct. 1, 2, 4; minimum, 3.5°C Dec. 27-29, Jan. 31, Feb. 2-4, but may have been lower during period of missing record Jan. 15-30.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.0	16.5	17.0	11.5	11.0	11.5	9.0	8.0	8.5	7.0	6.5	7.0
2	17.0	16.5	17.0	11.0	11.0	11.0	8.0	8.0	8.0	7.5	7.0	7.0
3	16.5	16.5	16.5	11.0	10.5	11.0	8.0	8.0	8.0	7.0	7.0	7.0
4	17.0	16.0	16.5	11.0	10.5	11.0	8.0	8.0	8.0	7.0	7.0	7.0
5	16.0	16.0	16.0	11.0	10.5	11.0	8.0	8.0	8.0	7.0	7.0	7.0
6	16.0	16.0	16.0	11.0	10.5	11.0	8.0	7.5	7.5	7.0	6.5	6.5
7	16.0	16.0	16.0	10.5	10.0	10.0	7.5	7.5	7.5	6.5	6.5	6.5
8	16.0	16.0	16.0	10.0	9.5	9.5	7.5	7.5	7.5	7.0	6.5	7.0
9	16.5	16.0	16.0	10.0	9.5	9.5	7.5	7.5	7.5	7.5	7.0	7.5
10	16.5	16.0	16.0	9.5	9.0	9.0	7.5	7.0	7.5	7.5	7.0	7.5
11	16.0	16.0	16.0	9.0	8.5	8.5	7.5	7.5	7.5	7.0	6.0	7.0
12	16.5	15.5	16.0	9.0	8.5	9.0	7.5	7.5	7.5	6.5	6.0	6.0
13	15.5	15.0	15.5	9.0	9.0	9.0	7.5	7.5	7.5	6.5	6.0	6.0
14	15.5	14.5	15.0	9.5	9.0	9.0	8.0	7.5	8.0	6.0	6.0	6.0
15	15.5	14.5	15.0	9.0	9.0	9.0	8.0	7.5	7.5	---	---	---
16	15.0	14.5	15.0	9.5	9.0	9.0	7.5	7.0	7.5	---	---	---
17	15.0	15.0	15.0	9.5	9.0	9.0	7.5	7.5	7.5	---	---	---
18	15.5	15.0	15.0	9.5	9.0	9.0	7.5	7.5	7.5	---	---	---
19	15.0	14.5	14.5	9.0	8.5	9.0	7.5	7.5	7.5	---	---	---
20	14.5	14.0	14.5	8.5	8.0	8.5	7.5	7.0	7.0	---	---	---
21	14.5	14.0	14.0	8.0	8.0	8.0	7.0	7.0	7.0	---	---	---
22	14.5	14.0	14.0	8.0	8.0	8.0	7.0	6.5	6.5	---	---	---
23	14.0	14.0	14.0	8.0	8.0	8.0	6.5	6.0	6.0	---	---	---
24	14.0	13.5	14.0	8.5	8.0	8.5	6.0	5.5	5.5	---	---	---
25	13.5	13.5	13.5	9.0	8.5	8.5	5.5	4.5	5.0	---	---	---
26	14.0	13.5	13.5	9.0	8.0	8.5	4.5	4.0	4.0	---	---	---
27	13.5	12.5	13.0	8.5	8.0	8.0	4.0	3.5	3.5	---	---	---
28	12.5	12.5	12.5	9.0	8.5	9.0	3.5	3.5	3.5	---	---	---
29	12.5	12.0	12.5	9.0	8.0	8.5	5.5	3.5	4.5	---	---	---
30	12.0	12.0	12.0	9.0	8.0	8.5	6.0	5.5	5.5	---	---	---
31	12.0	11.5	12.0	---	---	---	6.5	5.5	6.0	4.0	3.5	3.5
MONTH	17.0	11.5	15.0	11.5	8.0	9.0	9.0	3.5	7.0	---	---	---

14162200 BLUE RIVER AT BLUE RIVER, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.5	4.0	4.0	6.0	5.0	5.5	6.5	5.5	6.0	8.5	7.5	8.0
2	4.0	3.5	4.0	5.5	5.0	5.0	6.0	5.5	6.0	8.5	7.5	8.0
3	4.0	3.5	3.5	5.5	5.0	5.0	6.0	5.0	5.5	8.5	8.0	8.5
4	4.0	3.5	4.0	5.5	5.0	5.0	6.0	5.5	5.5	8.5	8.0	8.5
5	4.5	4.0	4.0	5.5	5.0	5.0	6.5	5.5	5.5	9.5	8.0	8.5
6	6.0	4.5	5.5	5.5	5.0	5.0	7.0	5.5	6.0	9.5	7.5	8.5
7	7.0	6.0	7.0	5.5	5.0	5.0	7.0	5.5	6.0	9.0	8.0	8.5
8	7.0	7.0	7.0	5.5	5.0	5.0	7.5	5.5	6.5	9.5	8.0	8.5
9	7.0	5.0	6.0	5.0	5.0	5.0	8.0	7.0	7.5	9.5	8.0	8.5
10	5.0	5.0	5.0	5.0	5.0	5.0	7.5	7.0	7.5	9.5	8.0	8.5
11	5.0	5.0	5.0	5.0	4.5	5.0	7.0	7.0	7.0	9.0	8.5	8.5
12	5.5	5.0	5.0	5.0	5.0	5.0	7.0	7.0	7.0	9.5	8.5	8.5
13	5.5	5.0	5.0	5.0	4.5	5.0	7.5	7.0	7.0	8.5	8.5	8.5
14	5.5	5.0	5.5	5.0	4.5	5.0	7.5	7.0	7.0	8.5	8.0	8.5
15	5.5	5.5	5.5	5.5	5.0	5.0	7.0	7.0	7.0	8.5	8.5	8.5
16	5.5	5.5	5.5	5.5	4.5	5.0	7.0	7.0	7.0	8.5	8.5	8.5
17	5.5	5.5	5.5	5.5	4.5	5.0	7.0	7.0	7.0	8.5	8.5	8.5
18	5.5	5.5	5.5	6.0	5.0	5.0	7.5	7.0	7.0	8.5	8.5	8.5
19	5.5	5.5	5.5	6.0	5.0	5.0	7.5	7.0	7.0	8.5	8.5	8.5
20	5.5	5.5	5.5	6.0	5.0	5.0	7.5	7.0	7.0	8.5	8.5	8.5
21	6.0	5.5	5.5	6.0	5.0	5.0	7.5	7.0	7.5	8.5	8.5	8.5
22	6.0	6.0	6.0	5.5	5.0	5.0	7.5	7.5	7.5	8.5	8.5	8.5
23	6.0	5.5	5.5	6.0	5.0	5.0	7.5	7.5	7.5	8.5	8.5	8.5
24	5.5	5.5	5.5	5.5	5.0	5.0	8.0	7.5	8.0	8.5	8.5	8.5
25	5.5	5.0	5.5	6.0	5.0	5.5	8.0	8.0	8.0	9.0	8.5	8.5
26	6.0	5.0	5.0	6.5	5.0	5.5	8.0	8.0	8.0	8.5	8.5	8.5
27	5.5	4.5	5.0	5.5	5.0	5.5	8.0	8.0	8.0	8.5	8.5	8.5
28	5.5	5.0	5.5	6.0	4.5	5.5	8.0	8.0	8.0	8.5	8.5	8.5
29	6.0	5.0	5.5	5.5	5.0	5.5	8.5	8.0	8.0	8.5	8.5	8.5
30	---	---	---	6.5	5.5	5.5	8.5	8.0	8.0	9.5	8.5	9.0
31	---	---	---	5.5	4.5	5.5	---	---	---	9.5	8.5	9.0
MONTH	7.0	3.5	5.5	6.5	4.5	5.0	8.5	5.0	7.0	9.5	7.5	8.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.0	8.5	9.0	10.0	8.5	9.0	10.5	8.5	9.0	10.0	8.5	9.0
2	9.0	8.5	8.5	10.0	8.5	9.0	9.0	8.5	9.0	10.0	8.5	9.0
3	9.0	8.5	9.0	10.0	8.5	9.0	9.0	8.5	9.0	10.0	8.5	9.0
4	9.0	8.5	9.0	10.0	8.5	8.5	10.0	8.5	9.0	9.0	8.5	9.0
5	9.0	8.5	9.0	10.0	8.0	8.5	9.5	8.5	9.0	9.0	8.5	9.0
6	13.5	9.0	9.5	10.0	8.5	9.0	10.0	8.5	9.0	9.0	8.5	9.0
7	9.5	9.0	9.0	10.0	8.5	9.0	10.5	8.5	9.0	9.0	9.0	9.0
8	9.5	9.0	9.0	10.0	8.5	9.0	10.5	8.5	9.0	9.0	9.0	9.0
9	9.0	9.0	9.0	10.0	8.5	9.0	10.5	9.0	9.0	9.0	9.0	9.0
10	9.0	8.5	9.0	10.0	8.5	9.0	10.5	9.0	9.0	9.0	9.0	9.0
11	9.5	9.0	9.0	10.0	8.5	9.0	10.5	9.0	9.0	9.0	9.0	9.0
12	9.5	8.5	9.0	10.0	8.5	9.0	10.5	8.5	9.0	9.0	9.0	9.0
13	10.5	9.0	9.0	10.0	8.5	9.0	10.5	8.5	9.0	9.0	9.0	9.0
14	10.5	9.0	9.5	9.5	8.5	9.0	10.5	8.5	9.0	9.0	9.0	9.0
15	10.5	9.0	9.5	10.0	8.5	9.0	10.5	8.5	9.0	9.5	9.0	9.0
16	9.5	8.5	9.0	10.0	8.5	9.0	10.5	8.5	9.0	9.5	9.0	9.5
17	9.5	8.5	9.0	9.0	8.5	8.5	10.0	8.5	9.0	9.5	9.5	9.5
18	9.5	8.5	9.0	9.5	8.5	9.0	10.0	8.5	9.0	9.5	9.5	9.5
19	10.0	8.5	9.0	10.0	8.5	9.0	10.0	8.5	9.0	9.5	9.5	9.5
20	9.5	8.5	9.0	10.0	8.5	9.0	10.0	8.5	9.0	9.5	9.5	9.5
21	9.5	8.5	9.0	10.5	8.5	9.0	10.0	8.5	9.0	10.0	9.5	9.5
22	9.5	8.5	9.0	10.0	8.5	9.0	10.0	8.5	9.0	10.0	9.5	10.0
23	9.0	8.5	9.0	10.0	8.5	9.0	10.0	8.5	9.0	10.0	9.5	10.0
24	9.0	8.5	9.0	10.5	8.5	9.0	10.0	9.0	9.0	10.0	10.0	10.0
25	9.0	8.5	9.0	10.0	8.5	9.0	9.5	9.0	9.0	10.0	10.0	10.0
26	9.0	8.5	8.5	10.5	8.5	9.0	9.5	9.0	9.0	10.5	10.0	10.0
27	8.5	8.5	8.5	10.0	8.5	9.0	9.5	9.0	9.0	10.5	10.0	10.5
28	8.5	8.5	8.5	9.0	8.5	9.0	10.0	9.0	9.0	10.5	10.5	10.5
29	9.0	8.0	8.5	10.0	8.5	9.0	10.0	9.0	9.0	11.0	10.5	10.5
30	9.0	8.5	8.5	10.5	8.5	9.0	10.0	9.0	9.0	11.0	10.5	11.0
31	---	---	---	10.5	8.5	9.0	10.0	9.0	9.0	---	---	---
MONTH	13.5	8.0	9.0	10.5	8.0	9.0	10.5	8.5	9.0	11.0	8.5	9.5

14162500 MCKENZIE RIVER NEAR VIDA, OR

LOCATION.--Lat 44°07'30", long 122°28'10", in NE 1/4 NE 1/4 sec.5, T.17 S., R.3 E., Lane County, Hydrologic Unit 17090004, on right bank 0.4 mi downstream from Mason Creek, 5.4 mi east of Vida, and at mile 47.7.

DRAINAGE AREA.--930 mi^2 at cableway 0.4 mi downstream, where all discharge measurement are made.

PERIOD OF RECORD.--July 1910 to March 1911 (published as "at Martins Rapids, near Vida"), September 1924 to current year. Monthly discharge only for some periods (water years 1910-11, 1924-25), published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 855.71 ft above sea level (levels by Eugene Water and Electric Board). July 1, 1910, to Mar. 31, 1911, nonrecording gage at site 3 mi downstream at different datum. Sept. 1, 1924, to Nov. 16, 1928, nonrecording gage at site 20 ft upstream at datum 0.15 ft lower. Nov. 17, 1928, to Sept. 23, 1968, water-stage recorder at present site on left bank at datum 0.15 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1963 by Smith River Reservoir (station 14158795) and Cougar Lake (station 14159400), and since 1968 by Blue River Lake (station 14162100). No diversion upstream from station. All records given herein are for measuring site. Continuous water-quality records for the period June 1961 to September 1985 have been collected at this location.

AVERAGE DISCHARGE.--72 years (water years 1925-96), 4,022 ft^3/s, 2,913,000 acre-ft/yr, unadjusted.
28 years (water years 1969-96), 4,090 ft^3/s, 2,963,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,400 ft^3/s Dec. 28, 1945, gage height, 17.70 ft, site and datum then in use, from rating curve extended above 32,000 ft^3/s; minimum discharge, 1,260 ft^3/s Nov. 7, 1930, Sept. 17, Oct. 4, 8, 9, 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1923 reached a stage of 17.2 ft, from floodmarks, discharge, 62,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,900 ft^3/s Feb. 7, gage height, 10.05 ft; minimum discharge, 1,990 ft^3/s Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2770	3250	15200	10400	4010	4260	4740	5640	4400	2850	2500	2640
2	2380	3230	13200	10500	3650	4210	4750	5600	4230	2740	3080	2630
3	2230	3210	12400	12800	3500	4300	4830	5230	4050	2710	3390	2620
4	2710	3220	13900	12800	3700	4680	4920	4870	3940	2670	2790	2790
5	3060	3240	13800	11900	4480	4980	4330	4270	3900	2630	2750	2890
6	3000	3440	13800	11000	13400	4810	3790	3700	3770	2610	2740	2890
7	3000	3900	14300	9870	27200	4600	3790	3620	3710	2600	2710	2920
8	2990	5140	14200	11000	19000	4660	3960	3530	3640	2580	2700	2900
9	2990	7120	13700	11300	22300	4900	4170	3380	3550	2570	2700	2890
10	2960	6220	11300	11300	16900	5020	4100	3420	3470	2550	2690	2900
11	3190	8580	11200	9320	15700	5550	4280	3590	3360	2560	2700	2890
12	3560	10800	12100	7610	16500	6270	4810	3580	3290	2550	2720	2890
13	3330	10700	11600	6810	16500	6240	4970	3750	3150	2510	2730	2890
14	3190	9750	12000	6190	16700	5750	4800	4850	3000	2470	2700	2920
15	3120	8410	11600	7760	16300	4960	4760	8670	2970	2440	2690	3280
16	3100	7280	11500	10200	15800	4470	5050	9860	2960	2510	2690	3260
17	3130	6850	13100	9730	15400	4320	5350	8990	2960	2480	2690	3120
18	3270	6460	12900	8070	14200	4100	5400	10200	2980	2500	2690	2980
19	3190	5730	12500	9200	12500	3850	5380	10600	2970	2460	2690	2950
20	3160	5540	11500	9420	11800	3800	5330	9370	2900	2380	2690	2950
21	3200	5410	10300	10100	11900	3750	5240	8040	2860	2360	2680	2970
22	3210	5210	8810	8650	10800	3790	5960	8930	2830	2400	2670	2960
23	3180	5000	7000	7940	8410	3690	9070	9900	2920	2420	2660	2980
24	3150	5270	6740	7560	6870	3600	13900	8940	3240	2350	2650	2990
25	3200	9230	6580	6950	6470	3530	12800	7510	3250	2330	2670	2990
26	3860	10100	5530	6580	5710	3450	11200	6680	3250	2300	2670	2990
27	3700	11400	4620	6660	4970	3340	8940	6160	3300	2280	2700	2970
28	3490	10600	4590	6400	4770	3290	7610	5450	3140	2300	2670	2970
29	3380	8970	6780	5950	4450	3220	6470	4990	3010	2300	2650	2950
30	3330	13100	10400	5290	---	3140	5720	4730	2980	2280	2660	3030
31	3300	---	13300	4680	---	3430	---	4480	---	2360	2660	---
TOTAL	97330	206360	340450	273940	333890	133960	180420	192530	99980	77050	84380	88000
MEAN	3140	6879	10980	8837	11510	4321	6014	6211	3333	2485	2722	2933
MAX	3860	13100	15200	12800	27200	6270	13900	10600	4400	2850	3390	3280
MIN	2230	3210	4590	4680	3500	3140	3790	3380	2830	2280	2500	2620
AC-FT	193100	409300	675300	543400	662300	265700	357900	381900	198300	152800	167400	174500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	2748	4584	6177	5879	4912	4420	4291	4439	3564	2690	2791	2612
MAX	3696	8718	12370	9295	11510	11210	7097	6567	6604	3529	3510	3358
(WY)	1985	1985	1978	1971	1996	1972	1993	1969	1974	1974	1971	1972
MIN	1640	1925	1865	1752	1542	2351	2671	2268	2180	2138	1907	2019
(WY)	1993	1988	1977	1977	1977	1992	1977	1992	1973	1991	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	1785440		2108290			
ANNUAL MEAN	4892		5760		4090	
HIGHEST ANNUAL MEAN					5823	1972
LOWEST ANNUAL MEAN					2447	1977
HIGHEST DAILY MEAN	15200	Dec 1	27200	Feb 7	27200	Feb 7 1996
LOWEST DAILY MEAN	2230	Oct 3	2230	Oct 3	1330	Feb 19 1977
ANNUAL SEVEN-DAY MINIMUM	2350	Jul 13	2310	Jul 24	1350	Oct 23 1992
ANNUAL RUNOFF (AC-FT)	3541000		4182000		2963000	
10 PERCENT EXCEEDS	10300		11800		7020	
50 PERCENT EXCEEDS	3560		3950		3200	
90 PERCENT EXCEEDS	2620		2660		2280	

14163150 MCKENZIE RIVER BELOW LEABURG DAM, NEAR LEABURG, OR

LOCATION.--Lat 44°07'26", long 122°37'35", in NE 1/4 NE 1/4 sec.1, T.17 S., R.1 E., Lane County, Hydrologic Unit 17090004, on right bank 1.4 mi downstream from Leaburg Dam, 3.0 mi northeast of Leaburg, and at mile 37.4.

DRAINAGE AREA.--1,030 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 710 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1963 by Smith River Reservoir (station 14158795) and Cougar Lake (station 14159400), and since 1968 by Blue River Lake (station 14162100). Diversion upstream from station through the Leaburg Power canal. Continuous water temperature records for the period June 1992 to September 1993 have been collected at this location.

AVERAGE DISCHARGE.--7 years (water years 1990-96), 2,405 ft^3/s, 1,742,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,900 ft^3/s Feb. 7, 1996, gage height, 17.95 ft; minimum discharge, 457 ft^3/s Aug. 29, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50,900 ft^3/s Feb. 7, gage height, 17.95 ft; minimum discharge, 912 ft^3/s Aug 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	1050	16700	9190	2500	2520	3130	3870	2570	1050	1100	1040
2	1010	1040	13000	8680	2070	2500	3110	3820	2410	1050	1140	1020
3	1040	1020	11600	11400	1850	2660	3100	3470	2180	1020	1390	1020
4	1030	1020	12900	11500	2090	3210	3180	3080	2050	1010	1040	1020
5	1040	1040	13000	10400	3260	3600	2610	2520	1990	1010	1050	1010
6	1000	1270	12700	9490	16700	3340	1990	1890	1860	1020	1050	1010
7	1010	1830	13100	8300	42700	3070	1940	1760	1790	1020	1050	1020
8	1010	3280	12900	9830	25200	3060	2070	1660	1700	1010	1040	1020
9	1020	5710	12800	10200	29400	3250	2310	1500	1590	1060	1040	1020
10	1020	4460	9790	10200	20200	3310	2240	1490	1500	1040	1020	1030
11	1230	7460	9540	8040	17600	3750	2420	1680	1380	1030	1010	1030
12	1630	10900	11400	6030	18000	4540	3130	1670	1280	1030	1020	1030
13	1310	9360	10800	5220	17500	4510	3410	1820	1160	1010	1030	1030
14	1160	8240	11300	4570	16900	4000	3120	3050	1020	1010	1010	1040
15	1090	6630	10900	6350	15200	3200	3010	7210	1010	1000	1010	1320
16	1060	5300	10100	9090	14300	2640	3330	8550	1020	1060	1010	1240
17	1060	4810	11700	8670	13900	2470	3680	7520	1010	1030	1010	1050
18	1260	4470	11300	6740	13000	2210	3710	8870	1020	1040	1010	1010
19	1140	3670	10700	8680	11500	1940	3770	9370	1020	1020	1020	1020
20	1100	3430	9610	9180	10500	1910	3780	7990	1020	1020	1010	1020
21	1130	3280	8150	10200	10500	1850	3670	6570	1020	1100	1010	1020
22	1140	3100	6860	7910	9270	1900	4490	7540	1010	1170	1010	1020
23	1070	2840	4950	6920	7000	1800	8040	8650	1040	1260	1010	1020
24	1010	3200	4680	6570	5340	1680	14000	7540	1260	1210	1010	1030
25	1050	8090	4480	5820	4870	1600	12100	5990	1310	1180	1010	1030
26	1920	9270	3550	5280	4120	1550	10100	5060	1220	1150	1010	1030
27	1710	10900	2520	5640	3270	1460	7490	4530	1260	1090	1020	1020
28	1440	11100	2530	5500	3030	1390	6070	3770	1120	1070	1020	1020
29	1280	8040	5470	4900	2720	1300	4900	3240	1050	1500	1010	1020
30	1180	13300	9640	4030	---	1210	4020	2960	1040	1050	1020	1040
31	1100	---	13200	3280	---	1540	---	2680	---	1130	1030	---
TOTAL	36280	159110	301870	237810	344490	78970	133920	141320	41910	33450	32220	31250
MEAN	1170	5304	9738	7671	11880	2547	4464	4559	1397	1079	1039	1042
MAX	1920	13300	16700	11500	42700	4540	14000	9370	2570	1500	1390	1320
MIN	1000	1020	2520	3280	1850	1210	1940	1490	1010	1000	1010	1010
AC-FT	71960	315600	598800	471700	683300	156600	265600	280300	83130	66350	63910	61980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	913	2548	3922	3909	3952	2534	3242	3023	1929	1052	1030	910
MAX	1170	5304	9738	7671	11880	6149	6042	5410	3393	1151	1285	1051
(WY)	1996	1996	1996	1996	1996	1993	1993	1993	1993	1992	1995	1994
MIN	610	741	1269	1380	1329	897	1618	1099	1161	946	907	525
(WY)	1990	1990	1990	1992	1993	1992	1994	1994	1992	1993	1991	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	1201410		1572600			
ANNUAL MEAN	3292		4297		2405	
HIGHEST ANNUAL MEAN					4297	1996
LOWEST ANNUAL MEAN					1415	1994
HIGHEST DAILY MEAN	16700	Dec 1	42700	Feb 7	42700	Feb 7 1996
LOWEST DAILY MEAN	1000	Oct 6	1000	Oct 6	478	Dec 29 1989
ANNUAL SEVEN-DAY MINIMUM	1020	Oct 4	1010	Aug 20	486	Dec 24 1989
ANNUAL RUNOFF (AC-FT)	2383000		3119000		1742000	
10 PERCENT EXCEEDS	9510		10900		5260	
50 PERCENT EXCEEDS	1740		2080		1210	
90 PERCENT EXCEEDS	1030		1020		820	

14163900 MCKENZIE RIVER NEAR WALTERVILLE, OR

LOCATION.--Lat 44°04'13", long 122°46'12", in NW 1/4 NE 1/4 sec.26, T.17 S., R.1 W., Lane County, Hydrologic Unit 17090004, on right bank 0.8 mi downstream from Walterville Power Canal Diversion, 1.7 mi east of Walterville, and at mile 27.7.

DRAINAGE AREA.--1,081 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 600 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1963 by Smith River Reservoir (station 14158795) and Cougar Lake (station 14159400), and since 1968 by Blue River Lake (station 14162100). Diversion upstream from station through the Walterville Power Canal. Continuous water-quality records for period June 1992 to September 1993 have been collected at this location.

AVERAGE DISCHARGE.--7 years (water years 1990-96), 2,635 ft^3/s, 1,909,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,100 ft^3/s Feb. 7, 1996, gage height, 16.18 ft; minimum discharge, 420 ft^3/s Nov. 8, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 56,100 ft^3/s Feb. 7, gage height, 16.18 ft; minimum discharge, 980 ft^3/s Oct. 2, Aug. 3

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	1390	17900	10400	2930	2740	3650	4050	2570	1120	1130	1110
2	1100	1390	14500	9250	2360	2670	5110	3910	2390	1100	1180	1110
3	1130	1390	12800	12100	2050	2790	5540	3570	2110	1100	1330	1110
4	1140	1390	13600	12500	2210	3430	5660	3150	1970	1100	1110	1130
5	1120	1400	14100	11200	3280	3930	5100	2610	1860	1100	1110	1110
6	1090	1420	13600	10300	15000	3690	4300	1870	1720	1100	1110	1120
7	1100	1560	13900	8910	44600	3780	4220	1730	1660	1100	1120	1120
8	1100	2870	13800	10600	27200	5010	4260	1610	1580	1100	1110	1110
9	1100	6380	13900	11000	29200	5650	4520	1450	1480	1100	1120	1110
10	1100	4750	10800	11300	22200	5750	4480	1440	1400	1100	1120	1120
11	1160	6730	10300	9080	19200	6150	4620	1590	1320	1100	1120	1110
12	1310	11400	12600	6630	18600	6230	4670	1550	1240	1140	1110	1110
13	1150	10100	12000	5730	16800	5170	4100	1640	1170	1130	1110	1110
14	1220	8960	12700	4900	16600	4250	3050	2780	1080	1110	1110	1120
15	1390	7020	12500	6600	15800	3420	2940	6770	1090	1110	1120	1260
16	1400	5480	11100	9620	15200	2700	3250	8840	1090	1130	1120	1230
17	1390	4940	12600	9740	14900	2580	3630	7820	1090	1120	1110	1090
18	1400	4630	12300	7440	14200	2350	3680	9210	1100	1120	1110	1110
19	1390	3750	11600	9620	12900	2020	3760	9920	1090	1110	1120	1400
20	1400	3470	10500	10400	11600	1900	3790	8650	1090	1120	1110	1110
21	1400	3270	8870	12100	11700	1810	3750	7160	1090	1120	1110	1120
22	1400	3090	7600	9320	10500	1820	4420	7860	1090	1120	1110	1110
23	1410	2760	5270	8030	8170	1730	8070	9160	1100	1130	1120	1120
24	1390	3110	4910	7720	6140	1630	14500	8120	1200	1110	1120	1110
25	1400	7680	4660	6780	5540	1540	13200	6510	1240	1120	1120	1110
26	1720	9950	3860	6090	4780	1460	11100	5380	1170	1110	1120	1110
27	1470	11000	2640	6530	3800	1420	8260	4820	1210	1110	1110	1110
28	1390	13000	2530	6500	3590	1390	6660	4020	1160	1120	1110	1120
29	1390	8830	5540	5760	3220	1400	5370	3400	1090	1160	1110	1110
30	1390	14200	e11000	4830	---	1410	4330	3070	1090	1110	1110	1130
31	1400	---	e15000	3870	---	1580	---	2740	---	1120	1110	---
TOTAL	40040	167310	328980	264850	364270	93400	163990	146400	41540	34540	34830	33950
MEAN	1292	5577	10610	8544	12560	3013	5466	4723	1385	1114	1124	1132
MAX	1720	14200	17900	12500	44600	6230	14500	9920	2570	1160	1330	1400
MIN	1090	1390	2530	3870	2050	1390	2940	1440	1080	1100	1110	1090
AC-FT	79420	331900	652500	525300	722500	185300	325300	290400	82390	68510	69090	67340

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	1191	2939	4006	4035	4167	2990	4128	3094	1667	1202	1226	1089
MAX	1407	5577	10610	8544	12560	6880	7133	4841	3104	1692	2295	1807
(WY)	1995	1996	1996	1996	1996	1993	1993	1993	1993	1995	1995	1995
MIN	683	1363	1249	1181	1216	1408	2621	1420	1117	1076	964	648
(WY)	1990	1990	1990	1992	1993	1992	1994	1994	1994	1993	1990	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	1401280		1714100			
ANNUAL MEAN	3839		4683		2635	
HIGHEST ANNUAL MEAN					4683	1996
LOWEST ANNUAL MEAN					1653	1994
HIGHEST DAILY MEAN	18000	Jan 14	44600	Feb 7	44600	Feb 7 1996
LOWEST DAILY MEAN	1090	Mar 8	1080	Jun 14	499	Dec 22 1989
ANNUAL SEVEN-DAY MINIMUM	1110	Sep 27	1090	Jun 14	516	Dec 22 1989
ANNUAL RUNOFF (AC-FT)	2779000		3400000		1909000	
10 PERCENT EXCEEDS	10500		12000		5690	
50 PERCENT EXCEEDS	2280		2370		1490	
90 PERCENT EXCEEDS	1160		1110		907	

e Estimated

14165000 MOHAWK RIVER NEAR SPRINGFIELD, OR

LOCATION.--Lat 44°05'34", long 122°57'20", in SE 1/4 NW 1/4 sec.17, T.17 S., R.2 W., Lane County, Hydrologic Unit 17090004, on left bank 50 ft downstream from bridge, 1.3 mi northeast of Springfield, and at mile 1.59.

DRAINAGE AREA.--177 mi^2.

PERIOD OF RECORD.--September 1935 to September 1952, October 1963 to current year. Prior to October 1935 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1939. WSP 1738: Drainage area. WDR OR-86-2: 1985(m).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 442.47 ft above sea level. Oct. 1, 1935, to Sept. 30, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good except those for the period Nov. 10 to May 25, and estimated daily discharges, which are poor. Many diversions for irrigation upstream from station. Continuous water-quality records for the period October 1963 to September 1969 and April 1983 to September 1984 have been collected at this location.

AVERAGE DISCHARGE.--50 years (water years 1936-52, 1963-96), 525 ft^3/s, 40.30 in/yr, 380,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft^3/s Feb. 7, 1996, gage height, 23.11 ft; minimum discharge, 8.2 ft^3/s Sept. 9, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached at stage of 22.9 ft, from floodmark, probably affected by backwater from McKenzie River, discharge, 9,200 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1230	4,650	12.49	Jan. 27	2230	3,690	10.91
Dec. 12	1730	3,760	11.02	Feb. 7	1500	*13,500	*23.11
Jan. 21	0100	5,810	14.24				

Minimum discharge, 25 ft^3/s Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	76	4090	1750	1340	947	896	662	476	130	48	28
2	52	71	3050	e1200	1140	932	821	612	442	123	53	27
3	76	67	2270	e1450	989	996	707	569	406	118	63	27
4	100	65	1960	e1550	956	1290	621	529	379	114	56	28
5	64	67	2030	e1350	1100	1590	555	490	356	109	54	34
6	51	93	1880	e1300	3130	1380	510	457	333	105	53	35
7	47	142	1700	e1250	11500	1190	478	430	315	102	48	32
8	44	302	1610	e1650	e7650	1060	447	404	306	97	46	30
9	46	744	1840	e1800	e6700	961	431	379	283	93	43	28
10	44	496	1510	e1800	e4350	895	427	358	271	92	40	28
11	144	622	1790	e1450	e3000	950	457	340	254	87	39	28
12	186	1380	3160	1260	e2450	914	638	325	242	83	39	26
13	102	1000	e4150	1070	e2000	842	645	337	230	79	38	28
14	77	827	e4250	1020	e1850	763	572	561	222	76	35	40
15	64	623	e3850	1450	e1650	690	533	786	209	73	34	196
16	57	505	e2400	1890	e1500	635	611	924	201	70	34	110
17	56	418	e1750	1900	e1450	593	620	901	203	77	33	71
18	112	426	e1450	1620	e1800	557	613	1370	213	105	33	53
19	83	353	e1150	2700	e2150	529	652	1600	186	87	33	48
20	69	315	e1000	3390	e1850	498	715	1310	173	77	34	47
21	78	283	e880	5350	e2050	473	734	1160	165	73	33	42
22	88	266	e760	3530	e1750	485	981	1460	161	69	32	40
23	77	251	685	2750	1900	463	1450	1480	228	64	31	38
24	67	293	615	3300	1760	430	2590	1240	273	61	30	37
25	66	828	559	2780	1480	400	e1800	1010	244	58	29	36
26	219	1350	510	2210	1270	381	e1400	844	187	56	30	35
27	189	1410	472	2740	1110	379	e1100	744	165	54	33	34
28	131	2850	489	3110	1070	390	e940	664	164	54	33	33
29	106	1770	1650	2530	986	353	e810	605	150	59	31	32
30	92	2660	2210	2010	---	338	733	557	139	53	29	31
31	82	---	2540	1640	---	460	---	514	---	49	28	---
TOTAL	2739	20553	58260	64800	71931	22764	24487	23622	7576	2547	1195	1302
MEAN	88.4	685	1879	2090	2480	734	816	762	253	82.2	38.5	43.4
MAX	219	2850	4250	5350	11500	1590	2590	1600	476	130	63	196
MIN	44	65	472	1020	956	338	427	325	139	49	28	26
AC-FT	5430	40770	115600	128500	142700	45150	48570	46850	15030	5050	2370	2580
CFSM	.50	3.87	10.6	11.8	14.0	4.15	4.61	4.31	1.43	.46	.22	.25
IN.	.58	4.32	12.24	13.62	15.12	4.78	5.15	4.96	1.59	.54	.25	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 1996, BY WATER YEAR (WY)

MEAN	112	598	1098	1218	1121	864	596	361	205	77.5	38.9	40.8
MAX	719	1653	3197	2464	2480	1975	1545	762	752	190	91.4	112
(WY)	1951	1951	1965	1965	1996	1972	1937	1996	1984	1983	1968	1968
MIN	19.2	26.5	52.6	84.0	126	281	242	118	54.3	34.3	14.7	18.9
(WY)	1988	1937	1977	1977	1977	1965	1942	1966	1966	1940	1966	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1936 - 1996	
ANNUAL TOTAL	225077		301776			
ANNUAL MEAN	617		825		525	
HIGHEST ANNUAL MEAN					847	1972
LOWEST ANNUAL MEAN					164	1977
HIGHEST DAILY MEAN	6690	Jan 14	11500	Feb 7	11500	Dec 22 1964
LOWEST DAILY MEAN	17	Sep 23	26	Sep 12	9.6	Aug 18 1966
ANNUAL SEVEN-DAY MINIMUM	21	Sep 19	28	Aug 29	11	Aug 15 1966
ANNUAL RUNOFF (AC-FT)	446400		598600		380300	
ANNUAL RUNOFF (CFSM)	3.48		4.66		2.97	
ANNUAL RUNOFF (INCHES)	47.30		63.42		40.30	
10 PERCENT EXCEEDS	1620		1970		1340	
50 PERCENT EXCEEDS	360		437		255	
90 PERCENT EXCEEDS	35		36		30	

e Estimated

14166000 WILLAMETTE RIVER AT HARRISBURG, OR

LOCATION.--Lat 44°16'14", long 123°10'21", in NW 1/4 NE 1/4 sec.16, T.15 S., R.4 W., Linn County, Hydrologic Unit 17090003, on right bank 75 ft north of intersection of First Street and Kesling Street in Harrisburg and at mile 161.0.

DRAINAGE AREA.--3,420 mi^2, approximately.

PERIOD OF RECORD.--October 1944 to current year. Gage-height records collected at same site in 1927-28, 1931, 1934, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 288.39 ft above sea level. Oct 1 to Nov. 14, 1944, nonrecording gage at bridge 1,110 ft upstream at different datum. Nov. 15, 1944, to Aug. 15, 1973, at site 1,100 ft upstream at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by 8 reservoirs upstream from station. Many small diversions upstream from station for irrigation. Continuous water-quality records for the period June 1961 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--24 years (water years 1945-68), 12,320 ft^3/s, 8,927,000 acre-ft/yr.
28 years (water years 1969-96), 11,340 ft^3/s, 8,214,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210,000 ft^3/s Dec. 29, 1945, gage height, 19.69 ft, from rating curve extended above 115,000 ft^3/s; minimum discharge, 1,990 ft^3/s Oct. 30, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 20.5 ft was reached in December 1861, and 20.1 ft in February 1890 (information from Corps of Engineers). Flood of Jan. 1, 1943, reached a stage of 19.1 ft from National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 76,100 ft^3/s Feb. 8, gage height, 14.70 ft; minimum discharge, 4,530 ft^3/s July 11, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7330	7410	39000	33000	15700	12900	10100	12800	10700	5750	5250	5470
2	7170	7310	37900	32000	11500	11500	10600	11800	9850	5360	5530	5450
3	6740	7210	33700	33000	9690	11100	9910	11300	9290	5090	6250	5500
4	7120	7560	32700	33800	9530	12500	10300	10600	8750	4880	5880	6030
5	7460	8460	39300	31600	11200	15200	9970	9780	8480	4810	5620	6360
6	7320	9230	37500	31600	24500	14200	8800	8150	8280	4770	5590	6500
7	7040	9890	41900	31600	54500	13600	8490	7110	7990	4770	5560	6730
8	7030	10900	43000	34100	65900	13000	8330	6830	7370	4760	5530	6810
9	6980	15900	43200	37300	53700	13100	7980	6600	6450	4680	5490	6800
10	6960	16400	34900	40500	49500	13000	7670	6350	6280	4660	5470	6780
11	7280	16300	34700	32700	44600	13400	7630	6650	5990	4600	5460	6780
12	7970	30700	39200	27100	47800	14100	8910	7160	5760	4620	5500	6790
13	7830	31100	39400	22900	46800	14700	10200	7550	5850	4740	5500	6820
14	7460	29500	41500	20000	48700	14700	9850	10200	5870	4750	5510	6960
15	7250	22700	41600	23400	46500	13300	9480	17200	5800	4740	5440	7760
16	7140	18700	39500	30000	44600	11100	10200	30900	5690	4700	5390	7820
17	6770	16400	42000	31300	43900	9990	11600	30900	5710	4960	5480	7750
18	7010	12800	44500	27100	42800	9370	13000	33100	5770	5160	5530	7430
19	6890	11000	42200	32800	38400	8500	13400	34400	5690	5070	5540	6940
20	6800	10100	40300	32500	39000	7840	13600	32500	5650	5110	5550	7350
21	6570	8490	36300	40700	41700	7610	13200	26800	5510	5170	5540	7550
22	6480	8990	33200	40800	39500	7530	13700	27300	5640	5150	5510	7510
23	6680	9170	24200	37100	32000	7320	19600	33700	5930	5240	5480	7470
24	7110	10300	20000	39000	26300	7110	30500	29900	6420	5240	5460	7610
25	7600	13800	17000	38900	20800	6900	37300	24200	6480	5190	5470	7560
26	8300	27200	15100	35600	18700	6640	36600	19000	6250	5160	5500	7580
27	9040	27900	12700	32200	15800	6490	29200	16800	6230	5110	5540	7500
28	8370	37100	12600	35900	14400	6460	24400	14500	6330	5040	5550	7530
29	7980	32300	18800	32200	14100	6290	17200	13000	6060	5110	5470	7510
30	7740	36100	23900	25400	---	6120	14300	12300	5870	5240	5440	7430
31	7530	---	34300	20200	---	6300	---	11400	---	5210	5470	---
TOTAL	226950	510920	1036100	996300	972120	321870	436020	530780	201940	154840	171500	210080
MEAN	7321	17030	33420	32140	33520	10380	14530	17120	6731	4995	5532	7003
MAX	9040	37100	44500	40800	65900	15200	37300	34400	10700	5750	6250	7820
MIN	6480	7210	12600	20000	9530	6120	7630	6350	5510	4600	5250	5450
AC-FT	450200	1013000	2055000	1976000	1928000	638400	864800	1053000	400500	307100	340200	416700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	7725	14290	20950	20060	14880	12740	11010	9944	7609	4849	5304	6824
MAX	10970	30850	42980	36750	33520	36070	21680	17120	16150	6283	7117	8986
(WY)	1985	1985	1978	1971	1996	1972	1993	1996	1984	1969	1971	1972
MIN	4203	4924	3848	3695	2859	5168	4823	4009	3658	3883	4249	4305
(WY)	1993	1988	1977	1977	1977	1992	1977	1987	1987	1978	1987	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	4703610		5769420			
ANNUAL MEAN	12890		15760		11340	
HIGHEST ANNUAL MEAN					17800	1972
LOWEST ANNUAL MEAN					5233	1977
HIGHEST DAILY MEAN	57000	Jan 14	65900	Feb 8	71800	Jan 22 1972
LOWEST DAILY MEAN	4480	Jul 19	4600	Jul 11	2340	Feb 19 1977
ANNUAL SEVEN-DAY MINIMUM	4590	Jul 14	4680	Jul 9	2410	Feb 15 1977
ANNUAL RUNOFF (AC-FT)	9330000		11440000		8214000	
10 PERCENT EXCEEDS	32900		37600		24400	
50 PERCENT EXCEEDS	7790		8950		7840	
90 PERCENT EXCEEDS	5030		5460		4530	

14166500 LONG TOM RIVER NEAR NOTI, OR

LOCATION.--Lat 44°03'00", long 123°25'30", in SE 1/4 NW 1/4 sec.33, T.17 S., R.6 W., Lane County, Hydrologic Unit 17090003, on left bank 0.2 mi upstream from Southern Pacific Railroad bridge, 0.8 mi downstream from Noti Creek, 1.3 mi southeast of Noti, and at mile 37.4.

DRAINAGE AREA.--89.3 mi^2.

PERIOD OF RECORD.--October 1935 to current year.

REVISED RECORDS.--WSP 1318: 1936(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 389.05 ft above sea level (levels by National Weather Service). Prior to Nov. 6, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Slight regulation caused by logpond upstream from Noti. No diversion upstream from station.

AVERAGE DISCHARGE.--61 years (water years 1936-96), 227 ft^3/s, 34.51 in/yr, 164,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,990 ft^3/s Dec. 22, 1955, gage height, 20.17 ft; minimum discharge, 0.04 ft^3/s Aug. 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0730	2,860	15.21	Jan. 24	1830	1,860	12.85
Dec. 15	0500	2,490	14.49	Jan. 28	0500	2,290	14.04
Jan. 21	1230	2,610	14.74	Feb. 7	1630	*6,780	*19.98

Minimum discharge, 10 ft^3/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	31	1010	483	639	460	233	257	136	61	25	14
2	23	31	736	403	538	423	221	236	123	59	25	13
3	22	31	523	372	474	400	200	220	120	57	28	12
4	25	30	430	361	440	434	187	209	114	54	28	14
5	25	31	411	330	439	525	178	195	111	53	27	14
6	24	46	461	345	1170	467	171	184	106	51	26	14
7	23	80	353	337	5360	413	166	176	102	49	24	13
8	23	131	310	398	4590	377	161	168	101	48	23	13
9	23	203	422	479	4050	351	154	161	99	46	22	13
10	23	107	484	560	2620	331	148	155	96	46	21	12
11	59	168	917	468	1460	351	154	149	92	45	24	12
12	71	281	1860	397	1060	324	231	144	90	43	37	13
13	43	171	2580	350	803	301	270	147	88	42	22	15
14	34	128	1840	329	659	286	234	187	87	41	20	22
15	30	110	2150	446	574	274	213	195	84	40	18	70
16	28	110	1100	639	507	246	214	178	81	39	17	47
17	33	99	711	683	506	232	249	199	80	44	17	41
18	41	110	638	594	1060	227	246	274	80	57	16	32
19	37	103	541	950	1260	220	252	324	77	51	17	28
20	33	92	455	1340	1090	211	252	260	75	46	17	26
21	32	83	385	2480	1050	205	249	239	73	42	16	24
22	33	77	341	1720	957	220	268	287	74	39	16	21
23	33	74	306	1160	1080	227	530	291	75	37	15	21
24	32	80	277	1700	1260	204	1240	262	77	35	14	22
25	36	155	253	1660	1000	192	800	229	75	33	13	20
26	64	240	224	1240	795	184	536	202	71	32	14	21
27	62	237	218	1520	644	190	424	183	70	31	16	19
28	46	597	241	2080	591	195	357	165	69	29	17	19
29	40	453	458	1370	539	184	314	153	67	31	16	19
30	36	866	624	1020	---	180	281	155	64	29	13	19
31	32	---	599	779	---	186	---	145	---	26	13	---
TOTAL	1094	4955	21858	26993	37215	9020	9133	6329	2657	1336	617	643
MEAN	35.3	165	705	871	1283	291	304	204	88.6	43.1	19.9	21.4
MAX	71	866	2580	2480	5360	525	1240	324	136	61	37	70
MIN	22	30	218	329	439	180	148	144	64	26	13	12
AC-FT	2170	9830	43360	53540	73820	17890	18120	12550	5270	2650	1220	1280
CFSM	.40	1.85	7.90	9.75	14.4	3.26	3.41	2.29	.99	.48	.22	.24
IN.	.46	2.06	9.11	11.24	15.50	3.76	3.80	2.64	1.11	.56	.26	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1996, BY WATER YEAR (WY)

MEAN	39.6	199	453	573	554	408	255	128	66.0	30.4	16.9	17.4
MAX	300	708	1425	1260	1283	923	684	340	164	65.2	35.5	31.4
(WY)	1948	1974	1956	1956	1996	1938	1937	1963	1937	1937	1993	1978
MIN	8.00	16.6	23.8	25.2	62.5	131	57.2	54.6	24.7	6.20	3.61	7.42
(WY)	1988	1937	1977	1977	1977	1992	1977	1977	1977	1977	1977	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1936 - 1996	
ANNUAL TOTAL	111045		121850			
ANNUAL MEAN	304		333		227	
HIGHEST ANNUAL MEAN					424	1974
LOWEST ANNUAL MEAN					45.5	1977
HIGHEST DAILY MEAN	4200	Jan 14	5360	Feb 7	5850	Dec 22 1964
LOWEST DAILY MEAN	10	Sep 21	12	Sep 3	.04	Aug 13 1977
ANNUAL SEVEN-DAY MINIMUM	12	Sep 19	13	Sep 6	.06	Aug 8 1977
ANNUAL RUNOFF (AC-FT)	220300		241700		164300	
ANNUAL RUNOFF (CFSM)	3.41		3.73		2.54	
ANNUAL RUNOFF (INCHES)	46.26		50.76		34.51	
10 PERCENT EXCEEDS	657		822		570	
50 PERCENT EXCEEDS	131		155		92	
90 PERCENT EXCEEDS	16		21		15	

14168000 FERN RIDGE LAKE NEAR ELMIRA, OR

LOCATION.--Lat 44°07'15", long 123°18'00", near center of sec.4, T.17 S., R.5 W., Lane County, Hydrologic Unit 17090003, in control house at spillway section of dam across Long Tom River and Coyote Creek, 4.5 mi northeast of Elmira, and at mile 25.7.

DRAINAGE AREA.--252 mi^2, not including Amazon Creek basin (see REMARKS).

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1971, published as Fern Ridge Reservoir near Elmira.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth-fill dam with concrete outlet and spillway, completed in 1941 by Corps of Engineers; storage began Nov. 13, 1941. Total capacity (new capacity table put into use Oct. 1, 1992 based on Dec. 1992 resurvey), 107,400 acre-ft at elevation 375.1 ft, maximum pool elevation. Usable capacity, 93,350 acre-ft between elevations 340.0 ft, sill of outlet gate, and 373.5 ft, normal maximum operating pool level. Reservoir used for flood control and improvement of navigation. Since November 1951, most of flow of Amazon Creek has been diverted in SE 1/4 sec.29, T.17 S., R.4 W., and discharged into Fern Ridge Lake; drainage area at point of diversion, 21.3 mi^2.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 124,500 acre-ft Dec. 27, 1955, elevation, 375.83 ft; minimum contents since first filling in 1942, 163 acre-ft Nov. 11, 1950, elevation, 344.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 94,020 acre-ft May 14, elevation, 373.58 ft; minimum contents, 2,900 acre-ft Nov. 26, 27, elevation, 352.93 ft.

Capacity table (elevation, in feet, and usable contents, in acre-feet)

349	439	356	6,810	364	30,560	372	81,180
350	835	358	10,680	366	40,480	374	97,590
352	2,090	360	15,830	368	52,350	375	106,400
354	4,030	362	22,410	370	65,980		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	371.28	361.61	356.38	356.61	365.32	365.82	370.32	373.49	373.52	373.47	372.87	372.04
2	371.21	361.14	357.22	355.38	364.37	365.87	370.47	373.50	373.52	373.46	372.84	372.02
3	371.06	360.65	357.50	354.07	363.33	365.91	370.57	373.52	373.50	373.44	372.82	371.99
4	370.78	360.12	357.44	353.54	362.18	366.16	370.66	373.51	373.50	373.43	372.79	371.97
5	370.46	359.57	357.63	353.59	360.94	366.42	370.73	373.49	373.51	373.40	372.77	371.95
6	370.12	359.05	357.22	353.78	361.31	366.59	370.80	373.47	373.51	373.39	372.74	371.93
7	369.78	358.51	356.05	353.93	367.15	366.80	370.87	373.47	373.51	373.38	372.72	371.91
8	369.45	358.18	354.90	354.06	370.40	367.03	370.92	373.47	373.51	373.36	372.69	371.88
9	369.10	357.79	354.72	354.55	372.13	367.24	370.97	373.48	373.50	373.33	372.67	371.85
10	368.70	357.32	354.73	354.99	372.48	367.50	371.03	373.49	373.49	373.30	372.65	371.84
11	368.41	356.94	355.76	354.86	372.36	367.80	371.15	373.49	373.49	373.28	372.61	371.80
12	367.99	356.45	359.07	354.46	372.01	368.06	371.29	373.52	373.49	373.26	372.59	371.78
13	367.55	355.53	362.15	354.46	371.49	368.26	371.41	373.57	373.49	373.25	372.56	371.76
14	367.07	354.64	364.27	354.70	370.87	368.43	371.50	373.44	373.49	373.24	372.53	371.83
15	366.57	354.36	365.52	355.15	370.16	368.58	371.60	373.38	373.48	373.20	372.49	371.87
16	366.05	353.94	365.45	355.72	369.41	368.71	371.73	373.39	373.48	373.17	372.47	371.89
17	365.54	353.53	364.76	356.10	368.85	368.83	371.84	373.49	373.48	373.20	372.43	371.88
18	365.02	353.14	364.10	356.23	368.92	368.96	371.97	373.47	373.47	373.19	372.40	371.87
19	364.41	353.12	363.18	356.88	369.00	369.05	372.09	373.43	373.47	373.17	372.38	371.85
20	363.85	353.17	362.11	358.68	368.78	369.15	372.21	373.47	373.47	373.15	372.35	371.83
21	363.44	353.20	360.76	361.46	368.58	369.25	372.35	373.54	373.47	373.14	372.33	371.80
22	363.18	353.32	359.66	362.70	368.26	369.34	372.57	373.44	373.47	373.13	372.30	371.75
23	363.18	353.32	358.80	363.15	368.23	369.45	372.92	373.44	373.50	373.11	372.28	371.69
24	363.17	353.26	357.82	364.01	368.15	369.50	373.19	373.47	373.48	373.09	372.26	371.47
25	363.23	353.07	356.53	364.91	367.75	369.60	373.29	373.46	373.46	373.06	372.23	371.21
26	363.25	352.93	355.72	365.18	367.16	369.67	373.38	373.44	373.49	373.04	372.21	370.95
27	363.21	353.65	355.46	365.84	366.52	369.76	373.45	373.46	373.47	373.01	372.18	370.69
28	363.03	353.68	355.38	366.47	366.01	369.84	373.49	373.50	373.47	372.99	372.16	370.42
29	362.84	354.05	356.25	366.74	365.75	369.90	373.49	373.52	373.47	372.96	372.14	370.14
30	362.52	354.96	356.95	366.59	---	369.97	373.47	373.53	373.47	372.93	372.11	369.87
31	362.07	---	357.15	366.11	---	370.11	---	373.52	---	372.90	372.07	---
MAX	371.28	361.61	365.52	366.74	372.48	370.11	373.49	373.57	373.52	373.47	372.87	372.04
MIN	362.07	352.93	354.72	353.54	360.94	365.82	370.32	373.38	373.46	372.90	372.07	369.87
(†)	22660	5240	8890	41080	39130	66780	93100	93520	93100	88380	81730	65040
(‡)	-53230	-17420	+3650	+32190	-1950	+27650	+26320	+420	-420	-4720	-6650	-16690

CAL YR 1995 MAX 373.50 MIN 352.93 AC-FT‡ +5580
WTR YR 1996 MAX 373.57 MIN 352.93 AC-FT‡ -10850

† Contents in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14169000 LONG TOM RIVER NEAR ALVADORE, OR

LOCATION.--Lat 44°07'25", long 123°17'55", in SW 1/4 NE 1/4 sec.4, T.17 S., R.5 W., Lane County, Hydrologic Unit 17090003, on left bank 0.2 mi downstream from Fern Ridge Dam, 1.7 mi west of Alvadore, and at mile 25.5.

DRAINAGE AREA.--252 mi^2, not including Amazon Creek basin.

PERIOD OF RECORD.--August 1939 to current year. Prior to October 1943, published as "at Smithfield," and October 1943 to September 1959, as "below Fern Ridge Dam, near Smithfield." Prior to October 1985, published figures included diversion from Fern Ridge Reservoir into Coyote Creek channel (station 14169001).

REVISED RECORDS.--WSP 1248: 1940-41, 1948.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 332.00 ft above sea level (levels by Corps of Engineers). Prior to Sept. 21, 1939, nonrecording gage and Sept. 21, 1939, to Sept. 30, 1943, water-stage recorder at site 2.5 mi downstream at datum 11.09 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1941 by Fern Ridge Lake (station 14168000). Several small diversions for irrigation upstream from station. Approximately 7 ft^3/s diverted from Fern Ridge Reservoir into Coyote Creek channel. Discharge not adjusted for storage or release from Fern Ridge Lake as evaporation from reservoir at times exceeds natural flow and diversions, and beginning in November 1951, most of flow of Amazon Creek has been diverted into Fern Ridge Lake.

AVERAGE DISCHARGE.--53 years (water years 1944-96), 512 ft^3/s, 370,900 acre-ft/yr (river only), unadjusted.
11 years (water years 1986-96), 424 ft^3/s, 307,200 acre-ft/yr, regulated period without diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s Jan. 1, 1943, gage height, 15.12 ft, site and datum then in use; minimum daily discharge, 2 ft^3/s Aug. 7, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,930 ft^3/s Feb. 10, gage height, 9.08 ft; minimum discharge, 25 ft^3/s July 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	823	931	1630	3680	985	45	388	257	36	66	61
2	284	811	951	1950	3490	899	45	296	189	30	71	61
3	612	801	961	1750	3290	899	45	296	189	33	65	61
4	949	827	978	1160	3240	899	46	362	157	35	51	61
5	1070	835	1030	869	3540	897	46	361	120	35	54	61
6	1080	826	1590	789	3090	801	46	328	106	50	71	61
7	1070	818	1860	830	374	457	46	236	104	59	72	61
8	1050	815	1740	943	64	219	46	182	104	60	86	58
9	1080	802	1590	1150	1170	219	46	163	104	69	62	59
10	1210	791	1460	1170	3890	126	46	156	104	70	56	69
11	1320	788	1490	1210	3740	38	46	154	72	70	59	71
12	1280	916	945	1150	3690	38	46	154	71	70	61	71
13	1250	1060	527	851	3710	39	46	172	71	69	61	71
14	1300	840	970	777	3760	42	46	1150	56	69	63	71
15	1310	460	1350	1050	3740	42	46	948	46	66	78	73
16	1260	452	3310	1350	3710	43	47	541	46	61	75	73
17	1220	438	3810	1510	3710	43	46	590	45	59	67	73
18	1180	376	3560	1770	2900	43	43	1210	45	50	67	73
19	1310	156	3420	1990	3280	43	43	1210	45	46	60	73
20	1170	109	3180	1860	3750	45	43	661	45	46	60	85
21	871	109	3200	1490	3700	45	43	801	45	46	60	97
22	523	109	2320	2300	3640	45	52	1340	45	47	61	99
23	39	122	1600	2490	3400	45	248	830	45	61	69	243
24	39	261	1580	2220	3380	45	1310	605	109	75	66	761
25	39	457	1680	2170	3700	45	1430	605	86	75	63	875
26	39	532	1170	2690	3650	45	940	563	54	75	63	867
27	153	395	757	2870	3200	45	593	260	54	67	61	861
28	429	868	752	3060	2800	45	592	186	54	61	61	872
29	427	873	939	3240	1990	45	624	185	45	61	61	875
30	636	897	1120	3290	---	45	567	216	45	61	61	866
31	829	---	1360	3420	---	45	---	255	---	61	61	---
TOTAL	25186	18367	52131	54999	91278	7312	7308	15404	2558	1773	1992	7763
MEAN	812	612	1682	1774	3148	236	244	497	85.3	57.2	64.3	259
MAX	1320	1060	3810	3420	3890	985	1430	1340	257	75	86	875
MIN	39	109	527	777	64	38	43	154	45	30	51	58
AC-FT	49960	36430	103400	109100	181000	14500	14500	30550	5070	3520	3950	15400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	793	656	720	1124	839	291	200	191	98.4	62.6	55.8	72.1
MAX	1006	1098	1682	2032	3148	827	895	497	469	150	73.6	259
(WY)	1992	1987	1996	1995	1996	1989	1993	1996	1993	1993	1993	1996
MIN	469	218	103	308	57.6	21.3	24.5	20.8	34.7	39.1	40.5	38.3
(WY)	1988	1994	1990	1992	1989	1988	1988	1987	1990	1986	1986	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1986	1996
ANNUAL TOTAL	223484		286071			
ANNUAL MEAN	612		782		424	
HIGHEST ANNUAL MEAN					782	1996
LOWEST ANNUAL MEAN					213	1994
HIGHEST DAILY MEAN	3810	Dec 17	3890	Feb 10	5260	Feb 27 1986
LOWEST DAILY MEAN	35	Jul 12	30	Jul 2	16	Mar 3 1988
ANNUAL SEVEN-DAY MINIMUM	40	Jul 6	37	Jun 29	17	Apr 30 1990
ANNUAL RUNOFF (AC-FT)	443300		567400		307200	
10 PERCENT EXCEEDS	1700		2720		1120	
50 PERCENT EXCEEDS	153		251		69	
90 PERCENT EXCEEDS	53		45		34	

14170000 LONG TOM RIVER AT MONROE, OR

LOCATION.--Lat 44°18'47", long 123°17'43", in NE 1/4 sec.33, T.14 S., R.5 W., Benton County, Hydrologic Unit 17090003, on left bank in canalized river channel at Monroe, 110 ft upstream from bridge on State Highway 99W, 0.1 mi downstream from Shafer Creek, and at mile 6.8.

DRAINAGE AREA.--391 mi^2.

PERIOD OF RECORD.--November 1920 to July 1921, October 1921 to April 1926, November 1926 to May 1927, October 1927 to current year. Prior to October 1930, published as "near Monroe."

REVISED RECORDS.--WSP 654: Drainage area. WSP 1248: 1923, 1927, 1928(M). WSP 1288: 1952.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 270.57 ft above sea level. Prior to Nov. 24, 1944, nonrecording gage at various sites ranging from present site to 1.5 mi downstream at different datums.

REMARKS.--No estimated daily discharges. Records good except for flows below 100 ft^3/s, which are fair. Flow regulated since 1941 by Fern Ridge Lake (station 14168000). Several small diversions upstream from station.

AVERAGE DISCHARGE.--73 years (water years 1922-25, 1928-96), 748 ft^3/s, 541,900 acre-ft/yr, unadjusted.
55 years (water years 1942-96), 767 ft^3/s, 555,500 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft^3/s Jan. 2, 1943, gage height, 17.14 ft, site and datum then in use, from graph based on gage readings, includes some overflow from Willamette River near Junction City; no flow Oct. 20-22, 1944 (water filling pool at gage); minimum discharge observed prior to regulation, 7 ft^3/s Sept. 29, Oct. 1, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,560 ft^3/s Feb. 7, gage height, 10.08 ft; minimum discharge, 24 ft^3/s July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	822	2040	2190	4110	1700	267	565	377	51	34	39
2	190	809	1810	2620	4060	1370	226	442	294	38	40	41
3	438	793	1590	2550	3890	1340	173	394	272	32	49	40
4	856	808	1510	1950	3840	1570	155	464	256	35	47	39
5	1140	841	1750	1350	3940	1730	145	451	204	35	39	39
6	1140	829	2130	1170	5470	1340	144	419	165	33	37	40
7	1160	828	2530	1190	8560	957	141	346	157	52	49	43
8	1140	857	2410	1450	5920	532	133	279	157	48	47	52
9	1140	900	2670	2090	4760	510	130	243	156	34	55	46
10	1210	829	2370	2130	5070	465	126	226	151	50	40	47
11	1450	826	3070	1870	4840	443	129	221	124	51	34	50
12	1480	1020	4260	1830	4520	421	224	221	97	52	37	51
13	1400	1160	2780	1260	4360	320	260	230	103	50	41	54
14	1400	1140	3220	1130	4310	282	182	1000	99	44	37	69
15	1450	478	3080	1810	4220	250	164	1470	77	43	36	100
16	1410	460	3960	2590	4150	229	201	768	71	43	42	128
17	1360	446	4190	2530	4370	218	239	642	70	49	43	106
18	1310	422	4420	2720	5380	205	206	1510	68	67	43	94
19	1390	268	4160	3850	4940	194	212	1890	67	67	41	89
20	1440	141	3780	4230	4950	182	215	1070	62	52	35	86
21	933	135	3690	4600	4990	175	222	824	59	41	33	111
22	800	135	3270	3960	4620	180	348	1930	61	35	29	110
23	83	143	2200	3920	5210	183	915	1420	75	28	31	131
24	53	221	2150	4630	5070	173	2430	785	90	35	42	650
25	51	412	2170	4390	4720	163	2500	749	155	43	42	974
26	64	676	1830	4000	4420	157	1700	728	72	45	36	964
27	65	553	955	5120	4160	154	856	462	72	54	35	955
28	360	1230	1000	5240	3680	166	786	323	73	48	33	974
29	398	1280	1760	4570	3280	155	767	311	66	44	34	979
30	484	1820	2040	4230	---	150	747	321	57	41	34	959
31	840	---	2250	4030	---	156	---	359	---	39	35	---
TOTAL	26785	21282	81045	91200	135810	16070	14943	21063	3807	1379	1210	8060
MEAN	864	709	2614	2942	4683	518	498	679	127	44.5	39.0	269
MAX	1480	1820	4420	5240	8560	1730	2500	1930	377	67	55	979
MIN	51	135	955	1130	3280	150	126	221	57	28	29	39
AC-FT	53130	42210	160800	180900	269400	31870	29640	41780	7550	2740	2400	15990

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1996, BY WATER YEAR (WY)

MEAN	762	931	1736	2125	1638	895	481	252	96.0	44.2	74.7	202
MAX	1895	3437	5355	6222	4683	2761	2277	1193	697	148	524	960
(WY)	1948	1951	1956	1956	1996	1957	1963	1963	1993	1993	1951	1955
MIN	27.1	91.5	55.5	43.5	44.1	136	54.5	50.3	28.6	23.0	20.0	12.4
(WY)	1942	1953	1977	1977	1977	1978	1977	1987	1987	1965	1944	1943

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1942 - 1996	
ANNUAL TOTAL	325863		422654			
ANNUAL MEAN	893		1155		767	
HIGHEST ANNUAL MEAN					1517	1956
LOWEST ANNUAL MEAN					177	1977
HIGHEST DAILY MEAN	5340	Jan 14	8560	Feb 7	16400	Jan 2 1943
LOWEST DAILY MEAN	28	Sep 13	28	Jul 23	.00	Oct 20 1944
ANNUAL SEVEN-DAY MINIMUM	35	Jul 17	35	Aug 26	8.4	Oct 17 1944
ANNUAL RUNOFF (AC-FT)	646300		838300		555500	
10 PERCENT EXCEEDS	3140		4040		2350	
50 PERCENT EXCEEDS	406		405		232	
90 PERCENT EXCEEDS	39		41		36	

14174000 WILLAMETTE RIVER AT ALBANY, OR

LOCATION.--Lat 44°38'20", long 123°06'20", in SW 1/4 sec.6, T.11 S., R.3 W., Linn County, Hydrologic Unit 17090003, on right bank 5 ft upstream from bridge on U.S. Highway 20 (Ellsworth Street) in Albany, 0.2 mi downstream from Calapooia River, and at mile 119.31.

DRAINAGE AREA.--4,840 mi^2, approximately.

PERIOD OF RECORD.--November 1878 to April 1888 (fragmentary), January to June 1892, November 1892 to September 1894, December 1894 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 694: Drainage area. WSP 904: 1939. WSP 964: 1881, 1890, 1894, 1897, 1901, 1903, 1908, 1910, 1916, 1923, 1927, 1932(M). WSP 984: 1916. WSP 1248: 1895, 1902, 1907, 1915(M), 1917(M), 1918-19, 1934(M). WSP 1318 (monthly and annual figures only): 1894, 1897, 1901-3, 1907-8, 1910, 1916, 1918-19, 1923, 1927.

GAGE.--Water-stage recorder. Datum of gage is 167.18 ft above sea level. Prior to Sept. 27, 1906, nonrecording gage at site 0.2 mi upstream at datum 5.00 ft higher. Sept. 27, 1906, to Nov. 12, 1934, nonrecording gage at site 300 ft upstream at datum 5.00 ft higher. Nov. 14, 1934, to Sept. 30, 1962, at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records excellent. Discharges for period Nov. 20 to Dec. 1 computed from data obtained through U.S. Army Corps of Engineers Columbia River Operational Hydromet System (CROHMS) system. Flow regulated by nine reservoirs upstream from station. Albany power canal diverts water from South Santiam River at Lebanon and discharges into Calapooia River near mouth; small diversions for irrigation and municipal water supply.

AVERAGE DISCHARGE.--46 years (water years 1896-41), 13,530 ft^3/s, 37.96 in/yr, 9,802,000 acre-ft/yr.
28 years (water years 1969-96), 14,100 ft^3/s, 39.59 in/yr, 10,220,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 266,000 ft^3/s Jan. 14, 1881, gage height, 37.8 ft, present datum; minimum discharge, 1,840 ft^3/s Sept. 1, 2, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 4, 1861, reached a stage of 41.0 ft, discharge, 340,000 ft^3/s, from rating curve extended above 220,000 ft^3/s. Flood of Feb. 4, 1890, reached a stage of 38.9 ft, discharge, 291,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 125,000 ft^3/s Feb. 9, gage height, 30.05 ft; minimum discharge, 4,970 ft^3/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8020	8920	49200	41700	28500	20000	9560	16900	13200	6410	5600	5730
2	7920	8810	52000	39500	22800	17100	13200	15100	12000	6140	5680	5720
3	7750	8660	49400	38000	18900	15800	12400	14000	11200	5740	6160	5670
4	7980	8640	42700	39000	17500	17800	11700	13300	10500	5580	6560	5940
5	8760	9330	42300	38900	18500	22800	11700	12300	9870	5380	6080	6370
6	9010	10300	47200	37200	37200	22300	10800	10900	9560	5320	5980	6540
7	8730	10900	45800	37000	63600	19700	9980	9460	9230	5290	5930	6750
8	8590	12100	46900	38700	101000	17800	9660	8720	8970	5270	5910	6950
9	8530	15000	48800	41300	117000	17000	9350	8320	7960	5160	5840	6950
10	8570	18500	50400	45700	92500	16700	8990	7920	7580	5150	5800	6910
11	9340	18200	49700	46700	76100	17500	8810	7730	7260	5080	5770	6890
12	9930	23500	54700	38700	62100	17600	9540	8170	6880	5050	5780	6910
13	10200	31900	61700	32000	57700	17900	11300	8710	6670	5060	5810	6930
14	9710	31500	62900	27000	55500	17700	11800	10100	6870	5210	5810	7190
15	9430	27800	63900	28500	55100	16900	11200	15100	6700	5150	5740	7680
16	9210	22600	61400	36600	53300	14700	11300	25700	6570	5110	5710	8120
17	8930	19500	55000	41700	51800	12700	12800	32300	6520	5320	5660	8160
18	8750	17000	53100	40200	55200	11700	14200	34600	6540	5630	5810	7990
19	8840	14200	53700	42200	60300	11000	15400	38100	6450	5670	5840	7620
20	8850	12700	51000	50900	57500	9980	15800	38600	6380	5570	5820	7510
21	8520	11100	47500	56200	54500	9460	16000	34700	6250	5680	5800	7760
22	8020	10500	43400	61800	54500	9300	16500	31600	6150	5630	5780	7860
23	7610	10800	38200	58500	52900	9130	22300	35900	6490	5590	5750	7820
24	7510	11400	27800	56300	51500	8860	32800	37400	6850	5650	5730	8020
25	8050	13200	24300	57600	41300	8570	43100	32200	7220	5610	5740	8540
26	8540	23100	21300	54800	32600	8270	44300	25500	7090	5570	5770	8660
27	9660	30200	18100	50500	27900	7980	40100	21300	6840	5530	5780	8610
28	9640	36200	16600	51800	24000	7910	32100	18800	6920	5500	5810	8610
29	9310	42500	19100	53400	22300	7780	25100	16200	6810	5480	5770	8660
30	8970	43300	29500	45800	---	7600	19700	15000	6530	5560	5730	8600
31	8980	---	34300	35000	---	7540	---	13900	---	5540	5710	---
TOTAL	271860	562360	1361900	1363200	1463600	427080	521490	618530	234060	169630	180660	221670
MEAN	8770	18750	43930	43970	50470	13780	17380	19950	7802	5472	5828	7389
MAX	10200	43300	63900	61800	117000	22800	44300	38600	13200	6410	6560	8660
MIN	7510	8640	16600	27000	17500	7540	8810	7730	6150	5050	5600	5670
AC-FT	539200	1115000	2701000	2704000	2903000	847100	1034000	1227000	464300	336500	358300	439700
CFSM	1.81	3.87	9.08	9.09	10.4	2.85	3.59	4.12	1.61	1.13	1.20	1.53
IN.	2.09	4.32	10.47	10.48	11.25	3.28	4.01	4.75	1.80	1.30	1.39	1.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	8736	16760	27480	26840	21140	16960	13870	11320	8492	5284	5563	7060
MAX	11780	40850	55390	45070	50470	43270	26860	19950	18460	7333	7313	8985
(WY)	1985	1985	1982	1971	1996	1972	1993	1996	1993	1969	1971	1972
MIN	4915	5425	4150	3901	3208	6808	5630	4733	4091	4084	4375	4347
(WY)	1993	1988	1977	1977	1977	1978	1977	1973	1987	1978	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	5983790		7396040			
ANNUAL MEAN	16390		20210		14100	
HIGHEST ANNUAL MEAN					22550	1974
LOWEST ANNUAL MEAN					5831	1977
HIGHEST DAILY MEAN	77900	Jan 15	117000	Feb 9	117000	Feb 9 1996
LOWEST DAILY MEAN	4950	Jul 19	5050	Jul 12	2570	Feb 19 1977
ANNUAL SEVEN-DAY MINIMUM	5070	Jul 15	5120	Jul 10	2680	Feb 15 1977
ANNUAL RUNOFF (AC-FT)	11870000		14670000		10220000	
ANNUAL RUNOFF (CFSM)	3.39		4.18		2.91	
ANNUAL RUNOFF (INCHES)	45.99		56.85		39.59	
10 PERCENT EXCEEDS	42600		50900		32400	
50 PERCENT EXCEEDS	9930		10500		9060	
90 PERCENT EXCEEDS	5570		5730		4950	

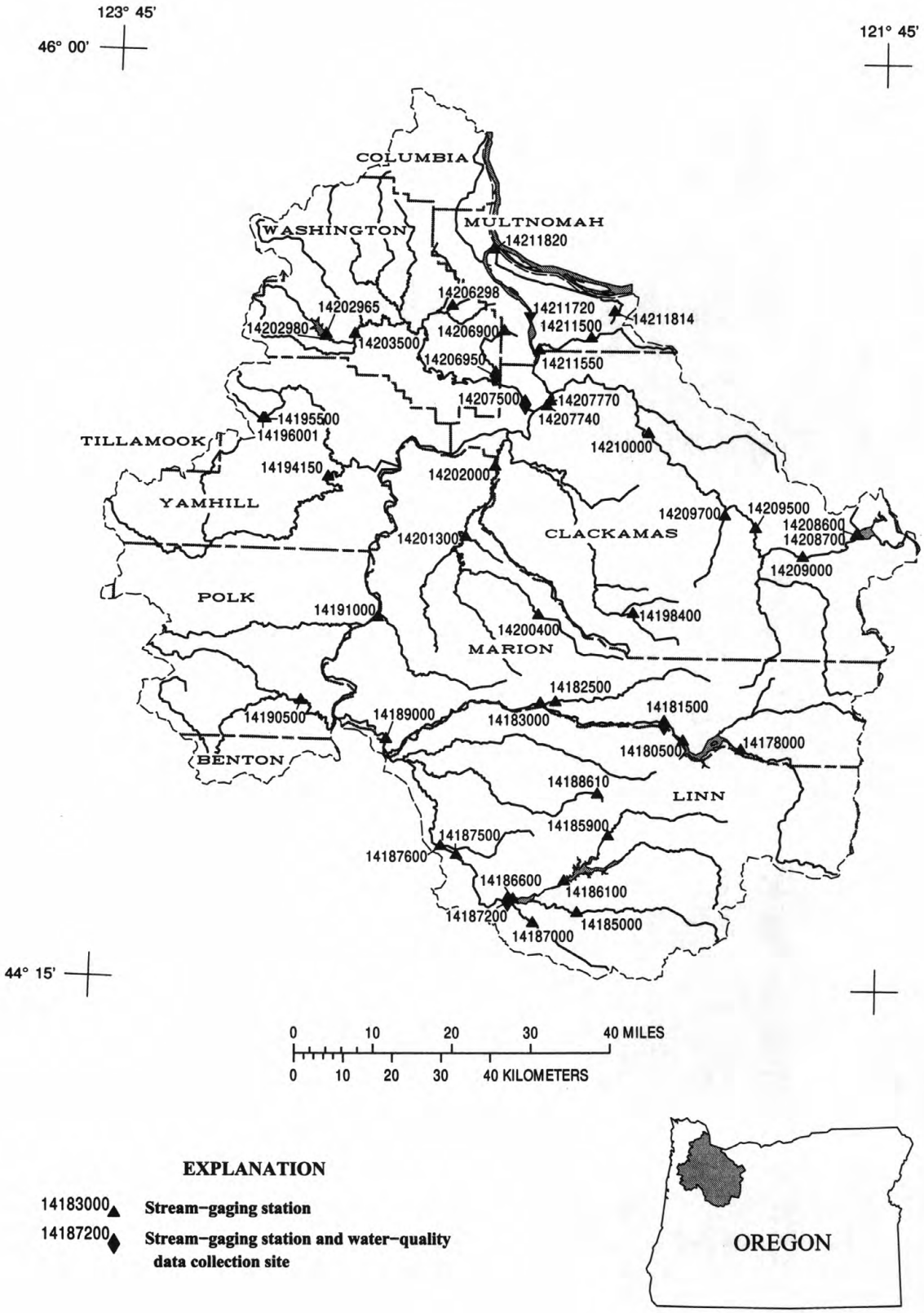


Figure 24. Location of surface-water and water-quality stations in the Willamette River Basin, downstream from the Luckiamute River.

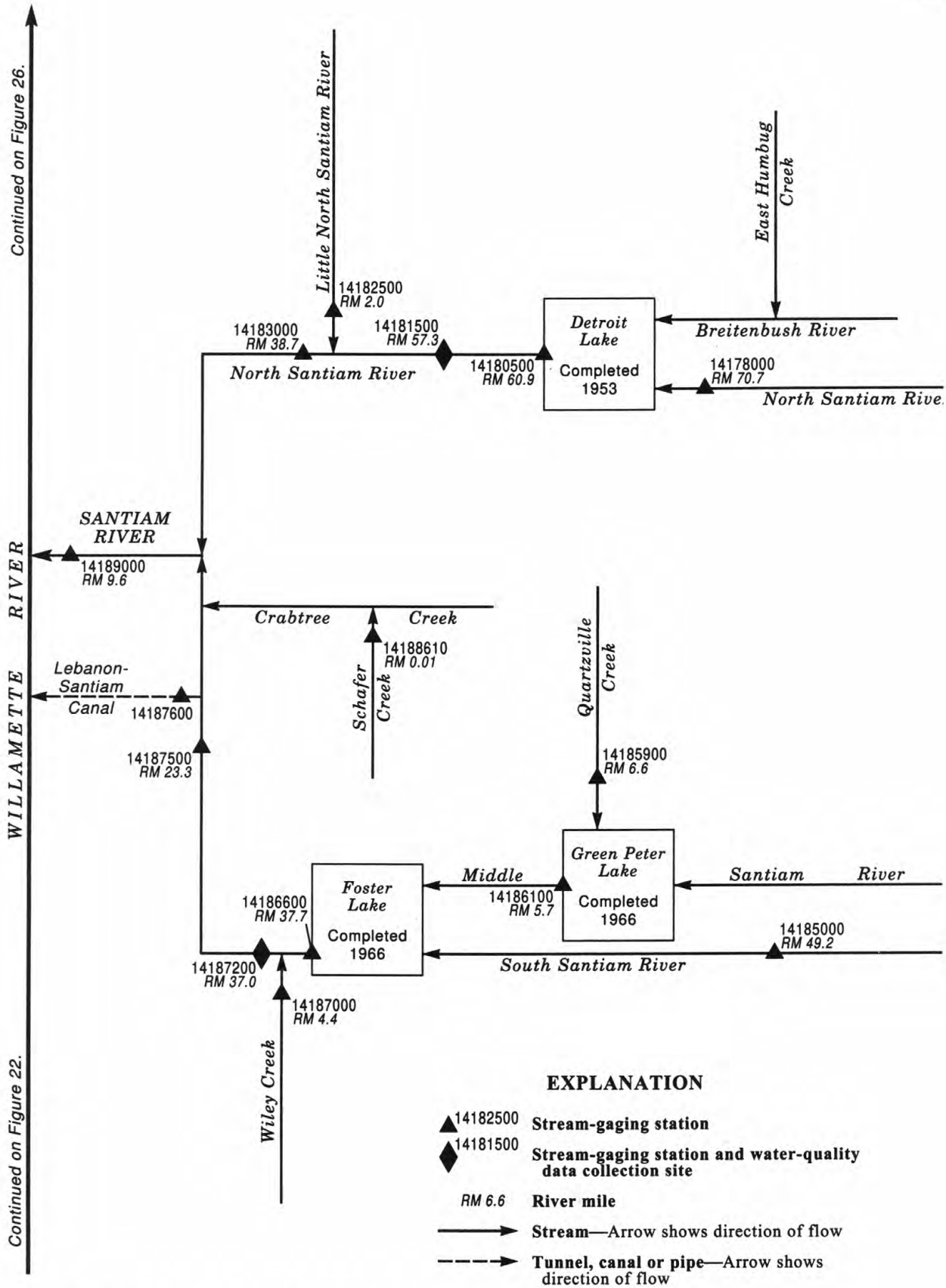


Figure 25. Schematic diagram showing gaging stations and diversions in the Santiam River Basin.

14178000 NORTH SANTIAM RIVER BELOW BOULDER CREEK, NEAR DETROIT, OR

LOCATION.--Lat 44°42'25", long 122°06'00", in SE 1/4 NW 1/4 sec.17, T.10 S., R.6 E., Marion County, Hydrologic Unit 17090005, on right bank 0.5 mi downstream from Boulder Creek, 3.0 mi southeast of Detroit, and at mile 70.7.

DRAINAGE AREA.--216 mi^2.

PERIOD OF RECORD.--January 1907 to October 1909, October 1928 to current year. Monthly discharge only January 1907, published in WSP 1318. Prior to October 1952, published as "at Detroit."

REVISED RECORDS.--WSP 814: Drainage area at former site. WSP 1248: 1931. WRD OR-85-2: 1982-82(P).

GAGE.--Water-stage recorder. Datum of gage is 1,590.07 ft above sea level. See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--No estimated daily discharges. Records good except for flows above 3,000 ft^3/s, which are fair. No regulation or diversion upstream from station. Continuous water-quality records for the period April 1951 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--70 years (water years 1908, 1909, 1929-96), 999 ft^3/s, 62.82 in/yr, 723,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft^3/s Dec. 22, 1964, slope-area measurement of peak flow, gage height, 13.76 ft, temporary backwater from debris; minimum discharge, 250 ft^3/s Sept. 13, 1909.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2000	6,160	7.34	Dec. 30	1900	5,210	6.94
Nov. 13	0930	3,890	6.29	Feb. 7	1330	a*24,000	b*11.78
Nov. 28	0430	6,160	7.34	Feb. 9	0530	15,100	9.79
Dec. 1	0530	9,140	8.39	Feb. 18	1200	4,510	6.26
Dec. 4	0400	4,330	6.52	Apr. 24	0530	6,160	6.99
Dec. 13	0030	4,210	6.46				

Minimum discharge, 388 ft^3/s Oct. 10, 11.
a From slope-area measurement.
b From inside highwater mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	429	457	7170	2810	868	1140	1490	1470	1070	661	512	458
2	405	440	4260	2170	832	1110	1530	1380	1050	666	519	454
3	581	431	3100	2110	821	1140	1420	1300	1060	676	511	451
4	544	424	3640	1990	873	1340	1300	1210	1050	659	503	449
5	463	439	2740	1760	1070	1400	1250	1130	1010	634	506	447
6	428	532	2230	1800	5840	1310	1260	1070	965	618	498	445
7	411	707	1970	2040	19100	1280	1330	1030	964	609	495	443
8	401	1580	1710	2770	12100	1320	1420	984	947	609	496	443
9	402	1940	2070	2520	11900	1480	1460	949	898	610	499	444
10	391	1380	2230	2330	5760	1630	1420	921	854	598	500	442
11	483	3560	3100	1970	3690	1830	1390	908	826	589	499	442
12	633	3620	3980	1720	2870	1820	1420	921	808	587	487	442
13	538	3590	3750	1540	2490	1700	1350	1030	793	583	489	441
14	489	2450	3460	1490	2310	1560	1320	1470	779	579	498	460
15	461	1810	3070	2140	2200	1470	1330	1910	761	580	488	655
16	463	1500	2420	2720	2150	1380	1570	1840	748	569	478	721
17	488	1260	2020	2260	2290	1310	1580	1980	744	569	476	639
18	581	1340	1750	1940	4050	1270	1490	2470	746	585	470	532
19	497	1140	1550	2070	3710	1260	1430	2630	710	566	471	502
20	469	1020	1400	1990	2990	1230	1360	2140	691	549	469	480
21	494	942	1280	1830	2490	1190	1320	1870	679	544	468	464
22	492	932	1170	1580	2130	1210	1600	2050	673	544	466	457
23	467	882	1090	1450	1950	1140	3250	2070	732	542	466	448
24	450	1040	1020	1350	1740	1090	5320	1900	838	545	471	440
25	456	2430	961	1230	1570	1030	3490	1710	773	543	475	435
26	705	2480	915	1150	1430	1000	2810	1570	736	536	479	431
27	619	2580	889	1140	1330	994	2260	1450	713	542	485	430
28	558	5490	891	1080	1260	978	1910	1370	708	534	475	429
29	521	4900	1620	1020	1190	942	1700	1280	685	534	469	425
30	494	7590	3230	952	---	914	1560	1190	671	530	473	424
31	475	---	4100	906	---	1090	---	1120	---	526	466	---
TOTAL	15288	58886	74786	55828	103004	39558	53340	46323	24682	18016	15057	14173
MEAN	493	1963	2412	1801	3552	1276	1778	1494	823	581	486	472
MAX	705	7590	7170	2810	19100	1830	5320	2630	1070	676	519	721
MIN	391	424	889	906	821	914	1250	908	671	526	466	424
AC-FT	30320	116800	148300	110700	204300	78460	105800	91880	48960	35730	29870	28110
CFSM	2.28	9.09	11.2	8.34	16.4	5.91	8.23	6.92	3.81	2.69	2.25	2.19
IN.	2.63	10.14	12.88	9.61	17.74	6.81	9.19	7.98	4.25	3.10	2.59	2.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1996, BY WATER YEAR (WY)

MEAN	504	977	1360	1299	1302	1182	1353	1413	1088	623	470	434
MAX	1215	2167	3840	2991	3552	2865	2137	2762	2759	1101	663	595
(WY)	1951	1951	1965	1953	1996	1972	1943	1949	1933	1950	1974	1971
MIN	312	335	432	383	404	616	610	600	412	363	319	309
(WY)	1981	1994	1977	1937	1977	1941	1941	1992	1992	1992	1992	1909

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1908 - 1996	
ANNUAL TOTAL	456388		518941			
ANNUAL MEAN	1250		1418		999	
HIGHEST ANNUAL MEAN					1506	1974
LOWEST ANNUAL MEAN					569	1977
HIGHEST DAILY MEAN	8920	Feb 1	19100	Feb 7	19400	Dec 22 1964
LOWEST DAILY MEAN	357	Sep 22	391	Oct 10	250	Sep 13 1909
ANNUAL SEVEN-DAY MINIMUM	365	Sep 19	426	Oct 5	273	Sep 7 1909
ANNUAL RUNOFF (AC-FT)	905200		1029000		723500	
ANNUAL RUNOFF (CFSM)	5.79		6.56		4.62	
ANNUAL RUNOFF (INCHES)	78.60		89.37		62.82	
10 PERCENT EXCEEDS	2440		2590		1790	
50 PERCENT EXCEEDS	932		1030		780	
90 PERCENT EXCEEDS	415		459		400	

14180500 DETROIT LAKE NEAR DETROIT, OR

LOCATION.--Lat 44°43'20", long 122°14'55", in SW 1/4 NW 1/4 sec.7, T.10 S., R.5 E., Marion County, Hydrologic Unit 17090005, in control house near right abutment of Detroit Dam on North Santiam River, 4.9 mi west of Detroit, and at mile 60.9.

DRAINAGE AREA.--437 mi^2.

PERIOD OF RECORD.--January 1953 to current year. Prior to October 1971, published as Detroit Reservoir near Detroit.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by concrete, gravity-type dam with six 42-ft by 28-ft control gates. Length of dam is 1,580 ft, built by Corps of Engineers. Storage began in January 1953. Total capacity is 455,100 acre-ft and usable capacity is 340,100 acre-ft between elevations 1,425.0 ft, proposed lower limit of operation, and 1,569.0 ft, top of spillway gates. Reservoir used for flood control, power development, irrigation, improvement of navigation, pollution abatement, and other purposes. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 457,900 acre-ft July 13, 1972, elevation, 1,569.79 ft; minimum contents, 115,500 acre-ft Jan. 30, 1969, elevation, 1,425.37 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 444,100 acre-ft Apr. 25, elevation, 1,565.85 ft; minimum contents, 160,700 acre-ft Dec. 28, elevation, 1,453.60 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

1,425	115,000	1,480	210,900	1,530	331,500
1,430	122,200	1,490	232,000	1,540	360,200
1,440	137,700	1,500	254,600	1,550	390,900
1,450	154,400	1,510	278,700	1,560	424,000
1,460	172,200	1,520	304,400	1,570	458,600

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1535.59	1487.93	1521.89	1474.98	1462.95	1515.13	1541.58	1563.50	1563.62	1563.97	1562.06	1556.70
2	1533.96	1485.96	1523.23	1474.94	1463.52	1515.54	1543.24	1563.44	1563.67	1564.05	1561.97	1556.47
3	1533.06	1483.91	1521.45	1474.94	1464.12	1516.11	1544.54	1563.50	1563.73	1564.06	1561.79	1556.25
4	1531.79	1482.31	1520.21	1474.69	1464.77	1517.62	1545.63	1563.56	1563.89	1564.15	1561.64	1555.93
5	1530.32	1480.90	1517.03	1473.83	1467.04	1519.29	1546.59	1563.61	1563.95	1564.15	1561.48	1555.63
6	1528.70	1480.04	1512.36	1473.18	1488.83	1520.51	1547.55	1563.57	1563.97	1564.13	1561.34	1555.31
7	1527.11	1479.64	1505.82	1473.78	1528.02	1521.60	1548.53	1563.68	1564.00	1564.13	1561.20	1554.98
8	1525.50	1482.80	1498.13	1476.44	1549.14	1522.81	1549.68	1563.67	1564.27	1564.12	1561.05	1554.67
9	1523.86	1485.53	1493.00	1477.72	1562.93	1524.40	1550.78	1563.65	1564.54	1564.09	1560.90	1554.35
10	1522.12	1485.89	1489.37	1478.27	1563.54	1526.21	1551.80	1563.96	1564.67	1564.09	1560.75	1554.02
11	1520.79	1493.35	1488.51	1477.89	1561.33	1528.03	1552.85	1564.23	1564.86	1564.00	1560.58	1553.64
12	1519.78	1497.36	1491.31	1476.79	1557.98	1528.93	1554.03	1564.51	1564.90	1563.98	1560.42	1553.35
13	1518.43	1499.09	1493.40	1475.18	1553.13	1529.43	1554.83	1564.68	1564.78	1563.92	1560.25	1553.02
14	1516.90	1495.88	1493.71	1473.51	1547.56	1529.64	1555.54	1564.80	1564.73	1563.84	1560.08	1552.82
15	1515.26	1490.93	1492.67	1473.87	1541.60	1529.72	1556.34	1564.79	1564.73	1563.78	1559.91	1552.89
16	1513.64	1485.02	1487.51	1476.56	1535.35	1530.14	1557.27	1564.08	1564.72	1563.72	1559.72	1553.03
17	1512.07	1478.40	1480.95	1477.36	1529.44	1530.88	1558.18	1564.14	1564.74	1563.67	1559.54	1552.61
18	1510.73	1475.23	1476.87	1477.17	1529.67	1531.50	1558.48	1564.57	1564.77	1563.65	1559.35	1552.03
19	1509.13	1472.98	1475.31	1477.86	1528.41	1532.43	1558.62	1564.54	1564.75	1563.55	1559.16	1551.41
20	1507.39	1470.31	1473.34	1478.66	1525.29	1533.30	1558.66	1563.94	1564.64	1563.44	1559.02	1550.75
21	1505.73	1467.35	1471.00	1479.94	1523.91	1534.10	1558.61	1563.80	1564.59	1563.37	1558.83	1550.06
22	1503.97	1464.18	1468.36	1478.93	1520.59	1534.97	1559.00	1564.00	1564.49	1563.29	1558.65	1549.59
23	1502.10	1462.26	1465.43	1477.56	1519.30	1535.69	1561.37	1563.93	1564.63	1563.17	1558.44	1549.27
24	1500.31	1461.29	1462.17	1475.78	1517.42	1536.41	1565.83	1563.71	1564.83	1563.08	1558.26	1548.85
25	1498.60	1466.01	1458.63	1473.59	1515.15	1536.86	1565.06	1563.51	1564.81	1562.94	1558.07	1548.00
26	1498.06	1469.71	1456.16	1471.10	1512.63	1537.38	1563.50	1563.78	1564.72	1562.84	1557.88	1546.73
27	1496.85	1472.80	1454.90	1468.56	1513.28	1537.95	1563.40	1563.56	1564.58	1562.71	1557.71	1545.29
28	1495.35	1486.38	1453.68	1465.77	1513.94	1538.43	1563.40	1563.43	1564.46	1562.60	1557.51	1543.83
29	1493.64	1494.59	1456.35	1463.67	1514.49	1538.74	1563.58	1563.54	1564.33	1562.49	1557.32	1542.34
30	1491.82	1510.22	1466.86	1462.54	---	1539.14	1563.57	1563.55	1564.16	1562.37	1557.11	1540.82
31	1489.93	---	1473.24	1462.30	---	1539.99	---	1563.55	---	1562.20	1556.91	---
MAX	1535.59	1510.22	1523.23	1479.94	1563.54	1539.99	1565.83	1564.80	1564.90	1564.15	1562.06	1556.70
MIN	1489.93	1461.29	1453.68	1462.30	1462.95	1515.13	1541.58	1563.43	1563.62	1562.20	1556.91	1540.82
(†)	231800	279300	197400	176500	290000	360200	436300	436200	438300	431500	413500	362700
(‡)	-120000	+47500	-81900	-20900	+113500	+70200	+76100	-100	+2100	-6800	-18000	-50800

CAL YR 1995 MAX 1564.84 MIN 1451.33 AC-FT‡ +32800
WTR YR 1996 MAX 1565.83 MIN 1453.68 AC-FT‡ +10900

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14181500 NORTH SANTIAM RIVER AT NIAGARA, OR

LOCATION.--Lat 44°45'10", long 122°17'50", in NE 1/4 NE 1/4 sec.34, T.9 S., R.4 E., Linn County, Hydrologic Unit 17090005, on left bank 0.1 mi downstream from Little Sardine Creek, 0.8 mi downstream from Big Cliff Dam, 2.1 mi east of Niagara, and at mile 57.3.

DRAINAGE AREA.--453 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1908 to January 1920, October 1921 to March 1922, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1318. Published as "North Fork of Santiam River near Niagara" prior to October 1913, and as "above Mayflower Creek, near Detroit" October 1938 to September 1952.

REVISED RECORDS.--WSP 1288: 1914-18, 1920. WSP 1718: 1953-54.

GAGE.--Water-stage recorder. Datum of gage is 1,093.78 ft above sea level (Federal Highway Administration bench mark). See WSP 1738 for history of changes prior to Oct. 1, 1952.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1953 by Detroit Lake (station 14180500) and Big Cliff Reservoir, usable capacity for reregulating purposes, 2,930 acre-ft. No diversion upstream from station. Discharges for October 19, 20 computed from data obtained through U.S. Corps of Engineers Columbia River Operational Hydromet System (CROHMS).

AVERAGE DISCHARGE.--68 years (water years 1910-19, 1939-96), 2,309 ft^3/s, 69.22 in/yr, 1,673,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 63,200 ft^3/s Nov. 22, 1909, gage height, 16.4 ft, from floodmark, site and datum then in use, from rating curve extended above 35,000 ft^3/s; minimum discharge, 19 ft^3/s Aug. 21, 1963; minimum daily, 395 ft^3/s Mar. 25, 26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,100 ft^3/s Feb. 13, 17, gage height, 9.03 ft; minimum discharge, 809 ft^3/s Nov. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3170	3170	2790	5100	1110	1300	1040	3090	1880	1450	999	999
2	3230	3080	8850	5020	1060	1490	1070	2830	1870	1010	1010	997
3	3200	3090	10100	5050	1060	1490	1080	2380	1870	1040	1010	1020
4	3200	2490	11300	5030	1020	1510	1000	2150	1790	1040	1010	1180
5	3270	2460	11100	4990	1100	1520	1010	2000	1750	1000	1010	1180
6	3260	2520	11400	5040	1290	1520	985	2020	1740	1010	989	1190
7	3090	2630	13200	5080	2780	1500	986	1670	1580	1000	989	1190
8	3040	2680	13600	5190	1500	1500	980	1740	1150	999	988	1190
9	3090	3270	11100	5060	5260	1510	987	1680	1150	1000	990	1180
10	3080	3570	9970	5070	12100	1510	1050	1130	1130	1010	991	1180
11	3200	3790	9860	4950	12200	1960	996	1110	1150	1000	985	1180
12	3300	4940	8040	4940	12200	2960	1210	1100	1340	1010	989	1190
13	3200	7830	7840	4920	14200	2910	1480	1730	1500	1020	990	1210
14	3160	10100	9490	4930	15000	2890	1560	2730	1480	1000	994	1200
15	3170	10100	9630	5010	15000	2850	1600	4130	1290	993	984	1250
16	3150	10100	12000	5170	15000	2100	2070	5090	1280	1010	979	1270
17	3150	10000	12000	4990	14900	1510	2090	4360	1260	1010	983	1940
18	3350	6490	8310	4930	11100	1490	2910	5430	1240	1010	989	1930
19	3200	4970	4930	5070	11200	1060	3030	6660	1220	1020	992	1920
20	3210	4980	4920	4930	11700	1030	3010	6080	1220	1020	991	1910
21	3250	5000	4940	3630	7390	1040	3000	4400	1250	1010	982	1900
22	3310	5070	4960	4940	9300	989	3660	4620	1230	997	981	1560
23	3270	3710	4980	4920	5960	981	6430	5420	1220	999	972	1240
24	3140	3490	5030	4910	5980	979	7440	4960	1240	1000	994	1360
25	3090	3150	5090	4910	5990	1010	10100	4170	1460	1000	989	2040
26	3190	3440	4000	4920	5990	1020	9440	2830	1460	996	1010	2770
27	3140	4820	2810	4990	1740	1010	5090	3420	1460	1020	1010	3070
28	3220	2180	2820	5020	1440	1000	4050	3000	1460	1000	1010	3030
29	3080	3880	2350	4150	1470	998	3150	2320	1470	1000	1000	3020
30	3110	1910	1370	3010	---	987	3060	2310	1450	1000	1000	3070
31	3250	---	5280	1970	---	985	---	2120	---	997	1010	---
TOTAL	98770	138910	234060	147840	206040	46609	85564	98680	42590	31671	30820	49366
MEAN	3186	4630	7550	4769	7105	1504	2852	3183	1420	1022	994	1646
MAX	3350	10100	13600	5190	15000	2960	10100	6660	1880	1450	1010	3070
MIN	3040	1910	1370	1970	1020	979	980	1100	1130	993	972	997
AC-FT	195900	275500	464300	293200	408700	92450	169700	195700	84480	62820	61130	97920
MEAN†	1234	5428	6219	4429	9078	2645	4131	3181	1455	911	701	792
CFSM†	2.73	12.0	13.7	9.78	20.0	5.84	9.12	7.02	3.21	2.01	1.55	1.75
IN.†	3.14	13.37	15.83	11.27	21.62	6.73	10.18	8.10	3.59	2.32	1.79	1.95
AC-FT†	75900	323000	382400	272300	522200	162650	245800	195600	86580	56020	43130	47120

CAL YR 1995 TOTAL 1061630 MEAN 2909 MAX 13600 MIN 893 AC-FT 2106000 MEAN† 2954 CFSM† 6.52 IN.† 88.55 AC-FT† 2138800
WTR YR 1996 TOTAL 1210920 MEAN 3309 MAX 15000 MIN 972 AC-FT 2402000 MEAN† 3324 CFSM† 7.34 IN.† 99.90 AC-FT† 2412900

† Adjusted for change in contents, in Detroit Lake.

14181500 NORTH SANTIAM RIVER AT NIAGARA, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: January 1953 to current year.

INSTRUMENTATION.--Temperature recorder since January 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 16.5°C July 28, 29, 1958; minimum, 1.0°C Jan. 30 to Feb. 4, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 14.0°C several days in October; minimum, 3.5°C Feb. 2-4.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.0	12.5	12.5	13.0	12.5	12.5	9.0	8.5	8.5	6.5	6.0	6.0
2	13.0	12.0	12.5	12.5	12.5	12.5	8.5	8.5	8.5	6.5	6.0	6.5
3	13.0	12.5	13.0	12.5	12.0	12.0	8.5	8.5	8.5	6.5	6.0	6.0
4	13.5	13.0	13.0	12.0	12.0	12.0	8.5	8.0	8.0	6.0	6.0	6.0
5	13.0	12.5	13.0	12.0	11.5	12.0	8.5	8.0	8.0	6.0	6.0	6.0
6	13.5	13.0	13.0	11.5	11.5	11.5	8.0	8.0	8.0	6.5	6.0	6.0
7	13.5	13.0	13.5	11.5	11.5	11.5	8.0	7.5	8.0	6.5	6.5	6.5
8	13.5	13.0	13.5	11.5	11.0	11.0	8.0	7.5	8.0	6.5	6.5	6.5
9	13.5	13.0	13.5	11.0	10.5	10.5	8.0	8.0	8.0	6.5	6.5	6.5
10	13.5	13.5	13.5	10.5	10.5	10.5	8.0	7.5	7.5	6.5	6.5	6.5
11	13.5	13.5	13.5	10.5	10.0	10.5	7.5	7.5	7.5	6.5	6.5	6.5
12	13.5	13.0	13.5	10.5	10.0	10.0	8.0	7.5	7.5	6.5	6.5	6.5
13	13.5	13.0	13.5	10.0	9.5	10.0	7.5	7.5	7.5	6.5	6.5	6.5
14	14.0	13.5	13.5	9.5	9.5	9.5	7.5	7.5	7.5	6.5	6.5	6.5
15	14.0	13.5	13.5	9.5	9.5	9.5	7.5	7.5	7.5	6.5	6.0	6.5
16	13.5	13.5	13.5	9.5	9.5	9.5	7.5	7.5	7.5	6.0	6.0	6.0
17	14.0	13.5	14.0	10.0	9.5	9.5	7.5	7.5	7.5	6.0	6.0	6.0
18	14.0	13.5	13.5	9.5	9.5	9.5	7.5	7.0	7.5	6.0	6.0	6.0
19	14.0	13.0	13.5	10.5	9.5	10.0	7.0	7.0	7.0	6.0	6.0	6.0
20	14.0	13.5	13.5	10.5	10.0	10.0	7.0	7.0	7.0	6.0	6.0	6.0
21	13.5	13.5	13.5	10.0	10.0	10.0	7.0	7.0	7.0	6.0	6.0	6.0
22	14.0	13.5	13.5	10.0	9.5	9.5	7.0	7.0	7.0	6.0	6.0	6.0
23	14.0	13.5	13.5	10.0	9.5	9.5	7.0	6.5	6.5	6.0	5.5	5.5
24	13.5	13.5	13.5	10.0	10.0	10.0	6.5	6.5	6.5	5.5	5.5	5.5
25	13.5	13.5	13.5	10.0	9.0	9.5	6.5	6.5	6.5	5.5	5.5	5.5
26	13.5	13.0	13.0	9.5	9.0	9.0	6.5	6.0	6.5	5.5	5.5	5.5
27	13.5	13.0	13.0	9.5	9.0	9.0	6.5	6.0	6.0	6.0	5.5	5.5
28	13.5	13.0	13.0	9.0	9.0	9.0	6.5	6.0	6.0	5.5	5.0	5.0
29	13.5	13.0	13.0	9.0	8.5	9.0	6.5	6.0	6.0	5.0	5.0	5.0
30	13.5	13.0	13.0	9.0	8.5	9.0	7.0	6.5	6.5	5.0	4.5	5.0
31	13.0	12.5	13.0	---	---	---	7.0	6.0	6.0	4.5	4.5	4.5
MONTH	14.0	12.0	13.5	13.0	8.5	10.5	9.0	6.0	7.5	6.5	4.5	6.0

14181500 NORTH SANTIAM RIVER AT NIAGARA, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.5	4.0	4.0	5.0	4.5	4.5	6.0	5.5	5.5	7.0	6.5	6.5
2	4.0	3.5	3.5	5.0	4.5	5.0	6.0	6.0	6.0	7.0	6.0	6.5
3	3.5	3.5	3.5	5.0	5.0	5.0	6.0	5.5	6.0	7.5	6.5	7.0
4	4.0	3.5	4.0	5.0	5.0	5.0	6.0	5.5	6.0	8.0	7.0	7.5
5	4.0	4.0	4.0	5.0	4.5	5.0	6.5	6.0	6.0	8.5	8.0	8.0
6	5.0	4.0	4.5	5.0	5.0	5.0	6.5	6.0	6.5	8.5	7.5	8.0
7	6.0	5.0	5.5	5.0	5.0	5.0	6.5	6.0	6.5	7.5	6.5	7.0
8	6.5	6.0	6.5	5.5	5.0	5.0	7.0	6.0	6.5	6.5	6.0	6.5
9	6.5	4.5	6.0	5.5	5.5	5.5	6.5	6.0	6.0	6.5	6.0	6.5
10	5.0	4.5	5.0	5.5	5.5	5.5	6.0	6.0	6.0	6.5	6.0	6.5
11	4.5	4.5	4.5	5.5	5.0	5.0	6.0	6.0	6.0	6.5	6.0	6.5
12	4.5	4.5	4.5	5.0	4.5	5.0	6.0	5.5	5.5	6.5	6.0	6.5
13	4.5	4.5	4.5	5.0	4.5	4.5	5.5	5.5	5.5	6.5	6.0	6.0
14	5.0	4.5	4.5	5.5	4.5	5.0	6.0	5.5	5.5	7.0	6.0	6.5
15	5.0	4.5	4.5	5.5	4.5	5.0	6.0	5.5	5.5	8.0	7.0	7.5
16	5.0	4.5	5.0	5.0	4.5	4.5	5.5	5.5	5.5	9.0	8.0	8.5
17	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	8.5	8.0	8.0
18	5.0	5.0	5.0	5.0	5.0	5.0	6.0	5.5	5.5	8.5	8.5	8.5
19	5.0	4.5	4.5	5.5	5.0	5.5	6.5	6.0	6.0	8.5	8.0	8.5
20	5.0	4.5	5.0	5.5	5.0	5.5	6.5	6.0	6.5	8.5	8.0	8.0
21	4.5	4.5	4.5	5.0	5.0	5.0	6.5	6.0	6.5	8.5	7.5	8.0
22	5.0	4.5	5.0	5.0	5.0	5.0	6.5	6.5	6.5	8.5	7.5	7.5
23	4.5	4.5	4.5	5.0	5.0	5.0	7.5	6.5	7.0	8.5	7.5	8.0
24	4.5	4.5	4.5	5.0	5.0	5.0	7.0	6.0	6.5	9.0	8.0	8.5
25	5.0	4.5	4.5	5.0	4.5	5.0	7.0	6.0	6.5	9.0	8.0	8.5
26	5.5	4.5	5.0	5.5	5.0	5.5	7.0	6.5	6.5	9.0	7.5	8.0
27	5.5	4.5	4.5	6.0	5.5	5.5	6.5	6.0	6.5	7.5	7.0	7.0
28	5.0	4.5	4.5	5.5	5.5	5.5	7.5	6.0	6.5	7.5	7.5	7.5
29	5.0	4.5	4.5	5.5	5.5	5.5	8.0	7.5	8.0	7.5	7.0	7.0
30	---	---	---	5.5	5.5	5.5	7.5	6.5	6.5	7.0	7.0	7.0
31	---	---	---	5.5	5.5	5.5	---	---	---	7.0	7.0	7.0
MONTH	6.5	3.5	4.5	6.0	4.5	5.0	8.0	5.5	6.0	9.0	6.0	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.5	6.5	7.0	8.0	7.0	7.5	8.5	8.0	8.5	10.0	9.5	9.5
2	7.0	6.5	7.0	8.0	7.5	8.0	8.5	8.0	8.0	10.0	9.5	9.5
3	7.0	6.5	7.0	8.0	7.5	7.5	8.5	8.0	8.5	9.5	9.0	9.5
4	7.0	7.0	7.0	7.5	7.5	7.5	8.5	8.0	8.5	9.5	9.0	9.0
5	7.0	7.0	7.0	8.0	7.5	8.0	8.5	8.0	8.0	9.5	9.0	9.0
6	7.0	6.5	7.0	8.5	7.5	8.0	9.0	8.0	8.5	9.5	9.5	9.5
7	7.0	7.0	7.0	8.5	7.5	8.0	9.0	8.5	9.0	10.0	9.5	9.5
8	7.5	7.0	7.0	8.0	7.5	8.0	9.0	8.0	8.5	10.0	9.5	9.5
9	7.5	7.0	7.0	8.0	7.5	7.5	9.0	8.5	8.5	10.0	9.5	10.0
10	7.5	7.0	7.5	8.0	7.5	8.0	9.5	8.5	9.0	10.0	9.5	10.0
11	7.5	7.0	7.0	8.5	7.5	8.0	9.0	8.5	8.5	10.0	10.0	10.0
12	8.0	7.5	7.5	8.5	7.5	8.0	9.5	9.0	9.0	10.0	9.5	10.0
13	7.5	7.0	7.5	8.5	7.5	8.0	9.5	9.0	9.0	10.0	9.5	10.0
14	7.5	7.0	7.5	9.0	8.0	8.5	9.0	8.5	9.0	10.5	9.5	10.0
15	7.5	7.0	7.0	8.5	8.0	8.0	9.5	8.5	9.0	10.5	10.0	10.5
16	7.5	7.0	7.0	8.5	8.0	8.0	9.5	8.5	9.0	10.5	10.5	10.5
17	7.0	6.5	7.0	8.5	8.0	8.0	9.0	8.5	9.0	10.5	10.5	10.5
18	7.0	6.5	7.0	8.0	8.0	8.0	9.0	8.5	9.0	10.5	10.5	10.5
19	7.5	7.0	7.0	8.0	7.5	8.0	9.5	9.0	9.0	10.5	10.5	10.5
20	7.5	7.0	7.5	8.5	7.5	8.0	9.0	8.5	9.0	11.0	10.5	10.5
21	7.5	7.0	7.5	8.5	8.0	8.0	9.5	8.5	9.0	11.0	10.5	10.5
22	7.5	7.5	7.5	9.0	8.0	8.5	9.5	9.0	9.0	11.0	10.5	11.0
23	7.5	7.0	7.5	9.0	8.0	8.5	9.5	8.5	9.0	11.0	10.5	11.0
24	7.5	7.0	7.0	9.0	8.0	8.5	9.5	9.0	9.0	11.0	11.0	11.0
25	7.5	7.0	7.5	9.0	8.0	8.5	9.5	9.0	9.0	11.5	11.0	11.0
26	7.5	7.0	7.5	9.0	8.0	8.5	9.5	9.0	9.0	11.5	11.0	11.0
27	7.5	7.0	7.0	9.5	8.0	8.5	9.0	9.0	9.0	12.0	11.0	11.5
28	7.5	7.0	7.0	8.5	8.5	8.5	9.5	9.0	9.0	12.0	11.5	11.5
29	7.5	7.0	7.5	9.0	8.0	8.5	10.0	9.5	9.5	12.0	11.5	12.0
30	8.0	7.5	7.5	9.0	8.5	8.5	9.5	9.0	9.5	12.0	11.5	12.0
31	---	---	---	9.0	8.5	8.5	9.5	9.0	9.0	---	---	---
MONTH	8.0	6.5	7.0	9.5	7.0	8.0	10.0	8.0	9.0	12.0	9.0	10.5
YEAR	14.0	3.5	8.0									

14182500 LITTLE NORTH SANTIAM RIVER NEAR MEHAMA, OR

LOCATION.--Lat 44°47'30", long 122°34'40", in NW 1/4 sec.16, T.9 S., R.2 E., Marion County, Hydrologic Unit 17090005, on left bank 2.0 mi east of Mehama, and at mile 2.0.

DRAINAGE AREA.--112 mi^2 at cableway 1.2 mi downstream where all discharge measurements are made.

PERIOD OF RECORD.--October 1931 to current year. Records for July to September 1924 and July to September 1931 at site 4 mi upstream not equivalent as a result of differences in drainage areas.

REVISED RECORDS.--WSP 754: 1932. WSP 1218: 1934, 1936, 1949-50. WSP 1935: Maximum only, 1932-34, 1936, 1938, 1943, 1945-49, 1950(M,P), 1951-53(M), 1954(M,P), 1955(M), 1956(M,P), 1957(M), 1958-59(M,P). WSP 2135: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 655.41 ft above sea level. Prior to June 12, 1948, nonrecording gage at about same site and datum.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Records herein are for measuring site. Continuous water-quality records for the period May 1985 to September 1986 have been collected at this location.

AVERAGE DISCHARGE.--65 years (water years 1932-96), 751 ft^3/s, 91.08 in/yr, 543,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft^3/s Dec. 22, 1964, gage height, 16.73 ft, from rating curve extended above 17,000 ft^3/s; minimum discharge, 13 ft^3/s Aug. 30, 1961.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 8,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1700	12,600	10.87	Dec. 30	1830	8,300	9.47
Nov. 28	0330	12,500	10.84	Feb. 7	1000	*33,900	*15.29
Nov. 30	0400	12,500	10.84	Feb. 9	0030	14,600	11.66

Minimum discharge, 25 ft^3/s Sept. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	453	288	6140	2220	561	447	1150	700	414	196	55	31
2	263	254	3050	1440	505	466	1420	626	376	176	60	30
3	825	230	2150	1910	471	637	1090	555	347	160	64	29
4	733	208	2510	1810	553	1910	799	486	315	152	59	29
5	432	220	1770	1340	1210	1920	668	432	285	142	58	29
6	298	785	1310	1500	13500	1440	635	389	262	131	57	29
7	232	1400	1070	2170	31400	1190	647	359	245	123	54	29
8	193	3140	884	2900	11400	1270	666	330	229	115	51	27
9	175	2890	1510	1920	9390	1490	634	303	212	110	49	26
10	155	1710	1790	1670	3660	1390	590	283	199	106	47	26
11	921	6470	2190	1300	2650	1480	644	269	186	101	45	26
12	1430	3580	2480	1060	2250	1200	906	268	176	97	44	25
13	844	3520	2620	888	2110	969	1420	344	167	92	43	26
14	547	2170	2460	820	2050	809	1090	613	158	87	41	44
15	400	1430	2360	1540	1940	709	1120	852	150	83	41	267
16	333	1150	1590	2750	1810	625	1370	842	143	80	40	461
17	356	931	1200	1810	1860	552	1260	822	140	87	38	359
18	756	894	957	1300	3390	494	1040	1390	151	118	38	203
19	529	794	796	1910	2540	484	1090	1620	140	111	38	150
20	420	669	687	2110	1860	471	963	1260	128	91	37	126
21	390	571	596	1970	1450	432	923	954	121	83	36	104
22	390	527	520	1400	1120	429	1720	1830	117	78	36	92
23	346	498	460	1160	978	407	3650	2330	154	75	35	81
24	298	700	410	1040	847	376	5100	1650	327	71	34	73
25	280	2540	369	909	738	338	2480	1190	410	68	33	67
26	1500	2640	336	813	654	311	1990	916	287	65	32	62
27	967	3270	313	858	582	301	1460	757	344	63	34	59
28	651	7420	334	881	519	288	1090	658	293	61	35	56
29	492	4900	1820	800	468	277	888	605	265	62	34	53
30	401	8570	4880	703	---	279	781	535	225	59	32	51
31	336	---	4860	617	---	402	---	467	---	57	31	---
TOTAL	16346	64369	54422	45519	102466	23793	39284	24635	6966	3100	1331	2670
MEAN	527	2146	1756	1468	3533	768	1309	795	232	100	42.9	89.0
MAX	1500	8570	6140	2900	31400	1920	5100	2330	414	196	64	461
MIN	155	208	313	617	468	277	590	268	117	57	31	25
AC-FT	32420	127700	107900	90290	203200	47190	77920	48860	13820	6150	2640	5300
CFSM	4.71	19.2	15.7	13.1	31.5	6.85	11.7	7.10	2.07	.89	.38	.79
IN.	5.43	21.38	18.08	15.12	34.03	7.90	13.05	8.18	2.31	1.03	.44	.89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1996, BY WATER YEAR (WY)

MEAN	388	1139	1425	1323	1215	1020	984	788	456	132	63.9	106
MAX	1594	3121	3680	3615	3533	2645	1712	1439	1684	547	432	490
(WY)	1948	1943	1965	1953	1996	1932	1937	1949	1933	1983	1968	1959
MIN	17.3	25.7	193	218	260	226	268	211	53.5	32.3	19.2	24.3
(WY)	1988	1937	1977	1937	1977	1992	1941	1992	1992	1992	1961	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1932 - 1996	
ANNUAL TOTAL	299479		384901			
ANNUAL MEAN	820		1052		751	
HIGHEST ANNUAL MEAN					1146	1974
LOWEST ANNUAL MEAN					400	1977
HIGHEST DAILY MEAN	8570	Nov 30	31400	Feb 7	31400	Feb 7 1996
LOWEST DAILY MEAN	23	Sep 22	25	Sep 12	13	Aug 30 1961
ANNUAL SEVEN-DAY MINIMUM	25	Sep 18	26	Sep 7	15	Aug 24 1961
ANNUAL RUNOFF (AC-FT)	594000		763500		543900	
ANNUAL RUNOFF (CFSM)	7.33		9.39		6.70	
ANNUAL RUNOFF (INCHES)	99.47		127.84		91.08	
10 PERCENT EXCEEDS	1870		2200		1680	
50 PERCENT EXCEEDS	434		501		462	
90 PERCENT EXCEEDS	44		48		42	

14183000 NORTH SANTIAM RIVER AT MEHAMA, OR

LOCATION.--Lat 44°47'20", long 122°37'00", in NW 1/4 sec.18, T.9 S., R.2 E., Marion County, Hydrologic Unit 17090005, on right bank 300 ft downstream from highway bridge at Mehama, 0.5 mi downstream from Little North Santiam River, and at mile 38.71.

DRAINAGE AREA.--655 mi^2, at cableway 0.8 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--July 1905 to March 1907, October 1910 to September 1914, September 1921 to current year. Monthly discharge only September 1921, published in WSP 1318. Prior to October 1913, published as North Fork of Santiam River at Mehama.

REVISED RECORDS.--WSP 739: 1922-23(M). WSP 1044: 1943. WSP 1248: 1906, 1911-14, 1924(M), 1926, 1934-36(M), 1937, 1938(M), 1942(M). WSP 2135: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 602.49 ft above sea level. Prior to June 15, 1933, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1953 by Detroit Lake (station 14180500) and Big Cliff Reservoir, usable capacity for reregulating purposes, 2,930 acre-ft. No diversion upstream from station. All records given herein are for measuring site. Continuous water-quality records for the period April 1985 to September 1986 have been collected at this location.

AVERAGE DISCHARGE.--80 years (water years 1906, 1911-14, 1922-96), 3,348 ft^3/s, 2,426,000 acre-ft/yr.
43 years (water years 1954-96), 3,429 ft^3/s, 2,484,00 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft^3/s Dec. 28, 1945, gage height, 15.37 ft, from rating curve extended above 36,000 ft^3/s, on basis of slope-area measurement of peak flow; maximum gage height, 17.5 ft Nov. 20, 1921, from graph based on gage readings, and Jan. 6, 1923, from floodmark, at site then in use; minimum discharge, 254 ft^3/s Aug. 3, 1970; minimum daily, 420 ft^3/s Sept. 18, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,800 ft^3/s Feb. 7, gage height, 13.40 ft; minimum discharge, 1,060 ft^3/s Aug. 23, 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3600	3500	13100	9080	2320	2060	2480	3970	2470	1710	1160	1100
2	3480	3330	14700	7580	2060	2230	2790	3680	2380	1390	1190	1090
3	4240	3320	14800	8210	1980	2420	2530	3120	2350	1330	1180	1100
4	4040	2800	16200	8090	2060	3990	2100	2810	2240	1330	1180	1230
5	3720	2700	15400	7310	3080	4120	1930	2600	2170	1280	1180	1260
6	3560	3400	14200	7600	19900	3500	1860	2530	2120	1260	1160	1260
7	3320	4270	15400	8780	46700	3160	1850	2220	2000	1260	1150	1260
8	3200	6680	16000	10500	19400	3180	1840	2210	1600	1240	1140	1260
9	3240	7420	14700	8640	19800	3380	1820	2180	1540	1240	1130	1250
10	3210	5730	13800	8270	18800	3290	1830	1700	1520	1240	1130	1250
11	4370	13200	14600	7410	16500	3680	1880	1610	1490	1230	1130	1250
12	5120	10700	14200	6960	15300	4480	2290	1590	1610	1230	1130	1260
13	4250	13500	13100	6590	16700	4190	3150	2070	1780	1230	1120	1270
14	3790	14200	15700	6450	17500	3950	2880	3450	1750	1210	1120	1320
15	3620	12800	14600	7660	17300	3800	2910	5120	1600	1190	1110	1610
16	3550	12200	15900	10000	17000	2970	3610	6330	1550	1200	1100	1740
17	3630	11800	15100	8310	17100	2360	3580	5500	1540	1220	1100	2140
18	4200	8490	11400	7420	16500	2180	4110	7270	1530	1260	1100	2060
19	3810	6260	6660	8870	15000	1890	4440	8810	1490	1250	1100	1990
20	3690	6060	6380	9470	15000	1770	4290	8100	1470	1240	1110	1960
21	3730	5920	6230	7530	9100	1730	4200	5860	1490	1210	1100	1930
22	3740	5920	6100	7770	11800	1700	5490	7040	1460	1200	1090	1680
23	3660	4660	6040	7330	7760	1660	11400	8630	1540	1200	1080	1400
24	3500	4630	5980	7210	7460	1610	15000	7320	1730	1190	1090	1400
25	3420	7030	5980	6980	7270	1580	14100	6020	1960	1190	1090	1920
26	4990	7430	5080	6790	7130	1580	12700	4070	1830	1180	1100	2540
27	4330	10300	3510	6960	3380	1560	7410	4460	1870	1190	1120	2900
28	3990	12900	3540	7050	2230	1540	5680	4040	1830	1180	1110	2840
29	3660	12200	5600	6180	2250	1520	4390	3120	1800	1180	1100	2840
30	3560	14700	8260	4460	---	1510	4090	3030	1750	1170	1100	2880
31	3650	---	12700	3300	---	1650	---	2820	---	1160	1100	---
TOTAL	117870	238050	344960	234760	358380	80240	138630	133280	53460	38590	34800	50990
MEAN	3802	7935	11130	7573	12360	2588	4621	4299	1782	1245	1123	1700
MAX	5120	14700	16200	10500	46700	4480	15000	8810	2470	1710	1190	2900
MIN	3200	2700	3510	3300	1980	1510	1820	1590	1460	1160	1080	1090
AC-FT	233800	472200	684200	465600	710800	159200	275000	264400	106000	76540	69030	101100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1996, BY WATER YEAR (WY)

MEAN	2922	5286	6232	5416	4192	3292	3295	3480	2505	1372	1246	1958
MAX	5109	9857	14300	11430	12360	10890	6128	5897	5521	2528	1833	2800
(WY)	1960	1974	1978	1956	1996	1972	1993	1960	1955	1983	1968	1959
MIN	1796	1545	1183	1212	1048	1467	1624	1136	956	757	699	996
(WY)	1988	1994	1977	1977	1977	1992	1973	1973	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1954 - 1996	
ANNUAL TOTAL	1564560		1824010			
ANNUAL MEAN	4286		4984		3429	
HIGHEST ANNUAL MEAN					5255	1974
LOWEST ANNUAL MEAN					1743	1977
HIGHEST DAILY MEAN	16200	Dec 4	46700	Feb 7	46700	Feb 7 1996
LOWEST DAILY MEAN	951	Aug 30	1080	Aug 23	682	Aug 1 1992
ANNUAL SEVEN-DAY MINIMUM	958	Aug 26	1090	Aug 19	693	Aug 16 1992
ANNUAL RUNOFF (AC-FT)	3103000		3618000		2484000	
10 PERCENT EXCEEDS	11300		13100		6910	
50 PERCENT EXCEEDS	2990		3220		2410	
90 PERCENT EXCEEDS	1040		1180		1170	

14185000 SOUTH SANTIAM RIVER BELOW CASCADIA, OR

LOCATION.--Lat 44°23'31", long 122°29'47", in NW 1/4 SW 1/4 sec.31, T.13 S., R.3 E., Linn County, Hydrologic Unit 17090006, on left bank, 0.2 mi upstream from Mouse Creek, 0.8 mi southwest of Cascadia, and at mile 49.2.

DRAINAGE AREA.--174 mi^2.

PERIOD OF RECORD.--September 1935 to current year. Monthly discharge only September 1935, published in WSP 1318.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 775 ft above sea level, from topographic map. Prior to Sept. 26, 1989, at site 0.7 mi downstream at datum 759.88 above sea level. Prior to Nov. 1, 1935, nonrecording gage at site 0.7 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Continuous water-quality records for the period June 1962 to September 1967 and February 1969 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--61 years (water years 1936-96), 813 ft^3/s, 63.52 in/yr, 589,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft^3/s Feb. 7, 1996, gage height, 18.11 ft, from rating curve extended above 10,000 ft^3/s; minimum discharge, 23 ft^3/s Dec. 1, 2, 1936, site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2100	6,360	8.20	Feb. 7	1000	*31,700	*18.11
Nov. 28	0030	8,340	9.23	Feb. 9	0400	16,100	12.70
Dec. 1	0630	9,240	9.67	Apr. 24	0400	8,420	9.27
Dec. 30	1830	10,800	10.42				

Minimum discharge, 40 ft^3/s Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	282	7230	2900	739	626	1450	863	557	193	70	46
2	180	253	3990	2010	658	694	1430	773	506	181	75	45
3	508	232	2820	1930	617	887	1240	703	460	170	80	45
4	494	216	3110	2000	838	1320	979	623	424	167	74	44
5	296	224	2800	1690	1900	1570	831	558	393	159	74	45
6	224	451	2530	1940	10400	1290	770	506	367	149	73	46
7	188	873	2040	2170	23200	1110	753	464	343	143	69	44
8	166	1750	1630	2990	10300	1120	748	431	324	137	65	43
9	165	2730	2410	2790	11100	1230	751	404	304	133	63	43
10	147	1880	2340	2710	4340	1250	713	382	286	130	60	43
11	406	3620	2760	2010	2730	1360	770	366	271	125	58	42
12	703	3790	4250	1540	2160	1370	980	361	259	120	57	41
13	429	3660	4190	1240	1920	1150	1130	423	247	115	57	43
14	319	2450	4010	1170	1720	970	1040	1020	236	110	55	52
15	261	1650	3620	2120	1550	852	1020	2240	226	106	53	240
16	231	1290	2400	3190	1430	754	1160	2070	219	102	52	203
17	247	1040	1790	2460	1550	671	1220	2070	230	114	51	180
18	562	1130	1420	1960	3560	619	1140	2820	238	141	51	117
19	373	928	1170	3470	3300	602	1160	3360	208	119	50	97
20	305	785	998	3270	2410	569	1090	2400	195	108	50	85
21	339	673	868	2900	1920	536	1080	1880	186	103	51	74
22	369	620	767	1970	1550	566	1980	2820	179	98	52	69
23	313	565	676	1570	1390	522	3840	3230	244	93	50	64
24	275	684	608	1430	1180	485	6340	2450	368	90	49	60
25	280	3420	554	1210	1000	437	3140	1810	346	85	48	58
26	893	3830	509	1050	875	413	2520	1390	268	82	49	56
27	721	3920	481	1420	778	403	1840	1120	246	79	51	54
28	529	5730	507	1480	692	391	1420	943	265	78	52	52
29	423	4200	2410	1190	633	373	1150	828	229	80	50	51
30	360	6160	6100	975	---	363	977	711	208	75	48	49
31	314	---	5140	842	---	588	---	623	---	72	47	---
TOTAL	11273	59036	76128	61597	96440	25091	44662	40642	8832	3657	1784	2131
MEAN	364	1968	2456	1987	3326	809	1489	1311	294	118	57.5	71.0
MAX	893	6160	7230	3470	23200	1570	6340	3360	557	193	80	240
MIN	147	216	481	842	617	363	713	361	179	72	47	41
AC-FT	22360	117100	151000	122200	191300	49770	88590	80610	17520	7250	3540	4230
CFSM	2.09	11.3	14.1	11.4	19.1	4.65	8.56	7.53	1.69	.68	.33	.41
IN.	2.41	12.62	16.28	13.17	20.62	5.36	9.55	8.69	1.89	.78	.38	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1996, BY WATER YEAR (WY)

MEAN	293	1097	1495	1431	1389	1158	1145	926	521	169	80.9	95.8
MAX	1296	2441	4319	3278	3326	2913	2052	1639	1261	466	222	318
(WY)	1951	1943	1965	1953	1996	1972	1937	1960	1937	1983	1968	1959
MIN	31.6	27.6	82.3	107	130	324	356	282	101	54.2	35.9	40.9
(WY)	1988	1937	1977	1977	1977	1941	1941	1987	1992	1940	1992	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1936 - 1996	
ANNUAL TOTAL	369634		431273			
ANNUAL MEAN	1013		1178		813	
HIGHEST ANNUAL MEAN					1280	1972
LOWEST ANNUAL MEAN					359	1977
HIGHEST DAILY MEAN	8210	Jan 14	23200	Feb 7	23200	Feb 7 1996
LOWEST DAILY MEAN	44	Sep 23	41	Sep 12	23	Dec 1 1936
ANNUAL SEVEN-DAY MINIMUM	47	Sep 18	43	Sep 7	24	Nov 25 1936
ANNUAL RUNOFF (AC-FT)	733200		855400		589300	
ANNUAL RUNOFF (CFSM)	5.82		6.77		4.68	
ANNUAL RUNOFF (INCHES)	79.03		92.20		63.52	
10 PERCENT EXCEEDS	2460		2840		1810	
50 PERCENT EXCEEDS	562		605		502	
90 PERCENT EXCEEDS	78		56		62	

14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR

LOCATION.--Lat 44°32'25", long 122°26'05", in NW 1/4 sec.10, T.12 S., R.3 E., Linn County, Hydrologic Unit 17090006, on Bureau of Land Management land, on right bank 80 ft downstream from Panther Creek, 10 mi north of Cascadia, and at mile 6.6.

DRAINAGE AREA.--99.2 mi^2.

PERIOD OF RECORD.--August 1963 to November 1964 (destroyed by flood of December 1964); October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,050 ft above sea level, from topographic map. Aug. 13, 1963, to Dec. 22, 1964, water-stage recorder on left bank at present datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. Continuous water-quality records for the period August 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--32 years (water years 1964, 1966-96), 651 ft^3/s, 89.18 in/yr, 471,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft^3/s Feb. 7, 1996, gage height, 20.54 ft, from rating curve extended above 8,000 ft^3/s on the basis of slope-area measurement of peak flow; minimum discharge, 14 ft^3/s Aug. 19-23, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 36,500 ft^3/s Dec. 22, 1964, from slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	1830	6,650	11.28	Dec. 30	1730	7,370	11.69
Nov. 11	1600	7,580	11.81	Feb. 7	unknown	*23,700	*a20.54
Nov. 28	0030	7,010	11.49	Apr. 23	2400	6,640	11.32
Dec. 14	1730	5,680	10.69				

Minimum discharge, 26 ft^3/s Sept. 12, 13.
a From outside highwater mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e280	e190	e5600	2080	e380	403	1510	556	315	137	54	29
2	e190	e170	3450	1270	347	448	1360	514	286	128	59	29
3	480	e150	2240	1840	330	657	1000	463	268	119	59	29
4	e410	e140	2950	1750	469	1680	738	418	249	115	53	29
5	e250	e160	1870	1400	1870	1570	614	392	229	110	53	28
6	e180	468	1390	1720	e9360	1110	579	363	210	106	53	29
7	e140	e1050	1090	2280	e16000	958	571	347	187	101	51	28
8	133	e3350	868	3360	e7200	1090	555	335	172	97	50	28
9	e120	e3000	1690	2010	e7600	1270	526	325	165	95	47	28
10	e100	e1800	1710	1610	e3000	1170	488	319	158	92	46	28
11	264	e4100	2550	1160	e1900	1240	573	311	159	89	44	28
12	e690	e3200	3400	874	e1500	1060	934	313	162	86	43	27
13	e405	e3400	3510	694	e1350	868	1110	332	154	83	42	27
14	e275	e1900	3860	679	1270	722	967	497	145	81	41	40
15	e220	e1300	3090	1890	1160	634	965	938	140	79	40	195
16	e190	e1000	1710	3450	1080	561	1060	920	135	76	39	358
17	246	e790	1180	1950	1240	508	1080	1080	141	82	39	275
18	e460	e900	896	1340	3410	459	961	1900	142	97	38	123
19	e290	e720	723	2760	2490	454	988	2140	128	88	37	88
20	e260	e580	609	2370	1690	447	864	1360	122	79	e36	71
21	e240	e480	526	1900	1280	420	859	995	118	74	e35	60
22	e210	499	463	1170	988	438	1930	1510	115	72	34	55
23	e190	494	412	892	872	403	4140	1600	179	69	33	51
24	e180	853	371	748	710	377	4750	1210	269	68	33	47
25	200	3690	336	619	600	346	2310	900	298	66	32	45
26	e1250	e2700	309	536	522	333	1690	703	230	63	32	43
27	e650	e3300	293	673	476	331	1200	584	215	62	33	41
28	e420	e4800	331	678	450	324	904	516	187	60	33	40
29	e300	e3400	2510	551	407	316	733	470	165	60	32	39
30	e250	6150	4590	e470	---	315	628	406	149	58	31	38
31	e220	---	4230	e410	---	584	---	354	---	54	31	---
TOTAL	9693	54734	58757	45134	69951	21496	36587	23071	5592	2646	1283	1976
MEAN	313	1824	1895	1456	2412	693	1220	744	186	85.4	41.4	65.9
MAX	1250	6150	5600	3450	16000	1680	4750	2140	315	137	59	358
MIN	100	140	293	410	330	315	488	311	115	54	31	27
AC-FT	19230	108600	116500	89520	138700	42640	72570	45760	11090	5250	2540	3920
CFSM	3.15	18.4	19.1	14.7	24.3	6.99	12.3	7.50	1.88	.86	.42	.66
IN.	3.63	20.53	22.03	16.93	26.23	8.06	13.72	8.65	2.10	.99	.48	.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1996, BY WATER YEAR (WY)

MEAN	246	1010	1237	1260	1114	935	858	604	321	101	59.1	87.1
MAX	753	2224	2897	2450	2441	2018	1600	1114	817	336	240	268
(WY)	1968	1974	1974	1970	1982	1972	1993	1971	1984	1983	1968	1971
MIN	20.8	57.6	110	157	208	204	382	182	63.1	36.8	20.9	28.0
(WY)	1988	1994	1977	1977	1977	1992	1968	1992	1992	1992	1992	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1964 - 1996	
ANNUAL TOTAL	287622		330920			
ANNUAL MEAN	788		904		651	
HIGHEST ANNUAL MEAN					1113	1974
LOWEST ANNUAL MEAN					311	1977
HIGHEST DAILY MEAN	7800	Jan 31	16000	Feb 7	16000	Feb 7 1996
LOWEST DAILY MEAN	40	Sep 22	27	Sep 12	14	Aug 19 1973
ANNUAL SEVEN-DAY MINIMUM	42	Sep 18	28	Sep 7	14	Aug 17 1973
ANNUAL RUNOFF (AC-FT)	570500		656400		471700	
ANNUAL RUNOFF (CFSM)	7.94		9.11		6.56	
ANNUAL RUNOFF (INCHES)	107.86		124.10		89.18	
10 PERCENT EXCEEDS	1880		2290		1500	
50 PERCENT EXCEEDS	366		415		357	
90 PERCENT EXCEEDS	54		42		39	

e Estimated

14186100 GREEN PETER LAKE NEAR FOSTER, OR

LOCATION.--Lat 44°27'10", long 122°32'40", in NE 1/4 SE 1/4 sec.10, T.13 S., R.2 E., Linn County, Hydrologic Unit 17090006, in Green Peter Dam on Middle Santiam River, 7.0 mi northeast of Foster, and at mile 5.7.

DRAINAGE AREA.--273 mi^2.

PERIOD OF RECORD.--October 1966 to current year. Prior to October 1971, published as Green Peter Reservoir near Foster.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by concrete, gravity-type dam with ogee spillway completed in 1966 by Corps of Engineers; controlled storage began Oct. 6, 1966. Total capacity, 428,100 acre-ft, usable capacity 330,800 acre-ft between elevations 887.0 ft, proposed lower limit of operation, and 1,015.0 ft, top of spillway gates. Reservoir used for flood control, power development, improvement of navigation, pollution abatement, and other purposes. Figures given herein represent total contents.

COOPERATION.--Midnight elevations furnished by Corps of Engineers and reviewed by Geological Survey. Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 426,700 acre-ft April 29, 1990, elevation, 1,014.61 ft; minimum contents, 116,900 acre-ft Dec. 15, 1972, elevation, 899.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 417,000 acre-ft Apr. 25, elevation, 1,011.97 ft; minimum contents, 168,000 acre-ft Jan. 29, elevation, 925.86 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

899	116,600	960	251,100
900	118,300	980	309,700
920	155,700	1,000	374,800
940	199,900	1,015	428,100

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	974.98	955.45	981.99	949.76	927.39	969.65	992.62	1008.64	1010.80	1009.08	1002.14	993.36
2	974.01	954.61	984.30	949.26	928.32	970.45	994.20	1008.78	1010.61	1008.81	1001.93	993.05
3	973.54	953.73	983.72	949.40	929.18	971.51	995.36	1008.88	1010.55	1008.56	1001.69	992.74
4	972.91	953.07	983.69	949.42	930.26	973.73	995.80	1008.96	1010.55	1008.41	1001.43	992.42
5	972.01	952.45	981.83	948.40	933.46	975.90	996.17	1009.02	1010.66	1008.26	1001.18	992.13
6	971.10	952.42	978.28	945.79	957.96	977.56	996.83	1009.02	1010.64	1008.10	1000.92	991.81
7	970.10	952.85	973.92	943.92	990.50	978.86	997.38	1009.06	1010.54	1007.93	1000.66	991.28
8	969.08	955.85	969.15	945.75	1001.11	980.24	998.00	1009.20	1010.46	1007.75	1000.41	990.74
9	968.02	957.65	966.48	945.66	1007.66	981.71	998.75	1009.30	1010.37	1007.57	1000.15	990.12
10	966.93	957.36	964.45	944.28	1005.47	983.09	999.49	1009.37	1010.25	1007.36	999.89	989.67
11	966.43	961.66	963.62	941.32	1001.11	983.42	1000.39	1009.50	1010.24	1007.16	999.62	989.18
12	966.33	964.97	964.88	938.37	995.97	983.43	1001.58	1009.51	1010.19	1006.98	999.36	988.64
13	965.94	967.74	967.13	936.45	990.31	983.23	1002.73	1009.37	1010.12	1006.78	999.08	988.10
14	965.31	967.03	969.26	934.49	984.32	982.86	1003.66	1008.97	1010.04	1006.59	998.78	987.70
15	964.59	964.28	970.25	934.00	978.00	982.59	1004.70	1009.90	1009.95	1006.37	998.49	987.51
16	963.89	961.51	967.04	935.43	972.40	983.24	1005.52	1010.06	1009.82	1006.07	998.20	987.80
17	963.27	956.36	961.75	935.29	969.38	983.81	1006.11	1010.40	1009.76	1005.93	997.88	987.88
18	962.97	953.75	955.23	934.34	971.28	984.23	1006.34	1010.99	1009.64	1005.77	997.54	987.29
19	962.39	952.04	949.49	935.89	971.66	984.84	1006.52	1010.88	1009.48	1005.56	997.34	986.66
20	961.71	950.12	947.46	937.37	970.15	985.43	1006.42	1010.29	1009.31	1005.30	996.92	986.01
21	961.07	947.90	945.41	938.55	969.26	985.84	1006.34	1009.96	1009.07	1005.09	996.58	985.33
22	960.37	945.60	942.98	937.78	967.04	986.52	1007.39	1010.61	1008.88	1004.83	996.30	984.63
23	959.61	944.50	940.44	936.56	966.24	987.12	1008.74	1011.42	1008.91	1004.61	996.00	983.91
24	958.82	944.19	937.76	934.98	966.62	987.71	1011.95	1011.18	1009.03	1004.40	995.73	983.24
25	958.15	948.19	934.90	932.96	966.84	988.20	1010.76	1011.02	1009.18	1004.09	995.42	982.50
26	958.69	951.17	932.80	930.65	966.88	988.63	1009.56	1010.86	1009.28	1003.85	995.23	982.05
27	958.59	953.98	931.40	928.78	967.64	989.13	1009.34	1010.92	1009.38	1003.58	994.80	981.31
28	958.20	961.14	930.18	926.85	968.47	989.57	1009.28	1011.05	1009.45	1003.31	994.57	980.57
29	957.65	964.84	933.90	925.94	968.89	990.00	1009.00	1011.09	1009.34	1003.01	994.27	979.82
30	956.99	973.34	942.23	926.04	---	990.41	1008.56	1011.05	1009.15	1002.71	993.97	979.03
31	956.23	---	947.44	926.35	---	991.08	---	1010.95	---	1002.41	993.67	---
MAX	974.98	973.34	984.30	949.76	1007.66	991.08	1011.95	1011.42	1010.80	1009.08	1002.14	993.36
MIN	956.23	944.19	930.18	925.94	927.39	969.65	992.62	1008.64	1008.88	1002.41	993.67	979.03
(†)	240900	289500	218100	169000	276300	345000	404700	413300	406800	383000	353500	306700
(‡)	-55900	+48600	-71400	-49100	+107300	+68700	+59700	+8600	-6500	-23800	-29500	-46800

CAL YR 1995 MAX 1011.37 MIN 923.31 AC-FT‡ +25300
WTR YR 1996 MAX 1011.95 MIN 925.94 AC-FT‡ +9900

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14186600 FOSTER LAKE AT FOSTER, OR

LOCATION.--Lat 44°25'00", long 122°40'25", in NW 1/4 NE 1/4 sec.27, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, in Foster Dam on South Santiam River, 0.3 mi above Wiley Creek, 0.5 mi north of Foster, and at mile 37.7.

DRAINAGE AREA.--492 mi^2.

PERIOD OF RECORD.--December 1966 to current year. Prior to October 1971, published as Foster Reservoir at Foster.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Lake is formed by rockfill embankment with an impervious core and ogee spillway completed in 1966 by Corps of Engineers; controlled storage began in November 1966. Total capacity, 60,780 acre-ft and usable capacity 33,210 acre-ft between elevations 609.0 ft, proposed lower limit of operation, and 641.0 ft, top of spillway gates. Lake used for reregulation of water released from Green Peter Lake, flood control, power development, pollution abatement, and other purposes. Figures given herein represent total contents.

COOPERATION.--Midnight elevations Oct. 1 through Aug. 20 furnished by Corps of Engineers and reviewed by Geological Survey. Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,350 acre-ft Apr. 28, 1990, elevation, 640.66 ft; minimum contents, 26,590 acre-ft Nov. 15, 16, 1971, elevation, 607.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 58,800 acre-ft Feb. 7, elevation, 639.41 ft; minimum contents, 29,780 acre-ft Jan. 30, elevation, 611.55 ft.

Capacity table (elevation, in feet, and total contents, in acre-feet)

607	25,880	630	47,860
610	28,430	635	53,510
615	32,870	640	59,530
620	37,570	641	60,780
625	42,550		

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	637.10	621.37	612.81	613.23	613.04	621.00	616.87	614.07	639.26	636.44	636.96	637.04
2	637.37	620.77	612.98	613.40	613.04	620.86	618.70	614.05	639.21	636.75	636.99	637.04
3	637.56	620.62	613.79	613.70	613.21	621.09	618.67	613.96	637.89	637.06	637.01	637.04
4	637.29	619.94	613.88	613.55	613.80	621.96	618.08	613.99	637.15	637.09	637.02	637.01
5	637.13	619.26	613.06	613.41	615.55	622.11	617.59	613.93	637.29	637.09	637.01	637.01
6	637.39	618.45	612.84	613.45	621.44	621.75	616.81	614.15	637.26	637.09	637.04	637.01
7	637.52	617.67	612.81	614.75	639.07	621.43	616.45	614.21	637.76	637.09	637.05	637.07
8	637.61	618.63	612.90	615.85	634.64	621.09	616.16	613.71	637.68	637.09	637.05	637.10
9	637.54	620.59	612.96	613.76	636.61	621.46	615.77	613.68	637.29	637.09	637.05	637.37
10	637.26	619.40	613.13	613.40	634.00	621.87	615.05	613.93	637.25	637.05	637.05	637.16
11	636.97	619.86	613.29	613.51	630.44	624.07	614.65	613.83	637.11	637.04	637.00	637.04
12	637.10	616.63	614.01	612.15	626.10	624.39	614.21	613.62	637.07	636.99	636.93	637.07
13	637.02	613.99	613.20	613.41	620.71	624.17	614.36	613.57	637.05	636.96	636.89	637.13
14	637.07	613.15	613.85	613.41	620.13	624.37	614.08	614.11	637.01	636.91	636.98	637.31
15	637.17	613.07	613.21	613.97	619.99	625.04	614.20	614.75	636.91	636.83	636.95	637.64
16	636.15	613.21	613.07	613.98	620.28	623.58	614.00	620.05	636.93	636.97	636.89	636.68
17	635.25	613.11	613.15	613.32	620.22	623.30	613.60	625.87	636.91	637.01	636.97	636.44
18	634.45	613.09	613.43	613.58	620.25	622.93	614.31	628.89	636.97	637.04	637.05	636.56
19	633.23	613.09	613.47	613.74	619.99	622.04	614.27	633.49	636.99	636.99	637.01	636.83
20	632.14	613.06	613.06	614.15	619.91	621.46	614.09	637.09	636.99	637.05	637.10	636.95
21	631.30	613.03	613.19	612.09	619.88	621.31	613.89	637.55	637.20	636.97	637.16	636.98
22	630.33	613.25	613.19	613.57	620.31	620.85	614.11	637.48	637.18	637.03	637.13	636.95
23	629.30	612.71	613.25	613.44	620.57	620.29	614.79	637.09	637.36	636.98	637.13	637.10
24	628.10	613.58	613.19	613.42	620.47	619.66	618.51	636.96	637.71	636.85	637.10	637.04
25	627.14	615.64	613.14	613.41	620.73	618.87	617.39	637.33	637.65	637.00	637.07	637.13
26	626.77	613.71	613.20	613.58	620.64	618.06	613.97	637.34	637.28	636.89	637.07	637.13
27	625.90	615.01	613.44	613.05	620.47	617.25	614.56	637.03	636.91	636.89	637.07	637.07
28	624.32	614.17	613.52	612.03	620.49	616.35	614.13	638.69	636.57	636.91	637.07	637.10
29	622.73	613.67	615.39	612.50	621.21	615.42	613.80	639.17	636.62	636.93	637.07	636.98
30	622.39	613.61	618.12	613.19	---	614.45	614.10	639.13	636.70	636.95	637.04	637.07
31	621.89	---	616.29	613.19	---	614.43	---	639.17	---	636.97	637.04	---
MEAN	632.92	615.91	613.57	613.46	621.97	620.87	615.37	624.90	637.31	636.97	637.03	637.03
MAX	637.61	621.37	618.12	615.85	639.07	625.04	618.70	639.17	639.26	637.09	637.16	637.64
MIN	621.89	612.71	612.81	612.03	613.04	614.43	613.60	613.57	636.57	636.44	636.89	636.44
(†)	39410	31610	34060	31240	38740	32360	32060	58500	55520	55840	55920	55960
(‡)	-16320	-7800	+2450	-2820	+7500	-6380	-300	+26440	-2980	+320	+80	+40

CAL YR 1995 MEAN 625.22 MAX 637.81 MIN 612.15 AC-FT‡ +2720
WTR YR 1996 MEAN 625.62 MAX 639.26 MIN 612.03 AC-FT‡ +230

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14187000 WILEY CREEK NEAR FOSTER, OR

LOCATION.--Lat 44°22'20", long 122°37'20", in NE 1/4 NE 1/4 sec.12, T.14 S., R.1 E., Linn County, Hydrologic Unit 17090006, on right bank 0.5 mi downstream from Little Wiley Creek, 3.5 mi southeast of Foster, and at mile 4.4.

DRAINAGE AREA.--51.8 mi^2.

PERIOD OF RECORD.--October 1947 to July 1973, July 1988 to current year.

REVISED RECORDS.--WDR OR-90-2: 1989 (M), WDR OR-93-1: 1992.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 720 ft above sea level, from topographic map. Prior to April 6, 1965, water-stage recorder at present site at datum of 718.08 ft above sea level (Corps of Engineers bench mark). Apr. 6, 1965, to July 1973, water-stage recorder at present site at datum 2.00 ft lower than previous datum.

REMARKS.--Records good except for period Feb. 7 to June 12, which are fair. Discharge for period Oct. 3 to Oct. 11 and Nov. 28 to Jan. 10 computed from data obtained through U.S. Army Corps of Engineers Columbia River Operational Hydromet System (CROHMS) database. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--33 years (water years 1948-72, 1989-96), 214 ft^3/s, 56.23 in/yr, 155,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,640 ft^3/s Jan. 21, 1972, gage height, 9.28 ft, datum then in use, from rating curve extended above 3,700 ft^3/s; maximum gage height, 9.80 ft, Dec. 21, 1964 (backwater from debris), datum then in use; minimum discharge, 2.9 ft^3/s August 28-31, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 7	1230	*7,790	*10.59	Feb. 9	0330	3,350	6.94

Minimum discharge, 6.7 ft^3/s Sept. 9-12.

CORRECTIONS.--The elevation of gage for water years 1989 to 1995 has been corrected as shown above to 720 ft above sea level. This figure supersedes that published in the reports for those years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	55	1440	516	212	197	388	206	141	35	11	7.1
2	32	49	938	371	187	212	388	191	129	33	13	7.0
3	133	46	673	375	175	263	317	177	109	31	15	7.0
4	118	43	735	406	243	433	241	152	98	30	13	7.1
5	66	46	721	359	657	538	196	135	90	29	14	7.7
6	48	90	615	354	2640	430	167	124	83	27	13	7.7
7	39	129	457	372	5610	355	162	115	78	25	12	7.3
8	34	376	367	453	2590	321	141	107	74	24	11	7.0
9	33	552	e500	531	2560	305	126	100	68	23	10	6.9
10	29	376	449	539	1250	293	127	94	64	23	10	6.9
11	113	645	728	402	757	297	155	88	60	22	9.5	6.7
12	134	792	1260	308	537	301	271	84	58	21	9.6	6.8
13	84	620	e1270	250	410	269	283	99	54	19	9.4	7.3
14	64	444	e1300	245	321	234	236	233	51	18	9.0	11
15	51	326	1100	453	283	202	222	504	48	17	8.7	55
16	44	255	675	798	258	173	274	463	47	17	8.4	30
17	50	219	468	650	267	155	306	541	50	21	8.4	31
18	108	216	352	542	677	142	297	757	49	27	8.4	18
19	72	183	276	1210	831	132	318	890	42	21	8.4	14
20	62	160	230	1280	656	120	310	607	39	19	8.4	13
21	70	142	199	1110	580	113	300	545	37	18	8.3	11
22	80	132	175	650	454	123	489	933	36	17	8.1	11
23	67	121	155	491	469	113	918	847	69	16	7.7	10
24	57	169	139	467	418	106	1550	603	87	15	7.4	9.5
25	57	628	127	358	347	96	851	444	87	14	7.4	9.1
26	137	632	117	291	289	90	664	338	59	13	7.8	8.8
27	122	931	113	499	235	92	471	263	51	13	8.3	8.5
28	97	1040	118	492	214	91	367	219	53	13	8.1	8.3
29	80	725	469	388	196	87	291	193	44	14	7.8	8.1
30	69	1010	796	298	---	84	240	168	39	12	7.3	7.9
31	62	---	824	245	---	175	---	149	---	12	7.2	---
TOTAL	2258	11152	17786	15703	24323	6542	11066	10369	1994	639	295.6	356.7
MEAN	72.8	372	574	507	839	211	369	334	66.5	20.6	9.54	11.9
MAX	137	1040	1440	1280	5610	538	1550	933	141	35	15	55
MIN	29	43	113	245	175	84	126	84	36	12	7.2	6.7
AC-FT	4480	22120	35280	31150	48240	12980	21950	20570	3960	1270	586	708
CFSM	1.41	7.18	11.1	9.78	16.2	4.07	7.12	6.46	1.28	.40	.18	.23
IN.	1.62	8.01	12.77	11.28	17.47	4.70	7.95	7.45	1.43	.46	.21	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1996, BY WATER YEAR (WY)

MEAN	83.7	271	396	445	391	339	274	190	89.5	32.6	17.2	18.9
MAX	397	620	1107	842	944	625	490	353	286	75.9	53.4	67.8
(WY)	1951	1951	1965	1953	1961	1972	1955	1963	1993	1969	1968	1968
MIN	8.08	15.7	109	82.1	113	85.0	133	62.8	20.2	11.8	4.40	5.15
(WY)	1989	1953	1960	1963	1973	1992	1968	1973	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1948 - 1996	
ANNUAL TOTAL	82710.8		102484.3			
ANNUAL MEAN	227		280		214	
HIGHEST ANNUAL MEAN					318	1956
LOWEST ANNUAL MEAN					104	1994
HIGHEST DAILY MEAN	2100	Jan 14	5610	Feb 7	6410	Dec 22 1964
LOWEST DAILY MEAN	6.4	Sep 24	6.7	Sep 11	2.9	Aug 28 1992
ANNUAL SEVEN-DAY MINIMUM	7.2	Sep 19	7.0	Sep 7	3.0	Aug 26 1992
ANNUAL RUNOFF (AC-FT)	164100		203300		155300	
ANNUAL RUNOFF (CFSM)	4.37		5.41		4.14	
ANNUAL RUNOFF (INCHES)	59.40		73.60		56.23	
10 PERCENT EXCEEDS	587		674		491	
50 PERCENT EXCEEDS	132		132		118	
90 PERCENT EXCEEDS	13		9.1		12	

e Estimated

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR

LOCATION.--Lat 44°24'45", long 122°41'15", in SE 1/4 NE 1/4 sec.28, T.13 S., R.1 E., Linn County, Hydrologic Unit 17090006, on left bank 0.6 mi downstream from Wiley Creek and at mile 37.0.

DRAINAGE AREA.--557 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1973 to current year. Records for October 1966 to July 1973 (published as South Santiam River at Foster, station 14186700) at site 0.5 mi upstream not equivalent owing to inflow between sites.

GAGE.--Water-stage recorder. Elevation of gage is 560 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Stage data furnished by U.S. Army Corps of Engineers for the period Apr. 17-30. Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). No diversion upstream from station.

AVERAGE DISCHARGE.--23 years (water years 1974-96), 2,829 ft^3/s, 68.97 in/yr, 2,050,000 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft^3/s Feb. 7, 1996, gage height, 18.74 ft, from rating curve extended above 16,000 ft^3/s; minimum discharge, 410 ft^3/s June 3, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,700 ft^3/s Feb. 7, gage height, 18.74 ft, from rating curve extended above 16,000 ft^3/s; minimum discharge, 641 ft^3/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2130	2320	11700	8270	1760	1180	1380	2660	2040	935	700	662
2	2030	2330	10800	7130	1410	1210	1390	2230	2030	928	695	661
3	2460	2040	10700	7030	1250	1260	2040	2120	2440	865	693	658
4	2780	2020	11000	7400	1170	1560	2730	1830	1870	811	691	662
5	2430	2020	12700	7640	1840	2350	2270	1750	996	812	691	662
6	2110	2370	13900	10400	10700	2200	1780	1600	1220	806	693	662
7	2110	3190	13500	10400	21900	2110	1540	1420	1070	800	684	986
8	2120	3570	12800	8630	24700	2090	1450	1410	1250	799	685	1020
9	2200	5600	12000	10800	25700	2070	1200	1160	1430	794	688	1010
10	2310	7490	10400	10700	23100	2050	1310	1010	1180	800	689	1020
11	2490	8570	10800	10400	21200	3150	1260	1050	1000	799	697	1020
12	2490	10400	11500	9780	20300	4440	1650	1260	985	795	697	1010
13	2230	10500	11200	6050	20500	4290	1940	1800	966	793	693	1020
14	2070	10300	11200	6520	17300	3890	1970	3350	966	787	685	1020
15	1900	10200	11600	7470	16600	2880	1720	3770	964	791	694	1160
16	2570	10200	13600	9530	14400	2290	2580	2530	959	791	694	1130
17	2520	10200	14600	8910	10800	1570	3240	2030	954	790	695	913
18	2870	8000	14800	7650	9580	1480	3130	5480	965	802	694	1360
19	2900	5680	12400	10700	11200	1600	3650	7430	948	794	694	1290
20	2680	5520	6410	10700	10900	1310	3950	5930	932	792	688	1340
21	2650	5430	5690	10700	8430	1280	3950	5900	938	785	689	1380
22	2700	5260	5660	7660	8680	1090	5190	7080	929	783	684	1350
23	2690	4070	5520	7690	6130	1080	11200	7590	973	782	667	1350
24	2690	3110	5520	7610	3750	1070	12500	7310	1020	779	672	1350
25	2630	5910	5500	7160	3110	1050	13800	5250	1010	780	670	1350
26	2970	9220	4330	6720	3040	1050	12400	4310	970	780	671	934
27	3120	9450	3340	7830	1650	1050	6140	3380	960	779	669	1400
28	3220	11000	3350	8240	1200	1050	4970	1610	930	778	668	1380
29	3000	10600	3990	5580	1180	1030	4300	2130	954	773	673	1400
30	2350	11200	6760	3290	---	1030	3970	2310	985	770	667	1400
31	2340	---	10600	2760	---	1130	---	2140	---	769	664	---
TOTAL	77760	197770	297870	251350	303480	56890	120600	100830	34834	24842	21234	32560
MEAN	2508	6592	9609	8108	10460	1835	4020	3253	1161	801	685	1085
MAX	3220	11200	14800	10800	25700	4440	13800	7590	2440	935	700	1400
MIN	1900	2020	3340	2760	1170	1030	1200	1010	929	769	664	658
AC-FT	154200	392300	590800	498600	602000	112800	239200	200000	69090	49270	42120	64580
MEAN†	1333	7280	8484	7263	12458	2847	5019	3821	1002	419	207	300
CFSM†	2.39	13.07	15.23	13.04	22.37	5.11	9.01	6.86	1.80	0.75	0.37	0.54
IN.†	2.76	14.58	17.57	15.04	24.13	5.89	10.05	7.91	2.01	0.87	0.43	0.60
AC-FT†	81980	433100	521800	446700	716800	175100	298600	235000	59610	25790	12700	17820

CAL YR 1995 TOTAL 1268075 MEAN 3474 MAX 14800 MIN 749 AC-FT 2515000 MEAN† 3512 CFSM† 6.30 IN.† 85.60 AC-FT† 2543000
WTR YR 1996 TOTAL 1520020 MEAN 4153 MAX 25700 MIN 658 AC-FT 3015000 MEAN† 4168 CFSM† 7.48 IN.† 101.83 AC-FT† 3025000

† Adjusted for change in contents in Green Peter Lake and Foster Lake.

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: July 1973 to current year.

INSTRUMENTATION.--Temperature recorder since July 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 15.5°C at times in 1975, 1978, 1981, 1987, 1990, 1993; minimum recorded, 2.5°C Dec. 30, 31, 1978, Feb. 1, 1980, Feb. 7, 1985.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 14.0°C July 13-15, 24-26; minimum recorded, 3.0°C Feb. 2, 3.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.5	11.0	11.5	10.0	9.5	10.0	10.0	9.0	9.5	8.5	8.0	8.0
2	12.0	11.0	11.5	10.0	9.5	10.0	9.5	8.5	9.0	8.5	8.0	8.5
3	12.5	11.0	11.5	10.0	9.5	9.5	9.5	8.5	9.0	8.5	8.0	8.5
4	11.5	11.0	11.5	10.0	9.5	9.5	9.5	8.5	9.0	8.0	8.0	8.0
5	11.5	11.0	11.0	10.0	10.0	10.0	8.5	8.5	8.5	8.0	7.5	8.0
6	11.5	10.5	11.0	10.0	10.0	10.0	9.0	8.5	9.0	8.0	8.0	8.0
7	11.0	10.5	11.0	10.5	10.0	10.0	9.0	9.0	9.0	8.5	8.0	8.0
8	11.5	10.5	11.0	10.5	10.0	10.5	9.0	8.5	8.5	8.5	8.0	8.5
9	11.0	11.0	11.0	10.0	9.5	10.0	9.0	8.5	9.0	8.5	8.0	8.5
10	11.5	11.0	11.0	10.5	9.5	10.0	9.5	9.0	9.0	8.5	8.0	8.0
11	11.5	10.5	11.0	10.5	9.5	10.0	9.5	9.5	9.5	8.0	7.5	7.5
12	11.5	10.5	11.0	10.5	10.0	10.5	10.0	9.0	9.5	8.0	7.5	7.5
13	11.0	10.5	10.5	11.0	10.5	11.0	9.0	9.0	9.0	7.5	7.0	7.5
14	11.0	10.5	10.5	11.0	10.5	10.5	9.0	8.5	9.0	8.0	7.5	7.5
15	11.5	10.5	11.0	11.0	10.5	10.5	8.5	8.0	8.5	8.0	8.0	8.0
16	11.5	10.5	11.0	11.5	11.0	11.0	8.5	8.0	8.5	8.0	7.5	8.0
17	11.5	11.0	11.5	11.0	11.0	11.0	8.5	8.5	8.5	7.5	7.0	7.5
18	11.5	10.5	11.0	11.0	10.5	11.0	9.0	8.5	8.5	7.0	6.5	7.0
19	11.0	10.5	10.5	11.0	10.5	10.5	9.0	8.5	8.5	7.5	7.0	7.5
20	11.5	10.5	11.0	10.5	10.0	10.5	9.0	8.5	8.5	7.5	7.0	7.5
21	11.0	10.5	11.0	11.0	10.5	10.5	8.5	8.0	8.0	7.5	7.0	7.0
22	11.0	10.5	10.5	11.0	11.0	11.0	8.0	7.5	7.5	7.0	6.5	6.5
23	11.0	10.0	10.5	11.0	10.5	11.0	7.5	7.0	7.5	7.0	6.5	6.5
24	11.0	10.5	11.0	11.5	11.0	11.0	7.0	7.0	7.0	6.5	6.5	6.5
25	11.0	10.5	11.0	11.0	10.5	10.5	7.0	7.0	7.0	6.5	6.0	6.5
26	11.0	10.5	11.0	10.5	9.5	10.0	7.0	6.5	7.0	6.5	6.0	6.5
27	11.0	10.5	11.0	10.0	9.5	9.5	7.0	6.5	7.0	6.5	5.5	6.0
28	11.0	10.5	10.5	10.0	10.0	10.0	7.0	7.0	7.0	6.0	5.5	6.0
29	10.5	10.5	10.5	10.0	10.0	10.0	8.0	7.0	7.5	6.0	5.5	6.0
30	10.5	10.0	10.5	10.0	10.0	10.0	8.5	8.0	8.5	5.5	5.0	5.0
31	10.5	10.0	10.0	---	---	---	8.5	8.0	8.5	5.0	4.0	4.5
MONTH	12.5	10.0	11.0	11.5	9.5	10.5	10.0	6.5	8.5	8.5	4.0	7.0

14187200 SOUTH SANTIAM RIVER NEAR FOSTER, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.5	3.5	4.0							10.0	8.0	9.0
2	4.0	3.0	3.5							9.5	8.0	8.5
3	4.0	3.0	3.5							9.5	8.0	8.5
4	5.0	4.0	4.5							10.0	8.0	8.5
5	6.5	5.0	5.5							10.0	8.0	9.0
6	7.0	6.5	6.5							10.5	8.0	9.0
7	7.5	6.5	7.5							10.0	8.0	9.0
8	8.0	7.5	7.5							10.5	8.0	9.0
9	8.0	7.0	7.5							10.5	8.5	9.5
10	7.5	7.0	7.0							11.0	8.5	9.5
11	7.0	6.5	7.0							11.5	9.5	10.5
12	7.0	6.5	6.5							11.5	9.5	10.5
13	7.0	6.5	6.5							11.5	10.0	11.0
14	7.0	6.5	6.5							11.0	10.5	10.5
15	7.0	6.5	6.5							11.0	10.0	10.5
16	7.0	6.5	7.0							11.5	10.0	10.5
17	---	---	---							11.0	10.0	10.5
18	---	---	---							10.5	9.5	10.0
19	---	---	---							10.0	9.0	9.5
20	---	---	---							10.5	8.5	9.5
21	---	---	---							9.5	9.0	9.0
22	---	---	---							9.0	8.5	9.0
23	---	---	---							9.5	8.5	9.0
24	---	---	---							10.5	8.5	9.0
25	---	---	---							11.0	9.0	10.0
26	---	---	---							10.0	9.5	10.0
27	---	---	---							10.0	9.0	9.5
28	---	---	---							10.5	9.0	9.5
29	---	---	---							10.0	9.0	9.5
30	---	---	---							10.5	9.0	9.5
31	---	---	---							10.5	9.5	10.0
MONTH	8.0	3.0	6.0							11.5	8.0	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.0	9.5	10.5	13.5	11.0	12.0	13.5	11.5	12.5	12.5	11.5	12.0
2	11.0	10.0	10.5	13.5	11.5	12.5	13.0	12.0	12.5	12.5	11.5	12.0
3	11.5	10.0	10.5	13.0	11.5	12.0	13.0	12.0	12.5	12.5	11.5	12.0
4	11.5	10.0	10.5	12.5	11.5	12.0	13.0	12.0	12.5	12.5	11.5	12.0
5	12.5	9.5	11.0	13.0	11.0	12.0	13.0	12.0	12.5	12.5	11.5	12.0
6	12.0	10.0	11.0	13.0	10.5	12.0	13.0	12.0	12.5	12.5	11.5	12.0
7	11.0	10.0	10.5	13.0	11.0	12.0	13.5	11.5	12.5	12.5	12.0	12.0
8	11.5	10.0	10.5	13.5	11.0	12.5	13.5	12.0	12.5	12.5	12.0	12.0
9	11.0	10.0	10.5	13.0	11.5	12.0	13.5	12.0	12.5	12.5	12.0	12.0
10	11.5	10.0	10.5	13.0	11.0	12.0	13.5	12.0	12.5	12.5	11.5	12.0
11	11.5	10.0	11.0	13.5	11.0	12.5	13.0	12.0	12.5	12.0	11.5	12.0
12	11.5	10.0	11.0	13.5	11.5	12.5	13.5	12.0	12.5	12.0	11.5	12.0
13	11.5	10.0	10.5	14.0	11.5	12.5	13.5	12.0	12.5	12.0	11.5	11.5
14	12.0	10.0	11.0	14.0	11.5	12.5	13.5	12.0	12.5	12.0	11.5	11.5
15	12.0	10.0	11.0	14.0	12.0	12.5	13.5	12.0	12.5	12.5	11.5	12.0
16	11.0	10.0	10.5	13.5	12.0	12.5	13.5	11.5	12.5	12.0	11.5	12.0
17	11.0	10.0	10.5	12.5	12.0	12.0	13.0	12.0	12.5	12.5	11.5	12.0
18	12.0	9.5	10.5	13.0	12.0	12.5	13.0	12.0	12.5	12.5	12.0	12.0
19	12.0	10.0	11.0	13.0	11.5	12.5	13.0	11.5	12.5	12.0	11.5	12.0
20	12.0	10.5	11.0	13.0	11.5	12.5	12.5	12.0	12.0	12.0	11.5	11.5
21	11.5	10.5	11.0	13.5	11.5	12.5	13.0	12.0	12.5	12.0	11.0	11.5
22	12.0	10.0	11.0	13.5	11.5	12.5	12.5	11.5	12.5	12.0	10.5	11.5
23	11.5	10.5	11.0	13.5	12.0	13.0	13.0	11.5	12.5	12.0	11.0	11.5
24	11.5	11.0	11.0	14.0	12.0	13.0	13.0	11.5	12.5	11.5	11.0	11.5
25	13.0	11.0	11.5	14.0	12.0	13.0	12.5	12.0	12.5	11.5	11.0	11.5
26	12.5	10.5	11.5	14.0	12.0	13.0	12.5	11.5	12.0	11.5	10.5	11.0
27	12.0	11.0	11.5	13.5	12.0	13.0	12.5	12.0	12.0	11.5	11.0	11.5
28	12.5	11.0	12.0	13.5	12.0	12.5	12.5	12.0	12.5	11.5	11.0	11.5
29	13.0	11.0	12.0	13.5	12.0	13.0	13.0	12.0	12.5	11.5	10.5	11.0
30	13.0	11.0	12.0	13.5	12.0	12.5	12.5	12.0	12.0	11.5	10.5	11.0
31	---	---	---	13.5	12.0	12.5	12.5	11.5	12.0	---	---	---
MONTH	13.0	9.5	11.0	14.0	10.5	12.5	13.5	11.5	12.5	12.5	10.5	11.5
YEAR	14.0	3.0	10.0									

14187500 SOUTH SANTIAM RIVER AT WATERLOO, OR

LOCATION.--Lat 44°29'55", long 122°49'20", in SW 1/4 NW 1/4 sec.28, T.12 S., R.1 W., Linn County, Hydrologic Unit 17090006, on left bank 0.1 mi downstream from highway bridge at Waterloo, 2.1 mi upstream from Hamilton Creek, and at mile 23.3.

DRAINAGE AREA.--640 mi^2.

PERIOD OF RECORD.--July 1905 to March 1907, October 1910 to December 1911 (gage heights only January to December 1911), July 1923 to current year. Monthly discharge only for some periods, published in WSP 1318. Published as South Fork of Santiam River at Waterloo 1905-07, 1910-11.

REVISED RECORDS.--WSP 1248: 1907, 1924-30, 1932.

GAGE.--Water-stage recorder. Datum of gage is 370.39 ft above sea level. Prior to Dec. 31, 1911, nonrecording gage at site 0.5 mi downstream at datum about 5.0 ft lower. July 1, 1923, to Nov. 12, 1934, nonrecording gage, at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1966 by Green Peter Lake (station 14186100) and since December 1966 by Foster Lake (station 14186600). Some diversion upstream from station. Continuous water-quality records for the period October 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--74 years (water years 1906, 1924-96), 2,924 ft^3/s, 2,118,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,200 ft^3/s Dec. 22, 1964, gage height, 24.50 ft; minimum discharge, 61 ft^3/s Oct. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,200 ft^3/s Feb. 7, gage height, 13.09 ft; minimum discharge, 676 ft^3/s Aug. 29 to Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2310	2380	12300	8490	2060	1630	1720	3150	2220	976	744	679
2	2030	2370	10900	7130	1620	1630	1690	2500	2180	966	717	676
3	2390	2130	10600	6940	1400	1680	2070	2440	2400	932	720	676
4	2850	2080	10700	7430	1350	2020	3010	2120	2220	848	716	679
5	2540	2080	12300	7240	1930	2960	2470	2000	1080	844	711	681
6	2150	2360	13200	9970	10100	2760	2130	1880	1400	838	715	681
7	2140	3110	13000	10200	24200	2600	1790	1630	1160	832	707	919
8	2140	3560	12200	8580	24500	2540	1640	1610	1260	826	701	1050
9	2220	5360	11900	10300	26000	2490	1430	1410	1520	821	703	1050
10	2330	7430	10100	10300	21900	2470	1490	1160	1340	821	705	1060
11	2550	8140	10800	9830	19900	3290	1470	1130	1070	821	712	1080
12	2670	10400	11900	9430	18700	4750	1850	1370	1050	816	717	1070
13	2300	10200	11300	5970	18800	4640	2180	1730	1030	811	709	1070
14	2180	9960	11500	6280	16100	4230	2250	3200	1030	808	701	1100
15	1970	9870	11600	7220	15200	3310	2000	4280	1020	808	706	1260
16	2510	9800	13100	9100	13700	2770	2700	3190	1020	808	708	1240
17	2580	9750	13700	8750	10800	1950	3380	2170	1020	824	709	924
18	2900	8200	14100	7430	9280	1710	3340	5280	1030	849	709	1450
19	2950	5590	12200	10600	11100	1960	3760	7420	1000	830	708	1360
20	2760	5430	6850	10900	10600	1570	4160	6470	985	828	702	1400
21	2710	5320	5670	11200	8500	1540	4150	5830	983	817	703	1460
22	2750	5160	5600	7910	9130	1350	4970	7120	977	810	706	1430
23	2740	4300	5450	7790	7120	1310	10700	7620	1030	807	690	1420
24	2730	3100	5430	8030	5020	1270	12000	7400	1100	805	690	1410
25	2710	5350	5380	7280	3860	1240	13300	5660	1100	801	685	1420
26	2990	9270	4530	6760	3660	1210	12700	4680	1030	802	690	981
27	3210	9210	3370	7930	2510	1220	6540	3750	1010	800	689	1460
28	3270	11200	3420	8490	1750	1230	5320	2060	987	802	689	1450
29	3140	10400	4460	6320	1670	1200	4660	2180	1000	799	684	1480
30	2440	11300	6380	3770	---	1180	4260	2550	1030	787	687	1480
31	2390	---	10500	3090	---	1280	---	2350	---	788	682	---
TOTAL	79550	194810	294440	250660	302460	66990	125130	107340	37282	25725	21815	34096
MEAN	2566	6494	9498	8086	10430	2161	4171	3463	1243	830	704	1137
MAX	3270	11300	14100	11200	26000	4750	13300	7620	2400	976	744	1480
MIN	1970	2080	3370	3090	1350	1180	1430	1130	977	787	682	676
AC-FT	157800	386400	584000	497200	599900	132900	248200	212900	73950	51030	43270	67630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1996, BY WATER YEAR (WY)

MEAN	1529	4315	5672	5304	4786	3923	3609	2719	1657	639	469	736
MAX	5530	10340	15470	12220	12070	10530	7935	5875	5906	1526	1239	2769
(WY)	1969	1907	1965	1953	1961	1932	1937	1933	1933	1983	1969	1968
MIN	143	111	1068	713	597	865	1056	792	437	176	126	144
(WY)	1926	1930	1945	1977	1977	1992	1926	1987	1940	1926	1940	1965

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1905 - 1996	
ANNUAL TOTAL	1289742		1540298			
ANNUAL MEAN	3534		4208		2924	
HIGHEST ANNUAL MEAN					4666	1974
LOWEST ANNUAL MEAN					1407	1977
HIGHEST DAILY MEAN	14100	Dec 18	26000	Feb 9	77000	Dec 22 1964
LOWEST DAILY MEAN	720	Sep 2	676	Sep 2	67	Oct 8 1966
ANNUAL SEVEN-DAY MINIMUM	727	Aug 29	679	Aug 31	75	Oct 7 1966
ANNUAL RUNOFF (AC-FT)	2558000		3055000		2118000	
10 PERCENT EXCEEDS	9910		10700		6740	
50 PERCENT EXCEEDS	2300		2270		1770	
90 PERCENT EXCEEDS	852		737		270	

14187600 LEBANON SANTIAM CANAL NEAR LEBANON, OR

LOCATION.--Lat 44°30'54", long 122°51'49", in SW 1/4 NW 1/4 sec.19, T.12 S., R.1 W., Linn County, Hydrologic Unit 17090006, near right bank, on downstream side of bridge on Headgate Road, 2.2 mi east of Lebanon.

PERIOD OF RECORD.--May 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 370 ft above sea level, from topographic map.

REMARKS.--Records good. Flow completely regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 191 ft^3/s Mar. 8, 1994; minimum daily discharge, 25 ft^3/s Jan. 18, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 137 ft^3/s July 12, 17; minimum discharge, 44 ft^3/s Feb. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	118	68	79	87	55	93	104	106	109	126	124
2	122	118	67	80	92	55	95	95	105	103	126	94
3	126	115	66	85	87	55	105	94	110	126	127	65
4	132	115	68	86	87	60	118	89	106	124	126	66
5	129	114	74	82	86	64	108	87	94	124	129	66
6	124	114	75	82	47	56	101	90	125	124	134	66
7	123	107	75	82	55	55	94	89	120	123	132	68
8	123	107	73	88	48	54	90	93	121	127	130	70
9	125	102	73	97	48	53	86	90	126	e130	131	70
10	123	97	71	87	46	53	89	82	106	e133	131	68
11	118	98	72	92	44	66	88	82	76	136	131	67
12	123	103	68	94	46	84	99	89	76	137	131	68
13	121	102	71	85	78	84	109	99	93	136	131	68
14	119	100	77	86	89	82	110	107	118	135	131	68
15	117	99	76	85	87	76	102	90	118	136	131	69
16	122	98	76	85	77	72	105	87	118	136	130	69
17	119	98	77	84	58	64	107	77	119	137	127	83
18	118	95	77	74	56	75	98	100	119	e136	127	110
19	127	88	84	53	59	98	101	103	118	e132	128	100
20	125	98	78	45	58	86	105	90	118	132	128	100
21	125	107	73	46	54	86	105	88	117	131	128	101
22	126	106	81	51	55	82	93	89	117	131	129	104
23	125	96	89	62	52	81	68	87	118	134	129	91
24	123	85	88	58	53	79	67	103	121	135	129	75
25	112	95	87	56	62	78	73	95	124	135	129	91
26	116	103	86	55	66	77	85	90	123	134	130	102
27	126	84	83	57	64	78	88	84	122	133	130	110
28	126	68	83	58	57	79	83	82	124	133	128	109
29	125	67	81	54	56	78	101	104	127	132	125	110
30	118	67	72	53	---	77	116	113	128	131	124	109
31	118	---	84	74	---	80	---	109	---	128	124	---
TOTAL	3801	2964	2373	2255	1854	2222	2882	2881	3413	4033	3992	2561
MEAN	123	98.8	76.5	72.7	63.9	71.7	96.1	92.9	114	130	129	85.4
MAX	132	118	89	97	92	98	118	113	128	137	134	124
MIN	112	67	66	45	44	53	67	77	76	103	124	65
AC-FT	7540	5880	4710	4470	3680	4410	5720	5710	6770	8000	7920	5080

CAL YR 1995 TOTAL 40608 MEAN 111 MAX 151 MIN 55 AC-FT 80550
WTR YR 1996 TOTAL 35231 MEAN 96.3 MAX 137 MIN 44 AC-FT 69880

e Estimated

14188610 SCHAFER CREEK NEAR LACOMB, OR

LOCATION.--Lat 44°37'11", long 122°27'53", in NE 1/4 SE 1/4 sec.8, T.11 S., R.3 E., Linn County, Hydrologic Unit 17090006, on right bank, 40 ft upstream from Crabtree Creek, and 8.0 mi east of LaComb.

DRAINAGE AREA.--1.03 mi^2.

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,900 ft above sea level, from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--3 years (water years 1994-96), 8.65 ft^3/s, 114.06 in/yr, 6,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 400 ft^3/s Feb. 7, 1996, gage height, 7.93 ft, from rating curve extended above 110 ft^3/s, on basis of slope-area measurement of peak flow; minimum discharge, 0.06 ft^3/s Sept. 6, 1996.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1700	140	6.30	Dec. 30	1530	207	6.75
Nov. 27	2215	155	6.41	Feb. 7	0615	*400	a*7.93
Nov. 30	0330	147	6.35				

Minimum discharge, 0.06 ft^3/s Sept. 6.
a From crest-stage gage.

EXTREMES FOR 1995 WATER YEAR.--Previously unpublished peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 27	1415	162	6.46	Nov. 30	2115	138	6.29
Oct. 31	1915	*170	*6.52	Feb. 1	0345	151	6.38

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	2.5	71	20	1.1	2.1	23	5.5	2.6	1.5	.30	.13
2	4.7	2.1	28	9.5	1.0	2.1	25	4.6	2.4	1.4	.46	.12
3	18	1.8	16	17	.99	2.6	14	3.8	2.2	1.3	.38	.12
4	11	1.6	35	16	2.0	11	10	3.3	1.8	1.2	.34	.11
5	6.5	2.3	16	13	12	13	9.1	3.0	1.7	1.0	.36	.09
6	4.2	15	9.6	22	e118	9.6	9.6	2.7	1.6	1.0	.32	.08
7	3.0	29	6.7	26	e152	8.3	10	2.5	1.5	.97	.34	.10
8	2.4	47	5.1	31	87	11	10	2.2	1.3	.91	.34	.12
9	2.1	36	24	18	69	18	9.1	2.1	1.1	.81	.34	.12
10	1.8	27	21	13	21	18	8.4	2.1	1.0	.71	.33	.12
11	9.3	88	34	8.3	11	20	9.9	2.3	.96	.70	.29	.13
12	19	52	49	5.5	11	15	9.9	2.8	.88	.68	.25	.12
13	10	69	40	3.8	14	11	10	4.3	.78	.65	.27	.11
14	6.2	26	54	3.6	14	8.1	11	7.7	.73	.61	.26	.92
15	4.1	12	33	14	14	6.6	13	16	.68	.56	.23	3.7
16	3.1	9.0	13	33	13	5.4	19	13	.61	.48	.22	10
17	5.4	6.7	7.8	16	19	4.7	14	16	.60	.76	.19	9.7
18	10	7.8	5.9	9.4	41	4.5	11	23	.62	.87	.17	4.7
19	6.2	6.0	4.6	13	28	5.7	9.0	21	.59	.76	.17	3.6
20	4.7	4.7	3.6	10	16	5.4	7.9	14	.57	.69	.17	2.7
21	4.4	3.7	2.8	7.1	11	4.6	8.7	11	.53	.65	.17	2.1
22	3.9	3.7	2.2	4.5	7.2	5.0	24	20	.49	.63	.18	1.8
23	3.3	3.8	1.8	3.3	5.3	4.4	43	20	1.0	.61	.20	1.6
24	2.6	7.6	1.5	2.5	4.3	3.9	49	14	2.8	.56	.20	1.4
25	3.6	57	1.3	2.0	3.5	3.3	22	9.9	3.3	.51	.20	1.2
26	39	48	1.2	1.8	2.9	3.0	17	6.8	2.5	.49	.19	1.1
27	17	71	1.2	1.9	2.6	2.9	11	4.9	2.0	.46	.17	1.1
28	8.9	88	2.0	1.9	2.4	2.7	8.9	3.9	1.9	.42	.16	.99
29	5.8	48	51	1.7	2.3	2.5	7.4	3.5	1.8	.41	.17	.90
30	4.1	89	e99	1.4	---	2.4	6.4	3.1	1.7	.38	.17	.81
31	3.1	---	50	1.3	---	8.1	---	2.7	---	.33	.15	---
TOTAL	235.5	865.3	691.3	331.5	686.59	224.9	440.3	251.7	42.24	23.01	7.69	49.79
MEAN	7.60	28.8	22.3	10.7	23.7	7.25	14.7	8.12	1.41	.74	.25	1.66
MAX	39	89	99	33	152	20	49	23	3.3	1.5	.46	10
MIN	1.8	1.6	1.2	1.3	.99	2.1	6.4	2.1	.49	.33	.15	.08
AC-FT	467	1720	1370	658	1360	446	873	499	84	46	15	99
CFSM	7.38	28.0	21.7	10.4	23.0	7.04	14.2	7.88	1.37	.72	.24	1.61
IN.	8.51	31.25	24.97	11.97	24.80	8.12	15.90	9.09	1.53	.83	.28	1.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	5.07	14.3	17.1	15.7	18.5	9.75	11.7	6.71	3.70	.67	.27	1.08
MAX	7.60	28.8	22.3	20.5	23.7	12.6	14.7	8.18	6.21	.77	.41	1.66
(WY)	1996	1996	1996	1995	1996	1994	1996	1995	1994	1995	1995	1996
MIN	.33	.97	12.9	10.7	9.22	7.25	8.65	3.84	1.41	.49	.16	.23
(WY)	1994	1994	1994	1996	1994	1996	1995	1994	1996	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	4038.56		3849.82			
ANNUAL MEAN	11.1		10.5		8.65	
HIGHEST ANNUAL MEAN					10.5	1996
LOWEST ANNUAL MEAN					6.22	1994
HIGHEST DAILY MEAN	113	Feb 1	152	Feb 7	152	Feb 7 1996
LOWEST DAILY MEAN	.24	Sep 14	.08	Sep 6	.08	Sep 6 1996
ANNUAL SEVEN-DAY MINIMUM	.24	Sep 18	.11	Sep 2	.11	Sep 2 1996
ANNUAL RUNOFF (AC-FT)	8010		7640		6260	
ANNUAL RUNOFF (CFSM)	10.7		10.2		8.39	
ANNUAL RUNOFF (INCHES)	145.86		139.04		114.06	
10 PERCENT EXCEEDS	32		26		22	
50 PERCENT EXCEEDS	3.7		3.7		2.7	
90 PERCENT EXCEEDS	.36		.33		.23	

e Estimated

14189000 SANTIAM RIVER AT JEFFERSON, OR

LOCATION.--Lat 44°42'55", long 123°00'40", in SE 1/4 sec.11, T.10 S., R.3 W., Marion County, Hydrologic Unit 17090005, on right bank 350 ft upstream from Southern Pacific railroad bridge at Jefferson, 2.1 mi downstream from confluence of North and South Santiam Rivers, and at mile 9.62.

DRAINAGE AREA.--1,790 mi^2, approximately.

PERIOD OF RECORD.--October 1905 to June 1906 (gage heights and discharge measurements only), October 1907 to September 1916, October 1939 to current year. Gage-height records collected at same site since 1907 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 904: Drainage area. WSP 1094: 1908, 1910, 1912, 1943. WSP 1248: 1911, 1915-16(M). WSP 1935: 1909, WDR OR-93-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 199.63 ft above sea level. Prior to Sept. 22, 1940, nonrecording gages at sites within 350 ft downstream at datum 3.00 ft higher.

REMARKS.--Records good. Flow regulated since 1953 by Detroit Lake (station 14180500), since 1966 by Green Peter Lake (station 14186100) and by Foster Lake (station 14186600). Salem Canal diverts from North Santiam River at Stayton for irrigation and power; most of this water reaches Willamette River by way of Mill Creek at Salem. Stayton Canal diverts from North Santiam River at Stayton for irrigation of lands near town of West Stayton; some return flow reaches North Santiam River upstream from station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany. Continuous water-quality records for the period October 1963 to September 1987 have been collected at this location. Periodic suspended sediment data are available for the period October 1991 to September 1993.

AVERAGE DISCHARGE.--66 years (water years 1908-16, 1940-96), 7,721 ft^3/s, 5,593,000 acre-ft/yr (unadjusted).
28 years (water years 1967-96), 7,636 ft^3/s, 5,532,000 acre-ft/yr (regulated period).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft^3/s Dec. 22, 1964, gage height, 24.22 ft; minimum discharge observed, 260 ft^3/s Aug. 15-22, Aug. 24 to Sept. 2, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood stage of 25.0 ft was reached in December 1861, and 23.4 ft in February 1890 (information from Corps of Engineers). On Nov. 21, 1921, the stage reached 19.5 ft at gage on railroad bridge 350 ft downstream, corresponding gage height at present site and datum, 24.4 ft, from curve of relation, discharge, 202,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 168,000 ft^3/s Feb. 7, gage height, 23.25 ft; minimum discharge, 1,190 ft^3/s Aug. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6370	6090	43200	23900	7650	5590	5560	9050	5570	2650	1420	1260
2	5440	5880	35100	18400	5910	5580	6450	7740	5290	2460	1430	1260
3	6250	5610	32800	17500	5300	5750	6190	7020	5190	2170	1490	1310
4	7580	5130	32100	19300	5150	9150	6630	6240	5300	2030	1490	1370
5	6640	4840	33700	17400	6440	11700	5640	5600	4000	1990	1470	1530
6	5840	5510	31800	20300	35600	10000	5220	5350	3910	1920	1420	1540
7	5490	7710	32100	21700	115000	8820	4670	4800	3650	1870	1380	1640
8	5250	9570	31800	25700	105000	8380	4420	4490	3260	1820	1320	1890
9	5320	16300	31500	24200	e88000	8370	4210	4330	3280	1720	1300	1920
10	5370	15400	28700	23700	58800	8220	4110	3630	3180	1700	1290	1910
11	7160	21500	31900	21100	46800	9370	4250	3280	2820	1700	1300	1930
12	9170	31000	37000	19600	41100	11400	5040	3320	2770	1660	1330	1930
13	7620	28200	34200	15600	39700	11200	6830	3540	2920	1630	1310	1940
14	6640	29600	35800	14600	38800	10200	6590	6580	2840	1630	1270	2060
15	5920	26200	38200	18300	35700	9100	6340	10200	2710	1570	1270	2770
16	6050	24900	35600	24900	34300	7890	7540	11400	2590	1540	1250	3100
17	6230	23800	33500	23700	31000	6190	8490	8940	2570	1660	1260	3130
18	7390	21100	32400	19200	30900	5350	8830	13000	2610	1970	1290	3340
19	7200	13800	23500	26600	33100	5190	9940	17900	2520	1940	1310	3280
20	6770	e12900	17300	29500	31000	4540	10400	17900	2410	1830	1280	3240
21	6650	e12400	13800	31700	24600	4340	10300	13700	2380	1780	1270	3230
22	6800	e12100	13500	23900	26600	4180	11800	16300	2350	1690	1250	3070
23	6670	10900	13000	20900	21200	4000	24200	19900	2420	1610	1250	2770
24	6450	9090	12700	23700	18500	3840	33500	18000	2900	1570	1230	2590
25	6330	12600	12500	20300	15000	3710	31800	14700	3250	1540	1240	2850
26	8190	21300	11700	17900	13700	3600	30300	10900	3050	1490	1250	3330
27	8730	21900	8270	19400	10500	3550	19800	10000	2920	1470	1270	3940
28	7980	35600	8170	21500	6550	3570	13800	8130	2900	1510	1270	4100
29	7450	27700	12100	18900	6130	3470	11400	6480	2860	1550	1250	4130
30	6570	39800	16200	12500	---	3440	9980	6720	2790	1480	1240	4160
31	6280	---	30300	9870	---	3600	---	6280	---	1450	1250	---
TOTAL	207800	518430	804440	645770	938030	203290	324230	285420	97210	54600	40650	76520
MEAN	6703	17280	25950	20830	32350	6558	10810	9207	3240	1761	1311	2551
MAX	9170	39800	43200	31700	115000	11700	33500	19900	5570	2650	1490	4160
MIN	5250	4840	8170	9870	5150	3440	4110	3280	2350	1450	1230	1260
AC-FT	412200	1028000	1596000	1281000	1861000	403200	643100	566100	192800	108300	80630	151800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1996, BY WATER YEAR (WY)

MEAN	4989	11730	15650	14270	11180	8741	7648	6551	4386	1899	1653	3137
MAX	11890	26850	31700	24520	32350	25700	16150	11270	11150	4825	2883	5325
(WY)	1969	1974	1978	1974	1996	1972	1993	1984	1984	1983	1968	1968
MIN	2490	2882	2420	2178	1897	3245	3874	2115	1287	958	1004	1553
(WY)	1988	1988	1977	1977	1977	1992	1968	1973	1992	1992	1994	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1967 - 1996	
ANNUAL TOTAL	3426660		4196390			
ANNUAL MEAN	9388		11470		7636	
HIGHEST ANNUAL MEAN					12310	1974
LOWEST ANNUAL MEAN					3512	1977
HIGHEST DAILY MEAN	43600	Jan 14	115000	Feb 7	115000	Feb 7 1996
LOWEST DAILY MEAN	1150	Aug 5	1230	Aug 24	764	Jul 29 1992
ANNUAL SEVEN-DAY MINIMUM	1210	Aug 1	1250	Aug 24	794	Jul 28 1992
ANNUAL RUNOFF (AC-FT)	6797000		8324000		5532000	
10 PERCENT EXCEEDS	25700		31000		17000	
50 PERCENT EXCEEDS	6050		6330		4920	
90 PERCENT EXCEEDS	1460		1490		1540	

e Estimated

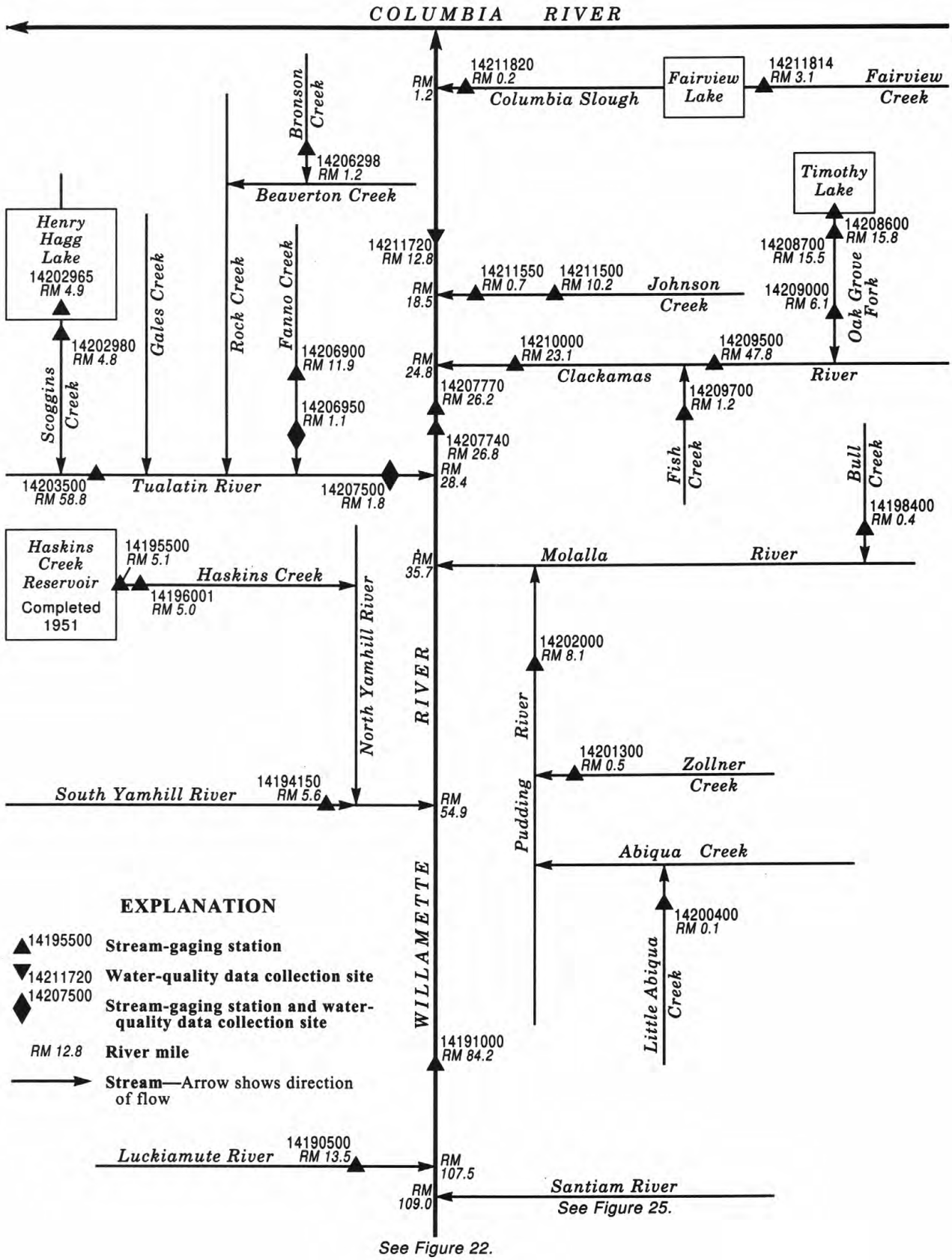


Figure 26. Schematic diagram showing gaging stations in the Willamette River Basin, from the Luckiamute River downstream to the mouth.

14190500 LUCKIAMUTE RIVER NEAR SUVER, OR

LOCATION.--Lat 44°47'00", long 123°14'00", in SW 1/4 SW 1/4 sec.18, T.9 S., R.4 W., Polk County, Hydrologic Unit 17090003, on right bank 10 ft upstream from highway bridge at Helmick State Park, 3.0 mi northwest of Suver, 4.7 mi downstream from Little Luckiamute River, and at mile 13.5.

DRAINAGE AREA.--240 mi^2.

PERIOD OF RECORD.--August 1905 to October 1911, July 1940 to current year.

REVISED RECORDS.--WSP 1044: Drainage area. WSP 1094: 1945-46. WSP 1248: 1905-11.

GAGE.--Water-stage recorder. Datum of gage is 171.92 ft above sea level. Aug. 18, 1905, to Oct. 31, 1911, nonrecording gage at present site at different datum, Aug. 20 to Oct. 15, 1940, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records fair except for periods Mar. 6 to June 10, which are poor. Some diurnal fluctuation during periods of low flow caused by millpond upstream from station. Discharges for periods Dec. 22 to Jan. 16, Feb. 18 to Marh 6 computed from data obtained through U.S. Army Corps of Engineers Columbia River Operationsl Hydromet System (CROHMS) database. A few small diversions for irrigation upstream from station. Continuous water-quality records for the period October 1963 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--62 years (water years 1906-11, 1941-96), 886 ft^3/s, 50.13 in/yr, 641,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft^3/s Dec. 22, 1964, gage height, 34.52 ft; minimum discharge, 0.65 ft^3/s Aug. 13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	1400	12,300	29.54	Feb. 8	0200	*24,800	*33.00
Dec. 13	1430	7,900	27.36	Apr. 24	1400	7,260	27.04
Jan. 21	1800	7,400	26.97				

Minimum discharge, 26 ft^3/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	200	8640	2810	1680	1330	621	1180	452	162	62	33
2	119	186	6980	2150	1450	1200	599	1050	426	148	63	38
3	102	173	5070	1850	1270	1130	554	954	400	142	75	35
4	138	165	3810	1670	1190	1890	516	884	375	141	83	36
5	114	163	2950	1520	1390	2400	489	804	357	143	82	37
6	98	216	2450	1840	6320	2040	465	749	341	134	72	35
7	89	524	1990	2070	22000	1770	446	695	323	132	66	36
8	80	1200	1710	3560	21900	1610	427	654	311	127	61	40
9	76	2420	1730	3150	18400	1440	408	613	297	117	57	42
10	75	1450	2120	2700	8350	1300	399	577	291	115	52	35
11	288	2020	4850	2170	5470	1240	410	546	279	108	50	28
12	541	4120	5940	1840	3710	1200	765	525	267	104	56	30
13	357	3350	7460	1580	2700	1060	1530	570	253	101	49	30
14	258	2680	6650	1430	2170	960	1220	549	245	101	48	40
15	205	1880	7200	2550	1820	886	989	524	233	99	44	130
16	189	1460	5400	3980	1580	820	924	503	228	90	42	211
17	255	1160	3670	3700	1570	770	1180	568	225	99	41	161
18	320	1060	3530	2780	2870	725	1210	849	226	154	44	125
19	311	930	3220	3680	3520	686	1500	1040	215	142	49	106
20	257	815	2580	4740	3150	651	1520	885	205	124	44	96
21	225	733	2120	6920	3120	614	1560	824	194	118	42	85
22	209	745	1790	6240	2990	606	1820	910	189	110	40	78
23	187	702	1530	4570	3600	601	3900	916	201	95	38	74
24	171	1140	1330	4810	4270	554	6650	854	236	87	34	70
25	162	2400	1170	4900	3300	525	5250	773	229	80	38	67
26	333	2530	1050	3820	2490	497	3420	694	207	76	40	63
27	448	2170	964	3310	2040	477	2390	630	186	71	35	61
28	337	4150	942	3320	1740	491	1890	584	179	73	37	59
29	282	5180	1920	2980	1520	469	1580	553	175	82	38	56
30	246	10300	2510	2430	---	474	1350	518	168	73	34	55
31	219	---	3260	1990	---	518	---	483	---	67	33	---
TOTAL	6854	56222	106536	97060	137580	30934	45982	22458	7913	3415	1549	1992
MEAN	221	1874	3437	3131	4744	998	1533	724	264	110	50.0	66.4
MAX	541	10300	8640	6920	22000	2400	6650	1180	452	162	83	211
MIN	75	163	942	1430	1190	469	399	483	168	67	33	28
AC-FT	13590	111500	211300	192500	272900	61360	91210	44550	15700	6770	3070	3950
CFSM	.92	7.81	14.3	13.0	19.8	4.16	6.39	3.02	1.10	.46	.21	.28
IN.	1.06	8.71	16.51	15.04	21.32	4.79	7.13	3.48	1.23	.53	.24	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	176	1068	2047	2240	2067	1421	867	423	202	80.3	42.8	53.0
MAX	1241	4574	5112	4727	4769	3002	1847	1026	512	184	85.0	190
(WY)	1948	1910	1965	1956	1949	1961	1955	1963	1984	1906	1906	1959
MIN	20.2	49.4	106	151	253	391	312	190	74.3	30.0	9.45	17.0
(WY)	1953	1994	1977	1977	1977	1941	1977	1966	1992	1967	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	424697		518495			
ANNUAL MEAN	1164		1417		886	
HIGHEST ANNUAL MEAN					1464	1974
LOWEST ANNUAL MEAN					230	1977
HIGHEST DAILY MEAN	10300	Nov 30	22000	Feb 7	25200	Dec 23 1964
LOWEST DAILY MEAN	17	Sep 23	28	Sep 11	2.6	Aug 20 1967
ANNUAL SEVEN-DAY MINIMUM	23	Sep 20	34	Sep 7	4.3	Aug 17 1967
ANNUAL RUNOFF (AC-FT)	842400		1028000		641500	
ANNUAL RUNOFF (CFSM)	4.85		5.90		3.69	
ANNUAL RUNOFF (INCHES)	65.83		80.37		50.13	
10 PERCENT EXCEEDS	3040		3620		2340	
50 PERCENT EXCEEDS	562		553		346	
90 PERCENT EXCEEDS	40		56		36	

14191000 WILLAMETTE RIVER AT SALEM, OR

LOCATION.--Lat 44°56'40", long 123°02'30", in SE 1/4 SW 1/4 sec. 22, T.7 S., R.3 W., Marion County, Hydrologic Unit 17090007, on right bank 300 ft upstream from Center Street Bridge in Salem and at mile 84.16.

DRAINAGE AREA.--7,280 mi^2, approximately.

PERIOD OF RECORD.--October 1909 to December 1916, January 1923 to current year. Monthly discharge only January 1923 to September 1927, published in WSP 1318. Gage-height records collected at about the same site since 1892 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1318: 1915(M).

GAGE.--Water-stage recorder. Datum of gage is 106.14 ft above sea level. Oct. 1, 1909, to Dec. 31, 1916, nonrecording gage at site 0.5 mi upstream at datum 8.00 ft higher. Jan. 1, 1923, to Nov. 26, 1934, nonrecording gage at Center Street Bridge at datum 8.00 ft higher. Nov. 27, 1934, to Sept. 30, 1962, water-stage recorder at present site at datum 8.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by 12 reservoirs upstream from station (see elsewhere in this report). Many small diversions for irrigation upstream from station; part of flow of Salem Canal, which diverts water from North Santiam River, returns to Willamette River downstream from station, through Mill Creek at Salem.

AVERAGE DISCHARGE.--80 years (water years 1910-16, 1924-96), 23,320 ft^3/s, 43.50 in/yr, 16,900,000 acre-ft/yr.
28 years (water years 1969-96) 23,450 ft^3/s, 43.77 in/yr, 16,990,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 348,000 ft^3/s Jan. 8, 1923, gage height, 38.3 ft, present datum; minimum discharge, 2,470 ft^3/s Aug. 27, 1940, gage height, 3.55 ft, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 500,000 ft^3/s Dec. 4, 1861, gage height, about 47 ft present datum, from rating curve extended above 250,000 ft^3/s in 1916. Floods of Jan. 16, 1881, and Feb. 5, 1890, reached stages of 44.3 ft, discharge, 428,000 ft^3/s, and 45.1 ft, discharge, 448,000 ft^3/s, respectively, from floodmarks and information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 244,000 ft^3/s Feb. 8, gage height, 35.09 ft; minimum discharge, 7,000 ft^3/s July 17, gage height, 5.67 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14500	15100	96700	70100	43000	30400	14800	29400	19900	9600	7260	7240
2	13500	14700	101000	64200	34100	27100	20000	25500	18500	9290	7310	7260
3	13300	14400	95900	59000	28400	25200	20200	23200	17300	8590	7610	7240
4	14900	13900	85600	60200	25600	29700	19300	21600	16800	8230	8200	7300
5	15000	13900	79100	59900	26500	38800	18900	19900	15300	7970	7940	7830
6	14900	14900	81600	59400	62000	38600	17800	18400	14300	7760	7690	8130
7	14300	17400	81000	60800	119000	33700	16200	16500	13900	7640	7560	8260
8	13700	20500	79800	68000	221000	30600	15500	14900	13300	7570	7480	8720
9	13600	30000	80700	69500	226000	28900	15000	14300	12500	7450	7400	8870
10	13700	34500	83700	72600	201000	28200	14400	13500	11800	7320	7340	8810
11	15600	37200	89400	73300	159000	29000	14300	12600	11200	7280	7320	8790
12	18500	52400	97600	66200	128000	31000	15500	12600	10600	7170	7360	8810
13	18400	60500	107000	55300	107000	31600	19200	13300	10400	7110	7330	8860
14	16800	63500	111000	46100	99500	30400	20600	15500	10400	7180	7300	9130
15	15600	58700	115000	49300	94500	28800	19500	22200	10200	7160	7280	10100
16	15100	50800	111000	63100	91100	25800	19600	32900	9960	7080	7210	11300
17	15200	45400	102000	71800	87400	22300	22200	40900	9810	7200	7170	11500
18	15500	41600	93600	68100	89100	20000	24100	45300	9770	7790	7260	11500
19	16200	32000	88000	69800	97700	18900	26700	53900	9700	8010	7380	11300
20	15700	27300	79300	84300	99100	17500	28500	57800	9470	7820	7330	10900
21	15300	25000	68600	96300	92400	16400	29200	52600	9300	7760	7300	11200
22	14800	23300	62800	98900	85300	16000	30600	48800	9140	7720	7270	11300
23	14500	23000	57100	93400	86100	15600	46000	53900	9370	7500	7250	11100
24	13900	21500	46800	91100	82800	15100	67600	57600	9960	7460	7200	10900
25	14100	25300	40300	90000	70500	14600	78500	51400	10700	7430	7210	11500
26	15300	40200	36400	85000	55400	14100	80700	41300	10800	7340	7270	12200
27	18200	51900	30500	78700	46800	13600	72300	33700	10300	7280	7280	12600
28	17800	66500	26800	80200	36900	13500	54100	29500	10200	7280	7310	13000
29	17000	77200	30800	80900	33100	13300	43400	24700	10200	7320	7290	13100
30	16000	85500	45000	70900	---	13000	34000	22900	9850	7270	7240	13200
31	15200	---	60000	54500	---	12900	---	21400	---	7300	7210	---
TOTAL	476100	1098100	2364100	2210900	2628300	724600	918700	942000	354930	236880	228560	301950
MEAN	15360	36600	76260	71320	90630	23370	30620	30390	11830	7641	7373	10060
MAX	18500	85500	115000	98900	226000	38800	80700	57800	19900	9600	8200	13200
MIN	13300	13900	26800	46100	25600	12900	14300	12600	9140	7080	7170	7240
AC-FT	944300	2178000	4689000	4385000	5213000	1437000	1822000	1868000	704000	469900	453300	598900
CFSM	2.11	5.03	10.5	9.80	12.4	3.21	4.21	4.17	1.63	1.05	1.01	1.38
IN.	2.43	5.61	12.08	11.30	13.43	3.70	4.69	4.81	1.81	1.21	1.17	1.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	13750	29760	47460	45430	35990	28690	23590	18880	13570	7498	7278	10110
MAX	24390	70400	91780	78420	90630	73670	46440	31280	30910	12410	9540	13340
(WY)	1969	1974	1978	1974	1996	1972	1993	1993	1984	1983	1971	1978
MIN	7935	8444	6780	6377	5313	11270	10260	7701	5657	5737	5734	6155
(WY)	1988	1988	1977	1977	1977	1992	1977	1973	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	10142410		12485120			
ANNUAL MEAN	27790		34110		23450	
HIGHEST ANNUAL MEAN					37960	1974
LOWEST ANNUAL MEAN					9792	1977
HIGHEST DAILY MEAN	122000	Jan 16	226000	Feb 9	226000	Feb 9 1996
LOWEST DAILY MEAN	6410	Aug 2	7080	Jul 16	4140	Feb 20 1977
ANNUAL SEVEN-DAY MINIMUM	6470	Jul 31	7170	Jul 11	4340	Feb 15 1977
ANNUAL RUNOFF (AC-FT)	20120000		24760000		16990000	
ANNUAL RUNOFF (CFSM)	3.82		4.69		3.22	
ANNUAL RUNOFF (INCHES)	51.83		63.80		43.77	
10 PERCENT EXCEEDS	75000		85100		54200	
50 PERCENT EXCEEDS	17000		18000		14900	
90 PERCENT EXCEEDS	7020		7330		6770	

14194150 SOUTH YAMHILL RIVER AT MCMINNVILLE, OR

LOCATION.--Lat 45°12'21", long 123°10'53", in SE 1/4 sec. 21, T.4 S., R.4 W., Yamhill County, Hydrologic Unit 17090008, on left bank 0.3 mi downstream from Cozine Creek, at Highway 18 McMinnville Spur bridge, in McMinnville, and at mile 5.6.

DRAINAGE AREA.--528 mi^2.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 50 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--2 years (water years 1995-96), 2,443 ft^3/s, 62.86 in/yr, 1,770,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,100 ft^3/s Feb. 9, 1996, gage height, 59.33; minimum discharge, 12 ft^3/s Oct. 12, 1994, but may have been lower during period of no gage height Oct. 5-12, 1994.

EXTREMES FOR CURRENT YEAR.----Peak discharges greater than base discharge of 13,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1045	14,200	45.55	Feb. 9	0115	*47,100	*59.33
Dec. 14	0630	17,400	49.53	Apr. 25	0500	16,300	40.32
Jan. 22	0430	14,400	45.89				

Minimum discharge, 15 ft^3/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	268	14000	4400	3170	2660	1200	2470	1030	233	37	17
2	168	242	13300	3620	e2600	2360	1460	2150	948	205	40	17
3	121	221	11400	3030	2200	2210	1400	1930	889	192	42	17
4	175	208	8930	2840	2000	2860	1240	1760	821	183	55	17
5	220	201	6530	2770	2260	4410	1130	1570	767	180	58	17
6	146	225	4630	3420	8800	4490	1050	1400	710	164	48	18
7	116	359	3610	4210	25100	3790	998	1280	644	153	44	19
8	99	1140	2980	6990	40200	3280	944	1190	595	135	39	22
9	88	3330	2640	7260	40300	2930	894	1090	581	115	32	23
10	95	2570	2920	5720	22900	2650	867	1020	564	103	27	19
11	144	2690	6900	4380	16800	2470	858	970	530	97	25	19
12	751	6330	10800	3540	12000	2390	1450	934	496	92	22	19
13	693	5710	13900	2910	7480	2160	4330	1040	467	81	22	19
14	462	3670	17000	2470	5030	1960	4280	1120	437	79	21	31
15	338	2530	16400	3380	4040	1790	3090	1060	414	74	20	85
16	268	2040	14700	6010	3500	1650	2510	1040	396	64	19	539
17	288	1630	11300	6690	3440	1530	2690	1060	382	69	18	608
18	441	1510	8320	5610	5360	1430	2850	1840	388	89	19	324
19	638	1580	6370	7030	7400	1350	3550	3140	412	166	20	193
20	470	1350	5020	10400	7550	1270	3810	2890	371	154	19	154
21	381	1190	4010	13000	7400	1200	3660	2350	331	119	19	140
22	352	1100	3210	14000	6650	1170	3860	2320	310	104	18	111
23	323	1100	2640	11700	6920	1180	6830	2670	326	84	17	95
24	278	1810	2230	9750	8650	1090	12900	2520	387	70	17	82
25	267	4000	1920	8840	7890	1020	15400	2200	412	59	17	66
26	274	4440	1710	7560	5900	958	11900	1890	414	49	17	60
27	623	4250	1550	6500	4450	922	8240	1640	344	46	16	52
28	525	7390	1480	6540	3630	942	5090	1470	302	46	16	51
29	425	10500	2090	6370	3080	965	3570	1350	286	47	17	47
30	356	12600	3310	5330	---	935	2900	1240	269	42	18	43
31	303	---	4370	4100	---	932	---	1130	---	41	18	---
TOTAL	10018	86184	210170	190370	276700	60954	114951	51734	15223	3335	817	2924
MEAN	323	2873	6780	6141	9541	1966	3832	1669	507	108	26.4	97.5
MAX	751	12600	17000	14000	40300	4490	15400	3140	1030	233	58	608
MIN	88	201	1480	2470	2000	922	858	934	269	41	16	17
AC-FT	19870	170900	416900	377600	548800	120900	228000	102600	30190	6610	1620	5800
CFSM	.61	5.44	12.8	11.6	18.1	3.72	7.26	3.16	.96	.20	.05	.18
IN.	.71	6.07	14.81	13.41	19.49	4.29	8.10	3.64	1.07	.23	.06	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1996, BY WATER YEAR (WY)

MEAN	301	2843	6337	5620	7223	2732	2776	1168	382	90.8	29.6	73.8
MAX	323	2873	6780	6141	9541	3499	3832	1669	507	108	32.8	97.5
(WY)	1996	1996	1996	1996	1996	1995	1996	1996	1996	1996	1995	1996
MIN	278	2814	5895	5099	4822	1966	1721	666	257	74.0	26.4	50.2
(WY)	1995	1995	1995	1995	1995	1996	1995	1995	1995	1995	1996	1995

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1995 - 1996	
ANNUAL TOTAL	792759		1023380			
ANNUAL MEAN	2172		2796		2443	
HIGHEST ANNUAL MEAN					2796	1996
LOWEST ANNUAL MEAN					2088	1995
HIGHEST DAILY MEAN	17000	Dec 14	40300	Feb 9	40300	Feb 9 1996
LOWEST DAILY MEAN	19	Sep 24	16	Aug 27	12	Oct 8 1994
ANNUAL SEVEN-DAY MINIMUM	22	Sep 20	17	Aug 23	16	Oct 5 1994
ANNUAL RUNOFF (AC-FT)	1572000		2030000		1770000	
ANNUAL RUNOFF (CFSM)	4.11		5.30		4.63	
ANNUAL RUNOFF (INCHES)	55.85		72.10		62.86	
10 PERCENT EXCEEDS	6510		7400		7020	
50 PERCENT EXCEEDS	846		1100		1090	
90 PERCENT EXCEEDS	34		32		30	

e Estimated

14195500 HASKINS CREEK RESERVOIR NEAR MCMINNVILLE, OR

LOCATION.--Lat 45°18'43", long 123°21'23", in SW 1/4 NW 1/4 sec.18, T.3 S., R.5 W., Yamhill County, Hydrologic Unit 17090008, on control tower 250 ft upstream from dam on Haskins Creek, 11 mi northwest of McMinnville, and at mile 5.1.

DRAINAGE AREA.--6.88 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1738: Drainage area. WDR OR-79-1: 1978 (maximum contents).

GAGE.--Nonrecording gage. Datum of gage is sea level (levels by city of McMinnville). Prior to February 1981, at datum 20.0 ft lower.

REMARKS.--Reservoir is formed by earthfill dam equipped with five siphon spillways which act as overflow weirs until priming occurs, approximately 815.0 ft elevation. Capacity of reservoir (based on May 1992 resurvey, new capacity table put into use Oct. 1, 1991), 721 acre-ft between elevations 741.5 ft, invert of outlet tunnel, and 815.0 ft, crest of siphon spillways. Dead storage negligible. Rated capacity of three siphons is 700 ft^3/s each and remaining two siphons 350 ft^3/s each. Water is used for municipal supply of city of McMinnville.

COOPERATION.--Elevation and capacity table furnished by city of McMinnville Water and Light department. Elevations based on once-daily staff gage readings.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed contents, 748 acre-ft Nov. 17, 1954, elevation, 815.65 ft, present datum; no contents at times during winter months.

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 729 acre-ft Nov. 7, elevation, 815.3 ft; minimum observed contents, 422 acre-ft Sept. 24-26, elevation, 799.9 ft.

MONTHEND ELEVATIONS AND CONTENTS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	a806.8	543	-
Oct. 31	a814.8	714	+171
Nov. 30	815.0	721	+7
Dec. 31	815.0	721	0
CAL YR 1995	-	-	0
Jan. 31	815.0	721	0
Feb. 29	815.0	721	0
Mar. 31	815.0	721	0
Apr. 30	815.0	721	0
May 31	815.0	721	0
June 30	814.6	721	-12
July 31	814.4	704	-5
Aug. 31	810.7	621	-83
Sept.30	801.0	440	-181
WTR YR 1996	-	-	-103

a Interpolated.

14196001 HASKINS CREEK BELOW RESERVOIR, NEAR MCMINNVILLE, OR

LOCATION.--Lat 45°18'39", long 123°21'06", in SE 1/4 NW 1/4 sec.18, T.3 S., R.5 W., Yamhill County, Hydrologic Unit 17090008, on right bank 800 ft downstream from Haskins Creek Reservoir, 11 mi northwest of McMinnville, and at mile 5.0.

DRAINAGE AREA.--6.90 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1738: Drainage area. Maximum discharge for water year 1957, published in WSP 1518, has been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 707 ft above sea level, topographic survey of 1955. Prior to Aug. 5, 1952, water-stage recorder at site 600 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. All records given herein include flow in pipeline which diverts 600 ft upstream from station for municipal supply of McMinnville. Flow regulated by Haskins Creek Reservoir (station 14195500). Water from McGuire Lake (station 14302800) on the Nestucca River is diverted through a tunnel to Haskins Creek Reservoir to augment summer flows.

COOPERATION.--Meter readings for diversion and elevations of Haskins Creek Reservoir furnished by city of McMinnville.

AVERAGE DISCHARGE.--45 years (water years 1952-96), 30.8 ft^3/s, 60.62 in/yr, 22,300 acre-ft/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft^3/s Feb. 8, 1996, gage height, 6.01 ft, from floodmark, from rating curve extended above 60 ft^3/s on basis of slope-area measurement of peak flow; maximum daily discharge, 615 ft^3/s Feb. 8, 1996; minimum daily, 0.10 ft^3/s Oct. 27, 28, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s Feb. 8, 1996, gage height, 6.01 ft, from floodmark, from rating curve extended above 60 ft^3/s on basis of slope-area measurement of peak flow; maximum daily discharge, 615 ft^3/s Feb. 8; minimum daily, 6.4 ft^3/s Oct. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	7.8	167	54	36	42	31	48	21	12	15	14
2	8.1	7.4	131	44	34	39	29	45	20	13	13	14
3	7.6	7.8	111	41	32	46	24	43	19	18	9.7	14
4	7.8	7.6	85	34	29	54	23	39	18	15	9.8	11
5	7.8	7.6	68	50	74	63	21	35	18	15	12	10
6	7.7	7.9	57	50	451	51	20	34	16	14	13	11
7	7.6	19	49	99	610	58	19	31	16	12	13	11
8	8.2	61	44	99	615	56	18	28	15	14	15	11
9	8.0	48	42	72	319	53	18	27	15	15	16	12
10	7.8	30	69	67	195	46	17	25	14	16	16	12
11	7.6	178	119	53	130	44	22	24	14	16	17	13
12	8.0	87	203	49	101	42	54	25	13	16	15	13
13	7.6	55	262	41	84	41	49	28	13	16	15	12
14	7.6	49	256	44	70	40	43	26	13	17	16	9.0
15	7.9	37	183	69	59	37	37	25	12	16	15	8.3
16	7.5	29	121	74	56	33	42	24	12	16	15	10
17	8.1	33	104	62	64	31	38	31	12	15	16	17
18	7.4	29	86	71	77	30	49	45	13	12	14	23
19	8.0	29	81	126	79	28	44	38	10	9.9	12	18
20	7.6	25	65	160	101	30	49	35	11	10	12	9.4
21	7.7	23	57	153	101	23	51	33	12	10	13	7.5
22	7.9	23	49	126	87	25	77	39	11	12	16	7.5
23	7.9	27	49	103	100	24	349	44	11	15	17	8.3
24	7.7	70	36	97	79	22	255	35	12	18	16	7.9
25	6.4	66	38	69	70	21	153	34	12	19	16	8.3
26	8.4	52	34	68	58	20	104	31	10	18	15	8.1
27	11	111	29	68	53	20	79	29	10	16	14	8.3
28	9.0	177	40	50	48	21	70	27	11	16	13	8.9
29	8.7	294	37	52	46	21	59	26	10	16	13	9.0
30	7.6	225	52	35	---	18	49	24	11	14	13	9.4
31	7.7	---	57	39	---	26	---	22	---	15	13	---
TOTAL	245.6	1823.1	2781	2219	3858	1105	1893	1000	405	456.9	438.5	335.9
MEAN	7.92	60.8	89.7	71.6	133	35.6	63.1	32.3	13.5	14.7	14.1	11.2
MAX	11	294	262	160	615	63	349	48	21	19	17	23
MIN	6.4	7.4	29	34	29	18	17	22	10	9.9	9.7	7.5
AC-FT	487	3620	5520	4400	7650	2190	3750	1980	803	906	870	666
MEAN†	8.52	61.0	89.8	71.6	133	35.6	63.0	32.2	13.3	9.12	6.57	5.36
CFSM†	1.24	8.83	13.0	10.4	19.3	5.16	9.13	4.67	1.93	1.32	0.95	0.78
IN.†	1.42	9.86	15.00	11.96	20.79	5.95	10.19	5.38	2.15	1.52	1.10	0.87
AC-FT†	792	3627	5520	4400	7650	2190	3750	1980	791	1241	1170	651

CAL YR 1995 TOTAL 13780.6 MEAN 37.8 MAX 294 MIN 6.4 AC-FT 27330 MEAN† 36.0 CFSM† 5.21 IN.† 70.75 AC-FT† 28630
WTR YR 1996 TOTAL 16561.0 MEAN 45.2 MAX 615 MIN 6.4 AC-FT 32850 MEAN† 43.7 CFSM† 6.33 IN.† 86.24 AC-FT† 33765

† Adjusted for change in contents in Haskins Creek Reservoir and diversion from McGuire Lake.

14198400 BULL CREEK NEAR WILHOIT, OR

LOCATION.--Lat 44°57'42", long 122°22'59", in NW 1/4 SE 1/4 sec.13, T.7 S., R.3 E., Clackamas County, Hydrologic Unit 17090009, on left bank 0.5 mi upstream from mouth, and 11 mi southeast of Wilhoit and at mile 0.43.

DRAINAGE AREA.--0.43 mi^2.

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,680 ft above sea level, from topographic map.

REMARKS.--Records fair. No regulation or diversion.

AVERAGE DISCHARGE.--3 years (water years 1994-96), 1.91 ft^3/s, 60.26 in/yr, 1,380 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 250 ft^3/s Feb. 7, 1996, gage height, 7.55 ft, from rating curve extended above 70 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 0.02 ft^3/s Sept. 25-28, 1994, Sept. 21-24, 1995, Sept. 28-30, 1996.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1930	32	5.92	Jan. 20	2015	19	5.24
Nov. 28	0415	36	5.81	Feb. 7	unknown	*250	*7.55
Dec. 14	2015	29	5.59	Apr. 24	0245	28	5.57
Jan. 16	1445	19	5.23				

Minimum discharge, 0.02 ft^3/s Sept. 28-30.

EXTREMES FOR 1995 WATER YEAR.--Peak discharges greater than base discharge of 18 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	2330	26	5.71	Feb. 17	1830	*42	*6.24
Jan. 14	0730	19	5.41				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.37	e20	6.5	e2	1.7	1.6	1.1	.72	.39	.11	.05
2	.23	.31	e16	4.2	e2	2.1	1.7	.98	.66	.38	.12	.05
3	1.9	.30	e12	3.5	e2	4.0	1.6	.91	.60	.36	.12	.05
4	1.4	.28	e11	3.8	e2	14	1.5	.81	.56	.35	.11	.05
5	.89	.33	e8	3.7	e10	13	1.4	.75	.53	.33	.12	.06
6	.57	.60	e6	3.6	e50	7.5	1.2	.70	.50	.32	.11	.05
7	.40	.66	e5	4.3	e100	4.5	1.1	.66	.48	.30	.10	.05
8	.33	4.5	e4	6.1	e40	3.4	1.0	.62	.46	.29	.10	.05
9	.25	7.9	e5	5.5	e30	2.6	.97	.60	.44	.28	.09	.05
10	.53	4.9	e7	5.1	e20	2.3	.92	.56	.42	.27	.09	.05
11	3.6	16	e13	4.3	e8	2.2	.98	.53	.40	.26	.09	.04
12	3.4	14	e15	3.1	3.8	2.3	1.3	.52	.38	.25	.09	.04
13	2.4	5.4	16	2.1	2.7	2.4	1.6	.63	.36	.23	.09	.05
14	1.8	3.8	19	1.8	2.1	2.3	1.5	.83	.36	.22	.09	.09
15	1.3	2.6	17	6.4	1.9	2.0	1.5	1.2	.35	.21	.08	.18
16	1.1	2.0	8.1	16	1.7	1.8	1.8	1.4	.33	.21	.08	.14
17	1.0	1.7	4.8	12	1.8	1.7	2.0	1.8	.36	.31	.08	.09
18	1.0	1.6	3.2	6.7	2.7	1.5	2.2	3.2	.35	.27	.08	.06
19	.83	1.4	2.1	9.4	4.4	1.4	2.3	5.4	.33	.22	.08	.08
20	.82	1.2	1.6	14	4.6	1.2	2.2	4.1	.32	.19	.08	.05
21	.85	1.1	1.2	15	3.8	1.2	2.0	2.7	.31	.17	.08	.05
22	.77	.90	.97	8.3	3.1	1.1	2.6	6.6	.30	.16	.07	.05
23	.67	.82	.80	5.0	2.9	1.1	12	11	.47	.15	.07	.04
24	.56	.94	.68	3.6	2.4	1.0	22	6.2	.50	.15	.07	.03
25	.55	2.5	.58	2.5	2.0	.97	11	3.3	.47	.13	.06	.03
26	.67	4.0	.50	1.9	1.9	.97	5.3	1.9	.43	.13	.07	.03
27	.64	4.6	.45	3.2	1.9	.97	3.1	1.5	.42	.12	.07	.03
28	.64	23	.45	4.3	1.8	.92	2.1	1.2	.47	.12	.07	.03
29	.59	e10	1.6	3.5	1.7	.91	1.6	1.0	.46	.12	.06	.02
30	.50	e20	3.3	e3	---	.87	1.3	.91	.42	.11	.06	.02
31	.43	---	8.0	e2	---	1.1	---	.80	---	.11	.06	---
TOTAL	30.95	137.71	212.33	174.4	313.2	85.01	93.37	64.41	13.16	7.11	2.65	1.66
MEAN	1.00	4.59	6.85	5.63	10.8	2.74	3.11	2.08	.44	.23	.085	.055
MAX	3.6	23	20	16	100	14	22	11	.72	.39	.12	.18
MIN	.23	.28	.45	1.8	1.7	.87	.92	.52	.30	.11	.06	.02
AC-FT	61	273	421	346	621	169	185	128	26	14	5.3	3.3
CFSM	2.32	10.7	15.9	13.1	25.1	6.38	7.24	4.83	1.02	.53	.20	.13
IN.	2.68	11.91	18.37	15.09	27.10	7.35	8.08	5.57	1.14	.62	.23	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	.54	3.09	3.88	3.65	5.49	2.09	2.07	1.36	.58	.22	.078	.081
MAX	1.00	4.59	6.85	5.63	10.8	2.74	3.11	2.08	.72	.24	.096	.11
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1995	1995
MIN	.087	.13	.91	1.25	1.27	1.14	.95	.32	.44	.20	.052	.055
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1996	1994	1994	1996

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	851.75		1135.96			
ANNUAL MEAN	2.33		3.10		1.91	
HIGHEST ANNUAL MEAN					3.10	1996
LOWEST ANNUAL MEAN					.58	1994
HIGHEST DAILY MEAN	23	Nov 28	100	Feb 7	100	Feb 7 1996
LOWEST DAILY MEAN	.02	Sep 21	.02	Sep 29	.02	Sep 26 1994
ANNUAL SEVEN-DAY MINIMUM	.03	Sep 18	.03	Sep 24	.03	Sep 22 1994
ANNUAL RUNOFF (AC-FT)	1690		2250		1380	
ANNUAL RUNOFF (CFSM)	5.43		7.22		4.44	
ANNUAL RUNOFF (INCHES)	73.69		98.27		60.26	
10 PERCENT EXCEEDS	5.8		7.9		4.3	
50 PERCENT EXCEEDS	.97		.98		.60	
90 PERCENT EXCEEDS	.08		.08		.06	

e Estimated

14200400 LITTLE ABIQUA CREEK NEAR SCOTTS MILLS, OR

LOCATION.--Lat 44°57'21", long 122°37'38", in SW 1/4 SE 1/4 sec.13, T.7 S., R.1 E, Marion County, Hydrologic Unit 17090009, on left bank, 4 mi south of Scotts Mills, and 0.1 mi upstream from mouth.

DRAINAGE AREA.--9.81 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 800 ft above sea level, from topographic map.

REMARKS.--Records good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--3 years, 37.0 ft^3/s, 51.21 in/yr, 26,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,500 ft^3/s Feb. 7, 1996, gage height, 6.19 ft from rating curve extended above 340 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 6.57 ft Feb. 7, 1996; minimum discharge, 1.9 ft^3/s Oct. 2-4, 1993.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1400	401	4.81	Jan. 21	0600	297	4.61
Nov. 28	1130	306	4.63	Feb. 6	2330	1,080	5.69
Nov. 29	2100	361	4.74	Feb. 7	1550	*1,500	6.19
Dec. 1	1730	310	4.64	Feb. 7	1550	(a)	*6.57
Dec. 14	1530	286	4.58				

Minimum discharge, 2.9 ft^3/s Sept. 9-12, 29, 30.
(a) From crest-stage gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8	14	263	48	31	44	42	46	29	7.9	4.1	3.2
2	e6	13	258	40	27	43	37	41	26	7.6	4.8	3.2
3	e22	13	190	63	24	55	32	37	24	7.4	4.6	3.2
4	11	13	151	58	25	159	29	32	22	7.6	4.4	3.2
5	8.3	15	107	53	108	149	26	28	20	7.1	4.6	3.2
6	6.7	24	78	49	564	125	25	25	19	6.8	4.3	3.2
7	5.7	26	60	74	850	106	24	25	17	6.5	4.1	3.1
8	5.8	106	47	83	361	89	22	23	16	6.3	3.9	3.0
9	5.6	93	54	86	302	77	21	21	15	6.0	3.8	3.0
10	16	66	62	71	233	73	22	19	14	5.8	3.7	3.0
11	91	246	124	59	175	72	24	18	13	5.6	3.7	3.0
12	36	240	168	49	137	62	43	18	13	5.5	3.7	3.1
13	21	185	165	39	109	57	40	26	12	5.3	3.6	3.1
14	17	124	207	42	88	52	34	29	11	5.1	3.5	5.6
15	15	98	191	88	73	47	34	38	11	5.0	3.5	15
16	15	76	138	162	60	43	41	31	11	4.9	3.5	11
17	17	58	101	125	59	39	40	42	12	8.5	3.5	5.2
18	19	48	73	109	86	36	43	61	14	10	3.5	4.2
19	15	38	55	125	109	34	45	73	11	8.1	3.6	4.1
20	15	32	42	188	98	31	51	62	9.8	6.1	3.5	3.8
21	16	29	33	261	91	29	49	64	9.4	5.7	3.5	3.6
22	15	26	27	189	83	32	67	106	9.1	5.4	3.4	3.5
23	14	25	24	146	89	27	96	104	14	5.1	3.3	3.4
24	13	32	21	120	80	25	149	89	15	4.9	3.2	3.2
25	16	71	19	92	71	22	126	75	14	4.7	3.2	3.2
26	34	78	17	69	63	20	105	64	10	4.6	3.4	3.1
27	23	113	17	83	57	20	86	55	9.5	4.5	3.5	3.1
28	20	267	17	69	52	20	72	50	11	4.5	3.5	3.0
29	18	243	36	59	47	19	61	45	9.4	4.6	3.3	3.0
30	16	261	47	47	---	18	52	39	8.5	4.3	3.3	3.0
31	15	---	62	39	---	29	---	34	---	4.1	3.4	---
TOTAL	556.1	2673	2854	2785	4152	1654	1538	1420	429.7	185.5	114.9	121.5
MEAN	17.9	89.1	92.1	89.8	143	53.4	51.3	45.8	14.3	5.98	3.71	4.05
MAX	91	267	263	261	850	159	149	106	29	10	4.8	15
MIN	5.6	13	17	39	24	18	21	18	8.5	4.1	3.2	3.0
AC-FT	1100	5300	5660	5520	8240	3280	3050	2820	852	368	228	241
CFSM	1.83	9.08	9.38	9.16	14.6	5.44	5.23	4.67	1.46	.61	.38	.41
IN.	2.11	10.14	10.82	10.56	15.74	6.27	5.83	5.38	1.63	.70	.44	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	15.4	59.9	65.0	67.8	95.1	45.3	43.4	28.6	13.9	6.08	3.36	3.99
MAX	25.3	89.1	92.1	89.8	143	53.4	51.3	45.8	15.0	6.39	3.80	4.88
(WY)	1995	1996	1996	1996	1996	1996	1996	1996	1994	1995	1995	1995
MIN	3.06	5.09	27.4	50.5	50.6	36.5	37.8	12.7	12.5	5.87	2.57	3.05
(WY)	1994	1994	1994	1994	1994	1995	1994	1994	1995	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	14601.2		18483.7			
ANNUAL MEAN	40.0		50.5		37.0	
HIGHEST ANNUAL MEAN					50.5	1996
LOWEST ANNUAL MEAN					21.5	1994
HIGHEST DAILY MEAN	267	Nov 28	850	Feb 7	850	Feb 7 1996
LOWEST DAILY MEAN	2.6	Sep 3	3.0	Sep 8	1.9	Oct 2 1993
ANNUAL SEVEN-DAY MINIMUM	2.7	Aug 30	3.0	Sep 7	2.1	Aug 27 1994
ANNUAL RUNOFF (AC-FT)	28960		36660		26780	
ANNUAL RUNOFF (CFSM)	4.08		5.15		3.77	
ANNUAL RUNOFF (INCHES)	55.37		70.09		51.21	
10 PERCENT EXCEEDS	106		121		89	
50 PERCENT EXCEEDS	24		26		19	
90 PERCENT EXCEEDS	3.5		3.5		3.0	

e Estimated

14200400 LITTLE ABIQUA CREEK NEAR SCOTTS MILLS, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1993 to current year.
WATER TEMPERATUE: July 1993 to current year.

INSTRUMENTATION.--Water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 63 microsiemens Sept. 29, 30, 1993; minimum recorded, 8 microsiemens Feb. 5-7, 1996.
WATER TEMPERATURE: Maximum, 19.0°C July 23, 1994, minimum, 0.0°C Nov. 24-26, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 46 microsiemens Aug. 25, 26, 29; minimum recorded, 8 microsiemens Feb. 5-7, but may have been less during periods of missing record.
WATER TEMPERATURE: Maximum, 18.0°C July 14, 15; minimum, 1.5°C Feb. 2, 3.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	24	22	23	---	---	---
2	---	---	---	---	---	---	25	24	24	---	---	---
3	---	---	---	---	---	---	26	25	25	---	---	---
4	38	35	37	39	37	38	26	25	25	16	13	16
5	39	36	37	40	34	39	27	26	26	---	---	---
6	---	---	---	39	35	37	27	26	26	---	---	---
7	---	---	---	38	34	36	28	27	28	---	---	---
8	37	32	35	38	32	34	29	28	28	16	13	16
9	37	31	34	33	---	---	28	25	27	16	15	16
10	37	28	35	32	31	31	29	25	27	---	---	---
11	29	24	27	31	28	29	27	25	26	---	---	---
12	28	25	27	32	28	30	26	25	26	---	---	---
13	---	---	---	---	---	---	26	25	26	28	---	20
14	---	---	---	---	---	---	26	22	25	18	16	17
15	39	35	36	---	---	---	26	---	---	18	15	16
16	40	34	36	---	---	---	26	26	26	---	15	---
17	38	33	36	---	---	---	27	26	26	28	16	25
18	37	33	34	---	---	---	28	27	27	16	14	16
19	---	---	---	---	---	---	29	28	28	16	15	16
20	37	34	36	---	---	---	29	29	29	16	11	15
21	37	35	36	---	---	---	---	---	---	16	13	15
22	---	---	---	---	---	---	---	---	---	16	15	16
23	---	---	---	---	---	---	31	28	30	16	14	16
24	24	23	24	29	22	25	---	---	---	18	16	17
25	24	22	23	25	24	25	---	---	---	18	16	18
26	---	---	---	26	25	25	---	---	---	18	16	18
27	---	---	---	26	23	25	23	22	22	18	17	18
28	---	---	---	25	23	24	---	---	---	18	18	18
29	---	---	---	25	22	24	---	---	---	18	18	18
30	---	---	---	24	22	23	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	30	30	30	28	26	27	25	22	23	24	23	23
2	31	29	30	29	26	28	24	23	24	24	23	24
3	31	30	30	28	24	27	25	24	24	24	19	23
4	31	29	30	24	21	22	25	24	25	23	22	23
5	---	8	---	23	23	23	25	24	25	24	23	23
6	10	8	9	24	23	24	26	25	25	24	23	23
7	19	8	14	25	24	24	27	25	26	24	23	24
8	---	---	---	25	25	25	27	25	26	25	23	24
9	---	---	---	26	25	25	27	24	25	24	24	24
10	---	---	---	26	24	25	25	24	25	25	24	24
11	---	---	---	26	24	25	25	23	24	26	24	25
12	---	---	---	25	24	25	23	22	23	26	24	25
13	33	25	27	25	25	25	24	23	24	27	23	24
14	33	25	28	26	24	25	25	24	24	24	23	23
15	27	26	26	26	25	26	25	23	24	24	21	23
16	---	26	27	27	25	26	24	22	23	24	22	23
17	28	24	26	27	25	26	23	23	23	23	19	21
18	26	23	25	28	25	26	24	23	23	22	19	20
19	26	23	25	28	27	28	24	23	23	21	20	21
20	26	24	25	28	26	27	24	23	24	21	19	21
21	25	24	25	27	26	26	25	23	24	21	19	20
22	25	24	25	26	25	25	25	23	24	26	18	23
23	26	24	25	27	25	26	44	17	26	24	24	24
24	27	26	26	27	25	26	19	18	19	25	24	24
25	28	26	26	28	27	27	21	19	19	26	25	25
26	28	26	27	29	28	28	21	19	20	26	25	25
27	28	27	27	30	27	29	22	21	21	27	25	26
28	28	27	27	29	25	26	23	21	22	27	25	26
29	28	27	28	29	25	27	23	22	23	27	25	26
30	---	---	---	29	25	28	23	22	23	28	25	27
31	---	---	---	29	23	25	---	---	---	29	24	28
MONTH	---	---	---	30	21	26	44	17	23	29	18	24

14200400 LITTLE ABIQUA CREEK NEAR SCOTTS MILLS, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	30	26	28	37	36	37	44	42	43	44	42	43
2	30	29	29	38	37	37	43	41	42	44	42	43
3	30	29	29	38	37	38	42	41	42	44	42	43
4	30	29	30	38	37	37	42	41	42	44	42	43
5	31	30	30	39	38	38	42	41	41	44	42	43
6	32	28	31	39	38	38	42	41	42	44	42	43
7	32	30	31	40	38	39	43	42	43	44	43	43
8	33	31	32	39	37	39	44	43	43	44	43	43
9	33	32	32	40	39	39	44	43	44	44	43	44
10	33	32	33	41	40	40	44	44	44	44	43	44
11	34	33	33	42	40	41	45	43	44	44	44	44
12	34	33	33	41	40	41	45	44	44	45	43	44
13	34	33	34	42	41	41	45	44	44	44	41	42
14	36	33	34	42	41	42	45	44	44	44	36	41
15	36	34	35	43	42	42	45	43	44	---	33	---
16	36	34	35	43	42	42	44	43	44	37	32	34
17	36	31	34	43	35	40	44	43	43	39	37	37
18	34	31	32	39	35	37	44	43	43	39	38	39
19	36	33	34	40	35	38	44	42	43	40	38	39
20	36	34	35	41	40	40	44	42	43	40	38	39
21	36	35	36	41	40	41	44	43	43	40	39	40
22	37	36	36	42	41	42	44	43	44	40	39	40
23	37	31	34	43	42	42	44	43	44	40	39	39
24	32	30	32	44	42	43	45	44	44	40	39	40
25	33	30	31	45	42	43	46	44	45	41	40	40
26	34	33	34	43	43	43	46	44	45	43	40	41
27	36	34	34	44	43	43	45	43	44	43	40	41
28	34	32	33	44	43	43	45	44	44	43	40	41
29	36	34	35	43	43	43	46	43	44	44	40	42
30	37	36	36	44	43	43	44	43	43	44	40	42
31	---	---	---	44	43	44	43	42	43	---	---	---
MONTH	37	26	33	45	35	41	46	41	43	---	32	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	5.5	4.0	4.5	10.0	9.0	9.0	9.0	7.5	8.0
2	---	---	---	5.0	3.5	4.0	9.0	8.5	9.0	9.0	8.0	8.5
3	---	---	---	4.5	3.0	4.0	9.0	8.0	8.5	9.0	7.5	8.5
4	12.0	10.0	11.0	6.5	3.5	5.0	9.0	7.5	8.0	7.5	7.0	7.5
5	11.0	8.5	10.0	7.5	6.5	7.0	8.0	7.0	7.5	8.0	7.0	7.5
6	11.5	9.5	10.5	8.0	7.0	7.5	8.0	7.0	7.5	9.0	8.0	8.5
7	11.5	9.0	10.0	9.5	8.0	9.0	8.0	7.0	7.5	8.5	8.5	8.5
8	10.5	9.0	9.5	10.5	9.0	10.0	7.0	6.5	7.0	9.0	8.5	8.5
9	11.5	9.0	10.0	9.0	8.0	8.5	8.0	6.0	7.0	8.5	8.0	8.5
10	12.0	10.0	11.0	9.5	8.0	8.5	9.5	8.0	8.5	8.5	7.0	7.5
11	11.5	10.0	10.5	10.0	9.5	9.5	9.5	9.0	9.0	7.5	6.5	7.0
12	10.5	9.0	10.0	10.0	9.5	9.5	10.0	8.5	9.5	7.5	6.5	7.0
13	10.0	7.5	9.0	11.0	10.0	10.5	8.5	8.0	8.5	8.0	6.5	7.0
14	11.0	8.5	9.5	10.5	9.5	10.0	8.5	8.0	8.0	8.5	7.5	8.0
15	11.5	9.0	10.5	10.5	9.5	10.0	8.5	8.0	8.0	8.5	8.0	8.5
16	11.5	10.5	11.0	11.0	9.5	10.0	8.5	8.0	8.0	8.5	7.0	7.5
17	11.0	10.0	10.5	11.0	9.5	10.0	8.5	7.5	8.0	7.0	6.5	7.0
18	10.5	8.0	9.0	10.5	8.5	9.5	8.5	8.0	8.5	7.5	6.5	7.0
19	9.0	6.5	8.0	9.5	8.0	8.5	8.5	8.0	8.5	7.5	7.0	7.0
20	10.0	8.5	9.5	9.0	7.5	8.0	8.5	8.0	8.5	7.0	6.5	7.0
21	9.5	8.5	9.0	10.0	8.0	9.0	8.0	6.0	7.0	7.0	6.0	6.5
22	8.5	7.0	8.0	10.5	9.5	10.0	6.0	5.0	5.5	7.0	6.0	6.5
23	9.5	8.0	8.5	10.5	9.0	10.0	5.0	4.5	5.0	7.0	5.5	6.5
24	9.5	9.0	9.5	11.0	10.0	10.5	4.5	4.0	4.0	6.0	5.5	6.0
25	10.0	9.5	9.5	11.0	9.0	10.0	4.5	3.5	4.0	6.5	5.5	6.0
26	10.5	10.0	10.0	9.5	9.0	9.0	5.0	4.0	4.5	7.0	6.0	6.0
27	10.0	8.0	9.0	10.0	9.0	9.0	6.0	5.0	5.5	6.0	4.5	5.5
28	9.0	7.0	8.0	10.5	10.0	10.0	7.0	6.0	6.5	5.5	5.0	5.5
29	8.0	6.5	7.5	10.0	10.0	10.0	8.5	7.0	8.0	6.0	4.5	5.5
30	8.0	6.0	7.0	10.0	10.0	10.0	9.0	8.5	8.5	4.5	3.5	4.0
31	6.5	4.5	5.5	---	---	---	8.5	7.5	8.5	4.0	2.5	3.5
MONTH	---	---	---	11.0	3.0	8.5	10.0	3.5	7.5	9.0	2.5	7.0

14200400 LITTLE ABIQUA CREEK NEAR SCOTTS MILLS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.5	2.0	3.0	6.5	4.0	5.0	9.5	7.0	8.0	10.0	8.5	9.0
2	3.0	1.5	2.5	7.0	4.0	5.5	8.5	7.0	7.5	9.0	7.5	8.0
3	4.0	1.5	3.0	7.0	6.0	6.5	10.0	6.0	7.5	8.5	6.0	7.5
4	5.0	4.0	4.5	6.5	6.0	6.5	10.5	6.0	8.0	10.0	6.0	7.5
5	6.0	4.5	5.5	7.0	6.0	6.5	12.0	7.5	9.5	10.5	7.0	8.5
6	7.5	5.5	6.5	8.5	6.5	7.0	13.0	8.5	10.5	10.5	6.5	8.5
7	8.5	7.0	7.5	8.5	7.0	8.0	13.5	9.0	11.0	9.0	7.5	8.0
8	9.0	8.0	8.5	10.0	7.5	8.5	13.5	10.0	12.0	9.0	6.0	7.5
9	8.5	6.5	7.5	10.0	8.0	9.0	12.0	10.0	10.5	9.5	6.0	7.5
10	8.5	6.5	7.5	9.5	8.5	9.0	10.0	9.0	9.0	10.0	6.5	8.5
11	8.0	6.5	7.0	8.5	8.0	8.5	9.0	7.5	8.5	10.5	8.5	9.5
12	8.0	6.5	7.0	8.0	7.5	7.5	7.5	7.0	7.0	11.5	9.5	10.5
13	8.0	6.5	7.0	9.0	7.0	7.5	10.5	7.0	8.0	11.5	10.5	11.0
14	8.0	6.0	7.0	9.5	6.0	7.5	11.5	7.5	9.5	11.5	10.0	10.5
15	8.5	6.0	7.0	8.5	6.5	7.5	11.0	9.0	10.0	11.0	10.0	10.5
16	8.5	6.5	7.5	8.5	5.0	6.5	9.0	8.0	9.0	12.0	9.0	10.5
17	9.0	8.0	8.5	9.0	6.0	7.5	8.0	6.5	7.5	11.0	9.5	10.5
18	9.0	7.5	8.5	9.5	6.0	7.5	7.5	6.0	7.0	10.0	9.0	9.5
19	8.0	7.0	7.5	9.0	7.5	8.0	7.5	6.0	7.0	10.0	8.5	9.5
20	7.5	6.0	7.0	8.5	6.0	7.0	8.5	6.0	7.5	10.5	7.5	9.0
21	6.0	5.0	5.5	8.0	5.5	6.5	8.5	7.0	7.5	9.5	8.5	9.0
22	6.0	5.0	5.5	8.0	6.0	7.0	9.0	7.5	8.5	9.0	8.0	8.5
23	5.0	3.5	4.5	8.0	6.5	7.0	9.5	8.5	9.0	9.5	8.0	9.0
24	6.0	4.5	5.0	7.5	5.0	6.5	9.5	8.0	8.5	11.5	8.0	10.0
25	5.5	4.0	5.0	7.0	3.5	5.5	9.0	7.5	8.0	13.0	9.0	10.5
26	5.5	3.5	4.5	8.0	4.0	6.0	9.5	6.5	8.0	11.0	9.5	10.5
27	5.0	3.5	4.0	6.5	5.5	6.0	9.0	7.0	8.0	10.0	8.5	9.5
28	5.5	4.0	4.5	8.0	5.0	6.0	10.5	6.0	8.0	10.0	8.5	9.0
29	6.5	4.0	5.0	7.0	5.5	6.0	11.5	8.0	9.5	10.0	8.5	9.5
30	---	---	---	7.5	5.5	6.5	11.5	7.5	9.5	10.0	8.5	9.5
31	---	---	---	8.0	6.5	7.0	---	---	---	12.0	8.0	10.0
MONTH	9.0	1.5	6.0	10.0	3.5	7.0	13.5	6.0	8.5	13.0	6.0	9.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.0	9.5	11.5	15.0	11.5	13.0	16.0	12.5	14.0	14.5	12.5	13.5
2	14.0	10.5	12.5	15.5	12.5	14.0	14.5	13.0	14.0	14.0	11.5	13.0
3	14.5	12.0	13.0	15.0	12.5	14.0	14.0	12.5	13.5	14.0	11.5	12.5
4	13.0	11.5	12.0	14.0	12.5	13.5	14.0	12.5	13.0	13.0	11.5	12.5
5	13.5	10.0	11.5	14.0	10.5	12.0	14.0	12.5	13.5	13.0	11.5	12.0
6	14.0	11.0	12.5	14.5	10.5	12.5	14.5	11.5	13.0	13.0	10.5	12.0
7	13.0	11.0	12.0	15.5	11.5	13.5	15.5	12.0	13.5	13.5	11.0	12.5
8	12.5	10.5	11.5	16.0	12.5	14.0	16.0	13.0	14.5	14.0	11.5	13.0
9	12.0	10.0	11.0	15.0	13.0	14.0	16.5	13.5	15.0	14.0	12.0	13.0
10	12.5	9.5	11.0	15.0	11.5	13.0	17.5	14.5	15.5	14.0	11.0	12.5
11	13.0	11.0	12.0	15.5	12.0	14.0	16.0	14.0	15.0	14.5	12.5	13.5
12	13.0	9.5	11.5	16.5	13.0	14.5	16.0	12.5	14.0	13.5	12.5	13.0
13	12.5	10.5	11.5	17.5	13.5	15.5	16.5	13.5	14.5	13.0	12.0	12.5
14	13.0	10.0	11.5	18.0	14.5	16.0	16.5	13.5	15.0	13.0	12.5	12.5
15	13.0	10.0	11.5	18.0	14.5	16.0	15.5	12.5	14.0	13.0	11.5	12.5
16	12.0	10.0	11.0	16.0	12.5	14.5	16.0	12.5	14.0	12.5	11.0	12.0
17	11.0	9.5	10.0	14.0	12.5	13.0	14.5	12.0	13.5	12.5	11.0	12.0
18	11.0	8.5	10.0	13.0	11.5	12.0	14.0	11.5	12.5	12.0	10.0	11.0
19	12.5	8.5	10.5	13.5	11.0	12.5	14.0	11.0	12.5	12.5	11.0	11.5
20	13.0	10.0	11.5	14.5	11.5	13.0	14.5	12.0	13.0	12.0	10.0	11.0
21	12.5	10.0	11.0	15.0	12.0	13.5	14.5	11.5	13.0	11.0	9.0	10.0
22	12.5	10.5	11.5	16.5	12.5	14.0	15.0	11.5	13.0	11.0	9.0	10.0
23	12.0	11.0	11.5	17.0	13.5	15.5	15.5	12.0	13.5	11.0	8.5	9.5
24	12.0	11.0	11.5	17.0	14.5	15.5	16.0	13.0	14.5	11.5	9.0	10.0
25	12.5	10.5	11.5	17.0	14.0	15.5	16.0	14.0	15.0	11.0	8.5	9.5
26	13.5	10.5	12.0	17.5	14.5	16.0	15.0	14.0	14.5	11.5	9.0	10.0
27	12.5	11.5	12.5	17.0	14.5	16.0	15.0	13.5	14.0	12.0	9.5	10.5
28	12.5	11.5	12.0	16.5	15.0	15.5	15.0	12.5	13.5	12.5	10.0	11.5
29	13.5	10.0	12.0	17.5	14.5	16.0	16.0	13.0	14.0	12.5	10.0	11.5
30	14.0	11.0	12.5	17.0	14.0	15.5	15.5	13.5	14.5	12.0	10.0	11.0
31	---	---	---	16.0	13.0	14.5	15.0	13.0	14.0	---	---	---
MONTH	14.5	8.5	11.5	18.0	10.5	14.5	17.5	11.0	14.0	14.5	8.5	11.5

14201300 ZOLLNER CREEK NEAR MOUNT ANGEL, OR

LOCATION.--Lat 45°06'02", long 122°49'14", in SW 1/4 SW 1/4 sec. 28, T.5 S., R.1 W., Marion County, Hydrologic Unit 17090009, on left bank downstream corner of Monitor-McKee Road bridge, 2.3 mi north-northwest of Mount Angel and at mile 0.4.

DRAINAGE AREA.--15.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 120 ft above sea level, from topographic map.

REMARKS.--Records poor. Flows subject to backwater from the Pudding River (14202000). Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--3 years (water years 1994-96), 26.6 ft^3/s, 24.12 in/yr, 19,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined Feb. 7, 1996, gage height unknown; maximum gage height, 21.33 ft, Feb. 8, 1996, from floodmark (backwater from Pudding River); minimum discharge, 0.02 ft^3/s Sept. 22, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2130	474	10.72	Feb. 7	unknown	*unknown	*unknown
Nov. 28	0600	635	12.00	Feb. 8	unknown	(a)	b21.33
Feb. 6	0900	983	13.94				

Minimum discharge, 0.38 ft^3/s Aug. 12, 14, 19, 21, 23.
a Backwater from Pudding River.
b From floodmark.

EXTREMES FOR 1995 WATER YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 1	0630	*832	*13.13	Jan. 31	1330	401	10.01
Dec. 1	0400	475	10.68	Feb. 17	2000	737	12.59

REVISIONS.--The maximum discharge reported for water year 1994 has been revised to 735 Ft^3/s Feb. 24, 1994 (1930 hours), gage height, 12.58 ft. These figures supersede those published in the report for 1994. Secondary peak above base discharge of 400 ft^3/s, not previously reported, 432 ft^3/s Jan. 3, 1994 (1800 hours), gage height, 10.31 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	4.5	e240	e55	e22	e15	14	17	9.1	1.2	.69	.70
2	1.4	4.1	e210	e38	e18	15	13	16	8.8	1.4	1.0	.64
3	1.7	3.5	e140	e36	e15	14	11	14	7.2	1.3	.76	.68
4	2.0	3.5	e95	e43	13	e120	11	12	4.9	1.1	.84	.79
5	2.9	4.4	e75	e40	61	e100	9.3	12	6.7	.59	.79	.79
6	6.1	5.2	e60	e28	e750	e70	9.2	11	5.1	.56	.74	.71
7	4.0	11	e50	e80	e1000	e50	9.2	9.6	3.8	.50	.56	1.1
8	3.4	29	e44	e130	e300	e42	9.0	e9.0	3.5	.95	.53	1.5
9	2.5	98	e50	e100	e160	e34	8.6	e8.5	4.2	.99	.50	1.3
10	1.9	64	e100	e85	e100	e30	8.3	e8.0	3.9	.90	.51	1.2
11	52	191	e200	e50	e75	e30	8.5	e8.0	3.0	.60	.50	1.2
12	e42	e240	e180	e34	e60	e22	10	e8.0	3.0	.65	.44	1.1
13	e14	e150	e150	e24	e50	e18	11	e11	2.8	.84	.46	1.3
14	8.7	e100	e220	e26	e46	e17	10	e13	2.3	.84	.44	1.7
15	7.1	e70	e150	e140	e42	e16	9.8	e22	2.1	.72	.57	6.5
16	6.5	e50	e80	e230	e40	14	12	e22	2.0	.97	.51	8.3
17	7.6	e38	e55	e200	e55	13	27	e26	2.1	1.5	.49	3.7
18	13	e28	e40	e120	e85	13	16	e30	3.1	3.5	.47	2.0
19	9.2	e22	e30	e130	e80	12	14	e40	2.8	3.3	.45	1.3
20	7.9	18	e26	e230	e60	11	16	e36	2.3	1.8	.50	1.3
21	8.3	15	e22	e430	e48	11	16	e30	2.3	1.6	.44	1.1
22	7.6	14	e18	e290	e40	11	74	91	2.8	1.5	.50	1.3
23	6.9	14	e16	e140	e44	11	e120	e75	3.2	1.8	.51	1.5
24	6.0	56	e14	e100	e36	9.6	e130	e40	4.0	1.3	.56	1.2
25	6.2	125	12	e75	e26	8.9	e62	e26	3.5	.98	.56	1.3
26	21	e130	11	e60	e22	8.9	e40	18	2.7	.63	.54	1.3
27	17	e150	11	e95	e18	8.9	e30	16	2.4	.62	.65	1.2
28	11	e440	11	e80	e17	8.9	e26	14	2.6	.59	.60	1.3
29	7.9	e240	e70	e50	e16	8.5	e22	13	1.5	.59	.63	1.3
30	6.4	e280	e42	e38	---	7.6	19	11	1.7	.55	.91	1.6
31	5.4	---	e120	e28	---	9.6	---	9.9	---	.46	.88	---
TOTAL	299.3	2598.2	2542	3205	3299	759.9	775.9	677.0	109.4	34.83	18.53	50.91
MEAN	9.65	86.6	82.0	103	114	24.5	25.9	21.8	3.65	1.12	.60	1.70
MAX	52	440	240	430	1000	120	130	91	9.1	3.5	1.0	8.3
MIN	1.4	3.5	11	24	13	7.6	8.3	8.0	1.5	.46	.44	.64
AC-FT	594	5150	5040	6360	6540	1510	1540	1340	217	69	37	101
CFSM	.64	5.77	5.47	6.89	7.58	1.63	1.72	1.46	.24	.07	.04	.11
IN.	.74	6.44	6.30	7.95	8.18	1.88	1.92	1.68	.27	.09	.05	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	9.38	53.1	59.7	72.5	73.0	23.7	15.4	9.58	3.67	.83	.56	1.00
MAX	16.8	86.6	82.0	103	114	30.7	25.9	21.8	4.75	1.12	.80	1.70
(WY)	1995	1996	1996	1996	1996	1995	1996	1996	1994	1996	1995	1996
MIN	1.67	1.89	35.6	51.4	48.2	16.0	9.05	2.05	2.60	.24	.28	.29
(WY)	1994	1994	1994	1994	1995	1994	1995	1994	1995	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	10276.04		14369.97			
ANNUAL MEAN	28.2		39.3		26.6	
HIGHEST ANNUAL MEAN					39.3	1996
LOWEST ANNUAL MEAN					14.9	1994
HIGHEST DAILY MEAN	440	Nov 28	1000	Feb 7	1000	Feb 7 1996
LOWEST DAILY MEAN	.17	Aug 27	.44	Aug 12	.04	Sep 21 1994
ANNUAL SEVEN-DAY MINIMUM	.36	Aug 23	.48	Aug 16	.08	Aug 24 1994
ANNUAL RUNOFF (AC-FT)	20380		28500		19290	
ANNUAL RUNOFF (CFSM)	1.88		2.62		1.78	
ANNUAL RUNOFF (INCHES)	25.48		35.64		24.12	
10 PERCENT EXCEEDS	79		100		70	
50 PERCENT EXCEEDS	6.9		11		6.6	
90 PERCENT EXCEEDS	.59		.69		.44	

e Estimated

14201300 ZOLLNER CREEK NEAR MOUNT ANGEL, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1993 to current year.
WATER TEMPERATURE: July 1993 to current year.

INSTRUMENTATION.--Water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 611 microsiemens Oct. 6, 1995, but may have been greater during periods of missing record; minimum recorded, 77 microsiemens Feb. 6, 1996, but may have been lower during periods of missing record.
WATER TEMPERATURE: Maximum, 24.5°C July 21-23, 1994, July 26, 1996, but may have been higher during periods of missing record during the 1996 water year; minimum, 0.5°C Nov. 25, 26, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 611 microsiemens Oct. 6, but may have been greater during periods of missing record; minimum recorded, 77 microsiemens Feb. 6, but may have been lower during periods of missing record.
WATER TEMPERATURE: Maximum, 24.5°C July 26, but may have been higher during periods of missing record; minimum, 2.0°C Feb. 2, 3, but may have been lower during periods of missing record.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	482	456	472	427	416	420	---	---	---	269	246	261
2	456	442	446	422	409	414	---	---	---	297	268	275
3	455	373	426	432	407	419	---	---	---	301	289	296
4	465	445	455	428	394	409	---	---	---	293	273	284
5	495	450	467	397	371	387	---	---	---	287	277	283
6	611	488	564	389	345	377	---	---	---	284	276	280
7	576	556	566	373	345	362	---	---	---	278	229	257
8	557	505	534	395	314	368	---	---	---	256	221	234
9	523	497	508	415	395	401	---	---	---	262	249	258
10	497	275	473	433	415	427	---	---	---	259	248	254
11	401	259	351	433	297	372	---	---	---	274	259	266
12	474	384	432	436	400	419	---	---	---	289	268	274
13	500	474	490	485	434	459	253	225	---	293	282	288
14	497	484	491	488	477	484	272	150	232	282	233	271
15	497	491	494	491	477	481	268	147	204	251	170	200
16	503	488	495	496	491	494	269	240	251	215	178	198
17	501	430	476	492	477	482	262	245	255	233	215	223
18	490	437	459	492	479	487	273	262	267	244	225	235
19	485	423	461	493	482	487	293	272	280	227	174	194
20	437	405	423	485	475	481	307	293	299	178	120	159
21	457	423	439	481	469	476	296	291	294	212	118	153
22	458	438	450	474	469	472	312	292	299	223	204	213
23	457	446	449	476	449	472	313	300	307	226	207	217
24	448	430	438	471	436	455	307	303	305	215	142	171
25	440	382	417	456	438	449	307	303	305	200	185	189
26	426	367	402	456	445	450	305	301	304	211	188	198
27	423	404	412	451	444	447	303	297	301	231	164	204
28	433	414	424	444	360	382	302	272	298	185	165	179
29	435	428	431	373	362	366	276	---	---	202	185	191
30	434	427	430	388	353	369	278	232	---	218	202	209
31	431	418	424	---	---	---	268	225	237	228	218	223
MONTH	611	259	458	496	297	432	---	---	---	301	118	230

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	231	227	229	---	---	---	268	248	259	281	271	276
2	---	---	---	257	231	241	279	244	267	298	277	288
3	---	---	---	249	217	244	272	261	266	284	275	279
4	244	239	241	228	138	172	277	262	270	280	273	277
5	241	146	207	162	144	152	294	271	284	290	270	280
6	146	77	98	188	156	174	292	275	283	292	271	283
7	---	---	---	208	188	202	290	271	280	308	292	301
8	---	---	---	219	207	214	309	288	295	320	297	310
9	---	---	---	227	215	221	310	280	299	334	307	321
10	---	---	---	234	223	230	316	283	300	328	314	321
11	---	---	---	249	234	243	284	260	277	324	310	316
12	---	---	---	248	240	243	271	248	265	358	324	343
13	---	---	---	259	244	249	278	258	269	342	280	319
14	---	---	---	264	244	251	276	268	273	316	283	302
15	---	---	---	265	254	259	274	260	268	311	236	283
16	---	---	---	268	253	259	287	268	276	318	311	315
17	---	---	---	264	250	257	273	246	260	---	---	---
18	---	---	---	261	249	255	267	257	262	---	---	---
19	---	---	---	262	255	259	281	267	274	---	---	---
20	---	---	---	267	257	262	276	267	272	---	---	---
21	---	---	---	279	260	270	277	267	272	---	---	---
22	---	---	---	269	253	265	278	258	267	326	219	265
23	---	---	---	284	264	276	270	252	261	274	256	267
24	---	---	---	301	278	291	254	234	243	281	274	278
25	---	---	---	283	269	277	244	239	242	299	280	286
26	---	---	---	278	268	273	240	221	236	299	286	289
27	---	---	---	287	269	277	263	231	241	296	286	290
28	---	---	---	287	272	277	257	243	250	300	293	297
29	---	---	---	298	287	293	---	---	---	316	300	307
30	---	---	---	298	274	287	273	245	259	326	310	318
31	---	---	---	284	257	274	---	---	---	310	303	307
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

14201300 ZOLLNER CREEK NEAR MOUNT ANGEL, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	326	302	318	---	---	---	404	394	398	406	398	402
2	355	320	344	---	---	---	433	361	394	---	---	---
3	371	349	361	---	---	---	383	363	370	---	358	---
4	350	325	333	---	---	---	390	370	381	374	353	359
5	328	317	322	395	374	385	423	390	409	410	374	394
6	331	316	323	---	---	---	418	396	409	429	410	416
7	342	331	338	---	---	---	396	377	381	440	429	437
8	338	331	335	---	---	---	391	379	387	---	---	---
9	343	330	338	---	352	---	381	375	377	---	---	---
10	348	338	343	---	352	---	377	364	371	---	---	---
11	353	340	348	---	338	---	368	357	364	---	---	---
12	360	348	353	348	336	342	369	354	358	---	---	---
13	360	348	354	358	347	352	360	355	358	---	---	---
14	360	350	355	359	349	354	359	344	353	---	---	---
15	---	---	---	359	346	353	345	336	340	---	---	---
16	352	341	347	368	349	360	348	336	344	---	---	---
17	---	---	---	378	344	368	345	339	342	---	---	---
18	---	---	---	405	345	368	347	337	342	---	---	---
19	358	---	---	429	400	416	349	341	346	---	---	---
20	356	339	347	448	429	440	359	341	348	---	---	---
21	364	344	352	462	437	450	377	357	365	---	---	---
22	360	354	356	459	434	449	---	---	---	---	---	---
23	355	343	348	457	443	448	392	375	386	---	397	---
24	350	344	347	445	429	437	392	386	389	397	388	392
25	349	341	345	448	428	437	---	---	---	390	383	387
26	351	334	342	438	415	426	---	378	---	---	---	---
27	349	343	346	421	403	413	376	365	373	---	---	---
28	351	343	348	406	401	403	378	364	368	---	---	---
29	351	342	346	404	388	398	---	---	---	---	---	---
30	350	338	344	410	399	405	---	---	---	---	---	---
31	---	---	---	413	403	407	398	356	373	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.0	14.0	14.5	7.5	6.0	6.5	12.0	10.5	11.5	9.5	8.5	9.0
2	15.0	14.0	14.5	7.0	5.0	6.0	10.5	10.0	10.5	9.5	9.0	9.5
3	15.5	15.0	15.0	6.0	4.5	5.0	10.5	10.0	10.0	10.0	9.0	9.5
4	15.0	14.0	14.5	6.5	4.5	5.5	10.0	9.5	10.0	9.0	8.5	9.0
5	14.5	12.5	13.5	8.0	6.5	7.0	9.5	9.0	9.0	8.5	8.5	8.5
6	15.0	13.5	14.0	9.0	8.0	8.5	9.0	7.5	8.0	9.5	8.5	9.0
7	14.5	13.0	14.0	11.0	9.0	10.0	9.0	8.5	8.5	10.0	9.5	9.5
8	14.0	13.0	13.5	12.0	11.0	11.5	9.0	7.5	8.5	10.5	9.5	10.0
9	14.0	13.0	13.5	11.5	11.0	11.5	7.5	6.5	7.0	10.0	9.5	9.5
10	14.0	13.5	13.5	11.0	10.5	11.0	7.5	7.0	7.5	9.5	9.0	9.0
11	14.0	13.5	14.0	12.5	11.0	12.0	9.5	7.5	9.0	9.0	8.0	8.5
12	14.0	13.5	13.5	12.0	11.5	12.0	10.5	9.5	10.0	8.0	8.0	8.0
13	13.5	12.5	13.0	13.5	12.0	12.5	10.5	9.0	9.5	8.5	7.5	8.0
14	13.5	12.0	12.5	14.0	13.0	13.5	9.0	8.5	9.0	9.0	8.5	8.5
15	14.0	12.0	13.0	13.5	13.0	13.5	9.0	8.0	8.5	9.5	9.0	9.0
16	14.5	13.5	14.0	13.5	13.0	13.5	9.0	9.0	9.0	9.5	8.5	9.0
17	14.0	13.0	13.5	13.0	13.0	13.0	9.0	8.5	9.0	8.5	7.5	8.0
18	13.5	12.0	12.5	13.0	12.0	12.5	9.0	8.5	8.5	7.5	7.0	7.5
19	12.5	11.0	11.5	12.0	11.0	11.5	9.0	8.5	9.0	8.0	7.5	8.0
20	12.0	11.5	12.0	11.0	10.0	10.5	9.5	9.0	9.0	8.0	7.0	7.5
21	12.5	11.5	12.0	10.5	10.0	10.5	9.0	8.0	8.5	7.0	6.5	7.0
22	11.5	10.5	11.0	11.5	10.5	11.0	8.0	6.5	7.0	7.0	6.5	7.0
23	11.5	10.5	11.0	12.0	11.5	11.5	6.5	5.5	6.0	7.0	6.5	7.0
24	12.0	11.5	12.0	13.0	12.0	12.5	5.5	4.5	5.0	7.0	6.0	6.0
25	12.0	11.5	12.0	13.0	11.5	12.5	4.5	4.0	4.0	7.0	6.0	6.5
26	13.0	12.0	12.5	11.5	11.0	11.5	4.0	3.5	4.0	7.0	6.5	7.0
27	12.5	12.0	12.5	11.0	10.5	11.0	5.0	4.0	4.5	7.0	5.0	6.0
28	12.0	11.0	11.5	12.5	11.0	12.0	5.5	5.0	5.0	6.0	5.0	5.5
29	11.0	10.0	10.5	12.5	12.0	12.0	---	5.5	---	6.5	5.5	6.0
30	10.0	8.5	9.0	12.0	12.0	12.0	10.0	---	---	5.5	4.0	4.5
31	8.5	7.5	8.0	---	---	---	10.0	9.0	9.5	4.0	3.0	3.5
MONTH	15.5	7.5	12.5	14.0	4.5	11.0	---	---	---	10.5	3.0	8.0

14201300 ZOLLNER CREEK NEAR MOUNT ANGEL, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	2.5	2.5	---	---	---	12.5	9.5	11.0	15.5	13.5	14.5
2	---	2.0	---	---	---	---	12.0	11.0	11.5	14.5	13.0	13.5
3	---	2.0	---	---	---	---	13.5	9.5	12.0	14.0	12.0	12.5
4	4.0	3.0	3.5	---	---	---	14.5	10.5	12.5	14.5	10.5	12.5
5	4.5	3.5	4.0	---	---	---	16.0	12.0	14.0	15.0	12.0	13.5
6	9.0	4.5	6.5	---	---	---	17.5	13.0	15.0	16.5	12.0	14.0
7	---	---	---	---	---	---	18.5	14.0	16.0	14.5	12.5	13.5
8	---	---	---	---	---	---	18.0	15.5	17.0	14.0	11.0	12.5
9	---	---	---	---	---	---	17.0	15.0	16.0	14.5	11.5	13.0
10	---	---	---	---	---	---	15.0	13.5	14.0	15.0	12.0	13.5
11	---	---	---	---	---	---	13.5	12.0	13.0	14.5	13.0	14.0
12	---	---	---	10.5	9.5	10.0	12.0	10.5	11.0	15.0	13.5	14.0
13	---	---	---	10.5	8.5	9.5	13.5	10.5	12.0	16.0	14.5	15.0
14	---	---	---	11.0	8.0	10.0	15.0	11.5	13.0	16.0	14.0	15.0
15	---	---	---	10.5	9.0	10.0	15.0	13.0	14.0	15.5	14.5	15.0
16	---	---	---	10.0	8.5	9.5	14.0	13.0	13.5	16.0	13.5	15.0
17	---	---	---	11.5	9.0	10.5	13.0	11.5	12.0	15.5	13.5	14.5
18	---	---	---	12.0	9.5	11.0	11.5	10.5	11.0	14.0	13.0	13.5
19	---	---	---	13.0	11.0	12.0	11.5	10.5	11.0	14.5	13.0	13.5
20	---	---	---	11.5	9.5	11.0	11.5	10.5	11.0	15.0	12.5	13.5
21	---	---	---	11.0	9.0	10.5	12.0	10.5	11.0	14.5	13.5	13.5
22	---	---	---	11.0	9.5	10.5	12.0	11.0	11.5	13.5	12.0	13.0
23	---	---	---	11.0	9.5	10.5	12.0	11.5	12.0	13.5	12.5	13.0
24	---	---	---	11.0	9.0	10.0	13.0	11.5	12.0	15.0	12.5	13.5
25	---	---	---	10.0	7.5	9.0	12.5	12.0	12.0	17.0	13.5	15.5
26	---	---	---	10.5	7.0	9.0	12.5	10.5	11.5	17.0	15.0	16.0
27	---	---	---	10.0	8.0	9.0	13.0	11.0	12.0	15.5	14.0	14.5
28	---	---	---	11.5	7.5	9.5	14.0	11.0	12.5	15.0	13.5	14.5
29	---	---	---	10.5	9.0	9.5	15.5	12.5	14.0	15.5	13.5	14.5
30	---	---	---	11.0	8.5	9.5	15.5	13.0	14.5	15.5	13.5	14.5
31	---	---	---	10.5	9.5	10.0	---	---	---	16.5	13.0	15.0
MONTH	---	---	---	---	---	---	18.5	9.5	13.0	17.0	10.5	14.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.0	15.0	16.5	20.5	17.5	---	20.5	17.0	18.5	19.0	16.5	17.5
2	19.5	16.0	17.5	---	---	---	18.0	17.0	17.5	---	16.0	---
3	20.5	17.5	19.0	---	---	---	18.0	16.5	17.0	17.0	---	---
4	19.5	16.5	17.5	19.0	---	---	17.5	16.5	17.0	16.0	15.5	15.5
5	19.5	15.5	17.5	20.0	16.0	17.5	18.0	16.5	17.0	15.5	14.0	15.0
6	20.5	16.5	18.5	---	15.5	---	19.0	15.0	17.0	16.0	13.5	14.5
7	19.0	17.0	17.5	21.5	---	---	20.5	15.5	17.5	16.5	14.0	15.5
8	18.5	16.0	17.0	---	---	---	22.0	17.0	19.0	---	15.5	---
9	18.0	15.5	16.5	20.0	18.0	---	22.5	17.5	20.0	---	---	---
10	18.5	15.0	16.5	---	17.5	---	23.5	18.5	20.5	---	---	---
11	18.5	16.0	17.0	21.0	---	---	21.0	18.5	19.5	---	---	---
12	19.0	15.5	17.0	22.5	18.5	20.0	21.5	17.0	19.0	---	---	---
13	18.5	16.0	17.5	22.5	19.5	20.5	21.5	17.0	19.0	---	---	---
14	18.0	15.5	17.0	23.0	20.5	21.5	21.5	17.5	19.5	---	---	---
15	---	16.0	---	22.5	20.5	21.5	21.0	17.0	19.0	---	---	---
16	17.5	15.5	16.0	20.5	19.0	20.0	21.0	16.5	18.5	---	---	---
17	15.5	14.0	14.5	19.0	16.0	18.0	19.0	16.5	17.5	---	---	---
18	---	13.5	---	17.0	15.5	16.0	17.5	15.5	16.5	---	---	---
19	17.0	13.5	15.5	18.5	15.5	17.0	18.5	14.0	16.0	---	---	---
20	17.5	15.5	16.5	18.0	17.5	17.5	18.5	15.5	16.5	---	---	---
21	17.5	15.5	16.5	20.0	17.5	18.5	19.5	15.0	17.0	---	---	---
22	17.0	15.0	16.0	21.0	18.0	20.0	---	---	---	---	---	---
23	17.5	15.5	16.5	22.5	20.0	21.5	20.5	15.5	17.5	12.5	12.0	---
24	17.5	15.5	16.5	23.5	21.0	22.0	20.5	17.0	18.5	13.0	11.5	12.0
25	18.5	15.5	16.5	23.5	20.0	22.0	---	18.5	---	13.0	11.5	12.0
26	19.0	16.0	17.5	24.5	20.5	22.0	---	18.5	---	---	---	---
27	19.0	17.0	17.5	23.0	20.5	21.5	18.5	17.0	18.0	---	---	---
28	17.0	16.5	17.0	21.5	19.5	20.5	18.5	16.0	17.0	---	---	---
29	18.0	16.0	17.0	22.5	18.5	20.0	---	---	---	---	---	---
30	19.0	16.5	18.0	22.5	19.0	20.5	19.5	---	---	---	---	---
31	---	---	---	21.5	17.5	19.5	19.5	17.5	18.0	---	---	---
MONTH	---	13.5	---	---	---	---	---	---	---	---	---	---

14202000 PUDDING RIVER AT AURORA, OR

LOCATION.--Lat 45°14'00", long 122°44'56", in SW 1/4 SE 1/4 sec.12, T.4 S., R.1 W., Clackamas County, Hydrologic Unit 17090009, upstream side of bridge on U.S. Highway 99E at Aurora, 0.9 mi upstream from Mill Creek and at mile 8.11.

DRAINAGE AREA.--479 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to September 1964, October 1993 to September 1994

REVISED RECORDS.--WRD OR-95-1: 1994(M).

GAGE.--Water-stage recorder except Aug. 1 to Sept. 1, wire-weight gage read once daily. Datum of gage is 72.23 ft above sea level. Prior to Sept. 30, 1961 staff or wire-weight gage at same site at datum 5.00 ft higher. All gage heights given herein are at present datum.

REMARKS.--Records fair. Many diversions for irrigation upstream from station. Additional data for period July to September 1993 available in files of the Portland Field Office.

AVERAGE DISCHARGE.--39 years (water years 1929-64, 1994-96), 1,228 ft^3/s, 34.83 in/yr, 889,500 acre-ft/yr.

EXTREMES FOR PERIOD RECORD.--Maximum discharge, 43,700 ft^3/s Feb. 8, 1996, gage height, 30.72 ft, from rating curve extended above 23,000 ft^3/s; minimum daily discharge, 3.5 ft^3/s Aug. 6, 20, 28, 1994, but may have been lower during period of missing record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 7, 1923 reached a stage of 30.0 ft, present datum, from floodmarks, discharge, 37,000 ft^3/s (revised), from rating curve extended above 23,000 ft^3/s. Flood of Dec. 23, 1964 reached a stage of 29.57 ft, discharge, 34,000 ft^3/s (revised), from rating curve extended above 23,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,700 ft^3/s Feb. 8, gage height, 30.72 ft, from rating curve extended above 23,000 ft^3/s; minimum daily discharge, 20 ft^3/s Aug. 21, 22.

REVISIONS.--The maximum discharge for the water years 1938 and 1949 have been revised to 33,000 ft^3/s Dec. 30, 1937, gage height, 29.50 ft, and 27,000 ft^3/s Feb. 19, 1949, gage height, 28.82 ft, from rating curve extended above 23,000 ft^3/s, superseding figures published in the reports for 1938 and 1947.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	e460	7120	3370	e3400*	e2500	973	1820	1080	340	59	30
2	311	e420	8500	3030	e2800	2180	1400	1600	983	294	59	34
3	272	e390	8410	2670	2420	1870	1450	1450	900	262	60	42
4	323	369	7010	2580	2060	2240	1280	1330	820	238	74	37
5	426	353	5900	2490	1870	3990	1140	1230	760	230	74	34
6	338	359	5120	2430	4380	4660	1030	1120	715	223	81	36
7	274	492	4470	2500	19100	4300	961	1030	661	207	74	39
8	237	718	3800	3090	36100	3750	899	967	620	200	e60	40
9	211	1670	3280	3270	22500	3360	850	908	592	179	50	38
10	206	2200	3370	3320	14200	3040	822	849	563	164	50	46
11	390	2270	4270	3170	9230	2860	809	807	524	155	32	47
12	1270	3930	5420	2880	7100	2790	884	776	491	147	32	42
13	1300	4630	6020	2550	5960	2580	1180	786	460	139	36	42
14	941	4580	5970	2250	5230	2280	1320	959	436	122	32	52
15	691	4070	6430	2440	4630	1990	1230	1220	410	113	32	76
16	548	3420	6420	3840	4060	1740	1220	1480	373	100	21	171
17	493	2980	5700	4580	3610	1550	1430	1470	369	99	e21	344
18	503	2540	5070	4450	3730	1410	1560	1850	364	113	21	317
19	581	2150	4520	4290	4600	1300	1490	2150	391	190	21	238
20	527	1740	3920	4690	4990	1210	1510	2250	365	233	21	207
21	479	1440	3380	5700	4900	1120	1620	2040	327	209	20	190
22	477	1270	2910	6250	4850	1070	1840	2110	305	179	20	171
23	474	1200	2520	5880	4900	1060	2900	2810	302	152	21	155
24	439	1300	2160	5550	5390	e1000	4010	2950	339	118	21	144
25	417	1750	1790	5510	5060	e950	4760	2640	459	93	22	133
26	425	2600	1450	5190	4420	e870	4750	2180	521	80	30	109
27	683	2980	1260	4780	e3800	824	4320	1830	454	71	33	103
28	795	3950	1180	4710	e3300	808	3490	1580	384	68	33	96
29	682	5070	1390	4730	e2900	793	2710	1420	368	68	30	89
30	593	5700	2280	4440	---	759	2180	1300	370	67	30	83
31	e520	---	2960	e3900	---	774	---	1190	---	59	e30	---
TOTAL	16119	67001	134000	120530	201490	61628	56018	48102	15706	4912	1200	3185
MEAN	520	2233	4323	3888	6948	1988	1867	1552	524	158	38.7	106
MAX	1300	5700	8500	6250	36100	4660	4760	2950	1080	340	81	344
MIN	206	353	1180	2250	1870	759	809	776	302	59	20	30
AC-FT	31970	132900	265800	239100	399700	122200	111100	95410	31150	9740	2380	6320
CFSM	1.09	4.66	9.02	8.12	14.5	4.15	3.90	3.24	1.09	.33	.08	.22
IN.	1.25	5.20	10.41	9.36	15.65	4.79	4.35	3.74	1.22	.38	.09	.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1996, BY WATER YEAR (WY)

MEAN	338	1406	2389	2716	2744	2070	1550	884	418	151	70.4	89.2
MAX	1774	4643	5704	5722	6948	4235	3355	2192	1101	364	120	213
(WY)	1948	1951	1956	1956	1996	1961	1963	1963	1933	1952	1943	1941
MIN	63.8	78.9	436	766	831	599	456	242	158	59.1	11.3	32.8
(WY)	1953	1937	1945	1937	1941	1941	1941	1939	1940	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1929 - 1996	
ANNUAL TOTAL	529416		729891			
ANNUAL MEAN	1450		1994		1228	
HIGHEST ANNUAL MEAN					1994	1996
LOWEST ANNUAL MEAN					695	1941
HIGHEST DAILY MEAN	8500	Dec 2	36100	Feb 8	36100	Feb 8 1996
LOWEST DAILY MEAN	21	Aug 4	20	Aug 21	3.5	Aug 6 1994
ANNUAL SEVEN-DAY MINIMUM	31	Aug 1	21	Aug 16	6.4	Aug 17 1994
ANNUAL RUNOFF (AC-FT)	1050000		1448000		889500	
ANNUAL RUNOFF (CFSM)	3.03		4.16		2.56	
ANNUAL RUNOFF (INCHES)	41.12		56.68		34.83	
10 PERCENT EXCEEDS	4310		4770		3420	
50 PERCENT EXCEEDS	846		1060		622	
90 PERCENT EXCEEDS	56		51		65	

e Estimated

14202000 PUDDING RIVER AT AURORA, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: August 1993 to current year.
WATER TEMPERATURE: August 1993 to current year.

INSTRUMENTATION.--Water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 270 microsiemens Sept. 5, 6, 1994; minimum, 31 microsiemens Feb. 8, 1996.
WATER TEMPERATURE: Maximum, 28.0°C July 22, 23, 1994; minimum, 0.5°C Nov. 26, 27, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 236 microsiemens Aug. 29; minimum recorded, 31 microsiemens Feb. 8.
WATER TEMPERATURE: Maximum, 27.5°C July 26; minimum, 1.0°C Feb. 2, 3.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	135	105	114	89	84	87	71	61	63	71	64	67
2	105	91	98	90	84	88	62	58	61	79	68	71
3	92	86	89	93	87	90	58	56	57	87	79	84
4	105	85	96	94	89	92	59	55	57	85	65	78
5	86	62	75	98	91	95	60	59	60	72	65	69
6	82	62	71	105	94	98	67	59	63	81	72	76
7	99	80	87	101	93	98	80	67	74	88	80	82
8	103	94	98	93	78	84	88	80	84	90	74	86
9	109	100	102	87	66	74	96	88	92	74	68	69
10	109	103	107	68	57	61	98	92	96	73	69	71
11	150	108	119	85	61	70	96	89	92	81	73	77
12	140	92	117	81	58	72	89	75	81	85	81	83
13	99	93	95	62	57	60	75	69	72	86	84	85
14	95	90	92	65	62	64	70	64	66	93	86	89
15	90	87	89	64	62	64	68	64	67	98	93	96
16	88	86	87	73	63	66	64	60	61	94	67	80
17	95	86	90	88	73	81	67	60	62	67	56	59
18	98	86	92	96	88	93	78	67	73	60	56	58
19	101	85	96	96	92	94	85	78	81	68	60	64
20	91	83	88	102	95	100	90	85	87	70	68	69
21	97	90	95	99	90	94	96	90	93	69	64	67
22	101	94	98	91	87	89	102	96	99	64	60	63
23	95	92	93	89	87	88	107	102	104	60	57	58
24	97	91	94	105	87	96	108	107	107	71	58	63
25	97	94	95	120	105	115	114	107	111	72	70	71
26	105	93	98	117	85	100	117	107	113	76	71	73
27	107	81	102	86	83	84	108	102	106	83	76	79
28	85	71	79	93	86	89	104	102	103	84	79	83
29	88	83	85	86	67	73	108	102	105	82	79	81
30	87	82	84	75	67	71	111	91	104	88	82	85
31	86	83	85	---	---	---	91	71	81	89	88	89
MONTH	150	62	94	120	57	84	117	55	83	98	56	75

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	93	89	91	97	94	95	107	100	104	---	---	---
2	96	92	94	102	97	99	102	77	89	---	---	---
3	99	95	97	104	101	103	77	73	75	---	---	---
4	105	99	102	102	82	95	79	73	75	---	---	---
5	106	98	103	82	57	66	83	78	82	---	---	---
6	98	63	80	59	55	57	85	81	83	96	93	95
7	63	41	49	59	56	58	88	85	87	98	96	97
8	41	31	33	67	58	62	92	88	90	100	98	99
9	41	33	38	74	67	70	94	91	93	103	100	102
10	41	39	40	77	74	75	97	93	96	105	101	104
11	44	41	42	80	76	78	99	95	97	108	104	106
12	48	43	45	79	73	75	100	97	98	109	106	108
13	54	48	51	80	75	78	99	92	96	113	107	111
14	58	54	56	84	80	83	93	81	88	121	112	116
15	64	58	61	87	84	86	82	80	81	113	100	107
16	70	64	67	87	86	86	84	80	82	109	98	104
17	77	70	74	87	85	86	---	---	---	98	89	92
18	84	76	80	90	87	89	---	---	---	---	---	---
19	84	73	76	93	90	92	---	---	---	---	---	---
20	73	65	68	94	92	94	---	---	---	---	---	---
21	72	65	68	96	94	95	---	---	---	---	---	---
22	75	71	73	98	95	96	---	---	---	---	---	---
23	76	73	74	98	93	97	101	87	95	---	---	---
24	76	71	72	96	94	95	87	73	78	---	---	---
25	76	72	74	98	95	96	77	67	69	---	---	---
26	82	76	80	100	95	98	73	66	70	---	---	---
27	84	82	84	102	99	101	75	71	73	---	---	---
28	91	84	87	104	101	103	82	75	78	---	---	---
29	94	91	93	106	102	104	84	80	83	---	---	---
30	---	---	---	104	101	103	---	---	---	---	---	---
31	---	---	---	106	101	104	---	---	---	86	82	84
MONTH	106	31	71	106	55	88	---	---	---	---	---	---

14202000 PUDDING RIVER AT AURORA, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	90	86	88	105	98	102	183	176	180	231	217	226
2	93	89	92	113	102	107	185	176	181	220	215	217
3	96	92	94	115	110	113	187	179	183	222	216	220
4	99	95	97	116	110	114	191	183	186	216	210	212
5	103	97	100	121	114	117	191	176	183	216	212	214
6	105	100	103	125	120	123	176	167	173	216	212	214
7	106	101	104	128	119	125	176	166	171	221	212	217
8	109	104	107	127	121	125	173	166	170	223	218	220
9	110	106	108	130	122	128	171	164	168	221	216	218
10	110	106	109	135	126	132	173	169	171	219	213	216
11	110	108	109	140	130	136	174	169	171	222	213	218
12	112	107	110	145	132	140	178	173	175	226	222	223
13	116	110	113	149	137	144	182	178	180	226	215	221
14	117	112	114	156	141	148	196	178	187	216	211	214
15	120	114	117	152	141	148	202	195	200	213	198	206
16	124	115	119	153	146	150	201	194	197	218	194	205
17	125	119	122	152	143	148	207	199	202	215	174	188
18	123	116	120	158	148	154	211	204	208	174	125	137
19	120	115	118	166	140	160	210	204	207	125	115	120
20	120	115	117	144	133	137	214	206	211	127	120	123
21	120	114	118	133	115	123	228	213	221	128	121	125
22	126	117	122	126	119	122	232	227	230	129	121	127
23	130	121	125	136	121	131	234	229	231	130	122	127
24	130	125	127	143	129	136	235	231	233	134	124	131
25	125	107	116	148	141	144	233	227	230	144	130	139
26	107	89	94	163	148	157	230	223	226	144	136	140
27	93	82	87	166	158	163	228	224	226	161	144	154
28	101	90	96	175	162	167	233	227	231	168	159	163
29	108	100	104	183	172	177	236	231	233	172	166	168
30	107	100	104	189	179	183	235	228	233	174	169	172
31	---	---	---	189	178	182	232	227	230	---	---	---
MONTH	130	82	108	189	98	140	236	164	201	231	115	182

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.5	15.5	15.5	7.5	6.5	7.0	11.0	10.5	10.5	8.5	8.0	8.5
2	15.5	15.0	15.5	6.5	6.0	6.5	10.5	9.5	9.5	8.5	8.0	8.5
3	15.5	15.0	15.5	6.0	5.0	5.5	9.5	9.0	9.0	9.0	8.5	9.0
4	15.5	14.5	15.0	5.5	5.0	5.0	9.0	8.5	8.5	9.0	8.0	8.5
5	15.0	13.5	14.5	6.0	5.5	5.5	8.5	8.0	8.0	8.0	7.5	8.0
6	14.0	13.5	14.0	7.0	6.0	6.5	8.0	7.0	7.5	8.0	7.5	7.5
7	14.5	13.0	13.5	9.0	7.0	8.0	7.5	7.0	7.5	9.0	8.0	8.5
8	14.0	13.0	13.5	9.5	9.0	9.5	7.5	7.0	7.5	9.0	9.0	9.0
9	13.5	13.0	13.0	10.5	9.5	10.0	7.0	6.5	6.5	9.0	9.0	9.0
10	13.5	13.0	13.5	10.0	9.0	9.5	6.5	6.0	6.0	9.0	8.5	8.5
11	13.5	13.0	13.0	10.5	9.5	9.5	8.0	6.5	7.0	8.5	8.0	8.0
12	13.0	12.0	12.5	10.5	10.0	10.0	9.5	8.0	9.0	8.0	7.0	7.5
13	12.0	11.5	11.5	11.0	10.0	10.0	9.5	9.0	9.0	7.0	7.0	7.0
14	12.0	11.0	11.5	11.5	10.5	11.0	9.0	8.5	8.5	7.5	7.0	7.0
15	12.0	11.0	11.5	12.0	11.5	11.5	8.5	8.0	8.0	8.5	7.5	8.0
16	13.0	11.5	12.0	12.0	11.5	12.0	8.0	7.5	8.0	8.5	8.0	8.5
17	12.5	12.0	12.5	12.0	12.0	12.0	8.0	7.5	7.5	8.0	7.5	7.5
18	12.5	12.0	12.0	12.0	11.5	12.0	7.5	7.5	7.5	7.5	6.5	7.0
19	12.0	11.0	11.5	11.5	11.0	11.5	7.5	7.5	7.5	6.5	6.5	6.5
20	11.0	10.5	11.0	11.0	9.5	10.0	7.5	7.5	7.5	7.0	6.5	6.5
21	11.0	10.5	10.5	9.5	9.0	9.5	7.5	7.5	7.5	7.0	6.5	6.5
22	11.0	10.5	10.5	9.5	9.0	9.5	7.5	6.5	7.0	6.5	6.0	6.0
23	10.5	10.5	10.5	10.5	9.5	10.0	6.5	5.5	6.0	6.0	6.0	6.0
24	10.5	10.5	10.5	11.5	10.5	11.0	5.5	4.5	5.0	6.0	5.5	6.0
25	10.5	10.5	10.5	11.5	11.5	11.5	4.5	4.0	4.0	5.5	5.0	5.5
26	11.5	10.5	11.0	11.5	10.0	10.5	4.0	3.5	3.5	5.5	5.0	5.5
27	12.0	11.0	11.5	10.0	9.5	9.5	4.0	3.5	4.0	5.5	5.0	5.0
28	11.0	10.5	11.0	10.5	9.5	10.0	5.0	4.0	4.5	5.0	5.0	5.0
29	10.5	9.5	10.0	11.0	10.5	10.5	6.5	5.0	5.5	5.0	4.5	5.0
30	9.5	8.5	9.0	11.0	11.0	11.0	8.0	6.5	7.5	4.5	3.5	4.0
31	8.5	7.5	8.0	---	---	---	8.5	8.0	8.5	3.5	2.0	2.5
MONTH	16.5	7.5	12.0	12.0	5.0	9.5	11.0	3.5	7.0	9.0	2.0	7.0

14202000 PUDDING RIVER AT AURORA, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	1.5	1.5	6.0	5.0	5.5	10.0	9.0	9.5	13.0	12.5	13.0
2	1.5	1.0	1.5	6.5	6.0	6.0	10.5	9.5	10.0	13.0	12.0	12.5
3	1.5	1.0	1.0	8.0	6.5	7.0	10.5	9.5	10.0	12.5	11.0	12.0
4	2.0	1.5	1.5	8.5	7.5	8.0	11.0	9.5	10.0	12.0	11.0	11.5
5	3.5	2.0	2.5	8.0	7.0	7.5	12.0	10.0	11.0	12.5	11.0	11.5
6	6.5	3.5	5.0	8.0	7.0	7.5	13.0	11.0	12.0	13.0	11.5	12.0
7	8.0	6.5	7.5	9.0	8.0	8.0	14.5	12.0	13.0	13.5	12.0	12.5
8	9.5	8.0	9.0	9.0	8.5	9.0	15.5	13.5	14.5	12.5	11.5	12.0
9	9.5	9.0	9.5	10.0	9.0	9.5	15.0	14.5	14.5	13.0	11.0	12.0
10	9.0	8.0	8.0	10.0	10.0	10.0	14.5	13.0	14.0	13.5	11.5	12.5
11	8.0	7.5	8.0	10.5	10.0	10.0	13.0	11.5	12.5	13.0	12.5	12.5
12	8.0	7.5	7.5	10.5	9.5	10.0	11.5	10.0	11.0	13.0	12.5	13.0
13	8.0	7.5	7.5	10.0	9.5	9.5	11.0	9.5	10.0	14.0	13.0	13.5
14	8.0	7.5	8.0	10.0	9.5	9.5	11.5	10.0	10.5	15.0	14.0	14.0
15	8.0	7.5	8.0	10.0	9.5	9.5	12.0	11.0	11.5	15.0	14.0	14.5
16	8.0	8.0	8.0	9.5	9.0	9.5	12.5	11.5	12.0	15.0	14.0	14.5
17	9.0	8.0	8.0	10.0	9.0	9.5	11.5	10.5	11.0	14.5	14.0	14.0
18	9.5	8.5	9.0	10.0	9.0	9.5	10.5	9.5	10.0	14.0	9.5	13.0
19	9.5	9.0	9.5	10.5	9.5	10.0	9.5	9.0	9.5	13.0	12.5	13.0
20	9.5	8.5	9.0	10.5	9.5	10.0	9.5	8.5	9.0	13.0	12.0	12.5
21	8.5	7.5	8.0	10.0	9.5	10.0	9.0	9.0	9.0	12.5	11.5	12.5
22	7.5	6.5	7.0	10.0	9.0	9.5	10.0	9.0	9.5	12.5	12.0	12.0
23	6.5	6.0	6.0	10.0	9.0	9.5	10.5	9.5	10.0	12.0	11.0	11.5
24	6.0	5.5	5.5	10.0	9.0	9.0	10.5	10.0	10.0	12.0	11.0	11.0
25	5.5	5.5	5.5	9.5	8.0	9.0	10.5	10.0	10.5	13.0	11.5	12.5
26	5.5	5.0	5.5	9.0	8.0	8.5	10.5	10.0	10.5	14.0	13.0	13.5
27	5.5	5.0	5.5	8.5	7.5	8.0	11.0	10.0	10.5	14.0	13.5	14.0
28	5.5	5.0	5.0	9.0	8.0	8.5	11.0	10.5	10.5	13.5	12.5	13.0
29	5.0	5.0	5.0	9.5	8.5	9.0	12.0	11.0	11.5	13.5	12.5	13.0
30	---	---	---	9.0	8.5	9.0	13.0	12.0	12.5	13.5	12.5	13.0
31	---	---	---	9.5	9.0	9.0	---	---	---	14.0	12.5	13.5
MONTH	9.5	1.0	6.5	10.5	5.0	9.0	15.5	8.5	11.0	15.0	9.5	13.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.0	13.0	14.0	21.5	19.0	20.0	24.5	23.0	23.5	21.5	20.0	21.0
2	17.0	14.0	15.5	22.5	20.0	21.0	23.5	22.0	22.5	21.0	20.0	20.5
3	18.5	16.0	17.0	22.5	20.0	21.5	22.0	21.0	21.5	20.0	19.0	19.5
4	18.5	17.0	17.5	22.0	20.0	21.0	21.5	20.5	21.0	20.0	18.5	19.0
5	19.0	17.0	17.5	22.0	19.0	20.5	20.5	20.0	20.0	18.5	17.5	18.0
6	19.0	17.5	18.0	22.0	19.5	20.5	21.5	19.0	20.0	18.0	17.0	17.5
7	19.0	17.5	18.0	23.0	20.0	21.5	22.5	20.0	21.0	19.0	17.5	18.0
8	19.0	17.5	18.0	23.5	21.0	22.0	23.5	21.0	22.0	20.0	18.0	19.0
9	18.0	17.5	17.5	23.5	21.5	22.0	24.5	22.5	23.5	20.0	19.0	19.5
10	18.5	17.0	17.5	23.0	21.0	22.0	25.5	23.5	24.5	20.5	18.5	19.5
11	18.5	17.0	17.5	24.0	21.0	22.5	25.0	23.5	24.0	20.0	19.5	20.0
12	19.0	17.0	18.0	25.5	22.0	23.5	24.0	22.0	23.0	20.0	18.5	19.5
13	19.5	17.5	18.5	25.5	23.0	24.5	23.5	22.0	23.0	18.5	18.0	18.5
14	20.0	17.5	18.5	26.5	24.0	25.5	24.0	22.5	23.5	18.0	17.0	17.5
15	20.0	17.5	18.5	27.0	24.5	26.0	24.0	22.0	23.0	17.5	17.0	17.0
16	19.0	17.5	18.0	26.0	23.5	25.0	24.0	22.0	23.0	17.0	16.0	16.5
17	17.5	16.5	17.0	25.0	22.0	23.0	23.0	22.0	22.5	17.0	15.5	16.0
18	17.5	15.5	16.5	22.0	20.0	20.5	22.0	20.5	21.0	16.0	15.0	15.5
19	18.0	16.0	17.0	21.0	19.0	20.0	21.0	19.0	20.0	16.5	15.0	15.5
20	19.0	16.5	17.5	21.0	19.5	20.0	21.5	20.0	20.5	16.5	15.0	15.5
21	18.5	17.5	18.0	22.0	19.5	20.5	22.0	20.0	20.5	16.5	15.0	15.5
22	19.0	17.5	18.0	23.5	20.0	21.5	22.0	20.0	21.0	15.5	14.5	15.0
23	19.0	17.5	18.0	25.0	22.0	23.0	22.5	20.5	21.5	15.0	14.0	14.5
24	18.5	17.5	18.0	25.5	23.5	24.5	23.5	21.5	22.5	15.0	14.0	14.5
25	19.0	17.5	18.0	26.5	23.5	25.0	23.5	22.0	22.5	15.0	13.5	14.0
26	19.5	17.5	18.5	27.5	25.0	26.0	23.0	21.0	22.0	15.5	13.5	14.5
27	19.0	18.0	18.0	27.0	25.5	26.0	21.0	20.0	20.5	16.0	14.0	15.0
28	19.0	17.5	18.0	26.0	24.0	25.0	21.0	19.5	20.0	16.5	14.5	15.5
29	19.5	17.0	18.0	25.5	23.5	24.0	21.5	20.0	20.5	17.0	15.5	16.0
30	20.5	18.0	19.0	25.5	23.5	24.5	22.0	21.0	21.5	16.5	16.0	16.5
31	---	---	---	24.5	23.0	24.0	22.0	21.0	21.5	---	---	---
MONTH	20.5	13.0	17.5	27.5	19.0	23.0	25.5	19.0	22.0	21.5	13.5	17.0
YEAR	27.5	1.0	13.0									

14202965 HENRY HAGG LAKE NEAR GASTON, OR

LOCATION.--Lat 45°28'25", long 123°11'51", in SE 1/4 NE 1/4 sec.20, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, at left end of Scoggins Dam on Scoggins Creek, 3.8 mi northwest of Gaston, and at mile 4.9.

DRAINAGE AREA.--38.7 mi^2.

PERIOD OF RECORD.--January 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam with gated concrete spillway and a gated outlet tunnel. Storage began in January 1975. Total capacity at elevation 305.7 ft, maximum water-surface elevation, is 63,360 acre-ft, of which 56,160 acre-ft is active storage above elevation 239.3 ft, proposed minimum pool. Reservoir is used for irrigation, flood control, and recreation. Figures given herein represent active storage.

COOPERATION.--Daily elevations at 0800 and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 53,740 acre-ft June 18, 1996, elevation, 303.59 ft; minimum contents observed since first filling, 808 acre-ft Oct. 31, 1975, elevation, 237.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 53,740 acre-ft June 18, elevation, 303.59 ft; minimum contents observed, 22,740 acre-ft Nov. 6, elevation, 271.84 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	274.60	25,060	-
Oct. 31	272.52	23,300	-1,760
Nov. 30	288.03	37,370	+14,070
Dec. 31	286.10	35,500	-1,870
CAL YR 1995	-	-	-13,440
Jan. 31	291.40	40,710	+5,210
Feb. 29	294.53	43,910	+3,200
Mar. 31	301.25	51,120	+7,210
Apr. 30	303.15	53,240	+2,120
May 31	303.45	53,580	+340
June 30	301.49	53,630	+50
July 31	295.47	44,890	-8,740
Aug. 31	282.33	31,940	-12,950
Sept.30	275.87	26,150	-5,790
WTR YR 1996	-	-	+1,090

14202980 SCOGGINS CREEK BELOW HENRY HAGG LAKE, NEAR GASTON, OR

LOCATION.--Lat 45°28'10", long 123°11'56", in SE 1/4 NE 1/4 sec.20, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, on left bank 600 ft downstream from Scoggins Dam, 800 ft upstream from small left bank tributary, 3.7 mi northwest of Gaston, and at mile 4.8.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD.--January 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 187.48 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Henry Hagg Lake since January 1975. Discharge not adjusted for storage or release from Henry Hagg Lake as evaporation from reservoir at times exceeds natural flow.

AVERAGE DISCHARGE.--21 years (water years 1976-96), 106 ft^3/s, 77,020 acre-ft, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,210 ft^3/s Apr. 23, 1996, gage height, 16.88 ft; minimum discharge, 1.4 ft^3/s Nov. 16, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,210 ft^3/s Apr. 23, gage height, 16.88 ft; minimum discharge, 7.1 ft^3/s May 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	62	11	496	882	70	32	172	48	42	161	239
2	55	62	11	436	807	69	31	171	61	84	162	239
3	79	61	11	400	646	68	31	170	61	98	161	203
4	68	61	11	398	513	69	49	169	61	97	161	152
5	58	61	104	397	449	69	76	169	61	96	153	124
6	56	61	340	397	30	69	89	70	61	96	151	120
7	56	61	468	207	45	69	89	10	58	95	157	124
8	56	38	569	10	773	69	88	39	59	128	157	124
9	63	20	612	10	1640	68	79	104	59	179	175	114
10	71	20	459	142	1220	68	70	104	47	182	198	112
11	71	21	13	329	560	68	70	104	30	185	198	116
12	47	20	13	394	610	68	137	120	30	203	197	111
13	25	21	13	392	1030	67	204	338	30	211	201	102
14	21	20	261	392	1150	40	202	236	24	210	205	98
15	21	20	570	334	1100	15	201	182	11	195	204	99
16	41	20	1050	98	1010	15	216	140	11	182	204	68
17	63	20	1290	260	929	15	243	115	22	191	204	42
18	58	20	1150	307	873	15	243	116	38	177	203	38
19	55	20	829	104	833	15	216	116	49	168	220	49
20	54	20	885	11	573	15	179	116	49	167	245	72
21	54	20	962	11	513	15	179	131	39	167	245	76
22	54	20	1080	11	607	15	215	141	34	182	267	76
23	54	20	1130	102	400	15	1610	126	34	190	286	76
24	54	21	1010	195	264	15	1290	116	34	190	285	76
25	54	21	903	205	258	15	623	116	40	189	284	76
26	34	21	900	392	254	15	503	116	49	189	283	76
27	21	40	976	521	251	15	394	115	36	188	281	82
28	21	37	925	606	207	17	282	95	30	188	279	88
29	21	22	391	677	107	25	280	40	30	181	278	88
30	44	15	227	656	---	32	238	8.5	30	176	259	84
31	62	---	529	748	---	32	---	14	---	169	240	---
TOTAL	1511	946	17703	9638	18534	1232	8159	3779.5	1226	4995	6704	3144
MEAN	48.7	31.5	571	311	639	39.7	272	122	40.9	161	216	105
MAX	79	62	1290	748	1640	70	1610	338	61	211	286	239
MIN	20	15	11	10	30	15	31	8.5	11	42	151	38
AC-FT	3000	1880	35110	19120	36760	2440	16180	7500	2430	9910	13300	6240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1996, BY WATER YEAR (WY)

MEAN	94.8	70.3	144	142	111	114	88.1	58.5	57.6	122	147	124
MAX	155	233	571	493	639	326	272	122	121	201	216	206
(WY)	1980	1985	1996	1995	1996	1983	1996	1996	1992	1994	1996	1993
MIN	26.2	16.7	10.9	9.85	9.50	10.8	12.0	19.9	14.3	52.3	83.4	72.9
(WY)	1978	1988	1991	1992	1977	1977	1985	1977	1977	1993	1977	1977

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1976 - 1996	
ANNUAL TOTAL	68622.0		77571.5			
ANNUAL MEAN	188		212		106	
HIGHEST ANNUAL MEAN					212	1996
LOWEST ANNUAL MEAN					40.4	1977
HIGHEST DAILY MEAN	1290	Dec 17	1640	Feb 9	1640	Feb 9 1996
LOWEST DAILY MEAN	9.0	Feb 2	8.5	May 30	5.3	May 27 1977
ANNUAL SEVEN-DAY MINIMUM	13	Jan 10	15	Mar 15	5.8	May 27 1977
ANNUAL RUNOFF (AC-FT)	136100		153900		77020	
10 PERCENT EXCEEDS	598		583		210	
50 PERCENT EXCEEDS	98		104		75	
90 PERCENT EXCEEDS	18		20		13	

14203500 TUALATIN RIVER NEAR DILLEY, OR

LOCATION.--(revised) Lat 45°28'30", long 123°07'23", in NE 1/4 NW 1/4 sec.24, T.1 S., R.4 W., Washington County, Hydrologic Unit 17090010, on right bank 5 ft upstream from highway bridge, 1.0 mi south of Dilley, 1.2 mi downstream from Scoggins Creek, and at mile 58.8.

DRAINAGE AREA.--125 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Prior to December 1939 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1935: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 147.57 ft above sea level. Prior to June 16, 1950, nonrecording gage at several sites within 200 ft of present site at datum 4.00 ft higher. June 16, 1950, to Aug. 10, 1966, water-stage recorder at present site at datum 4.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuation caused by operation of millpond on Scoggins Creek upstream from station and regulation by Henry Hagg Lake since January 1975. Diversions upstream from station of approximately 3,000 acre-ft from J. W. Barney Reservoir on the Middle Fork of North Fork Trask River for municipal water supply and irrigation in Wapato Lake area. Continuous water-quality records for the period November 1963 to September 1968 have been collected at this location.

AVERAGE DISCHARGE.--57 years (water years 1940-96), 386 ft^3/s, 279,700 acre-ft/yr.
21 years (water years 1976-96), 337 ft^3/s, 244,500 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft^3/s Dec. 22, 1964, gage height, 19.34 ft, from rating curve extended above 6,000 ft^3/s; minimum discharge, 0.08 ft^3/s Sept. 3, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,100 ft^3/s Feb. 8, gage height, 19.06 ft; minimum discharge, 48 ft^3/s Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	106	2950	1470	1450	561	298	615	243	70	164	285
2	67	107	2500	1230	1440	526	307	572	256	92	170	282
3	104	102	1970	1010	1240	511	278	547	243	110	172	263
4	101	100	1540	918	1030	555	267	528	237	111	172	191
5	83	105	1130	875	1050	612	261	510	227	110	169	156
6	78	118	1080	1000	2850	603	274	455	222	107	155	148
7	77	190	1170	1290	6240	579	264	356	213	105	161	148
8	77	344	1130	1570	8620	574	258	333	208	110	160	146
9	81	427	1200	1180	5240	565	248	380	205	181	167	140
10	92	256	1290	924	2570	545	251	364	200	189	204	132
11	155	709	2460	958	1680	529	271	350	172	191	205	135
12	138	1430	3100	1000	1210	498	458	343	166	206	204	132
13	82	710	3920	927	1220	464	665	518	156	218	199	127
14	63	581	3770	858	1220	429	654	512	150	218	205	126
15	57	452	3860	1100	1160	378	597	444	127	207	204	162
16	70	349	3040	1170	1080	350	572	396	122	177	205	145
17	117	283	2760	1120	1070	332	588	385	124	200	209	90
18	158	319	2790	1090	1200	317	596	483	144	201	210	71
19	115	297	2430	1830	1300	299	635	517	145	185	220	74
20	102	257	2210	2150	1340	287	626	485	132	179	258	89
21	98	225	2130	2570	1140	279	611	465	122	178	259	85
22	101	224	2040	2070	1140	273	644	477	112	184	272	81
23	97	228	2010	1650	1210	260	1890	473	120	194	300	80
24	95	492	1860	1800	953	247	2920	437	112	190	302	79
25	93	703	1670	1710	836	235	1450	402	119	188	306	78
26	142	722	1480	1450	781	227	1030	371	112	187	308	77
27	106	703	1500	1660	742	222	867	349	95	186	310	78
28	84	2130	1450	1680	706	230	758	324	85	185	309	86
29	75	2810	1420	1680	634	221	716	293	78	180	309	85
30	78	3490	754	1540	---	232	682	238	72	170	296	82
31	106	---	1310	1380	---	256	---	227	---	175	279	---
TOTAL	2947	18969	63924	42860	52352	12196	19936	13149	4719	5184	7063	3853
MEAN	95.1	632	2062	1383	1805	393	665	424	157	167	228	128
MAX	158	3490	3920	2570	8620	612	2920	615	256	218	310	285
MIN	55	100	754	858	634	221	248	227	72	70	155	71
AC-FT	5850	37630	126800	85010	103800	24190	39540	26080	9360	10280	14010	7640

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1996, BY WATER YEAR (WY)

MEAN	140	302	676	692	672	509	356	170	111	136	156	144
MAX	230	881	2062	1518	1805	1086	974	424	183	195	228	229
(WY)	1983	1985	1996	1995	1996	1983	1991	1996	1984	1985	1996	1978
MIN	71.8	47.2	41.1	31.8	62.0	165	99.8	80.8	65.9	91.0	93.0	82.6
(WY)	1978	1988	1977	1977	1977	1992	1977	1977	1979	1977	1977	1985

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1976 - 1996	
ANNUAL TOTAL	217200		247152			
ANNUAL MEAN	595		675		337	
HIGHEST ANNUAL MEAN					675	1996
LOWEST ANNUAL MEAN					104	1977
HIGHEST DAILY MEAN	3920	Dec 13	8620	Feb 8	8620	Feb 8 1996
LOWEST DAILY MEAN	52	Sep 29	55	Oct 1	22	Jan 26 1977
ANNUAL SEVEN-DAY MINIMUM	74	Sep 29	80	Sep 21	23	Jan 26 1977
ANNUAL RUNOFF (AC-FT)	430800		490200		244500	
10 PERCENT EXCEEDS	1690		1670		824	
50 PERCENT EXCEEDS	214		296		171	
90 PERCENT EXCEEDS	98		95		81	

14206298 BRONSON CREEK AT 185TH AVENUE, NEAR ALOHA, OR

LOCATION.--Lat 45°31'57", long 122°51'59", in NE 1/4 NE 1/4 sec.36, T.1 N., R.2 W., Washington County, Hydrologic Unit 17090010, on left bank at 185th Avenue bridge, near Aloha, and at mile 1.48.

DRAINAGE AREA.--4.15 mi^2.

PERIOD OF RECORD.--May 1994 to September 1996 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 160 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--2 years (water years 1995-96), 8.49 ft^3, 27.80 in/yr, 6,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 342 ft^3/s Feb. 6, 1996, gage height, 9.60 ft; minimum discharge, 0.02 ft^3/s Aug. 30 to Sept. 3, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 68 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0745	98	7.91	Feb. 6	1030	*342	*9.60
Nov. 27	2400	184	8.22	Feb. 7	2400	316	9.40
Dec. 11	0345	110	7.37	Apr. 23	1800	83	6.91
Dec. 14	1915	97	7.19	Sept. 15	0100	100	7.17
Jan. 20	1815	103	7.27				

Minimum discharge, 0.03 ft^3/s Aug. 26.

REVISIONS.--Additional peaks above the base discharge have been identified for the 1995 water year. These figures supplement those published in the report for that year.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 27	0445	78	8.35	Dec. 27	0415	68	8.13
Nov. 1	0030	*85	*8.52	Feb. 19	0800	69	8.15
Nov. 30	2345	80	8.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.0	44	8.3	9.2	8.9	9.8	5.3	3.0	.84	.21	.14
2	2.0	1.9	23	7.6	8.4	8.6	7.0	4.7	2.7	.81	1.9	.07
3	3.7	1.7	15	7.5	7.9	11	5.5	4.7	2.4	.85	1.7	.76
4	2.5	1.8	17	7.0	8.5	39	4.9	4.5	2.2	.79	.91	2.3
5	2.0	2.3	12	7.8	43	23	4.7	4.0	2.0	.69	.75	1.4
6	1.8	3.2	9.7	9.3	209	15	4.5	3.7	1.8	.55	.57	1.0
7	1.7	4.6	8.9	25	165	12	4.5	3.8	1.7	.37	.53	.67
8	1.7	11	7.9	21	214	11	4.3	3.6	1.6	.29	.54	.72
9	1.8	7.5	10	15	88	10	4.1	3.2	1.5	.23	.36	.67
10	4.0	6.9	28	12	26	10	4.1	3.0	1.5	.23	.24	.46
11	20	66	73	9.8	16	13	6.4	3.0	1.4	.20	.16	.32
12	5.8	13	50	9.0	14	11	19	5.3	1.3	.19	.14	.33
13	3.2	8.4	52	8.4	13	9.3	11	15	1.2	.17	.16	.38
14	2.7	4.4	63	9.0	12	8.6	6.5	20	1.2	.20	.28	9.9
15	2.4	3.6	36	37	11	8.3	6.0	20	1.2	.20	.39	36
16	2.6	3.1	17	23	10	7.3	8.5	14	1.3	.19	.33	10
17	3.2	2.8	13	13	23	7.0	6.0	28	1.6	1.7	.29	7.5
18	3.9	3.4	15	21	46	6.8	8.4	17	1.6	2.1	.29	3.4
19	2.7	2.5	12	54	37	6.6	11	11	1.3	1.3	.22	4.2
20	2.8	2.2	10	60	22	6.1	8.4	7.8	1.1	.87	.21	1.9
21	3.0	2.2	9.3	48	17	6.0	9.1	8.4	1.0	.70	.32	1.4
22	2.7	3.0	8.5	19	17	8.3	22	12	1.1	.49	.21	1.3
23	2.4	5.7	7.8	22	43	6.5	56	7.7	4.0	.31	.12	1.1
24	2.3	34	7.3	43	25	6.1	40	6.2	3.5	.41	.15	.96
25	3.3	16	6.8	27	16	5.4	15	5.1	2.7	.29	.12	.89
26	6.2	11	6.5	15	13	5.2	12	4.3	1.6	.22	.11	.94
27	3.7	64	6.4	18	12	5.0	8.8	3.7	1.2	.30	.18	.89
28	2.8	77	7.0	24	10	5.3	7.4	4.0	1.3	.25	.34	.86
29	2.5	41	13	19	9.5	4.9	6.6	5.5	1.1	.22	.21	1.0
30	2.3	29	12	13	---	4.7	5.8	5.0	.94	.31	.29	.83
31	2.2	---	10	9.8	---	8.3	---	3.5	---	.37	.25	---
TOTAL	106.1	435.2	611.1	622.5	1145.5	298.2	327.3	247.0	52.04	16.64	12.48	92.29
MEAN	3.42	14.5	19.7	20.1	39.5	9.62	10.9	7.97	1.73	.54	.40	3.08
MAX	20	77	73	60	214	39	56	28	4.0	2.1	1.9	36
MIN	1.7	1.7	6.4	7.0	7.9	4.7	4.1	3.0	.94	.17	.11	.07
AC-FT	210	863	1210	1230	2270	591	649	490	103	33	25	183
CFSM	.82	3.50	4.75	4.84	9.52	2.32	2.63	1.92	.42	.13	.10	.74
IN.	.95	3.90	5.48	5.58	10.27	2.67	2.93	2.21	.47	.15	.11	.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	3.60	11.3	15.6	17.0	26.2	9.85	8.58	3.92	1.58	.75	.41	1.33
MAX	3.78	14.5	19.7	20.1	39.5	10.1	10.9	7.97	2.15	1.44	.74	3.08
(WY)	1995	1996	1996	1996	1996	1995	1996	1996	1995	1995	1995	1996
MIN	3.42	8.18	11.4	13.9	12.5	9.62	6.25	.84	.86	.25	.095	.25
(WY)	1996	1995	1995	1995	1995	1996	1995	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	2676.56		3966.35			
ANNUAL MEAN	7.33		10.8		8.49	
HIGHEST ANNUAL MEAN					10.8	1996
LOWEST ANNUAL MEAN					6.14	1995
HIGHEST DAILY MEAN	77	Nov 28	214	Feb 8	214	Feb 8 1996
LOWEST DAILY MEAN	.06	Sep 24	.07	Sep 2	.02	Aug 31 1994
ANNUAL SEVEN-DAY MINIMUM	.10	Sep 19	.17	Aug 21	.03	Aug 27 1994
ANNUAL RUNOFF (AC-FT)	5310		7870		6150	
ANNUAL RUNOFF (CFSM)	1.77		2.61		2.05	
ANNUAL RUNOFF (INCHES)	23.99		35.55		27.80	
10 PERCENT EXCEEDS	16		23		16	
50 PERCENT EXCEEDS	3.5		4.8		2.7	
90 PERCENT EXCEEDS	.62		.31		.16	

14206500 TUALATIN RIVER AT FARMINGTON, OR
WATER-QUALITY RECORDS

LOCATION.--Lat 45°27'00", long 122°57'00", in SE 1/4 SE 1/4 sec.29 T.1 S., R.2 W., Washington County, Hydrologic Unit 17090010, on left bank at Harris Bridge, at Farmington.

DRAINAGE AREA.--568 mi^2.

PERIOD OF RECORD.--July to November 1996.

INSTRUMENTATION.--Water-quality monitor since July 1996. Electronic data logger with sixty-minute recording interval.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 286 microsiemens Sept. 29, 1996; minimum recorded, 116 microsiemens Aug. 27, Sept. 16, 1996.
pH: Maximum recorded, 7.3 units many days during period September to November 1996; minimum recorded, 6.6 units Sept. 16, 1996.
WATER TEMPERATURE: Maximum recorded, 19.5°C Aug. 1, 1996; minimum recorded, 8.5°C Nov. 1-3, 1996.
DISSOLVED OXYGEN: Maximum recorded, 10.6 mg/L Oct. 28, 1996; minimum recorded, 7.0 mg/L Sept. 16, Oct. 6, 1996.

EXTREMES FOR 1996 WATER YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 286 microsiemens Sept. 29; minimum recorded, 116 microsiemens Aug. 27, Sept. 16.
pH: Maximum recorded, 7.3 units many days during September; minimum recorded, 6.6 units Sept. 16.
WATER TEMPERATURE: Maximum, 19.5°C Aug. 1; minimum recorded, 13.0°C Sept. 24, 25.
DISSOLVED OXYGEN: Maximum recorded, 9.5 mg/L Sept. 24, minimum recorded, 7.0 mg/L Sept. 16.

EXTREMES FOR 1997 WATER YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 277 microsiemens Oct. 4; minimum recorded, 120 microsiemens Oct. 27.
pH: Maximum recorded, 7.3 units several days October to November; minimum recorded, 7.0 units several days October to November.
WATER TEMPERATURE: Maximum recorded, 16.5 Oct. 11; minimum recorded, 8.5 Nov. 1-3.
DISSOLVED OXYGEN: Maximum recorded, 10.6 mg/L Oct. 28, minimum recorded, 7.0 mg/L Oct. 6.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	236	173	214	180	124	154
2	---	---	---	---	---	---	---	---	---	183	118	152
3	---	---	---	---	---	---	249	178	216	182	133	161
4	---	---	---	---	---	---	206	151	181	189	134	162
5	---	---	---	---	---	---	---	---	---	193	151	174
6	---	---	---	---	---	---	---	---	---	210	160	191
7	---	---	---	---	---	---	---	---	---	220	168	198
8	---	---	---	---	---	---	---	---	---	239	158	196
9	---	---	---	---	---	---	---	---	---	219	160	196
10	---	---	---	---	---	---	---	---	---	219	167	201
11	---	---	---	---	---	---	---	---	---	240	174	222
12	---	---	---	---	---	---	---	---	---	252	182	220
13	---	---	---	---	---	---	---	---	---	237	173	214
14	---	---	---	---	---	---	219	171	205	227	181	207
15	---	---	---	---	---	---	260	187	228	245	141	190
16	---	---	---	---	---	---	251	187	226	143	116	129
17	---	---	---	---	---	---	252	166	215	165	140	151
18	---	---	---	---	---	---	243	149	201	192	149	163
19	---	---	---	---	---	---	226	151	186	225	176	198
20	---	---	---	---	---	---	192	150	180	227	193	218
21	---	---	---	---	---	---	218	151	195	236	181	216
22	---	---	---	---	---	---	212	143	185	239	184	214
23	---	---	---	---	---	---	202	143	180	247	194	227
24	---	---	---	---	---	---	206	131	169	239	198	223
25	---	---	---	---	---	---	194	128	161	264	204	242
26	---	---	---	---	---	---	174	118	149	266	215	247
27	---	---	---	---	---	---	158	116	141	266	213	247
28	---	---	---	---	---	---	159	125	148	268	213	248
29	---	---	---	---	---	---	163	122	148	286	211	250
30	---	---	---	---	---	---	170	128	152	274	202	240
31	---	---	---	---	---	---	171	118	148	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	286	116	202

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	253	200	236	177	153	164	---	---	---	---	---	---
2	263	200	247	208	168	181	---	---	---	---	---	---
3	274	213	255	209	183	195	---	---	---	---	---	---
4	277	216	255	212	187	203	---	---	---	---	---	---
5	271	220	246	211	178	196	---	---	---	---	---	---
6	254	182	220	206	176	192	---	---	---	---	---	---
7	241	184	216	206	181	197	---	---	---	---	---	---
8	243	200	226	199	164	184	---	---	---	---	---	---
9	246	198	230	193	154	170	---	---	---	---	---	---
10	255	197	234	199	160	179	---	---	---	---	---	---
11	256	197	239	207	166	188	---	---	---	---	---	---
12	254	193	234	206	183	197	---	---	---	---	---	---
13	253	189	221	206	181	193	---	---	---	---	---	---
14	246	195	223	186	167	178	---	---	---	---	---	---
15	228	184	208	---	---	---	---	---	---	---	---	---
16	206	153	179	---	---	---	---	---	---	---	---	---
17	189	162	174	---	---	---	---	---	---	---	---	---
18	214	179	194	---	---	---	---	---	---	---	---	---
19	210	146	169	---	---	---	---	---	---	---	---	---
20	161	137	150	---	---	---	---	---	---	---	---	---
21	166	141	155	---	---	---	---	---	---	---	---	---
22	199	165	177	---	---	---	---	---	---	---	---	---
23	199	161	179	---	---	---	---	---	---	---	---	---
24	177	160	168	---	---	---	---	---	---	---	---	---
25	160	136	148	---	---	---	---	---	---	---	---	---
26	140	123	131	---	---	---	---	---	---	---	---	---
27	143	120	128	---	---	---	---	---	---	---	---	---
28	156	133	143	---	---	---	---	---	---	---	---	---
29	175	143	158	---	---	---	---	---	---	---	---	---
30	157	140	147	---	---	---	---	---	---	---	---	---
31	169	145	157	---	---	---	---	---	---	---	---	---
MONTH	277	120	195	---	---	---	---	---	---	---	---	---

14206500 TUALATIN RIVER AT FARMINGTON, OR--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	7.2	7.1
2	---	---	---	---	---	---	---	---	---	---	7.2	7.1
3	---	---	---	---	---	---	---	---	7.1	6.9	7.2	7.2
4	---	---	---	---	---	---	---	---	7.1	6.9	7.2	7.2
5	---	---	---	---	---	---	---	---	---	---	7.3	7.1
6	---	---	---	---	---	---	---	---	---	---	7.3	7.2
7	---	---	---	---	---	---	---	---	---	---	7.3	7.2
8	---	---	---	---	---	---	---	---	---	---	7.3	7.2
9	---	---	---	---	---	---	---	---	---	---	7.2	7.2
10	---	---	---	---	---	---	---	---	---	---	7.3	7.2
11	---	---	---	---	---	---	---	---	---	---	7.3	7.2
12	---	---	---	---	---	---	---	---	---	---	7.3	7.2
13	---	---	---	---	---	---	---	---	---	---	7.3	7.2
14	---	---	---	---	---	---	---	---	7.0	6.9	7.2	7.1
15	---	---	---	---	---	---	---	---	7.0	6.9	7.2	6.7
16	---	---	---	---	---	---	---	---	7.0	6.9	6.8	6.6
17	---	---	---	---	---	---	---	---	7.0	6.9	7.0	6.8
18	---	---	---	---	---	---	---	---	7.0	6.9	7.0	6.9
19	---	---	---	---	---	---	---	---	7.0	6.8	7.2	7.0
20	---	---	---	---	---	---	---	---	7.0	6.9	7.2	7.1
21	---	---	---	---	---	---	---	---	7.1	6.9	7.3	7.2
22	---	---	---	---	---	---	---	---	7.1	6.9	7.3	7.2
23	---	---	---	---	---	---	---	---	7.0	6.9	7.3	7.2
24	---	---	---	---	---	---	---	---	7.0	6.9	7.3	7.3
25	---	---	---	---	---	---	---	---	7.0	6.9	7.3	7.3
26	---	---	---	---	---	---	---	---	7.1	6.9	7.3	7.2
27	---	---	---	---	---	---	---	---	7.1	7.0	7.3	7.2
28	---	---	---	---	---	---	---	---	7.2	7.1	7.3	7.1
29	---	---	---	---	---	---	---	---	7.2	7.1	7.2	7.0
30	---	---	---	---	---	---	---	---	7.2	7.1	7.1	7.1
31	---	---	---	---	---	---	---	---	7.2	7.1	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	7.3	6.6

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.2	7.1	7.2	7.1	---	---	---	---	---	---	---	---
2	7.2	7.2	7.2	7.2	---	---	---	---	---	---	---	---
3	---	---	7.2	7.2	---	---	---	---	---	---	---	---
4	7.3	7.2	7.3	7.2	---	---	---	---	---	---	---	---
5	7.2	7.2	7.3	7.2	---	---	---	---	---	---	---	---
6	7.2	7.1	7.2	7.2	---	---	---	---	---	---	---	---
7	7.2	7.1	7.2	7.2	---	---	---	---	---	---	---	---
8	7.2	7.2	7.3	7.2	---	---	---	---	---	---	---	---
9	7.2	7.1	7.2	7.1	---	---	---	---	---	---	---	---
10	7.2	7.1	7.2	7.1	---	---	---	---	---	---	---	---
11	7.2	7.1	7.2	7.1	---	---	---	---	---	---	---	---
12	7.2	7.1	7.1	7.1	---	---	---	---	---	---	---	---
13	7.2	7.1	7.1	7.1	---	---	---	---	---	---	---	---
14	7.3	7.2	7.1	7.0	---	---	---	---	---	---	---	---
15	7.2	7.1	---	---	---	---	---	---	---	---	---	---
16	7.2	7.1	---	---	---	---	---	---	---	---	---	---
17	7.2	7.1	---	---	---	---	---	---	---	---	---	---
18	7.2	7.1	---	---	---	---	---	---	---	---	---	---
19	7.1	7.0	---	---	---	---	---	---	---	---	---	---
20	7.1	7.0	---	---	---	---	---	---	---	---	---	---
21	7.1	7.0	---	---	---	---	---	---	---	---	---	---
22	7.3	7.1	---	---	---	---	---	---	---	---	---	---
23	7.2	7.1	---	---	---	---	---	---	---	---	---	---
24	7.2	7.1	---	---	---	---	---	---	---	---	---	---
25	7.1	7.1	---	---	---	---	---	---	---	---	---	---
26	7.1	7.1	---	---	---	---	---	---	---	---	---	---
27	7.1	7.1	---	---	---	---	---	---	---	---	---	---
28	7.1	7.1	---	---	---	---	---	---	---	---	---	---
29	7.2	7.0	---	---	---	---	---	---	---	---	---	---
30	7.1	7.1	---	---	---	---	---	---	---	---	---	---
31	7.2	7.1	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

14206500 TUALATIN RIVER AT FARMINGTON, OR--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	19.5	18.5	19.0	15.5	15.0	15.5
2	---	---	---	---	---	---	---	---	---	15.5	14.5	15.0
3	---	---	---	---	---	---	18.0	17.5	18.0	15.0	14.5	14.5
4	---	---	---	---	---	---	17.5	16.5	17.0	14.5	14.0	14.0
5	---	---	---	---	---	---	---	---	---	14.0	13.5	14.0
6	---	---	---	---	---	---	---	---	---	15.0	14.0	14.5
7	---	---	---	---	---	---	---	---	---	16.0	14.5	15.0
8	---	---	---	---	---	---	---	---	---	16.5	15.5	16.0
9	---	---	---	---	---	---	---	---	---	17.0	16.0	16.5
10	---	---	---	---	---	---	---	---	---	17.5	16.5	16.5
11	---	---	---	---	---	---	---	---	---	17.5	16.5	17.0
12	---	---	---	---	---	---	---	---	---	17.0	16.5	17.0
13	---	---	---	---	---	---	---	---	---	16.5	16.0	16.5
14	---	---	---	---	---	---	19.0	17.5	18.0	16.0	15.5	16.0
15	---	---	---	---	---	---	19.0	18.0	18.5	16.0	15.5	15.5
16	---	---	---	---	---	---	18.5	17.5	18.0	15.5	15.0	15.0
17	---	---	---	---	---	---	17.5	16.5	17.5	15.5	14.5	15.0
18	---	---	---	---	---	---	16.5	15.0	16.0	15.0	14.5	15.0
19	---	---	---	---	---	---	15.5	15.0	15.5	15.5	15.0	15.0
20	---	---	---	---	---	---	15.5	15.0	15.5	15.5	15.0	15.0
21	---	---	---	---	---	---	16.0	15.0	15.5	15.0	14.0	15.0
22	---	---	---	---	---	---	15.5	14.5	15.5	14.5	13.5	14.0
23	---	---	---	---	---	---	16.5	15.0	16.0	14.0	13.5	13.5
24	---	---	---	---	---	---	16.5	16.0	16.0	14.0	13.0	13.5
25	---	---	---	---	---	---	16.5	16.0	16.0	14.5	13.0	13.5
26	---	---	---	---	---	---	16.0	15.0	15.5	14.5	13.5	14.0
27	---	---	---	---	---	---	15.0	14.5	14.5	15.0	14.0	14.5
28	---	---	---	---	---	---	14.5	14.0	14.5	15.5	14.5	15.0
29	---	---	---	---	---	---	15.5	14.0	14.5	16.0	15.0	15.5
30	---	---	---	---	---	---	16.0	15.0	15.5	16.0	15.0	15.5
31	---	---	---	---	---	---	16.0	15.0	15.5	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	17.5	13.0	15.1

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.0	15.0	15.5	9.5	8.5	9.0	---	---	---	---	---	---
2	15.5	15.0	15.0	9.0	8.5	8.5	---	---	---	---	---	---
3	16.0	15.0	15.5	9.0	8.5	8.5	---	---	---	---	---	---
4	16.0	15.0	15.5	9.0	9.0	9.0	---	---	---	---	---	---
5	16.0	15.5	15.5	9.5	9.0	9.0	---	---	---	---	---	---
6	15.5	15.0	15.0	9.5	9.0	9.0	---	---	---	---	---	---
7	15.5	14.5	15.0	9.5	9.0	9.0	---	---	---	---	---	---
8	16.0	15.0	15.0	9.5	9.0	9.0	---	---	---	---	---	---
9	16.0	15.0	15.5	9.5	9.0	9.0	---	---	---	---	---	---
10	16.0	15.5	16.0	9.5	9.0	9.0	---	---	---	---	---	---
11	16.5	15.5	16.0	10.0	9.0	9.5	---	---	---	---	---	---
12	16.0	15.0	15.5	10.5	10.0	10.0	---	---	---	---	---	---
13	15.5	14.5	15.0	11.0	10.5	10.5	---	---	---	---	---	---
14	14.5	13.5	14.0	11.0	10.5	10.5	---	---	---	---	---	---
15	14.0	13.0	13.5	---	---	---	---	---	---	---	---	---
16	13.0	12.0	12.5	---	---	---	---	---	---	---	---	---
17	12.0	11.0	11.5	---	---	---	---	---	---	---	---	---
18	11.5	11.0	11.0	---	---	---	---	---	---	---	---	---
19	11.0	10.5	11.0	---	---	---	---	---	---	---	---	---
20	10.5	9.5	10.0	---	---	---	---	---	---	---	---	---
21	10.0	9.5	9.5	---	---	---	---	---	---	---	---	---
22	10.5	10.0	10.0	---	---	---	---	---	---	---	---	---
23	10.5	10.0	10.5	---	---	---	---	---	---	---	---	---
24	11.0	10.5	10.5	---	---	---	---	---	---	---	---	---
25	11.0	10.5	10.5	---	---	---	---	---	---	---	---	---
26	10.5	9.5	10.0	---	---	---	---	---	---	---	---	---
27	9.5	9.0	9.5	---	---	---	---	---	---	---	---	---
28	9.5	9.0	9.0	---	---	---	---	---	---	---	---	---
29	10.0	9.0	9.5	---	---	---	---	---	---	---	---	---
30	9.5	9.0	9.5	---	---	---	---	---	---	---	---	---
31	9.5	9.0	9.5	---	---	---	---	---	---	---	---	---
MONTH	16.5	9.0	12.6	---	---	---	---	---	---	---	---	---

14206500 TUALATIN RIVER AT FARMINGTON, OR--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	9.1	8.8	8.9
2	---	---	---	---	---	---	---	---	---	9.2	9.0	9.1
3	---	---	---	---	---	---	---	---	---	9.2	8.9	9.0
4	---	---	---	---	---	---	---	---	---	9.2	9.0	9.1
5	---	---	---	---	---	---	---	---	---	9.3	8.8	9.1
6	---	---	---	---	---	---	---	---	---	9.4	8.9	9.1
7	---	---	---	---	---	---	---	---	---	9.3	9.1	9.1
8	---	---	---	---	---	---	---	---	---	9.1	8.8	9.0
9	---	---	---	---	---	---	---	---	---	8.9	8.6	8.7
10	---	---	---	---	---	---	---	---	---	8.7	8.5	8.6
11	---	---	---	---	---	---	---	---	---	8.6	8.3	8.4
12	---	---	---	---	---	---	---	---	---	8.6	8.4	8.5
13	---	---	---	---	---	---	---	---	---	8.6	8.4	8.5
14	---	---	---	---	---	---	---	---	---	8.7	8.4	8.5
15	---	---	---	---	---	---	---	---	---	8.7	7.1	7.8
16	---	---	---	---	---	---	---	---	---	7.7	7.0	7.2
17	---	---	---	---	---	---	---	---	---	8.5	7.7	8.2
18	---	---	---	---	---	---	---	---	---	8.7	8.4	8.6
19	---	---	---	---	---	---	---	---	---	8.8	8.6	8.7
20	---	---	---	---	---	---	---	---	---	9.0	8.7	8.8
21	---	---	---	---	---	---	---	---	---	9.1	8.8	8.9
22	---	---	---	---	---	---	8.2	7.6	7.8	9.3	8.9	9.1
23	---	---	---	---	---	---	8.2	7.4	7.7	9.3	9.0	9.2
24	---	---	---	---	---	---	8.5	7.3	7.9	9.5	9.2	9.3
25	---	---	---	---	---	---	8.6	7.8	8.3	9.4	9.2	9.3
26	---	---	---	---	---	---	8.8	8.4	8.5	9.3	9.0	9.1
27	---	---	---	---	---	---	9.0	8.7	8.9	9.3	8.8	9.0
28	---	---	---	---	---	---	9.4	9.0	9.2	9.0	8.6	8.8
29	---	---	---	---	---	---	9.3	9.1	9.2	8.8	8.4	8.7
30	---	---	---	---	---	---	9.1	8.9	9.0	8.8	8.3	8.5
31	---	---	---	---	---	---	9.0	8.9	8.9	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	9.5	7.0	8.8

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.8	8.4	8.5	10.3	9.8	10.0	---	---	---	---	---	---
2	8.7	8.5	8.6	10.4	9.9	10.1	---	---	---	---	---	---
3	9.0	8.5	8.8	10.1	9.6	9.9	---	---	---	---	---	---
4	9.0	8.5	8.7	9.9	9.4	9.7	---	---	---	---	---	---
5	8.6	7.3	8.1	10.0	9.4	9.6	---	---	---	---	---	---
6	8.4	7.0	7.7	9.6	9.4	9.5	---	---	---	---	---	---
7	8.8	8.4	8.6	9.6	9.2	9.4	---	---	---	---	---	---
8	8.7	8.5	8.6	9.5	9.2	9.4	---	---	---	---	---	---
9	8.6	8.4	8.6	9.6	9.2	9.4	---	---	---	---	---	---
10	8.6	8.2	8.4	9.5	9.1	9.3	---	---	---	---	---	---
11	8.3	8.0	8.1	9.4	8.9	9.1	---	---	---	---	---	---
12	8.3	8.0	8.1	9.1	8.8	8.9	---	---	---	---	---	---
13	8.5	8.2	8.3	8.8	8.2	8.5	---	---	---	---	---	---
14	8.4	8.1	8.3	8.4	8.2	8.3	---	---	---	---	---	---
15	8.6	8.1	8.4	---	---	---	---	---	---	---	---	---
16	9.1	8.5	8.9	---	---	---	---	---	---	---	---	---
17	9.3	9.0	9.2	---	---	---	---	---	---	---	---	---
18	9.4	9.1	9.3	---	---	---	---	---	---	---	---	---
19	9.3	8.9	9.1	---	---	---	---	---	---	---	---	---
20	9.8	9.2	9.6	---	---	---	---	---	---	---	---	---
21	10.1	9.7	9.9	---	---	---	---	---	---	---	---	---
22	10.1	9.7	9.9	---	---	---	---	---	---	---	---	---
23	9.9	9.5	9.7	---	---	---	---	---	---	---	---	---
24	9.6	9.2	9.5	---	---	---	---	---	---	---	---	---
25	9.6	9.1	9.3	---	---	---	---	---	---	---	---	---
26	9.9	9.5	9.7	---	---	---	---	---	---	---	---	---
27	10.3	9.8	10.0	---	---	---	---	---	---	---	---	---
28	10.6	10.0	10.2	---	---	---	---	---	---	---	---	---
29	10.2	9.4	9.7	---	---	---	---	---	---	---	---	---
30	9.8	9.4	9.6	---	---	---	---	---	---	---	---	---
31	9.9	9.6	9.8	---	---	---	---	---	---	---	---	---
MONTH	10.6	7.0	9.0	---	---	---	---	---	---	---	---	---

14206900 FANNO CREEK AT 56TH AVENUE, PORTLAND, OR

LOCATION.--Lat 45°29'17", long 122°44'01", in NE 1/4 NW 1/4 sec.18, T.1 S., R.1 E., Multnomah County, Hydrologic Unit 17090010, on bridge at SW 56th Ave., in Portland, and at mile 11.9.

DRAINAGE AREA.--2.37 mi^2.

PERIOD OF RECORD.--Annual maximums, 1975-77. October 1990 to current year.

REVISED RECORDS.--WDR OR-92-1: 1991, 1991(m).

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above sea level, from topographic map.

REMARKS.--Records poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--6 years (water years 1991-96), 3.00 ft^3/s, 17.18 in/yr, 2,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 733 ft^3/s Feb. 8, 1996, gage height, 13.2 ft, from floodmark, from rating curve extended above 200 ft^3/s; minimum discharge, 0.07 ft^3/s many days in October 1991 and September 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	unknown	unknown	unknown	Feb. 7	unknown	unknown	unknown
Feb. 6	unknown	654	a13.0	Feb. 8	unknown	*733	*a13.2

Minimum discharge, 0.20 ft^3/s many days in August and September.
a From outside high-water mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.44	14	3.4	e3.6	2.2	5.8	2.1	1.3	e.62	e.23	e.20
2	1.7	.44	7.9	3.0	e3.3	2.1	2.3	2.0	1.2	e.60	1.2	e.20
3	4.1	.47	6.6	3.5	e3.1	6.8	1.8	2.3	1.1	.94	e.25	e.20
4	e1.7	1.1	6.5	2.5	e2.9	19	1.7	1.9	1.1	.72	e.23	e.50
5	e.70	.70	3.9	5.1	e30	19	1.7	1.9	1.0	e.60	e.23	e.20
6	e.50	5.6	3.2	4.6	e50	5.3	1.7	1.8	.98	e.56	e.23	e.20
7	e.40	1.9	2.8	24	e40	3.8	1.7	1.9	.94	e.53	e.23	e.20
8	e.40	14	2.6	7.2	e100	3.3	1.7	1.9	.92	e.51	e.23	e.20
9	e.40	2.8	5.3	8.0	40	2.8	2.5	1.9	.88	e.49	e.23	e.20
10	11	10	27	5.6	24	6.3	1.9	1.8	.81	e.47	e.23	e.20
11	18	e75	20	4.1	17	11	5.7	1.8	.76	e.45	e.22	e.20
12	1.1	5.6	29	3.6	e10	4.9	7.8	5.3	.75	e.43	e.22	e.20
13	.52	8.0	17	3.3	e7.0	3.4	2.5	11	.68	e.42	e.22	e.20
14	.41	2.8	35	6.4	e5.0	2.9	1.8	8.9	.66	e.40	e.22	11
15	.39	2.7	12	22	e3.7	2.7	4.3	15	.66	e.39	e.22	14
16	1.0	2.1	6.0	8.2	e2.9	2.2	2.8	4.0	.65	e.38	e.22	3.9
17	7.5	2.5	5.6	4.9	e30	2.0	2.1	21	.75	2.8	e.22	.83
18	.80	2.3	5.3	16	19	2.0	8.0	8.9	.66	1.1	e.22	e.22
19	.54	1.7	3.9	e19	9.7	1.9	4.7	3.8	.63	e.60	e.22	e.30
20	2.3	1.6	3.5	34	9.7	1.7	2.9	2.8	.62	e.43	e.22	e.20
21	1.5	2.6	3.2	21	6.9	1.7	3.8	6.8	.62	e.35	e.21	e.20
22	.47	2.9	2.9	9.4	11	1.8	23	6.9	.62	e.32	e.21	e.20
23	.39	7.2	2.6	13	25	1.6	31	3.4	2.7	e.30	e.21	e.20
24	.38	20	2.3	13	9.4	1.9	12	2.6	1.4	e.28	e.21	e.20
25	6.9	5.4	2.2	6.6	5.2	1.7	6.5	2.2	.76	e.27	e.21	e.20
26	2.9	3.5	2.1	5.1	4.0	1.6	4.0	1.9	.66	e.26	e.21	e.20
27	.69	42	2.1	5.6	3.4	1.7	3.1	1.6	.72	e.25	e.21	e.20
28	.56	14	4.5	11	2.9	1.6	2.7	3.0	.68	e.24	e.20	e.20
29	.46	17	10	7.7	2.6	1.6	2.4	2.6	.66	e.24	e.20	e.20
30	.44	16	9.6	4.5	---	1.6	2.2	1.7	.63	e.24	e.20	e.20
31	.44	---	4.9	e4.0	---	6.1	---	1.4	---	e.24	e.20	---
TOTAL	69.09	272.35	263.5	289.3	481.3	128.2	156.1	136.1	26.50	16.43	7.76	35.35
MEAN	2.23	9.08	8.50	9.33	16.6	4.14	5.20	4.39	.88	.53	.25	1.18
MAX	18	75	35	34	100	19	31	21	2.7	2.8	1.2	14
MIN	.38	.44	2.1	2.5	2.6	1.6	1.7	1.4	.62	.24	.20	.20
AC-FT	137	540	523	574	955	254	310	270	53	33	15	70
CFSM	.94	3.83	3.59	3.94	7.00	1.74	2.20	1.85	.37	.22	.11	.50
IN.	1.08	4.27	4.14	4.54	7.55	2.01	2.45	2.14	.42	.26	.12	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	1.70	3.93	5.24	5.53	7.61	3.58	3.76	2.36	1.08	.58	.36	.53
MAX	4.11	9.08	8.50	9.33	16.6	5.09	5.20	4.39	1.69	.89	.57	1.18
(WY)	1995	1996	1996	1996	1996	1993	1996	1996	1991	1995	1995	1996
MIN	.60	1.06	3.29	3.02	1.54	1.73	2.10	.73	.31	.29	.13	.19
(WY)	1992	1994	1991	1994	1993	1994	1994	1994	1992	1992	1992	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	1490.72		1881.98			
ANNUAL MEAN	4.08		5.14		3.00	
HIGHEST ANNUAL MEAN					5.14	1996
LOWEST ANNUAL MEAN					1.75	1994
HIGHEST DAILY MEAN	75	Nov 11	100	Feb 8	100	Feb 8 1996
LOWEST DAILY MEAN	.27	Sep 21	.20	Aug 28	.07	Oct 1 1991
ANNUAL SEVEN-DAY MINIMUM	.29	Sep 17	.20	Aug 28	.07	Oct 1 1991
ANNUAL RUNOFF (AC-FT)	2960		3730		2170	
ANNUAL RUNOFF (CFSM)	1.72		2.17		1.26	
ANNUAL RUNOFF (INCHES)	23.40		29.54		17.18	
10 PERCENT EXCEEDS	9.5		14		6.9	
50 PERCENT EXCEEDS	2.0		2.0		1.2	
90 PERCENT EXCEEDS	.36		.22		.20	

e Estimated

14206950 FANNO CREEK AT DURHAM, OR

LOCATION.--Lat 45°24'13", long 122°45'13", in NE 1/4 NW 1/4 sec.13, T.2 S., R.1 W., Washington County, Hydrologic Unit 17090010, on left bank under Durham Road bridge, at Durham, and at mile 1.13.

DRAINAGE AREA.--31.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September to November 1966, September 1972 to September 1977 (discharge measurements only), October 1993 to February 1996 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 116.83 ft above sea level (levels by Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--2 years (water years 1994-95), 42.6 ft^3s, 18.39 in/yr, 30,890 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,090 ft^3 Feb. 6, 1996, gage height, 9.45 ft (from outside high-water mark); minimum discharge, 1.2 ft^3, Oct. 1, 1993.

EXTREMES FOR PERIOD OCTOBER 1995 TO FEBRUARY 1996.--Maximum discharge, 1,090 ft^3/s Feb. 6, gage height, 9.45 ft; maximum gage height, 12.0 ft Feb. 10 (from outside high-water mark, backwater from Tualatin River); minimum discharge, 5.4 ft^3/s Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 1995 TO FEBRUARY 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB
1	12	6.7	256	42	47
2	11	6.0	132	36	45
3	41	5.9	85	43	46
4	15	7.8	99	32	50
5	9.5	13	56	43	198
6	10	33	43	70	---
7	8.7	63	36	205	---
8	12	142	31	142	---
9	12	71	64	95	---
10	36	77	178	88	---
11	267	685	472	55	---
12	47	241	370	47	---
13	20	152	389	40	---
14	15	54	377	57	---
15	12	38	352	282	---
16	17	32	119	190	---
17	41	29	79	82	---
18	41	36	106	125	---
19	13	24	61	325	---
20	27	20	52	368	---
21	20	29	43	431	---
22	15	45	38	167	---
23	11	39	33	156	---
24	9.8	217	29	249	---
25	30	146	26	149	---
26	65	65	24	84	---
27	18	230	23	108	---
28	13	409	35	167	---
29	11	265	136	132	---
30	9.8	273	109	75	---
31	8.1	---	71	53	---
TOTAL	877.9	3454.4	3924	4138	---
MEAN	28.3	115	127	133	---
MAX	267	685	472	431	---
MIN	8.1	5.9	23	32	---
AC-FT	1740	6850	7780	8210	---
CFSM	.90	3.66	4.02	4.24	---
IN.	1.04	4.08	4.63	4.89	---

CAL YR 1995 TOTAL 21028.0 MEAN 57.6 MAX 685 MIN 2.6 AC-FT 41710 CFSM 1.83 IN. 24.83

14206950 FANNO CREEK AT DURHAM, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1993 to February 1996 (discontinued).
WATER TEMPERATURE: October 1993 to February 1996 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 406 microsiemens Oct. 23, 1994; minimum, 47 microsiemens Dec. 1, 1994.
WATER TEMPERATUE: Maximum, 24.0°C July 19, 20, 1995; minimum, 0.0°C Jan. 31 to Feb. 3, 1996.

EXTREMES FOR PERIOD OCTOBER 1995 TO FEBRUARY 1996.--
SPECIFIC CONDUCTANCE: Maximum recorded, 245 microsiemens Nov. 4; minimum, 54 microsiemens Nov. 11.
WATER TEMPERATURE: Maximum, 16.0°C Oct. 1, 3, 4; minimum, 0.0°C Jan. 31 to Feb. 3.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	179	147	163	234	223	228	136	107	117	176	155	166
2	193	158	180	242	233	237	153	136	143	186	175	182
3	193	120	139	237	234	235	166	153	159	187	174	179
4	171	136	159	245	234	239	156	149	153	188	182	185
5	197	171	184	238	219	230	176	156	167	194	163	186
6	208	189	200	237	131	204	187	176	182	163	150	155
7	199	182	191	152	129	138	194	187	191	159	101	117
8	198	141	183	159	78	112	197	193	195	152	105	129
9	198	182	189	147	93	123	198	158	178	161	145	155
10	198	79	170	148	96	127	161	90	140	168	135	151
11	98	71	82	96	54	67	110	86	94	186	168	178
12	149	98	129	133	75	110	112	95	103	195	186	191
13	181	149	166	141	111	121	117	97	104	203	195	200
14	203	181	191	179	141	163	126	86	106	205	143	189
15	208	202	204	194	179	188	137	89	112	148	79	103
16	211	200	207	202	193	197	163	137	151	149	94	124
17	212	116	178	204	171	198	173	162	169	171	149	162
18	170	117	144	195	180	188	169	146	153	177	89	150
19	194	170	184	207	195	201	175	157	167	116	90	99
20	205	150	184	216	207	211	184	174	179	119	80	98
21	189	150	178	221	142	205	188	183	186	118	84	96
22	196	183	189	183	163	176	193	188	191	150	118	139
23	199	185	191	190	131	178	196	192	194	149	112	140
24	213	199	207	131	96	106	200	195	198	120	108	113
25	222	136	201	150	103	126	202	199	201	156	117	137
26	156	119	136	174	150	162	205	201	203	173	156	166
27	183	156	171	178	79	127	207	204	206	174	144	158
28	201	183	192	125	84	101	207	174	202	154	122	137
29	213	197	204	134	96	115	174	116	129	151	123	140
30	218	211	214	132	97	117	145	119	131	175	151	164
31	224	214	220	---	---	---	155	123	141	190	175	183
MONTH	224	71	178	245	54	164	207	86	160	205	79	151

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	195	188	192	---	---	---	---	---	---	---	---	---
2	200	193	197	---	---	---	---	---	---	---	---	---
3	205	199	202	---	---	---	---	---	---	---	---	---
4	205	186	199	---	---	---	---	---	---	---	---	---
5	192	86	152	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

14206950 FANNO CREEK AT DURHAM, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.0	14.5	15.5	7.5	7.0	7.0	12.0	11.0	11.5	9.0	8.5	9.0
2	15.5	14.5	15.0	7.0	6.0	6.5	11.0	10.5	10.5	9.5	9.0	9.5
3	16.0	15.5	15.5	7.0	5.5	6.0	10.5	10.0	10.0	10.0	9.0	9.5
4	16.0	14.5	15.5	7.5	6.0	6.5	10.0	9.5	9.5	9.0	8.0	8.5
5	15.0	13.5	14.0	8.5	7.0	7.5	9.5	8.0	8.5	8.5	8.0	8.0
6	14.5	13.5	14.0	10.0	8.5	9.0	8.0	7.0	7.5	8.5	7.5	7.5
7	14.5	14.0	14.5	11.0	10.0	10.5	8.5	7.5	8.0	9.5	8.5	9.0
8	14.0	13.5	14.0	13.0	11.0	12.0	8.0	6.0	7.0	10.0	9.5	9.5
9	14.5	13.5	14.0	12.5	11.0	11.5	6.0	4.5	5.0	10.0	9.5	9.5
10	15.0	13.5	14.0	11.0	10.5	10.5	6.0	5.0	5.5	9.5	9.0	9.0
11	14.5	13.5	14.0	12.5	11.0	12.0	9.0	6.0	7.5	9.0	8.0	8.5
12	13.5	12.5	13.0	12.0	11.5	12.0	10.0	9.0	9.5	8.0	7.5	8.0
13	13.0	12.0	12.5	13.0	11.5	12.5	10.0	9.5	9.5	8.0	7.5	7.5
14	13.0	11.5	12.5	13.5	13.0	13.0	9.5	9.0	9.5	9.0	8.0	8.5
15	14.0	12.5	13.0	14.0	13.5	13.5	9.5	8.5	9.0	9.5	9.0	9.5
16	14.5	13.5	14.0	13.5	13.0	13.5	10.0	9.5	9.5	9.5	8.5	9.5
17	14.0	13.5	14.0	13.5	13.0	13.5	10.0	8.5	9.0	8.5	7.5	8.0
18	13.5	12.0	12.5	13.5	12.0	13.0	8.5	8.0	8.0	7.5	5.0	6.5
19	12.5	11.0	12.0	12.0	11.0	12.0	9.0	8.5	8.5	7.5	6.0	6.5
20	12.5	11.5	12.0	11.0	10.5	11.0	9.0	8.5	9.0	7.5	7.0	7.5
21	12.5	12.0	12.0	11.0	10.0	10.5	8.5	7.5	8.0	7.5	6.5	7.0
22	12.0	11.0	11.5	12.0	11.0	11.5	7.5	6.0	6.5	7.5	7.0	7.0
23	11.5	11.0	11.5	12.5	12.0	12.0	6.0	5.0	5.5	7.5	6.5	7.0
24	12.5	11.5	12.0	13.5	12.0	12.5	5.0	4.0	4.5	6.5	6.0	6.5
25	12.5	11.5	12.0	13.5	12.0	12.5	4.0	3.5	4.0	7.0	6.5	6.5
26	12.5	12.0	12.5	12.0	11.0	11.5	4.0	3.5	4.0	7.0	6.5	7.0
27	12.5	11.5	12.5	11.0	10.0	10.5	5.0	4.0	4.5	7.0	4.5	5.5
28	11.5	11.0	11.5	12.5	10.5	11.5	6.0	4.5	5.0	5.0	4.5	5.0
29	11.0	10.0	10.5	12.5	12.0	12.5	7.5	6.0	6.5	5.5	4.5	5.5
30	10.0	9.0	9.5	12.0	12.0	12.0	9.5	7.5	8.5	4.5	1.5	2.5
31	9.0	7.5	8.0	---	---	---	9.5	9.0	9.0	1.5	.0	.5
MONTH	16.0	7.5	13.0	14.0	5.5	11.0	12.0	3.5	7.5	10.0	.0	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.5									
2	.5	.0	.0									
3	.5	.0	.5									
4	2.0	.5	1.5									
5	3.0	1.5	2.0									
6	---	---	---									
7	---	---	---									
8	---	---	---									
9	---	---	---									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									

452359122454500 UNIFIED SEWERAGE AGENCY (USA) DURHAM WASTEWATER TREATMENT FACILITY

DURHAM, OREGON

LOCATION.--Lat 45°23'59", long 122°,45'45", SW 1/4 NE 1/4, sec.13, T.2 S., R.1 W., Washington County, Hydrologic Unit 17090010, located on the roof of the Solids Building at the USA Durham Wastewater Treatment Facility in Durham.

DRAINAGE AREA.--706 mi^2.

PERIOD OF DAILY RECORD.--May 1991 to November 1995 (May through November only beginning May 1994).

INSTRUMENTATION.--A quantum sensor interfaced with a micrologger. The quantum sensor measures photosynthetically active radiation (PAR) on a flat surface in the 400 to 700 nanometer (nm) waveband. The unit of measurement is microeinstiens per second per square meter.

REMARKS.--Continuous data for period May 1991 to September 1993 published in USGS Open-File Report 96-173, "Water-quality, Streamflow, and Meteorological Data for the Tualatin River Basin, Oregon, 1991-1993." Daily record data for period May 1994 to November 1994 and May 1995 to November 1995 published in USGS Open-File Report 96-316, "Water-Temperature, Specific Conductance, and Meteorological Data for the Tualatin River Basin, Oregon, 1995-1995".

EXTREMES FOR CURRENT YEAR.--Maximum recorded hourly PAR value, 1,820 microeinstiens per second per square meter June 7 at 1400 hrs.

LIGHT INCIDENT, 400-700NM, INTENSITY (UE/M2/SC), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1060	286	923	229	459	84.9	---	---	---	---	---	---
2	330	86.1	911	220	541	85.1	---	---	---	---	---	---
3	1000	225	880	204	122	19.7	---	---	---	---	---	---
4	947	252	372	61.1	725	104	---	---	---	---	---	---
5	1030	273	343	66.7	318	52.1	---	---	---	---	---	---
6	1020	212	254	45.8	484	94.2	---	---	---	---	---	---
7	899	254	252	47.2	---	---	---	---	---	---	---	---
8	449	89.8	185	23.0	---	---	---	---	---	---	---	---
9	629	144	390	78.3	---	---	---	---	---	---	---	---
10	132	27.7	97.9	10.1	---	---	---	---	---	---	---	---
11	412	83.3	19.1	2.06	---	---	---	---	---	---	---	---
12	946	197	213	37.0	---	---	---	---	---	---	---	---
13	1000	264	424	67.9	---	---	---	---	---	---	---	---
14	1060	291	766	156	---	---	---	---	---	---	---	---
15	1030	239	166	44.1	---	---	---	---	---	---	---	---
16	658	185	499	89.1	---	---	---	---	---	---	---	---
17	137	20.1	391	76.7	---	---	---	---	---	---	---	---
18	1090	230	763	146	---	---	---	---	---	---	---	---
19	1030	275	604	95.7	---	---	---	---	---	---	---	---
20	819	145	586	130	---	---	---	---	---	---	---	---
21	905	167	335	64.4	---	---	---	---	---	---	---	---
22	700	149	209	33.3	---	---	---	---	---	---	---	---
23	744	166	96.5	17.1	---	---	---	---	---	---	---	---
24	650	130	762	96.5	---	---	---	---	---	---	---	---
25	128	32.8	137	29.3	---	---	---	---	---	---	---	---
26	707	115	340	80.9	---	---	---	---	---	---	---	---
27	763	188	73.9	13.5	---	---	---	---	---	---	---	---
28	899	222	204	38.9	---	---	---	---	---	---	---	---
29	905	217	108	20.0	---	---	---	---	---	---	---	---
30	583	147	122	18.4	---	---	---	---	---	---	---	---
31	922	231	---	---	---	---	---	---	---	---	---	---
MAX	1090	291	923	229	---	---	---	---	---	---	---	---
MIN	128	20.1	19.1	2.06	---	---	---	---	---	---	---	---

DAY	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN	MAX	MEAN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	1450	373	1580	516	1730	658	---	---	1410	424
2	---	---	1280	280	1610	561	1730	561	---	---	1280	288
3	---	---	1550	405	1470	497	1600	470	---	---	---	---
4	---	---	1550	473	1580	393	1530	484	---	---	859	218
5	---	---	1700	472	1720	643	---	---	---	---	671	175
6	---	---	1580	525	1710	644	---	---	---	---	1220	318
7	---	---	1140	372	1820	376	---	---	---	---	1320	362
8	---	---	1280	347	1680	546	---	---	---	---	1310	346
9	---	---	1440	453	1130	341	---	---	---	---	1310	421
10	---	---	1600	496	1730	636	---	---	---	---	1270	403
11	---	---	740	207	1650	592	1690	635	---	---	1080	291
12	---	---	584	169	1700	639	1690	636	---	---	---	---
13	---	---	1000	216	1510	552	1680	631	---	---	526	114
14	---	---	---	---	1720	652	1730	575	---	---	408	82.5
15	---	---	---	---	1710	651	---	---	---	---	1070	198
16	---	---	1150	361	1150	359	---	---	---	---	972	204
17	---	---	1140	265	---	---	497	141	---	---	965	234
18	---	---	906	321	---	---	1280	358	---	---	678	190
19	---	---	1190	353	---	---	1370	439	---	---	603	168
20	---	---	1490	467	---	---	1410	379	---	---	1090	255
21	---	---	634	132	---	---	1670	494	---	---	1080	202
22	---	---	1550	358	---	---	1670	615	---	---	1140	303
23	---	---	977	257	---	---	1660	583	---	---	---	---
24	---	---	1550	461	---	---	---	---	---	---	938	286
25	---	---	1570	571	---	---	---	---	---	---	1040	303
26	---	---	1000	301	---	---	---	---	---	---	1070	324
27	---	---	894	311	---	---	---	---	---	---	1070	325
28	800	184	1000	309	952	301	---	---	---	---	1050	317
29	905	131	1390	330	1710	618	---	---	---	---	1050	245
30	---	---	1500	410	1630	637	---	---	---	---	1050	198
31	---	---	1600	546	---	---	---	---	1200	377	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR

WATER-QUALITY RECORDS

LOCATION.--45°21'24", long 122°41'02", in SE 1/4 NE 1/4 sec.33 T.2 S., R. 1 E., Clackamas County, Hydrologic Unit 17090010, on left bank, mounted to the fish ladder at the Lake Oswego Dam, and at mile 3.4.

DRAINAGE AREA.--706 mi^2, at gage 1.6 mi downstream.

PERIOD OF RECORD.--May 1991 to September 1995.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1993 to September 1995.
pH: May 1993 to September 1995.
WATER TEMPERATURE: October 1993 to September 1995.
DISSOLVED OXYGEN: May 1993 to September 1995.
AIR TEMPERATURE: May 1993 to September 1995.

INSTRUMENTATION.--Water-quality monitor since May 1991. Electronic data logger with 60 minute recording interval.

REMARKS.--Continuous data for period May 1991 to September 1993 published in USGS Open-File Report 96-173, "Water-quality, Streamflow, and Meteorological Data for the Tualatin River Basin, Oregon, 1991-93".

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 365 microsiemens July 7, 1995; minimum recorded, 70 microsiemens Dec. 19, 1995.
pH: Maximum recorded, 9.5 units June 24, 1995; minimum recorded, 6.2 units Oct. 18, 19, 1993, Feb. 28, 1994.
WATER TEMPERATURE: Maximum recorded, 27.0°C July 22, 1994; minimum recorded, 0.5°C Jan. 15, 1993.
DISSOLVED OXYGEN: Maximum recorded, 21.8 mg/L June 23, 1992; minimum recorded, 3.2 mg/L Nov. 19, 1992.
AIR TEMPERATURE: Maximum recorded, 40.8°C July 17, 1995; minimum recorded, -7.6°C Feb. 2, 1996.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 291 microsiemens Oct. 24; minimum recorded, 70 microsiemens Dec. 19.
pH: Maximum recorded, 7.6 units Nov. 1-6; minimum recorded, 6.5 units Dec. 4.
WATER TEMPERATURE: Maximum recorded, 23.5°C July 14-16; minimum recorded, 1.0°C Feb. 3.
DISSOLVED OXYGEN: Maximum recorded, 12.4 mg/L Feb. 3,; minimum recorded, 3.5 mg/L Aug. 29.
AIR TEMPERATURE: Maximum recorded, 39.5°C July 13; minimum recorded, -7.6°C Feb. 2.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	247	230	236	---	---	---	95	92	94	108	103	104
2	266	247	253	---	---	---	92	83	88	109	100	104
3	276	266	271	---	---	---	83	82	83	101	95	99
4	287	276	281	---	---	---	83	80	81	98	95	97
5	289	268	282	---	---	---	82	79	80	102	98	100
6	268	241	253	---	---	---	83	74	79	103	99	101
7	263	248	259	---	---	---	88	83	85	105	102	104
8	267	261	265	---	---	---	91	88	89	107	100	103
9	261	254	258	---	---	---	95	89	91	105	97	101
10	258	243	251	229	205	223	98	92	94	98	88	91
11	272	252	261	205	102	140	101	95	97	90	87	88
12	253	177	194	132	100	110	105	95	101	90	86	88
13	237	218	232	132	101	115	95	91	93	92	89	90
14	268	232	253	104	97	100	92	86	90	95	89	91
15	278	261	268	115	104	109	87	80	82	96	92	94
16	282	252	274	120	114	117	80	76	78	103	94	98
17	252	220	233	131	119	125	76	72	73	102	96	99
18	220	204	211	146	131	135	72	70	71	96	92	95
19	216	198	207	149	140	144	73	70	71	94	86	89
20	215	200	209	154	146	150	75	73	74	93	85	89
21	218	210	214	158	140	152	77	73	75	85	81	83
22	237	217	230	150	136	145	81	77	79	85	83	84
23	270	237	253	148	135	142	83	80	81	84	81	83
24	291	260	277	153	141	144	83	82	83	82	76	78
25	289	262	278	142	136	140	85	83	84	77	76	77
26	262	218	243	138	106	122	87	84	85	80	77	79
27	232	203	216	106	96	102	90	86	88	79	78	79
28	233	193	218	107	98	100	94	90	91	79	77	78
29	244	216	233	114	99	107	97	94	96	82	79	80
30	---	---	---	99	91	93	105	97	100	84	82	83
31	---	---	---	---	---	---	105	101	103	85	83	84
MONTH	---	---	---	---	---	---	105	70	86	109	76	91

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	86	84	85	---	---	---	---	---	---	---	---	---
2	88	85	86	---	---	---	---	---	---	---	---	---
3	89	87	88	---	---	---	---	---	---	---	---	---
4	91	87	89	---	---	---	---	---	---	---	---	---
5	94	89	91	---	---	---	---	---	---	---	---	---
6	93	76	82	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	132	119	124
10	---	---	---	---	---	---	---	---	---	139	127	133
11	---	---	---	---	---	---	---	---	---	144	127	136
12	---	---	---	---	---	---	---	---	---	147	129	139
13	---	---	---	---	---	---	---	---	---	144	128	137
14	---	---	---	---	---	---	---	---	---	140	126	135
15	---	---	---	---	---	---	---	---	---	144	130	138
16	---	---	---	---	---	---	---	---	---	130	120	125
17	---	---	---	---	---	---	---	---	---	129	122	127
18	---	---	---	---	---	---	---	---	---	129	123	126
19	---	---	---	---	---	---	---	---	---	134	124	129
20	---	---	---	---	---	---	---	---	---	126	115	121
21	---	---	---	---	---	---	---	---	---	117	109	113
22	---	---	---	---	---	---	---	---	---	115	108	113
23	---	---	---	---	---	---	---	---	---	123	115	119
24	---	---	---	---	---	---	---	---	---	125	116	120
25	---	---	---	---	---	---	---	---	---	121	115	118
26	---	---	---	---	---	---	---	---	---	122	117	119
27	---	---	---	---	---	---	---	---	---	126	119	121
28	---	---	---	---	---	---	---	---	---	129	119	124
29	---	---	---	---	---	---	---	---	---	134	123	129
30	---	---	---	---	---	---	---	---	---	138	124	131
31	---	---	---	---	---	---	---	---	---	144	129	136
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	145	135	141	209	205	208	234	229	231	217	198	210
2	150	139	146	209	203	207	245	234	237	204	190	198
3	151	142	148	208	203	206	259	245	248	203	190	196
4	153	145	148	211	206	209	260	253	257	206	193	199
5	157	148	152	224	211	218	257	242	250	206	196	201
6	161	153	157	225	223	224	242	228	235	203	196	200
7	165	153	160	229	225	227	234	230	232	208	197	203
8	166	156	163	232	226	230	232	227	229	208	203	205
9	177	157	168	236	230	233	245	232	237	216	205	211
10	178	155	169	243	236	239	259	245	252	224	211	217
11	176	160	171	249	241	244	269	259	263	223	216	218
12	174	159	169	254	249	253	270	264	267	224	217	220
13	174	155	161	253	249	251	270	265	268	235	221	225
14	183	160	176	249	241	246	266	249	259	250	234	241
15	180	172	177	243	239	241	249	240	243	250	159	222
16	183	171	177	249	240	245	242	237	239	193	157	172
17	187	174	183	253	248	250	252	242	245	216	184	204
18	193	182	188	268	249	259	263	252	257	221	187	210
19	193	188	190	267	241	255	278	263	270	199	175	183
20	197	190	193	246	235	241	282	276	279	181	169	177
21	199	194	196	240	228	235	280	272	278	190	181	186
22	200	192	196	233	227	230	273	242	259	210	188	201
23	205	198	202	230	227	228	247	228	236	225	202	213
24	210	198	204	239	228	234	253	232	241	224	207	214
25	204	187	197	241	236	240	262	241	251	224	218	221
26	199	185	193	236	232	234	262	243	254	232	220	224
27	213	198	205	232	231	232	256	225	238	251	232	241
28	215	207	210	234	232	233	235	226	232	258	250	253
29	224	210	217	242	232	235	231	218	225	266	258	261
30	211	207	209	242	235	238	230	220	226	268	265	266
31	---	---	---	237	232	235	225	211	219	---	---	---
MONTH	224	135	179	268	203	234	282	211	247	268	157	213

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.1	7.0	7.6	7.2	6.7	6.6	7.0	7.0	7.0	7.0	---	---
2	7.1	7.0	7.6	7.4	6.7	6.6	7.0	7.0	7.0	7.0	---	---
3	7.0	7.0	7.6	7.4	6.6	6.6	7.0	7.0	7.0	6.9	---	---
4	7.0	7.0	7.6	7.5	6.6	6.5	7.0	7.0	6.9	6.9	---	---
5	7.0	6.8	7.6	7.4	6.6	6.6	7.0	7.0	6.9	6.9	---	---
6	7.0	6.8	7.6	7.1	6.7	6.6	7.0	7.0	6.9	6.6	---	---
7	7.0	6.9	7.1	7.1	6.7	6.6	7.0	6.9	---	---	---	---
8	7.0	6.9	7.1	7.1	6.7	6.7	6.9	6.9	---	---	---	---
9	6.9	6.9	7.2	7.0	6.7	6.7	7.1	6.9	---	---	---	---
10	6.9	6.9	7.2	7.2	6.8	6.7	7.0	6.9	---	---	---	---
11	6.9	6.9	7.2	6.9	6.8	6.8	6.9	6.9	---	---	---	---
12	6.9	6.7	7.0	6.9	6.9	6.8	6.9	6.9	---	---	---	---
13	6.9	6.8	6.9	6.9	6.8	6.8	6.9	6.9	---	---	---	---
14	7.0	6.9	6.9	6.8	6.8	6.8	6.9	6.9	---	---	---	---
15	7.0	7.0	6.9	6.9	6.8	6.7	6.9	6.9	---	---	---	---
16	7.0	6.9	6.9	6.9	6.7	6.6	6.9	6.9	---	---	---	---
17	6.9	6.8	6.9	6.9	6.7	6.6	6.9	6.9	---	---	---	---
18	6.8	6.7	6.9	6.8	6.6	6.6	6.9	6.9	---	---	---	---
19	6.7	6.7	6.9	6.8	6.6	6.6	6.9	6.9	---	---	---	---
20	6.7	6.7	6.9	6.9	6.7	6.6	6.9	6.9	---	---	---	---
21	6.7	6.7	6.9	6.9	6.7	6.7	6.9	6.9	---	---	---	---
22	6.9	6.7	6.9	6.9	6.7	6.7	6.9	6.9	---	---	---	---
23	6.9	6.9	6.9	6.9	6.8	6.7	6.9	6.7	---	---	---	---
24	6.9	6.9	6.9	6.9	6.8	6.8	6.8	6.8	---	---	---	---
25	6.9	6.9	6.9	6.9	6.8	6.8	6.8	6.8	---	---	---	---
26	7.2	6.9	6.9	6.8	6.9	6.8	6.8	6.8	---	---	---	---
27	7.1	7.1	6.8	6.8	6.9	6.9	6.8	6.8	---	---	---	---
28	7.1	7.1	6.8	6.8	6.9	6.9	6.8	6.8	---	---	---	---
29	7.1	7.1	6.8	6.7	7.0	6.9	6.9	6.8	---	---	---	---
30	7.2	7.1	6.7	6.7	7.0	7.0	6.9	6.9	---	---	---	---
31	7.2	7.1	---	---	7.0	7.0	7.0	6.9	---	---	---	---
MONTH	7.2	6.7	7.6	6.7	7.0	6.5	7.1	6.7	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	6.9	6.9	7.1	6.9	7.1	7.0	6.9	6.9
2	---	---	---	---	6.9	6.8	7.0	7.0	7.2	6.9	7.0	6.9
3	---	---	---	---	6.9	6.8	7.3	7.0	7.2	7.1	7.0	6.9
4	---	---	---	---	6.9	6.8	7.3	7.1	7.1	7.1	7.1	7.0
5	---	---	---	---	6.9	6.8	7.2	7.1	7.2	7.1	7.1	7.0
6	---	---	---	---	6.9	6.8	7.2	7.1	7.1	7.1	7.1	7.0
7	---	---	---	---	6.9	6.8	7.2	7.1	7.2	7.0	7.0	6.9
8	---	---	---	---	6.9	6.9	7.3	7.1	7.2	7.1	6.9	6.9
9	---	---	6.8	6.7	6.9	6.9	7.2	7.1	7.2	7.1	6.9	6.9
10	---	---	6.8	6.8	6.9	6.9	7.3	7.1	7.1	7.1	7.0	6.9
11	---	---	6.9	6.8	6.9	6.9	7.4	7.1	7.2	7.1	7.0	7.0
12	---	---	6.9	6.9	6.9	6.9	7.4	7.2	7.2	7.1	7.1	7.0
13	---	---	6.9	6.8	7.0	6.9	7.4	7.2	7.1	7.0	7.1	7.1
14	---	---	6.9	6.8	7.1	7.0	7.3	7.2	7.1	7.0	7.2	7.1
15	---	---	6.9	6.8	7.1	7.0	7.2	7.1	7.1	7.0	7.2	6.9
16	---	---	6.8	6.8	7.0	7.0	7.4	7.2	7.1	7.0	7.1	6.9
17	---	---	6.8	6.8	7.1	7.0	7.4	7.2	7.1	7.0	7.1	7.0
18	---	---	6.8	6.8	7.1	7.0	7.2	7.1	7.1	7.0	7.0	6.9
19	---	---	6.8	6.8	7.2	7.0	7.1	6.9	7.1	7.0	6.9	6.8
20	---	---	6.8	6.8	7.2	7.1	7.0	7.0	7.1	7.0	6.8	6.8
21	---	---	6.8	6.8	7.2	7.1	7.1	7.0	7.1	7.0	6.8	6.8
22	---	---	6.8	6.7	7.2	7.1	7.1	7.0	7.0	6.9	6.9	6.8
23	---	---	6.8	6.8	7.1	7.1	7.1	7.0	6.9	6.9	6.9	6.9
24	---	---	6.8	6.8	7.1	7.0	7.2	7.0	6.9	6.8	6.9	6.9
25	---	---	6.8	6.8	7.2	7.0	7.1	7.1	6.8	6.7	7.0	6.9
26	---	---	6.8	6.8	7.1	7.1	7.1	7.0	6.7	6.6	7.0	7.0
27	---	---	6.8	6.8	7.1	7.0	7.1	7.0	6.6	6.6	7.1	7.0
28	---	---	6.8	6.8	7.0	6.9	7.1	7.1	6.7	6.6	7.0	6.9
29	---	---	6.8	6.8	7.0	6.9	7.1	7.0	6.8	6.7	7.0	6.9
30	---	---	6.9	6.8	7.0	6.8	7.1	7.0	6.8	6.8	7.0	6.9
31	---	---	6.9	6.8	---	---	7.2	7.0	6.9	6.8	---	---
MONTH	---	---	---	---	7.2	6.8	7.4	6.9	7.2	6.6	7.2	6.8

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.0	16.5	17.0	10.5	10.5	10.5	11.5	11.5	11.5	8.0	7.5	8.0
2	17.0	16.5	17.0	10.5	10.0	10.0	11.5	11.0	11.0	8.5	8.0	8.5
3	17.0	16.5	17.0	10.0	9.5	9.5	11.0	10.0	10.5	8.5	8.5	8.5
4	17.0	16.5	16.5	9.5	9.5	9.5	10.0	9.5	10.0	9.0	8.5	8.5
5	17.0	16.0	16.5	9.5	9.5	9.5	9.5	9.0	9.0	9.0	8.5	9.0
6	16.0	16.0	16.0	9.5	9.5	9.5	9.0	8.0	8.5	8.5	8.0	8.5
7	16.5	15.5	16.0	10.0	9.5	9.5	8.0	7.5	8.0	8.5	8.0	8.5
8	16.0	15.5	15.5	10.5	10.0	10.0	7.5	7.0	7.5	8.5	8.5	8.5
9	16.0	15.5	15.5	11.0	9.5	10.5	7.0	6.5	6.5	9.0	8.5	9.0
10	15.5	15.5	15.5	10.5	9.5	10.0	6.5	6.0	6.5	9.0	9.0	9.0
11	15.5	15.0	15.5	11.5	10.5	11.0	7.0	6.5	6.5	9.0	9.0	9.0
12	15.0	14.5	14.5	11.5	10.5	11.0	8.0	7.0	7.5	9.0	8.5	8.5
13	14.5	14.0	14.5	11.0	11.0	11.0	8.5	8.0	8.5	8.5	8.0	8.0
14	14.5	14.0	14.0	11.5	11.0	11.0	9.0	8.5	8.5	8.0	7.5	8.0
15	14.0	14.0	14.0	11.5	11.0	11.5	9.0	8.5	8.5	8.5	8.0	8.0
16	14.5	14.0	14.5	12.0	11.5	12.0	8.5	8.5	8.5	8.5	8.5	8.5
17	14.5	14.0	14.5	12.0	12.0	12.0	8.5	8.5	8.5	8.5	8.5	8.5
18	14.5	14.0	14.0	12.0	12.0	12.0	8.5	8.0	8.0	8.5	8.0	8.0
19	14.0	13.5	13.5	12.0	11.5	12.0	8.0	8.0	8.0	8.0	7.0	7.5
20	13.5	13.0	13.0	11.5	11.5	11.5	8.0	8.0	8.0	7.0	7.0	7.0
21	13.0	13.0	13.0	11.5	11.0	11.0	8.0	7.5	8.0	7.0	6.5	7.0
22	13.0	12.5	12.5	11.0	11.0	11.0	7.5	7.5	7.5	7.0	6.5	7.0
23	13.0	12.5	12.5	11.0	10.5	11.0	7.5	7.0	7.0	6.5	6.5	6.5
24	13.0	12.5	12.5	11.5	11.0	11.0	7.0	6.0	6.5	6.5	6.5	6.5
25	13.0	12.5	12.5	12.0	11.5	11.5	6.0	5.5	5.5	6.5	6.0	6.5
26	13.0	12.5	12.5	12.0	11.5	11.5	5.5	5.0	5.0	6.0	6.0	6.0
27	13.0	12.5	12.5	11.5	11.0	11.0	5.0	4.5	5.0	6.0	5.5	5.5
28	12.5	12.0	12.0	11.0	10.5	11.0	5.0	5.0	5.0	5.5	5.0	5.0
29	12.0	11.5	11.5	11.0	11.0	11.0	6.0	5.0	5.5	5.0	5.0	5.0
30	11.5	11.0	11.5	11.5	11.0	11.5	7.0	6.0	6.5	5.0	4.0	4.5
31	11.0	10.5	11.0	---	---	---	7.5	7.0	7.0	4.0	3.0	3.5
MONTH	17.0	10.5	14.0	12.0	9.5	11.0	11.5	4.5	7.5	9.0	3.0	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	1.5	2.0							---	---	---
2	1.5	1.5	1.5							---	---	---
3	1.5	1.0	1.5							---	---	---
4	2.5	1.5	2.0							---	---	---
5	3.5	2.5	2.5							---	---	---
6	5.0	3.5	4.0							---	---	---
7	---	---	---							---	---	---
8	---	---	---							---	---	---
9	---	---	---							12.5	12.5	12.5
10	---	---	---							13.0	12.5	13.0
11	---	---	---							13.0	12.5	12.5
12	---	---	---							12.5	12.5	12.5
13	---	---	---							13.0	12.5	13.0
14	---	---	---							13.5	13.0	13.5
15	---	---	---							14.0	13.5	14.0
16	---	---	---							14.5	14.0	14.0
17	---	---	---							14.5	14.0	14.0
18	---	---	---							14.5	14.0	14.0
19	---	---	---							14.5	14.0	14.0
20	---	---	---							14.0	13.5	14.0
21	---	---	---							13.5	13.0	13.0
22	---	---	---							13.0	12.5	13.0
23	---	---	---							13.0	12.5	13.0
24	---	---	---							13.5	12.5	13.0
25	---	---	---							14.0	13.0	13.5
26	---	---	---							14.0	13.5	14.0
27	---	---	---							14.5	14.0	14.0
28	---	---	---							15.0	14.5	15.0
29	---	---	---							15.0	14.5	15.0
30	---	---	---							15.0	14.5	14.5
31	---	---	---							15.0	13.5	14.5
MONTH	---	---	---							---	---	---

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.5	14.0	15.0	20.0	19.0	19.5	22.5	21.5	22.0	19.0	18.5	19.0
2	16.0	15.0	15.5	20.5	19.5	20.0	22.0	21.5	22.0	18.5	18.0	18.0
3	17.0	16.0	16.5	21.0	20.0	20.5	22.0	21.5	21.5	18.0	17.5	18.0
4	17.0	16.5	17.0	20.5	20.0	20.0	21.5	21.0	21.5	17.5	17.5	17.5
5	18.0	16.5	17.5	20.5	19.5	20.0	21.0	20.5	21.0	17.5	17.0	17.5
6	18.5	18.0	18.5	20.5	19.5	20.0	21.0	20.5	20.5	17.5	17.0	17.0
7	19.0	18.5	18.5	21.0	20.0	20.5	21.0	20.0	20.5	17.5	17.0	17.0
8	19.0	18.5	18.5	21.5	20.5	21.0	21.0	20.5	21.0	18.0	17.0	17.5
9	18.5	18.0	18.5	21.5	21.0	21.0	21.5	21.0	21.0	18.0	17.5	17.5
10	18.5	18.0	18.0	21.5	20.5	21.0	22.0	21.0	21.5	18.0	17.5	17.5
11	18.5	18.0	18.5	21.5	21.0	21.0	22.0	21.5	21.5	18.0	17.5	18.0
12	19.0	18.0	18.5	22.0	21.0	21.5	21.5	21.0	21.5	18.0	17.5	17.5
13	19.0	18.0	18.5	22.5	21.5	22.0	21.5	21.0	21.5	18.0	17.5	17.5
14	19.0	18.0	18.5	23.5	22.0	22.5	21.5	21.0	21.5	17.5	17.5	17.5
15	19.0	18.0	18.5	23.5	22.5	23.0	21.5	21.0	21.5	17.5	16.5	17.0
16	18.5	18.0	18.0	23.5	23.0	23.0	21.5	21.0	21.5	17.0	16.5	16.5
17	18.0	17.5	17.5	23.0	21.5	22.5	21.5	21.0	21.5	17.0	16.5	16.5
18	17.5	17.0	17.0	21.5	21.0	21.0	21.0	20.5	21.0	16.5	16.0	16.0
19	18.0	17.0	17.5	21.0	20.0	20.5	20.5	20.0	20.5	16.5	16.0	16.0
20	18.5	17.0	17.5	21.0	20.5	20.5	20.5	20.5	20.5	16.0	16.0	16.0
21	18.0	17.5	18.0	21.0	20.5	20.5	21.0	20.0	20.5	16.0	15.5	16.0
22	18.0	17.5	18.0	21.0	20.5	20.5	20.5	20.0	20.5	16.0	15.5	15.5
23	17.5	17.5	17.5	21.0	20.5	21.0	20.5	20.0	20.0	15.5	15.0	15.5
24	17.5	17.5	17.5	21.5	21.0	21.0	21.0	20.0	20.5	15.5	15.0	15.5
25	18.0	17.5	18.0	21.5	21.0	21.0	20.5	20.5	20.5	15.5	15.0	15.0
26	18.5	18.0	18.0	21.5	21.0	21.5	20.5	20.0	20.5	15.5	15.0	15.0
27	19.0	18.0	18.5	22.0	21.5	21.5	20.0	19.0	19.5	16.0	15.0	15.5
28	19.0	18.5	18.5	22.0	21.5	22.0	19.0	18.5	18.5	16.0	15.5	15.5
29	19.0	18.0	18.5	22.5	21.5	22.0	19.0	18.5	18.5	16.5	15.5	16.0
30	19.5	18.0	18.5	22.5	21.5	22.0	19.5	18.5	19.0	16.5	16.0	16.0
31	---	---	---	22.5	21.5	22.0	19.5	19.0	19.0	---	---	---
MONTH	19.5	14.0	18.0	23.5	19.0	21.0	22.5	18.5	20.5	19.0	15.0	16.5

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.0	7.1	7.4	7.8	6.8	7.1	8.1	8.0	8.1	---	---	---
2	7.7	6.9	7.2	7.3	6.9	7.1	8.0	7.9	7.9	---	---	---
3	7.7	7.0	7.4	7.1	6.9	7.0	7.9	7.9	7.9	---	---	---
4	7.8	7.2	7.4	7.0	6.7	6.8	8.2	7.9	8.0	---	---	---
5	7.6	7.0	7.3	6.7	6.5	6.6	8.2	8.2	8.2	---	---	---
6	7.1	6.3	6.7	7.0	6.6	6.7	8.5	8.2	8.4	---	---	---
7	7.1	6.2	6.6	7.2	6.8	7.0	8.7	8.5	8.6	---	---	---
8	6.8	6.0	6.4	8.0	7.0	7.5	9.0	8.7	8.8	---	---	---
9	6.6	5.9	6.2	8.2	7.5	7.9	9.4	9.0	9.2	---	---	---
10	6.4	6.0	6.2	8.0	7.3	7.7	9.6	9.4	9.5	9.1	9.0	9.1
11	6.4	6.0	6.3	8.5	7.5	8.2	9.6	9.6	9.6	9.3	9.0	9.2
12	6.7	6.2	6.5	8.6	8.1	8.4	9.6	9.3	9.4	9.5	9.3	9.4
13	6.4	6.1	6.2	8.1	7.8	8.0	9.3	9.2	9.2	9.7	9.4	9.5
14	6.9	6.4	6.6	8.5	8.1	8.3	9.2	9.0	9.1	9.8	9.6	9.7
15	6.9	6.7	6.8	8.5	8.1	8.3	9.0	8.7	9.0	9.8	9.6	9.7
16	6.7	6.1	6.4	8.3	8.1	8.2	8.7	8.5	8.6	9.7	9.4	9.5
17	6.2	5.8	6.0	8.2	7.9	8.1	8.5	8.4	8.5	9.7	9.4	9.5
18	6.0	5.7	5.9	8.1	7.9	8.0	8.5	8.4	8.4	9.8	9.6	9.7
19	6.3	5.9	6.1	8.2	8.0	8.1	8.4	8.3	8.4	10.2	9.8	10.1
20	6.3	6.1	6.2	8.3	7.7	8.0	8.4	7.8	8.3	10.4	10.0	10.2
21	6.3	6.2	6.2	8.0	7.7	7.8	---	---	---	10.5	10.3	10.4
22	6.5	6.2	6.4	8.1	8.0	8.1	---	---	---	10.6	10.2	10.4
23	6.6	6.4	6.5	8.2	8.1	8.2	---	---	---	10.4	10.0	10.2
24	6.5	6.3	6.4	8.4	8.2	8.3	---	---	---	10.3	10.1	10.2
25	6.8	6.2	6.4	8.4	8.1	8.3	---	---	---	10.3	10.2	10.3
26	7.5	6.8	7.1	8.3	7.9	8.1	---	---	---	10.3	10.2	10.2
27	7.3	7.0	7.2	8.8	8.3	8.5	---	---	---	10.4	10.2	10.3
28	7.3	6.9	7.1	8.8	8.7	8.8	---	---	---	10.6	10.4	10.5
29	7.5	6.8	7.2	8.7	8.3	8.5	---	---	---	10.6	10.5	10.5
30	7.3	6.7	7.0	8.5	8.1	8.3	---	---	---	11.1	10.6	10.8
31	7.0	6.7	6.9	---	---	---	---	---	---	11.6	11.0	11.3
MONTH	8.0	5.7	6.7	8.8	6.5	7.9	---	---	---	---	---	---

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.1	11.6	11.9	---	---	---	---	---	---	---	---	---
2	12.4	12.1	12.2	---	---	---	---	---	---	---	---	---
3	12.4	12.2	12.3	---	---	---	---	---	---	---	---	---
4	12.2	12.0	12.1	---	---	---	---	---	---	---	---	---
5	12.0	11.7	11.8	---	---	---	---	---	---	---	---	---
6	11.7	10.9	11.4	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	9.6	9.2	9.5
10	---	---	---	---	---	---	---	---	---	9.8	9.3	9.6
11	---	---	---	---	---	---	---	---	---	9.7	9.4	9.5
12	---	---	---	---	---	---	---	---	---	9.6	9.4	9.5
13	---	---	---	---	---	---	---	---	---	9.4	8.9	9.1
14	---	---	---	---	---	---	---	---	---	9.0	8.7	8.8
15	---	---	---	---	---	---	---	---	---	8.7	8.2	8.4
16	---	---	---	---	---	---	---	---	---	8.2	8.0	8.1
17	---	---	---	---	---	---	---	---	---	8.1	7.8	8.0
18	---	---	---	---	---	---	---	---	---	8.3	7.7	8.0
19	---	---	---	---	---	---	---	---	---	8.2	7.9	8.1
20	---	---	---	---	---	---	---	---	---	8.7	8.2	8.4
21	---	---	---	---	---	---	---	---	---	8.7	8.4	8.6
22	---	---	---	---	---	---	---	---	---	8.8	8.5	8.7
23	---	---	---	---	---	---	---	---	---	8.9	8.6	8.8
24	---	---	---	---	---	---	---	---	---	8.9	8.8	8.9
25	---	---	---	---	---	---	---	---	---	9.0	8.8	8.9
26	---	---	---	---	---	---	---	---	---	8.9	8.8	8.8
27	---	---	---	---	---	---	---	---	---	8.8	8.5	8.7
28	---	---	---	---	---	---	---	---	---	8.5	8.4	8.4
29	---	---	---	---	---	---	---	---	---	8.4	8.2	8.3
30	---	---	---	---	---	---	---	---	---	8.5	8.3	8.4
31	---	---	---	---	---	---	---	---	---	8.7	8.5	8.6
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.7	8.3	8.6	10.4	8.2	9.3	10.0	8.2	9.2	5.9	5.1	5.6
2	8.4	8.1	8.3	10.1	9.5	9.7	10.1	8.4	9.1	6.3	5.8	6.1
3	8.3	7.9	8.1	10.9	9.4	10.1	10.2	8.5	9.2	6.7	6.2	6.5
4	8.2	7.8	8.0	10.6	9.6	10.1	9.0	8.5	8.7	7.0	6.4	6.6
5	7.9	7.6	7.8	10.6	9.4	9.9	9.3	8.3	8.8	7.0	6.8	6.9
6	7.8	7.4	7.5	10.9	8.8	10.0	9.0	8.0	8.5	7.1	6.9	7.0
7	7.5	7.3	7.4	11.2	10.2	10.7	8.9	7.6	8.2	7.2	6.8	7.0
8	7.6	7.3	7.4	11.4	10.0	10.6	8.7	8.1	8.5	7.2	6.8	7.0
9	7.5	7.1	7.3	10.8	10.1	10.5	9.0	8.2	8.6	7.6	6.8	7.2
10	7.3	7.1	7.2	11.2	9.2	9.9	9.4	8.3	8.8	8.0	7.1	7.6
11	7.6	7.2	7.5	11.6	9.2	10.3	9.6	8.4	8.9	8.0	7.5	7.8
12	7.9	7.2	7.6	12.3	10.4	11.2	9.5	8.4	9.0	7.9	7.1	7.7
13	8.0	7.2	7.6	11.9	10.4	11.0	9.0	7.4	7.9	8.2	7.9	8.0
14	8.2	7.4	7.7	11.5	10.1	10.6	8.9	7.8	8.4	8.8	7.9	8.4
15	8.6	7.5	7.9	11.0	9.6	10.1	9.0	7.8	8.3	8.5	6.9	7.7
16	8.2	7.7	8.0	11.1	9.8	10.2	8.6	7.5	8.1	7.5	6.9	7.2
17	8.4	7.8	8.0	10.9	8.6	9.4	8.7	7.4	8.0	7.8	7.2	7.6
18	8.3	7.8	8.0	8.6	7.1	7.9	8.2	6.8	7.5	7.2	5.9	6.6
19	8.8	7.7	8.1	7.3	6.1	6.6	8.8	7.4	7.9	5.9	5.1	5.5
20	9.5	7.6	8.5	7.5	6.3	6.9	9.4	8.1	8.9	5.1	4.9	5.0
21	9.7	8.5	9.1	7.9	6.9	7.3	9.3	8.0	8.5	5.1	5.0	5.0
22	9.9	9.1	9.4	7.9	6.9	7.4	8.4	7.0	7.6	5.4	5.0	5.2
23	9.7	8.9	9.3	7.8	7.1	7.4	7.2	6.3	6.7	5.9	5.4	5.6
24	8.9	8.0	8.6	8.2	7.3	7.6	7.1	6.7	6.8	6.1	5.8	6.0
25	9.9	8.0	9.0	8.2	7.6	8.0	6.9	5.5	6.2	6.4	5.9	6.1
26	9.7	8.1	9.2	8.1	7.5	7.7	6.0	4.4	4.9	7.1	6.3	6.7
27	8.9	8.1	8.3	8.5	7.6	8.0	4.6	3.9	4.2	7.6	6.7	7.1
28	8.3	7.9	8.1	9.4	8.2	8.6	4.0	3.6	3.8	7.3	6.7	7.0
29	9.1	8.0	8.5	9.3	8.0	8.4	4.1	3.5	3.7	7.4	6.6	6.9
30	9.6	7.8	8.7	9.9	8.3	9.1	4.2	3.7	3.9	7.6	6.6	7.1
31	---	---	---	10.3	8.6	9.5	5.1	4.0	4.6	---	---	---
MONTH	9.9	7.1	8.2	12.3	6.1	9.2	10.2	3.5	7.5	8.8	4.9	6.7

14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR--Continued

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.3	7.7	12.6	15.3	2.4	6.1	10.8	6.6	8.4	9.7	4.6	7.4
2	17.5	12.7	15.0	14.0	1.2	5.6	9.7	5.5	7.7	13.1	7.8	9.5
3	17.4	11.3	13.8	15.7	.6	6.0	9.9	4.9	6.6	9.9	4.7	8.0
4	18.8	8.2	12.4	10.3	1.4	5.9	8.1	3.1	5.6	7.6	5.3	6.1
5	19.0	6.6	12.0	10.8	7.4	8.6	5.4	.5	3.5	7.7	4.7	6.0
6	21.1	9.7	12.6	10.7	7.9	8.9	5.3	-.2	2.8	9.8	5.4	7.7
7	20.3	8.5	12.1	13.9	10.7	12.6	8.6	3.6	5.2	10.6	8.4	9.6
8	14.9	9.0	12.1	14.6	7.0	12.2	3.6	-.7	.8	11.3	6.8	9.1
9	16.7	10.5	12.6	10.1	6.1	7.5	1.9	-.2	.8	10.0	6.0	7.8
10	15.4	11.7	13.6	12.2	6.2	8.7	9.9	.9	3.3	10.0	4.2	7.1
11	14.8	9.4	11.3	13.1	9.9	11.8	10.4	7.1	8.7	6.9	3.4	4.6
12	15.8	6.3	10.1	11.9	9.1	10.3	13.6	7.9	9.4	4.8	2.8	3.9
13	17.8	4.5	9.5	17.2	9.9	13.4	9.1	6.6	7.7	7.7	4.2	5.8
14	23.7	6.0	11.9	19.4	11.1	13.4	8.9	6.2	7.4	9.9	6.2	8.0
15	21.1	8.1	13.1	14.9	11.4	12.9	8.1	4.3	6.5	10.2	7.1	9.2
16	17.6	10.3	13.4	15.9	9.9	12.3	7.9	5.7	6.7	8.5	2.3	5.6
17	13.0	8.3	11.6	15.5	10.4	12.6	6.1	4.6	5.4	6.7	1.6	3.8
18	16.5	5.9	9.3	13.9	7.3	10.3	5.7	4.5	5.2	7.6	1.6	4.1
19	21.1	5.3	10.5	13.4	7.1	9.5	7.4	5.3	6.1	7.2	4.7	6.0
20	18.9	7.4	11.5	13.8	6.5	9.1	7.9	3.2	5.6	7.3	4.7	5.9
21	15.4	7.3	9.6	11.7	6.4	8.7	9.4	1.3	4.5	6.1	2.7	4.1
22	12.9	5.8	8.5	13.8	9.3	11.6	8.7	2.2	4.3	4.5	2.1	3.2
23	14.5	6.3	10.0	12.6	9.3	11.3	7.8	1.5	3.4	5.7	2.7	4.0
24	13.0	8.9	10.8	15.8	11.3	12.9	6.8	-.7	2.6	4.0	2.7	3.2
25	12.4	8.7	10.7	11.5	7.4	9.8	6.8	-1.0	1.5	5.4	2.4	3.2
26	17.4	8.9	12.1	10.8	7.0	8.3	5.6	-1.5	1.7	5.1	2.5	3.6
27	15.4	5.4	9.5	12.7	8.3	9.3	3.5	2.2	2.6	3.5	-.1	1.0
28	14.4	4.2	8.0	13.0	11.9	12.4	5.4	.7	3.5	3.8	1.1	2.4
29	13.9	4.0	7.7	12.3	11.0	11.8	10.9	4.9	6.9	2.6	-5.8	.6
30	11.3	2.3	7.0	11.6	10.4	10.9	12.6	8.4	10.4	-1.4	-7.4	-5.5
31	13.1	-.7	5.1	---	---	---	12.0	4.4	8.1	-.9	-7.4	-5.2
MONTH	23.7	-.7	11.0	19.4	.6	10.2	13.6	-1.5	5.3	13.1	-7.4	4.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-.3	-7.2	-5.2	---	---	---	---	---	---	---	---	---
2	-.2	-7.6	-5.0	---	---	---	---	---	---	---	---	---
3	-2.3	-7.6	-4.9	---	---	---	---	---	---	---	---	---
4	.1	-3.8	-1.4	---	---	---	---	---	---	---	---	---
5	8.0	-.2	2.4	---	---	---	---	---	---	---	---	---
6	11.7	4.9	9.5	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	18.8	3.4	9.7
10	---	---	---	---	---	---	---	---	---	18.4	5.9	11.5
11	---	---	---	---	---	---	---	---	---	16.2	9.6	13.0
12	---	---	---	---	---	---	---	---	---	17.0	11.7	14.2
13	---	---	---	---	---	---	---	---	---	18.4	12.1	14.9
14	---	---	---	---	---	---	---	---	---	18.0	12.0	14.0
15	---	---	---	---	---	---	---	---	---	18.3	12.2	13.6
16	---	---	---	---	---	---	---	---	---	20.1	9.7	14.0
17	---	---	---	---	---	---	---	---	---	15.4	10.4	12.4
18	---	---	---	---	---	---	---	---	---	16.7	10.1	12.4
19	---	---	---	---	---	---	---	---	---	16.4	7.9	11.8
20	---	---	---	---	---	---	---	---	---	19.8	5.7	12.1
21	---	---	---	---	---	---	---	---	---	14.1	9.2	11.1
22	---	---	---	---	---	---	---	---	---	15.2	7.8	10.7
23	---	---	---	---	---	---	---	---	---	14.9	8.6	11.4
24	---	---	---	---	---	---	---	---	---	24.8	8.6	14.8
25	---	---	---	---	---	---	---	---	---	28.3	9.5	17.4
26	---	---	---	---	---	---	---	---	---	21.5	8.9	14.5
27	---	---	---	---	---	---	---	---	---	19.3	7.1	12.4
28	---	---	---	---	---	---	---	---	---	14.7	8.5	10.9
29	---	---	---	---	---	---	---	---	---	16.3	9.1	11.9
30	---	---	---	---	---	---	---	---	---	20.3	9.5	13.2
31	---	---	---	---	---	---	---	---	---	24.4	6.6	14.5
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

14207200 TUALATIN RIVER AT OSWEO DAM, NEAR WEST LINN, OR--Continued

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.1	10.4	17.9	31.0	11.7	20.4	30.5	11.8	18.5	27.4	9.8	16.8
2	32.5	13.1	20.8	32.1	15.3	21.5	21.5	13.3	16.5	21.8	9.3	15.5
3	27.7	14.1	20.2	26.6	13.0	19.1	22.9	13.3	17.1	24.0	11.1	16.1
4	22.0	12.0	15.9	19.7	11.0	16.2	21.6	12.8	17.0	19.6	10.6	14.3
5	27.6	9.6	16.8	27.3	7.5	16.1	22.8	11.8	16.8	18.0	9.0	13.5
6	31.9	10.9	19.7	30.3	9.5	18.8	28.3	9.3	17.3	24.4	8.1	15.1
7	25.6	11.5	16.9	34.4	12.3	22.2	35.6	12.0	21.6	28.3	12.7	18.6
8	26.0	10.8	16.8	34.3	13.7	21.7	37.7	15.5	23.7	29.2	12.6	18.8
9	20.7	10.2	14.9	25.9	12.2	17.6	37.7	14.4	23.4	25.8	11.2	17.0
10	24.0	8.7	15.8	28.4	9.3	18.4	38.7	15.5	24.6	32.2	8.8	18.0
11	22.8	10.2	16.0	34.7	12.7	21.9	25.9	13.6	18.1	28.3	13.6	19.3
12	28.2	7.7	16.8	35.7	15.6	24.2	31.1	11.5	19.6	17.8	14.1	16.0
13	25.4	10.1	16.0	39.5	16.2	25.2	37.4	12.6	22.0	18.3	13.8	15.4
14	26.5	6.9	15.3	36.9	17.2	25.6	33.6	14.6	21.6	16.6	13.1	14.5
15	25.7	8.0	15.4	33.8	15.0	22.6	31.8	10.4	19.2	17.3	10.6	12.8
16	19.3	7.0	13.3	27.8	11.5	18.2	26.8	12.1	18.4	17.1	10.0	12.9
17	16.2	7.5	11.1	16.6	12.3	14.3	21.7	9.7	15.8	21.7	8.9	13.6
18	22.2	9.1	13.5	18.7	11.7	14.6	23.0	10.3	15.2	17.8	7.4	12.4
19	27.7	8.3	16.6	24.2	12.9	17.8	29.1	7.8	16.8	19.7	9.7	14.2
20	27.5	8.6	17.0	26.1	14.0	18.7	24.6	12.9	17.4	20.9	8.3	13.2
21	22.2	8.5	14.7	28.7	14.1	19.8	30.2	10.2	18.2	16.5	6.7	10.5
22	22.0	11.6	16.0	35.7	14.9	23.2	34.2	11.6	20.5	20.5	7.0	11.1
23	20.1	12.1	15.1	36.4	17.0	24.8	36.6	14.6	22.9	21.4	7.4	14.0
24	19.1	12.0	14.5	36.4	17.1	24.3	38.1	15.4	23.3	24.0	6.4	13.0
25	25.8	12.1	16.9	35.8	15.1	23.6	29.2	19.3	22.7	25.5	7.1	13.4
26	29.6	10.3	18.4	38.2	16.9	25.0	20.7	16.5	18.6	28.0	8.2	14.9
27	21.1	13.7	16.9	33.2	17.5	23.9	19.1	13.8	16.6	28.5	9.3	16.1
28	20.0	12.0	16.1	22.8	17.9	20.4	28.8	10.9	18.0	28.2	10.5	16.6
29	27.0	8.9	16.7	33.6	15.8	23.1	34.3	13.7	21.0	25.2	11.9	16.2
30	31.6	10.6	19.1	31.2	13.9	20.4	27.4	15.5	20.7	21.7	10.1	15.0
31	---	---	---	30.5	9.7	18.2	27.5	13.3	18.3	---	---	---
MONTH	32.5	6.9	16.4	39.5	7.5	20.7	38.7	7.8	19.4	32.2	6.4	15.0

14207500 TUALATIN RIVER AT WEST LINN, OR

LOCATION.--Lat 45°21'03", long 122°40'30", in SW 1/4 sec.34, T.2 S., R.1 E., Clackamas County, Hydrologic Unit 17090010, on left bank 300 ft upstream from bridge on State Highway 212, 0.4 mi west of West Linn city limits, and at mile 1.8.

DRAINAGE AREA.--706 mi^2.

PERIOD OF RECORD.--July 1928 to current year. Prior to October 1960, published as "near Willamette."

REVISED RECORDS.--WSP 1014: 1943. WSP 1184: 1947. WSP 1248: 1941. WSP 1935: Drainage area. WDR OR-75-1: 1974(M). WDR OR-77-1: 1971-73, 1975, 1976(M).

GAGE.--Water-stage recorder. Datum of gage is 85.61 ft above sea level (levels by Corps of Engineers). Prior to June 12, 1941, nonrecording gage at datum 1.02 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. October 1951 to September 1970, records published for this station included the daily flow in Oswego Canal, which diverts at point 5.0 mi upstream from station for development of power between outlet of Lake Oswego and Willamette River. Adjustment for diversion to Lake Oswego are published for the 1971-95 water years. Some regulation in low-water season by flashboards on crest of diversion dam for Oswego Canal and regulation by Henry Hagg Lake since January 1975. Several diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--21 years (water years 1976-96), 1,355 ft^3/s, 981,500 acre-ft/yr, river only, not adjusted for diversion to Oswego Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft^3/s Feb. 10, 1996, gage height, 18.32 ft, does not include an estimated 3,600 ft^3/s flowing in Oswego Canal; minimum daily discharge, 0.20 ft^3/s July 30 to Aug. 2, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,400 ft^3/s Feb. 10, gage height, 18.32 ft, does not include an estimated 3,600 ft^3/s flowing in Oswego Canal; minimum discharge, 143 ft^3/s Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	208	6080	3470	6010	4850	1140	5970	1140	313	233	296
2	176	216	6450	3340	5480	4300	1220	5320	1040	289	222	294
3	188	217	7050	3280	4950	3800	1240	4680	970	265	225	308
4	189	213	7580	3170	4460	3920	1150	4020	902	258	253	311
5	200	218	7650	3040	4350	4000	1050	3340	843	264	273	312
6	188	228	7370	3010	7260	3830	980	2740	793	265	276	287
7	172	331	6880	3310	9070	3510	944	2220	741	258	259	253
8	161	566	6260	3680	14400	3230	920	1780	699	249	232	238
9	158	960	5680	3890	24400	2980	899	1500	671	233	209	246
10	159	1280	5340	4050	25900	2740	890	1370	652	213	188	233
11	495	2490	5860	4080	23200	2670	897	1290	643	230	178	213
12	651	3210	6150	4050	19000	2570	1160	1250	510	256	196	198
13	639	3480	6620	3940	14300	2350	1810	1430	443	264	214	200
14	463	3260	7370	3810	10800	2120	2370	1820	443	270	210	252
15	323	2920	9130	4190	8890	1930	2540	2280	419	267	196	751
16	253	2450	11400	4510	7650	1750	2620	2300	400	268	187	940
17	234	1870	12300	4430	6950	1600	2500	2450	392	281	184	874
18	276	1450	11500	4320	6810	1490	2380	2660	392	327	190	589
19	319	1270	10400	4940	6620	1400	2410	2820	395	374	202	402
20	349	1210	9360	5620	6440	1320	2420	2750	392	395	223	310
21	320	1100	8480	6520	6420	1240	2440	2650	372	375	244	280
22	290	1050	7710	6610	6360	1200	2780	2650	348	326	251	276
23	265	1000	7000	7040	7070	1180	3900	2550	370	293	256	260
24	250	1520	6330	7670	7000	1150	4930	2360	400	256	248	248
25	251	2610	5710	8040	6910	1080	5200	2160	445	245	261	231
26	321	3170	5150	8160	6750	1010	6050	1890	453	236	276	218
27	332	3530	4630	8070	6410	964	6770	1670	428	231	413	219
28	352	4450	4140	7830	5940	940	7150	1530	389	228	361	209
29	316	4960	3920	7410	5400	921	7050	1450	357	227	326	201
30	268	5600	3710	6940	---	896	6580	1380	337	235	310	205
31	231	---	3620	6460	---	974	---	1270	---	240	310	---
TOTAL	8992	57037	216830	158880	275200	67915	84390	75550	16779	8431	7606	9854
MEAN	290	1901	6995	5125	9490	2191	2813	2437	559	272	245	328
MAX	651	5600	12300	8160	25900	4850	7150	5970	1140	395	413	940
MIN	158	208	3620	3010	4350	896	890	1250	337	213	178	198
AC-FT	17840	113100	430100	315100	545900	134700	167400	149900	33280	16720	15090	19550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1996, BY WATER YEAR (WY)

MEAN	242	1024	2890	3083	3425	2482	1642	733	346	169	142	190
MAX	530	3062	6995	5595	9490	5130	3758	2437	762	283	245	365
(WY)	1982	1984	1996	1980	1996	1983	1991	1996	1984	1983	1996	1978
MIN	71.7	130	158	163	180	1043	354	229	147	59.9	79.9	79.1
(WY)	1988	1988	1977	1977	1977	1992	1977	1977	1992	1977	1986	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1976 - 1996	
ANNUAL TOTAL	769179		987464			
ANNUAL MEAN	2107		2698		1355	
HIGHEST ANNUAL MEAN					2698	1996
LOWEST ANNUAL MEAN					278	1977
HIGHEST DAILY MEAN	12300	Dec 17	25900	Feb 10	25900	Feb 10 1996
LOWEST DAILY MEAN	93	Jul 29	158	Oct 9	18	Jul 1 1977
ANNUAL SEVEN-DAY MINIMUM	118	Aug 3	175	Oct 4	24	Jun 29 1977
ANNUAL RUNOFF (AC-FT)	1526000		1959000		981500	
10 PERCENT EXCEEDS	5940		6960		3950	
50 PERCENT EXCEEDS	986		1170		517	
90 PERCENT EXCEEDS	150		223		117	

14207740 WILLAMETTE RIVER ABOVE FALLS, AT OREGON CITY, OR

LOCATION.--Lat 45°20'55", long 122°37'08", in SW 1/4 SW 1/4 sec.31, T.2 S., R.2 E., Clackamas County, Hydrologic Unit 17090007, on right bank 0.2 mi above Willamette Falls, 0.6 mi downstream from Tualatin River, and at mile 26.8.

DRAINAGE AREA.--10,000 mi^2, approximately.

PERIOD OF RECORD.--October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Flow regulated by many reservoirs upstream. Gage height elevations possibly affected by Portland General Electric powerplant operations throughout the year and by Army Corps of Engineers locks operation during summer months.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 69.47 ft Feb. 9, 1996; minimum, 52.51 ft July 12, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 69.47 ft Feb. 9; minimum, 53.26 ft July 10.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55.96	56.07	61.84	59.41	58.58	57.01	54.60	57.02	55.44	53.79	54.96	54.81
2	55.94	56.04	62.15	59.48	57.80	56.65	55.18	56.57	55.25	53.73	54.96	54.82
3	55.87	55.99	62.06	59.10	57.16	56.35	55.53	56.21	55.06	53.64	54.93	54.82
4	56.01	55.95	61.68	58.92	56.71	56.66	55.39	55.95	54.90	53.53	55.03	54.82
5	56.10	55.91	61.01	58.94	56.63	57.68	55.30	55.71	54.81	53.52	55.11	54.85
6	56.07	55.96	60.56	58.93	59.18	58.03	55.15	55.47	54.62	53.48	55.03	54.97
7	56.01	56.20	60.42	59.10	63.06	57.59	54.98	55.21	54.54	53.46	54.99	55.02
8	55.94	56.60	60.23	59.57	66.48	57.17	54.81	54.91	54.44	53.44	54.98	55.08
9	55.90	57.42	60.14	59.89	69.05	56.87	54.70	54.73	54.34	53.36	54.95	55.17
10	55.93	57.87	60.25	59.88	68.98	56.70	54.62	54.62	54.50	53.27	54.92	55.19
11	56.17	58.17	60.87	59.86	67.39	56.64	54.57	54.48	54.54	53.31	54.88	55.18
12	56.51	59.06	61.57	59.66	65.39	56.75	54.70	54.40	54.06	53.34	54.90	55.19
13	56.61	59.40	62.14	59.11	63.45	56.79	55.44	54.50	53.97	53.32	54.90	55.17
14	56.41	59.40	62.61	58.40	62.10	56.69	55.95	54.75	53.96	53.32	54.84	55.22
15	56.22	59.15	62.98	58.32	61.38	56.48	55.79	55.35	53.95	53.65	54.84	55.43
16	56.11	58.68	62.98	59.32	60.98	56.23	55.63	56.21	53.90	54.52	54.79	55.67
17	56.10	58.26	62.60	59.95	60.74	55.88	55.78	57.04	53.87	54.86	54.70	55.79
18	56.12	57.86	62.00	59.99	60.78	55.56	56.03	57.50	53.85	55.03	54.68	55.99
19	56.24	57.36	61.44	59.99	61.17	---	56.28	58.09	53.83	55.15	54.78	55.73
20	56.21	56.71	60.89	60.68	61.48	---	56.52	58.48	53.80	55.16	54.83	55.61
21	56.15	56.40	60.25	61.62	61.46	---	56.59	58.40	53.74	55.13	54.82	55.59
22	56.09	56.17	59.64	61.95	61.07	---	56.76	58.09	53.69	55.12	54.78	55.60
23	56.05	56.06	59.18	61.89	60.99	---	57.82	58.21	53.71	55.08	54.78	55.59
24	55.98	56.15	58.65	61.63	61.02	---	59.23	58.51	53.82	55.02	54.80	55.55
25	55.96	56.61	57.93	61.47	60.67	---	59.53	58.39	53.97	55.00	54.85	55.55
26	56.04	57.50	57.52	61.22	59.73	54.60	60.09	57.78	54.06	54.98	54.85	55.64
27	56.34	58.50	57.22	60.86	58.80	54.62	60.53	57.02	54.03	54.96	54.86	55.70
28	56.50	59.79	56.62	60.65	57.99	54.46	59.60	56.57	53.95	54.94	54.87	55.75
29	56.38	60.60	56.70	60.64	57.36	54.44	58.51	56.16	53.89	54.96	54.89	55.77
30	56.26	61.37	57.65	60.42	---	54.39	57.63	55.81	53.86	54.93	54.84	55.78
31	56.12	---	58.70	59.61	---	54.39	---	55.64	---	54.91	54.82	---
MEAN	56.14	57.57	60.34	60.01	61.30	---	56.44	56.38	54.21	54.26	54.88	55.37
MAX	56.61	61.37	62.98	61.95	69.05	---	60.53	58.51	55.44	55.16	55.11	55.99
MIN	55.87	55.91	56.62	58.32	56.63	---	54.57	54.40	53.69	53.27	54.68	54.81

14207770 WILLAMETTE RIVER BELOW FALLS, AT OREGON CITY, OR

LOCATION.--Lat 45°21'28", long 122°36'35", in NE 1/4 NW 1/4 sec.31, T.2 S., R.2 E., Clackamas County, Hydrologic Unit 17090007, on right bank 0.5 mi below Willamette Falls, 1.4 mi upstream from Clackamas River, and at mile 26.2.

DRAINAGE AREA.--10,000 mi^2, approximately.

PERIOD OF RECORD.--November 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (Oregon State Highway Division bench mark).

REMARKS.--Flow regulated by many reservoirs upstream. Gage out of operation during period October 1993 to January 1994 and July to September 1994. Fragmentary record for this period available in files of the Portland field office.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 46.04 ft Feb. 9, 1996, from high-water mark; minimum, 1.55 ft Sept. 7, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 46.04 ft Feb. 9, from high-water mark; minimum recorded, 3.90 ft Sept. 22, but may have been lower during periods of missing record.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.31	4.97	5.81	7.38	5.07	6.15	28.03	26.65	27.54	18.04	17.11	17.65
2	7.11	4.17	5.33	7.71	5.35	6.48	27.62	26.94	27.27	17.77	16.91	17.38
3	7.06	4.49	5.85	7.44	5.07	6.20	27.04	26.09	26.59	16.97	16.58	16.78
4	7.32	4.81	6.06	7.58	4.95	6.09	26.16	25.00	25.82	16.89	16.43	16.63
5	7.52	5.13	6.24	7.57	4.80	6.03	25.00	22.33	23.60	16.80	16.43	16.60
6	7.78	5.14	6.35	7.83	4.96	6.19	22.33	20.92	21.51	17.06	16.35	16.67
7	7.82	5.06	6.30	8.89	5.48	7.01	20.92	20.18	20.56	18.09	16.71	17.26
8	7.97	5.09	6.31	10.31	6.77	8.28	20.22	19.54	19.81	19.44	18.09	18.83
9	7.97	4.93	6.18	11.71	9.99	10.65	19.74	19.27	19.46	19.60	19.24	19.39
10	8.63	5.09	6.54	11.91	10.97	11.32	20.51	19.49	19.86	19.34	18.62	18.89
11	9.60	6.18	7.56	16.76	11.52	13.50	22.82	20.39	21.44	18.93	18.33	18.60
12	9.04	7.57	8.12	17.23	16.76	16.94	24.53	22.79	23.52	18.91	18.36	18.69
13	8.71	7.14	7.76	17.19	16.86	17.04	26.20	24.43	25.41	18.40	16.87	17.69
14	8.29	6.91	7.51	17.15	16.33	16.58	27.61	26.04	26.69	16.88	15.45	16.03
15	7.71	6.00	6.73	16.46	15.55	16.03	27.82	27.09	27.51	17.41	15.56	16.17
16	6.84	5.10	5.87	15.55	14.15	14.80	27.33	26.52	26.93	19.78	17.41	18.92
17	6.43	4.57	5.59	14.16	12.76	13.49	26.58	25.09	25.86	20.40	19.78	20.08
18	6.79	4.91	5.90	13.28	12.33	12.80	25.11	23.54	24.40	20.27	19.77	20.05
19	6.94	5:40	6.21	12.58	11.17	12.10	23.62	21.85	22.61	20.84	19.79	20.31
20	7.69	5.56	6.50	11.45	10.49	11.08	21.86	20.56	21.24	23.29	20.78	21.83
21	7.94	5.78	6.70	11.25	9.71	10.41	20.60	19.18	19.81	24.65	23.14	23.95
22	7.83	5.33	6.35	11.18	9.41	10.09	19.18	18.00	18.54	24.85	24.44	24.63
23	8.24	5.38	6.50	11.64	9.41	10.19	18.02	17.17	17.51	24.77	24.15	24.44
24	8.30	5.33	6.56	11.76	9.92	10.61	17.30	15.77	16.51	24.24	23.52	23.87
25	8.76	5.45	6.73	12.89	10.39	11.46	15.77	14.37	14.87	23.77	22.88	23.30
26	9.28	6.41	7.43	14.48	12.55	13.36	14.41	12.70	13.44	22.88	22.07	22.48
27	9.48	6.63	7.68	17.46	14.39	15.19	12.79	12.00	12.35	22.10	20.69	21.39
28	8.98	7.06	7.82	22.51	17.46	21.02	12.14	11.02	11.45	20.69	20.27	20.45
29	8.02	6.11	6.98	24.67	22.45	23.35	12.20	11.09	11.70	20.39	20.05	20.23
30	7.38	5.78	6.51	26.70	24.67	26.10	14.94	12.19	13.40	20.25	19.24	19.85
31	7.20	5.20	6.10	---	---	---	17.13	14.94	16.33	19.24	16.93	18.11
MONTH	9.60	4.17	6.58	26.70	4.80	12.35	28.03	11.02	20.76	24.85	15.45	19.59

14207770 WILLAMETTE RIVER BELOW FALLS, AT OREGON CITY, OR--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	16.93	14.86	15.88	17.10	16.01	16.69	9.59	7.95	8.83	16.49	15.73	16.10
2	14.86	13.56	14.22	16.01	14.66	15.44	10.71	8.76	10.00	16.04	15.34	15.76
3	13.56	12.14	12.94	14.66	13.23	14.00	10.99	9.95	10.49	15.34	14.02	14.68
4	12.46	11.64	12.13	15.04	13.13	14.00	10.96	9.86	10.50	14.34	13.77	14.03
5	12.82	11.02	11.64	17.77	15.04	16.60	11.53	10.37	10.86	13.87	13.19	13.50
6	25.10	12.80	18.40	18.16	16.93	17.55	11.56	10.32	10.86	13.57	13.02	13.24
7	37.41	25.10	31.30	16.93	15.89	16.41	11.73	10.39	10.93	13.06	11.65	12.32
8	---	---	---	15.90	15.57	15.76	11.23	9.48	10.35	11.94	10.98	11.47
9	46.04	---	---	15.57	14.93	15.18	10.14	8.73	9.44	11.41	10.60	10.99
10	---	---	---	15.08	14.05	14.64	10.20	8.90	9.57	11.35	9.93	10.75
11	---	---	---	14.59	13.68	14.17	11.24	10.20	10.80	10.58	8.83	9.78
12	---	---	---	15.11	14.51	14.81	12.72	11.16	12.21	9.93	8.91	9.47
13	---	---	---	15.37	14.78	15.03	13.72	12.62	13.40	10.06	8.96	9.47
14	27.62	25.38	26.36	15.48	15.08	15.24	14.00	13.53	13.83	10.58	9.20	10.07
15	25.42	23.91	24.64	15.35	14.59	15.17	14.00	13.51	13.74	12.98	10.35	11.97
16	24.13	23.23	23.67	15.07	13.91	14.48	14.17	13.53	13.87	14.20	12.98	13.82
17	23.55	23.12	23.38	14.42	13.35	13.90	14.47	13.73	14.13	15.80	14.11	15.10
18	24.61	22.87	23.78	14.08	12.79	13.46	14.92	13.96	14.46	17.72	15.71	16.55
19	25.56	24.31	25.03	13.33	12.30	12.75	15.61	14.88	15.28	19.47	17.70	18.67
20	26.43	25.29	25.83	13.19	12.11	12.54	15.84	15.01	15.39	20.15	19.44	19.83
21	26.37	25.47	25.93	12.99	11.70	12.27	15.22	14.76	14.96	20.16	19.71	19.99
22	25.67	24.23	24.96	12.87	11.47	12.06	15.45	14.67	14.89	19.71	19.16	19.45
23	24.79	24.23	24.61	11.96	10.88	11.36	19.89	15.45	17.29	19.57	19.04	19.28
24	24.77	24.22	24.56	11.85	10.61	11.18	23.71	19.89	22.45	19.86	19.56	19.72
25	24.44	23.21	23.95	11.13	9.80	10.51	24.36	23.60	24.04	19.69	18.75	19.28
26	23.23	21.06	22.18	10.80	9.96	10.31	24.53	24.22	24.41	18.81	17.24	18.18
27	21.09	19.47	20.26	10.69	9.80	10.32	24.35	23.40	23.97	17.24	15.85	16.46
28	19.47	17.76	18.70	10.04	9.09	9.63	23.44	21.38	22.55	15.91	15.29	15.64
29	17.76	17.01	17.37	9.80	8.99	9.39	21.38	18.79	20.06	15.58	15.29	15.46
30	---	---	---	9.65	8.57	9.26	18.79	16.47	17.66	15.93	15.56	15.84
31	---	---	---	9.28	7.97	8.70	---	---	---	16.10	15.32	15.83
MONTH	---	---	---	18.16	7.97	13.32	24.53	7.95	14.71	20.16	8.83	14.93

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.32	15.02	15.19	11.56	9.50	10.46	8.83	5.75	7.07	7.83	---	---
2	15.70	15.20	15.46	10.56	8.80	9.53	8.57	6.05	7.10	6.86	---	---
3	15.42	14.77	15.09	10.02	8.14	8.97	8.15	5.47	6.85	6.86	---	---
4	14.87	14.51	14.72	9.87	8.35	9.05	7.52	---	---	6.54	---	---
5	15.06	14.64	14.85	9.90	8.68	9.32	7.54	---	---	6.32	---	---
6	15.35	15.04	15.19	9.64	7.76	8.66	7.49	5.35	5.91	6.02	---	---
7	15.35	14.81	15.04	9.67	8.51	8.86	7.60	5.34	6.14	5.88	---	---
8	15.05	14.62	14.76	9.73	7.94	8.70	7.22	5.33	5.90	5.84	---	---
9	15.26	14.90	15.12	9.38	7.81	8.53	7.32	5.59	6.28	6.34	---	---
10	15.39	15.21	15.31	9.04	8.05	8.52	7.23	---	---	6.59	---	---
11	16.06	15.39	15.80	9.56	7.92	8.72	7.34	---	---	6.72	---	---
12	16.15	15.91	16.08	9.20	7.92	8.56	7.07	---	---	6.66	---	---
13	16.18	15.81	16.01	9.61	8.21	8.80	7.77	---	---	7.52	---	---
14	15.85	15.11	15.58	9.74	8.15	8.84	7.97	5.60	6.75	7.83	---	---
15	15.12	14.46	14.83	9.79	8.18	8.87	7.96	5.86	6.90	7.64	---	---
16	14.63	14.35	14.52	9.35	7.69	8.44	7.66	5.39	6.47	7.82	---	---
17	14.70	14.32	14.53	9.38	7.85	8.53	7.35	---	---	7.57	---	---
18	14.86	14.58	14.68	9.00	7.09	8.14	7.01	---	---	7.09	---	---
19	15.11	14.64	14.89	8.38	7.00	7.66	7.52	---	---	7.13	---	---
20	14.64	13.40	13.95	8.18	6.64	7.54	7.26	---	---	7.00	---	---
21	13.40	12.11	12.69	7.88	6.09	7.11	7.26	---	---	7.00	4.14	5.13
22	12.11	10.57	11.40	8.03	5.98	6.57	7.51	---	---	6.87	3.90	4.99
23	10.65	9.08	9.67	8.08	5.86	6.86	7.54	---	---	7.04	4.38	5.51
24	9.83	9.15	9.47	8.17	6.27	6.97	7.38	---	---	---	---	---
25	10.04	9.42	9.69	8.57	6.74	7.47	7.46	---	---	---	---	---
26	10.37	9.77	10.06	8.79	6.84	7.61	7.94	---	---	---	---	---
27	11.20	10.20	10.75	9.20	6.21	7.54	8.01	---	---	---	---	---
28	11.16	10.28	10.77	9.07	5.53	7.03	8.24	---	---	---	---	---
29	11.35	10.41	10.82	8.72	5.44	6.70	8.56	---	---	---	---	---
30	11.71	10.61	11.11	9.17	5.86	7.07	8.32	---	---	---	---	---
31	---	---	---	8.50	5.33	6.52	8.17	---	---	---	---	---
MONTH	16.18	9.08	13.60	11.56	5.33	8.13	8.83	---	---	---	---	---

14208600 TIMOTHY LAKE NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°06'50", long 121°48'35", in NE 1/4 sec.27, T.5 S., R.8 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, in intake structure 350 ft upstream from dam on Oak Grove Fork, 0.4 mi upstream from Anvil Creek, 14 mi south of Government Camp, and at mile 15.8.

DRAINAGE AREA.--53.8 mi^2.

PERIOD OF RECORD.--May 1956 to current year. Prior to October 1957, published as Timothy Meadows Reservoir.

GAGE.--Nonrecording gage. Datum of gage is sea level (levels by Portland General Electric Co.).

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway built by Portland General Electric Co. Usable storage began May 28, 1956. Capacity, 65,710 acre-ft at elevation 3,190 ft, normal maximum operating level. Usable capacity increased in 1966 water year to 64,450 acre-ft between elevations 3,125.0 ft, invert of outlet pipe, and 3,192.0 ft, top of radial gates. Storage of 4,060 acre-ft below elevation 3,125.0 ft not normally available for release. Water is used for power generation. Figures given herein represent total contents.

COOPERATION.--Elevations and capacity table furnished by Portland General Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 68,800 acre-ft Oct. 3, 1967, elevation, 3,192.2 ft; minimum contents observed, 16,010 acre-ft Feb. 24, 1957, elevation, 3,144.5 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 68,170 acre-ft June 18, July 12-15, 30, elevation, 3,191.76 ft minimum contents observed, 53,470 acre-ft Sept. 30, elevation, 3,180.64 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	3,191.14	67,300	
Oct. 31	3,186.80	61,400	-5,900
Nov. 30	3,187.19	61,910	+510
Dec. 31	3,190.00	65,710	+3,800
CAL YR 1995	-	-	+10,860
Jan. 31	3,185.90	60,210	-5,500
Feb. 29	3,187.76	62,670	+2,460
Mar. 31	3,188.03	63,030	+360
Apr. 30	3,191.02	67,130	+4,100
May 31	3,191.73	68,130	+1,000
June 30	3,191.73	68,130	0
July 31	3,191.75	68,160	30
Aug. 31	3,190.33	66,170	-1,990
Sept.30	3,180.64	53,470	-12,700
WTR YR 1996	-	-	-13,830

14208700 OAK GROVE FORK NEAR GOVERNMENT CAMP, OR

LOCATION.--Lat 45°06'50", long 121°48'50", in NE 1/4 sec.27, T.5 S., R.8 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.1 mi upstream from Anvil Creek, 0.3 mi downstream from Timothy Lake, 14 mi south of Government Camp, and at mile 15.5.

DRAINAGE AREA.--54.4 mi^2.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 3,041.83 ft above sea level (Portland General Electric Co. bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1956 by Timothy Lake (station 14208600) No diversion upstream from station.

AVERAGE DISCHARGE.--40 years (water years 1957-96), 131 ft^3/s, 32.70 in/yr, 94,910 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft^3/s Dec. 24, 1964, gage height, 3.93 ft, from rating curve extended above 290 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 3.7 ft^3/s Sept. 23, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 921 ft^3/s Feb. 9, gage height, 3.21 ft; minimum discharge, 43 ft^3/s Nov. 26, 27, gage height, 1.52 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	407	62	256	508	278	270	268	165	120	184	324
2	57	350	54	265	508	246	253	268	169	118	62	332
3	58	368	73	311	508	252	226	268	167	124	59	335
4	57	378	383	315	508	281	206	246	152	122	59	334
5	57	388	388	413	505	286	126	238	147	114	59	333
6	57	377	372	392	492	283	122	210	147	108	59	331
7	57	368	437	393	540	257	96	202	147	109	162	330
8	57	256	296	383	569	274	96	202	142	112	314	330
9	57	181	396	288	725	266	97	185	135	108	320	330
10	57	218	366	295	863	265	102	169	133	108	312	330
11	57	70	286	403	848	270	109	161	133	108	296	329
12	57	56	393	494	674	289	100	162	133	108	107	329
13	64	56	523	496	745	247	103	128	135	109	68	327
14	70	57	511	497	621	161	117	174	135	110	68	319
15	71	100	579	435	494	166	122	209	135	110	68	316
16	75	152	574	502	455	232	117	210	127	112	94	306
17	232	200	552	493	413	261	166	230	127	110	300	304
18	284	194	447	476	505	260	236	269	148	105	300	336
19	282	247	341	461	506	259	229	263	146	102	104	337
20	313	249	242	478	488	259	215	246	132	102	75	340
21	374	284	142	504	443	242	209	222	152	102	75	339
22	378	298	143	473	386	237	259	223	119	110	75	337
23	394	302	152	468	449	237	394	223	162	115	72	329
24	397	282	156	474	374	238	517	182	198	115	72	300
25	374	82	159	487	321	227	516	134	121	113	72	300
26	250	43	123	484	304	221	426	165	121	107	72	296
27	307	48	161	488	291	223	335	172	140	102	72	272
28	375	59	212	506	291	244	329	172	123	102	68	272
29	388	62	119	508	289	237	296	175	123	104	56	272
30	398	65	114	505	---	232	179	180	123	191	131	272
31	404	---	205	508	---	246	---	169	---	192	318	---
TOTAL	6267	6197	8961	13451	14623	7676	6568	6325	4237	3572	4153	9541
MEAN	202	207	289	434	504	248	219	204	141	115	134	318
MAX	404	407	579	508	863	289	517	269	198	192	320	340
MIN	57	43	54	256	289	161	96	128	119	102	56	272
AC-FT	12430	12290	17770	26680	29000	15230	13030	12550	8400	7090	8240	18920
MEAN†	106	215	351	345	547	254	288	220	141	116	102	105
CFSM†	1.95	3.95	6.45	6.33	10.1	4.66	5.29	4.05	2.60	2.13	1.87	1.92
IN.†	2.25	4.41	7.44	7.30	10.8	5.38	5.91	4.67	2.90	2.46	2.16	2.14
AC-FT†	6530	12800	21570	21180	31460	15590	17130	13550	8400	7120	6250	6220

CAL YR 1995 TOTAL 59888 MEAN 164 MAX 579 MIN 41 AC-FT 118800 MEAN† 179 CFSM† 3.29 IN.† 44.70 AC-FT† 129700
WTR YR 1996 TOTAL 91571 MEAN 250 MAX 863 MIN 43 AC-FT 181600 MEAN† 231 CFSM† 4.25 IN.† 57.84 AC-FT† 167800

† Adjusted for change in contents in Timothy Lake.

14209000 OAK GROVE FORK ABOVE POWERPLANT INTAKE, OR

LOCATION.--Lat 45°04'20", long 121°57'00", on line between secs.3 and 4, T.6 S., R.7 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.2 mi upstream from Spring Creek, 0.7 mi upstream from Kink Creek, 1.0 mi upstream from Portland General Electric Co. diversion dam, 24 mi southeast of Estacada, and at mile 6.1.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD.--May 1909 to current year. Monthly discharge only for some periods, published in WSP 1318. Published as both Oak Grove Fork of Clackamas River at proposed intake, near Cazadero, and Oak Grove Fork of Clackamas River at intake, near Cazadero, May 1909 to September 1910, as Oak Grove Fork of Clackamas River at intake, near Cazadero, October 1910 to September 1921, and as Oak Grove Fork at Portland General Electric Power Co. intake, October 1921 to September 1929.

REVISED RECORDS.--WSP 1248: 1909, 1910(M), 1916, 1918, 1923, 1932. WSP 1935: 1914, 1921.

GAGE.--Water-stage recorder. Datum of gage is 2,052.31 ft above sea level. May 21, 1909, to Nov. 17, 1911, nonrecording gage and Mar. 26, 1912, to Sept. 30, 1923, water-stage recorder, at various sites 0.7 mi downstream, below Kink Creek, at different datum.

REMARKS.--Records poor. Flow regulated since 1956 by Timothy Lake (station 14208600). No diversion upstream from station.

AVERAGE DISCHARGE.--87 years (water years 1910-96), 495 ft^3/s, 358,600 acre-ft/yr (unadjusted).
40 years (water years 1957-96), 477 ft^3/s, 345,400 acre-ft/yr (regulated).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s Jan. 7, 1923, gage height, 5.45 ft, site and datum then in use, from rating curve extended above 2,300 ft^3/s on basis of peak discharge for other stations in Clackamas River basin; minimum discharge, 161 ft^3/s Sept. 16, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,530 ft^3/s Feb. 7, gage height, 6.18 ft; minimum discharge, 231 ft^3/s Dec. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	433	641	1880	934	e700	679	715	828	553	e672	e565	e582
2	261	588	1430	844	e650	675	695	798	548	e665	e460	e599
3	347	592	1160	923	e650	698	651	778	539	e665	e446	630
4	319	602	1410	893	e650	803	626	736	511	e665	e452	630
5	278	616	1230	933	e850	786	536	700	494	e644	e446	630
6	270	644	1090	917	1970	750	555	658	483	e644	e444	630
7	265	636	1050	1020	3940	714	547	632	469	e630	e515	630
8	265	666	834	1090	3250	760	570	617	453	e630	e637	630
9	262	632	907	955	3230	764	587	591	432	e630	e637	630
10	266	646	872	904	2400	785	582	566	420	e616	e630	630
11	388	906	1010	930	1990	842	591	550	413	e601	e616	629
12	358	848	1250	1000	1700	874	593	547	407	e618	e482	630
13	318	811	1440	971	1600	816	596	482	402	e595	e428	630
14	306	648	1380	965	1450	682	593	616	398	e595	e421	639
15	298	623	1380	1130	1260	667	599	652	397	e595	e421	645
16	302	624	1280	1320	1180	727	646	629	382	e582	e462	644
17	484	632	1200	1180	1140	751	675	672	385	e582	e600	630
18	597	622	1040	1090	1510	744	745	768	439	e582	e600	636
19	540	629	873	1060	1470	743	721	789	411	e568	e461	640
20	541	605	722	1040	1370	735	696	724	380	e568	e415	634
21	622	628	518	1040	1240	704	682	684	410	e562	e410	630
22	621	629	468	951	1110	696	772	762	350	e568	e410	634
23	625	630	442	916	1120	688	1120	764	441	e568	e404	628
24	623	632	416	900	1020	674	1620	687	e532	e562	e398	602
25	638	642	398	884	917	649	1440	591	e559	e555	e392	602
26	618	610	328	860	858	634	1280	605	e689	e548	e392	602
27	587	1020	350	848	801	633	1090	594	e720	e535	e386	575
28	640	2430	415	848	764	642	1010	590	e701	e528	e380	575
29	645	1620	459	827	754	633	930	588	e687	e528	e363	575
30	643	1890	785	e750	---	621	762	581	e679	e582	e404	575
31	643	---	1060	e700	---	668	---	565	---	e564	e575	---
TOTAL	14003	23942	29077	29623	41544	22237	23225	20344	14684	18447	14652	18576
MEAN	452	798	938	956	1433	717	774	656	489	595	473	619
MAX	645	2430	1880	1320	3940	874	1620	828	720	672	637	645
MIN	261	588	328	700	650	621	536	482	350	528	363	575
AC-FT	27770	47490	57670	58760	82400	44110	46070	40350	29130	36590	29060	36850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1996, BY WATER YEAR (WY)

MEAN	385	504	567	574	586	566	563	575	437	327	303	342
MAX	517	798	1047	1036	1433	1377	825	1104	1126	595	473	619
(WY)	1975	1996	1965	1974	1996	1972	1974	1971	1974	1996	1996	1996
MIN	236	288	265	255	250	327	311	279	248	228	218	215
(WY)	1982	1988	1994	1977	1977	1977	1978	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1957 - 1996	
ANNUAL TOTAL	207072		270354			
ANNUAL MEAN	567		739		477	
HIGHEST ANNUAL MEAN					739	1996
LOWEST ANNUAL MEAN					319	1994
HIGHEST DAILY MEAN	2430	Nov 28	3940	Feb 7	3940	Feb 7 1996
LOWEST DAILY MEAN	256	Sep 18	261	Oct 2	208	Aug 30 1979
ANNUAL SEVEN-DAY MINIMUM	258	Sep 13	275	Oct 4	210	Oct 6 1994
ANNUAL RUNOFF (AC-FT)	410700		536200		345400	
10 PERCENT EXCEEDS	901		1120		672	
50 PERCENT EXCEEDS	591		633		465	
90 PERCENT EXCEEDS	271		410		268	

e Estimated

14209500 CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OR

LOCATION.--Lat 45°07'30", long 122°04'20", in NE 1/4 sec.21, T.5 S., R.6 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank 0.1 mi upstream from Three Lynx Creek, 0.25 mi downstream from powerplant, 17 mi southeast of Estacada, and at mile 47.8.

DRAINAGE AREA.--479 mi^2.

PERIOD OF RECORD.--April 1909 to December 1913, October 1921 to current year. Prior to October 1911 (monthly discharge only), published in WSP 1318.

REVISED RECORDS.--WSP 1148: Drainage area. WSP 1248: 1910(M), 1912, 1948-50(M).

GAGE.--Water-stage recorder. Datum of gage is 1,091.69 ft above sea level (levels by Portland General Electric Co.). Apr. 23, 1909, to Jan. 4, 1914, nonrecording gage at about same site and datum. Nov. 1, 1921, to Dec. 27, 1924, water-stage recorder at present site at datum 0.91 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Minor regulation since May 1956 by Timothy Lake (station 14208600).

AVERAGE DISCHARGE.--79 years (water years 1910-13, 1922-96), 1,974 ft^3/s, 55.99 in/yr, 1,430,000 acre-ft/yr.
40 years (water years 1957-96), 2,005 ft^3/s, 56.88 in/yr, 1,453,000 acre-ft/yr (regulated period).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,200 ft^3/s Dec. 22, 1964, gage height, 21.7 ft, from floodmark, from rating curve extended above 34,100 ft^3/s on basis of slope-area measurement at gage height 15.06 ft; minimum recorded discharge, 261 ft^3/s Oct. 7, 1987; minimum daily, 410 ft^3/s Sept. 4, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1900	14,200	9.14	Dec. 31	0100	9,630	7.34
Nov. 28	0400	21,500	11.66	Jan. 16	1030	8,570	6.86
Nov. 30	0530	18,800	10.81	Feb. 7	2000	*46,600	*18.09
Dec. 4	0700	9,000	7.06	Feb. 18	1000	10,500	7.58
Dec. 13	0100	11,900	8.27	Apr. 24	0530	16,300	9.92

Minimum discharge, 518 ft^3/s July 17, but may have been less during period of missing record Oct. 1-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e940	1190	14300	5580	1940	2170	2670	2900	2010	1140	933	1000
2	e680	1120	9190	4220	1880	2130	2940	2690	1850	1120	813	1010
3	e1230	1100	6500	4270	1850	2220	2690	2540	1800	1110	810	1010
4	e1250	1090	7840	4230	1910	3260	2430	2350	1720	1090	803	1010
5	e916	1110	5850	3710	2340	3550	2220	2190	1660	1060	800	1010
6	e800	1350	4580	3810	16100	3140	2250	2070	1600	1040	799	1010
7	e750	1740	3920	4490	39100	2910	2390	1970	1550	1020	876	1000
8	e710	4110	3320	6230	27800	2990	2580	1890	1500	1010	1060	998
9	e700	5290	3220	5010	24000	3170	2580	1800	1460	1010	1060	997
10	e660	3270	3710	4370	12200	3330	2430	1740	1420	994	1040	996
11	e1380	8290	7790	3780	8270	3750	2350	1690	1380	977	1030	986
12	e1970	7850	10000	3460	6400	3730	2480	1690	1350	977	853	987
13	e1420	5860	10500	3150	5460	3400	2530	1480	1320	963	775	990
14	1150	4260	8910	3000	4950	2880	2450	2280	1290	955	774	1030
15	1010	3260	8130	4790	4570	2720	2480	2420	1270	949	774	1390
16	968	2760	5900	7970	4330	2730	3020	2420	1240	938	781	1440
17	1170	2400	4730	5880	4520	2570	3160	2610	1240	938	1000	1250
18	1540	2490	3940	4590	9150	2490	2970	3720	1320	995	1020	1130
19	1320	2260	3390	4570	7970	2440	2830	4300	1250	958	835	1120
20	1240	2040	3030	4780	6400	2390	2650	3630	1200	935	772	1080
21	1290	1920	2660	4690	5350	2290	2520	3150	1190	921	771	1060
22	1300	1870	2440	3790	4520	2250	2890	3520	1140	924	767	1060
23	1240	1800	2260	3370	4220	2160	8280	3860	1270	921	757	1050
24	1200	1900	2110	3120	3700	2070	13300	3490	1510	911	754	1010
25	1200	4400	1980	2860	3300	1960	7710	3060	1290	903	749	996
26	1610	4890	1870	2650	2840	1890	5750	2780	1330	888	751	978
27	1520	5740	1780	2570	2620	1850	4520	2550	1350	877	759	949
28	1440	15700	1780	2440	2460	1830	3800	2420	1260	874	752	944
29	1350	10100	2760	2310	2310	1770	3370	2320	1210	879	722	939
30	1280	16000	5900	2110	---	1720	2880	2170	1180	960	774	934
31	1230	---	8490	1980	---	1960	---	2080	---	950	1000	---
TOTAL	36464	127160	162780	123780	222460	79720	107120	79780	42160	30187	26164	31364
MEAN	1176	4239	5251	3993	7671	2572	3571	2574	1405	974	844	1045
MAX	1970	16000	14300	7970	39100	3750	13300	4300	2010	1140	1060	1440
MIN	660	1090	1780	1980	1850	1720	2220	1480	1140	874	722	934
AC-FT	72330	252200	322900	245500	441200	158100	212500	158200	83620	59880	51900	62210
CFSM	2.46	8.85	11.0	8.34	16.0	5.37	7.45	5.37	2.93	2.03	1.76	2.18
IN.	2.83	9.88	12.64	9.61	17.28	6.19	8.32	6.20	3.27	2.34	2.03	2.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1996, BY WATER YEAR (WY)

MEAN	1003	2223	3055	3031	3061	2627	2648	2481	1605	891	732	776
MAX	1761	4239	8271	6139	7671	6559	3807	4701	4136	1565	972	1242
(WY)	1969	1996	1965	1970	1996	1972	1993	1971	1974	1974	1974	1959
MIN	593	666	786	751	734	1353	1417	1057	674	592	534	510
(WY)	1993	1988	1977	1977	1977	1992	1967	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1957 - 1996	
ANNUAL TOTAL	915692		1069139			
ANNUAL MEAN	2509		2921		2005	
HIGHEST ANNUAL MEAN					3128	1974
LOWEST ANNUAL MEAN					1062	1977
HIGHEST DAILY MEAN	16400	Feb 1	39100	Feb 7	48000	Dec 23 1964
LOWEST DAILY MEAN	543	Sep 21	660	Oct 10	410	Sep 4 1986
ANNUAL SEVEN-DAY MINIMUM	552	Sep 18	749	Aug 23	490	Sep 1 1992
ANNUAL RUNOFF (AC-FT)	1816000		2121000		1453000	
ANNUAL RUNOFF (CFSM)	5.24		6.10		4.19	
ANNUAL RUNOFF (INCHES)	71.11		83.03		56.88	
10 PERCENT EXCEEDS	4990		5740		3660	
50 PERCENT EXCEEDS	1910		1970		1550	
90 PERCENT EXCEEDS	650		919		683	

e Estimated

14209700 FISH CREEK NEAR THREE LYNX, OR

LOCATION.--Lat 45°08'52", long 122°09'07", in NE 1/4 SE 1/4 sec.11, T.5 S., R.5 E., Clackamas County, Hydrologic Unit 17090011, Mount Hood National Forest, on right bank, 0.7 mi upstream from Clackamas River, and at mile 1.15.

DRAINAGE AREA.--45.2 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 940 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--7 years (water years 1990-96), 207 ft^3/s, 62.11 in/yr, 149,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,540 ft^3/s Feb. 7, 1996, gage height, 11.83 ft, from rating curve extended above 2,800 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 15.40 ft, backwater from debris flow; minimum discharge, 6.0 ft^3/s Sept. 1, 2, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 8	2030	1,890	8.08	Dec. 30	1700	2,250	8.45
Nov. 11	1930	3,440	9.50	Feb. 7	1600	*7,540	*11.83
Nov. 28	0200	6,440	11.31	Feb. 7	unknown	--	*ab15.40
Nov. 30	0530	3,380	9.45	Feb. 8	2400	4,310	10.07
Dec. 1	0800	3,010	9.16	Apr. 24	0330	2,270	8.51

Minimum discharge, 20 ft^3/s Sept. 8-14.
a From floodmark.
b Backwater from debris flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	91	2350	762	e110	161	227	183	133	63	26	21
2	57	80	1160	522	e110	164	266	166	122	59	28	21
3	457	72	801	499	e110	217	238	152	112	55	28	21
4	333	67	800	489	131	657	195	135	103	53	27	21
5	178	73	629	430	495	566	174	122	96	50	27	21
6	118	181	463	489	3270	400	174	111	88	48	26	21
7	87	308	371	658	5970	319	188	105	83	45	25	21
8	73	902	306	835	e2800	334	196	98	78	43	25	21
9	65	1020	451	629	e2500	345	187	92	74	42	24	21
10	62	645	703	503	e950	384	171	86	71	41	24	20
11	669	2100	1160	402	e600	425	161	83	67	39	24	20
12	551	1370	1190	322	e440	375	201	84	64	38	23	20
13	309	954	1110	268	363	313	305	105	61	36	23	20
14	203	674	1050	257	335	264	258	161	59	35	23	23
15	146	509	954	649	320	227	255	207	56	34	23	54
16	122	437	652	984	297	196	350	198	54	34	22	90
17	162	363	468	651	347	175	375	234	56	37	23	82
18	296	408	369	455	824	159	314	366	62	44	23	48
19	198	353	309	555	765	e150	287	528	54	40	23	46
20	154	303	269	673	602	147	264	387	51	36	22	40
21	143	263	238	650	444	136	239	300	49	35	22	36
22	142	238	215	413	341	133	341	452	47	33	22	35
23	122	221	195	318	308	125	1060	566	66	32	22	32
24	105	250	176	273	252	119	1630	461	88	31	21	30
25	109	991	162	232	232	108	828	343	85	30	21	28
26	371	1040	151	201	222	104	611	262	86	29	21	27
27	291	1710	143	190	197	101	432	210	85	29	22	26
28	209	3040	145	170	178	98	317	191	82	28	22	25
29	158	1570	573	149	167	97	250	184	76	28	21	24
30	127	2460	1360	e120	---	94	207	165	69	27	21	24
31	107	---	1290	e110	---	129	---	149	---	27	21	---
TOTAL	6198	22693	20213	13858	23680	7222	10701	6886	2277	1201	725	939
MEAN	200	756	652	447	817	233	357	222	75.9	38.7	23.4	31.3
MAX	669	3040	2350	984	5970	657	1630	566	133	63	28	90
MIN	57	67	143	110	110	94	161	83	47	27	21	20
AC-FT	12290	45010	40090	27490	46970	14320	21230	13660	4520	2380	1440	1860
CFSM	4.42	16.7	14.4	9.89	18.1	5.15	7.89	4.91	1.68	.86	.52	.69
IN.	5.10	18.68	16.64	11.41	19.49	5.94	8.81	5.67	1.87	.99	.60	.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	81.9	353	358	355	391	271	321	179	112	36.5	18.8	16.8
MAX	200	756	652	510	817	516	447	274	195	62.8	31.4	31.3
(WY)	1996	1996	1996	1995	1996	1993	1993	1991	1993	1993	1993	1996
MIN	15.3	26.7	216	187	110	87.0	234	68.0	20.9	13.6	8.20	11.6
(WY)	1994	1994	1991	1993	1993	1992	1994	1992	1992	1992	1992	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	108820		116593			
ANNUAL MEAN	298		319		207	
HIGHEST ANNUAL MEAN					319	1996
LOWEST ANNUAL MEAN					133	1994
HIGHEST DAILY MEAN	3040	Nov 28	5970	Feb 7	5970	Feb 7 1996
LOWEST DAILY MEAN	11	Sep 21	20	Sep 10	6.1	Sep 2 1992
ANNUAL SEVEN-DAY MINIMUM	11	Sep 19	20	Sep 7	6.4	Aug 28 1992
ANNUAL RUNOFF (AC-FT)	215800		231300		149700	
ANNUAL RUNOFF (CFSM)	6.60		7.05		4.57	
ANNUAL RUNOFF (INCHES)	89.56		95.96		62.11	
10 PERCENT EXCEEDS	701		683		475	
50 PERCENT EXCEEDS	163		161		117	
90 PERCENT EXCEEDS	18		24		13	

e Estimated

14210000 CLACKAMAS RIVER AT ESTACADA, OR

LOCATION.--Lat 45°18'00", long 122°21'10", in NE 1/4 sec.19, T.3 S., R.4 E., Clackamas County, Hydrologic Unit 17090011, on left bank 0.2 mi downstream from River Mill Dam, 1.5 mi northwest of Estacada, and at mile 23.1.

DRAINAGE AREA.--671 mi^2.

PERIOD OF RECORD.--April 1908 to current year. Monthly discharge only April 1908, published in WSP 1318. Published as "near Cazadero" January 1909 to September 1957.

REVISED RECORDS.--WSP 1248: 1908-9, 1910(M), 1916, 1917(M), 1922(M), 1923. WSP 1288: Drainage area (former site). WSP 1638: 1919(M).

GAGE.--Water-stage recorder. Datum of gage is 286.93 ft above sea level (levels by Portland General Electric Co.). See WSP 1738 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957, to Feb. 16, 1965, water-stage recorder at same site at datum 12.00 ft higher. Feb. 17, 1965 to Sept. 30, 1991, water-stage recorder at same site at datum 10 ft higher.

REMARKS.--No estimated daily discharges. Records good. Large diurnal fluctuations and some regulation caused by powerplants at River Mill Dam and, since 1958, North Fork Dam. Minor regulation since 1956 by Timothy Lake (station 14208600). Two small diversions upstream from station for Oregon City and Estacada municipal water supply.

AVERAGE DISCHARGE.--88 years (water years 1909-1996), 2,738 ft^3/s, 55.41 in/yr, 1,984,000 acre-ft/yr.
38 years (water years 1959-96), 2,800 ft^3/s, 56.70 in/yr, 2,029,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,900 ft^3/s Dec. 22, 1964, gage height, 28.36 ft (present datum); minimum discharge, 50 ft^3/s Mar. 10, 1961, from rating curve extended below 260 ft^3/s; minimum daily, 285 ft^3/s Oct. 4, 5, 1958, caused by filling of North Fork dam forebay.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1900	23,300	20.04	Dec. 13	0330	15,300	17.87
Nov. 28	0530	40,100	23.40	Feb. 7	2100	*68,900	*27.57
Nov. 30	0700	27,000	20.89	Feb. 10	0600	19,100	18.97
Dec. 1	0830	25,000	20.43	Apr. 24	0730	21,600	19.62

Minimum discharge, 278 ft^3/s Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	1700	21400	8510	2640	2730	3350	3920	2450	1460	1060	1090
2	874	1610	13200	6480	2480	2650	3980	3550	2310	1410	1040	1110
3	2440	1520	9400	6340	2510	2880	3670	3370	2230	1390	955	1100
4	2460	1490	10200	6420	2540	5170	3210	3120	2150	1410	955	1120
5	1690	1540	8160	5590	3900	5910	2920	2830	2060	1330	958	1120
6	1340	1940	6610	5840	22000	4890	2780	2620	2020	1310	935	1100
7	1210	2450	5720	6550	57900	4380	2970	2450	1860	1270	935	1100
8	1140	5170	4850	9060	40700	4350	3280	2400	1900	1250	1200	1100
9	1100	8710	4720	7490	36200	4580	3330	2280	1840	1220	1190	1120
10	1080	5610	5620	6660	16600	4790	3110	2230	1770	1230	1160	1060
11	3430	13300	9850	5720	10800	5410	2950	2170	1730	1200	1170	1090
12	3920	13000	12500	5110	8400	5480	3190	2150	1700	1190	1020	1070
13	2590	9210	13100	4510	7210	4930	3580	2110	1670	1150	895	1080
14	1990	7040	11100	4200	6560	4260	3400	2810	1630	1150	830	1120
15	1720	5380	10700	6400	6100	3830	3320	3570	1600	1150	879	1670
16	1560	4430	8060	10800	5800	3730	4170	3660	1570	1080	861	1820
17	1790	3710	6630	8440	5850	3460	4530	3440	1560	1140	1060	1660
18	2660	3730	5690	6730	10500	3270	4180	4960	1670	1280	1130	1380
19	2150	3350	4780	6770	9870	3150	3940	6080	1570	1190	1020	1380
20	1930	3050	4270	7360	8260	3030	3690	5220	1520	1120	880	1310
21	1960	2680	3750	7810	7080	2920	3460	4360	1470	1090	873	1220
22	2000	2580	3350	6260	6050	2800	4170	5300	1440	1110	847	1270
23	1900	2530	3070	5350	5780	2710	9550	6140	1580	1070	851	1260
24	1800	2680	2780	4940	5000	2610	17900	5470	1940	1080	842	1140
25	1820	6090	2590	4390	4380	2400	10700	4530	1690	1080	845	1170
26	2780	7850	2420	4000	3950	2310	8310	3940	1660	1030	841	1060
27	2540	8870	2300	3890	3500	2280	6640	3480	1720	1030	863	1080
28	2270	27100	2320	3670	3220	2260	5520	3180	1650	1030	879	1060
29	2060	14200	4100	3430	2970	2220	4730	3090	1570	1030	809	1060
30	1890	22300	8660	3170	---	2180	3980	2940	1510	1050	811	1080
31	1790	---	12600	2690	---	2330	---	2600	---	1080	1090	---
TOTAL	61224	194820	224500	184580	308750	109900	144510	109970	53040	36610	29684	36000
MEAN	1975	6494	7242	5954	10650	3545	4817	3547	1768	1181	958	1200
MAX	3920	27100	21400	10800	57900	5910	17900	6140	2450	1460	1200	1820
MIN	874	1490	2300	2690	2480	2180	2780	2110	1440	1030	809	1060
AC-FT	121400	386400	445300	366100	612400	218000	286600	218100	105200	72620	58880	71410
CFSM	2.94	9.68	10.8	8.87	15.9	5.28	7.18	5.29	2.63	1.76	1.43	1.79
IN.	3.39	10.80	12.45	10.23	17.12	6.09	8.01	6.10	2.94	2.03	1.65	2.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1996, BY WATER YEAR (WY)

MEAN	1324	3288	4446	4481	4331	3652	3642	3393	2179	1145	878	944
MAX	2712	6494	11170	8821	10650	8921	5296	6396	5143	2018	1208	1602
(WY)	1969	1996	1965	1974	1996	1972	1993	1969	1974	1974	1974	1959
MIN	725	806	1030	1036	977	1850	1867	1456	882	763	659	613
(WY)	1989	1988	1977	1977	1977	1992	1967	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1959 - 1996	
ANNUAL TOTAL	1300671		1493588			
ANNUAL MEAN	3563		4081		2800	
HIGHEST ANNUAL MEAN					4407	1974
LOWEST ANNUAL MEAN					1454	1977
HIGHEST DAILY MEAN	27100	Nov 28	57900	Feb 7	57900	Feb 7 1996
LOWEST DAILY MEAN	743	Sep 23	809	Aug 29	285	Oct 4 1958
ANNUAL SEVEN-DAY MINIMUM	767	Sep 18	841	Aug 24	507	Oct 3 1958
ANNUAL RUNOFF (AC-FT)	2580000		2963000		2029000	
ANNUAL RUNOFF (CFSM)	5.31		6.08		4.17	
ANNUAL RUNOFF (INCHES)	72.11		82.80		56.70	
10 PERCENT EXCEEDS	7090		8270		5300	
50 PERCENT EXCEEDS	2660		2640		2170	
90 PERCENT EXCEEDS	896		1070		785	

14211500 JOHNSON CREEK AT SYCAMORE, OR

LOCATION.--Lat 45°28'40", long 122°30'24", in lot 2, SW 1/4 sec.13, T.1 S., R.2 E., Multnomah County, Hydrologic Unit 17090012, on right bank 0.3 mi southwest of Sycamore station, 2.5 mi east of city limits of Portland, and at mile 10.2.

DRAINAGE AREA.--26.5 mi^2.

PERIOD OF RECORD.--July 1940 to current year.

REVISED RECORDS.--WSP 1318: 1941(M). WDR OR-75-1: 1974. WDR OR-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 228.47 ft above sea level.

REMARKS.--Records fair. Discharge for period Feb. 8 to Mar. 8 computed from data obtained through U.S. Army Corps of Engineers Columbia River Operational Hydromet System (CROHMS) database. Since January 1980, on occasional overflow from the Powell Butte Reservoir enters Johnson Creek at Circle Avenue, mile 11.6. Slight diurnal fluctuation at low flow caused by recreational ponds upstream. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--56 years (water years 1941-96), 53.7 ft^3/s, 27.51 in/yr, 38,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft^3/s Dec. 22, 1964, gage height, 14.68 ft; minimum discharge, 0.08 ft^3/s Aug. 21, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	unknown	unknown	unknown	Jan. 20	2100	696	8.97
Nov. 28	0330	918	10.26	Feb. 6	1230	1,430	12.28
Dec. 1	0500	625	8.50	Feb. 7	unknown	*2,350	*a14.28
Dec. 10	2100	611	8.40	Feb. 8	unknown	2,240	a14.08
Dec. 14	1600	677	8.85	Feb. 23	0600	634	8.56
Jan. 16	0930	512	7.65				

Minimum discharge, 0.47 ft^3/s Sept. 12.
a From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	465	125	e55	35	95	39	20	4.0	2.2	.81
2	15	12	246	93	e46	26	65	37	18	3.8	3.0	.75
3	39	10	158	145	e38	53	44	38	16	3.7	2.9	.80
4	20	9.5	157	98	e36	342	36	35	14	5.5	2.7	.93
5	13	13	107	89	158	297	31	27	13	3.7	4.7	1.1
6	16	19	78	135	1040	161	28	23	12	3.3	2.4	1.4
7	10	43	62	371	e1320	101	26	22	10	3.6	2.3	1.4
8	13	132	51	249	e1560	74	24	19	10	3.3	2.2	1.5
9	10	111	90	219	e1030	56	21	16	9.4	3.1	2.1	1.1
10	31	114	258	223	265	52	19	14	8.4	3.0	1.9	.83
11	213	e1300	413	131	160	86	24	13	8.0	2.8	1.9	.73
12	79	294	376	98	113	83	32	17	7.9	2.8	1.9	.70
13	41	239	268	76	87	57	39	49	7.3	2.9	1.5	1.5
14	30	126	390	81	69	48	27	104	6.5	2.7	1.6	21
15	24	97	251	267	58	42	28	126	6.3	2.4	1.6	70
16	22	84	139	391	50	37	52	105	6.3	2.7	1.8	30
17	50	64	99	185	61	33	39	185	9.7	6.9	1.3	21
18	43	63	82	140	111	29	45	141	9.8	6.2	1.3	7.3
19	28	48	63	255	172	28	57	135	6.3	3.5	1.4	7.7
20	28	42	53	471	146	26	47	86	5.7	3.1	1.5	5.2
21	23	41	46	450	181	23	53	91	5.5	2.8	1.4	3.8
22	22	46	41	234	131	28	177	160	5.5	2.6	1.2	4.3
23	20	54	38	188	447	21	336	97	9.0	2.5	1.4	3.2
24	18	163	32	312	220	22	325	70	12	2.4	1.1	3.2
25	25	183	29	201	131	19	205	53	9.7	2.4	1.1	2.8
26	46	132	26	131	93	19	174	42	6.0	2.5	1.5	2.7
27	28	322	25	110	70	19	105	35	5.1	2.4	1.5	2.5
28	25	586	31	140	54	17	73	31	6.8	2.3	1.7	2.3
29	22	321	146	132	44	16	54	31	5.0	2.7	1.5	2.5
30	18	347	260	85	---	15	43	28	4.5	2.6	1.3	2.6
31	16	---	221	e65	---	47	---	22	---	2.3	.92	---
TOTAL	1000	5029.5	4701	5890	7946	1912	2324	1891	273.7	100.5	56.82	205.65
MEAN	32.3	168	152	190	274	61.7	77.5	61.0	9.12	3.24	1.83	6.86
MAX	213	1300	465	471	1560	342	336	185	20	6.9	4.7	70
MIN	10	9.5	25	65	36	15	19	13	4.5	2.3	.92	.70
AC-FT	1980	9980	9320	11680	15760	3790	4610	3750	543	199	113	408
CFSM	1.22	6.33	5.72	7.17	10.3	2.33	2.92	2.30	.34	.12	.07	.26
IN.	1.40	7.06	6.60	8.27	11.15	2.68	3.26	2.65	.38	.14	.08	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1996, BY WATER YEAR (WY)

MEAN	10.7	71.4	125	140	121	84.4	49.7	26.0	11.2	3.09	1.93	2.91
MAX	65.4	239	302	308	320	196	130	90.1	63.5	30.0	8.04	11.4
(WY)	1969	1951	1965	1970	1949	1957	1955	1963	1984	1983	1968	1972
MIN	1.29	1.56	4.34	9.01	16.0	18.1	9.46	3.32	1.46	.64	.44	.55
(WY)	1966	1953	1977	1977	1977	1992	1942	1966	1966	1973	1970	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1941 - 1996	
ANNUAL TOTAL	24463.9		31330.17			
ANNUAL MEAN	67.0		85.6		53.7	
HIGHEST ANNUAL MEAN					91.3	1974
LOWEST ANNUAL MEAN					15.6	1977
HIGHEST DAILY MEAN	1300	Nov 11	1560	Feb 8	2150	Dec 22 1964
LOWEST DAILY MEAN	1.5	Jul 31	.70	Sep 12	.10	Aug 7 1973
ANNUAL SEVEN-DAY MINIMUM	1.5	Jul 30	.94	Aug 30	.11	Aug 5 1973
ANNUAL RUNOFF (AC-FT)	48520		62140		38870	
ANNUAL RUNOFF (CFSM)	2.53		3.23		2.02	
ANNUAL RUNOFF (INCHES)	34.34		43.98		27.51	
10 PERCENT EXCEEDS	183		222		146	
50 PERCENT EXCEEDS	28		30		14	
90 PERCENT EXCEEDS	2.3		2.2		1.1	

e Estimated

14211550 JOHNSON CREEK AT MILWAUKIE, OR

LOCATION.--Lat 45°27'11", long 122°38'31", in NE 1/4 SE 1/4 sec.26, T.1 S., R.1 E., Clackamas County, Hydrologic Unit 17090012, on the right bank upstream side of the Milport Road bridge, in the city limits of Milwaukie, and at mile 0.7.

DRAINAGE AREA.--51.8 mi^2.

PERIOD OF RECORD.--April 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is sea level, from State of Oregon.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Small diversions for irrigation upstream from station. Significant portion of summer flow is from Crystal Springs, through Crystal Springs Creek, which enters 0.5 mi upstream from gage.

AVERAGE DISCHARGE.--7 years (water years 1990-96), 75.6 ft^3/s, 19.84 in/yr, 54,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s Feb. 8, 1996, gage height 30.27 ft; maximum gage height, 34.43 ft, Feg. 9, 1996, backwater from Willamette River; minimum discharge, 10 ft^3/s July 1, 3-5, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	2130	1,710	29.58	Jan. 20	1800	974	28.08
Nov. 28	0630	1,150	28.47	Feb. 8	0330	*2,170	30.27
Dec. 1	0700	842	27.77	Feb. 9	1330	--	*a34.43
Dec. 10	2400	851	27.79	Feb. 23	0900	938	28.00
Dec. 14	1930	876	27.86				

Minimum discharge, 22 ft^3/s Oct. 10.
a Backwater from Willamette River.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	27	644	159	70	78	146	70	49	29	27	26
2	32	25	331	116	63	73	109	64	46	29	28	26
3	61	24	207	173	58	105	81	67	44	29	29	26
4	41	25	213	123	63	508	68	64	40	31	28	27
5	30	29	148	112	186	424	61	55	39	30	29	27
6	27	35	112	167	1300	237	58	51	37	29	28	26
7	32	61	94	454	1460	159	54	49	36	29	27	26
8	27	147	78	347	e1550	125	52	48	35	29	26	26
9	28	155	113	260	e1450	105	50	45	34	28	26	26
10	37	128	307	296	e460	100	48	42	33	28	26	26
11	275	1210	578	170	e320	131	53	41	32	27	26	26
12	113	548	524	128	e260	140	65	50	32	27	26	26
13	62	337	362	102	211	103	73	75	31	27	26	26
14	48	181	487	100	185	89	57	162	30	28	26	52
15	40	135	368	330	168	79	55	185	30	27	26	137
16	38	122	186	506	153	71	81	173	29	27	25	57
17	68	99	134	240	174	65	71	256	32	33	26	61
18	70	96	115	180	244	61	73	212	40	37	26	36
19	44	75	92	321	340	60	97	194	33	31	26	34
20	43	66	78	598	280	56	79	131	31	29	26	31
21	40	64	68	657	350	54	82	123	29	28	26	30
22	36	77	61	312	265	61	213	236	30	28	25	29
23	33	79	55	237	678	54	448	149	40	27	25	29
24	30	202	50	399	297	53	429	112	40	28	26	26
25	39	238	46	272	186	48	259	91	41	27	26	26
26	66	172	43	175	141	46	231	75	33	27	26	26
27	45	376	41	150	116	46	146	64	31	28	26	26
28	39	827	49	182	100	46	113	60	32	28	27	25
29	35	411	180	183	88	44	94	65	32	28	27	26
30	31	490	315	120	---	43	80	61	30	28	26	25
31	29	---	290	89	---	83	---	53	---	28	26	---
TOTAL	1570	6461	6369	7658	11216	3347	3526	3123	1051	889	819	1016
MEAN	50.6	215	205	247	387	108	118	101	35.0	28.7	26.4	33.9
MAX	275	1210	644	657	1550	508	448	256	49	37	29	137
MIN	27	24	41	89	58	43	48	41	29	27	25	25
AC-FT	3110	12820	12630	15190	22250	6640	6990	6190	2080	1760	1620	2020
CFSM	.98	4.16	3.97	4.77	7.47	2.08	2.27	1.94	.68	.55	.51	.65
IN.	1.13	4.64	4.57	5.50	8.05	2.40	2.53	2.24	.75	.64	.59	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1996, BY WATER YEAR (WY)

MEAN	33.0	92.2	126	156	184	87.3	86.5	54.3	30.5	20.4	19.0	19.7
MAX	59.6	215	205	247	387	114	137	101	47.9	28.7	26.4	33.9
(WY)	1995	1996	1996	1996	1996	1993	1993	1996	1993	1996	1996	1996
MIN	16.8	18.5	68.7	106	34.0	44.1	50.4	22.2	16.7	14.1	14.8	15.9
(WY)	1994	1994	1994	1992	1993	1992	1990	1994	1992	1994	1994	1993

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1989 - 1996	
ANNUAL TOTAL	36097		47045			
ANNUAL MEAN	98.9		129		75.6	
HIGHEST ANNUAL MEAN					129	1996
LOWEST ANNUAL MEAN					54.9	1994
HIGHEST DAILY MEAN	1210	Nov 11	1550	Feb 8	1600	Feb 24 1994
LOWEST DAILY MEAN	15	Sep 22	24	Nov 3	10	Jul 3 1994
ANNUAL SEVEN-DAY MINIMUM	16	Sep 18	26	Aug 16	11	Jun 28 1994
ANNUAL RUNOFF (AC-FT)	71600		93310		54790	
ANNUAL RUNOFF (CFSM)	1.91		2.48		1.46	
ANNUAL RUNOFF (INCHES)	25.92		33.79		19.84	
10 PERCENT EXCEEDS	220		313		162	
50 PERCENT EXCEEDS	48		58		33	
90 PERCENT EXCEEDS	18		26		16	

e Estimated

14211720 WILLAMETTE RIVER AT PORTLAND, OR
(National stream quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 45°31'07", long 122°40'00", in NW 1/4 NE 1/4 sec.3, T.1 S., R.1 E., Multnomah County, Hydrologic Unit 17090012, in pier at east end of drawspan, on upstream side of Morrison Bridge, in Portland, and at mile 12.8.

DRAINAGE AREA.--11,100 mi^2, approximately.

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1975 to September 1981.
WATER TEMPERATURE: November 1975 to September 1981.

REMARKS.--Water-discharge records used for computation of suspended-sediment loads were obtained by flow routing procedures using upsteam records.

WATER-QUALITY DATA

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 1995												
23...	1100	E18700	68	7.3	12.5	3.6	10.6	762	99	22	5.9	1.8
NOV												
13...	1130	E89200	53	7.1	10.5	36	13.1	762	118	18	4.6	1.5
27...	1020	E69700	64	7.2	10.5	--	12.5	764	113	--	--	--
JAN 1996												
09...	1020	E102000	57	7.1	8.5	19	13.2	758	114	20	5.3	1.7
APR												
08...	1110	E24800	70	7.3	12.5	5.3	10.8	760	102	22	5.7	1.9
JUN												
07...	1145	E20000	75	7.3	17.5	2.9	9.8	768	102	26	6.7	2.3
17...	1140	E13700	90	7.8	18.5	2.1	10.1	765	108	28	7.1	2.5
JUL												
08...	1030	E10000	86	7.3	21.0	2.9	9.1	761	102	26	6.8	2.3
AUG												
28...	1050	E8830	91	7.1	20.5	1.1	7.8	761	87	26	6.7	2.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, DIS IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE, DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE, DIS IT FIELD (MG/L AS CO3) (00452)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 1995												
23...	4.6	30	0.4	0.8	25	30	0	1.9	3.5	<0.1	16	50
NOV												
13...	3.3	28	0.3	0.9	15	19	0	2.0	3.0	<0.1	13	38
27...	--	--	--	--	20	24	0	--	--	--	--	--
JAN 1996												
09...	3.4	26	0.3	0.6	19	22	0	1.6	2.4	0.1	15	56
APR												
08...	4.1	28	0.4	0.7	25	30	0	3.1	3.6	<0.1	16	53
JUN												
07...	5.1	29	0.4	0.7	28	34	0	3.1	3.6	<0.1	17	54
17...	6.1	31	0.5	0.9	31	38	0	4.2	5.2	0.1	16	65
JUL												
08...	6.5	34	0.6	0.9	31	38	0	3.3	5.0	<0.1	15	67
AUG												
28...	7.1	36	0.6	1.1	27	32	0	5.2	5.4	<0.1	16	56

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 1995											
23...	51	0.07	0.03	0.01	<0.2	<0.2	0.25	0.04	0.03	0.040	1.6
NOV											
13...	41	0.05	<0.02	0.01	0.2	0.5	0.58	0.16	0.07	0.030	3.4
27...	--	--	0.05	<0.01	<0.2	0.3	0.79	0.09	0.04	0.038	2.3
JAN 1996											
09...	44	0.08	0.03	<0.01	<0.2	<0.2	0.59	0.09	0.04	0.028	2.0
APR											
08...	52	0.07	0.07	0.02	<0.2	0.2	0.46	0.06	0.03	0.029	1.7
JUN											
07...	57	0.07	0.06	0.01	<0.2	<0.2	0.40	0.06	0.03	0.024	1.2
17...	62	0.09	0.04	0.01	<0.2	0.2	0.33	0.06	<0.01	0.016	1.5
JUL											
08...	60	0.09	0.04	0.01	<0.2	<0.2	0.33	0.03	<0.01	0.022	1.4
AUG											
28...	61	0.08	0.09	0.02	0.3	0.2	0.35	0.04	0.03	0.056	1.4

E - Estimated.

14211720 WILLAMETTE RIVER AT PORTLAND, OR--Continued

WATER-QUALITY DATA

DATE	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT 1995											
23...	0.5	20	--	<1	5.0	<1	<1	<5	<3	<1	110
NOV											
13...	2.8	155	<1	<1	6.0	<1	<1	<1	<1	2	170
27...	1.2	130	<1	--	7.0	<1	<1	<1	<1	2	--
JAN 1996											
09...	0.9	159	<1	<1	6.0	<1	<1	<1	<1	1	140
APR											
08...	0.6	37	<1	<1	5.0	<1	<1	<1	<1	<1	57
JUN											
07...	0.9	24	<1	<1	6.0	<1	<1	<1	<1	<1	62
17...	1.4	10	<1	<1	6.0	<1	<1	<1	<1	1	39
JUL											
08...	0.6	5.4	<1	<1	5.6	<1	<1	<1	<1	<1	23
AUG											
28...	0.4	7.0	<1	<1	6.0	<1	<1	<1	<1	1	26

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	URANIUM NATURAL, DIS-SOLVED (UG/L AS U) (22703)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 1995											
23...	<1	<4	9	<10	<1	<1	<1	38	--	<6	9
NOV											
13...	<1	<4	6	<1	<1	<1	<1	30	<1	<6	4
27...	<1	--	6	<1	<1	--	<1	--	<1	--	7
JAN 1996											
09...	<1	<4	5	<1	<1	<1	<1	36	<1	<6	2
APR											
08...	<1	<4	10	<1	<1	<1	<1	34	<1	<6	2
JUN											
07...	<1	<4	9	<1	<1	<1	<1	42	<1	<6	2
17...	<1	<4	<1	<1	<1	<1	<1	46	<1	<6	1
JUL											
08...	<1	<4	<1	<1	<1	<1	<1	43	<1	<6	1
AUG											
28...	<1	<4	3	<1	<1	<1	<1	40	<1	<6	4

DATE	DIAZ-INON, D10 SRG, WAT FLT 0.7 U GF, REC PERCENT (91063)	TERBUTH YLAZINE, SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	HCH ALPHA, D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS, WATER DISS REC (UG/L) (04095)	ALPHA BHC, DIS-SOLVED (UG/L) (34253)
OCT 1995											
23...	113	122	129	<0.007	<0.002	0.013	<0.018	E0.003	<0.004	<0.003	<0.002
NOV											
13...	116	125	118	<0.007	<0.002	0.034	E0.007	<0.002	<0.004	<0.003	<0.002
27...	160	157	143	<0.007	<0.002	0.034	<0.018	E0.007	<0.004	<0.003	<0.002
JAN 1996											
09...	90	114	91	<0.007	<0.002	0.011	<0.018	E0.008	<0.004	<0.003	<0.002
APR											
08...	102	116	120	<0.007	<0.002	0.016	<0.018	E0.006	<0.004	E0.003	<0.002
JUN											
07...	95	108	105	<0.007	<0.002	0.007	<0.018	E0.001	<0.004	<0.003	<0.002
17...	93	106	58	<0.007	<0.002	E0.004	<0.018	E0.001	<0.004	<0.003	<0.002
JUL											
08...	88	117	110	<0.007	<0.002	0.009	<0.018	E0.004	<0.004	<0.003	<0.002
AUG											
28...	92	106	85	<0.007	<0.002	<0.005	<0.018	<0.002	<0.004	<0.003	<0.002

E - Estimated.

14211720 WILLAMETTE RIVER AT PORTLAND, OR--Continued

WATER-QUALITY DATA

DATE	P,P' DDE, DISSOLV (UG/L) (34653)	CHLOR-PYRIFOS, DIS-SOLVED (UG/L) (38933)	LINDANE, DIS-SOLVED (UG/L) (39341)	DI-ELDRIN, DIS-SOLVED (UG/L) (39381)	METO-LACHLOR, WATER DISSOLV (UG/L) (39415)	MALA-THION, DIS-SOLVED (UG/L) (39532)	PARA-THION, DIS-SOLVED (UG/L) (39542)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
OCT 1995											
23...	<0.006	<0.004	<0.004	<0.001	0.020	<0.005	<0.004	<0.002	0.011	<0.002	<0.002
NOV											
13...	<0.006	<0.004	<0.004	<0.001	0.034	<0.005	<0.004	<0.002	0.086	<0.002	<0.002
27...	<0.006	<0.004	<0.004	<0.001	0.031	<0.005	<0.004	<0.002	0.137	<0.002	<0.002
JAN 1996											
09...	<0.006	<0.004	<0.004	<0.001	0.016	<0.005	<0.004	<0.002	0.079	<0.002	<0.002
APR											
08...	<0.006	0.006	<0.004	<0.001	0.011	<0.005	<0.004	0.005	0.036	<0.002	<0.002
JUN											
07...	<0.006	E0.003	<0.004	<0.001	0.005	<0.005	<0.004	E0.003	0.019	<0.002	<0.002
17...	<0.006	<0.004	<0.004	<0.001	0.004	<0.005	<0.004	E0.004	0.014	<0.002	<0.002
JUL											
08...	<0.006	<0.004	<0.004	<0.001	0.010	<0.005	<0.004	0.005	0.013	<0.002	<0.002
AUG											
28...	<0.006	<0.004	<0.004	<0.001	E0.003	<0.005	<0.004	<0.002	0.006	<0.002	<0.002

DATE	METRI-BUZIN SENCOR, WATER DISSOLV (UG/L) (82630)	2,6-DI-ETHYL ANILINE, WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	TER-BACIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	LIN-URON, WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA-THION, WAT FLT 0.7 U GF, REC (UG/L) (82667)	EPTC, WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB-ULATE, WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU-THIURON, WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
OCT 1995											
23...	<0.004	<0.003	<0.002	<0.004	<0.002	E0.031	<0.002	<0.006	<0.002	<0.004	<0.010
NOV											
13...	0.010	<0.003	<0.002	<0.004	<0.002	E0.008	<0.002	<0.006	<0.002	<0.004	<0.010
27...	0.011	<0.003	<0.002	<0.004	<0.002	E0.008	<0.002	<0.006	E0.001	<0.004	<0.010
JAN 1996											
09...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
APR											
08...	<0.004	<0.003	<0.002	<0.004	<0.002	E0.021	<0.002	<0.006	<0.002	<0.004	E0.012
JUN											
07...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	E0.003	<0.004	E0.004
17...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	E0.003	<0.004	<0.010
JUL											
08...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	E0.003	<0.004	E0.005
AUG											
28...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010

DATE	MOL-INATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO-PROP, WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN-FLUR-ALIN, WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO-FURAN, WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER-BUFOS, WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL-FOTON, WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL-LATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO-PANIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR-BARYL, WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO-BENCARB, WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
OCT 1995											
23...	<0.004	<0.003	<0.002	E0.018	<0.013	<0.003	<0.017	<0.001	<0.004	<0.007	<0.002
NOV											
13...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	E0.009	<0.002
27...	<0.004	<0.003	<0.002	<0.003	<0.013	0.011	<0.017	<0.001	<0.004	E0.007	<0.002
JAN 1996											
09...	<0.004	<0.003	<0.002	<0.003	<0.013	0.020	<0.017	0.002	<0.004	<0.003	<0.002
APR											
08...	<0.004	<0.003	<0.002	<0.004	<0.013	0.005	<0.017	<0.008	<0.004	E0.007	<0.002
JUN											
07...	<0.004	0.004	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	E0.003	<0.002
17...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
JUL											
08...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
AUG											
28...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002

E - Estimated.

14211720 WILLAMETTE RIVER AT PORTLAND, OR--Continued

WATER-QUALITY DATA

DATE	DCPA, WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI-METH-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO-PARGITE, WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN-PHOS, WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER-METHRIN CIS, WAT FLT 0.7 U GF, REC (UG/L) (82687)	AN-TIMONY, SED. SUSP. (UG/G) (29816)	ARSENIC, SED. SUSP. (UG/G) (29818)	BARIUM, SED. SUSP. (UG/G) (29820)	BERYL-LIUM, SED. SUSP. (UG/G) (29822)	CADMIUM, SED. SUSP. (UG/G) (29826)
OCT 1995											
23...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.0	10.4	400	1.3	<0.1
NOV											
13...	<0.002	<0.004	0.007	<0.013	<0.001	<0.005	0.7	7.7	460	1.5	<0.1
27...	<0.002	<0.004	0.006	<0.013	<0.001	<0.005	0.9	8.6	490	1.5	<0.1
JAN 1996											
09...	<0.002	<0.004	0.007	<0.013	<0.001	<0.005	0.7	8.2	500	1.5	0.1
APR											
08...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.7	8.3	420	1.2	0.2
JUN											
07...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.1	9.6	450	1.5	0.8
17...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.7	7.5	420	1.2	0.3
JUL											
08...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.0	8.2	430	1.3	0.5
AUG											
28...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.3	6.5	420	1.5	0.3

DATE	CHRO-MIUM, SED. SUSP. (UG/G) (29829)	COPPER, SED. SUSP. (UG/G) (29832)	LEAD, SED. SUSP. (UG/G) (29836)	MAN-GANESE, SED. SUSP. (UG/G) (29839)	MERCURY, SED. SUSP. (UG/G) (29841)	MOLYB-DENUM, SED. SUSP. (UG/G) (29843)	NICKEL, SED. SUSP. (UG/G) (29845)	SELE-NIUM, SED. SUSP. (UG/G) (29847)	SILVER, SED. SUSP. (UG/G) (29850)	VANA-DIUM, SED. SUSP. (UG/G) (29853)	ZINC, SED. SUSP. (UG/G) (29855)
OCT 1995											
23...	--	50.0	73	2400	0.11	--	--	0.4	0.7	140	170
NOV											
13...	--	52.7	31	1800	0.07	--	--	0.4	<0.5	160	130
27...	--	54.8	42	1800	0.08	--	--	0.6	<0.5	170	140
JAN 1996											
09...	--	55.9	19	1400	0.09	--	--	0.5	0.5	170	130
APR											
08...	92	52.0	12	1800	0.06	6	58	0.3	--	160	130
JUN											
07...	79	66.0	35	3300	0.12	7	55	--	--	160	250
17...	73	49.0	29	3100	0.12	4	44	0.1	1.5	150	140
JUL											
08...	74	390.0	36	3400	0.18	<5	44	0.4	--	150	180
AUG											
28...	79	97.0	18	2900	0.16	<5	47	0.4	--	150	150

DATE	ALUM-INUM, SED,SUS PERCENT (30221)	IRON, SEDI-MENT SUSP. PERCENT (30269)	PHOS-PHORUS, SEDI-MENT SUSP. PERCENT (30292)	TITA-NIUM, SEDI-MENT SUSP. PERCENT (30317)	COBALT, SEDI-MENT SUSP. (UG/G) (35031)	STRON-TIUM, SEDI-MENT SUSP. (UG/G) (35040)	URANIUM, SEDI-MENT SUSP. (UG/G) (35046)	LITHIUM, SEDI-MENT SUSP. (UG/G) (35050)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1995											
23...	8.5	5.4	0.22	0.65	26	200	<50	23	9	E454	E97
NOV											
13...	8.3	5.7	0.17	0.74	24	250	<50	27	85	E20500	94
27...	8.5	6.1	0.20	0.74	27	220	<50	31	34	E6400	95
JAN 1996											
09...	9.0	6.1	0.16	0.75	27	260	<50	28	57	E15700	95
APR											
08...	8.5	5.6	0.20	0.62	23	240	<50	26	23	E1540	98
JUN											
07...	7.8	6.1	0.23	0.59	30	250	<50	24	9	E486	E96
17...	6.2	5.2	0.30	0.59	24	230	<50	22	8	E296	E97
JUL											
08...	7.3	5.3	0.24	0.60	27	240	<50	24	3	E81	E97
AUG											
28...	7.0	5.6	0.22	0.66	28	230	<50	22	14	E334	98

E - Estimated.

14211805 WILLAMETTE RIVER ABOVE ST. JOHNS BRIDGE, AT PORTLAND, OR

WATER-QUALITY RECORDS

LOCATION.--Lat 45°34'54", long 122°38'09", in NW 1/4 SW 1/4 sec.12, T.1 N., R.1 W., Multnomah County, Hydrologic Unit 17090012, site is located approximately 1 mile upstream from St. Johns Bridge, and at mile 7.0.

DRAINAGE AREA.--11,450 mi^2, approximately.

PERIOD OF RECORD.--Water years 1972-75, 1996.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1971 to September 1975.

REMARKS.--Water-discharge records used for computation of suspended-sediment loads were obtained by flow routing procedures using upstream records. Additional information for the 1994 water year are published in U.S. Geological Survey Open File Report 95-373, "Analytical Data from Phases I and II of the Willamette River Basin Water Quality Study, Oregon, 1992-94".

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 25.5°C July 29, 1973; minimum, 1.0°C Jan. 7-12, 1974.

WATER-QUALITY DATA

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
FEB 1996												
10...	1400	E391000	37	6.6	9.0	270	12.1	758	105	11	2.9	0.9
13...	1330	E192000	46	6.8	8.0	120	13.9	764	116	15	3.8	1.3
23...	1200	E126000	60	7.1	7.5	41	13.5	754	113	19	4.9	1.7
MAR												
11...	1050	E48700	72	7.1	9.5	16	12.1	763	107	24	6.2	2.1
APR												
24...	1100	E93500	67	7.2	10.0	20	12.3	764	109	23	6.2	1.9
MAY												
13...	1150	E20400	86	7.6	13.0	2.7	--	762	--	28	7.2	2.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, DIS IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE, DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE, DIS IT FIELD (MG/L AS CO3) (00452)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
FEB 1996												
10...	2.2	28	0.3	0.8	11	13	0	1.8	1.9	<0.1	10	28
13...	2.8	28	0.3	0.8	14	17	0	1.8	--	<0.1	13	49
23...	3.3	26	0.3	0.7	16	20	0	2.0	2.7	<0.1	14	56
MAR												
11...	4.3	27	0.4	0.7	21	26	0	3.4	3.3	<0.1	16	67
APR												
24...	4.2	27	0.4	0.7	23	28	0	3.4	2.8	<0.1	15	36
MAY												
13...	5.3	29	0.4	0.7	30	36	0	4.2	4.2	<0.1	16	58

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
FEB 1996											
10...	30	0.04	0.10	0.01	<0.2	0.5	0.59	0.17	<0.01	0.012	3.6
13...	--	--	0.05	<0.01	<0.2	0.2	0.56	0.09	<0.01	0.025	1.7
23...	42	0.08	<0.02	0.01	<0.2	0.4	0.59	0.13	0.02	0.018	1.6
MAR											
11...	52	0.09	0.06	0.01	0.2	0.3	0.76	0.09	0.03	0.015	1.3
APR											
24...	51	0.05	0.05	0.01	<0.2	0.3	0.55	0.09	0.02	0.033	2.0
MAY											
13...	60	0.08	0.15	0.01	<0.2	<0.2	0.36	0.05	0.02	0.025	1.3

DATE	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
FEB 1996											
10...	9.3	111	<1	<1	4	<1	<1	<1	<1	3	130
13...	3.2	54	<1	<1	14	<1	<1	<1	<1	2	33
23...	1.5	81	<1	<1	5	<1	<1	<1	<1	1	90
MAR											
11...	0.7	26	<1	<1	6	<1	<1	<1	<1	4	48
APR											
24...	1.2	61	<1	<1	7	<1	<1	<1	<1	2	86
MAY											
13...	0.4	9	<1	<1	7	<1	<1	<1	<1	1	38

E- Estimated.

14211805 WILLAMETTE RIVER ABOVE ST JOHNS BRIDGE, AT PORTLAND, OR

WATER-QUALITY DATA

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
FEB 1996											
10...	<1	<4	41	<1	<1	<1	<1	20	<1	<6	2
13...	<1	<4	16	<1	1	<1	<1	27	<1	<6	4
23...	<1	<4	8	<1	1	<1	<1	34	<1	<6	3
MAR											
11...	<1	<4	16	<1	1	<1	<1	40	<1	<6	2
APR											
24...	<1	<4	11	<1	<1	<1	<1	39	<1	<6	1
MAY											
13...	<1	<4	26	<1	<1	<1	<1	43	<1	<6	3

DATE	DIAZ-INON, D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	TERBUTH YLAZINE, SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	HCH ALPHA, D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS, WATER DISS REC (UG/L) (04095)	ALPHA BHC, DIS-SOLVED (UG/L) (34253)
FEB 1996											
10...	111	111	127	<0.007	<0.002	0.035	E0.003	E0.011	<0.004	<0.003	<0.002
13...	69	80	79	<0.007	<0.002	0.009	<0.018	E0.004	<0.004	<0.003	<0.002
23...	96	95	102	<0.007	<0.002	0.016	E0.004	E0.008	<0.004	<0.003	<0.002
MAR											
11...	84	103	86	<0.007	<0.002	0.015	<0.018	E0.006	<0.004	<0.003	<0.002
APR											
24...	97	112	94	E0.003	<0.002	0.140	<0.018	E0.008	<0.004	<0.003	<0.002
MAY											
13...	103	108	105	<0.007	<0.002	0.011	<0.018	E0.004	<0.004	<0.003	<0.002

DATE	P,P' DDE, DISSOLV (UG/L) (34653)	CHLOR-PYRIFOS, DIS-SOLVED (UG/L) (38933)	LINDANE, DIS-SOLVED (UG/L) (39341)	DI-ELDRIN, DIS-SOLVED (UG/L) (39381)	METO-LACHLOR, WATER DISSOLV (UG/L) (39415)	MALA-THION, DIS-SOLVED (UG/L) (39532)	PARA-THION, DIS-SOLVED (UG/L) (39542)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
FEB 1996											
10...	E0.001	0.007	<0.004	0.001	0.053	<0.005	<0.004	<0.002	0.158	<0.002	<0.002
13...	<0.006	0.007	<0.004	<0.001	0.019	0.011	<0.004	<0.002	0.044	<0.002	<0.002
23...	<0.006	<0.004	<0.004	<0.001	0.019	<0.005	<0.004	<0.002	0.074	<0.002	<0.002
MAR											
11...	<0.006	<0.004	<0.004	<0.001	0.012	<0.005	<0.004	<0.002	0.032	<0.002	<0.002
APR											
24...	<0.006	<0.004	<0.004	<0.001	0.021	<0.005	<0.004	0.006	0.110	<0.002	<0.002
MAY											
13...	<0.006	0.005	<0.004	<0.001	0.007	<0.005	<0.004	<0.002	0.021	<0.002	<0.002

DATE	METRI-BUZIN, SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI-ETHYL ANILINE, WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	TER-BACIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	LIN-URON, WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA-THION, WAT FLT 0.7 U GF, REC (UG/L) (82667)	EPTC, WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB-ULATE, WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU-THIURON, WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
FEB 1996											
10...	0.016	<0.003	0.006	<0.004	<0.002	E0.023	<0.002	<0.006	0.004	<0.004	<0.010
13...	0.009	<0.003	0.006	<0.004	<0.002	<0.007	<0.002	<0.006	E0.001	<0.004	<0.010
23...	0.012	<0.003	0.006	<0.004	<0.002	E0.014	<0.002	<0.006	<0.002	<0.004	E0.009
MAR											
11...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
APR											
24...	<0.004	<0.003	<0.002	<0.004	<0.002	E0.038	<0.002	<0.006	<0.002	<0.004	0.018
MAY											
13...	<0.004	<0.003	<0.002	<0.004	<0.002	E0.006	<0.002	<0.006	0.008	<0.004	E0.005

E - Estimated.

14211805 WILLAMETTE RIVER ABOVE ST JOHNS BRIDGE, AT PORTLAND

WATER-QUALITY DATA

DATE	MOL-INATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO-PROP, WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN-FLUR-ALIN, WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO-FURAN, WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER-BUFOS, WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL-FOTON, WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL-LATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO-PANIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR-BARYL, WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO-BENCARB, WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
FEB 1996											
10...	<0.004	0.005	<0.002	<0.003	<0.013	0.036	<0.017	0.006	<0.004	E0.009	<0.002
13...	<0.004	<0.003	<0.002	<0.003	<0.013	0.015	<0.017	0.003	<0.004	<0.003	<0.002
23...	<0.004	<0.003	<0.002	<0.003	<0.013	0.023	<0.017	<0.001	<0.004	<0.003	<0.002
MAR											
11...	<0.004	<0.003	<0.002	<0.003	<0.013	0.006	<0.017	<0.001	<0.004	<0.003	<0.002
APR											
24...	<0.004	0.004	<0.002	E0.016	<0.013	0.005	<0.017	<0.001	<0.004	<0.003	<0.002
MAY											
13...	<0.004	<0.003	<0.002	<0.003	<0.013	E0.003	<0.017	<0.001	<0.004	<0.003	<0.002

DATE	DCPA, WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI-METH-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO-PARGITE, WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN-PHOS, WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER-METHRIN, CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	AN-TIMONY, SED. SUSP. (UG/G) (29816)	ARSENIC, SED. SUSP. (UG/G) (29818)	BARIUM, SED. SUSP. (UG/G) (29820)	BERYL-LIUM, SED. SUSP. (UG/G) (29822)	CADMIUM, SED. SUSP. (UG/G) (29826)
FEB 1996											
10...	<0.002	<0.004	0.004	<0.013	<0.001	<0.005	0.7	10.1	520	1.5	0.1
13...	<0.002	<0.004	E0.003	<0.013	<0.001	<0.005	0.9	11.1	510	1.5	0.5
23...	<0.002	<0.004	0.003	<0.013	<0.001	<0.005	1.0	9.8	550	1.5	0.3
MAR											
11...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.1	10.0	490	1.6	0.3
APR											
24...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.3	7.9	550	1.6	0.2
MAY											
13...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.1	10.0	440	1.3	0.4

DATE	MIUM, SED. SUSP. (UG/G) (29829)	CHRO-COPPER, SED. SUSP. (UG/G) (29832)	LEAD, SED. SUSP. (UG/G) (29836)	MAN-GANESE, SED. SUSP. (UG/G) (29839)	MERCURY, SED. SUSP. (UG/G) (29841)	MOLYB-DENUM, SED. SUSP. (UG/G) (29843)	NICKEL, SED. SUSP. (UG/G) (29845)	NIUM, SED. SUSP. (UG/G) (29847)	SELE-SILVER, SED. SUSP. (UG/G) (29850)	DIUM, SED. SUSP. (UG/G) (29853)	VANA-ZINC, SED. SUSP. (UG/G) (29855)
FEB 1996											
10...	64	120	17	1200	0.08	<5	40	0.3	0.7	180	140
13...	56	76	18	1200	0.07	<5	38	0.3	<0.5	170	150
23...	68	74	31	1300	0.07	<5	42	0.3	<0.5	170	150
MAR											
11...	95	65	60	1800	0.12	--	55	0.4	--	180	190
APR											
24...	83	65	17	1300	0.05	<5	51	0.3	<0.5	180	160
MAY											
13...	94	92	24	3700	0.12	7	61	0.5	--	170	160

DATE	ALUM-INUM, SED,SUS PERCENT (30221)	IRON, SEDI-MENT SUSP. PERCENT (30269)	PHOS-PHORUS, SEDI-MENT SUSP. PERCENT (30292)	TITA-NIUM, SEDI-MENT SUSP. PERCENT (30317)	COBALT, SEDI-MENT SUSP. (UG/G) (35031)	STRON-TIUM, SEDI-MENT SUSP. (UG/G) (35040)	URANIUM, SEDI-MENT SUSP. (UG/G) (35046)	LITHIUM, SEDI-MENT SUSP. (UG/G) (35050)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
FEB 1996											
10...	9.6	6.4	0.15	0.79	25	270	<50	37	456	E481000	94
13...	9.6	6.2	0.14	0.73	25	250	<50	38	175	E90700	98
23...	9.4	6.0	0.14	0.75	25	260	<50	38	68	E23100	99
MAR											
11...	9.7	6.6	0.17	0.73	25	190	<50	30	37	E4870	99
APR											
24...	9.0	6.1	0.18	0.73	25	220	<50	35	49	E12400	99
MAY											
13...	8.4	6.2	0.25	0.65	29	230	<50	28	9	E496	--

E - Estimated.

14211814 FAIRVIEW CREEK AT GLISAN STREET, NEAR GRESHAM, OR

LOCATION.--Lat 45°31'40", long 122°26'51", in Land Grant parcel number 58, T.1 N., R.3 E., Multnomah County, Hydrologic Unit 17090012, on right bank at upstream side of culvert on Glisan St., 0.4 mi east of the intersection of 202nd Ave. and Glisan St., 1.7 mi northwest of Gresham City Hall, and at mile 3.05.

DRAINAGE AREA.--4.94 mi^2.

PERIOD OF RECORD.--May 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 205 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No regulation or diversion. High flows affected to an unknown degree by two small ponds just upstream from station.

AVERAGE DISCHARGE.--4 years (water years 1993-96), 4.93 ft^3/s, 13.55 in/yr, 3,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74 ft^3/s Feb. 7, 1996, but may have been greater during period of missing record Feb. 7, 1996, gage height, 6.02 ft; maximum gage height, 6.34 ft Nov. 1, 1994; minimum discharge, 0.24 ft^3/s Sept. 15, 1995.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0830	54	5.62	Jan. 20	1830	33	5.08
Nov. 28	0100	39	5.26	Feb. 8	1530	*74	*6.02
Dec. 14	1600	31	5.01	Mar. 4	0600	37	5.20

Minimum discharge, 0.50 ft^3/s Nov. 4.

Peaks above base for period of record not previously published are as follows:

1993 Water Year

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Nov. 21	2000	30	5.47	Apr. 3	1600	*35	*5.28

1994 Water Year

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Feb. 24	1600	*52	*5.88	No other peak greater than base discharge			

1995 Water Year

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Oct. 27	0900	68	6.28	Feb. 17	1430	42	5.70
Nov. 1	0400	*72	*6.34	Feb. 19	0730	37	5.55
Nov. 30	1900	32	5.33				

14211814 FAIRVIEW CREEK AT GLISAN STREET, NEAR GRESHAM, OR--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	.63	22	8.9	e7.0	8.9	15	5.6	7.1	2.9	2.2	1.3
2	1.6	.57	14	7.3	e6.5	8.7	11	5.3	6.9	2.9	2.1	1.4
3	4.0	.57	11	8.5	e6.0	10	7.8	5.5	6.5	2.7	1.9	1.4
4	2.5	.58	11	7.4	e5.0	26	6.9	5.5	6.4	2.9	1.7	1.3
5	1.3	1.2	8.5	7.0	e10	20	6.6	5.0	6.2	2.9	2.6	1.4
6	1.3	1.6	7.1	10	e50	16	6.4	4.9	6.2	2.6	2.1	1.3
7	1.8	3.0	6.5	19	e45	12	6.2	4.7	6.1	2.4	2.0	1.3
8	1.7	4.9	5.8	17	53	11	6.2	4.6	5.9	2.4	2.0	1.3
9	1.9	5.8	6.8	13	36	9.6	5.9	5.5	5.7	2.2	2.1	1.3
10	1.8	3.6	12	13	22	9.5	6.0	6.4	5.6	2.6	1.6	1.3
11	13	30	22	8.8	18	13	6.4	6.5	5.5	2.6	1.6	1.3
12	5.8	17	20	7.7	16	14	8.0	7.4	5.5	2.3	1.7	1.4
13	2.5	14	18	7.2	14	9.8	7.8	10	5.4	2.4	1.7	1.4
14	2.0	9.7	20	7.7	13	8.9	5.8	e14	5.1	2.3	1.6	e6.0
15	1.6	7.4	18	16	12	8.4	5.2	e14	4.1	2.4	1.6	e20
16	1.3	7.2	12	18	11	8.2	8.1	e10	3.5	2.3	1.7	e8.0
17	2.6	6.1	9.3	11	12	8.1	6.9	e16	3.5	2.9	1.7	e6.5
18	4.0	6.9	9.1	8.8	16	7.8	6.0	e13	4.7	3.8	1.7	e3.5
19	2.3	5.7	8.0	17	18	7.9	7.4	e9.0	3.8	3.2	1.7	3.6
20	2.1	4.9	7.3	23	15	7.6	5.8	e8.0	3.3	2.1	1.6	3.0
21	2.0	4.7	6.8	25	17	7.3	5.8	e10	3.1	1.6	1.5	2.6
22	1.8	6.7	6.4	16	13	8.3	11	e13	3.0	2.2	1.6	2.8
23	1.6	6.9	6.1	14	22	7.5	18	12	3.5	2.2	1.6	2.5
24	1.4	14	5.7	18	17	7.0	17	9.5	3.9	1.8	1.5	2.4
25	1.7	13	5.5	14	13	6.6	11	8.3	5.0	2.1	1.4	2.3
26	3.6	9.1	5.5	11	11	6.5	11	7.7	3.7	1.8	1.4	2.3
27	2.3	15	5.4	10	10	6.4	7.9	7.4	3.2	1.9	1.5	2.8
28	1.6	25	6.8	12	9.5	6.5	6.6	8.1	3.2	1.9	1.5	3.1
29	1.1	17	16	13	9.1	6.6	6.1	11	3.2	2.2	1.4	2.9
30	.84	19	16	9.4	---	6.7	5.7	9.4	3.0	2.0	1.3	3.0
31	.75	---	15	8.1	---	11	---	7.7	---	2.3	1.2	---
TOTAL	75.29	261.75	343.6	386.8	507.1	305.8	245.5	265.0	141.8	74.8	52.8	94.7
MEAN	2.43	8.73	11.1	12.5	17.5	9.86	8.18	8.55	4.73	2.41	1.70	3.16
MAX	13	30	22	25	53	26	18	16	7.1	3.8	2.6	20
MIN	.75	.57	5.4	7.0	5.0	6.4	5.2	4.6	3.0	1.6	1.2	1.3
AC-FT	149	519	682	767	1010	607	487	526	281	148	105	188
CFSM	.49	1.77	2.24	2.53	3.54	2.00	1.66	1.73	.96	.49	.34	.64
IN.	.57	1.97	2.59	2.91	3.82	2.30	1.85	2.00	1.07	.56	.40	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1996, BY WATER YEAR (WY)

MEAN	2.37	5.45	7.40	8.34	9.60	6.89	5.90	4.94	3.46	2.19	1.40	1.48
MAX	4.38	8.73	11.1	12.5	17.5	9.86	8.18	8.55	4.73	2.90	1.71	3.16
(WY)	1995	1996	1996	1996	1996	1996	1996	1996	1996	1993	1995	1996
MIN	1.18	1.42	4.39	5.27	2.54	4.74	3.64	2.47	2.15	1.04	.53	.78
(WY)	1994	1994	1994	1993	1993	1993	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1993 - 1996	
ANNUAL TOTAL	2070.03		2754.94			
ANNUAL MEAN	5.67		7.53		4.93	
HIGHEST ANNUAL MEAN					7.53	1996
LOWEST ANNUAL MEAN					3.01	1994
HIGHEST DAILY MEAN	30	Feb 17	53	Feb 8	60	Oct 27 1994
LOWEST DAILY MEAN	.43	Sep 15	.57	Nov 2	.30	Oct 24 1994
ANNUAL SEVEN-DAY MINIMUM	.53	Sep 11	.72	Oct 29	.34	Oct 12 1992
ANNUAL RUNOFF (AC-FT)	4110		5460		3570	
ANNUAL RUNOFF (CFSM)	1.15		1.52		1.00	
ANNUAL RUNOFF (INCHES)	15.59		20.75		13.55	
10 PERCENT EXCEEDS	13		16		11	
50 PERCENT EXCEEDS	4.0		6.1		3.3	
90 PERCENT EXCEEDS	1.1		1.6		.79	

e Estimated

14211820 COLUMBIA SLOUGH AT PORTLAND, OR

LOCATION.--(revised)Lat 45°38'21", long 122°45'43", in NE 1/4 SE 1/4 sec.23, T.2 N., R.1 W., Multnomah County, Hydrologic Unit 17090012, on right bank, 0.25 mi upstream from mouth, and 1.25 mi upstream from confluence of Willamette and Columbia Rivers.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Acoustic velocity meter with water-stage and velocity-index recorder. Datum of gage is 1.53 ft above sea level.

REMARKS.--Records fair due to large positive and negative flows, except for estimated daily dicharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,400 ft^3/s Dec. 5, 1995, but may have been greater Dec. 2-4, 1995, Feb. 10-14, 1996; maximum gage height, 27.26 ft Feb. 9, 1996; minimum daily discharge, -6,700 ft^3/s Feb. 7, 1996, but may have been less Nov. 29 to Dec. 3, 1995, Feb. 8, 9, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,400 ft^3/s Dec. 5, but may have been greater Dec. 2-4, Feb. 10-14; maximum gage height, 27.26 ft Feb. 9; minimum daily discharge, -6,700 ft^3/s Feb. 7,but may have been less Nov. 29 to Dec. 3, Feb. 8, 9

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	289	75	---	e170	e300	---	148	568	149	279	-14	130
2	195	119	---	e240	e170	---	76	166	e-200	118	68	197
3	151	131	---	e85	302	---	171	e400	---	119	172	123
4	128	97	---	e160	166	---	18	e200	---	42	239	157
5	102	80	e2400	e190	339	---	117	226	-160	123	183	185
6	66	90	e1100	e180	-.2	---	107	240	-261	185	134	145
7	79	4.1	528	e260	-6700	---	141	366	143	50	196	124
8	74	15	---	e190	---	225	175	213	-13	197	180	85
9	78	160	---	e260	---	310	94	163	-292	168	60	36
10	4.2	162	356	e400	---	416	-154	273	-169	74	192	77
11	178	194	285	e200	---	164	-30	306	-355	185	125	64
12	233	246	-221	e240	---	195	-42	193	-46	72	69	66
13	100	300	---	268	---	196	50	210	145	60	37	-61
14	158	236	---	259	---	163	65	98	482	57	-35	71
15	244	143	---	275	1400	283	86	-101	469	76	109	364
16	219	170	---	136	465	248	27	15	25	156	192	167
17	191	223	---	e160	122	196	108	-4.2	-154	85	137	172
18	152	110	---	186	-505	219	-112	-423	-191	250	147	204
19	147	49	---	181	-675	222	-83	-2050	65	129	32	124
20	62	122	---	-256	-684	113	85	-469	505	162	144	189
21	133	101	---	-898	---	144	203	66	443	220	155	236
22	128	158	e340	-32	---	258	333	658	426	127	102	201
23	32	109	e200	451	---	185	-446	19	322	159	189	78
24	92	301	e300	703	447	220	-3230	e30	190	128	206	71
25	28	190	e300	922	e590	242	-343	e350	172	115	105	52
26	94	150	e400	672	---	89	-93	590	107	93	77	31
27	89	140	e150	686	---	192	236	846	84	236	73	53
28	154	-570	e220	590	---	347	594	340	96	182	38	154
29	218	---	e340	335	---	133	2020	-177	86	57	25	140
30	159	---	e240	271	---	227	1360	-390	72	80	76	60
31	164	---	e80	259	---	278	---	204	---	128	76	---
TOTAL	4141.2	---	---	7743	---	---	1681	3125.8	---	4112	3489	3695
MEAN	134	---	---	250	---	---	56.0	101	---	133	113	123
MAX	289	---	---	922	---	---	2020	846	---	279	239	364
MIN	4.2	---	---	-898	---	---	-3230	-2050	---	42	-35	-61
AC-FT	8210	---	---	15360	---	---	3330	6200	---	8160	6920	7330

e Estimated

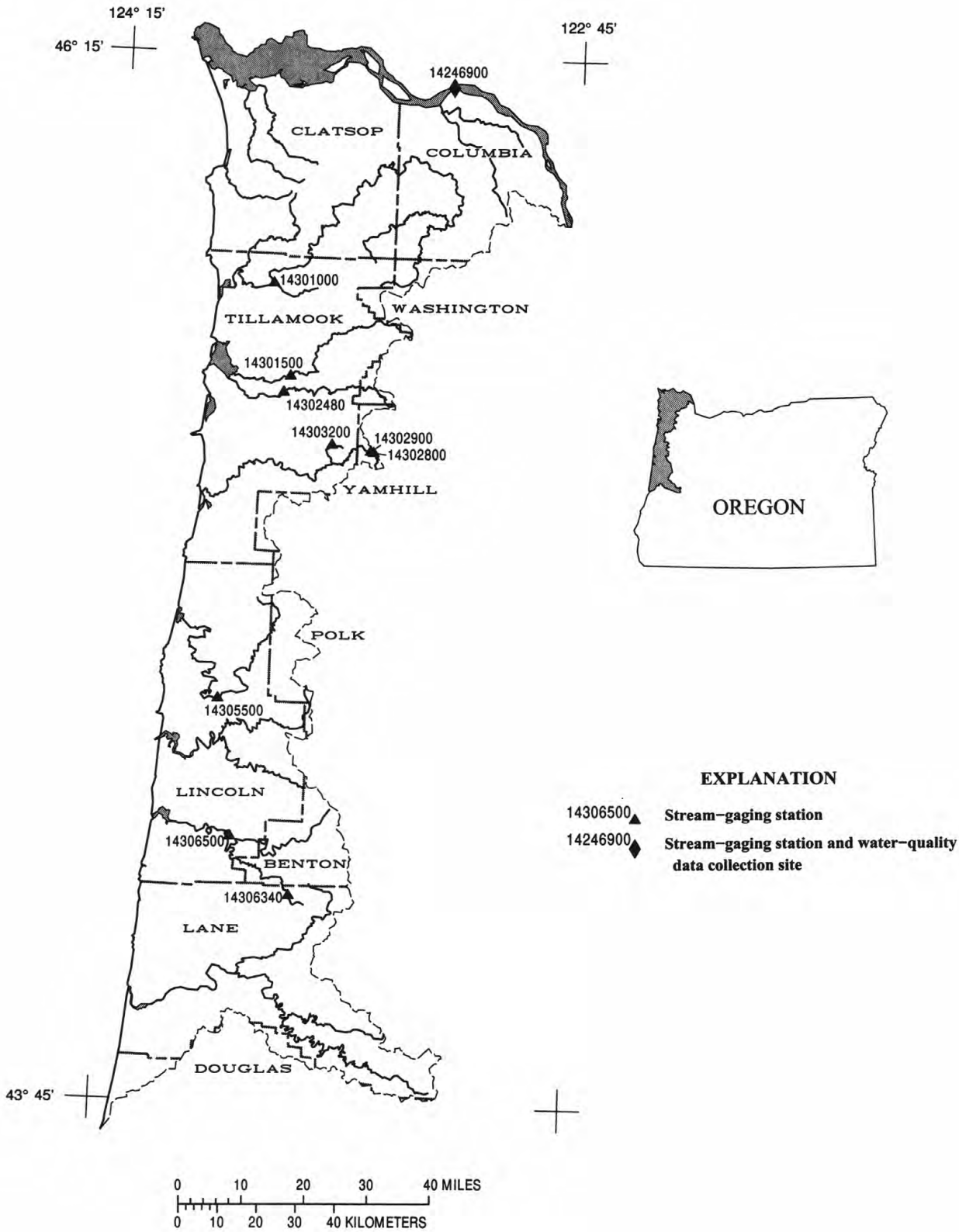


Figure 27. Location of surface-water and water-quality stations in the Oregon Coastal Drainages north of the Siuslaw River Basin and in the lower Columbia River.

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR

LOCATION.--Lat 46°10'55", long 123°10'50", in NE 1/4 sec.16, T.8 N., R.4 W., Columbia County, Hydrologic Unit 17080003, on left bank, 0.7 mi downstream from Crims Island, 3.0 mi northwest of Quincy, and at mile 53.8.

DRAINAGE AREA.--256,900 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1968 to June 1970, June 1991 to current year.

GAGE.--Acoustic velocity meter with water-stage and velocity index recorder. Datum of gage is 0.52 ft above sea level. May 1968 to June 1970 water-stage recorder with auxillary water-stage recorder 5.6 miles downstream, at datum 10.00 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by many reservoirs on Columbia River and in tributary basins. Flows affected by tide which can cause reverse direction during tidal cycle when mean daily flows are less than 250,000 ft^3/s. Mean discharge values are based on a 24 hour day, not a tidal cycle.

AVERAGE DISCHARGE.--6 years (water years 1969, 1992-96), 232,700 ft^3/s, 168,600,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 864,000 ft^3/s Feb. 10, 1996; minimum daily discharge, 73,700 ft^3/s Sept. 7, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 864,000 ft^3/s Feb. 10; maximum elevation, 13.33 ft Feb. 9; minimum daily discharge, 111,000 ft^3/s Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158000	169000	e560000	e295000	e373000	e482000	e242000	e424000	e420000	e321000	e203000	e176000
2	132000	186000	e574000	e314000	e356000	e441000	e272000	e428000	e444000	e264000	e208000	e146000
3	151000	181000	e559000	e326000	e337000	e397000	e280000	e420000	e432000	e271000	e217000	e111000
4	167000	162000	e576000	e335000	e320000	e343000	e293000	e379000	e411000	e278000	e189000	e150000
5	158000	141000	e523000	e338000	e289000	e371000	e308000	e390000	e430000	e289000	e150000	e135000
6	148000	140000	e427000	e342000	e312000	e451000	e285000	e376000	e452000	e281000	e197000	e140000
7	145000	139000	e402000	e344000	e429000	e410000	e332000	e373000	e455000	e275000	e238000	e150000
8	140000	173000	e405000	e352000	e671000	e398000	e295000	e329000	e435000	e288000	e215000	e130000
9	137000	223000	e413000	e365000	e834000	e408000	e261000	e333000	e452000	e291000	e221000	e137000
10	139000	235000	e416000	e363000	e864000	e389000	e271000	e343000	e462000	e280000	e213000	e146000
11	176000	e233000	e402000	e365000	e854000	e352000	e348000	e310000	e484000	e289000	e184000	e151000
12	204000	e275000	e412000	e412000	e758000	e395000	e386000	e280000	e485000	e274000	e163000	e140000
13	192000	e273000	e478000	e415000	e650000	e414000	e395000	e294000	e479000	e282000	e214000	e132000
14	205000	e289000	e544000	e371000	e588000	e416000	e389000	e275000	e465000	e291000	e220000	e162000
15	188000	e288000	e535000	e377000	e578000	e427000	e394000	e326000	e443000	e276000	e231000	e171000
16	155000	e299000	e505000	e369000	e523000	e426000	e401000	e364000	e425000	e276000	e222000	e118000
17	138000	e269000	e512000	e389000	e525000	e400000	e376000	e370000	e449000	e259000	e198000	e142000
18	163000	e257000	e500000	e409000	e537000	e392000	e390000	e400000	e442000	e275000	e170000	e146000
19	180000	e266000	e442000	e425000	e552000	e380000	e419000	e461000	e450000	e227000	e170000	e140000
20	179000	e260000	e416000	e421000	e566000	e347000	e416000	e494000	e430000	e252000	e200000	e151000
21	184000	e257000	e410000	e444000	e600000	e361000	e397000	e511000	e390000	e242000	e203000	e162000
22	168000	e236000	e413000	e452000	e554000	e346000	e400000	e502000	e357000	e209000	e195000	e157000
23	152000	e262000	e390000	e487000	e545000	e345000	e416000	e473000	e316000	e260000	e215000	e159000
24	149000	e238000	e387000	e466000	e539000	e344000	e466000	e501000	e300000	e227000	e172000	e154000
25	145000	e241000	e361000	e462000	e545000	e330000	e528000	e485000	e312000	e264000	e171000	e154000
26	171000	e250000	e339000	e436000	e559000	e330000	e556000	e484000	e307000	e229000	e170000	e155000
27	180000	e276000	e290000	e424000	e522000	e330000	e572000	e443000	e353000	e254000	e170000	e155000
28	190000	e377000	e326000	e399000	e497000	e323000	e566000	e435000	e326000	e211000	e159000	e165000
29	172000	e526000	e297000	e354000	e483000	e328000	e553000	e432000	e337000	e174000	e173000	e123000
30	167000	e574000	e267000	e399000	---	e320000	e455000	e464000	e344000	e202000	e179000	e123000
31	160000	---	e274000	e387000	---	e268000	---	e482000	---	e188000	e172000	---
TOTAL	5093000	7695000	13355000	12037000	15760000	11664000	11662000	12581000	12287000	7999000	6002000	4381000
MEAN	164300	256500	430800	388300	543400	376300	388700	405800	409600	258000	193600	146000
MAX	205000	574000	576000	487000	864000	482000	572000	511000	485000	321000	238000	176000
MIN	132000	139000	267000	295000	289000	268000	242000	275000	300000	174000	150000	111000
AC-FT	10100000	15260000	26490000	23880000	31260000	23140000	23130000	24950000	24370000	15870000	11900000	8690000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	139800	192000	255100	273300	284300	244200	269600	335600	314500	211400	149600	122700
MAX	166700	256500	430800	388300	543400	376300	406500	469600	409600	265000	193600	146100
(WY)	1969	1996	1996	1996	1996	1996	1969	1969	1996	1969	1996	1991
MIN	114500	136100	175400	199100	191100	196700	196200	234800	203900	139500	107100	92400
(WY)	1995	1994	1994	1994	1993	1992	1992	1994	1992	1992	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	91490900		120516000			
ANNUAL MEAN	250700		329300		232700	
HIGHEST ANNUAL MEAN					329300	1996
LOWEST ANNUAL MEAN					171100	1994
HIGHEST DAILY MEAN	576000	Dec 4	864000	Feb 10	864000	Feb 10 1996
LOWEST DAILY MEAN	79900	Sep 10	111000	Sep 3	73700	Sep 7 1994
ANNUAL SEVEN-DAY MINIMUM	107000	Sep 7	136000	Sep 3	81400	Sep 5 1994
ANNUAL RUNOFF (AC-FT)	181500000		239000000		168600000	
10 PERCENT EXCEEDS	360000		507000		389000	
50 PERCENT EXCEEDS	241000		327000		210000	
90 PERCENT EXCEEDS	140000		155000		125000	

e Estimated

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued
(National stream quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1967 to September 1970, October 1990 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1993 to current year.
WATER TEMPERATURE: August 1967 to September 1970. October 1993 to current year.

INSTRUMENTATION.--Temperature recorder August 1967 to September 1970. Temperature and specific conductance recorders from October 1992 to current year.

REMARKS.--Since February, 1994, specific conductance and temperature sensors located on right bank. Prior to that time sensors were located on left bank. It was determined that daily record collected prior to February 1994 is not representative of the cross section due to a seasonal influence from several upstream sloughs. Additional specific conductance and temperature data for the period October 1992 to Septempber 1993 available in the files of the Portland field office.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 188 microsiemens Feb. 5, 1994, but may have been higher during periods of missing record; minimum recorded, 73 microsiemens Feb. 9, 1996, but may have been lower during periods of missing record.
WATER TEMPERATURE: Maximum, 23.5°C Aug. 21, 22, 1967; minimum, 0.0°C Jan. 31, Feb. 1, 1969.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 169 microsiemens Nov. 6, but may have been higher during period of missing record; minimum recorded, 73 microsiemens Feb. 9, but may have been lower during period of missing record.
WATER TEMPERATURE: Maximum, 21.5°C several days in July and August; minimum, 1.5°C Feb. 3-5.

WATER-QUALITY DATA

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 1995												
24...	1130	149000	139	7.8	14.0	2.2	9.6	762	94	52	14	4.2
NOV												
28...	1150	E377000	119	7.5	10.5	--	11.3	758	102	--	--	--
DEC												
01...	1250	E560000	102	7.6	10.5	41	11.1	752	100	37	10	2.9
JAN 1996												
10...	1220	E363000	105	7.5	6.5	15	12.5	770	101	41	11	3.3
FEB												
12...	1310	E758000	--	--	--	--	--	--	--	--	--	--
14...	1420	E588000	90	7.2	5.0	63	14.3	764	112	41	11	3.2
22...	1220	E554000	113	7.7	5.0	73	15.0	758	118	44	12	3.4
MAR												
12...	1220	E395000	126	7.8	5.5	15	13.7	760	109	49	13	4.1
APR												
25...	1130	E528000	115	7.8	9.5	25	11.9	765	105	50	14	3.7
MAY												
14...	1210	E275000	137	8.1	12.0	5.5	13.7	758	127	57	16	4.0
JUN												
06...	1215	E452000	134	8.1	14.5	6.0	11.0	766	108	53	15	3.8
18...	1150	E442000	107	7.8	15.5	4.5	11.3	767	112	46	13	3.3
JUL												
09...	1030	E291000	123	7.8	18.5	--	10.1	765	108	--	--	--
22...	1140	E209000	122	7.8	19.5	2.7	9.4	767	102	50	14	3.7
AUG												
27...	1230	E170000	136	7.6	20.5	2.1	9.7	758	108	54	15	3.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, DIS IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE, DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE, DIS IT FIELD (MG/L AS CO3) (00452)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 1995												
24...	7.0	22	0.4	1.1	53	65	0	9.1	5.1	0.2	9.6	83
NOV												
28...	--	--	--	--	40	48	0	--	--	--	--	--
DEC												
01...	5.4	24	0.4	1.0	34	41	0	6.7	3.3	0.1	11	68
JAN 1996												
10...	4.6	19	0.3	0.9	38	46	0	5.6	2.7	0.2	13	77
FEB												
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	4.3	18	0.3	1.1	37	45	0	6.0	2.6	<0.1	13	68
22...	4.9	19	0.3	1.3	37	45	0	6.6	3.1	0.1	14	83
MAR												
12...	5.3	19	0.3	1.1	46	56	0	9.3	3.2	0.1	13	83
APR												
25...	5.1	18	0.3	1.0	48	59	0	8.5	2.8	0.1	12	82
MAY												
14...	5.3	17	0.3	1.0	56	68	0	9.4	4.1	0.1	11	83
JUN												
06...	4.3	15	0.3	1.0	49	60	0	7.6	2.0	0.2	10	83
18...	4.2	16	0.3	1.0	44	53	0	6.7	2.1	0.1	10	70
JUL												
09...	--	--	--	--	48	58	0	--	--	--	--	--
22...	4.0	14	0.2	1.0	50	61	0	7.8	2.1	0.1	7.6	69
AUG												
27...	5.2	17	0.3	1.0	53	64	0	9.6	3.6	0.1	7.1	74

E - Estimated.

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY OR--Continued

WATER-QUALITY DATA

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 1995											
24...	83	0.11	0.02	<0.01	<0.2	<0.2	0.17	0.02	<0.01	0.020	1.5
NOV											
28...	--	--	0.02	<0.01	<0.2	0.3	0.43	0.10	0.03	0.020	1.6
DEC											
01...	63	0.09	<0.01	<0.01	0.2	0.3	0.41	0.18	0.03	0.021	1.9
JAN 1996											
10...	66	0.10	<0.01	<0.01	<0.2	<0.2	0.40	0.06	0.02	0.020	1.8
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	65	0.09	0.02	<0.01	<0.2	0.3	0.41	0.08	<0.01	0.016	1.7
22...	70	0.11	0.03	0.01	<0.2	0.4	0.54	0.10	0.02	0.027	2.1
MAR											
12...	79	0.11	0.02	<0.01	<0.2	0.2	0.46	0.08	0.02	0.022	1.6
APR											
25...	78	0.11	<0.01	<0.01	<0.2	<0.2	0.26	0.05	<0.01	0.011	1.7
MAY											
14...	85	0.11	0.06	<0.01	<0.2	0.3	0.15	0.05	<0.01	0.003	2.0
JUN											
06...	74	0.11	0.02	<0.01	<0.2	0.3	0.08	0.05	<0.01	0.003	--
18...	67	0.09	--	--	--	--	--	--	--	--	--
JUL											
09...	--	--	0.02	<0.01	<0.2	<0.2	0.09	<0.01	<0.01	0.003	1.8
22...	71	0.09	0.03	0.01	<0.2	<0.2	0.10	0.02	<0.01	0.001	1.8
AUG											
27...	78	0.10	<0.01	0.01	<0.2	<0.2	0.12	0.07	<0.01	0.008	1.6

DATE	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT 1995											
24...	0.5	20	--	<1	21	<1	<1	<5	<3	<1	22
NOV											
28...	1.2	77	<1	--	14	<1	<1	<1	<1	2	--
DEC											
01...	2.0	161	<1	<1	13	<1	<1	<1	<1	2	120
JAN 1996											
10...	0.6	82	<1	<1	15	<1	<1	<1	<1	1	85
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	2.3	42	<1	<1	12	<1	<1	<1	<1	1	48
22...	2.8	13	<1	<1	15	<1	<1	<1	<1	2	24
MAR											
12...	0.6	6	<1	<1	17	<1	<1	<1	<1	2	12
APR											
25...	1.1	13	<1	<1	15	<1	<1	<1	<1	2	18
MAY											
14...	1.1	6	<1	<1	21	<1	<1	1	<1	2	13
JUN											
06...	--	7	<1	<1	17	<1	<1	<1	<1	<1	10
18...	--	13	<1	1	18	<1	<1	<1	<1	1	17
JUL											
09...	0.6	--	--	--	--	--	--	--	--	--	--
22...	0.7	5	<1	<1	21	<1	<1	<1	<1	2	8
AUG											
27...	0.4	4	<1	<1	23	<1	<1	<1	<1	2	6

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 1995											
24...	<1	<4	<1	<10	<1	<1	<1	91	--	<6	<3
NOV											
28...	<1	--	4	<1	<1	--	<1	--	<1	--	2
DEC											
01...	<1	<4	12	<1	<1	<1	<1	59	<1	<6	2
JAN 1996											
10...	<1	<4	3	<1	<1	<1	<1	60	<1	<6	2
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	1	<4	7	<1	<1	<1	<1	61	<1	<6	3
22...	<1	<4	3	<1	<1	<1	<1	63	<1	<6	1
MAR											
12...	<1	<4	4	<1	1	<1	<1	73	<1	<6	1
APR											
25...	<1	<4	3	<1	<1	<1	<1	74	<1	<6	3
MAY											
14...	<1	<4	<1	<1	<1	<1	<1	78	<1	<6	1
JUN											
06...	<1	<4	<1	<1	<1	<1	<1	71	<1	<6	<1
18...	<1	<4	<1	<1	<1	<1	<1	66	<1	<6	<1
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
22...	<1	<4	<1	<1	1	<1	<1	76	<1	<6	<1
AUG											
27...	<1	<4	<1	<1	1	<1	<1	88	<1	<6	2

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued

WATER-QUALITY DATA

DATE	DIAZ-INON, D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	TERBUTH YLAZINE, SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	HCH ALPHA, D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS, WATER DISS REC (UG/L) (04095)	ALPHA, BHC DIS-SOLVED (UG/L) (34253)
OCT 1995											
24...	105	103	96	<0.007	<0.002	E0.005	<0.018	E0.002	<0.004	<0.003	<0.002
NOV											
28...	102	103	95	<0.007	<0.002	0.013	<0.018	<0.002	<0.004	<0.003	<0.002
DEC											
01...	101	99	89	<0.007	<0.002	0.006	E0.003	<0.002	<0.004	<0.003	<0.002
JAN 1996											
10...	94	120	93	<0.007	<0.002	0.007	<0.018	E0.008	<0.004	<0.003	<0.002
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	76	86	90	<0.007	<0.002	0.007	<0.018	E0.004	<0.004	<0.003	<0.002
22...	91	89	99	<0.007	<0.002	0.005	E0.004	E0.004	<0.004	<0.003	<0.002
MAR											
12...	82	101	84	<0.007	<0.002	E0.003	<0.018	<0.002	<0.004	<0.003	<0.002
APR											
25...	101	108	96	<0.007	<0.002	0.019	<0.018	E0.004	<0.004	<0.003	<0.002
MAY											
14...	96	104	106	<0.007	<0.002	E0.003	<0.018	E0.001	<0.004	<0.003	<0.002
JUN											
06...	88	102	103	<0.007	<0.002	E0.003	<0.018	<0.002	<0.004	<0.003	<0.002
18...	93	109	60	<0.007	<0.002	<0.005	<0.018	<0.002	<0.004	<0.003	<0.002
JUL											
09...	79	111	111	<0.007	<0.002	E0.005	<0.018	E0.003	<0.004	<0.003	<0.002
22...	90	108	92	<0.007	<0.002	<0.005	<0.018	<0.002	<0.004	<0.003	<0.002
AUG											
27...	89	108	87	<0.007	<0.002	<0.005	<0.018	<0.002	<0.004	<0.003	<0.002

DATE	P,P' DDE, DISSOLV (UG/L) (34653)	CHLOR-PYRIFOS, DIS-SOLVED (UG/L) (38933)	LINDANE, DIS-SOLVED (UG/L) (39341)	DI-ELDRIN, DIS-SOLVED (UG/L) (39381)	METO-LACHLOR, WATER DISSOLV (UG/L) (39415)	MALA-THION, DIS-SOLVED (UG/L) (39532)	PARA-THION, DIS-SOLVED (UG/L) (39542)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
OCT 1995											
24...	<0.006	<0.004	<0.004	<0.001	0.008	<0.005	<0.004	<0.002	0.006	<0.002	<0.002
NOV											
28...	E0.001	<0.004	<0.004	<0.001	0.006	<0.005	<0.004	<0.002	0.012	<0.002	<0.002
DEC											
01...	<0.006	<0.004	<0.004	<0.001	0.007	<0.005	<0.004	<0.002	0.022	<0.002	<0.002
JAN 1996											
10...	<0.006	<0.004	<0.004	<0.001	0.006	<0.005	<0.004	<0.002	0.019	<0.002	<0.002
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	<0.006	0.005	<0.004	<0.001	0.011	<0.005	<0.004	<0.002	0.024	<0.002	<0.002
22...	<0.006	<0.004	<0.004	<0.001	0.006	<0.005	<0.004	<0.002	0.014	<0.002	<0.002
MAR											
12...	<0.006	<0.004	<0.004	<0.001	E0.003	<0.005	<0.004	<0.002	0.007	<0.002	<0.002
APR											
25...	<0.006	<0.004	<0.004	<0.001	0.005	<0.005	<0.004	<0.002	0.023	<0.002	<0.002
MAY											
14...	<0.006	<0.004	<0.004	<0.001	<0.002	<0.005	<0.004	<0.002	0.006	<0.002	<0.002
JUN											
06...	<0.006	<0.004	<0.004	<0.001	E0.002	<0.005	<0.004	<0.002	0.005	<0.002	<0.002
18...	<0.006	<0.004	<0.004	<0.001	<0.002	<0.005	<0.004	<0.002	E0.004	<0.002	<0.002
JUL											
09...	<0.006	<0.004	<0.004	<0.001	0.005	<0.005	<0.004	<0.002	E0.004	<0.002	<0.002
22...	<0.006	<0.004	<0.004	<0.001	<0.002	<0.005	<0.004	<0.002	<0.001	<0.002	<0.002
AUG											
27...	<0.006	<0.004	<0.004	<0.001	<0.002	<0.005	<0.004	<0.002	<0.001	<0.002	<0.002

DATE	METRI-BUZIN, SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI-ETHYL ANILINE, WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL-FLUR-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	TER-BACIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	LIN-URON, WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA-THION, WAT FLT 0.7 U GF, REC (UG/L) (82667)	EPTC, WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB-ULATE, WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU-THIURON, WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
OCT 1995											
24...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.013	<0.002	<0.006	<0.002	<0.004	<0.010
NOV											
28...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	0.003	<0.004	<0.010
DEC											
01...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
JAN 1996											
10...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	0.009	<0.003	0.006	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
22...	0.009	<0.003	0.007	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
MAR											
12...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
APR											
25...	<0.004	<0.003	<0.002	<0.004	<0.002	E0.008	<0.002	<0.006	E0.002	<0.004	<0.010
MAY											
14...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	0.004	<0.004	<0.010
JUN											
06...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	0.005	<0.004	<0.010
18...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	0.004	<0.004	<0.010
JUL											
09...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	E0.003	<0.004	<0.010
22...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010
AUG											
27...	<0.004	<0.003	<0.002	<0.004	<0.002	<0.007	<0.002	<0.006	<0.002	<0.004	<0.010

E - Estimated.

COLUMBIA RIVER MAIN STEM

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUNICY, OR--Continued

WATER-QUALITY DATA

DATE	MOL-INATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO-PROP, WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN-FLUR-ALIN, WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO-FURAN, WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER-BUFOS, WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL-FOTON, WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL-LATE, WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO-PANIL, WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR-BARYL, WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO-BENCARB, WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
OCT 1995											
24...	<0.004	<0.003	<0.002	E0.013	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
NOV											
28...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	E0.004	<0.002
DEC											
01...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
JAN 1996											
10...	<0.004	<0.003	<0.002	<0.003	<0.013	0.005	<0.017	0.004	<0.004	<0.003	<0.002
FEB											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	<0.004	<0.003	<0.002	<0.003	<0.013	0.013	<0.017	0.004	<0.004	<0.003	<0.002
22...	<0.004	<0.003	<0.002	<0.003	<0.013	0.015	<0.017	0.009	<0.004	<0.003	<0.002
MAR											
12...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
APR											
25...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	0.005	<0.004	<0.003	<0.002
MAY											
14...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
JUN											
06...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
18...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
JUL											
09...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
22...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002
AUG											
27...	<0.004	<0.003	<0.002	<0.003	<0.013	<0.003	<0.017	<0.001	<0.004	<0.003	<0.002

DATE	DCPA, WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI-METH-ALIN, WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP-AMIDE, WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO-PARGITE, WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN-PHOS, WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER-METHRIN, CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	AN-TIMONY, SED. SUSP. (UG/G) (29816)	ARSENIC, SED. SUSP. (UG/G) (29818)	BARIUM, SED. SUSP. (UG/G) (29820)	BERYL-LIUM, SED. SUSP. (UG/G) (29822)	CADMIUM, SED. SUSP. (UG/G) (29826)
OCT 1995											
24...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.1	8.4	490	1.4	0.8
NOV											
28...	E0.000	<0.004	E0.002	<0.013	<0.001	<0.005	0.6	6.4	460	1.4	0.6
DEC											
01...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.5	4.1	440	1.4	<0.1
JAN 1996											
10...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.7	5.8	510	1.5	0.5
FEB											
12...	--	--	--	--	--	--	0.6	6.1	530	1.3	0.1
14...	E0.001	<0.004	<0.003	<0.013	<0.001	<0.005	0.6	6.5	560	1.4	0.2
22...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.7	6.0	580	1.4	0.4
MAR											
12...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.0	7.1	580	1.5	0.5
APR											
25...	E0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.6	4.7	540	1.3	0.4
MAY											
14...	E0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.9	7.2	510	1.5	1.0
JUN											
06...	E0.001	<0.004	<0.003	<0.013	<0.001	<0.005	1.0	6.5	600	1.6	1.0
18...	E0.003	<0.004	<0.003	<0.013	<0.001	<0.005	1.0	7.9	640	1.6	1.0
JUL											
09...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.2	9.4	560	1.4	1.1
22...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	0.9	8.2	550	1.6	1.1
AUG											
27...	<0.002	<0.004	<0.003	<0.013	<0.001	<0.005	1.6	6.3	520	1.5	1.0

E- Estimated.

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued

WATER-QUALITY DATA

DATE	CHROMIUM, SED. SUSP. (UG/G) (29829)	COPPER, SED. SUSP. (UG/G) (29832)	LEAD, SED. SUSP. (UG/G) (29836)	MANGANESE, SED. SUSP. (UG/G) (29839)	MERCURY, SED. SUSP. (UG/G) (29841)	MOLYBDENUM, SED. SUSP. (UG/G) (29843)	NICKEL, SED. SUSP. (UG/G) (29845)	SELENIUM, SED. SUSP. (UG/G) (29847)	SILVER, SED. SUSP. (UG/G) (29850)	VANADIUM, SED. SUSP. (UG/G) (29853)	ZINC, SED. SUSP. (UG/G) (29855)
OCT 1995											
24...	--	42	60	1400	0.09	--	--	0.4	<0.5	98	190
NOV											
28...	--	61	26	1200	0.07	--	--	0.4	<0.5	130	140
DEC											
01...	--	44	18	840	0.06	--	--	0.2	<0.5	96	96
JAN 1996											
10...	--	48	25	1000	0.07	--	--	0.3	<0.5	110	130
FEB											
12...	45	52	16	910	0.06	<5	29	0.2	0.5	120	140
14...	50	54	18	970	0.10	<5	34	0.2	1.4	130	130
22...	48	43	16	860	0.04	<5	34	0.1	<0.5	120	120
MAR											
12...	57	55	34	1100	0.10	<5	37	0.2	<0.5	120	180
APR											
25...	39	52	12	840	0.04	<5	28	0.1	<0.5	110	120
MAY											
14...	50	59	26	1200	0.06	<5	34	0.6	<0.5	99	180
JUN											
06...	50	40	21	1100	0.08	<5	29	0.4	<0.5	110	180
18...	61	41	25	1000	0.08	<5	36	0.3	<0.5	110	190
JUL											
09...	49	47	38	1200	0.10	<5	29	0.5	<0.5	100	190
22...	54	63	32	1400	0.12	<5	35	0.6	0.5	110	190
AUG											
27...	63	43	21	1500	0.10	<5	61	0.5	--	110	180

DATE	ALUMINUM, SED,SUS PERCENT (30221)	IRON, SEDIMENT, SUSP. PERCENT (30269)	PHOSPHORUS, SEDIMENT, SUSP. PERCENT (30292)	TITANIUM, SEDIMENT, SUSP. PERCENT (30317)	COBALT, SEDIMENT SUSP. (UG/G) (35031)	STRONTIUM, SEDIMENT SUSP. (UG/G) (35040)	URANIUM, SEDIMENT SUSP. (UG/G) (35046)	LITHIUM, SEDIMENT SUSP. (UG/G) (35050)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1995											
24...	7.3	4.0	0.16	0.46	17	290	<50	22	9	3620	E89
NOV											
28...	8.5	4.8	0.14	0.60	21	310	<50	25	88	E89600	46
DEC											
01...	8.9	3.9	0.12	0.48	16	430	<50	23	323	E488000	37
JAN 1996											
10...	8.6	4.5	0.14	0.50	19	340	<50	24	42	E41200	63
FEB											
12...	8.9	4.6	0.11	0.57	18	340	<50	29	360	E737000	74
14...	8.8	4.7	0.11	0.59	19	360	<50	31	180	E286000	63
22...	8.7	4.6	0.10	0.53	18	330	<50	31	190	E284000	70
MAR											
12...	8.6	4.6	0.11	0.54	18	320	<50	29	53	E56500	52
APR											
25...	8.4	3.9	0.11	0.50	17	400	<50	26	94	E134000	76
MAY											
14...	7.2	4.0	0.16	0.48	15	280	<50	28	23	E17100	97
JUN											
06...	7.4	4.1	0.12	0.50	18	350	<50	26	52	E63500	57
18...	7.3	4.1	0.13	0.50	18	350	<50	27	60	E71600	61
JUL											
09...	6.7	3.9	0.16	0.44	17	280	<50	27	17	E13400	95
22...	6.6	4.3	0.13	0.49	18	250	<50	24	13	E7340	91
AUG											
27...	6.2	4.3	0.17	0.48	19	280	<50	21	12	E5510	91

E - Estimated.

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	149	137	141	153	141	147	---	---	---	---	---	---
2	144	135	141	150	142	147	---	---	---	---	---	---
3	143	136	138	155	146	151	---	---	---	---	---	---
4	144	135	139	156	150	153	---	---	---	---	---	---
5	145	138	142	165	149	159	---	---	---	---	---	---
6	145	139	143	169	158	161	---	---	---	---	---	---
7	146	136	140	164	151	160	---	---	---	---	---	---
8	142	135	138	159	139	149	---	---	---	---	---	---
9	143	136	139	144	131	139	---	---	---	---	---	---
10	---	133	---	148	125	137	---	---	---	---	---	---
11	---	133	---	127	114	120	---	---	---	120	108	111
12	---	---	---	121	104	115	---	---	---	128	118	123
13	---	---	---	110	102	104	---	---	---	136	127	131
14	---	---	---	119	110	116	---	---	---	136	131	134
15	---	---	---	124	114	117	---	---	---	137	128	133
16	---	---	---	128	121	125	---	---	---	132	120	127
17	---	---	---	134	126	130	---	---	---	126	119	123
18	---	---	---	137	128	134	---	---	---	121	118	119
19	---	---	---	135	130	133	---	---	---	124	119	121
20	---	---	---	148	131	143	---	---	---	125	120	122
21	---	---	---	152	145	148	---	---	---	120	113	117
22	---	---	---	153	142	147	---	---	---	123	113	119
23	---	---	---	155	142	148	---	---	---	127	121	124
24	151	---	---	151	137	145	---	---	---	131	126	129
25	151	141	146	143	128	137	---	---	---	133	129	130
26	149	140	145	137	124	130	---	---	---	134	130	132
27	---	142	---	138	121	129	---	---	---	135	130	133
28	---	145	---	125	112	119	---	---	---	135	130	132
29	151	141	147	---	---	---	---	---	---	134	131	132
30	149	142	146	---	---	---	---	---	---	140	133	136
31	151	141	147	---	---	---	---	---	---	141	136	139
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	142	136	140	135	127	131	150	145	148	134	129	131
2	145	141	143	136	132	134	148	143	146	140	133	136
3	146	144	145	135	132	134	151	144	147	144	138	140
4	150	144	147	135	128	132	151	145	148	142	136	139
5	153	144	150	130	126	128	156	148	151	140	136	139
6	144	122	136	131	127	128	155	148	151	141	137	139
7	123	102	112	131	126	128	152	146	149	146	140	142
8	102	76	86	135	129	130	153	146	149	145	141	143
9	78	73	76	141	134	137	153	146	149	143	141	142
10	79	74	77	136	132	133	153	148	150	144	141	143
11	91	79	84	135	131	132	154	149	151	142	139	141
12	100	91	95	133	131	132	156	148	151	143	140	141
13	109	99	104	132	128	130	149	146	148	142	139	141
14	119	109	113	131	128	129	150	146	148	145	139	141
15	123	119	120	135	129	131	160	149	156	145	138	140
16	136	123	130	139	134	136	158	153	155	144	139	141
17	146	135	141	141	135	137	157	153	155	143	139	141
18	145	137	141	148	140	143	159	156	157	139	134	136
19	139	129	135	147	139	141	159	156	158	139	134	136
20	132	123	127	142	139	140	162	157	160	137	130	133
21	124	118	121	142	139	140	161	156	159	131	127	129
22	119	116	117	143	139	140	157	150	154	128	123	125
23	117	113	115	140	138	140	151	126	137	123	118	120
24	117	111	113	143	138	140	126	120	122	119	115	117
25	114	111	112	143	140	141	125	118	121	116	112	114
26	117	112	113	148	140	145	120	118	119	113	108	110
27	118	115	116	144	142	143	125	118	120	108	106	107
28	122	118	120	151	143	148	126	122	124	108	105	106
29	130	122	126	146	142	144	129	125	126	107	104	105
30	---	---	---	153	146	150	131	125	128	110	106	108
31	---	---	---	152	148	150	---	---	---	112	107	109
MONTH	153	73	119	153	126	137	162	118	145	146	104	130

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	114	111	112	109	108	108	125	121	123	145	139	141
2	114	112	113	110	108	109	130	118	122	141	139	140
3	115	110	113	113	109	110	124	119	121	143	139	141
4	116	113	114	113	110	112	123	119	121	148	140	144
5	116	114	115	114	110	112	124	121	123	147	141	144
6	116	113	114	114	111	112	127	122	125	146	138	142
7	117	115	116	114	111	113	127	122	124	142	139	140
8	118	116	117	115	112	114	130	122	126	143	139	141
9	119	117	118	117	112	114	130	123	126	146	140	142
10	120	114	117	116	113	114	132	125	127	149	142	146
11	117	114	115	119	114	116	130	124	127	154	146	149
12	115	113	114	120	114	116	128	123	126	150	146	148
13	115	112	114	119	115	116	132	127	129	152	145	148
14	117	111	113	117	112	114	130	125	128	152	144	147
15	115	107	110	118	113	115	134	127	131	148	144	146
16	108	105	107	118	112	115	131	126	128	149	145	147
17	107	103	104	115	111	113	135	127	130	151	147	149
18	106	103	104	114	110	112	133	127	130	152	145	148
19	109	103	104	116	113	114	131	126	129	150	143	146
20	109	101	104	116	114	115	138	129	132	150	144	146
21	107	101	103	116	113	115	140	130	133	151	145	149
22	108	102	104	118	113	116	135	130	132	149	143	146
23	106	102	104	118	115	117	138	131	134	148	142	146
24	107	103	105	123	116	121	138	131	135	147	141	145
25	108	104	106	126	116	120	139	130	133	151	142	146
26	108	105	107	124	117	120	143	131	137	148	144	146
27	111	107	109	121	117	120	140	135	138	154	143	148
28	114	109	111	121	117	119	142	137	139	149	141	145
29	112	108	110	122	116	119	142	138	140	150	142	146
30	109	108	109	126	118	120	143	138	141	143	138	141
31	---	---	---	126	120	122	142	139	140	---	---	---
MONTH	120	101	110	126	108	115	143	118	130	154	138	145

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.0	18.0	18.5	12.5	12.0	12.0				---	---	---
2	19.0	18.5	18.5	12.0	11.5	11.5				---	---	---
3	18.5	18.0	18.5	11.5	11.0	11.0				---	---	---
4	18.5	18.0	18.0	11.0	10.5	11.0				---	---	---
5	18.5	18.0	18.0	11.0	10.5	11.0				---	---	---
6	18.0	17.5	18.0	11.0	10.5	11.0				---	---	---
7	18.0	17.5	17.5	11.0	10.5	10.5				---	---	---
8	17.5	17.0	17.5	11.0	11.0	11.0				---	---	---
9	17.5	16.5	17.0	11.0	11.0	11.0				---	---	---
10	17.5	16.5	17.0	11.0	10.5	11.0				---	---	---
11	17.0	16.5	16.5	11.0	10.5	10.5				6.5	6.5	6.5
12	16.5	16.0	16.5	11.0	10.5	11.0				6.5	6.0	6.5
13	16.5	15.5	16.0	11.0	10.5	11.0				6.0	6.0	6.0
14	16.0	15.5	16.0	11.0	10.5	11.0				6.0	6.0	6.0
15	16.0	15.5	16.0	11.0	11.0	11.0				6.5	6.0	6.0
16	16.0	15.5	16.0	11.0	11.0	11.0				6.5	6.5	6.5
17	16.0	15.5	16.0	11.5	11.0	11.0				6.5	6.0	6.0
18	15.5	15.0	15.5	11.5	11.0	11.0				6.0	6.0	6.0
19	15.5	14.5	15.0	11.0	10.5	11.0				6.0	5.5	6.0
20	15.5	15.0	15.0	11.0	10.5	10.5				5.5	5.5	5.5
21	15.0	14.5	15.0	10.5	10.5	10.5				6.0	5.5	5.5
22	14.5	14.0	14.5	10.5	10.5	10.5				6.0	5.5	5.5
23	14.5	14.0	14.5	10.5	10.5	10.5				6.0	5.5	5.5
24	14.5	14.0	14.5	11.0	10.5	10.5				5.5	5.5	5.5
25	14.0	14.0	14.0	11.0	10.5	11.0				5.5	5.5	5.5
26	14.5	13.5	14.0	10.5	10.5	10.5				5.5	5.5	5.5
27	14.5	13.5	14.0	10.5	10.0	10.0				5.5	5.0	5.5
28	14.0	13.5	14.0	10.5	10.0	10.5				5.0	5.0	5.0
29	13.5	13.0	13.5	---	---	---				5.0	5.0	5.0
30	13.5	13.0	13.0	---	---	---				5.0	4.0	4.5
31	13.0	12.5	13.0	---	---	---				4.0	3.0	3.5
MONTH	19.0	12.5	16.0	---	---	---				---	---	---

14246900 COLUMBIA RIVER AT BEAVER ARMY TERMINAL, NEAR QUINCY, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	2.5	2.5	5.0	4.5	4.5	7.5	7.0	7.0	11.0	10.5	10.5
2	2.5	2.0	2.0	5.0	4.5	4.5	8.0	7.0	7.5	11.0	10.5	10.5
3	2.0	1.5	1.5	5.0	4.5	4.5	8.0	7.5	7.5	10.5	10.5	10.5
4	1.5	1.5	1.5	5.0	4.5	4.5	8.0	7.5	8.0	11.0	10.5	10.5
5	2.0	1.5	1.5	4.5	4.5	4.5	8.5	8.0	8.0	11.0	10.5	11.0
6	3.0	2.0	2.0	4.5	4.5	4.5	8.5	8.0	8.5	11.5	10.5	11.0
7	4.5	3.0	4.0	5.0	4.5	5.0	9.0	8.5	8.5	11.5	10.5	11.0
8	6.0	4.5	5.5	5.5	5.0	5.0	9.0	8.5	9.0	11.5	11.0	11.0
9	6.5	6.0	6.0	5.5	5.0	5.0	9.5	9.0	9.5	11.5	10.5	11.0
10	6.5	6.0	6.0	5.5	5.5	5.5	9.5	9.5	9.5	11.5	11.0	11.5
11	6.0	5.5	6.0	5.5	5.5	5.5	9.5	9.0	9.0	11.5	11.5	11.5
12	5.5	5.5	5.5	5.5	5.5	5.5	9.0	8.5	9.0	12.0	11.5	11.5
13	5.5	5.0	5.5	6.0	5.5	5.5	9.0	8.5	9.0	12.0	11.5	12.0
14	5.5	5.0	5.0	6.0	5.5	5.5	9.5	9.0	9.5	12.5	12.0	12.0
15	5.5	5.0	5.5	6.0	6.0	6.0	10.0	9.5	10.0	12.5	12.0	12.0
16	5.5	5.5	5.5	6.0	6.0	6.0	10.0	9.5	10.0	12.5	12.5	12.5
17	5.5	5.5	5.5	6.5	6.0	6.0	10.0	9.5	10.0	13.0	12.5	12.5
18	5.5	5.5	5.5	6.5	6.0	6.5	10.0	9.5	9.5	13.0	12.5	12.5
19	5.5	5.5	5.5	7.0	6.5	6.5	9.5	9.5	9.5	13.0	12.5	12.5
20	6.0	5.5	6.0	7.0	6.5	7.0	9.5	9.5	9.5	13.0	12.5	12.5
21	6.0	5.5	6.0	7.0	6.5	7.0	9.5	9.5	9.5	12.5	12.5	12.5
22	6.0	5.5	5.5	7.0	6.5	7.0	10.0	9.5	10.0	12.5	12.5	12.5
23	5.5	5.5	5.5	7.0	7.0	7.0	10.0	9.5	9.5	13.0	12.5	12.5
24	5.5	5.5	5.5	7.0	7.0	7.0	9.5	9.5	9.5	13.0	12.5	12.5
25	5.5	5.5	5.5	7.0	6.5	7.0	9.5	9.5	9.5	13.5	12.5	13.0
26	5.5	5.5	5.5	7.0	7.0	7.0	9.5	9.0	9.5	13.5	13.0	13.5
27	5.5	5.0	5.5	7.0	7.0	7.0	9.5	9.5	9.5	13.5	13.0	13.0
28	5.0	5.0	5.0	7.0	7.0	7.0	10.0	9.5	9.5	13.5	13.0	13.0
29	5.0	4.5	4.5	7.5	7.0	7.0	10.5	9.5	10.0	13.0	12.5	12.5
30	---	---	---	7.5	7.0	7.0	11.0	10.0	10.5	13.0	12.5	12.5
31	---	---	---	7.0	7.0	7.0	---	---	---	13.5	12.5	13.0
MONTH	6.5	1.5	4.5	7.5	4.5	6.0	11.0	7.0	9.0	13.5	10.5	12.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.5	13.0	13.0	17.0	16.5	17.0	21.0	20.5	21.0	20.5	20.0	20.5
2	14.0	13.0	13.5	17.5	17.0	17.0	21.0	20.5	21.0	20.5	20.0	20.0
3	14.0	13.5	14.0	18.0	17.0	17.5	21.0	20.5	20.5	20.0	19.5	20.0
4	14.5	14.0	14.0	18.0	17.0	17.5	21.0	20.0	20.5	20.0	19.5	19.5
5	14.5	14.0	14.0	18.0	17.0	17.5	20.5	20.0	20.0	20.0	19.5	19.5
6	15.0	14.0	14.5	18.0	17.0	17.5	20.0	20.0	20.0	19.5	19.0	19.5
7	15.5	14.5	15.0	17.5	17.0	17.5	20.0	20.0	20.0	19.5	19.0	19.5
8	15.5	15.0	15.0	18.5	17.5	18.0	20.5	20.0	20.0	19.5	19.0	19.5
9	15.5	15.5	15.5	18.5	18.0	18.5	21.0	20.5	21.0	20.0	19.0	19.5
10	15.5	15.0	15.5	18.5	18.5	18.5	21.5	21.0	21.0	20.0	19.0	19.5
11	15.5	15.5	15.5	18.5	18.5	18.5	21.5	21.0	21.5	20.0	19.5	20.0
12	16.0	15.5	15.5	19.0	18.5	19.0	21.5	21.0	21.5	20.0	19.5	20.0
13	16.0	15.5	16.0	20.0	19.0	19.5	21.5	20.5	21.0	20.0	19.0	19.5
14	16.0	16.0	16.0	20.5	20.0	20.0	21.5	21.0	21.0	20.0	19.0	19.5
15	16.0	16.0	16.0	20.5	20.0	20.0	21.5	20.5	21.0	19.0	18.5	19.0
16	16.0	15.5	16.0	20.5	20.0	20.0	21.0	20.5	21.0	18.5	18.5	18.5
17	15.5	15.5	15.5	20.0	20.0	20.0	21.0	20.5	20.5	18.5	18.5	18.5
18	15.5	15.5	15.5	20.0	19.0	19.5	20.5	20.0	20.5	18.5	18.5	18.5
19	16.0	15.0	15.5	19.5	18.5	19.0	20.5	20.0	20.0	18.5	18.0	18.5
20	16.0	15.5	16.0	19.5	18.5	19.0	20.0	19.5	20.0	18.5	18.0	18.0
21	16.5	15.5	16.0	20.0	19.5	19.5	20.0	19.5	20.0	18.5	17.5	18.0
22	16.0	15.5	15.5	20.5	19.5	20.0	20.0	19.5	20.0	18.0	17.5	17.5
23	16.0	15.5	15.5	21.0	20.0	20.5	20.5	20.0	20.0	17.5	17.0	17.5
24	16.0	15.5	16.0	21.0	20.5	21.0	21.0	20.0	20.5	17.5	17.0	17.0
25	16.0	15.5	16.0	21.5	21.0	21.0	21.0	20.5	20.5	17.0	16.5	17.0
26	16.5	15.5	16.0	21.5	21.0	21.5	21.0	20.5	21.0	17.0	16.0	16.5
27	16.5	16.0	16.5	21.5	21.5	21.5	21.0	20.0	20.5	17.0	16.0	16.5
28	16.5	16.0	16.5	21.5	21.5	21.5	20.5	20.0	20.5	17.0	16.5	17.0
29	16.5	16.0	16.0	21.5	21.5	21.5	20.5	20.0	20.5	17.5	17.0	17.0
30	17.0	16.0	16.5	21.5	21.5	21.5	20.5	20.5	20.5	17.5	17.0	17.0
31	---	---	---	21.5	21.0	21.0	20.5	20.0	20.5	---	---	---
MONTH	17.0	13.0	15.5	21.5	16.5	19.5	21.5	19.5	20.5	20.5	16.0	18.5

NEHALEM RIVER BASIN

14301000 NEHALEM RIVER NEAR FOSS, OR

LOCATION.--Lat 45°42'15", long 123°45'15", in NW 1/4 sec.35, T.3 N., R.9 W., Tillamook County, Hydrologic Unit 17100202, on right bank 0.2 mi upstream from Cook Creek, 2.2 mi northeast of Foss, and at mile 13.5.

DRAINAGE AREA.--667 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 32.60 ft above sea level (State Highway Department bench mark). Prior to Nov. 11, 1939, nonrecording gage.

REMARKS.--Records good except those for the period Feb. 11 to Aug. 13, which are fair. No regulation. Several small diversions for irrigation and domestic use upstream from station. National Weather Service telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1940-96), 2,652 ft^3/s, 54.02 in/yr, 1,921,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft^3/s Feb. 8, 1996, gage height, 29.56 ft, based on slope-area measurement of peak flow; minimum discharge, 34 ft^3/s Aug. 29-31, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 19,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	2000	32,500	18.60	Feb. 8	1330	*70,300	*29.56
Dec. 14	1500	25,200	16.02	Apr. 23	1730	35,400	19.54

Minimum discharge, 104 ft^3/s Sept. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	402	724	20300	5450	2780	3360	1670	4240	e1910	415	185	116
2	341	653	16500	4670	2460	2990	2850	3680	e1730	388	182	110
3	412	599	12700	4490	2200	2880	2530	3250	e1550	374	178	110
4	549	565	10400	4240	2080	3310	2130	2870	e1400	378	180	117
5	451	587	8240	4030	4550	3270	1870	2550	e1290	361	180	146
6	381	686	6610	5080	24400	3110	1690	2280	e1170	343	177	189
7	325	1530	5330	13200	40800	2900	1550	2090	e1040	322	176	184
8	288	7050	4310	12300	61600	2810	1430	1920	e973	300	176	182
9	266	7230	3830	8770	48400	2630	1320	1750	e904	286	170	167
10	377	5550	4480	6690	31500	2500	1260	1590	e852	273	169	135
11	1720	14500	10600	5280	16000	2340	1470	1470	e816	261	166	114
12	1850	11500	14700	4300	9210	2200	4060	1380	e760	251	163	106
13	1520	8190	21400	3640	6390	2050	7680	1380	e706	248	159	106
14	1110	6740	23300	3200	5060	1900	6730	1350	e654	247	151	142
15	830	5600	20500	4910	4170	1770	4970	1320	e622	242	143	384
16	771	4700	15300	7730	3430	1640	4220	1320	e591	235	140	480
17	1120	4000	9620	7110	3220	1540	4090	1520	e573	227	138	478
18	1900	4180	7550	6000	5240	1440	3970	3060	e647	311	135	363
19	1510	4060	6350	7870	8020	1380	4120	5210	631	568	135	305
20	1200	3680	5290	10700	11100	1310	4130	4750	579	506	139	272
21	1070	3280	4430	14600	11500	1240	4100	4060	527	418	143	243
22	1020	3150	3750	13900	9580	1270	4920	4330	498	340	142	238
23	928	3360	3210	10300	10700	1240	26600	5020	536	292	138	226
24	842	6040	2780	8780	9830	1160	28200	4840	574	262	135	204
25	823	8260	2440	8050	8180	1060	22400	4300	686	235	130	187
26	1470	8160	2170	6950	6550	997	13900	3750	672	229	124	178
27	1480	10600	1970	5810	5370	979	9300	e3240	594	227	122	166
28	1290	26700	1830	5000	4530	970	7380	e2920	519	218	121	159
29	1080	29700	2250	4290	3860	963	6080	e2630	479	209	121	149
30	926	25700	3420	3680	---	930	5040	e2360	447	204	120	141
31	814	---	5320	3170	---	974	---	e2130	---	193	119	---
TOTAL	29066	217274	260880	214190	362710	59113	191660	88560	24930	9363	4657	6097
MEAN	938	7242	8415	6909	12510	1907	6389	2857	831	302	150	203
MAX	1900	29700	23300	14600	61600	3360	28200	5210	1910	568	185	480
MIN	266	565	1830	3170	2080	930	1260	1320	447	193	119	106
AC-FT	57650	431000	517500	424800	719400	117300	380200	175700	49450	18570	9240	12090
CFSM	1.41	10.9	12.6	10.4	18.8	2.86	9.58	4.28	1.25	.45	.23	.30
IN.	1.62	12.12	14.55	11.95	20.23	3.30	10.69	4.94	1.39	.52	.26	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1996, BY WATER YEAR (WY)

MEAN	775	3679	6083	6144	5831	4228	2767	1256	607	271	147	206
MAX	2948	9256	11390	12450	12510	8696	6389	3028	1591	747	314	877
(WY)	1948	1974	1956	1971	1996	1956	1996	1948	1968	1983	1968	1959
MIN	69.9	154	599	596	1066	1171	1149	520	250	137	62.5	63.6
(WY)	1953	1994	1977	1977	1977	1992	1941	1989	1992	1967	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1940 - 1996	
ANNUAL TOTAL	1117140		1468500			
ANNUAL MEAN	3061		4012		2652	
HIGHEST ANNUAL MEAN					4235	1974
LOWEST ANNUAL MEAN					1063	1977
HIGHEST DAILY MEAN	29700	Nov 29	61600	Feb 8	61600	Feb 8 1996
LOWEST DAILY MEAN	76	Sep 23	106	Sep 12	36	Aug 29 1967
ANNUAL SEVEN-DAY MINIMUM	81	Sep 18	116	Aug 29	38	Aug 26 1967
ANNUAL RUNOFF (AC-FT)	2216000		2913000		1921000	
ANNUAL RUNOFF (CFSM)	4.59		6.02		3.98	
ANNUAL RUNOFF (INCHES)	62.31		81.90		54.02	
10 PERCENT EXCEEDS	7900		9680		7150	
50 PERCENT EXCEEDS	1520		1610		1120	
90 PERCENT EXCEEDS	130		168		125	

e Estimated

14301500 WILSON RIVER NEAR TILLAMOOK, OR

LOCATION.--Lat 45°29'05", long 123°41'20", in SW 1/4 SE 1/4 sec.8, T.1 S., R.8 W., Tillamook County, Hydrologic Unit 17100203, on right bank 0.2 mi upstream from Negro Jack Creek, 8.0 mi east of Tillamook, and at mile 11.4.

DRAINAGE AREA.--161 mi^2, at cableway, 2.0 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--October 1914 to September 1915, August to November 1916, July 1931 to current year. Prior to January 1915 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1398: 1953. WSP 1738: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 71.89 ft above sea level. Dec. 18, 1914, to Nov. 4, 1916, nonrecording gage at site 2.8 mi downstream at different datum. July 30, 1931, to Sept. 30, 1938, nonrecording gage at site 2.82 mi downstream at datum 28.83 ft lower. Oct. 1, 1938, to Oct. 17, 1968, water-stage recorder at site 2.1 mi downstream at datum 29.76 ft lower. Oct. 18, 1968 to Sept. 6, 1973 at site 50 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation. Small diversions for domestic use upstream from station.

AVERAGE DISCHARGE.--66 years (water years 1915, 1932-96), 1,171 ft^3/s, 98.85 in/yr, 848,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft^3/s Jan. 20, 1972, gage height, 16.91 ft, site then in use; maximum gage height, 19.51 ft Feb. 8, 1996, from floodmark; minimum discharge, 32 ft^3/s Sept. 5, 1973, but may have been less for short period following a landslide Jan. 31, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1916 reached a stage of 20.8 ft, from floodmark, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 12,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1030	16,800	14.38	Feb. 6	1500	33,200	19.08
Nov. 28	0230	13,600	13.18	Feb. 8	unknown	*35,000	*a19.51
Nov. 29	1630	19,500	15.29	Apr. 23	1600	19,300	15.20

Minimum discharge, 73 ft^3/s Sept. 11-13.
a From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	368	9570	3210	e1030	1160	1110	1280	576	195	103	76
2	206	333	6760	2330	e900	1120	1740	1130	530	186	126	74
3	290	306	4850	2260	848	1310	1240	1020	490	181	121	80
4	283	294	4650	2140	841	2020	1010	904	457	180	114	86
5	224	329	3410	2070	3490	1960	872	813	428	173	118	91
6	186	435	2580	3020	e19000	1760	780	739	401	165	112	93
7	161	1470	2030	8520	e23000	1670	716	691	378	158	106	84
8	152	7410	1640	6420	e28000	1730	662	632	357	152	101	80
9	144	4900	1810	3900	e11000	1650	623	584	349	147	98	78
10	328	2860	2950	2720	e7200	1530	615	545	331	144	95	75
11	1360	12400	7800	2060	e5000	1410	815	512	314	141	92	74
12	1070	6480	7120	1630	e3500	1260	2870	493	300	137	93	73
13	722	4920	10000	1350	e2300	1140	3830	523	284	133	91	76
14	512	3870	8570	1260	e1780	1030	2470	473	272	129	88	127
15	402	2910	6900	3090	1650	952	1840	465	262	125	87	414
16	450	2260	4380	4480	1480	883	1670	447	253	123	85	346
17	837	1860	3290	2960	1510	825	1750	561	272	135	85	226
18	1240	2300	3150	2510	3170	776	1790	1270	299	177	85	164
19	818	2130	2690	5220	4090	751	1980	1990	256	267	85	158
20	623	1760	2200	6060	4300	713	1910	1480	235	195	87	136
21	528	1460	1810	6760	3710	672	1870	1240	224	167	89	123
22	455	1600	1510	4910	3060	699	2840	1440	218	150	85	116
23	403	2180	1280	3770	3620	651	14500	1710	281	138	82	108
24	365	6620	1110	3260	2920	620	10300	1490	302	130	80	101
25	450	6500	966	2730	2340	587	5740	1250	314	124	78	97
26	1010	4790	867	2270	1950	567	4030	1060	262	119	77	93
27	793	6330	775	1980	1660	573	2980	928	240	116	79	90
28	642	11300	779	1730	1440	564	2290	839	236	113	80	88
29	531	15300	1580	1460	1270	556	1820	761	219	112	78	86
30	459	12300	2980	1250	---	541	1500	682	206	108	77	85
31	408	---	4390	1130	---	601	---	620	---	105	77	---
TOTAL	16327	127975	114397	98460	146059	32281	78163	28572	9546	4625	2854	3598
MEAN	527	4266	3690	3176	5037	1041	2605	922	318	149	92.1	120
MAX	1360	15300	10000	8520	28000	2020	14500	1990	576	267	126	414
MIN	144	294	775	1130	841	541	615	447	206	105	77	73
AC-FT	32380	253800	226900	195300	289700	64030	155000	56670	18930	9170	5660	7140
CFSM	3.27	26.5	22.9	19.7	31.3	6.47	16.2	5.72	1.98	.93	.57	.74
IN.	3.77	29.57	26.43	22.75	33.75	7.46	18.06	6.60	2.21	1.07	.66	.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1996, BY WATER YEAR (WY)

MEAN	556	1869	2632	2494	2225	1757	1197	614	336	168	105	153
MAX	2230	4266	7988	5776	5037	3637	2622	1391	876	514	240	780
(WY)	1948	1996	1934	1953	1996	1956	1991	1933	1933	1983	1968	1959
MIN	43.5	87.2	378	344	634	406	426	202	131	76.5	44.3	40.1
(WY)	1988	1937	1977	1977	1993	1992	1939	1939	1992	1992	1967	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1915 - 1996	
ANNUAL TOTAL	507119		662857			
ANNUAL MEAN	1389		1811		1171	
HIGHEST ANNUAL MEAN					1811	1996
LOWEST ANNUAL MEAN					524	1977
HIGHEST DAILY MEAN	15300	Nov 29	28000	Feb 8	28000	Feb 8 1996
LOWEST DAILY MEAN	50	Sep 22	73	Sep 12	34	Sep 1 1967
ANNUAL SEVEN-DAY MINIMUM	54	Sep 18	77	Sep 7	35	Aug 30 1967
ANNUAL RUNOFF (AC-FT)	1006000		1315000		848600	
ANNUAL RUNOFF (CFSM)	8.63		11.2		7.28	
ANNUAL RUNOFF (INCHES)	117.17		153.16		98.85	
10 PERCENT EXCEEDS	3680		4530		2880	
50 PERCENT EXCEEDS	598		756		562	
90 PERCENT EXCEEDS	74		93		87	

e Estimated

14302480 TRASK RIVER ABOVE CEDAR CREEK, NEAR TILLAMOOK, OR

LOCATION.--Lat 45°26'47", long 123°42'33", in NW 1/4 SE 1/4 sec.30, T.1 S., R.8 W., Tillamook County, Hydrologic Unit 17100203, on right bank 0.1 mi upstream from Cedar Creek, 6.8 mi east of Tillamook, and at mile 10.95.

DRAINAGE AREA.--156 mi^2, at Long Prairie Road bridge, 3.7 mi downstream, where all discharge measurements are made.

PERIOD OF RECORD.--April to September 1996.

GAGE.--Water-stage recorder. Datum of gage is approximately 30 feet ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation. Water is diverted from the J.W. Barney Reservoir (capacity 20,000 acre-ft) on the Middle Fork of the North Fork of the Trask River to the Tualatin River for domestic use and pollution abatement by the city of Hillsboro.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 8, 1996 reached a stage of 23.2 ft, from floodmark; discharge, 25,800 ft^3/s, from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 11,500 ft^3/s Apr. 23, gage height, 16.24 ft; minimum discharge, 75 ft^3/s Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e700	1270	618	226	114	79
2	---	---	---	---	---	---	e1400	1130	576	217	149	78
3	---	---	---	---	---	---	e1000	1030	536	212	151	86
4	---	---	---	---	---	---	e840	925	495	214	132	94
5	---	---	---	---	---	---	e730	851	470	203	141	100
6	---	---	---	---	---	---	e650	795	445	195	128	107
7	---	---	---	---	---	---	e590	719	425	186	119	92
8	---	---	---	---	---	---	e540	661	407	179	110	87
9	---	---	---	---	---	---	e490	619	397	175	105	83
10	---	---	---	---	---	---	e460	581	385	171	101	80
11	---	---	---	---	---	---	612	531	369	168	98	77
12	---	---	---	---	---	---	1910	520	344	162	100	76
13	---	---	---	---	---	---	3050	610	331	157	97	81
14	---	---	---	---	---	---	1990	572	319	151	94	134
15	---	---	---	---	---	---	1490	564	308	146	91	433
16	---	---	---	---	---	---	1410	541	300	145	91	361
17	---	---	---	---	---	---	1450	691	311	163	91	221
18	---	---	---	---	---	---	1560	1230	332	189	92	163
19	---	---	---	---	---	---	1740	1620	293	220	91	170
20	---	---	---	---	---	---	1700	1340	275	179	92	140
21	---	---	---	---	---	---	1620	1220	267	166	95	123
22	---	---	---	---	---	---	2180	1600	261	153	90	116
23	---	---	---	---	---	---	8830	1860	321	143	86	106
24	---	---	---	---	---	---	7830	1610	319	137	83	99
25	---	---	---	---	---	---	4740	1340	325	131	81	94
26	---	---	---	---	---	---	3470	1140	280	127	82	89
27	---	---	---	---	---	---	2670	989	265	124	86	85
28	---	---	---	---	---	---	2110	891	267	122	86	83
29	---	---	---	---	---	---	1740	798	250	124	83	82
30	---	---	---	---	---	---	1470	722	238	118	79	80
31	---	---	---	---	---	---	---	663	---	115	79	---
TOTAL	---	---	---	---	---	---	60972	29633	10729	5118	3117	3699
MEAN	---	---	---	---	---	---	2032	956	358	165	101	123
MAX	---	---	---	---	---	---	8830	1860	618	226	151	433
MIN	---	---	---	---	---	---	460	520	238	115	79	76
AC-FT	---	---	---	---	---	---	120900	58780	21280	10150	6180	7340
CFSM	---	---	---	---	---	---	13.0	6.13	2.29	1.06	.64	.79
IN.	---	---	---	---	---	---	14.54	7.07	2.56	1.22	.74	.88

e Estimated

14302800 MCGUIRE LAKE NEAR FAIRDALE, OR

LOCATION.--Lat 45°18'30", long 123°24'30", in NW 1/4 SE 1/4 sec.15, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17100203, on control tower in reservoir on Nestucca River, 0.3 mi upstream from Walker Creek, and 5.0 mi southwest of Fairdale.

DRAINAGE AREA.--2.85 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Nonrecording gage. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam with ungated spillway. Capacity of resevoir is 3,840 acre-ft between elevations 1,810.0 ft and 1,865.5 ft. Dead storage negligible. Under normal operation, reservoir is filled in the spring (April or May) and drained when fall rains start. There is no planned storage during winter months; however, during periods of heavy runoff, inflow may be greater than capacity of outlet tunnel and there may be temporary storage. Water is used during summer months for municipal supply of city of McMinnville.

COOPERATION.--Elevation and capacity table furnished by city of McMinnville Water and Light Department. Elevations based on once-daily staff gage readings.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed contents, 3,890 acre-ft Mar. 12 1972, Feb. 19, Mar. 28, 1974, elevation, 1,865.8 ft; no contents most of time during winter months.

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 3,770 acre-ft many days during year, elevation, 1,865.0 ft; no contents observed several days in January, elevation, 1,810.0 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	a1,855.5	2,560	-
Oct. 31	a1,846.6	1,710	-850
Nov. 30	1,842.1	1,350	-360
Dec. 31	1,822.2	301	-1,049
CAL YR 1995	-	-	-3,360
Jan. 31	1,841.5	1,300	+999
Feb. 29	1,865.0	3,770	+2,470
Mar. 31	1,865.0	3,770	0
Apr. 30	1,865.0	3,770	0
May 31	1,865.0	3,770	0
June 30	1,865.0	3,770	0
July 31	1,861.9	3,340	-430
Aug. 31	a1,858.0	2,850	-490
Sept.30	1,856.3	2,650	-200
WTR YR 1996	-	-	+90

a Interpolated.

14302900 NESTUCCA RIVER NEAR FAIRDALE, OR

LOCATION.--Lat 45°18'40", long 123°25'05", in SW 1/4 NW 1/4 sec.15, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17100203, on right bank 100 ft upstream from former Meadow Lake, 0.4 mi downstream from Walker Creek, 5.3 mi southwest of Fairdale, and at mile 49.3.

DRAINAGE AREA.--6.18 mi^2.

PERIOD OF RECORD.--June 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,778.99 ft above sea level (levels by city of McMinnville).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since March 1969 by McGuire Lake about 1 mi upstream from gage (station 14302800). During winter months lake is empty except when inflow exceeds capacity of outlet tunnel.

AVERAGE DISCHARGE.--36 years (water years 1961-96), 31.0 ft^3/s, 68.12 in/yr, 22,460 acre-ft/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft^3/s Dec. 22, 1964, gage height, 10.43 ft; minimum discharge, 0.41 ft^3/s Sept. 11, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 647 ft^3/s Apr. 23, gage height, 8.73 ft; minimum discharge, 0.64 ft^3/s Aug. 26, Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	48	165	104	16	31	39	37	16	4.9	1.3	.93
2	1.7	46	128	90	16	30	35	33	15	4.6	1.6	.88
3	2.9	45	106	83	16	40	30	30	14	4.4	1.6	.95
4	2.1	44	95	61	12	75	26	27	13	4.3	1.4	1.0
5	1.7	46	82	59	58	85	23	26	12	4.0	1.5	1.1
6	1.6	49	80	73	312	82	21	24	11	3.7	1.4	4.7
7	1.5	62	90	124	413	78	19	22	10	3.5	1.3	11
8	1.5	104	86	123	454	72	18	21	9.6	3.1	1.2	11
9	1.4	88	85	98	193	61	17	19	9.3	2.3	1.1	11
10	4.5	73	107	73	104	54	17	17	9.0	2.1	1.1	6.7
11	20	179	159	51	101	50	28	17	8.5	2.0	1.1	1.1
12	13	115	217	43	82	44	76	19	8.0	1.9	1.2	.96
13	13	90	251	37	66	38	98	25	7.6	1.9	1.1	1.2
14	11	73	258	40	55	34	68	21	7.2	1.7	1.1	3.3
15	11	66	201	85	47	31	52	20	6.7	1.7	1.1	8.6
16	14	59	145	84	44	29	52	17	6.4	1.7	1.0	7.9
17	19	58	126	51	62	26	50	30	6.7	2.2	1.1	3.0
18	18	62	130	41	102	24	58	54	7.1	2.7	1.1	2.3
19	15	56	125	100	115	22	68	51	6.6	2.4	1.1	2.3
20	13	53	124	120	136	21	65	42	6.0	2.1	1.0	1.8
21	13	51	111	105	126	20	67	42	5.6	2.6	1.0	1.8
22	12	51	102	64	100	21	105	46	5.4	4.1	.98	1.7
23	27	53	96	48	97	19	500	46	8.2	4.5	.96	1.6
24	52	89	92	37	71	17	384	40	11	3.2	.90	1.6
25	60	92	86	29	57	15	196	34	10	1.4	.91	1.6
26	66	85	82	24	47	15	126	29	7.8	1.4	.89	1.6
27	58	138	85	22	41	16	88	26	6.8	1.4	1.1	1.6
28	56	201	89	19	38	17	66	24	6.3	1.4	.98	1.6
29	53	228	96	17	33	18	53	22	5.7	1.4	.95	1.6
30	51	188	111	16	---	16	44	20	5.3	1.2	.89	1.5
31	49	---	126	16	---	27	---	18	---	1.2	.88	---
TOTAL	664.9	2592	3836	1937	3014	1128	2489	899	261.8	81.0	34.84	97.92
MEAN	21.4	86.4	124	62.5	104	36.4	83.0	29.0	8.73	2.61	1.12	3.26
MAX	66	228	258	124	454	85	500	54	16	4.9	1.6	11
MIN	1.4	44	80	16	12	15	17	17	5.3	1.2	.88	.88
AC-FT	1320	5140	7610	3840	5980	2240	4940	1780	519	161	69	194
MEAN†	7.6	80.3	106.7	78.7	146.9	36.4	83.0	28.9	8.7	-4.4	-6.7	-0.3
CFSM†	1.24	13.0	17.3	12.7	23.8	5.90	13.4	4.68	1.41	-0.71	-1.08	-0.04
IN.†	1.43	14.51	19.91	14.69	25.64	6.80	14.99	5.40	1.58	-0.82	-1.25	-0.05
AC-FT†	470	4780	6560	4840	8450	2240	4940	1780	519	-269	-411	-16

CAL YR 1995 TOTAL 15462.27 MEAN 42.4 MAX 258 MIN .60 AC-FT 30670 MEAN† 37.7 CFSM† 6.10 IN.† 82.88 AC-FT† 27310
WTR YR 1996 TOTAL 17035.46 MEAN 46.5 MAX 500 MIN .88 AC-FT 33790 MEAN† 46.7 CFSM† 7.55 IN.† 102.82 AC-FT† 33880

† Adjusted for storage and diversion from McGuire Lake.
Note - Negative values shown for adjusted values during summer period are a result of evaporation exceeding inflows to McGuire Lake.

14303200 TUCCA CREEK NEAR BLAINE, OR

LOCATION.--Lat 45°19'28", long 123°32'43", in SE 1/4 NW 1/4 sec.9, T.3 S., R.7 W., Tillamook County, Hydrologic Unit 17100203, on right bank at road bridge, 80 ft upstream from mouth, and 8 mi northeast of Blaine.

DRAINAGE AREA.--3.09 mi^2.

PERIOD OF RECORD.--July 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 15.9 ft^3/s, 70.06 in/yr, 11,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 680 ft^3/s Feb. 6, 1996, gage height, 4.30 ft, from rating curve extended above 190 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 4.77 ft, Feb. 7, 1996 (backwater from debris on control); minimum discharge, 0.46 ft^3/s Sept. 30, Oct. 1, 2, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 180 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1315	227	3.43	Feb. 6	2045	*680	4.30
Nov. 27	2145	320	3.95	Feb. 7	0145	--	ab*4.77
Nov. 29	1800	275	3.71	Feb. 7	2130	550	a4.64

Minimum discharge, 1.5 ft^3/s Aug. 26, 29.
a Backwater from debris.
b From inside highwater mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	9.4	158	57	16	17	e18	21	13	4.9	e2.4	1.8
2	3.1	8.6	114	42	14	16	e16	18	12	4.7	e3.0	1.8
3	4.3	7.8	78	36	13	19	e14	17	11	4.6	e3.0	1.9
4	3.4	7.3	58	33	14	32	e12	15	11	4.6	e2.6	1.8
5	3.1	8.2	45	34	41	39	e11	13	10	4.5	e2.8	1.9
6	2.8	10	37	41	350	41	e10	12	10	4.4	e2.6	1.8
7	2.6	22	30	99	e340	40	e9.0	12	9.7	4.3	e2.4	1.8
8	2.7	76	26	111	e460	37	e8.5	11	9.1	4.2	e2.2	1.8
9	2.6	84	25	67	235	34	e8.0	10	8.9	4.2	e2.0	1.8
10	5.8	50	29	46	111	29	e8.0	9.8	8.5	4.2	e2.0	1.8
11	17	180	57	35	66	26	e13	9.5	8.1	4.2	e2.0	1.8
12	15	126	97	29	45	22	e36	10	7.8	e3.8	e2.2	1.8
13	12	74	135	25	35	19	e46	11	7.6	e3.8	e2.0	1.8
14	9.6	53	128	23	29	17	e32	9.7	7.3	e3.4	e2.0	5.1
15	8.3	40	115	30	24	16	e24	9.6	7.1	e3.4	e2.0	10
16	9.8	31	73	38	22	14	e24	9.2	6.8	e3.4	e1.8	7.8
17	13	27	51	37	24	13	e24	12	6.9	e4.4	e2.0	4.5
18	15	28	41	37	38	13	e28	21	6.8	e5.5	e1.9	3.6
19	13	26	34	75	50	12	e36	27	6.2	e4.8	e1.9	3.5
20	12	24	30	101	59	11	e32	27	5.9	e4.2	e1.7	2.9
21	11	22	27	120	56	11	e32	26	5.8	e5.0	e1.7	2.7
22	9.4	21	24	86	49	11	e50	28	5.6	e8.0	e1.7	2.5
23	8.4	24	21	59	46	10	e260	31	7.1	e8.5	e1.7	2.2
24	7.7	86	19	44	39	9.6	e190	32	7.1	e6.0	e1.6	2.1
25	12	82	18	36	33	9.1	e100	29	6.4	e2.6	e1.6	2.0
26	18	66	16	31	28	8.8	e65	25	5.8	e2.6	e1.5	1.9
27	16	130	15	27	24	8.8	e48	22	5.6	e2.6	1.8	1.9
28	15	237	15	23	21	8.5	e36	19	5.5	e2.6	1.8	1.8
29	13	233	19	21	19	8.5	e28	17	5.2	e2.6	1.7	1.8
30	12	191	35	19	---	e7.5	e24	15	5.0	e2.2	1.7	1.8
31	10	---	72	17	---	e13	---	14	---	e2.2	1.8	---
TOTAL	291.0	1984.3	1642	1479	2301	572.8	1242.5	542.8	232.8	130.4	63.1	81.7
MEAN	9.39	66.1	53.0	47.7	79.3	18.5	41.4	17.5	7.76	4.21	2.04	2.72
MAX	18	237	158	120	460	41	260	32	13	8.5	3.0	10
MIN	2.6	7.3	15	17	13	7.5	8.0	9.2	5.0	2.2	1.5	1.8
AC-FT	577	3940	3260	2930	4560	1140	2460	1080	462	259	125	162
CFSM	3.04	21.4	17.1	15.4	25.7	5.98	13.4	5.67	2.51	1.36	.66	.88
IN.	3.50	23.89	19.77	17.81	27.70	6.90	14.96	6.53	2.80	1.57	.76	.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	4.06	30.0	29.7	31.1	32.6	22.9	19.0	10.1	6.52	3.00	1.73	1.66
MAX	9.39	66.1	67.6	48.0	79.3	39.9	41.4	18.7	12.0	4.47	2.30	2.72
(WY)	1996	1996	1995	1990	1996	1987	1996	1984	1990	1984	1984	1996
MIN	.95	1.76	15.9	12.2	10.3	6.59	9.28	4.02	2.40	1.65	1.11	.91
(WY)	1988	1994	1987	1985	1993	1992	1990	1989	1992	1992	1986	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	8070.9		10563.4			
ANNUAL MEAN	22.1		28.9		15.9	
HIGHEST ANNUAL MEAN					28.9	1996
LOWEST ANNUAL MEAN					10.5	1992
HIGHEST DAILY MEAN	237	Nov 28	460	Feb 8	460	Feb 8 1996
LOWEST DAILY MEAN	1.2	Sep 14	1.5	Aug 26	.55	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 18	1.6	Aug 20	.63	Sep 28 1987
ANNUAL RUNOFF (AC-FT)	16010		20950		11540	
ANNUAL RUNOFF (CFSM)	7.16		9.34		5.16	
ANNUAL RUNOFF (INCHES)	97.16		127.17		70.06	
10 PERCENT EXCEEDS	56		66		37	
50 PERCENT EXCEEDS	11		13		8.2	
90 PERCENT EXCEEDS	1.6		2.0		1.4	

e Estimated

14305500 SILETZ RIVER AT SILETZ, OR

LOCATION.--Lat 44°42'55", long 123°53'10", in NW 1/4 SW 1/4 sec.11, T.10 S., R.10 W., Lincoln County, Hydrologic Unit 17100204, on right bank, 1.8 mi downstream from Baker Creek, 1.5 mi east of Siletz, and at mile 42.6.

DRAINAGE AREA.--202 mi^2.

PERIOD OF RECORD.--October 1905 to December 1908, January 1910 to November 1911, January 1912 to April 1912, December 1924 to current year. Monthly discharges, January to December 1909, published in WSP 1318.

REVISED RECORDS.--WSP 1935: 1943, 1947-49(M), 1953-58(M).

GAGE.--Water-stage recorder. Datum of gage is 102.32 ft above sea level. Oct. 1, 1905, to Sept 30, 1938, nonrecording gage at various sites within 2.5 mi downstream at different datums.

REMARKS.--No estimated daily discharges. Records good. Slight regulation from logponds. Small diversions upstream from station for irrigation. Continuous water-quality records for the period February 1972 to September 1985 have been collected at this location.

AVERAGE DISCHARGE.--75 years (water years 1906-08, 1911, 1926-96), 1,511 ft^3/s, 101.61 in/yr, 1,094,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1906-12, 1924-96).--Maximum discharge, 34,700 ft^3/s Feb. 7, 1996, gage height, 24.49 ft; maximum gage height, 27.32 ft Jan. 28, 1965; minimum discharge, 47 ft^3/s Oct. 20, 21, 29, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1921, reached a stage of 31.6 ft, at site 2.5 mi downstream at different datum, from floodmark, discharge, 40,800 ft^3/s, from rating curve extended above 17,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	1500	16,200	16.33	Feb. 7	2030	*34,700	*24.49
Nov. 28	0130	15,100	15.54	Feb. 8	1930	27,800	21.25
Nov. 29	2230	22,200	20.35	Apr. 23	2000	19,400	17.02

Minimum discharge, 112 ft^3/s Sept. 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	725	736	11000	4290	1710	1500	866	1510	749	295	153	124
2	559	675	7530	3060	1480	1380	959	1340	702	283	154	123
3	769	621	5310	2720	1320	1400	881	1220	659	273	160	123
4	711	583	4830	2470	1340	2730	807	1110	620	280	163	122
5	585	636	3700	2390	3070	2920	749	1000	591	268	164	121
6	504	847	2870	2970	20500	2590	707	923	557	256	166	119
7	442	2160	2330	7390	32000	2310	674	874	527	245	166	118
8	404	6730	2010	7710	24800	2140	642	812	509	235	163	118
9	387	6370	2200	4850	16600	1950	619	757	490	230	162	118
10	596	3790	3200	3560	7540	1780	643	714	480	225	160	116
11	2730	11200	6880	2790	4650	1730	865	677	455	220	154	115
12	2390	8720	7700	2290	3360	1570	2080	659	437	214	152	114
13	1660	6630	9230	1920	2630	1400	2910	730	417	209	150	112
14	1240	4910	8110	1820	2160	1270	2100	680	403	202	149	181
15	987	3630	7580	3880	1850	1170	1680	661	389	195	147	918
16	1060	2790	5210	5850	1630	1080	1640	629	376	191	144	667
17	1200	2250	4030	4090	1770	1010	2080	784	371	225	141	564
18	1750	2240	4100	3320	3930	945	2220	1450	389	303	141	392
19	1340	1880	3410	5460	3930	902	2490	1920	365	275	138	353
20	1110	1620	2780	7670	3680	850	2550	1530	340	226	138	299
21	994	1460	2270	8330	3770	805	2560	1330	328	206	138	258
22	884	1590	1910	5800	3390	876	3340	1560	316	189	138	235
23	780	1520	1630	4580	5680	831	13600	1650	412	175	136	218
24	713	5240	1430	4910	4520	770	11400	1510	490	163	135	204
25	746	6760	1260	4280	3420	721	5920	1340	495	152	132	200
26	1950	5080	1140	3510	2720	690	4240	1190	389	145	129	197
27	1510	7090	1050	3300	2250	662	3180	1070	352	147	129	193
28	1230	12500	1160	3150	1920	645	2520	991	348	151	128	190
29	1040	15700	3100	2820	1670	641	2070	936	324	153	126	186
30	911	15600	5140	2380	---	630	1740	860	308	153	126	186
31	811	---	6580	2010	---	708	---	799	---	153	126	---
TOTAL	32718	141558	130680	125570	169290	40606	78732	33216	13588	6637	4508	6984
MEAN	1055	4719	4215	4051	5838	1310	2624	1071	453	214	145	233
MAX	2730	15700	11000	8330	32000	2920	13600	1920	749	303	166	918
MIN	387	583	1050	1820	1320	630	619	629	308	145	126	112
AC-FT	64900	280800	259200	249100	335800	80540	156200	65880	26950	13160	8940	13850
CFSM	5.22	23.4	20.9	20.1	28.9	6.48	13.0	5.30	2.24	1.06	.72	1.15
IN.	6.03	26.07	24.07	23.12	31.18	7.48	14.50	6.12	2.50	1.22	.83	1.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	712	2433	3293	3255	2960	2223	1511	835	495	225	132	198
MAX	3412	6207	7828	7664	6055	4560	3560	2579	1602	602	419	1138
(WY)	1927	1907	1934	1953	1949	1932	1937	1933	1906	1910	1968	1959
MIN	50.1	72.4	401	518	752	557	387	233	144	99.7	64.5	58.6
(WY)	1988	1930	1977	1977	1973	1941	1926	1939	1928	1992	1992	1965

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	669410		784087			
ANNUAL MEAN	1834		2142		1511	
HIGHEST ANNUAL MEAN					2337	1974
LOWEST ANNUAL MEAN					660	1977
HIGHEST DAILY MEAN	15700	Nov 29	32000	Feb 7	32000	Feb 7 1996
LOWEST DAILY MEAN	69	Sep 23	112	Sep 13	47	Oct 20 1987
ANNUAL SEVEN-DAY MINIMUM	76	Sep 18	116	Sep 7	48	Oct 16 1987
ANNUAL RUNOFF (AC-FT)	1328000		1555000		1094000	
ANNUAL RUNOFF (CFSM)	9.08		10.6		7.48	
ANNUAL RUNOFF (INCHES)	123.28		144.40		101.61	
10 PERCENT EXCEEDS	5100		5220		3810	
50 PERCENT EXCEEDS	911		952		750	
90 PERCENT EXCEEDS	126		152		105	

14306340 EAST FORK LOBSTER CREEK NEAR ALSEA, OR

LOCATION.--Lat 44°14'53", long 123°38'07", in NE 1/4 SE 1/4 sec.22, T.15 S., R.8 W., Benton County, Hydrologic Unit 17100205, on left bank 500 ft upstream from mouth, and 9 mi south of Alsea.

DRAINAGE AREA.--5.70 mi^2.

PERIOD OF RECORD.--July 1983 to current year.

REVISED RECORDS.--WDR OR-87-2: 1984(M,P), 1985(M,P), 1986(M,P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those below 10 ft^3/s, which are poor. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 23.3 ft^3/s, 55.45 in/yr, 16,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,360 ft^3/s Feb. 7, 1996, gage height, 5.37 ft, from rating curve extended above 900 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 0.17 ft^3/s Sept. 27, 28, Oct. 2, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0200	414	3.41	Feb. 6	1530	858	4.36
Dec. 12	1930	394	3.37	Feb. 7	0730	*1,360	*5.37
Dec. 14	1400	301	3.14	Feb. 8	2100	572	3.72
Jan. 20	1530	301	3.14	Apr. 23	2200	433	3.40

Minimum discharge, 1.5 ft^3/s Aug. 31, Sept. 1, 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.2	6.3	271	59	38	26	19	20	e14	2.4	1.8	1.5
2	e1.6	5.9	135	47	32	27	20	20	e12	2.3	2.0	1.6
3	e5.0	5.1	92	45	29	31	19	18	e11	2.4	2.1	1.6
4	e4.2	4.8	105	45	33	102	17	17	e10	2.5	2.0	1.6
5	3.4	5.8	90	45	123	96	15	16	e10	2.2	2.2	1.6
6	2.5	12	71	50	569	71	17	15	11	2.0	2.1	1.6
7	1.9	24	51	55	817	56	14	14	11	2.0	2.1	1.6
8	1.9	87	43	63	492	46	15	13	9.4	2.0	2.0	1.5
9	2.0	53	59	54	369	40	15	12	8.8	2.4	2.0	1.5
10	2.1	29	93	50	173	36	14	11	8.4	2.3	2.0	1.5
11	20	118	197	40	102	32	16	11	7.3	2.4	1.9	1.6
12	13	84	e220	32	72	28	24	11	6.3	2.4	2.0	1.6
13	e6.0	55	e210	25	56	25	29	12	5.7	2.2	2.0	1.7
14	5.2	42	212	25	47	23	24	13	5.7	2.2	2.0	3.7
15	4.3	34	160	62	40	22	21	13	5.5	2.1	2.0	9.1
16	4.4	29	98	94	33	20	27	12	5.2	2.0	2.0	4.4
17	5.2	25	74	70	45	19	34	17	5.5	3.7	1.8	3.7
18	8.4	28	73	75	114	17	44	48	4.5	5.4	1.9	2.7
19	6.2	24	59	180	128	16	52	e58	3.9	4.3	1.9	2.6
20	5.2	21	49	221	107	17	45	e42	3.7	3.1	1.9	2.3
21	6.3	18	42	194	102	15	41	e32	3.3	2.8	1.8	2.0
22	6.8	17	36	118	80	18	62	e70	3.2	2.6	1.9	2.1
23	5.7	15	31	111	128	17	218	e60	3.6	2.4	2.1	2.2
24	6.0	26	26	141	90	15	270	e42	4.1	2.3	1.8	2.3
25	7.8	83	23	105	59	15	125	e34	4.1	2.1	1.7	2.4
26	18	73	19	81	42	14	75	e30	3.3	1.9	1.7	2.3
27	14	119	18	126	34	14	52	e25	2.9	1.9	1.9	2.2
28	11	173	20	106	31	15	40	e18	3.2	1.9	1.9	1.9
29	8.9	211	64	80	27	14	30	e17	3.1	2.0	1.7	1.9
30	7.8	289	80	57	---	14	24	e16	2.7	1.8	1.7	2.1
31	6.8	---	83	47	---	16	---	e16	---	1.7	1.5	---
TOTAL	203.8	1716.9	2804	2503	4012	917	1418	753	192.4	75.7	59.4	70.4
MEAN	6.57	57.2	90.5	80.7	138	29.6	47.3	24.3	6.41	2.44	1.92	2.35
MAX	20	289	271	221	817	102	270	70	14	5.4	2.2	9.1
MIN	1.6	4.8	18	25	27	14	14	11	2.7	1.7	1.5	1.5
AC-FT	404	3410	5560	4960	7960	1820	2810	1490	382	150	118	140
CFSM	1.15	10.0	15.9	14.2	24.3	5.19	8.29	4.26	1.13	.43	.34	.41
IN.	1.33	11.21	18.30	16.34	26.18	5.98	9.25	4.91	1.26	.49	.39	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	3.62	39.7	43.8	50.6	54.0	34.7	26.5	14.3	9.04	2.50	1.29	1.30
MAX	9.39	115	90.5	85.9	138	62.1	49.5	27.8	21.3	3.88	1.92	2.35
(WY)	1985	1985	1996	1995	1996	1989	1993	1984	1985	1984	1996	1996
MIN	.39	1.41	17.6	16.0	13.4	11.5	10.4	5.99	1.83	1.40	.52	.66
(WY)	1988	1994	1990	1985	1993	1992	1987	1994	1992	1992	1992	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	12015.91		14725.6			
ANNUAL MEAN	32.9		40.2		23.3	
HIGHEST ANNUAL MEAN					40.2	1996
LOWEST ANNUAL MEAN					16.2	1994
HIGHEST DAILY MEAN	316	Jan 13	817	Feb 7	817	Feb 7 1996
LOWEST DAILY MEAN	.67	Aug 15	1.5	Aug 31	.25	Oct 13 1991
ANNUAL SEVEN-DAY MINIMUM	.81	Jul 31	1.6	Sep 4	.29	Oct 9 1991
ANNUAL RUNOFF (AC-FT)	23830		29210		16850	
ANNUAL RUNOFF (CFSM)	5.78		7.06		4.08	
ANNUAL RUNOFF (INCHES)	78.42		96.10		55.45	
10 PERCENT EXCEEDS	87		102		56	
50 PERCENT EXCEEDS	16		16		11	
90 PERCENT EXCEEDS	1.2		1.9		.93	

e Estimated

14306500 ALSEA RIVER NEAR TIDEWATER, OR

LOCATION.--Lat 44°23'10", long 123°49'50", in NW 1/4 NW 1/4 sec.6, T.14 S., R.9 W., Lincoln County, Hydrologic Unit 17100205, on right bank 0.9 mi downstream from Grass Creek, 2.5 mi upstream from Scott Creek, 3.8 mi southeast of Tidewater, and at mile 21.0.

DRAINAGE AREA.--334 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 48.16 ft above sea level. Prior to Nov. 16, 1939, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. No regulation. Diversion for irrigation upstream from station. Continuous water-quality records for the period October 1979 to September 1981 have been collected at this location.

AVERAGE DISCHARGE.--57 years (water years 1940-96), 1,473 ft^3/s, 59.93 in/yr, 1,067,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft^3/s Dec. 22, 1964, gage height, 27.44 ft; minimum discharge, 45 ft^3/s Sept. 26, 27, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on or about Feb. 3, 1890, reached a stage of 29.5 ft, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0700	15,100	15.86	Feb. 7	1430	*32,100	*23.88
Dec. 13	0330	17,000	16.92	Apr. 24	0130	14,500	15.52
Jan. 20	2030	13,000	14.65				

Minimum discharge, 86 ft^3/s Sept. 11-14.

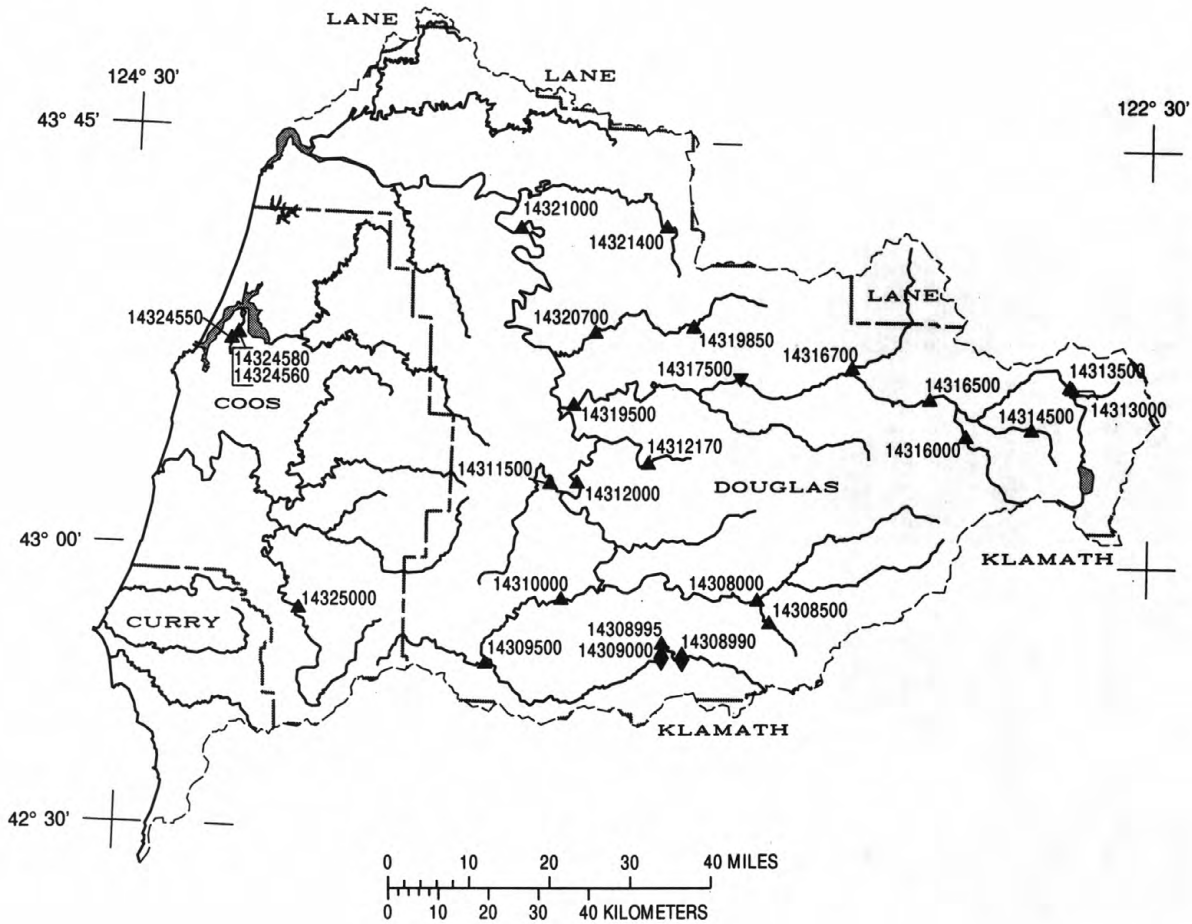
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	247	12400	3330	3040	2040	870	1550	823	293	146	94
2	164	229	7790	2720	2580	1850	918	1420	774	283	149	94
3	208	217	5480	2450	2250	1770	863	1320	729	274	157	92
4	268	209	4990	2310	2120	2820	803	1220	693	269	153	92
5	204	235	4440	2240	3240	3170	753	1140	660	265	151	92
6	163	310	3990	2450	20300	2680	713	1070	631	255	150	93
7	142	623	3220	2690	29400	2330	685	1010	605	249	143	94
8	129	1980	2750	3700	22300	2050	659	964	583	240	137	91
9	124	2880	2850	3350	19800	1840	632	912	561	233	132	90
10	134	1510	4180	3100	10100	1690	625	872	548	228	128	89
11	895	3040	10400	2730	6230	1620	673	829	526	224	124	86
12	886	4560	13000	2380	4490	1480	939	800	506	217	121	86
13	521	2870	14400	2090	3510	1360	1080	876	489	212	122	86
14	364	2220	12500	1950	2870	1260	980	861	474	206	119	100
15	283	1700	11800	3360	2410	1180	906	862	459	199	114	384
16	257	1400	7150	5780	2120	1100	1010	832	445	192	112	246
17	270	1180	5140	4840	2220	1040	1310	1030	436	226	110	227
18	400	1310	4330	4060	5390	993	1610	1710	437	378	108	177
19	340	1190	3620	7490	6540	949	2350	2250	412	361	108	150
20	284	1050	3060	10100	5960	900	2120	1740	388	246	108	138
21	274	948	2610	11600	5920	861	1930	1520	378	214	108	126
22	266	959	2270	8070	4910	948	1980	2000	365	199	108	118
23	243	880	1980	6440	7920	943	7000	2330	376	189	105	113
24	228	1150	1770	8850	7150	853	10800	1910	405	179	102	110
25	233	2970	1590	7330	5180	806	5500	1590	411	172	99	107
26	614	3700	1450	5950	4020	770	3790	1360	365	166	97	104
27	635	4220	1360	5840	3280	751	2860	1200	344	160	99	100
28	458	8280	1440	5990	2770	737	2310	1100	335	159	103	99
29	361	7090	2800	5260	2350	718	1970	1030	323	158	104	99
30	307	13200	3620	4360	---	707	1730	948	308	156	100	97
31	271	---	4370	4280	---	754	---	878	---	150	97	---
TOTAL	10138	72357	162750	147090	200370	42970	60369	39134	14789	6952	3714	3674
MEAN	327	2412	5250	4745	6909	1386	2012	1262	493	224	120	122
MAX	895	13200	14400	11600	29400	3170	10800	2330	823	378	157	384
MIN	124	209	1360	1950	2120	707	625	800	308	150	97	86
AC-FT	20110	143500	322800	291800	397400	85230	119700	77620	29330	13790	7370	7290
CFSM	.98	7.22	15.7	14.2	20.7	4.15	6.02	3.78	1.48	.67	.36	.37
IN.	1.13	8.06	18.13	16.38	22.32	4.79	6.72	4.36	1.65	.77	.41	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1996, BY WATER YEAR (WY)

MEAN	367	1745	3236	3522	3272	2461	1516	806	409	192	118	129
MAX	2521	6058	7419	7874	6909	5144	3203	1848	1053	363	234	452
(WY)	1948	1974	1965	1953	1996	1961	1963	1963	1993	1983	1968	1941
MIN	62.0	108	182	211	607	604	550	331	178	116	65.6	60.1
(WY)	1988	1994	1977	1977	1977	1941	1977	1966	1966	1992	1966	1965

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1940 - 1996	
ANNUAL TOTAL	696522		764307			
ANNUAL MEAN	1908		2088		1473	
HIGHEST ANNUAL MEAN					2541	1974
LOWEST ANNUAL MEAN					431	1977
HIGHEST DAILY MEAN	15500	Jan 14	29400	Feb 7	36100	Dec 22 1964
LOWEST DAILY MEAN	64	Sep 24	86	Sep 11	47	Sep 26 1965
ANNUAL SEVEN-DAY MINIMUM	70	Sep 20	89	Sep 7	51	Sep 25 1965
ANNUAL RUNOFF (AC-FT)	1382000		1516000		1067000	
ANNUAL RUNOFF (CFSM)	5.71		6.25		4.41	
ANNUAL RUNOFF (INCHES)	77.58		85.13		59.93	
10 PERCENT EXCEEDS	4920		5490		3790	
50 PERCENT EXCEEDS	961		874		642	
90 PERCENT EXCEEDS	107		111		98	



EXPLANATION

14321400 ▲ **Stream–gaging station**

14317500 ▼ **Water–quality data collection site**

14309000 ◆ **Stream–gaging station and water–quality data collection site**

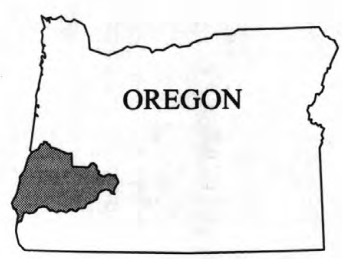


Figure 28. Location of surface-water and water-quality stations in the Umpqua, Coos and Coquille River Basins.

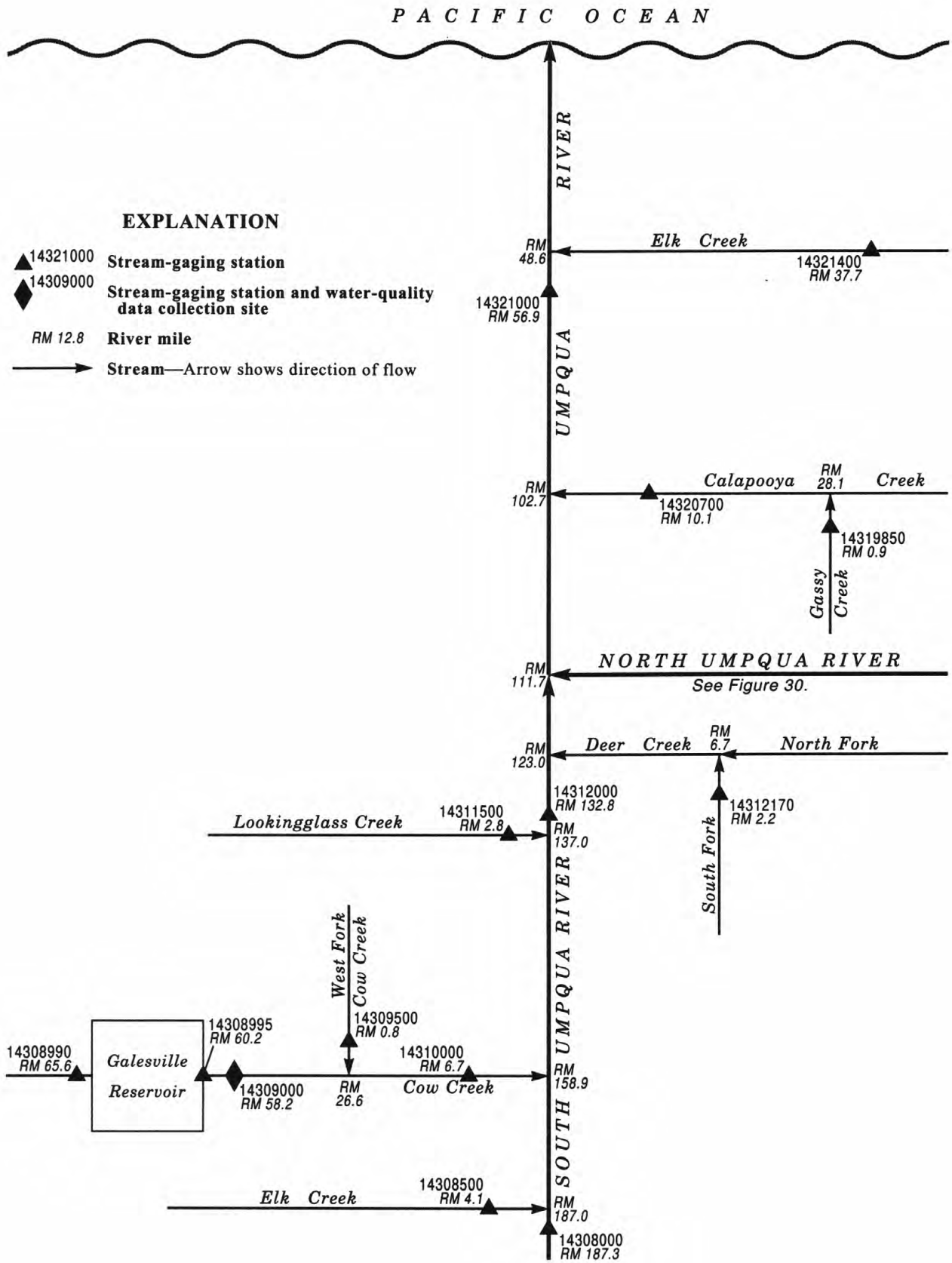


Figure 29. Schematic diagram showing gaging stations in the Umpqua and the South Fork Umpqua River Basins.

14308000 SOUTH UMPQUA RIVER AT TILLER, OR

LOCATION.--Lat 42°55'50", long 122°56'50", in NE 1/4 sec.33, T.30 S., R.2 W., Douglas County, Hydrologic Unit 17100302, Umpqua National Forest, on left bank 0.3 mi upstream from bridge on State Highway 227 at Tiller, 0.3 mi upstream from Elk Creek, and at mile 187.31.

DRAINAGE AREA.--449 mi^2.

PERIOD OF RECORD.--October 1910 to December 1911, October 1939 to current year. Monthly discharge only for some periods, published in WSP 1318. Prior to December 1911, published as South Fork of Umpqua River at Tiller.

REVISED RECORDS.--WSP 1448: 1911(M), 1912, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 991.8 ft above sea level (river-profile survey). Prior to Oct. 1, 1939, nonrecording gage at site 0.2 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--58 years, (water years 1911, 1940-96), 1,021 ft^3/s, 30.90 in/yr, 739,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,200 ft^3/s Dec. 22, 1964, gage height, 25.72 ft; minimum discharge observed, 20 ft^3/s Sept. 3, 4, 1911.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	0900	10,200	10.42	Jan. 20	1445	7,700	9.01
Dec. 12	1230	*22,700	*15.64	Feb. 9	0015	16,900	13.47
Dec. 30	1800	19,300	14.42	Apr. 24	0445	11,800	11.21
Jan. 9	1730	7,450	8.86				

Minimum discharge, 50 ft^3/s Sept. 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	76	7380	6360	2720	1240	3630	1300	814	216	95	57
2	90	72	3780	2940	2290	1360	2570	1170	752	208	91	55
3	82	71	2350	2330	2120	1650	1900	1040	693	197	90	54
4	101	68	2700	2130	3820	2000	1580	912	637	189	90	53
5	92	68	4560	1780	6110	2200	1410	827	596	172	89	52
6	79	70	4620	1610	9610	2010	1310	760	549	167	87	52
7	73	100	3420	1770	9230	1730	1270	707	519	164	85	52
8	70	114	3290	4920	10400	1650	1270	655	487	164	84	52
9	68	379	7700	5940	12100	1860	1280	610	462	167	80	52
10	66	289	5550	4990	6960	1880	1300	575	430	159	77	51
11	89	293	6810	3230	5310	2000	1210	551	407	155	74	51
12	248	1760	18800	2460	4550	2010	1320	548	387	150	71	50
13	154	1380	13300	1910	3920	1600	1360	568	353	145	71	50
14	108	835	8740	1590	3430	1360	1290	1280	350	140	70	53
15	91	500	8970	2270	3160	1200	1180	2990	332	140	68	199
16	82	378	5280	2530	2930	1070	1230	3750	314	131	67	246
17	77	297	3480	2580	3090	988	1240	3500	309	130	66	221
18	90	294	2640	2460	3500	962	1190	3450	288	170	65	137
19	98	277	2050	3990	5390	973	1140	3290	284	150	64	102
20	81	239	1660	5890	4710	942	1210	2870	272	136	64	92
21	75	215	1390	4540	3840	864	1440	2900	260	129	64	86
22	74	202	1190	3010	3350	836	3150	5450	242	126	64	78
23	73	185	1020	2600	2770	834	4520	4220	248	122	63	74
24	70	247	897	2590	2510	756	9870	3030	299	117	62	72
25	68	1600	794	2160	2090	685	5790	2350	301	113	60	69
26	113	2530	718	1860	1710	639	4690	1880	269	109	58	67
27	170	1690	671	3460	1480	728	4150	1540	303	105	59	66
28	121	3700	678	3190	1330	799	2520	1300	280	102	62	65
29	96	2080	3890	2280	1220	794	1620	1140	250	106	62	64
30	87	5680	13600	2160	---	760	1430	999	229	107	59	63
31	81	---	16300	2680	---	2430	---	900	---	101	57	---
TOTAL	2973	25689	158228	94210	125650	40810	69070	57062	11916	4487	2218	2435
MEAN	95.9	856	5104	3039	4333	1316	2302	1841	397	145	71.5	81.2
MAX	248	5680	18800	6360	12100	2430	9870	5450	814	216	95	246
MIN	66	68	671	1590	1220	639	1140	548	229	101	57	50
AC-FT	5900	50950	313800	186900	249200	80950	137000	113200	23640	8900	4400	4830
CFSM	.21	1.91	11.4	6.77	9.65	2.93	5.13	4.10	.88	.32	.16	.18
IN.	.25	2.13	13.11	7.81	10.41	3.38	5.72	4.73	.99	.37	.18	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1996, BY WATER YEAR (WY)

MEAN	194	1038	1971	2044	2009	1726	1413	1066	521	155	77.5	75.7
MAX	1791	3976	7480	4513	4907	4776	2756	2093	1643	301	206	364
(WY)	1951	1974	1965	1972	1986	1972	1993	1963	1953	1953	1976	1986
MIN	34.5	48.2	66.6	89.6	95.1	328	433	231	108	49.5	29.9	38.9
(WY)	1988	1940	1977	1977	1977	1992	1968	1992	1992	1940	1940	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1911 - 1996	
ANNUAL TOTAL	508534		594748			
ANNUAL MEAN	1393		1625		1021	
HIGHEST ANNUAL MEAN					1762	1974
LOWEST ANNUAL MEAN					268	1977
HIGHEST DAILY MEAN	18800	Dec 12	18800	Dec 12	36500	Dec 22 1964
LOWEST DAILY MEAN	52	Sep 23	50	Sep 12	20	Sep 3 1911
ANNUAL SEVEN-DAY MINIMUM	54	Sep 18	51	Sep 7	26	Aug 27 1940
ANNUAL RUNOFF (AC-FT)	1009000		1180000		739700	
ANNUAL RUNOFF (CFSM)	3.10		3.62		2.27	
ANNUAL RUNOFF (INCHES)	42.13		49.28		30.90	
10 PERCENT EXCEEDS	3220		4170		2420	
50 PERCENT EXCEEDS	723		712		508	
90 PERCENT EXCEEDS	73		68		58	

14308500 ELK CREEK NEAR DREW, OR

LOCATION.--Lat 42°53'25", long 122°55'00", in SW 1/4 sec.11, T.31 S., R.2 W., Douglas County, Hydrologic Unit 17100302, on right bank 100 ft downstream from Dixon Creek, 0.1 mi upstream from Drew Creek, 1.3 mi northwest of Drew, 3.3 mi southeast of Tiller, and at mile 4.1.

DRAINAGE AREA.--54.4 mi^2.

PERIOD OF RECORD.--September 1954 to September 1982, October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,279.25 ft above sea level.

REMARKS.--Records good. No regulation. Several diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--38 years (water years 1955-82, 1987-96), 77.6 ft^3/s, 19.39 in/yr, 56,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,120 ft^3/s Jan. 9, 1995, gage height, 11.09 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurement at gage height 10.34 ft; no flow at times several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 11.8 ft, from floodmarks, probably for flood in January or November 1953, discharge, about 11,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0630	*5,910	9.71	Jan. 27	1530	1,000	5.86
Jan. 20	1600	1,300	6.27				

Minimum discharge, 0.02 ft^3/s Aug. 17, 18, Sept. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.4	119	203	297	105	e150	e62	41	5.5	1.0	.14
2	2.1	2.2	56	148	233	108	e110	e56	36	4.9	.89	.18
3	1.9	2.3	36	118	196	126	e79	e49	31	4.7	1.1	.17
4	2.1	2.4	56	108	343	147	e68	e43	28	4.7	1.1	.05
5	2.2	2.5	173	92	521	169	e66	e39	25	4.7	1.1	.03
6	1.9	2.7	116	81	604	138	e64	e35	22	4.4	.95	.06
7	1.8	3.0	69	77	554	119	e63	e31	20	4.3	.86	.14
8	1.7	3.2	147	184	524	114	e64	e27	19	3.9	.67	.12
9	1.7	5.3	252	320	712	114	e65	24	17	3.9	.59	.08
10	1.6	5.5	242	376	472	106	e65	22	16	4.1	.48	.21
11	3.5	5.2	1010	231	337	117	e60	20	15	3.7	.52	.21
12	6.8	7.8	3810	166	267	108	e66	18	14	3.3	.41	.23
13	3.8	8.1	1170	128	225	92	e68	21	13	3.1	.28	.32
14	2.8	6.1	1080	104	190	78	e63	81	13	2.9	.32	.75
15	2.2	4.8	1000	242	164	66	e59	139	12	2.7	.19	3.5
16	2.0	4.2	505	294	144	57	e60	162	11	2.6	.03	5.1
17	2.0	3.8	295	338	149	50	e61	242	11	2.7	.02	4.2
18	2.8	4.3	198	319	235	44	e59	307	10	4.1	.12	2.9
19	3.0	4.3	147	337	419	40	e56	239	9.5	3.4	.35	2.1
20	2.6	3.8	115	628	368	39	e59	161	9.1	2.8	.41	2.2
21	2.3	3.6	92	550	440	37	e70	231	8.8	2.5	.39	2.0
22	2.3	3.5	73	319	285	40	e150	412	8.8	2.5	.50	1.8
23	2.2	3.4	59	275	245	48	e200	308	8.6	2.1	.47	1.6
24	2.2	3.4	49	375	222	48	e480	225	9.4	1.9	.37	1.4
25	2.3	6.0	41	247	179	48	e250	166	9.6	1.5	.29	1.3
26	2.9	18	36	199	147	48	e195	128	8.3	1.3	.22	1.1
27	3.3	19	33	691	127	48	e180	104	8.2	1.1	.17	1.1
28	3.1	39	33	421	116	46	e125	82	7.6	1.4	.43	.95
29	2.9	22	168	289	108	40	e79	68	6.7	1.9	.53	.66
30	2.8	31	460	269	---	32	e70	57	6.1	1.7	.34	.64
31	2.6	---	329	338	---	e95	---	48	---	1.1	.19	---
TOTAL	79.7	232.8	11969	8467	8823	2467	3204	3607	454.7	95.4	15.29	35.24
MEAN	2.57	7.76	386	273	304	79.6	107	116	15.2	3.08	.49	1.17
MAX	6.8	39	3810	691	712	169	480	412	41	5.5	1.1	5.1
MIN	1.6	2.2	33	77	108	32	56	18	6.1	1.1	.02	.03
AC-FT	158	462	23740	16790	17500	4890	6360	7150	902	189	30	70
CFSM	.05	.14	7.10	5.02	5.59	1.46	1.96	2.14	.28	.06	.01	.02
IN.	.05	.16	8.18	5.79	6.03	1.69	2.19	2.47	.31	.07	.01	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1996, BY WATER YEAR (WY)

MEAN	7.10	64.8	165	207	160	154	99.1	52.4	18.4	3.96	1.53	1.79
MAX	62.8	449	651	644	382	356	193	164	106	10.8	10.2	18.7
(WY)	1963	1974	1965	1974	1958	1974	1956	1963	1993	1978	1976	1978
MIN	.62	1.89	3.11	4.94	5.05	15.0	20.1	6.94	1.96	.52	.008	.043
(WY)	1988	1994	1977	1977	1977	1992	1990	1987	1987	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1955 - 1996	
ANNUAL TOTAL	41238.58		39450.13			
ANNUAL MEAN	113		108		77.6	
HIGHEST ANNUAL MEAN					180	1974
LOWEST ANNUAL MEAN					16.0	1977
HIGHEST DAILY MEAN	3810	Dec 12	3810	Dec 12	6670	Jan 15 1974
LOWEST DAILY MEAN	.34	Sep 24	.02	Aug 17	.00	Sep 4 1974
ANNUAL SEVEN-DAY MINIMUM	.54	Sep 19	.09	Sep 3	.00	Sep 16 1974
ANNUAL RUNOFF (AC-FT)	81800		78250		56250	
ANNUAL RUNOFF (CFSM)	2.08		1.98		1.43	
ANNUAL RUNOFF (INCHES)	28.20		26.98		19.39	
10 PERCENT EXCEEDS	257		296		191	
50 PERCENT EXCEEDS	29		27		19	
90 PERCENT EXCEEDS	1.1		.62		.86	

e Estimated

14308990 COW CREEK ABOVE GALESVILLE RESERVOIR, NEAR AZALEA, OR

LOCATION.--Lat 42°49'24", long 123°07'29", in SW 1/4 NW 1/4 sec.1, T.32 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on left bank, about 600 ft upstream from bridge on Houck Ranch Road (BLM), 1.1 mi downstream from Sugar Creek, 3.2 mi south of Galesville Dam, 6.9 mi northeast of Azalea, and at mile 65.6

DRAINAGE AREA.--64.7 mi^2.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,900 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Continuous water-quality records for the period November 1985 to September 1989 have been collected at this location.

AVERAGE DISCHARGE.--11 years (water years 1986-96), 71.3 ft^3/s, 14.97 in/yr, 51,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 6,980 ft^3/s Jan. 9, 1995, gage height 12.04 ft, from rating curve extended above 2,450 ft^3/s; maximum gage height 12.30 ft Jan. 9, 1995 (from outside highwater mark); minimum discharge, 3.5 ft^3/s Dec. 26, 1989, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1927 occurred Jan. 15, 1974. Stage and discharge not known at this site, but was 10,600 ft^3/s at site 7.4 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0730	*3,820	*8.78	Jan. 20	1730	1,630	5.77
Dec. 14	2000	2,090	6.53	Feb. 9	0830	1,190	4.88

Minimum discharge, 9.6 ft^3/s Sept. 11-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	124	179	318	198	452	123	95	31	15	10
2	13	12	62	145	268	199	266	112	88	30	15	10
3	13	12	43	127	235	222	218	107	82	29	15	10
4	14	13	73	118	388	261	175	99	76	28	15	10
5	13	13	161	106	620	296	147	94	72	28	15	10
6	12	13	174	97	803	233	130	87	68	27	14	10
7	12	13	68	97	772	208	120	83	64	27	14	10
8	12	14	73	216	744	208	109	78	62	26	13	10
9	12	21	106	321	1040	213	110	74	59	25	13	10
10	12	17	112	340	680	198	123	71	56	25	13	10
11	23	16	679	227	500	214	108	68	52	24	12	9.7
12	25	26	2510	179	402	194	107	65	50	24	12	9.6
13	16	24	1050	148	343	167	104	65	49	23	12	10
14	15	18	1020	129	296	149	94	137	49	22	11	13
15	14	16	935	209	260	134	88	153	47	21	11	28
16	13	15	491	270	233	124	114	194	46	20	11	22
17	13	14	306	310	268	114	114	257	45	21	11	18
18	14	18	219	289	420	107	104	355	43	25	11	15
19	14	18	166	380	680	103	102	291	42	23	11	14
20	13	16	136	799	633	97	108	211	41	22	11	14
21	13	15	114	673	624	90	106	358	38	21	11	14
22	13	15	99	384	434	90	109	480	38	20	11	14
23	13	15	87	323	400	91	122	313	37	19	11	13
24	13	15	77	452	351	85	581	247	37	18	11	13
25	13	28	69	289	283	80	332	203	39	18	10	12
26	14	50	64	235	244	74	236	171	37	17	10	12
27	14	34	61	747	217	88	192	151	37	16	10	12
28	14	40	63	458	209	99	166	135	36	16	11	12
29	14	30	225	334	202	88	145	124	34	17	11	12
30	14	42	319	317	---	82	134	112	32	15	10	11
31	13	---	251	361	---	128	---	103	---	15	10	---
TOTAL	435	606	9937	9259	12867	4634	5016	5121	1551	693	371	378.3
MEAN	14.0	20.2	321	299	444	149	167	165	51.7	22.4	12.0	12.6
MAX	25	50	2510	799	1040	296	581	480	95	31	15	28
MIN	12	12	43	97	202	74	88	65	32	15	10	9.6
AC-FT	863	1200	19710	18370	25520	9190	9950	10160	3080	1370	736	750
CFSM	.22	.31	4.95	4.62	6.86	2.31	2.58	2.55	.80	.35	.18	.19
IN.	.25	.35	5.71	5.32	7.40	2.66	2.88	2.94	.89	.40	.21	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	11.3	37.8	91.9	167	171	153	94.3	66.0	34.2	15.6	9.53	9.40
MAX	17.1	102	321	465	444	315	200	165	81.6	24.3	15.8	18.8
(WY)	1987	1989	1996	1995	1996	1989	1993	1996	1993	1993	1993	1986
MIN	6.41	12.2	18.2	45.2	51.1	34.2	32.5	20.8	12.7	7.03	5.16	5.66
(WY)	1988	1988	1990	1992	1994	1992	1990	1992	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1986 - 1996	
ANNUAL TOTAL	49883.4		50868.3			
ANNUAL MEAN	137		139		71.3	
HIGHEST ANNUAL MEAN					139	1996
LOWEST ANNUAL MEAN					26.6	1994
HIGHEST DAILY MEAN	3070	Jan 9	2510	Dec 12	3070	Jan 9 1995
LOWEST DAILY MEAN	8.9	Sep 23	9.6	Sep 12	4.2	Sep 24 1994
ANNUAL SEVEN-DAY MINIMUM	9.6	Sep 18	9.9	Sep 6	4.5	Sep 21 1994
ANNUAL RUNOFF (AC-FT)	98940		100900		51640	
ANNUAL RUNOFF (CFSM)	2.11		2.15		1.10	
ANNUAL RUNOFF (INCHES)	28.68		29.25		14.97	
10 PERCENT EXCEEDS	287		341		171	
50 PERCENT EXCEEDS	50		65		29	
90 PERCENT EXCEEDS	12		12		7.6	

14308995 GALESVILLE RESERVOIR NEAR AZALEA, OR

LOCATION.--Lat 42°50'56", long 123°10'40", in NE 1/4 sec.28, T.31 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on the upstream face of Galesville dam to the right side of the spillway section, 1.2 mi downstream from McGinnis Creek, 5.6 mi northeast of Azalea, and at mile 60.2.

DRAINAGE AREA.--74.3 mi^2.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Douglas County).

REMARKS.--Reservoir is formed by a roller compacted concrete dam; storage began Oct. 7, 1985. Capacity, 42,220 acre-ft between elevations 1,780.0 ft (bottom of evacuation outlet) and 1,881.5 ft (crest of spillway). Dead storage, 1,800 acre-ft below elevation 1,780.0 ft. Reservoir is used for irrigation, power generation, flood control, and recreation. Figures given herein represent total contents.

COOPERATION.--Capacity table furnished by Douglas County Public Works Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 42,080 acre-ft May 22, 1996, elevation, 1,881.82 ft; minimum contents, 7,240 acre-ft Jan. 9, 10, 1991, elevation, 1,805.03 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,080 acre-ft May 22, elevation, 1,881.82 ft; minimum contents, 20,400 acre-ft Jan. 8, elevation, 1,841.32 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,780	1,800	1,820	11,960	1,860	29,480
1,790	3,590	1,830	15,660	1,870	34,970
1,800	5,890	1,840	19,820	1,880	40,930
1,810	8,700	1,850	24,420	1,885	44,130

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1851.03	1846.55	1842.69	1842.93	1857.26	1861.45	1871.71	1880.21	1880.03	---	1872.83	1863.45
2	1850.88	1846.40	1842.37	1842.80	1857.16	1861.96	1872.47	1880.20	1880.00	---	1872.54	1863.13
3	1850.78	1846.26	1842.19	1842.58	1856.93	1862.58	1873.02	1880.18	1879.97	---	1872.25	1862.81
4	1850.63	1846.11	1842.16	1842.31	1857.24	1863.30	1873.43	1880.13	1879.95	---	1871.97	1862.51
5	1850.49	1845.97	1842.34	1841.98	1857.93	1864.06	1873.74	1880.07	1879.94	---	1871.70	1862.19
6	1850.34	1845.84	1842.24	1841.62	1858.21	1864.59	1873.97	1880.01	1879.93	---	1871.41	1861.88
7	1850.18	1845.70	1842.18	1841.33	1857.85	1865.00	1874.19	1880.01	1879.93	---	1871.12	1861.57
8	1850.03	1845.59	1842.10	1841.53	1857.34	1865.43	1874.38	1880.02	1879.93	---	1870.83	1861.26
9	1849.88	1845.45	1841.94	1842.29	1858.00	1865.86	1874.64	1880.04	1879.92	---	1870.55	1860.94
10	1849.74	1845.29	1841.74	1843.08	1857.79	1866.25	1874.87	1880.07	1879.91	---	1870.25	1860.63
11	1849.71	1845.15	1843.67	1843.34	1857.87	1866.71	1875.05	1880.09	1879.91	---	1869.95	1860.31
12	1849.50	1845.01	1853.66	1843.38	1857.93	1867.06	1875.23	1880.10	1879.90	---	1869.65	1860.01
13	1849.25	1844.83	1857.42	1843.27	1857.48	1867.33	1875.37	1880.12	---	---	1869.34	1859.71
14	1849.08	1844.61	1860.65	1843.07	1856.71	1867.63	1875.49	1880.15	---	---	1869.03	1859.42
15	1848.91	1844.43	1863.34	1843.23	1855.97	1867.90	1875.60	1880.00	---	---	1868.72	1859.22
16	1848.78	1844.27	1863.54	1843.71	1855.81	1868.14	1875.80	1879.93	---	---	1868.41	1858.94
17	1848.67	1844.12	1862.71	1844.35	1856.16	1868.34	1875.98	1880.12	---	1876.26	1868.09	1858.60
18	1848.53	1844.01	1861.21	1844.86	1857.11	1868.51	1876.13	1880.61	---	1876.06	1867.79	1858.26
19	1848.41	1843.89	1859.19	1845.82	1858.71	1868.67	1876.29	1880.82	---	1875.86	1867.48	1857.92
20	1848.27	1843.77	1856.91	1848.70	1859.95	1868.80	1876.45	1880.81	---	1875.65	1867.17	1857.58
21	1848.13	1843.64	1854.53	1850.98	1860.65	1868.93	1876.63	1881.32	---	1875.45	1866.87	1857.22
22	1847.99	1843.52	1852.11	1851.61	1860.68	1869.08	1876.81	1881.69	---	1875.25	1866.56	1856.87
23	1847.84	1843.39	1849.56	1851.65	1860.88	1869.19	1877.04	1881.50	---	1875.05	1866.25	1856.52
24	1847.71	1843.32	1847.05	1852.18	1860.84	1869.29	1878.58	1881.19	---	1874.82	1865.94	1856.17
25	1847.57	1843.22	1844.60	1851.98	1860.85	1869.35	1879.32	1881.19	---	1874.60	1865.64	1855.81
26	1847.46	1843.09	1842.77	1851.61	1860.79	1869.40	1879.71	1881.09	---	1874.35	1865.32	1855.45
27	1847.33	1842.93	1842.12	1854.08	1860.91	1869.59	1879.92	1880.92	---	1874.11	1865.02	1855.10
28	1847.19	1842.81	1841.65	1855.32	1861.18	1869.75	1880.09	1880.70	---	1873.88	1864.71	1854.74
29	1847.04	1842.67	1841.90	1856.01	1861.22	1869.87	1880.17	1880.45	---	1873.64	1864.40	1854.39
30	1846.90	1842.60	1842.55	1856.59	---	1869.96	1880.21	1880.18	e1878.03	1873.39	1864.09	1854.03
31	1846.76	---	1842.88	1857.10	---	1870.28	---	1880.03	---	1873.12	1863.77	---
MAX	1851.03	1846.55	1863.54	1857.10	1861.22	1870.28	1880.21	1881.69	---	---	1872.83	1863.45
MIN	1846.76	1842.60	1841.65	1841.33	1855.81	1861.45	1871.71	1879.93	---	---	1863.77	1854.03
(†)	22880	20980	21100	27960	30120	35130	41060	40950	39720	36770	31500	26400
(‡)	-2110	-1900	+120	+6860	+2160	+5010	+5930	-110	-1230	-2950	-5270	-5100

CAL YR 1995 MAX 1879.72 MIN 1822.13 AC-FT‡ +8400
WTR YR 1996 MAX --- MIN --- AC-FT‡ +1410

e Estimated
† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14309000 COW CREEK NEAR AZALEA, OR

LOCATION.--Lat 42°49'30", long 123°10'40", in N-1/2 sec.4, T.32 S., R.4 W., Douglas County, Hydrologic Unit 17100302, on right bank 0.8 mi upstream from Whitehorse Creek, 4.5 mi northeast of Azalea, and at mile 58.2.

DRAINAGE AREA.--78.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1926 to September 1928 (no winter records), April 1929 to December 1931, April 1932 to current year.

REVISED RECORDS.--WSP 984: 1933-36. WSP 1154: 1946(M), 1948(M). WSP 1448: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,694.32 ft above sea level (Douglas County Road Department bench mark). Prior to July 19, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since Oct. 7, 1985 by Galesville Reservoir (station 14308995). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--66 years (water years 1930-31, 1933-96), 107 ft^3/s, 18.63 in/yr, 77,520 acre-ft/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s Jan. 15, 1974, gage height, 16.40 ft, from high-water mark in well; minimum discharge, 1.1 ft^3/s Aug. 12, 1981, but may have been less during period of no gage-height record Sept. 4-30, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 855 ft^3/s Feb. 9, gage height, 5.63 ft; minimum discharge, 40 ft^3/s Oct. 29, 30, result of regulation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	55	113	191	e325	156	82	117	95	56	91	91
2	44	43	147	191	e333	84	77	112	94	68	91	90
3	44	43	93	191	e332	84	79	111	89	75	92	91
4	43	43	84	192	e335	97	72	111	79	78	92	91
5	42	41	131	188	e436	107	71	111	72	78	92	92
6	42	41	151	188	e698	106	71	100	68	78	91	92
7	43	42	91	190	e802	106	70	81	62	78	93	92
8	43	43	104	193	e828	106	68	71	60	78	94	92
9	43	52	148	200	850	106	69	64	59	78	94	92
10	43	54	178	206	712	106	69	61	57	78	93	92
11	50	56	208	199	483	108	69	61	54	78	96	92
12	72	61	194	196	398	108	67	61	53	78	96	92
13	72	66	195	193	462	104	66	65	51	77	96	92
14	54	66	247	192	502	83	66	140	49	77	95	92
15	45	60	333	194	462	71	66	206	49	78	95	93
16	43	52	521	201	295	71	66	207	50	78	96	98
17	43	46	602	209	213	71	66	191	49	78	96	103
18	43	44	676	202	218	70	66	191	48	78	95	103
19	43	44	736	206	296	68	66	201	47	78	95	103
20	44	44	753	e228	378	68	66	200	47	76	95	103
21	43	43	744	e238	499	68	66	206	48	76	95	103
22	43	43	719	e282	471	69	66	336	48	75	95	103
23	43	43	719	e386	401	68	88	371	48	77	95	103
24	43	43	697	e400	402	68	139	331	49	80	95	104
25	43	60	669	e412	313	69	130	195	47	81	95	104
26	42	84	523	e388	283	68	123	194	53	80	94	101
27	42	77	223	e233	213	68	121	194	49	81	93	100
28	42	68	186	e229	163	69	116	195	49	82	92	99
29	43	68	182	e219	207	69	118	196	49	82	92	100
30	41	70	190	e215	---	69	118	194	49	83	91	100
31	42	---	191	e271	---	73	---	147	---	88	91	---
TOTAL	1410	1595	10748	7223	12310	2638	2477	5021	1721	2406	2906	2903
MEAN	45.5	53.2	347	233	424	85.1	82.6	162	57.4	77.6	93.7	96.8
MAX	72	84	753	412	850	156	139	371	95	88	96	104
MIN	41	41	84	188	163	68	66	61	47	56	91	90
AC-FT	2800	3160	21320	14330	24420	5230	4910	9960	3410	4770	5760	5760
MEAN†	11.2	21.2	349	345	462	167	182	160	36.6	29.6	7.97	11.1
CFSM†	0.14	0.27	4.47	4.42	5.92	2.14	2.33	2.05	0.47	0.38	0.10	0.14
IN.†	0.17	0.30	5.16	5.10	6.39	2.46	2.61	2.37	0.52	0.44	0.12	0.16
AC-FT†	690	1260	21440	21190	26580	10240	10840	9850	2180	1820	490	660

CAL YR 1995 TOTAL 49768 MEAN 136 MAX 900 MIN 41 AC-FT 98710 MEAN† 148 CFSM† 1.90 IN.† 25.75 AC-FT† 107110
WTR YR 1996 TOTAL 53358 MEAN 146 MAX 850 MIN 41 AC-FT 105800 MEAN† 148 CFSM† 1.90 IN.† 25.78 AC-FT† 107210

e Estimated
† Adjusted for change in contents in Galesville Reservoir.

14309000 COW CREEK NEAR AZALEA, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
DISSOLVED OXYGEN: November 1985 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1985.

REMARKS.--Location of the water-quality monitor is 1.9 mi upstream from the stream-discharge site 14309000 Cow Creek at Azalea, 1000 ft downstream from Galesville Dam, and at mile 60.1.

EXTREMES FOR PERIOD OF DAILY RECORD.--
DISSOLVED OXYGEN: Maximum recorded, 15.1 mg/L Feb. 7, 1989, caused by operation of bypass valve at dam; minimum, 0.9 mg/L July 30, 1988.

EXTREMES FOR CURRENT YEAR.--
DISSOLVED OXYGEN: Maximum recorded, 11.1 mg/L May 11; minimum recorded, 5.1 mg/L Oct. 6, may have been caused by manipulation of release gate at dam.

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.6	6.0	6.4	7.6	7.1	7.3	7.2	7.0	7.1	8.1	7.1	7.7
2	6.9	5.8	6.2	7.7	7.2	7.4	7.1	6.9	7.0	7.7	6.8	7.3
3	6.2	5.7	6.0	7.5	7.2	7.4	---	---	---	7.4	6.3	6.8
4	5.9	5.7	5.8	7.5	7.3	7.4	---	---	---	8.1	6.2	7.2
5	6.0	5.2	5.7	7.5	7.3	7.4	8.4	5.7	7.1	8.4	7.5	8.0
6	5.9	5.1	5.8	7.6	7.2	7.4	8.5	8.3	8.4	8.8	8.0	8.4
7	6.0	5.7	5.8	7.6	7.4	7.5	8.3	5.9	7.3	8.7	7.8	8.4
8	6.0	5.3	5.8	7.6	7.4	7.5	---	---	---	9.1	8.2	8.8
9	6.0	5.3	5.7	7.5	7.3	7.4	---	---	---	8.8	8.6	8.7
10	6.1	5.3	5.6	7.5	7.3	7.4	---	---	---	9.1	8.3	8.8
11	6.1	5.3	6.0	7.5	7.4	7.4	---	---	---	9.3	8.4	8.9
12	6.1	5.9	6.0	7.7	7.4	7.5	---	---	---	9.5	8.4	8.9
13	6.3	5.5	6.1	7.9	7.5	7.6	---	---	---	9.4	8.3	8.9
14	6.4	5.5	5.9	7.7	7.5	7.6	---	---	---	9.6	8.7	9.1
15	6.6	5.5	6.0	7.7	7.5	7.6	---	---	---	9.6	9.0	9.3
16	6.6	5.7	6.4	7.8	7.5	7.6	8.0	7.3	7.6	9.2	8.5	9.0
17	6.5	5.8	6.3	7.7	7.5	7.6	8.0	7.5	7.8	9.0	8.2	8.6
18	6.6	5.9	6.4	7.8	7.5	7.6	8.3	7.7	8.0	8.9	8.0	8.6
19	6.7	6.1	6.4	7.7	7.5	7.6	8.5	7.7	8.2	9.1	8.5	8.8
20	6.7	6.5	6.6	7.7	7.5	7.6	8.4	7.8	8.2	9.3	8.4	9.0
21	6.7	6.5	6.6	7.7	7.4	7.5	8.9	7.9	8.3	---	---	---
22	6.8	6.5	6.6	7.6	7.4	7.5	9.1	7.8	8.4	---	---	---
23	6.9	6.5	6.7	7.5	7.2	7.4	9.1	7.5	8.3	---	---	---
24	6.9	6.6	6.7	7.4	7.3	7.3	9.3	7.5	8.4	---	---	---
25	6.9	6.5	6.7	7.4	7.2	7.3	9.1	7.5	8.3	---	---	---
26	7.0	6.7	6.8	---	---	---	8.8	8.0	8.5	---	---	---
27	7.0	6.8	6.9	---	---	---	8.8	7.9	8.6	9.7	9.5	9.6
28	7.2	6.8	7.0	---	---	---	8.9	7.6	8.6	9.8	9.5	9.7
29	7.3	6.9	7.0	---	---	---	8.7	7.8	8.3	10.0	9.7	9.8
30	7.3	7.0	7.1	7.2	7.1	7.2	8.2	7.8	7.9	10.1	9.8	10.0
31	7.4	7.1	7.3	---	---	---	7.8	7.2	7.6	10.3	10.0	10.2
MONTH	7.4	5.1	6.3	---	---	---	---	---	---	---	---	---

14309000 COW CREEK NEAR AZALEA, OR--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.5	10.2	10.4	10.4	9.8	10.2	10.3	10.1	10.2	10.7	8.1	9.1
2	10.7	10.3	10.5	10.4	10.0	10.3	10.3	10.1	10.2	10.0	8.3	8.9
3	10.7	10.3	10.6	10.4	10.2	10.3	10.3	10.1	10.2	8.9	8.0	8.4
4	10.7	10.5	10.6	10.4	10.2	10.3	10.4	10.2	10.3	9.6	7.7	8.6
5	10.7	10.5	10.6	10.4	10.1	10.2	10.4	10.2	10.4	10.2	7.7	8.8
6	10.7	9.9	10.5	10.3	10.2	10.3	10.4	10.2	10.3	10.2	7.9	8.9
7	10.7	10.6	10.7	10.3	10.1	10.2	10.4	10.2	10.3	10.0	8.1	8.8
8	10.7	10.6	10.7	10.4	10.2	10.3	10.4	10.2	10.3	10.1	8.2	8.8
9	10.7	10.6	10.7	10.5	10.3	10.4	10.5	10.2	10.3	10.2	8.1	8.9
10	10.7	10.6	10.6	10.4	10.2	10.3	10.4	10.1	10.3	10.7	8.1	9.1
11	10.7	10.6	10.7	10.4	10.2	10.3	10.4	9.9	10.3	11.1	8.4	9.5
12	10.7	10.6	10.7	10.4	10.2	10.3	10.5	8.9	10.0	10.8	8.6	9.6
13	10.9	10.7	10.8	10.3	10.1	10.2	10.2	8.8	9.5	9.4	8.7	9.1
14	10.9	10.8	10.8	10.3	10.2	10.2	10.1	8.9	9.5	9.3	8.6	8.8
15	10.9	10.7	10.8	10.5	10.1	10.3	10.0	8.3	9.6	9.0	8.3	8.7
16	10.9	10.7	10.8	10.5	10.2	10.4	10.0	8.3	9.5	9.3	8.2	8.6
17	10.9	10.8	10.8	10.5	10.3	10.4	9.5	8.9	9.3	8.7	8.1	8.3
18	10.9	10.8	10.8	10.5	10.3	10.4	9.5	8.9	9.2	8.7	8.0	8.3
19	10.9	10.8	10.8	10.5	10.3	10.4	9.7	8.3	9.2	8.8	7.9	8.3
20	11.0	10.8	10.9	10.4	10.3	10.4	9.6	8.2	9.2	9.5	7.7	8.4
21	11.0	10.9	10.9	10.5	10.3	10.4	9.6	8.7	9.4	8.5	7.9	8.1
22	11.0	10.8	10.9	10.5	10.2	10.3	9.8	8.7	9.3	8.5	7.7	8.0
23	10.9	10.2	10.7	10.3	10.1	10.2	9.9	8.1	9.3	8.1	6.0	7.3
24	10.6	10.3	10.4	10.3	10.0	10.2	10.1	8.3	9.2	9.2	6.2	7.0
25	10.5	9.7	10.3	10.4	10.0	10.3	9.3	8.3	8.8	8.5	6.3	7.2
26	10.4	9.8	10.3	10.4	10.1	10.3	9.5	7.6	8.9	7.6	6.9	7.3
27	10.4	10.1	10.2	10.4	10.0	10.2	9.9	7.1	8.2	8.5	7.1	7.6
28	10.3	10.1	10.2	10.3	10.0	10.2	10.8	7.4	8.8	8.4	7.2	7.7
29	10.3	10.2	10.2	10.3	9.7	10.2	10.7	7.8	9.1	8.8	7.2	7.9
30	---	---	---	10.4	10.1	10.2	10.7	8.0	9.2	8.8	7.6	8.1
31	---	---	---	10.4	9.7	10.2	---	---	---	8.7	7.4	8.0
MONTH	11.0	9.7	10.6	10.5	9.7	10.3	10.8	7.1	9.6	11.1	6.0	8.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.5	7.4	8.4	---	---	---	---	---	---	7.3	6.1	6.6
2	10.0	7.8	8.6	10.1	7.6	8.5	---	---	---	7.4	6.2	6.6
3	9.6	7.8	8.6	10.3	8.0	8.9	---	---	---	7.0	6.1	6.5
4	9.2	7.6	8.3	9.8	8.5	8.9	---	---	---	6.6	6.1	6.4
5	9.6	7.7	8.5	10.5	8.0	9.0	---	---	---	7.0	6.1	6.4
6	9.8	7.7	8.5	11.0	8.3	9.5	7.6	6.0	6.6	7.1	6.0	6.4
7	9.2	7.7	8.4	10.7	6.9	9.2	8.3	6.3	7.1	7.4	6.1	6.6
8	9.2	7.8	8.3	10.6	8.3	9.3	8.3	6.6	7.3	7.5	6.2	6.7
9	9.0	7.9	8.3	9.9	8.6	8.9	8.5	6.6	7.4	7.3	6.2	6.6
10	9.2	7.7	8.4	10.4	8.0	9.0	8.9	6.7	7.4	7.7	6.2	6.7
11	9.5	7.9	8.5	10.2	7.1	8.8	7.9	6.5	7.1	7.1	6.2	6.6
12	9.9	7.8	8.7	9.7	7.6	8.7	8.2	6.5	7.2	6.8	6.2	6.4
13	8.6	8.0	8.3	9.8	8.4	8.9	8.2	6.8	7.4	6.4	6.2	6.3
14	9.5	7.8	8.4	9.8	8.2	8.9	8.0	6.6	7.2	6.5	6.1	6.3
15	9.4	7.7	8.4	9.7	8.3	9.0	8.0	6.6	7.1	6.4	6.1	6.3
16	8.8	7.9	8.3	9.4	8.1	8.6	7.6	6.4	6.9	6.4	6.0	6.2
17	9.4	7.7	8.4	8.7	8.0	8.3	7.3	6.2	6.7	6.5	6.1	6.2
18	9.5	7.7	8.5	9.1	8.0	8.5	7.3	6.2	6.6	6.8	6.0	6.3
19	9.4	7.8	8.6	9.4	7.8	8.3	7.4	6.2	6.6	6.5	6.1	6.3
20	9.7	8.2	8.9	9.2	7.3	8.3	7.3	6.2	6.7	6.5	6.0	6.2
21	9.5	8.3	8.6	8.9	7.6	8.1	7.5	6.3	6.8	6.5	6.0	6.2
22	9.9	8.1	8.8	10.7	7.3	8.2	7.7	6.2	6.8	6.6	5.9	6.2
23	9.4	8.5	8.8	8.7	7.4	8.1	8.0	6.3	6.9	6.8	5.9	6.2
24	---	---	---	8.5	7.2	7.9	8.0	6.5	7.1	6.9	5.9	6.3
25	---	---	---	8.3	7.4	7.9	7.8	6.6	7.0	6.9	5.9	6.3
26	---	---	---	8.3	---	---	7.5	6.5	6.9	6.6	5.6	6.0
27	---	---	---	---	---	---	7.4	6.3	6.6	6.6	5.4	5.8
28	---	---	---	---	---	---	7.8	6.4	6.9	7.0	5.7	6.3
29	---	---	---	---	---	---	7.9	6.4	7.0	7.0	5.8	6.3
30	---	---	---	---	---	---	7.4	6.4	6.8	7.0	6.1	6.5
31	---	---	---	---	---	---	7.2	6.3	6.6	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	7.7	5.4	6.4

14309500 WEST FORK COW CREEK NEAR GLENDALE, OR

LOCATION.--Lat 42°48'15", long 123°36'35", in SW 1/4 NE 1/4 sec.11, T.32 S., R.8 W., Douglas County, Hydrologic Unit 17100302, on left bank 1.6 mi downstream from Bear Creek, 11 mi northwest of Glendale, and at mile 0.8.

DRAINAGE AREA.--86.9 mi^2.

PERIOD OF RECORD.--August 1955 to current year.

REVISED RECORDS.--WSP 1738: 1956, drainage area (former site). WSP 1935: 1956.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,018.48 ft above sea level. Prior to June 8, 1964, at site 0.6 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are good. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--41 years (water years 1956-96), 256 ft^3/s, 40.06 in/yr, 185,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s Dec. 22, 1964, gage height, 18.59 ft, from floodmark, from rating curve extended above 2,600 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 3.0 ft^3/s Aug. 29 to Sept. 1, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0645	*5,990	*10.96	Feb. 9	0600	2,660	7.67
Dec. 14	2115	2,800	7.83	Feb. 18	2400	2,840	7.88
Jan. 20	1530	3,900	9.07	Mar. 31	2100	2,680	7.69
Jan. 27	1700	3,120	8.22				

Minimum discharge, 8.5 ft^3/s Sept. 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	767	e1000	759	668	1530	201	107	35	14	8.9
2	10	11	330	e850	625	670	786	176	98	33	14	8.9
3	9.6	11	202	e600	521	767	516	159	90	31	14	8.9
4	9.6	11	349	e500	796	1090	381	142	83	31	15	8.9
5	9.6	11	768	e450	1520	1190	300	129	78	31	15	11
6	9.6	11	604	e400	1600	816	250	117	74	30	14	12
7	9.2	11	312	e350	1270	669	219	109	71	28	13	11
8	9.2	13	231	e500	1080	738	191	101	68	28	13	10
9	9.2	21	279	e800	2080	730	167	94	66	27	13	10
10	9.2	22	302	e1300	1180	612	149	88	63	27	12	10
11	17	21	889	925	763	603	145	83	60	26	11	9.6
12	28	89	4200	366	557	523	252	79	58	25	11	9.6
13	17	53	2170	283	438	426	258	76	57	24	11	9.6
14	13	34	1840	239	352	350	221	145	56	22	11	9.8
15	12	27	1650	389	294	293	193	178	52	22	11	26
16	11	26	867	609	256	255	344	176	51	22	11	20
17	11	24	580	760	328	225	618	222	50	21	11	14
18	11	40	454	879	1350	203	463	646	49	24	10	12
19	13	41	359	1460	2190	184	439	578	46	24	10	11
20	12	31	294	2510	1850	167	464	392	44	23	10	11
21	12	26	251	2060	1450	153	445	403	43	21	10	11
22	12	26	216	1190	991	160	417	623	43	21	10	10
23	11	23	185	987	1040	169	585	531	43	21	10	9.6
24	11	22	161	1810	938	153	1730	394	43	19	10	9.6
25	11	88	141	1070	666	139	1010	301	43	17	9.7	9.5
26	14	197	126	744	518	128	637	244	43	17	9.4	9.2
27	17	119	117	2120	435	139	447	202	40	17	8.9	8.9
28	15	247	140	1630	439	176	342	171	39	16	8.9	8.7
29	13	145	923	1060	577	163	277	153	35	16	8.9	8.5
30	13	330	e1500	849	---	154	234	136	35	15	8.9	8.5
31	12	---	e1200	857	---	810	---	122	---	14	8.9	---
TOTAL	382.2	1742	22407	29547	26863	13523	14010	7171	1728	728	347.6	325.7
MEAN	12.3	58.1	723	953	926	436	467	231	57.6	23.5	11.2	10.9
MAX	28	330	4200	2510	2190	1190	1730	646	107	35	15	26
MIN	9.2	11	117	239	256	128	145	76	35	14	8.9	8.5
AC-FT	758	3460	44440	58610	53280	26820	27790	14220	3430	1440	689	646
CFSM	.14	.67	8.32	11.0	10.7	5.02	5.37	2.66	.66	.27	.13	.12
IN.	.16	.75	9.59	12.65	11.50	5.79	6.00	3.07	.74	.31	.15	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1996, BY WATER YEAR (WY)

MEAN	41.1	286	572	655	572	486	279	116	41.5	17.9	10.3	12.8
MAX	254	1470	1669	1496	1660	934	840	476	99.4	29.5	16.0	56.9
(WY)	1963	1974	1956	1970	1958	1983	1982	1963	1993	1983	1983	1986
MIN	5.19	13.7	13.3	24.2	66.0	91.6	56.2	38.3	17.8	8.70	3.85	3.89
(WY)	1988	1994	1977	1977	1977	1992	1990	1987	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1956 - 1996	
ANNUAL TOTAL	121075.2		118774.5			
ANNUAL MEAN	332		325		256	
HIGHEST ANNUAL MEAN					499	1974
LOWEST ANNUAL MEAN					60.2	1977
HIGHEST DAILY MEAN	4930	Jan 9	4200	Dec 12	11000	Dec 22 1964
LOWEST DAILY MEAN	7.1	Sep 24	8.5	Sep 29	3.0	Aug 31 1992
ANNUAL SEVEN-DAY MINIMUM	7.4	Sep 18	8.9	Aug 27	3.2	Aug 26 1992
ANNUAL RUNOFF (AC-FT)	240200		235600		185600	
ANNUAL RUNOFF (CFSM)	3.82		3.73		2.95	
ANNUAL RUNOFF (INCHES)	51.83		50.84		40.06	
10 PERCENT EXCEEDS	930		929		670	
50 PERCENT EXCEEDS	67		104		67	
90 PERCENT EXCEEDS	9.1		10		8.7	

e Estimated

14310000 COW CREEK NEAR RIDDLE, OR

LOCATION.--Lat 42°55'25", long 123°25'40", in NE 1/4 sec.32, T.30 S., R.6 W., Douglas County, Hydrologic Unit 17100302, on left bank 0.4 mi upstream from Council Creek, 3.8 mi southwest of Riddle, and at mile 6.7.

DRAINAGE AREA.--456 mi^2.

PERIOD OF RECORD.--September 1954 to current year.

REVISED RECORDS.--WSP 1935: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 682.60 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Regulated since Oct. 7, 1985 by Galesville Reservoir (station 14308995). Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--31 years (water years 1955-85), 903 ft^3/s, 654,200 acre-ft/yr.
11 years (water years 1986-96), 603 ft^3/s, 437,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,400 ft^3/s Jan. 15, 1974, gage height, 28.17 ft; minimum discharge, 7.4 ft^3/s Aug. 17-19, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of about 28.5 ft, present site and datum, from slope-area measurement, discharge, 41,100 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,000 ft^3/s Dec. 12, gage height, 15.21 ft; minimum discharge, 75 ft^3/s Oct. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	83	1280	1640	2800	2080	5020	796	545	173	116	107
2	90	89	856	1260	2360	2010	2800	722	470	167	120	108
3	83	85	561	1060	1990	2080	1790	660	439	173	125	106
4	81	81	659	913	2330	2540	1330	615	410	177	131	107
5	80	82	1240	808	3690	3230	1070	571	383	181	131	114
6	79	83	1510	729	4620	2350	918	535	359	177	131	119
7	78	83	844	670	4090	1840	826	500	337	171	128	115
8	77	86	607	831	3510	1750	750	462	320	167	123	110
9	76	97	693	1330	6100	1710	675	430	306	162	122	110
10	76	104	767	2580	4710	1490	641	406	289	166	120	110
11	90	111	1850	1850	3010	1480	601	385	277	163	119	107
12	130	193	11300	1400	2210	1410	869	366	264	156	119	107
13	123	203	8270	1130	1800	1240	928	360	259	151	115	110
14	124	159	5290	964	1640	1080	826	511	252	147	115	116
15	104	139	6790	1110	1480	941	746	659	243	144	113	152
16	90	132	3310	1600	1280	837	847	775	233	139	112	166
17	84	121	2280	2500	1150	769	1410	838	229	137	110	148
18	85	123	1960	2430	2790	715	1190	1760	221	154	110	148
19	87	141	1780	4000	7300	667	1070	1920	215	154	111	143
20	85	123	1640	8050	6580	621	1140	1430	213	149	112	141
21	83	114	1480	9390	6240	581	1180	1420	206	142	114	143
22	84	110	1370	4830	4630	584	1190	2340	208	138	114	143
23	83	107	1250	3460	4000	662	1210	2160	204	133	112	141
24	82	104	1180	6690	4140	589	4300	1640	209	126	110	141
25	81	126	1080	4290	2940	548	3320	1280	217	125	108	137
26	87	398	1020	3160	2250	516	2100	1020	212	124	106	135
27	94	348	777	6850	1830	542	1510	894	263	123	109	134
28	90	445	622	6630	1730	700	1200	799	234	123	111	132
29	88	379	1750	3870	1860	663	1010	740	202	123	109	129
30	87	544	2810	3010	---	625	889	685	186	120	106	129
31	85	---	2280	2970	---	1240	---	639	---	116	105	---
TOTAL	2764	4993	69106	92005	95060	38090	43356	28318	8405	4601	3587	3808
MEAN	89.2	166	2229	2968	3278	1229	1445	913	280	148	116	127
MAX	130	544	11300	9390	7300	3230	5020	2340	545	181	131	166
MIN	76	81	561	670	1150	516	601	360	186	116	105	106
AC-FT	5480	9900	137100	182500	188600	75550	86000	56170	16670	9130	7110	7550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	90.0	377	889	1680	1474	1190	747	379	187	101	82.2	87.6
MAX	162	956	2229	4144	3278	2362	1833	913	380	148	166	152
(WY)	1990	1989	1996	1995	1996	1995	1993	1996	1993	1996	1993	1986
MIN	55.4	88.5	210	577	439	282	194	147	81.0	49.3	23.1	46.5
(WY)	1989	1988	1990	1994	1988	1992	1990	1987	1992	1994	1986	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1986 - 1996	
ANNUAL TOTAL	391327		394093			
ANNUAL MEAN	1072		1077		603	
HIGHEST ANNUAL MEAN					1077	1996
LOWEST ANNUAL MEAN					270	1994
HIGHEST DAILY MEAN	21000	Jan 9	11300	Dec 12	21000	Jan 9 1995
LOWEST DAILY MEAN	76	Oct 9	76	Oct 9	16	Aug 29 1986
ANNUAL SEVEN-DAY MINIMUM	78	Oct 4	78	Oct 4	17	Aug 24 1986
ANNUAL RUNOFF (AC-FT)	776200		781700		437000	
10 PERCENT EXCEEDS	2610		2850		1520	
50 PERCENT EXCEEDS	272		434		207	
90 PERCENT EXCEEDS	99		102		59	

14311500 LOOKINGGLASS CREEK AT BROCKWAY, OR

LOCATION.--Lat 43°07'50", long 123°27'50", in SE 1/4 SE 1/4 sec.13, T.28 S., R.7 W., Douglas County, Hydrologic Unit 17100302, on left bank 1.7 mi northwest of Brockway and at mile 2.85.

DRAINAGE AREA.--158 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WSP 2135: Drainage area (former site).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 540 ft above sea level, from topographic map. Prior to Oct. 5, 1967, water-stage recorder at site 2.3 mi downstream at different datum. Oct. 5, 1967, to Oct. 5, 1976, water-stage recorder, at datum 1.00 ft lower.

REMARKS.--No estimated daily discharges. Records good except those below 1 ft^3/s, which are fair. Some regulation since January 1980 by Ben Irving Reservoir 17 mi upstream on Berry Creek, capacity, 11,200 acre-ft. Many diversions by pumping for irrigation upstream from station. Discharge not adjusted for storage or release from Ben Irving Reservoir as losses from reservoir at times exceed natural flow.

AVERAGE DISCHARGE.--24 years (water years 1956-79), 282 ft^3/s, 204,300 acre-ft/yr. 16 years (water years 1981-96), 215 ft^3/s, 156,100 acre-ft/yr. Data for the 1980 water year not included due to construction and initial filling of Ben Irving Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft^3/s Dec. 26, 1955, gage height, 24.93 ft, site and datum then in use, from rating curve extended above 7,200 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 25.28 ft Dec. 23, 1964 (backwater from South Umpqua River, site and datum then in use); no flow at times each year prior to January 1980, and Aug. 6, 7, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,720 ft^3/s Jan. 20, gage height, 13.06 ft; minimum discharge, 4.1 ft^3/s Aug. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	303	747	720	698	1680	205	80	23	6.3	6.2
2	14	15	218	537	559	641	951	177	72	22	6.0	5.0
3	14	14	139	411	462	616	598	155	64	19	8.6	6.2
4	14	14	138	334	529	639	427	140	58	17	8.4	7.2
5	14	15	353	279	739	618	333	121	54	17	8.2	8.9
6	13	17	431	242	872	492	272	107	49	15	6.7	8.0
7	14	18	255	244	763	408	231	97	45	14	7.3	7.1
8	12	18	301	399	714	355	199	88	43	13	6.8	8.0
9	13	19	672	783	1650	312	174	80	41	15	5.9	7.4
10	13	18	416	978	1190	281	152	73	39	13	5.8	6.8
11	15	11	414	701	783	365	144	68	44	12	5.6	6.5
12	16	39	2760	519	570	355	239	63	42	11	6.1	6.3
13	17	33	2150	399	444	320	222	62	42	9.8	6.3	9.4
14	16	22	1610	334	362	282	194	138	41	11	6.0	12
15	15	16	1650	519	303	245	178	155	39	11	5.7	19
16	14	13	813	658	261	214	228	133	37	11	5.6	22
17	14	13	544	754	265	190	318	146	34	11	5.2	21
18	15	14	749	855	527	170	282	230	34	13	6.8	19
19	15	17	600	1810	1790	153	265	239	31	14	7.8	17
20	14	17	467	4490	2100	136	279	199	30	14	4.7	16
21	15	15	369	3570	2570	124	360	285	28	12	5.4	16
22	14	13	298	1990	1870	136	501	449	28	12	5.9	17
23	14	12	244	1960	2260	173	725	413	29	11	5.3	16
24	14	12	204	3900	2120	137	1650	328	31	9.0	5.7	15
25	14	20	174	2550	1330	119	1140	256	30	6.8	5.7	15
26	16	101	150	1830	886	107	708	203	29	7.4	6.6	14
27	16	82	137	3210	665	167	488	167	30	7.4	6.5	14
28	16	94	191	2570	794	218	371	138	27	6.2	7.2	15
29	16	80	1560	1830	771	187	297	119	24	6.6	7.1	14
30	16	164	1500	1350	---	171	244	103	25	7.9	6.6	13
31	15	---	1150	984	---	523	---	90	---	6.9	6.4	---
TOTAL	453	951	20960	41737	28869	9552	13850	5227	1200	379.0	198.2	368.0
MEAN	14.6	31.7	676	1346	995	308	462	169	40.0	12.2	6.39	12.3
MAX	17	164	2760	4490	2570	698	1680	449	80	23	8.6	22
MIN	12	11	137	242	261	107	144	62	24	6.2	4.7	5.0
AC-FT	899	1890	41570	82790	57260	18950	27470	10370	2380	752	393	730

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1996, BY WATER YEAR (WY)

MEAN	25.1	198	514	543	585	355	263	75.8	23.2	8.23	7.09	10.6
MAX	86.3	809	1961	1346	1544	965	826	169	73.1	21.9	13.0	23.3
(WY)	1987	1985	1982	1996	1983	1983	1982	1996	1993	1983	1983	1986
MIN	7.74	7.80	33.0	122	133	54.6	38.4	15.1	4.99	3.06	4.10	5.37
(WY)	1988	1994	1990	1981	1988	1992	1990	1987	1994	1985	1982	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1981 - 1996	
ANNUAL TOTAL	100227.07		123744.2			
ANNUAL MEAN	275		338		215	
HIGHEST ANNUAL MEAN					451	1982
LOWEST ANNUAL MEAN					70.6	1994
HIGHEST DAILY MEAN	5990	Jan 9	4490	Jan 20	9670	Feb 18 1983
LOWEST DAILY MEAN	.38	Jul 18	4.7	Aug 20	.03	Jul 16 1985
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 12	5.6	Aug 20	.17	Jul 11 1985
ANNUAL RUNOFF (AC-FT)	198800		245400		156100	
10 PERCENT EXCEEDS	603		860		582	
50 PERCENT EXCEEDS	40		80		42	
90 PERCENT EXCEEDS	6.6		7.2		5.5	

14312000 SOUTH UMPQUA RIVER NEAR BROCKWAY, OR

LOCATION.--Lat 43°08'00", long 123°23'50", in SW 1/4 sec.15, T.28 S., R.6 W., Douglas County, Hydrologic Unit 17100302, on right bank 10 ft upstream from Winston Bridge on State Highway 99, 2.5 mi northeast of Brockway, 4.2 mi downstream from Lookingglass Creek, and at mile 132.8.

DRAINAGE AREA.--1,670 mi^2.

PERIOD OF RECORD.--December 1905 to June 1912, October 1923 to September 1926, January 1942 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1248: 1946(M), 1948(M), 1951. WSP 1448: Drainage area. WDR OR 72-1: 1965(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 462.52 ft above sea level (State Highway Department bench mark). Prior to June 24, 1949, nonrecording gage at several sites within 400 ft of present site at various datums. June 24, 1949, to Oct. 1, 1970, at datum 461.84 ft above sea level (State Highway Department bench mark).

REMARKS.--Records good. Regulation from Ben Irving Reservoir, since January 1980, on Berry Creek during summer months. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--62 years (water years 1907-11, 1924-26, 1943-96), 2,766 ft^3/s, 22.50 in/yr, 2,004,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft^3/s Dec. 23, 1964, gage height, 34.28 ft; minimum discharge, 16 ft^3/s Aug. 23, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 21, 1927, reached a stage of about 31.2 ft, present site and datum, discharge, 89,500 ft^3/s. Discharge for flood of February 1890, which reached a stage 1.9 ft higher, according to local resident who lived nearby at time of both floods, has been found to be in error and should not be used.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1900	*46,700	*20.97	Jan. 24	1030	22,900	14.49
Dec. 15	0430	31,900	16.85	Jan. 28	0130	26,100	15.30
Dec. 31	0430	24,300	14.82	Feb. 9	1700	28,400	15.93
Jan. 21	0130	35,900	17.96	Apr. 24	1700	21,400	14.11

Minimum discharge, 92 ft^3/s Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	304	233	9180	9890	8970	5260	12200	3040	1990	521	222	161
2	268	223	7130	6610	7620	5240	9970	2730	1740	486	216	164
3	241	222	4000	5140	6420	5360	6870	2470	1600	463	227	159
4	221	215	3520	4410	7030	6100	5250	2250	1470	453	235	157
5	216	213	5220	3790	10900	7220	4200	2050	1370	450	238	161
6	234	202	9280	3340	14700	6230	3540	1890	1270	445	235	173
7	213	205	5720	3030	16900	5090	3160	1740	1180	430	229	179
8	200	214	4720	5330	14700	4640	2930	1610	1110	411	223	176
9	193	e500	8840	7840	22900	4680	2760	1510	1050	387	212	168
10	193	e400	8130	13300	19100	4520	2900	1410	979	380	201	166
11	204	e420	9000	9010	12900	4700	2740	1330	931	378	192	164
12	274	e2500	32300	6450	9910	5010	3050	1270	885	364	189	164
13	447	e2300	34400	5050	8200	4400	3350	1240	843	346	185	176
14	369	e1500	19700	4110	7140	3810	3140	1810	819	334	183	188
15	311	e900	26200	4290	6300	3300	2840	4110	782	326	178	242
16	268	e600	14400	6070	5650	2920	2810	6160	740	312	173	378
17	238	e500	9320	8360	5470	2660	3550	5960	712	308	170	495
18	231	e480	7480	7610	7050	2460	3370	7140	688	330	169	450
19	235	e450	6030	11300	16100	2320	3030	7240	657	375	175	368
20	252	e420	5050	21300	16100	2200	3210	6230	638	359	174	313
21	242	e400	4270	29000	18100	2070	3490	5700	612	327	173	299
22	226	e375	3690	16400	14300	2000	4080	10400	594	310	176	290
23	221	e350	3210	12000	12200	2160	6650	9710	591	292	172	279
24	218	e450	2870	20500	12700	1980	15700	7210	601	277	170	266
25	214	e2500	2580	14900	9310	1840	15300	5600	687	260	165	262
26	220	e4000	2340	10800	7100	1690	9490	4380	679	252	163	249
27	236	e3000	2110	16500	5850	1760	6600	3630	680	242	158	246
28	329	e4500	1870	20600	5480	2340	5100	3070	736	240	163	244
29	292	e3500	4870	13000	5270	2270	4150	2700	631	239	171	237
30	262	4860	14500	9950	---	2150	3500	2410	563	229	166	228
31	243	---	18800	9300	---	2650	---	2190	---	229	162	---
TOTAL	7815	36632	290730	319180	314370	111030	158930	120190	27828	10755	5865	7202
MEAN	252	1221	9378	10300	10840	3582	5298	3877	928	347	189	240
MAX	447	4860	34400	29000	22900	7220	15700	10400	1990	521	238	495
MIN	193	202	1870	3030	5270	1690	2740	1240	563	229	158	157
AC-FT	15500	72660	576700	633100	623600	220200	315200	238400	55200	21330	11630	14290
CFSM	.15	.73	5.62	6.17	6.49	2.14	3.17	2.32	.56	.21	.11	.14
IN.	.17	.82	6.48	7.11	7.00	2.47	3.54	2.68	.62	.24	.13	.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	464	2700	5499	6837	6301	4752	3245	1966	891	268	137	149
MAX	6045	13590	19540	16010	15370	10950	7378	6909	3312	576	392	587
(WY)	1951	1974	1956	1956	1958	1974	1963	1963	1953	1953	1993	1986
MIN	103	190	184	262	341	882	589	446	142	52.6	40.2	69.3
(WY)	1988	1953	1977	1977	1977	1992	1926	1926	1926	1926	1973	1967

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	1264726		1410527			
ANNUAL MEAN	3465		3854		2766	
HIGHEST ANNUAL MEAN					5567	1974
LOWEST ANNUAL MEAN					562	1977
HIGHEST DAILY MEAN	40000	Jan 9	34400	Dec 13	90200	Oct 29 1950
LOWEST DAILY MEAN	148	Sep 14	157	Sep 4	17	Aug 20 1977
ANNUAL SEVEN-DAY MINIMUM	155	Sep 11	161	Aug 30	18	Aug 17 1977
ANNUAL RUNOFF (AC-FT)	2509000		2798000		2004000	
ANNUAL RUNOFF (CFSM)	2.07		2.31		1.66	
ANNUAL RUNOFF (INCHES)	28.17		31.42		22.50	
10 PERCENT EXCEEDS	8290		10100		6730	
50 PERCENT EXCEEDS	1700		1780		1080	
90 PERCENT EXCEEDS	190		193		114	

e Estimated

14312170 SOUTH FORK DEER CREEK NEAR DIXONVILLE, OR

LOCATION.--Lat 43°10'16", long 123°13'23", in NW 1/4 NW 1/4 sec.6, T.28 S., R.4 W., Douglas County, Hydrolgic Unit 17100302, on left bank, 900 ft upstream from bridge on Douglas County Road Number 83, 2.6 mi southeast of Dixonville, and 2.2 mi upstream from confluence of north and south forks.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those below 5 ft^3/s, which are fair. No regulation. Minor diversion for irrigation upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--7 years (water years 1990-96), 19.1 ft^3/s, 17.03 in/yr, 13,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,910 ft^3/s Jan. 20, 1996, gage height, 5.33 ft; minimum discharge, 0.25 ft^3/s Oct. 19-21, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 5	1400	314	3.35	Jan. 20	1400	*1,910	*5.33
Dec. 12	1030	854	4.30	Jan. 27	1400	530	3.82
Dec. 14	1730	1,090	4.58	May 21	1900	289	3.29
Jan. 9	1630	250	3.15				

Minimum discharge, 1.2 ft^3/s, Aug. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	105	44	57	39	110	16	14	4.3	1.7	1.5
2	1.7	2.3	39	34	46	38	70	14	12	4.1	1.8	1.5
3	2.0	2.5	28	28	41	41	51	13	11	3.9	1.8	1.5
4	2.2	2.9	39	27	53	42	37	12	11	4.0	1.7	1.5
5	1.9	3.1	160	23	70	40	28	11	10	3.8	1.8	1.6
6	1.8	3.2	94	21	70	32	23	10	9.4	3.6	1.8	1.6
7	1.8	3.1	59	23	64	27	20	9.5	9.2	3.4	1.7	1.5
8	1.8	3.5	63	40	60	24	18	9.1	9.0	3.3	1.6	1.5
9	1.8	6.2	99	139	138	22	20	8.8	8.6	3.2	1.6	1.5
10	1.8	4.4	61	119	97	21	20	8.3	8.2	3.2	1.5	1.5
11	4.9	7.2	63	68	68	46	19	8.0	7.8	2.9	1.6	1.5
12	3.4	14	502	48	52	43	30	7.7	7.6	2.8	1.6	1.6
13	2.3	6.0	272	36	41	36	26	7.8	7.5	2.7	1.5	1.7
14	1.9	3.4	375	30	34	29	22	61	7.3	2.8	1.5	2.0
15	1.8	2.5	218	47	29	25	20	148	6.9	2.8	1.5	5.1
16	1.8	2.2	101	59	26	21	20	159	6.7	2.7	1.4	3.3
17	1.9	1.9	68	80	33	19	17	135	6.3	3.1	1.5	2.7
18	2.6	4.2	59	105	47	17	15	87	5.6	3.0	1.5	2.0
19	2.2	3.5	44	202	103	15	16	81	5.4	2.7	1.6	1.9
20	2.1	2.5	35	691	108	14	19	63	5.1	2.5	1.6	1.9
21	2.3	2.1	29	304	168	13	31	134	5.1	2.4	1.5	1.8
22	2.4	1.8	24	143	108	14	41	169	4.9	2.4	1.5	1.7
23	2.2	1.6	21	232	128	14	56	103	6.0	2.2	1.4	1.7
24	2.1	2.2	18	309	110	12	115	67	7.3	2.2	1.4	1.6
25	2.2	17	16	147	73	11	72	48	7.3	2.0	1.4	1.5
26	3.6	21	15	119	55	10	48	36	7.9	2.0	1.4	1.4
27	3.0	16	15	382	45	24	34	28	11	1.9	1.6	1.4
28	2.8	26	18	182	54	27	26	23	7.4	2.1	1.5	1.4
29	2.4	17	61	113	43	20	21	20	5.6	2.0	1.4	1.4
30	2.3	28	77	85	---	17	18	17	4.9	1.8	1.4	1.3
31	2.3	---	63	70	---	47	---	15	---	1.8	1.5	---
TOTAL	71.4	213.5	2841	3950	2021	800	1063	1529.2	236.0	87.6	48.3	54.1
MEAN	2.30	7.12	91.6	127	69.7	25.8	35.4	49.3	7.87	2.83	1.56	1.80
MAX	4.9	28	502	691	168	47	115	169	14	4.3	1.8	5.1
MIN	1.7	1.6	15	21	26	10	15	7.7	4.9	1.8	1.4	1.3
AC-FT	142	423	5640	7830	4010	1590	2110	3030	468	174	96	107
CFSM	.15	.47	6.02	8.37	4.58	1.69	2.33	3.24	.52	.19	.10	.12
IN.	.17	.52	6.94	9.65	4.94	1.95	2.60	3.74	.58	.21	.12	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1996, BY WATER YEAR (WY)

MEAN	2.15	13.6	37.7	52.0	33.1	27.0	28.3	20.8	9.05	2.72	1.71	1.35
MAX	3.31	32.7	91.6	127	69.7	54.5	64.9	49.3	32.2	5.00	3.92	1.80
(WY)	1991	1995	1996	1996	1996	1991	1993	1996	1993	1993	1993	1996
MIN	1.25	1.87	2.98	14.5	14.8	6.25	6.74	3.48	2.40	1.12	.70	.81
(WY)	1994	1994	1990	1992	1992	1992	1990	1992	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1990 - 1996	
ANNUAL TOTAL	9907.4		12915.1			
ANNUAL MEAN	27.1		35.3		19.1	
HIGHEST ANNUAL MEAN					35.3	1996
LOWEST ANNUAL MEAN					7.93	1994
HIGHEST DAILY MEAN	502	Dec 12	691	Jan 20	691	Jan 20 1996
LOWEST DAILY MEAN	1.1	Sep 13	1.3	Sep 30	.25	Oct 20 1994
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 9	1.4	Sep 24	.35	Oct 19 1994
ANNUAL RUNOFF (AC-FT)	19650		25620		13830	
ANNUAL RUNOFF (CFSM)	1.78		2.32		1.25	
ANNUAL RUNOFF (INCHES)	24.20		31.55		17.03	
10 PERCENT EXCEEDS	61		100		47	
50 PERCENT EXCEEDS	11		11		6.5	
90 PERCENT EXCEEDS	1.6		1.6		1.1	

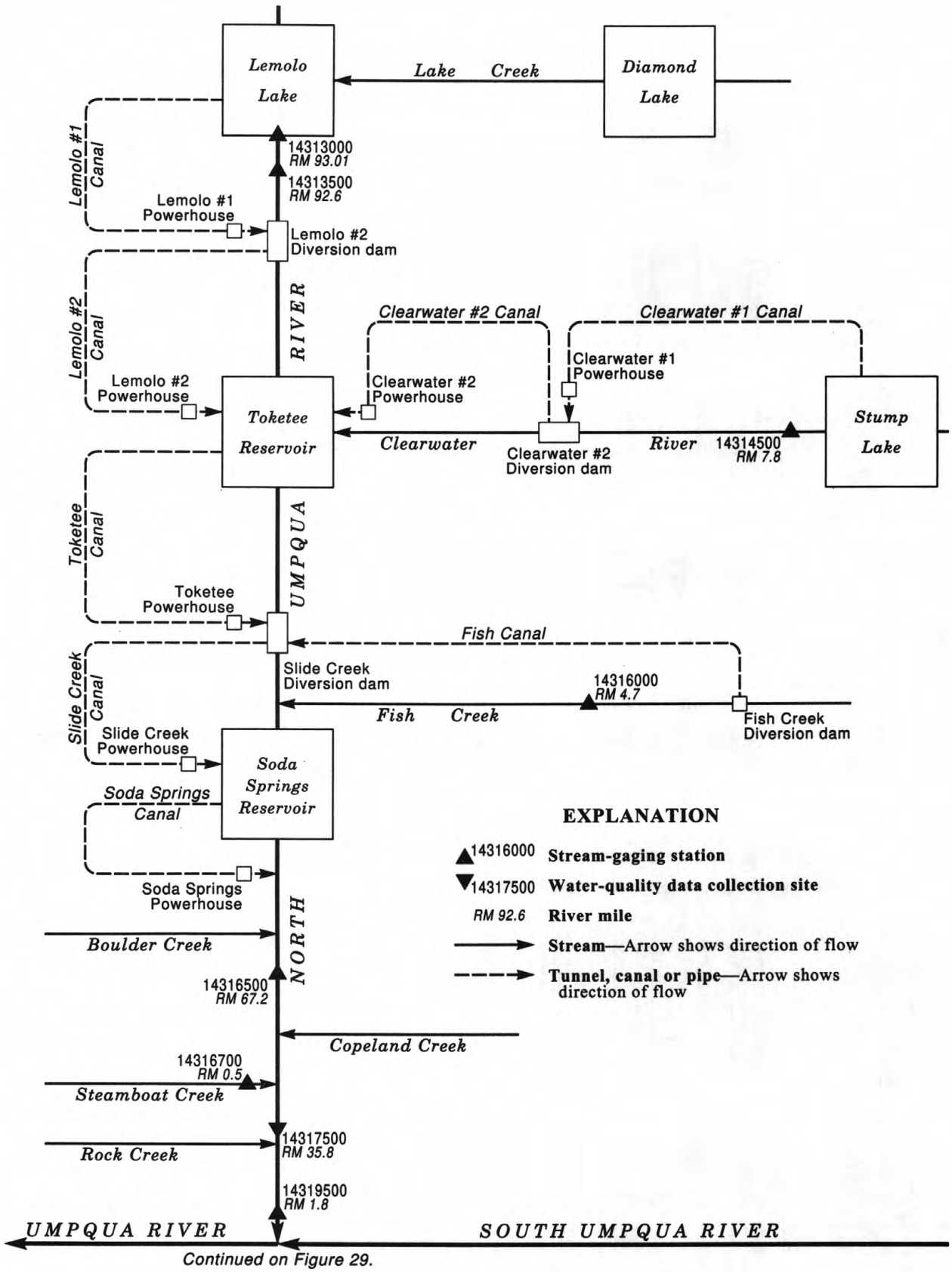


Figure 30. Schematic diagram showing gaging stations and diversions in the North Umpqua River Basin.

14313000 LEMOLO LAKE NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°19'10", long 122°11'20", in SE 1/4 NW 1/4 sec.11, T.26 S., R.5 E., Douglas County, Hydrologic Unit 17100301, at Lemolo No. 1 diversion dam on North Umpqua River, 0.8 mi downstream from Lake Creek, 13.0 mi east of town of Toketee Falls, and at mile 93.01.

DRAINAGE AREA.--170 mi^2.

PERIOD OF RECORD.--July 1954 to current year. Prior to October 1960, published as Lemolo Reservoir near Toketee Falls.

GAGE.--Nonrecording gage. Datum of gage is sea level (levels by Pacific Power).

REMARKS.--Lake is formed by Lemolo No 1 diversion dam. Storage began July 15, 1954. Usable capacity for normal operation, 12,520 acre-ft between elevations 4,097.0 ft and 4,148.5 ft. Dead storage below 4,097.0 ft, 1,040 acre-ft. Water is used for power generation. Figures given herein represent total contents.

COOPERATION.--Gage readings furnished by Pacific Power.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 14,000 acre-ft Dec. 24, 1964, elevation, 4,149.5 ft; minimum observed, 11 acre-ft Mar. 5, 1955, elevation, 4,055.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 13,410 acre-ft May 16, 17, elevation, 4,148.15 ft; minimum observed, 5,910 acre-ft Nov. 22, 23, elevation, 4,126.30 ft.

MONTHEND ELEVATION AND CONTENTS AT 0900, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	4,137.80	9,480	--
Oct. 31	4,131.00	7,290	-2,190
Nov. 30	4,134.30	8,330	+1,040
Dec. 31	4,139.80	10,170	+1,840
CAL YR 1995	--	--	+3,210
Jan. 31	4,139.10	9,920	-250
Feb. 29	4,138.70	9,790	-130
Mar. 31	4,135.30	8,650	-1,140
Apr. 30	4,146.60	12,770	+4,120
May 31	4,146.20	12,600	-170
June 30	4,146.30	12,640	+40
July 31	4,146.90	12,890	+250
Aug. 31	4,147.60	13,180	+290
Sept.30	4,143.30	11,460	-1,720
WTR YR 1996	--	--	+1,980

14313500 NORTH UMPQUA RIVER BELOW LEMOLO LAKE, NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°19'20", long 122°11'40", in NW 1/4 NW 1/4 sec.11, T.26 S., R.5 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, on right bank 0.4 mi downstream from Lemolo Lake, 13 mi east of town of Toketee Falls, and at mile 92.6.

DRAINAGE AREA.--170 mi^2 (see REMARKS).

PERIOD OF RECORD.--October 1927 to December 1945, March 1946 to current year. Records since October 1983 are equivalent to earlier records if diversion to Lemolo No. 1 power canal is added to flow past station. Published as "below Lake Creek" prior to October 1952, as "below Lake Creek, near Toketee Falls" October 1952 to September 1953, and as "below Lemolo Reservoir near Toketee Falls" October 1953 to September 1960.

REVISED RECORDS.--WSP 1448: Drainage area. WDR OR-75-1: 1964(M).

GAGE.--Water-stage recorder. Elevation of gage is 4,025 ft above sea level, from river-profile map. Prior to July 15, 1954, at site 1 mi upstream at datum about 65 ft higher. July 15, 1954, to Sept. 25, 1955, at site 400 ft upstream at datum 14.11 ft higher.

REMARKS.--Records good. Flow regulated since 1954 by Lemolo Lake (station 14313000); also slightly regulated by Diamond Lake. Records given herein do not include flow in Lemolo No. 1 power canal which, beginning July 1955, diverts 0.4 mi upstream from station for power generation with return flow 4.3 mi downstream.

AVERAGE DISCHARGE.--55 years (water years 1928-83), 423 ft^3/s, 33.79 in/yr, 306,500 acre-ft/yr, adjusted for storage.
29 years (water years 1968-96), 58.0 ft^3/s, 42,000 acre-ft/yr (river only).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 4,600 ft^3/s Dec. 25, 1964, from rating curve extended above 450 ft^3/s on basis of slope-area measurement of peak flow, gage height, 9.20 ft, from floodmark; minimum discharge, 6.4 ft^3/s July 17, 1954.

Combined flow, maximum discharge, 4,680 ft^3/s Dec. 25, 1964, from river rating curve extended above 450 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 9.7 ft^3/s May 13, 1955.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 791 ft^3/s Aug. 25, gage height, 6.94 ft; minimum discharge, 34 ft^3/s all or part of several days October to November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	35	56	44	146	127	45	276	196	39	39	114
2	36	35	45	43	125	127	44	230	193	39	39	113
3	36	35	41	43	125	90	44	169	195	39	39	76
4	36	35	41	42	125	45	44	167	194	39	39	38
5	35	35	42	41	125	45	44	164	148	39	39	38
6	35	35	41	41	126	44	44	132	114	38	39	38
7	36	35	40	41	125	44	45	108	159	38	39	38
8	36	35	38	87	125	44	47	106	188	254	39	39
9	36	35	45	166	126	44	49	106	188	395	39	39
10	36	35	42	166	126	44	51	105	144	396	39	39
11	36	35	45	166	125	44	51	104	70	430	38	39
12	35	35	49	91	125	45	51	105	40	461	38	39
13	35	35	46	40	175	45	50	144	40	461	38	39
14	35	35	105	40	216	44	49	185	40	460	38	39
15	35	35	313	40	199	44	49	269	40	492	39	39
16	121	35	316	40	185	44	49	384	40	513	39	39
17	267	35	286	40	178	45	48	442	40	513	39	38
18	253	35	275	40	171	45	48	455	40	513	39	38
19	236	34	256	40	141	45	48	450	40	513	39	38
20	237	34	224	96	141	45	46	443	39	514	39	38
21	237	34	112	484	140	46	44	444	39	513	39	39
22	237	34	37	533	141	46	46	444	39	512	39	39
23	259	34	37	610	140	45	51	441	39	512	39	39
24	272	34	37	616	e150	45	71	398	39	511	167	39
25	272	34	37	622	e145	45	66	369	39	511	332	39
26	273	34	38	618	e135	44	181	367	39	379	259	39
27	131	34	38	616	e130	44	283	364	39	39	137	39
28	34	35	38	468	131	44	279	339	39	39	37	39
29	35	37	39	125	129	44	276	262	39	39	38	38
30	35	45	47	144	---	44	275	225	39	39	38	38
31	35	---	49	161	---	44	---	209	---	39	74	---
TOTAL	3468	1053	2855	6344	4171	1591	2518	8406	2538	9319	1975	1346
MEAN	112	35.1	92.1	205	144	51.3	83.9	271	84.6	301	63.7	44.9
MAX	273	45	316	622	216	127	283	455	196	514	332	114
MIN	34	34	37	40	125	44	44	104	39	38	37	38
AC-FT	6880	2090	5660	12580	8270	3160	4990	16670	5030	18480	3920	2670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1996, BY WATER YEAR (WY)

MEAN	38.3	33.0	35.5	35.7	33.1	38.6	37.5	109	141	83.8	66.2	42.5
MAX	126	150	125	205	144	200	119	301	687	301	321	225
(WY)	1979	1979	1978	1996	1996	1972	1987	1972	1974	1996	1979	1985
MIN	19.8	19.1	19.5	19.6	19.7	19.8	22.2	22.2	22.6	24.2	20.8	20.9
(WY)	1973	1973	1971	1985	1973	1973	1973	1973	1973	1968	1971	1972

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1968 - 1996	
ANNUAL TOTAL	17971		45584			
ANNUAL MEAN	49.2		125		58.0	
HIGHEST ANNUAL MEAN					125	1996
LOWEST ANNUAL MEAN					24.1	1973
HIGHEST DAILY MEAN	316	Dec 16	622	Jan 25	1070	Jun 4 1975
LOWEST DAILY MEAN	33	Jan 1	34	Oct 28	15	Oct 15 1970
ANNUAL SEVEN-DAY MINIMUM	34	Jan 1	34	Nov 19	17	Jan 24 1985
ANNUAL RUNOFF (AC-FT)	35650		90420		42000	
10 PERCENT EXCEEDS	43		368		96	
50 PERCENT EXCEEDS	39		45		29	
90 PERCENT EXCEEDS	35		35		22	

e Estimated

14314500 CLEARWATER RIVER ABOVE TRAP CREEK, NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°14'40", long 122°17'10", in SW 1/4 sec.1, T.27 S., R.4 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, on right bank 900 ft downstream from Clearwater No. 1 diversion dam, 0.4 mi upstream from Trap Creek, 8.7 mi east of town of Toketee Falls, and at mile 7.8.

DRAINAGE AREA.--41.6 mi^2. (See REMARKS.)

PERIOD OF RECORD.--October 1927 to December 1945, March 1946 to current year. Records since October 1983 are equivalent to earlier records if diversion to Clearwater No. 1 power canal is added to flow past station. Monthly discharge only December 1927 to March 1928, published in WSP 1318. Prior to October 1952, published as "above Trap Creek."

REVISED RECORDS.--WSP 1124: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,862.84 ft above sea level (levels by Pacific Power & Light Co.). Prior to Dec. 1, 1953, at two sites about 0.4 mi downstream at different datums.

REMARKS.--No estimated daily discharges. Records good. Records after September 1983 do not include flow in Clearwater No. 1 power canal, completed in June 1953, which diverts 900 ft upstream from station for generation of power and returns water to Clearwater River 2.5 mi downstream from station.

AVERAGE DISCHARGE.--55 years (water years 1928-83), 173 ft^3/s, 125,300 acre-ft/yr.
13 years (water years 1984-96), 16.9 ft^3/s, 12,260 acre-ft/yr (river only).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 848 ft^3/s Dec. 23, 1964, gage height, 7.19 ft; maximum gage height, 7.87 ft Dec. 23, 1964, log jam; minimum discharge, 0.08 ft^3/s Sept. 21, 1977, result of beavers plugging release gate at diversion dam 900 ft upstream.

Combined flow, maximum discharge, 1,020 ft^3/s Dec. 23, 1964; minimum daily, 91 ft^3/s Nov. 4-6, 1931.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 316 ft^3/s Dec. 12, Feb. 9, gage height, 5.08 ft; minimum discharge, 6.7 ft^3/s many days October to December.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.2	36	47	70	28	38	68	54	20	182	47
2	7.2	7.2	8.3	40	69	26	34	68	56	19	182	47
3	7.5	7.2	7.4	37	70	27	30	61	61	19	182	30
4	7.5	7.2	7.7	32	79	26	27	56	60	18	181	11
5	7.2	7.2	9.4	27	129	24	27	52	55	16	181	10
6	7.1	7.3	8.9	24	202	21	29	50	54	16	181	10
7	7.0	7.3	8.4	29	206	20	33	47	55	15	180	10
8	7.0	7.8	8.1	41	216	20	40	46	52	15	180	10
9	7.0	10	19	40	298	22	46	43	47	14	179	10
10	7.0	7.7	17	35	271	24	47	42	42	14	179	10
11	7.9	7.7	72	30	255	29	45	42	40	13	179	10
12	8.3	10	232	27	241	29	43	45	38	13	178	10
13	7.5	8.1	156	24	231	26	37	61	38	13	123	10
14	7.2	7.3	101	21	225	24	34	124	36	12	10	10
15	7.2	7.1	64	65	223	23	33	146	35	12	9.8	12
16	7.2	7.0	46	29	225	23	37	116	33	12	9.8	11
17	7.2	6.8	36	22	241	23	35	127	30	13	9.8	10
18	7.4	7.0	29	20	266	23	32	125	27	13	9.7	9.8
19	7.2	7.0	22	23	279	24	30	107	26	12	9.6	9.8
20	7.2	6.8	17	37	263	23	28	90	25	12	9.6	9.6
21	7.2	6.8	14	92	249	23	27	103	25	11	9.6	9.8
22	7.2	6.8	12	170	235	28	35	112	24	11	9.6	9.8
23	7.2	6.7	9.6	71	230	25	68	93	28	10	9.6	9.8
24	7.2	7.0	8.4	74	147	24	158	84	34	9.9	40	9.8
25	7.2	11	7.4	74	52	22	116	78	28	9.9	163	9.8
26	7.8	9.4	7.0	72	e45	22	99	77	26	11	168	9.8
27	7.5	8.2	6.9	76	e40	25	88	74	31	10	176	9.8
28	7.4	14	7.1	74	37	23	78	68	24	9.8	140	9.7
29	7.3	7.4	20	73	32	20	71	63	22	9.9	11	9.5
30	7.2	24	59	72	---	19	69	60	21	9.4	11	9.5
31	7.2	---	66	71	---	24	---	57	---	82	17	---
TOTAL	226.4	252.2	1122.6	1569	5126	740	1514	2385	1127	474.9	3110.1	394.5
MEAN	7.30	8.41	36.2	50.6	177	23.9	50.5	76.9	37.6	15.3	100	13.1
MAX	8.3	24	232	170	298	29	158	146	61	82	182	47
MIN	7.0	6.7	6.9	20	32	19	27	42	21	9.4	9.6	9.5
AC-FT	449	500	2230	3110	10170	1470	3000	4730	2240	942	6170	782

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	13.7	6.39	10.3	10.5	22.6	12.6	16.4	46.3	13.7	20.5	18.9	11.0
MAX	76.8	9.10	36.2	50.6	177	37.7	50.5	124	41.5	88.3	100	59.4
(WY)	1988	1985	1996	1996	1996	1986	1996	1984	1984	1993	1996	1994
MIN	4.91	5.04	4.96	5.43	5.32	5.56	5.98	5.10	5.56	5.43	5.04	5.02
(WY)	1989	1988	1989	1987	1990	1988	1991	1992	1992	1990	1986	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	5168.5		18041.7			
ANNUAL MEAN	14.2		49.3		16.9	
HIGHEST ANNUAL MEAN					49.3	1996
LOWEST ANNUAL MEAN					5.85	1987
HIGHEST DAILY MEAN	232	Dec 12	298	Feb 9	303	May 23 1984
LOWEST DAILY MEAN	5.8	Mar 27	6.7	Nov 23	2.0	Aug 19 1986
ANNUAL SEVEN-DAY MINIMUM	6.3	Jan 22	6.8	Nov 17	3.2	Aug 15 1986
ANNUAL RUNOFF (AC-FT)	10250		35790		12260	
10 PERCENT EXCEEDS	19		157		35	
50 PERCENT EXCEEDS	7.2		25		6.2	
90 PERCENT EXCEEDS	6.5		7.2		5.2	

e Estimated

14316000 FISH CREEK AT BIG CAMAS RANGER STATION, NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°13'50", long 122°26'45", in SE 1/4 sec.10, T.27 S., R.3 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, 0.2 mi upstream from Camas Creek, 0.7 mi east of Big Camas ranger station, 3.2 mi south of town of Toketee Falls, and at mile 4.7.

DRAINAGE AREA.--68.8 mi^2 (see REMARKS).

PERIOD OF RECORD.--October 1947 to current year. Records since October 1983 are equivalent to earlier records if diversion to Fish Creek power canal is added to flow past station. Prior to October 1952, published as "at Big Camas ranger station."

REVISED RECORDS.--WSP 1448: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,858.52 ft above sea level (levels by Pacific Power & Light Co.). Prior to July 10, 1951, water-stage recorder and July 10 to Aug. 10, 1951, nonrecording gage at site 1,000 ft upstream at datum 13.72 ft higher. Aug. 11 to Nov. 3, 1951, nonrecording gage at site 200 ft downstream at different datum. Nov. 4, 1951, to Sept. 30, 1956, water-stage recorder at present site at datum 1.92 ft higher.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Records given herein do not include flow in Fish Creek power canal (diversion began June 18, 1952), which diverts water 2 mi upstream from station for power generation at Fish Creek powerplant; diversion discharged to North Umpqua River 600 ft downstream from Toketee powerplant.

AVERAGE DISCHARGE.--36 years (water years 1947-83), 237 ft^3/s, 46.78 in/yr, 171,700 acre-ft/yr.
13 years (water years 1984-96), 119 ft^3/s, 23.57 in/yr, 86,480 acre-ft/yr (river only).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 12,100 ft^3/s Dec. 22, 1964, gage height, 13.9 ft, from floodmark; minimum discharge, 2.3 ft^3/s Sept. 25, 1957.

Combined flow, maximum discharge, 12,100 ft^3/s Dec. 22, 1964; minimum daily, 19 ft^3/s July 30, 1979, result of diversion dam manipulation.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 3,020 ft^3/s Feb. 9, gage height, 8.17 ft; minimum discharge, 9.6 ft^3/s Oct. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	14	1120	621	42	98	283	305	153	31	21	23
2	14	16	520	434	36	84	266	280	152	29	24	22
3	22	17	327	387	34	99	232	233	138	27	24	22
4	23	15	385	348	96	117	199	195	119	25	23	22
5	13	14	552	270	142	121	185	170	103	28	23	19
6	12	14	540	224	651	110	201	151	82	29	23	11
7	11	16	472	254	980	109	244	138	67	26	23	11
8	11	57	405	462	1080	130	295	127	58	24	22	11
9	11	102	631	493	2050	189	323	114	51	23	22	31
10	12	19	522	448	1060	229	290	102	42	23	21	50
11	57	105	896	355	770	292	240	102	38	25	19	49
12	43	284	2310	290	636	283	209	136	34	23	19	49
13	14	124	1550	236	578	242	178	212	31	20	22	50
14	11	46	930	198	537	206	163	634	30	18	25	55
15	12	33	688	302	501	177	162	920	30	18	27	129
16	12	27	493	302	503	155	192	809	25	20	26	120
17	13	27	379	252	603	143	165	814	25	27	26	80
18	23	51	311	221	701	141	146	833	29	29	25	63
19	15	31	250	212	718	148	133	776	27	24	26	62
20	12	24	199	198	570	140	121	621	27	22	27	58
21	15	21	159	178	458	129	121	720	26	23	26	55
22	15	19	127	147	362	138	244	744	32	21	25	54
23	13	15	101	134	304	116	654	576	27	19	25	52
24	12	59	83	117	252	100	1790	464	26	21	30	51
25	12	279	63	101	203	83	1030	392	28	22	37	50
26	24	193	48	87	172	72	697	340	38	21	40	50
27	13	112	40	94	152	71	514	283	29	21	27	49
28	10	214	40	80	135	59	403	235	26	23	26	48
29	12	228	424	68	117	49	344	203	23	25	24	48
30	11	870	1390	57	---	43	322	177	20	20	23	47
31	11	---	1140	49	---	89	---	160	---	20	23	---
TOTAL	504	3046	17095	7619	14443	4162	10346	11966	1536	727	774	1441
MEAN	16.3	102	551	246	498	134	345	386	51.2	23.5	25.0	48.0
MAX	57	870	2310	621	2050	292	1790	920	153	31	40	129
MIN	10	14	40	49	34	43	121	102	20	18	19	11
AC-FT	1000	6040	33910	15110	28650	8260	20520	23730	3050	1440	1540	2860
CFSM	.24	1.48	8.02	3.57	7.24	1.95	5.01	5.61	.74	.34	.36	.70
IN.	.27	1.65	9.24	4.12	7.81	2.25	5.59	6.47	.83	.39	.42	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	26.3	81.4	139	134	178	200	223	224	130	36.8	36.1	29.1
MAX	78.8	252	551	259	545	581	434	505	366	90.2	74.5	74.4
(WY)	1987	1985	1996	1995	1986	1993	1989	1993	1984	1995	1985	1986
MIN	11.7	17.2	42.2	32.0	29.2	31.0	83.7	36.4	28.9	23.5	23.3	13.5
(WY)	1984	1990	1993	1992	1990	1992	1994	1992	1987	1996	1992	1990

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	70167		73659			
ANNUAL MEAN	192		201		119	
HIGHEST ANNUAL MEAN					201	1996
LOWEST ANNUAL MEAN					40.4	1994
HIGHEST DAILY MEAN	2450	Feb 1	2310	Dec 12	2840	Feb 23 1986
LOWEST DAILY MEAN	10	Oct 28	10	Oct 28	5.9	Oct 25 1983
ANNUAL SEVEN-DAY MINIMUM	12	Oct 27	12	Oct 27	6.8	Oct 15 1983
ANNUAL RUNOFF (AC-FT)	139200		146100		86480	
ANNUAL RUNOFF (CFSM)	2.79		2.93		1.74	
ANNUAL RUNOFF (INCHES)	37.94		39.83		23.57	
10 PERCENT EXCEEDS	456		572		294	
50 PERCENT EXCEEDS	117		83		45	
90 PERCENT EXCEEDS	15		18		15	

14316500 NORTH UMPQUA RIVER ABOVE COPELAND CREEK, NEAR TOKETEE FALLS, OR

LOCATION.--Lat 43°17'45", long 122°32'10", in NW 1/4 sec.24, T.26 S., R.2 E., Douglas County, Hydrologic Unit 17100301, Umpqua National Forest, on left bank 0.6 mi upstream from Copeland Creek, 4.7 mi west of town of Toketee Falls, and at mile 67.2.

DRAINAGE AREA.--475 mi^2.

PERIOD OF RECORD.--September 1949 to current year. Monthly discharge only September 1949, published in WSP 1318. Prior to October 1952, published as "above Copeland Creek."

REVISED RECORDS.--WSP 1448: 1953(M), 1954, drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,580 ft above sea level, from river-profile map. Prior to Aug. 1, 1976, on right bank at same datum.

REMARKS.--No estimated daily discharges. Records excellent. Considerable fluctuation caused by powerplants upstream; flow slightly regulated by Diamond Lake and by Lemolo Lake (station 14313000). No diversion upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years (water years 1950-96), 1,467 ft^3/s, 1,063,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,700 ft^3/s Dec. 22, 1964, gage height, 19.1 ft, from floodmark, from rating curve extended above 7,200 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 345 ft^3/s July 24, 1992; minimum daily, 565 ft^3/s Sept. 13, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft^3/s Feb. 9, gage height, 11.88 ft; minimum discharge, 614 $ft^3/$ Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	879	771	5170	3810	1700	1860	2590	2530	1950	1240	1030	884
2	815	787	3370	3080	1540	1860	2540	2480	1930	1230	1020	971
3	765	796	2540	2770	1500	1970	2330	2310	1820	1240	1010	941
4	830	792	2650	2600	1660	2090	2180	2150	1850	1220	1020	925
5	835	801	3080	2320	1940	2140	2000	2070	1700	1190	1020	869
6	814	823	3580	2180	3890	1940	2040	2030	1590	1180	988	862
7	807	852	3290	2310	5740	1890	2070	1910	1550	1190	988	831
8	782	869	2960	3130	5590	1990	2240	1830	1670	1160	1000	833
9	807	1160	4290	3560	8400	2240	2240	1730	1630	1090	997	839
10	785	990	3640	3490	5810	2400	2210	1690	1560	1090	998	951
11	822	1130	4090	3020	4630	2480	2100	1660	1570	1040	960	902
12	931	1780	6780	2700	4180	2500	2080	1730	1450	1080	829	898
13	850	1610	6190	2380	3950	2360	1900	1880	1460	1050	1020	923
14	802	1280	4670	2180	3900	2220	1880	2890	1410	1070	908	904
15	794	1190	4320	2210	3720	2030	1900	3870	1330	1090	920	1160
16	721	1020	3570	2410	3650	1980	1930	3890	1340	1060	956	1210
17	663	1110	3020	2290	3860	1900	1900	4030	1380	1120	974	1040
18	662	1070	2730	2150	4150	1950	1860	4030	1380	1150	938	981
19	667	1030	2490	2290	4460	1890	1730	3920	1350	1060	894	924
20	663	971	2290	2380	3730	1850	1760	3540	1320	1080	918	993
21	661	990	2110	2120	3370	1850	1700	3440	1280	1080	940	958
22	663	946	1910	1960	2970	1960	2010	4040	1300	1020	927	957
23	659	934	1760	1880	2730	1860	3300	3610	1300	1080	942	938
24	661	1080	1670	1940	2540	1790	6510	3270	1330	1050	845	940
25	664	1760	1620	1770	2380	1670	5010	2960	1370	1070	828	945
26	687	2030	1550	1810	2230	1670	3940	2780	1340	1040	939	947
27	760	1640	1410	1840	2140	1630	3490	2550	1360	1070	954	911
28	834	2290	1470	1830	2040	1620	2950	2430	1290	1100	935	931
29	837	2220	2670	1710	1990	1600	2730	2280	1240	1080	901	931
30	788	4130	5810	1630	---	1600	2620	2130	1250	1070	926	929
31	783	---	5710	1610	---	1710	---	2020	---	957	873	---
TOTAL	23691	38852	102410	73360	100390	60500	75740	83680	44300	34247	29398	28228
MEAN	764	1295	3304	2366	3462	1952	2525	2699	1477	1105	948	941
MAX	931	4130	6780	3810	8400	2500	6510	4040	1950	1240	1030	1210
MIN	659	771	1410	1610	1500	1600	1700	1660	1240	957	828	831
AC-FT	46990	77060	203100	145500	199100	120000	150200	166000	87870	67930	58310	55990

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1996, BY WATER YEAR (WY)

MEAN	923	1263	1755	1764	1832	1762	1866	2013	1648	1068	883	848
MAX	1568	2298	5163	3418	3462	4221	2876	3191	2933	1652	1178	1107
(WY)	1951	1951	1965	1956	1996	1972	1952	1956	1974	1953	1972	1972
MIN	661	754	803	788	670	873	1065	855	700	664	598	612
(WY)	1995	1988	1977	1977	1977	1977	1968	1992	1992	1992	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1949 - 1996	
ANNUAL TOTAL	577170		694796			
ANNUAL MEAN	1581		1898		1467	
HIGHEST ANNUAL MEAN					2080	1956
LOWEST ANNUAL MEAN					897	1977
HIGHEST DAILY MEAN	6780	Dec 12	8400	Feb 9	24300	Dec 22 1964
LOWEST DAILY MEAN	659	Oct 23	659	Oct 23	565	Sep 13 1959
ANNUAL SEVEN-DAY MINIMUM	662	Oct 18	662	Oct 18	587	Sep 2 1992
ANNUAL RUNOFF (AC-FT)	1145000		1378000		1063000	
10 PERCENT EXCEEDS	2660		3620		2400	
50 PERCENT EXCEEDS	1420		1650		1220	
90 PERCENT EXCEEDS	779		835		762	

14316700 STEAMBOAT CREEK NEAR GLIDE, OR

LOCATION.--Lat 43°21'00", long 122°43'40", in N 1/2 sec.32, T.25-1/2 S., R.1 E., Douglas County, Hydrologic Unit 17100301, in Umpqua National Forest, on right bank in Canton Creek Forest Service Park, 200 ft downstream from Canton Creek, 19 mi northeast of Glide, and at mile 0.5.

DRAINAGE AREA.--227 mi^2.

PERIOD OF RECORD.--Annual maximum, water year 1956, June 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,128.55 ft above sea level (levels by Federal Highway Administration). October 1955 to June 1956, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records excellent. No regulation or diversion upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years (water years 1957-96), 725 ft^3/s, 43.39 in/yr, 525,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft^3/s Dec. 22, 1964, gage height, 25.6 ft, from floodmark, from rating curve extended above 13,000 ft^3/s on basis of slope-area measurement at 17.96 ft; minimum discharge, 27 ft^3/s Sept. 24-28, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	0630	9,900	10.26	Feb. 9	0430	*15,700	*13.03
Dec. 12	2330	9,210	9.88	Apr. 24	0430	10,000	10.33
Dec. 30	1930	10,200	10.43				

Minimum discharge, 46 ft^3/s Sept. 11-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	81	6990	2440	897	738	2490	704	411	152	73	49
2	76	76	3080	1630	847	898	1970	627	377	145	72	49
3	93	72	1980	1310	803	1310	1530	550	351	139	74	48
4	190	69	2610	1330	1280	2020	1100	484	325	135	72	48
5	111	69	3360	1140	2870	2260	864	432	300	131	71	53
6	84	82	3360	1040	10200	1640	759	391	282	126	71	51
7	72	152	2600	1140	10500	1360	724	365	268	122	70	49
8	65	225	2160	2850	7930	1570	699	341	252	117	67	48
9	62	837	4840	3660	11700	1770	672	319	236	114	65	48
10	59	494	2970	3720	4740	1570	653	300	221	111	64	48
11	140	1560	2320	2160	3300	1620	645	287	213	109	63	47
12	337	3080	6820	1500	2860	1810	908	286	205	106	62	46
13	189	2310	6720	1130	2610	1450	1200	304	197	103	62	47
14	128	1110	4290	919	2340	1120	1130	599	189	101	61	51
15	102	670	4170	1190	2090	920	987	2040	183	101	61	145
16	88	509	2560	1520	1960	785	1010	2530	177	97	60	244
17	81	401	1820	1310	2140	692	1080	2260	173	104	58	172
18	103	566	1410	1300	2770	641	1010	2330	168	130	57	105
19	96	488	1110	3190	3440	629	1130	3110	163	109	57	85
20	82	379	910	4110	2360	586	1060	2320	159	100	57	76
21	81	317	767	3370	1880	533	1080	1890	154	95	57	70
22	83	287	661	1930	1500	529	1600	3420	150	93	57	65
23	79	257	573	1490	1320	495	3690	2780	166	89	55	62
24	73	813	505	1440	1150	452	7770	1980	221	87	53	60
25	72	3180	448	1160	954	406	3860	1420	181	83	52	59
26	208	3420	405	970	816	374	2300	1070	177	81	53	57
27	228	2660	381	1590	728	371	1590	856	293	79	56	56
28	149	4820	395	1940	668	381	1190	709	220	80	57	55
29	116	2400	3460	1430	629	363	956	604	180	83	54	53
30	100	5460	6700	1140	---	345	808	524	163	78	52	53
31	89	---	5040	962	---	531	---	462	---	75	51	---
TOTAL	3529	36844	85415	56011	87282	30169	46465	36294	6755	3275	1894	2099
MEAN	114	1228	2755	1807	3010	973	1549	1171	225	106	61.1	70.0
MAX	337	5460	6990	4110	11700	2260	7770	3420	411	152	74	244
MIN	59	69	381	919	629	345	645	286	150	75	51	46
AC-FT	7000	73080	169400	111100	173100	59840	92160	71990	13400	6500	3760	4160
CFSM	.50	5.41	12.1	7.96	13.3	4.29	6.82	5.16	.99	.47	.27	.31
IN.	.58	6.04	14.00	9.18	14.30	4.94	7.61	5.95	1.11	.54	.31	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1996, BY WATER YEAR (WY)

MEAN	160	874	1450	1474	1412	1243	992	628	278	98.3	60.4	66.5
MAX	536	2887	5391	3415	3195	2774	2017	1337	780	193	158	260
(WY)	1957	1974	1965	1970	1986	1972	1993	1963	1984	1983	1976	1986
MIN	31.5	56.5	62.5	108	142	211	287	165	87.5	56.6	35.9	34.8
(WY)	1988	1994	1977	1977	1977	1992	1968	1992	1992	1973	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1957 - 1996	
ANNUAL TOTAL	344342		396032			
ANNUAL MEAN	943		1082		725	
HIGHEST ANNUAL MEAN					1253	1974
LOWEST ANNUAL MEAN					239	1977
HIGHEST DAILY MEAN	7960	Jan 14	11700	Feb 9	33000	Dec 22 1964
LOWEST DAILY MEAN	37	Sep 22	46	Sep 12	27	Sep 25 1994
ANNUAL SEVEN-DAY MINIMUM	39	Sep 18	48	Sep 7	28	Sep 21 1994
ANNUAL RUNOFF (AC-FT)	683000		785500		525200	
ANNUAL RUNOFF (CFSM)	4.16		4.77		3.19	
ANNUAL RUNOFF (INCHES)	56.43		64.90		43.39	
10 PERCENT EXCEEDS	2590		2860		1730	
50 PERCENT EXCEEDS	441		421		329	
90 PERCENT EXCEEDS	62		60		47	

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR.

LOCATION.--Lat 43°19'51", long 123°00'07", near line between SE 1/4 SW 1/4 sec.1, T.26 S., R.3 W., Douglas County, Hydrologic Unit 17100301, on right bank, 0.1 mi upstream from Rock Creek, 5.1 mi northeast of Glide, and at mile 35.8.

DRAINAGE AREA.--886 mi^2.

PERIOD OF RECORD.--November 1992 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1992 to current year.
pH: November 1992 to current year.
WATER TEMPERATURE: November 1992 to current year.
DISSOLVED OXYGEN: November 1992 to current year.

INSTRUMENTATION.--Water-quality monitor and data logger since November 1992.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 77 microsiemens Nov. 25, 1993; minimum recorded, 36 microsiemens Apr. 2, 1993.
pH: Maximum, 8.5 units Sept. 15, 1993, July 31, Aug. 1, 1994, July 29, 1995; minimum recorded, 6.9 units May 24, 1993.
WATER TEMPERATURE: Maximum, 23.0°C July 21, 1994; minimum, 0.5°C Nov. 26, 1993.
DISSOLVED OXYGEN: Maximum, 14.7 mg/L Dec. 24, 1993; minimum, 6.5 mg/L May 28, 1995.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 68 microsiemens Oct. 12, 19; minimum recorded, 38 microsiemens Apr. 23.
pH: Maximum recorded, 8.4 units Aug. 2; minimum recorded, 7.1 units Nov. 12, 13, Apr. 5, May 13.
WATER TEMPERARURE: Maximum recorded, 19.0°C July 12, 13, 24, 25, Aug. 13; minimum recorded, 3.5°C Jan. 25.
DISSOLVED OXYGEN: Maximum recorded, 12.9 mg/L Nov. 11, Jan. 25, 26; minimum recorded, 7.2 mg/L July 22.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	64	64	64	65	64	64	---	---	---	---	---	---
2	64	63	64	64	64	64	---	---	---	---	---	---
3	65	64	64	64	64	64	---	---	---	---	---	---
4	66	64	65	64	63	63	---	---	---	---	---	---
5	65	62	63	63	63	63	---	---	---	---	---	---
6	64	63	63	63	63	63	---	---	---	48	47	---
7	64	63	63	64	62	63	---	---	---	---	---	---
8	65	63	64	62	61	62	---	---	---	---	---	---
9	65	64	65	61	55	59	---	---	---	---	---	---
10	65	64	65	56	55	55	---	---	---	---	---	---
11	65	63	64	57	49	55	---	---	---	---	---	---
12	68	63	65	49	44	45	---	---	---	---	---	---
13	63	61	62	48	45	46	---	---	---	---	---	---
14	63	62	63	51	48	50	---	---	---	---	---	---
15	64	63	63	54	51	53	---	---	---	---	---	---
16	65	64	64	56	54	55	---	---	---	---	---	---
17	66	64	65	56	54	55	---	---	---	---	---	---
18	66	65	65	57	55	56	---	---	---	50	49	49
19	68	66	67	56	55	55	---	---	---	49	45	47
20	67	66	66	57	55	56	---	---	---	---	---	---
21	67	66	66	57	56	57	---	---	---	---	---	---
22	67	66	66	58	57	58	---	---	---	49	47	48
23	67	66	67	59	58	58	---	---	---	50	48	49
24	67	66	66	59	57	58	---	---	---	50	47	49
25	66	65	66	57	---	---	---	---	---	51	50	51
26	67	65	65	---	---	---	---	---	---	52	51	52
27	67	65	66	---	---	---	---	---	---	52	48	50
28	65	64	64	---	---	---	---	---	---	49	48	48
29	65	64	65	---	---	---	---	---	---	49	47	---
30	65	64	65	---	---	---	---	---	---	---	---	---
31	65	65	65	---	---	---	---	---	---	---	---	---
MONTH	68	61	65	---	---	---	---	---	---	---	---	---

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	49	41	43	---	---	---
2	---	---	---	---	---	---	42	41	41	---	---	---
3	---	---	---	---	---	---	43	41	42	---	---	---
4	---	---	---	---	---	---	44	43	43	---	---	---
5	---	---	---	---	---	---	46	44	45	---	---	---
6	---	---	---	---	---	---	46	46	46	---	---	---
7	---	---	---	---	---	---	46	45	46	---	---	---
8	---	---	---	---	---	---	46	45	45	49	---	---
9	---	---	---	---	---	---	45	43	44	49	48	49
10	---	---	---	---	---	---	44	43	43	50	49	49
11	---	---	---	---	---	---	44	43	44	50	49	50
12	---	---	---	40	39	40	44	43	44	50	50	50
13	---	---	---	---	---	---	44	43	43	50	49	50
14	---	---	---	---	---	---	44	43	44	49	41	46
15	---	---	---	---	---	---	45	44	45	---	---	---
16	---	---	---	---	---	---	46	45	45	---	---	---
17	---	---	---	---	---	---	45	44	44	---	---	---
18	---	---	---	---	---	---	45	44	45	---	---	---
19	---	---	---	---	---	---	46	44	45	---	---	---
20	---	---	---	---	---	---	46	45	45	---	---	---
21	---	---	---	---	---	---	46	45	45	---	---	---
22	---	---	---	---	---	---	46	43	45	---	---	---
23	---	---	---	---	---	---	43	38	39	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	50	---	---	---	---	---	---	---	---
26	---	---	---	50	49	49	---	---	---	---	---	---
27	---	---	---	50	49	50	---	---	---	---	---	---
28	---	---	---	50	48	49	---	---	---	---	---	---
29	---	---	---	50	49	49	---	---	---	---	---	---
30	---	---	---	51	50	50	---	---	---	---	---	---
31	---	---	---	51	49	50	---	---	---	49	47	48
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	49	48	49	59	58	58	62	61	62	64	62	63
2	50	49	50	60	59	59	62	61	61	63	62	62
3	51	50	51	60	59	60	63	61	62	62	61	62
4	51	50	51	60	59	60	63	62	63	61	60	61
5	52	50	51	60	59	60	63	62	62	62	61	62
6	53	51	52	60	59	60	62	61	62	63	62	63
7	54	52	53	61	60	60	62	61	62	64	62	63
8	54	53	53	62	60	61	63	61	62	64	63	63
9	53	52	53	62	61	61	63	62	62	64	63	64
10	54	53	53	62	62	62	63	62	63	65	63	64
11	54	53	53	63	62	62	64	62	63	64	63	64
12	55	53	54	64	62	63	63	62	63	64	63	63
13	55	54	55	64	62	63	63	62	63	63	62	63
14	55	54	55	64	63	63	64	62	63	62	61	62
15	56	55	55	64	62	63	64	63	64	67	60	62
16	57	56	56	64	62	63	64	63	64	66	62	63
17	57	56	57	64	61	62	64	62	63	64	63	63
18	57	56	56	62	61	62	63	62	63	63	62	62
19	57	56	57	62	60	61	63	61	63	63	62	62
20	58	57	57	62	60	61	61	60	61	63	63	63
21	58	57	58	62	61	61	61	60	60	63	62	63
22	59	58	59	62	61	62	61	60	60	63	62	63
23	59	57	58	63	62	62	61	60	60	63	62	62
24	58	57	58	63	62	63	60	59	60	63	62	63
25	58	57	57	63	62	63	62	60	61	63	62	63
26	57	56	57	63	61	62	62	61	62	64	63	63
27	57	56	56	63	61	62	61	59	60	64	63	64
28	57	55	56	62	60	61	60	59	59	64	64	64
29	58	57	57	61	59	60	62	60	61	64	64	64
30	58	58	58	62	61	61	63	61	62	65	64	64
31	---	---	---	62	61	61	63	62	63	---	---	---
MONTH	59	48	55	64	58	61	64	59	62	67	60	63

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.0	7.6	7.7	7.6	---	---	---	---	---	---	---	---
2	7.9	7.6	7.9	7.6	---	---	---	---	---	---	---	---
3	8.1	7.5	7.7	7.6	---	---	---	---	---	---	---	---
4	7.9	7.6	7.8	7.5	---	---	---	---	---	---	---	---
5	7.9	7.6	7.7	7.5	---	---	---	---	---	---	---	---
6	8.1	7.6	7.7	7.5	---	---	7.4	7.4	---	---	---	---
7	7.9	7.6	7.7	7.4	---	---	---	---	---	---	---	---
8	8.2	7.6	7.6	7.4	---	---	---	---	---	---	---	---
9	7.9	7.6	7.5	7.4	---	---	---	---	---	---	---	---
10	8.1	7.6	7.6	7.4	---	---	---	---	---	---	---	---
11	7.9	7.6	7.5	7.2	---	---	---	---	---	---	---	---
12	7.9	7.6	7.2	7.1	---	---	---	---	---	---	7.4	7.4
13	7.8	7.6	7.3	7.1	---	---	---	---	---	---	---	---
14	7.8	7.6	7.3	7.2	---	---	---	---	---	---	---	---
15	7.9	7.6	7.4	7.3	---	---	---	---	---	---	---	---
16	7.9	7.5	7.4	7.2	---	---	---	---	---	---	---	---
17	7.9	7.6	7.4	7.3	---	---	---	---	---	---	---	---
18	7.9	7.6	7.4	7.3	---	---	7.4	7.4	---	---	---	---
19	7.8	7.6	7.4	7.3	---	---	7.4	7.3	---	---	---	---
20	7.9	7.6	7.5	7.4	---	---	---	---	---	---	---	---
21	8.0	7.6	7.6	7.4	---	---	---	---	---	---	---	---
22	8.0	7.6	7.6	7.4	---	---	7.4	7.3	---	---	---	---
23	7.9	7.6	7.7	7.4	---	---	7.4	7.3	---	---	---	---
24	7.7	7.5	7.6	7.4	---	---	7.4	7.3	---	---	---	---
25	7.8	7.5	7.4	7.4	---	---	7.6	7.4	---	---	7.5	---
26	7.7	7.5	---	---	---	---	7.4	7.3	---	---	7.6	7.5
27	7.7	7.4	---	---	---	---	7.4	7.3	---	---	7.6	7.5
28	7.7	7.4	---	---	---	---	7.4	7.3	---	---	7.6	7.5
29	7.8	7.4	---	---	---	---	---	---	---	---	7.6	7.5
30	7.8	7.5	---	---	---	---	---	---	---	---	7.6	7.5
31	7.7	7.5	---	---	---	---	---	---	---	---	7.5	7.5
MONTH	8.2	7.4	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	7.3	---	---	7.4	7.3	7.8	7.4	8.3	7.6	8.1	7.6
2	7.5	7.4	---	---	7.4	7.3	7.9	7.4	8.4	7.6	8.1	7.6
3	7.5	7.3	---	---	7.5	7.3	7.8	7.3	8.3	7.7	8.2	7.6
4	7.5	7.3	---	---	7.5	7.4	7.9	7.4	8.3	7.7	8.1	7.6
5	7.5	7.1	---	---	7.5	7.4	7.9	7.4	8.3	7.7	8.1	7.6
6	7.4	7.2	---	---	7.6	7.4	7.9	7.4	8.0	7.6	8.1	7.7
7	7.3	7.2	---	---	7.6	7.4	7.8	7.3	7.9	7.5	8.0	7.6
8	7.3	7.2	7.5	---	7.7	7.5	7.9	7.3	8.0	7.4	8.0	7.6
9	7.4	7.3	7.5	7.5	7.7	7.5	8.0	7.3	8.0	7.5	8.0	7.6
10	7.4	7.3	7.5	7.4	7.7	7.5	7.9	7.4	8.0	7.5	8.0	7.6
11	7.4	7.4	7.4	7.4	7.7	7.5	7.9	7.4	8.1	7.5	8.1	7.6
12	7.4	7.4	7.4	7.3	7.7	7.5	8.0	7.3	8.1	7.5	8.2	7.6
13	7.4	7.3	7.4	7.1	7.6	7.4	8.0	7.4	8.0	7.5	8.1	7.6
14	7.4	7.3	7.4	7.3	7.6	7.4	8.0	7.4	8.1	7.5	8.1	7.6
15	7.4	7.3	---	---	7.6	7.4	8.1	7.4	8.1	7.5	7.9	7.6
16	7.4	7.4	---	---	7.7	7.4	8.2	7.5	8.1	7.5	7.9	7.6
17	7.4	7.4	---	---	7.7	7.4	8.1	7.5	8.2	7.6	8.1	7.6
18	7.4	7.4	---	---	7.6	7.5	8.1	7.6	8.1	7.6	8.0	7.6
19	7.4	7.4	---	---	7.6	7.4	8.0	7.6	8.1	7.6	8.1	7.6
20	7.4	7.4	---	---	7.6	7.4	8.0	7.5	8.1	7.6	8.1	7.6
21	7.4	7.4	---	---	7.7	7.4	8.0	7.5	8.1	7.6	8.0	7.6
22	7.4	7.3	---	---	7.7	7.4	8.0	7.4	8.1	7.6	7.9	7.6
23	7.3	7.2	7.4	7.3	7.7	7.4	8.0	7.4	8.1	7.6	8.0	7.6
24	---	---	---	---	7.8	7.4	8.0	7.4	8.1	7.5	8.0	7.6
25	---	---	---	---	7.7	7.5	8.0	7.4	8.2	7.5	7.9	7.6
26	---	---	---	---	7.7	7.4	8.2	7.4	8.1	7.6	7.8	7.6
27	---	---	---	---	7.7	7.4	8.3	7.6	8.1	7.6	7.8	7.6
28	---	---	---	---	7.7	7.4	8.2	7.6	8.1	7.6	7.8	7.6
29	---	---	---	---	7.7	7.4	8.2	7.6	8.1	7.6	7.8	7.6
30	---	---	7.5	---	7.7	7.4	8.2	7.6	8.0	7.6	8.0	7.6
31	---	---	7.5	7.4	---	---	8.3	7.6	8.1	7.6	---	---
MONTH	---	---	---	---	7.8	7.3	8.3	7.3	8.4	7.4	8.2	7.6

UMPQUA RIVER BASIN

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.5	11.0	11.5	8.0	6.0	7.0				---	---	---
2	12.0	10.5	11.0	6.5	5.5	6.0				---	---	---
3	12.0	10.5	11.0	6.0	5.0	5.5				---	---	---
4	12.0	10.5	11.0	6.0	4.5	5.5				---	---	---
5	11.0	9.5	10.5	7.0	5.5	6.5				---	---	---
6	10.5	9.5	10.0	7.0	6.5	7.0				6.5	6.0	6.0
7	11.0	9.0	10.0	8.0	7.0	7.5				---	---	---
8	10.5	9.0	9.5	8.5	8.0	8.0				---	---	---
9	11.0	9.5	10.0	8.5	8.5	8.5				---	---	---
10	10.5	9.5	10.0	8.5	8.0	8.0				---	---	---
11	11.0	10.0	10.5	---	8.0	---				---	---	---
12	10.5	9.5	10.0	---	---	---				---	---	---
13	9.5	8.5	9.0	---	---	---				---	---	---
14	10.0	8.5	9.0	---	---	---				---	---	---
15	10.0	8.5	9.0	---	---	---				---	---	---
16	10.5	9.0	10.0	---	---	---				---	---	---
17	10.0	9.5	9.5	---	---	---				---	---	---
18	11.0	9.5	10.0	---	---	---				5.5	5.0	5.0
19	10.0	8.5	9.0	---	---	---				6.0	5.0	5.5
20	9.0	8.0	8.5	---	---	---				6.5	6.0	---
21	9.5	8.5	9.0	---	---	---				---	---	---
22	9.0	8.0	8.5	---	8.0	8.5				5.5	5.0	5.5
23	8.5	7.5	8.0	9.0	8.5	9.0				5.0	4.0	5.0
24	8.5	7.5	8.0	9.5	9.0	9.0				4.5	4.0	4.0
25	8.5	7.5	8.0	---	9.5	---				4.5	3.5	4.0
26	9.0	8.0	8.5	---	---	---				4.5	4.0	4.0
27	9.5	9.0	9.0	---	---	---				5.0	4.5	5.0
28	9.5	9.0	9.0	---	---	---				5.5	5.0	5.5
29	9.0	8.5	9.0	---	---	---				---	5.5	---
30	9.5	8.5	9.0	---	---	---				---	---	---
31	9.0	8.0	8.5	---	---	---				---	---	---
MONTH	12.5	7.5	9.5	---	---	---				---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1				---	---	---	7.5	6.5	7.0	---	---	---
2				---	---	---	8.0	7.0	7.5	---	---	---
3				---	---	---	8.5	7.0	7.5	---	---	---
4				---	---	---	8.5	6.5	7.5	---	---	---
5				---	---	---	9.0	7.5	8.0	---	---	---
6				---	---	---	9.5	8.0	9.0	---	---	---
7				---	---	---	10.5	8.5	9.5	---	---	---
8				---	---	---	11.0	9.0	10.0	10.5	---	---
9				---	---	---	10.0	9.0	9.5	10.0	8.0	9.5
10				---	---	---	9.0	8.0	8.5	11.0	8.0	9.5
11				7.0	---	---	8.0	7.5	7.5	11.5	9.0	10.5
12				7.0	6.5	6.5	7.5	7.0	7.0	13.0	10.5	11.5
13				---	6.0	---	8.0	6.5	7.5	12.5	11.5	12.0
14				---	---	---	8.5	7.0	8.0	12.0	10.5	11.0
15				---	---	---	9.0	8.0	8.5	---	10.0	---
16				---	---	---	8.5	8.0	8.5	---	---	---
17				---	---	---	8.0	6.5	7.0	---	---	---
18				---	---	---	7.0	6.0	6.5	---	---	---
19				---	---	---	7.0	6.5	6.5	---	---	---
20				---	---	---	7.0	6.0	6.5	---	---	---
21				---	---	---	7.5	6.5	7.0	---	---	---
22				---	---	---	7.5	7.0	7.5	8.5	---	---
23				---	---	---	8.0	7.5	7.5	---	8.5	---
24				---	---	---	---	---	---	---	---	---
25				9.5	---	---	---	---	---	---	---	---
26				6.5	4.5	5.5	---	---	---	---	---	---
27				6.5	5.5	6.0	---	---	---	---	---	---
28				6.0	5.0	5.5	---	---	---	---	---	---
29				6.0	5.0	5.5	---	---	---	---	---	---
30				6.5	5.5	6.0	---	---	---	12.0	---	---
31				6.5	6.0	6.5	---	---	---	12.5	10.0	11.5
MONTH				---	---	---	---	---	---	---	---	---

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.5	10.5	12.0	16.5	14.5	15.5	17.5	16.0	16.5	16.0	14.5	15.0
2	14.5	11.5	13.0	17.0	15.0	16.0	16.0	14.5	15.5	15.0	13.5	14.0
3	15.0	12.5	14.0	17.0	15.5	16.5	16.0	14.0	15.0	14.5	13.0	14.0
4	15.0	13.0	14.0	16.5	15.0	15.5	15.5	14.0	14.5	14.5	13.0	13.5
5	15.0	12.5	14.0	16.0	14.0	15.0	15.5	14.0	15.0	14.5	12.5	13.5
6	16.0	12.5	14.5	16.5	14.5	15.5	15.5	13.5	14.5	13.5	12.0	12.5
7	16.0	13.5	15.0	17.0	15.0	16.0	16.5	14.5	15.0	14.0	12.0	12.5
8	16.0	13.5	15.0	17.5	16.0	17.0	17.0	15.0	16.0	14.5	12.5	13.0
9	15.5	13.0	14.5	17.0	16.5	17.0	18.0	16.0	16.5	15.0	13.0	13.5
10	15.5	12.5	14.0	18.0	16.0	17.0	18.5	16.5	17.0	15.5	13.0	14.0
11	15.5	12.5	14.5	18.0	16.5	17.0	18.0	16.5	17.0	15.0	13.5	14.0
12	16.5	13.5	15.0	19.0	17.0	17.5	18.0	16.0	17.0	14.5	13.5	14.0
13	15.5	13.5	14.5	19.0	17.5	18.0	19.0	16.5	17.5	13.5	12.5	13.5
14	15.5	13.0	14.5	18.5	16.5	18.0	18.5	16.5	17.5	13.0	12.0	12.5
15	16.0	13.5	15.0	18.5	16.5	17.5	18.5	16.5	17.5	12.0	11.5	12.0
16	15.5	13.5	14.0	17.5	16.0	17.0	18.0	16.0	17.0	12.0	11.0	11.5
17	13.5	12.0	13.0	16.5	14.0	15.5	16.5	15.0	16.0	11.5	10.5	11.0
18	14.5	11.0	12.5	14.0	13.0	13.5	16.0	14.0	15.0	12.0	10.5	11.5
19	13.5	12.0	13.0	15.0	12.0	13.5	15.5	13.5	14.5	12.0	11.5	11.5
20	15.0	12.0	13.5	15.5	13.5	14.5	15.5	13.5	14.5	12.0	11.0	11.5
21	15.5	13.0	14.0	17.0	14.5	15.5	16.0	13.5	14.5	12.0	11.0	11.5
22	15.5	13.5	14.5	18.0	15.5	16.5	16.0	14.0	15.0	11.5	10.0	10.5
23	14.5	13.0	13.5	18.5	16.5	17.0	16.5	14.5	15.0	11.0	9.5	10.0
24	13.5	12.0	12.5	19.0	17.0	17.5	16.5	14.5	15.5	11.0	9.5	10.0
25	14.5	12.0	13.5	19.0	17.0	17.5	17.5	15.0	16.0	11.0	9.5	10.0
26	14.0	11.5	13.0	18.0	17.0	17.5	17.0	15.5	16.0	11.5	10.0	10.5
27	13.5	12.0	13.0	17.0	16.0	17.0	15.5	14.0	15.0	12.0	10.0	11.0
28	13.5	12.0	13.0	16.0	15.0	16.0	15.5	13.5	14.5	12.5	10.5	11.0
29	15.0	13.0	14.0	17.0	15.0	16.0	16.5	14.5	15.5	12.5	11.0	11.5
30	15.5	13.5	15.0	17.0	15.5	16.5	16.5	15.0	15.5	12.5	11.0	11.5
31	---	---	---	17.5	16.0	17.0	16.5	15.0	15.5	---	---	---
MONTH	16.5	10.5	14.0	19.0	12.0	16.5	19.0	13.5	15.5	16.0	9.5	12.0

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.8	10.6	10.7	12.0	11.5	11.7	---	---	---	---	---	---
2	10.9	10.6	10.8	12.3	11.9	12.1	---	---	---	---	---	---
3	10.9	10.5	10.8	12.6	12.1	12.4	---	---	---	---	---	---
4	11.0	10.6	10.8	12.7	12.2	12.5	---	---	---	---	---	---
5	10.9	10.6	10.8	12.5	12.0	12.3	---	---	---	12.3	---	---
6	10.8	10.5	10.7	12.4	12.1	12.3	---	---	---	11.9	---	---
7	11.0	10.6	10.8	12.5	12.1	12.3	---	---	---	---	---	---
8	11.0	10.6	10.8	12.2	11.7	12.0	---	---	---	---	---	---
9	10.8	10.4	10.7	12.2	11.9	12.1	---	---	---	---	---	---
10	10.8	10.4	10.5	12.4	11.8	12.1	---	---	---	---	---	---
11	10.6	10.3	10.4	12.9	11.8	12.5	---	---	---	---	---	---
12	10.9	10.5	10.7	12.0	10.1	11.4	---	---	---	---	---	---
13	11.2	10.7	11.0	11.7	10.1	11.4	---	---	---	---	---	---
14	11.1	10.8	10.9	11.6	10.9	11.3	---	---	---	---	---	---
15	10.9	10.6	10.8	11.3	11.1	11.2	---	---	---	---	---	---
16	10.8	10.6	10.7	11.2	10.9	11.0	---	---	---	---	---	---
17	10.8	10.5	10.7	11.1	10.7	11.0	---	---	---	---	---	---
18	10.8	10.5	10.7	11.5	10.9	11.2	---	---	---	12.4	12.2	12.3
19	11.2	10.6	10.8	11.8	11.3	11.6	---	---	---	12.5	11.6	12.3
20	11.2	11.0	11.1	12.0	11.4	11.7	---	---	---	11.6	---	---
21	11.1	10.8	11.0	12.2	11.5	11.9	---	---	---	12.1	---	---
22	11.2	10.9	11.1	11.6	11.2	11.5	---	---	---	12.2	11.7	12.0
23	11.6	11.2	11.4	11.4	11.0	11.2	---	---	---	12.4	12.0	12.2
24	11.9	11.5	11.6	11.1	10.4	10.9	---	---	---	12.5	12.1	12.3
25	11.8	11.5	11.7	10.5	---	---	---	---	---	12.9	12.2	12.6
26	11.6	11.4	11.5	---	---	---	---	---	---	12.9	12.3	12.6
27	11.5	11.2	11.4	---	---	---	---	---	---	12.7	12.0	12.3
28	11.5	11.2	11.3	---	---	---	---	---	---	12.1	10.3	11.4
29	11.3	11.1	11.2	---	---	---	---	---	---	---	---	---
30	11.4	11.0	11.2	---	---	---	---	---	---	---	---	---
31	11.5	11.1	11.3	---	---	---	---	---	---	---	---	---
MONTH	11.9	10.3	11.0	---	---	---	---	---	---	---	---	---

14317500 NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OR--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	11.5	9.5	10.7	---	---	---
2	---	---	---	---	---	---	10.4	8.7	9.4	---	---	---
3	---	---	---	---	---	---	10.5	8.8	9.5	---	---	---
4	---	---	---	---	---	---	11.2	9.2	10.2	---	---	---
5	---	---	---	---	---	---	12.1	9.8	11.2	---	---	---
6	---	---	---	---	---	---	11.8	11.2	11.5	---	---	---
7	---	---	---	---	---	---	11.7	11.1	11.4	---	---	---
8	---	---	---	---	---	---	11.4	10.9	11.2	---	---	---
9	---	---	---	---	---	---	11.3	11.0	11.2	12.5	11.8	12.1
10	---	---	---	---	---	---	11.7	11.2	11.5	12.3	11.5	12.0
11	---	---	---	---	---	---	11.7	11.5	11.6	12.1	11.3	11.7
12	---	---	---	10.9	10.5	10.7	11.9	11.6	11.8	11.7	10.8	11.3
13	---	---	---	---	---	---	12.0	11.4	11.8	11.4	11.0	11.2
14	---	---	---	---	---	---	11.7	11.3	11.6	11.4	11.1	11.3
15	---	---	---	---	---	---	11.5	11.2	11.3	---	---	---
16	---	---	---	---	---	---	11.4	11.1	11.3	---	---	---
17	---	---	---	---	---	---	11.7	11.3	11.6	---	---	---
18	---	---	---	---	---	---	12.1	11.7	11.9	---	---	---
19	---	---	---	---	---	---	12.4	11.7	12.1	---	---	---
20	---	---	---	---	---	---	12.4	11.9	12.1	---	---	---
21	---	---	---	---	---	---	12.0	11.6	11.9	---	---	---
22	---	---	---	---	---	---	11.8	11.3	11.6	12.5	---	---
23	---	---	---	---	---	---	11.7	11.0	11.4	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	12.4	---	---	---	---	---	---	---	---
26	---	---	---	12.5	11.8	12.2	11.6	---	---	---	---	---
27	---	---	---	12.2	11.8	12.0	---	---	---	---	---	---
28	---	---	---	12.3	11.7	12.1	---	---	---	---	---	---
29	---	---	---	12.3	11.9	12.1	---	---	---	---	---	---
30	---	---	---	12.2	11.8	12.0	---	---	---	11.0	---	---
31	---	---	---	12.0	11.4	11.8	---	---	---	11.2	10.5	10.8
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.2	10.5	10.9	10.4	9.3	10.0	10.0	9.6	9.8	10.3	9.8	10.0
2	11.0	10.4	10.7	10.0	9.2	9.5	10.2	9.6	10.0	10.5	10.0	10.3
3	11.0	10.0	10.5	9.9	9.2	9.6	10.1	9.6	9.8	10.7	10.2	10.5
4	10.8	10.1	10.4	10.2	9.3	9.8	10.0	9.4	9.7	10.5	10.2	10.4
5	11.0	10.0	10.4	10.0	9.5	9.9	9.7	9.4	9.6	10.8	10.2	10.4
6	10.6	9.5	10.1	10.0	9.2	9.7	10.0	9.4	9.6	10.7	10.3	10.5
7	10.2	9.6	9.9	9.7	9.1	9.3	9.5	9.3	9.4	10.6	10.1	10.4
8	10.5	9.6	10.1	9.2	8.6	9.0	9.4	9.0	9.1	10.6	10.0	10.3
9	10.7	9.9	10.3	9.7	8.7	9.2	9.2	8.7	9.0	10.5	10.0	10.3
10	10.5	9.8	10.1	9.5	9.0	9.3	9.0	8.6	8.8	10.5	10.0	10.3
11	10.8	9.7	10.3	9.7	9.0	9.3	9.0	8.7	8.9	10.7	10.2	10.4
12	10.8	9.6	10.1	9.8	9.0	9.2	9.1	8.6	8.8	10.5	10.2	10.4
13	10.8	9.7	10.2	9.2	8.7	9.0	9.2	8.7	9.0	10.6	10.4	10.5
14	10.7	9.8	10.2	9.0	8.5	8.8	9.5	9.0	9.3	10.8	10.5	10.7
15	10.5	9.5	9.9	9.0	8.4	8.8	9.5	9.1	9.3	11.0	10.7	10.9
16	10.4	9.5	9.9	8.9	8.2	8.6	9.6	9.1	9.3	11.2	10.8	11.0
17	10.7	9.8	10.2	9.5	8.4	9.0	9.7	9.1	9.4	11.3	10.9	11.2
18	10.6	9.6	10.1	9.8	9.2	9.5	9.9	9.4	9.6	11.2	10.8	11.0
19	10.6	9.5	10.2	9.9	8.6	9.3	9.9	9.4	9.6	11.0	10.7	10.9
20	10.7	9.8	10.2	9.2	8.3	8.7	10.0	9.5	9.7	10.9	10.7	10.8
21	10.6	9.9	10.2	9.2	7.9	8.6	10.2	9.7	10.0	10.8	10.6	10.7
22	10.8	9.8	10.2	8.5	7.2	7.9	10.4	10.0	10.2	11.1	10.8	10.9
23	10.5	9.6	10.2	8.6	7.7	8.1	10.2	9.9	10.0	11.2	10.7	10.9
24	10.6	9.8	10.2	8.6	7.6	8.2	10.1	9.8	9.9	11.3	10.9	11.1
25	10.4	9.3	10.0	9.0	7.9	8.7	9.9	9.5	9.7	11.2	10.8	11.0
26	10.7	9.6	10.2	9.9	8.7	9.3	9.8	9.5	9.7	11.4	10.8	11.1
27	10.1	9.6	9.9	10.0	9.4	9.8	10.0	9.6	9.8	11.4	11.0	11.2
28	10.5	9.8	10.1	10.2	9.6	9.9	10.2	9.8	10.0	11.3	11.0	11.1
29	10.5	9.7	10.1	10.1	9.7	9.9	10.1	9.7	9.9	11.3	10.8	11.1
30	10.8	9.7	10.3	10.1	9.7	9.9	10.1	9.7	9.9	11.2	10.9	11.0
31	---	---	---	10.0	9.5	9.8	10.0	9.6	9.8	---	---	---
MONTH	11.2	9.3	10.2	10.4	7.2	9.2	10.4	8.6	9.6	11.4	9.8	10.7

14319500 NORTH UMPQUA RIVER AT WINCHESTER, OR

LOCATION.--Lat 43°16'20", long 123°24'40", in NW 1/4 NE 1/4 sec.33, T.26 S., R.6 W., Douglas County, Hydrologic Unit 17100301, on left bank 300 ft downstream from county bridge, 3.0 mi west of Winchester, and at mile 1.8.

DRAINAGE AREA.--1,344 mi^2.

PERIOD OF RECORD.--October 1908 to December 1913, October 1923 to September 1929, August 1954 to current year. Prior to December 1908, monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1448: 1909-12, drainage area. WDR OR-65-1: 1954(M). WDR OR-72-1: 1965(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 372.97 ft above sea level (Douglas County Road Department bench mark). Oct. 1, 1908, to Dec. 31, 1913, and Oct. 1, 1923, to Sept. 30, 1929, nonrecording gage at site 4.8 mi upstream at different datums. Aug. 27, 1954, to Aug. 12, 1965, water-stage recorder on right bank at same datum.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation caused by upstream powerplants; slight regulation by Lemolo Lake and Diamond Lake. Several small diversions for irrigation upstream from station. Continuous water-quality records for water years 1967-69, 1971-91, have been collected at this site.

AVERAGE DISCHARGE.--53 years (water years 1909-13, 1924-29, 1955-96), 3,701 ft^3/s, 37.41 in/yr, 2,681,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150,000 ft^3/s Dec. 22, 1964, gage height, 34.2 ft, from floodmark; minimum discharge, 235 ft^3/s Aug. 27, 1987, result of regulation at Winchester Dam 5.2 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 29, 1950, reached a stage of 23.2 ft, from floodmark, at site 4.8 mi upstream at different datum, discharge, 88,000 ft^3/s. Flood of Nov. 23, 1953, reached a stage of 28.4 ft, from floodmarks, present site and datum, discharge, 93,300 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	1600	20,100	10.02	Jan. 10	0230	21,000	10.30
Dec. 1	1300	30,200	12.90	Jan. 20	2330	27,400	12.12
Dec. 9	1530	24,000	11.18	Feb. 7	0800	31,600	13.28
Dec. 13	0130	39,400	15.30	Feb. 9	1100	*42,600	*16.10
Dec. 15	0130	26,600	11.90	Apr. 24	1200	31,200	13.17
Dec. 31	0200	34,700	14.10				

Minimum discharge, 723 ft^3/s Aug. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	1090	23000	13200	5980	4990	10300	5080	3630	1780	1120	953
2	1110	1090	14500	9050	5460	5210	9690	4720	3410	1720	1210	955
3	976	1150	9070	7290	4910	5820	7750	4430	3250	1680	1210	1070
4	1080	1060	9550	6990	5810	7750	6300	4080	3040	1660	1200	1040
5	1200	1010	12500	6280	10100	8660	5390	3750	2990	1640	1200	1010
6	1050	1020	15800	5760	21300	7500	4820	3570	2710	1590	1200	953
7	1000	1130	11800	5410	29600	6280	4650	3390	2460	1580	1160	944
8	979	1290	10200	10400	23900	6250	4620	3200	2540	1570	1150	891
9	941	2090	18400	13300	35900	6880	4560	3040	2500	1510	1150	895
10	959	2460	15100	17600	22700	6940	4750	2860	2420	1450	1150	904
11	997	2270	12300	11200	15300	7410	4430	2800	2330	1440	1130	1040
12	1530	8360	27900	8280	12400	8070	5120	2750	2280	1380	1080	975
13	1550	6930	32600	6670	11100	7080	5560	2830	2190	1410	919	979
14	1250	4650	20700	5690	10100	6120	5270	4120	2160	1380	1150	1030
15	1100	3180	22300	5930	9220	5330	4960	8840	2080	1400	1010	1160
16	1040	2580	14400	7150	8640	4790	5130	11900	2000	1420	1020	1810
17	939	2150	10300	7340	8990	4420	5180	10900	2010	1360	1060	1910
18	903	2280	8430	6900	10400	4200	5030	11400	2000	1540	1090	1420
19	1040	2480	6860	11700	14900	4090	4830	12200	1980	1520	1040	1280
20	997	2140	5880	19800	12400	3920	4910	11000	1930	1390	989	1140
21	963	1890	5140	20400	12100	3770	5160	9580	1900	1390	1020	1210
22	966	1830	4600	11500	9770	3820	5750	14500	1840	1370	1040	1140
23	966	1680	4020	9030	9340	3870	11800	13200	1880	1290	1030	1120
24	942	1730	3670	12400	8790	3540	24600	10100	2070	1330	1040	1100
25	910	6120	3380	9300	7080	3320	19000	8040	2060	1290	934	1090
26	937	12600	3180	7530	6090	3120	12100	6700	1990	1310	869	1090
27	1370	7540	2930	10700	5450	3270	9030	5820	2170	1250	1040	1090
28	1280	13600	3000	12200	5450	3510	7270	5150	2190	1310	1070	1040
29	1210	8930	8540	9070	4990	3270	6180	4690	1920	1350	1040	1060
30	1150	14800	20400	7250	---	3150	5520	4260	1810	1300	992	1050
31	1060	---	25500	6320	---	3880	---	3910	---	1270	1010	---
TOTAL	33615	121130	385950	301640	348170	160230	219660	202810	69740	44880	33323	33349
MEAN	1084	4038	12450	9730	12010	5169	7322	6542	2325	1448	1075	1112
MAX	1550	14800	32600	20400	35900	8660	24600	14500	3630	1780	1210	1910
MIN	903	1010	2930	5410	4910	3120	4430	2750	1810	1250	869	891
AC-FT	66680	240300	765500	598300	690600	317800	435700	402300	138300	89020	66100	66150
CFSM	.81	3.00	9.26	7.24	8.93	3.85	5.45	4.87	1.73	1.08	.80	.83
IN.	.93	3.35	10.68	8.35	9.64	4.43	6.08	5.61	1.93	1.24	.92	.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1996, BY WATER YEAR (WY)

MEAN	1342	4092	6176	6647	6266	5591	4841	3832	2453	1335	997	986
MAX	2752	12550	23640	15220	13250	12880	8881	7147	4992	2824	1578	1689
(WY)	1963	1974	1965	1965	1986	1972	1993	1963	1984	1913	1976	1986
MIN	683	931	1005	1125	1019	1681	1605	1401	913	717	635	708
(WY)	1988	1994	1977	1977	1977	1992	1926	1926	1926	1926	1992	1929

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1909 - 1996	
ANNUAL TOTAL	1655860		1954497			
ANNUAL MEAN	4537		5340		3701	
HIGHEST ANNUAL MEAN					6116	1974
LOWEST ANNUAL MEAN					1639	1977
HIGHEST DAILY MEAN	32600	Dec 13	35900	Feb 9	117000	Dec 23 1964
LOWEST DAILY MEAN	796	Sep 19	869	Aug 26	549	Aug 22 1994
ANNUAL SEVEN-DAY MINIMUM	846	Sep 19	943	Sep 6	600	Oct 1 1908
ANNUAL RUNOFF (AC-FT)	3284000		3877000		2681000	
ANNUAL RUNOFF (CFSM)	3.38		3.97		2.75	
ANNUAL RUNOFF (INCHES)	45.83		54.10		37.41	
10 PERCENT EXCEEDS	10400		12200		7510	
50 PERCENT EXCEEDS	2930		3260		2410	
90 PERCENT EXCEEDS	951		1030		886	

14319850 GASSY CREEK NEAR NONPAREIL, OR

LOCATION.--Lat 43°25'02", long 123°07'14", in NW 1/4 NE 1/4 sec.12, T.25 S., R.4 W., Douglas County, Hydrologic Unit 17100303, on right bank 0.9 mi upstream from confluence with Calapooya Creek, and 4.2 mi northeast of community of Nonpareil.

DRAINAGE AREA.--9.19 mi^2.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 790 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No diversion upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1989-96), 14.0 ft^3/s, 20.73 in/yr, 10,160 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft^3/s Jan. 10, 1989, gage height, 3.61 ft, from rating curve extended above 340 ft^3/s; maximum gage height, 4.15 ft Jan. 20, 1996; no flow on many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 240 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0530	315	3.15	Jan. 24	0100	448	3.51
Jan. 20	1400	*777	*4.15				

No flow many days in August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	1.6	119	42	33	33	119	8.9	6.3	1.1	.17	.00
2	.29	1.6	45	29	25	32	59	7.6	5.6	1.0	.16	.00
3	.27	1.6	26	23	21	33	40	6.8	5.0	.90	.18	.00
4	.33	1.6	29	19	26	36	26	6.6	4.3	.88	.20	.00
5	.30	1.8	92	16	46	46	20	5.5	4.0	.82	.19	.00
6	.27	2.1	73	14	60	35	16	4.9	3.2	.76	.19	.00
7	.25	2.1	49	13	70	26	12	4.5	3.0	.71	.19	.00
8	.23	3.7	47	22	61	21	10	3.9	3.0	.64	.17	.00
9	.25	10	102	67	144	18	9.2	3.5	2.8	.64	.15	.00
10	.27	7.6	59	73	79	15	9.2	3.2	2.4	.68	.14	.00
11	1.4	17	48	42	44	28	9.0	3.0	2.2	.58	.12	.00
12	1.3	26	226	28	29	56	25	3.0	2.1	.54	.11	.00
13	.71	17	226	21	22	41	27	3.2	2.1	.50	.10	.00
14	.48	8.2	165	17	16	27	20	13	1.8	.45	.08	.01
15	.39	5.0	144	29	13	20	16	44	1.7	.47	.07	.05
16	.31	3.4	69	35	11	15	17	44	1.6	.40	.05	.44
17	.31	2.6	41	41	15	12	17	71	1.6	.53	.04	.30
18	.58	5.8	30	49	31	11	15	86	1.6	.91	.03	.20
19	.58	5.2	22	160	91	8.9	16	82	1.6	.75	.02	.17
20	.45	3.8	17	456	62	7.6	15	52	1.5	.57	.00	.16
21	.47	3.0	13	299	87	7.0	19	56	1.5	.50	.00	.16
22	.68	2.4	11	104	69	8.0	30	99	1.5	.43	.00	.15
23	.69	2.0	8.5	120	78	7.9	43	69	2.0	.37	.00	.13
24	.54	2.7	7.1	245	80	7.1	87	43	2.5	.33	.00	.13
25	.51	33	6.0	110	51	6.3	65	30	2.8	.28	.00	.13
26	1.3	43	5.1	80	36	5.7	38	26	1.9	.24	.00	.12
27	1.3	26	4.7	189	28	6.8	26	16	1.6	.21	.00	.12
28	1.0	40	5.8	147	30	11	19	12	1.5	.20	.00	.11
29	.84	26	52	93	33	12	13	9.9	1.3	.25	.00	.11
30	1.1	54	84	64	---	11	11	7.9	1.2	.25	.00	.11
31	1.4	---	69	46	---	33	---	7.0	---	.19	.00	---
TOTAL	19.19	359.8	1895.2	2693	1391	637.3	848.4	832.4	75.2	17.08	2.36	2.60
MEAN	.62	12.0	61.1	86.9	48.0	20.6	28.3	26.9	2.51	.55	.076	.087
MAX	1.4	54	226	456	144	56	119	99	6.3	1.1	.20	.44
MIN	.23	1.6	4.7	13	11	5.7	9.0	3.0	1.2	.19	.00	.00
AC-FT	38	714	3760	5340	2760	1260	1680	1650	149	34	4.7	5.2
CFSM	.07	1.31	6.65	9.45	5.22	2.24	3.08	2.92	.27	.06	.01	.01
IN.	.08	1.46	7.67	10.90	5.63	2.58	3.43	3.37	.30	.07	.01	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1996, BY WATER YEAR (WY)

MEAN	.63	12.8	25.9	39.7	24.4	23.7	22.3	12.6	5.67	.74	.24	.088
MAX	1.50	25.9	61.1	86.9	48.0	43.4	50.3	26.9	26.6	2.42	1.38	.37
(WY)	1991	1989	1996	1996	1996	1989	1993	1996	1993	1993	1993	1993
MIN	.14	.62	2.93	10.8	11.6	4.18	5.44	2.01	.73	.14	.000	.000
(WY)	1989	1994	1990	1992	1992	1992	1990	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1988 - 1996	
ANNUAL TOTAL	7170.30		8773.53			
ANNUAL MEAN	19.6		24.0		14.0	
HIGHEST ANNUAL MEAN					24.0	1996
LOWEST ANNUAL MEAN					6.47	1994
HIGHEST DAILY MEAN	346	Jan 14	456	Jan 20	456	Jan 20 1996
LOWEST DAILY MEAN	.00	Sep 5	.00	Aug 20	.00	Aug 15 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 8	.00	Aug 20	.00	Aug 15 1989
ANNUAL RUNOFF (AC-FT)	14220		17400		10160	
ANNUAL RUNOFF (CFSM)	2.14		2.61		1.53	
ANNUAL RUNOFF (INCHES)	29.02		35.51		20.73	
10 PERCENT EXCEEDS	51		69		40	
50 PERCENT EXCEEDS	6.3		5.9		3.7	
90 PERCENT EXCEEDS	.13		.11		.00	

14320700 CALAPOOYA CREEK NEAR OAKLAND, OR

LOCATION.--Lat 43°24'10", long 123°21'45", in NW 1/4 sec.13, T.25 S., R.6 W., Douglas County, Hydrologic Unit 17100303, near center of span on downstream side of highway bridge, 0.9 mi downstream from Williams Creek, 2.5 mi northwest of Sutherlin, 3.5 mi southwest of Oakland, and at mile 10.1

DRAINAGE AREA.--210 mi^2.

PERIOD OF RECORD.--October 1955 to September 1973, October 1986 to current year. Records for the years 1974-86 are available at the Douglas County Water Resources Dept. in Roseburg.

GAGE.--Water-stage recorder. Datum of gage is 371.26 ft above sea level. Prior to June 22, 1968, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversion upstream from station for municipal supply of cities of Sutherlin and Oakland. Small diversions by pumping for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years (water years 1956-73, 1987-96), 447 ft^3/s, 28.94 in/yr, 324,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,600 ft^3/s Nov. 23, 1961, gage height, 21.55 ft; no flow Sept. 9-11, 1966, Sept. 8, 1988, all or part of several days in August 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1200	6,480	13.26	Jan. 20	2000	*9,070	*16.53

Minimum discharge, 0.21 ft^3/s Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	25	2690	1260	948	935	2160	305	217	48	7.9	3.9
2	26	24	1550	889	753	821	1350	264	190	45	7.7	3.2
3	22	23	1020	700	631	823	974	235	172	42	11	2.9
4	34	23	980	640	703	1090	703	209	155	41	13	2.4
5	33	25	1900	529	1090	1290	535	183	145	40	10	3.7
6	24	27	1840	466	1770	1000	429	162	133	38	8.3	4.0
7	21	33	1300	472	2130	804	364	148	122	36	8.1	4.5
8	19	38	1260	776	1870	694	309	135	118	34	6.9	5.7
9	18	127	2270	2000	3770	630	284	120	110	33	6.4	4.7
10	18	108	1620	2070	2250	565	291	108	104	32	5.1	3.2
11	26	160	1600	1280	1430	791	273	101	103	31	4.0	1.8
12	112	835	5200	909	1020	1180	539	94	96	29	1.5	2.2
13	71	641	4680	681	798	876	589	96	91	28	1.4	3.2
14	43	335	3870	598	639	666	477	339	89	27	4.9	5.8
15	30	210	3690	1110	530	531	415	1090	85	28	4.5	15
16	25	151	2070	1250	455	439	514	1120	82	25	5.8	38
17	22	113	1390	1180	564	374	534	1170	79	24	4.9	35
18	23	129	1270	1350	938	325	491	1370	75	34	5.8	26
19	35	126	930	2690	2220	286	482	1300	73	32	5.6	18
20	27	101	729	5900	1970	251	473	1020	72	27	4.2	15
21	23	86	584	5360	2660	224	522	1160	70	23	3.4	14
22	26	75	479	2680	1860	253	738	1810	67	21	3.9	13
23	29	65	401	2250	2390	274	989	1490	65	20	2.6	12
24	25	72	340	4190	2300	227	1930	1070	83	18	2.0	11
25	23	494	292	3000	1470	194	1420	800	87	16	1.6	9.7
26	29	1230	257	2150	1040	175	1020	598	77	15	2.0	11
27	57	790	243	3730	815	174	727	472	67	14	.89	9.9
28	43	1460	302	3260	1030	254	559	386	65	11	3.1	9.7
29	35	918	1930	2420	1070	232	447	330	57	11	7.3	9.5
30	30	1730	2360	1710	---	211	363	286	53	12	6.4	9.7
31	27	---	2020	1240	---	635	---	247	---	8.7	4.9	---
TOTAL	1012	10174	51067	58740	41114	17224	20901	18218	3002	843.7	165.09	307.7
MEAN	32.6	339	1647	1895	1418	556	697	588	100	27.2	5.33	10.3
MAX	112	1730	5200	5900	3770	1290	2160	1810	217	48	13	38
MIN	18	23	243	466	455	174	273	94	53	8.7	.89	1.8
AC-FT	2010	20180	101300	116500	81550	34160	41460	36140	5950	1670	327	610
CFSM	.16	1.61	7.84	9.02	6.75	2.65	3.32	2.80	.48	.13	.03	.05
IN.	.18	1.80	9.05	10.41	7.28	3.05	3.70	3.23	.53	.15	.03	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1996, BY WATER YEAR (WY)

MEAN	58.4	442	1034	1173	901	819	496	294	115	28.4	11.1	13.3
MAX	329	1240	3856	2296	2229	1912	1342	912	595	73.1	41.9	35.0
(WY)	1957	1962	1956	1956	1961	1961	1963	1963	1993	1993	1993	1971
MIN	6.48	22.6	104	120	290	142	164	58.0	19.9	9.05	1.59	3.06
(WY)	1988	1994	1990	1963	1973	1992	1987	1966	1992	1973	1994	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1956 - 1996	
ANNUAL TOTAL	188539.7		222768.49			
ANNUAL MEAN	517		609		447	
HIGHEST ANNUAL MEAN					905	1956
LOWEST ANNUAL MEAN					186	1994
HIGHEST DAILY MEAN	7340	Jan 14	5900	Jan 20	15200	Dec 26 1955
LOWEST DAILY MEAN	2.0	Sep 24	.89	Aug 27	.00	Sep 9 1966
ANNUAL SEVEN-DAY MINIMUM	3.9	Sep 9	2.3	Aug 22	.34	Aug 30 1992
ANNUAL RUNOFF (AC-FT)	374000		441900		324100	
ANNUAL RUNOFF (CFSM)	2.46		2.90		2.13	
ANNUAL RUNOFF (INCHES)	33.40		39.46		28.94	
10 PERCENT EXCEEDS	1390		1850		1170	
50 PERCENT EXCEEDS	225		192		143	
90 PERCENT EXCEEDS	8.4		6.7		8.4	

14321000 UMPQUA RIVER NEAR ELKTON, OR

LOCATION.--Lat 43°35'10", long 123°33'15", in NW 1/4 sec.8, T.23 S., R.7 W., Douglas County, Hydrologic Unit 17100303, on left bank 3.5 mi south of Elkton, 8.3 mi upstream from Elk Creek, and at mile 56.9.

DRAINAGE AREA.--3,683 mi^2.

PERIOD OF RECORD.--October 1905 to current year.

REVISED RECORDS.--WSP 1184: 1927(M), 1938(M), 1943(M), 1946(M). WSP 1448: 1911-13, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 90.42 ft above sea level. Prior to June 29, 1972, at site 2,400 ft downstream at same datum. See WSP 1931 or 2135 for history of changes prior to June 29, 1972.

REMARKS.--No estimated daily discharges. Records good. Regulation by powerplants on North Umpqua River ordinarily does not affect discharge at this station. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--91 years (water years 1906-96), 7,375 ft^3/s, 27.21 in/yr, 5,343,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 265,000 ft^3/s Dec. 23, 1964, gage height, 51.95 ft, from floodmarks; minimum discharge observed, 640 ft^3/s July 18, 1926.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least December 1861, 51.95 ft on Dec. 23, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 52,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 13	0600	*106,000	*29.61	Feb. 9	2130	77,400	24.36
Dec. 31	0930	62,700	21.57	Apr. 24	2330	54,900	19.98
Jan. 21	0800	82,700	25.36				

Minimum discharge, 929 ft^3/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	1260	31500	31400	17900	13000	18100	9370	6370	2250	1250	1060
2	1490	1250	31200	20100	16200	12700	25600	8480	5870	2140	1170	1010
3	1380	1230	17100	15300	13900	12800	18400	7850	5430	2020	1210	985
4	1240	1290	13300	13200	13100	15000	14300	7210	5060	1940	1210	1070
5	1220	1230	16700	12100	18300	18000	11600	6570	4790	1890	1220	1060
6	1370	1180	28500	10600	31800	17600	9830	6060	4570	1860	1230	1050
7	1250	1190	21500	9770	52000	14200	8910	5680	4220	1800	1220	1010
8	1200	1300	17100	12500	44600	12500	8340	5340	3860	1770	1190	1020
9	1160	1520	23800	21600	60800	12500	8070	5020	3900	1750	1180	999
10	1130	2520	31200	35300	57700	12800	8040	4730	3780	1660	1170	989
11	1190	2920	22100	26700	35100	12900	8060	4490	3550	1590	1150	982
12	1210	5970	51700	18800	26300	15200	8390	4320	3420	1570	1140	1040
13	1720	9770	96500	14700	22000	14100	9920	4270	3250	1510	1110	1030
14	1910	8380	54200	12100	19400	12100	9750	4840	3120	1510	1020	1040
15	1640	5590	60000	11800	17500	10500	9000	9760	3040	1470	1110	1120
16	1410	4100	39800	15400	15800	9180	8800	18200	2880	1460	1060	1250
17	1300	3280	25600	18000	15300	8320	9540	18600	2760	1480	1060	1940
18	1210	2820	20100	18000	18300	7620	9900	19900	2750	1430	1060	2240
19	1130	2930	16600	23900	31700	7230	9240	20800	2680	1590	1090	1680
20	1210	2930	13700	46100	35300	6900	9110	20300	2620	1620	1080	1470
21	1210	2620	11600	73700	37900	6530	9480	17000	2530	1520	1040	1310
22	1190	2330	10100	42800	33100	6320	10500	23400	2470	1480	1050	1300
23	1170	2230	8910	27300	27100	6760	16100	27900	2420	1440	1070	1250
24	1160	2070	7890	40900	31200	6430	34900	21400	2490	1350	1080	1230
25	1150	2740	7140	38000	23100	5880	44800	16600	2750	1360	1050	1190
26	1160	13300	6530	26900	17900	5420	27600	13300	2760	1310	1050	1190
27	1140	13400	6090	30100	14700	5200	19400	11100	2650	1300	961	1180
28	1490	14700	5700	46100	13800	6070	15100	9560	2970	1260	1030	1170
29	1500	16500	10700	32500	13900	6380	12300	8470	2890	1290	1070	1150
30	1470	15700	31400	23900	---	5990	10500	7640	2480	1320	1070	1140
31	1360	---	53700	19600	---	5840	---	6920	---	1290	1020	---
TOTAL	40810	148250	791960	789170	775700	311970	423580	355080	104330	49230	34421	36155
MEAN	1316	4942	25550	25460	26750	10060	14120	11450	3478	1588	1110	1205
MAX	1910	16500	96500	73700	60800	18000	44800	27900	6370	2250	1250	2240
MIN	1130	1180	5700	9770	13100	5200	8040	4270	2420	1260	961	982
AC-FT	80950	294100	1571000	1565000	1539000	618800	840200	704300	206900	97650	68270	71710
CFSM	.36	1.34	6.94	6.91	7.26	2.73	3.83	3.11	.94	.43	.30	.33
IN.	.41	1.50	8.00	7.97	7.83	3.15	4.28	3.59	1.05	.50	.35	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1996, BY WATER YEAR (WY)

MEAN	1864	6985	13140	15750	15050	12210	9598	6480	3753	1724	1173	1192
MAX	14200	29500	51220	34900	32800	27100	20480	15800	9526	5063	1867	3475
(WY)	1951	1974	1965	1956	1907	1972	1937	1921	1953	1913	1976	1920
MIN	857	832	1238	1440	1365	2909	2432	1934	1053	742	703	740
(WY)	1930	1930	1977	1977	1977	1992	1926	1934	1926	1926	1931	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1906 - 1996	
ANNUAL TOTAL	3262907		3860656			
ANNUAL MEAN	8939		10550		7375	
HIGHEST ANNUAL MEAN					13360	1974
LOWEST ANNUAL MEAN					2321	1977
HIGHEST DAILY MEAN	96500	Dec 13	96500	Dec 13	260000	Dec 23 1964
LOWEST DAILY MEAN	966	Sep 15	961	Aug 27	663	Sep 1 1931
ANNUAL SEVEN-DAY MINIMUM	986	Sep 1	1010	Sep 7	663	Sep 1 1931
ANNUAL RUNOFF (AC-FT)	6472000		7658000		5343000	
ANNUAL RUNOFF (CFSM)	2.43		2.86		2.00	
ANNUAL RUNOFF (INCHES)	32.96		38.99		27.21	
10 PERCENT EXCEEDS	20000		27400		17100	
50 PERCENT EXCEEDS	4990		5690		3920	
90 PERCENT EXCEEDS	1100		1140		1050	

14321400 ELK CREEK NEAR ELKHEAD, OR

LOCATION.--Lat 43°35'45", long 123°11'35", in NW 1/4 SE 1/4 sec.5, T.23 S., R.4 W., Douglas County, Hydrologic Unit 17100303, on right bank downstream side of Milltown Hill Bridge, 1.5 mi upstream from Adams Creek, 4.0 mi north of Elkhead, and at mile 37.7.

DRAINAGE AREA.--28.7 mi^2.

PERIOD OF RECORD.--January to August 1968 (gage heights and discharge measurements only), September 1968 to June 1972, October 1986 to current year.

REVISED RECORDS.--WDR OR-93-OR-1: 1991-92, 1991-92 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 463.99 ft above sea level (Douglas County Highway Department bench mark). Prior to Sept. 1, 1968, nonrecording gage at site 20 ft upstream at datum 1.70 ft lower.

REMARKS.--No estimated daily discharges. Records for flows greater than 10 ft^3/s good, those below fair.

AVERAGE DISCHARGE.--13 years (water years 1969-71, 1987-96), 48.6 ft^3/s, 22.99 in/yr, 35,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,320 ft^3/s Jan. 10, 1988, gage height, 6.77 ft, from crest-stage gage; maximum gage height, 7.86 ft Jan. 13, 1995, from crest-stage gage; minimum discharge, 0.15 ft^3/s Aug. 28, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 820 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	1500	*1,480	*7.36	No other peak greater than base discharge.			

Minimum discharge, 0.88 ft^3/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.5	322	151	136	141	293	42	26	5.6	1.5	1.2
2	1.6	2.3	165	115	108	127	177	38	23	5.2	1.6	1.1
3	1.9	2.3	116	103	92	122	126	34	20	4.9	2.0	1.1
4	2.7	2.2	122	96	92	150	96	32	18	4.4	2.0	1.1
5	1.9	2.2	227	84	116	163	76	29	16	4.5	2.0	1.1
6	1.4	2.7	207	75	190	130	62	26	15	4.0	1.9	1.1
7	1.3	3.1	140	80	230	103	54	25	13	3.8	1.8	1.1
8	1.3	9.6	125	106	238	85	47	23	13	3.4	1.6	1.1
9	1.2	37	203	269	534	72	43	22	12	3.5	1.5	1.1
10	1.3	23	153	255	263	65	40	21	11	3.4	1.4	1.0
11	9.9	73	160	163	171	82	41	20	9.8	3.3	1.3	1.0
12	18	129	510	126	128	92	78	19	9.3	3.1	1.3	1.0
13	6.6	103	488	104	104	80	75	21	8.8	2.9	1.3	1.1
14	4.0	55	423	104	86	69	61	53	8.8	2.9	1.4	1.5
15	2.8	36	365	187	73	60	56	205	8.6	3.2	1.3	4.9
16	2.2	27	210	216	65	53	75	149	7.7	2.9	1.3	5.0
17	2.2	22	155	200	78	48	85	146	7.7	3.4	1.3	4.5
18	4.3	24	138	231	134	43	80	175	7.7	4.5	1.3	2.5
19	4.3	21	109	424	287	39	81	174	7.1	3.9	1.4	1.9
20	3.4	18	92	901	259	36	77	128	6.5	3.2	1.5	1.6
21	3.5	16	80	754	322	33	84	162	6.1	2.8	1.5	1.5
22	4.0	15	69	390	238	42	113	234	6.1	2.7	1.5	1.4
23	4.2	13	60	382	353	45	149	167	7.1	2.6	1.5	1.3
24	3.2	15	53	672	324	39	222	116	12	2.4	1.4	1.3
25	3.1	116	48	421	205	34	149	87	15	2.2	1.2	1.1
26	7.4	156	43	312	150	32	114	68	9.6	2.0	1.1	1.1
27	8.6	101	42	524	121	31	86	56	9.0	1.8	1.1	1.1
28	5.8	134	48	463	135	40	69	47	7.8	1.8	1.2	1.0
29	4.2	114	183	362	148	37	57	40	6.7	2.1	1.2	.96
30	3.4	233	238	247	---	35	49	34	6.0	2.0	1.1	.93
31	2.9	---	212	178	---	107	---	30	---	1.8	1.1	---
TOTAL	124.9	1507.9	5506	8695	5380	2235	2815	2423	334.4	100.2	44.6	47.69
MEAN	4.03	50.3	178	280	186	72.1	93.8	78.2	11.1	3.23	1.44	1.59
MAX	18	233	510	901	534	163	293	234	26	5.6	2.0	5.0
MIN	1.2	2.2	42	75	65	31	40	19	6.0	1.8	1.1	.93
AC-FT	248	2990	10920	17250	10670	4430	5580	4810	663	199	88	95
CFSM	.14	1.75	6.19	9.77	6.46	2.51	3.27	2.72	.39	.11	.05	.06
IN.	.16	1.95	7.14	11.27	6.97	2.90	3.65	3.14	.43	.13	.06	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1996, BY WATER YEAR (WY)

MEAN	5.20	51.9	109	151	95.4	83.0	60.3	32.8	15.1	4.11	1.79	1.86
MAX	16.3	113	194	280	191	184	133	78.2	71.7	7.72	5.21	4.01
(WY)	1969	1969	1969	1996	1969	1972	1993	1996	1993	1993	1993	1971
MIN	1.51	3.66	15.6	35.4	31.1	19.2	21.0	8.16	3.27	1.61	.46	.43
(WY)	1988	1994	1990	1992	1988	1992	1987	1987	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1968 - 1996	
ANNUAL TOTAL	20641.3		29213.69			
ANNUAL MEAN	56.6		79.8		48.6	
HIGHEST ANNUAL MEAN					79.8	1996
LOWEST ANNUAL MEAN					22.3	1994
HIGHEST DAILY MEAN	760	Jan 13	901	Jan 20	1400	Jan 10 1988
LOWEST DAILY MEAN	1.0	Sep 15	.93	Sep 30	.22	Sep 1 1994
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 10	1.1	Sep 6	.25	Aug 27 1994
ANNUAL RUNOFF (AC-FT)	40940		57950		35190	
ANNUAL RUNOFF (CFSM)	1.97		2.78		1.69	
ANNUAL RUNOFF (INCHES)	26.75		37.87		22.99	
10 PERCENT EXCEEDS	140		218		131	
50 PERCENT EXCEEDS	25		32		18	
90 PERCENT EXCEEDS	1.5		1.3		1.4	

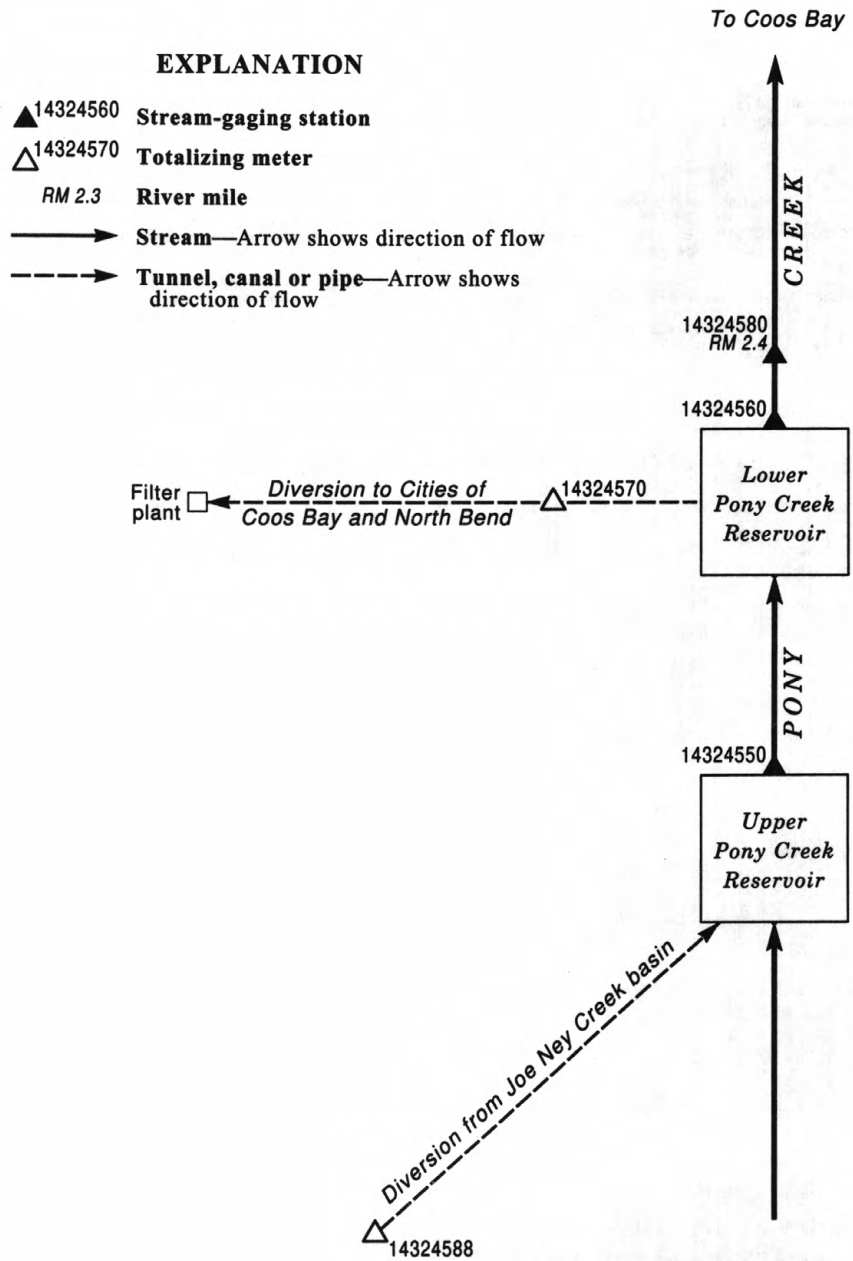


Figure 31. Schematic diagram showing gaging stations and diversions in the Pony Creek Basin.

14324580 PONY CREEK AT COOS BAY, OR

LOCATION.--Lat 43°22'44", long 124°14'29", in NE 1/4 NE 1/4 sec.28, T.25 S., R.13 W., Coos County, Hydrologic Unit 17100304, at spillway for Lower Pony Creek Reservoir, in Coos Bay, and at mile 2.3.

DRAINAGE AREA.--3.88 mi^2.

PERIOD OF RECORD.--July 1975 to current year.

REVISED RECORDS.--WDR OR-93-1: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is sea level (Coos Bay-North Bend Water Board bench mark). Oct. 1, 1982 to September 30, 1987, gage at site 500 ft downstream at same datum. July 1975 to Sept. 30, 1982 and Oct. 1, 1987 to Sept. 30, 1992, at site 0.1 mi downstream, at datum 12.23 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Records prior to 1993 were computed for site at the lower end of culvert under Ocean Boulevard. Flow regulated by Upper and Lower Pony Creek Reservoirs (stations 14324550 and 14324560), diversion upstream from station from Lower Pony Creek Reservoir to municipal water supply of Coos Bay-North Bend (station 14323570) and diversion into the basin from Joe Ney Creek (station 14324590). Approximately 5.5 ft^3/s is diverted to the Coos Bay-North Bend water treatment plant, maximum capacity, 10.8 ft^3/s.

COOPERATION.--Data for diversion from Joe Ney Creek into Pony Creek (14324590), and diversion from Lower Pony Creek Reservoir to City of Coos Bay (14324570) provided by Coos Bay-North Bend Water Board.

AVERAGE DISCHARGE.--21 years (water years 1976-96), 9.89 ft^3/s, 34.44 in/yr, 7,170 acre-ft/yr, adjusted for Joe Ney diversion into Pony Creek, Coos Bay-North Bend diversion, and change in contents in Upper and Lower Pony Creek Reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft^3/s Dec. 6, 1981, gage height, 6.19 ft; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 66 ft^3/s Jan. 27, gage height, 39.60 ft; minimum discharge, no flow many days during year.

MONTHLY DISCHARGE OF PONY CREEK, JOE NEY CREEK DIVERSION, PONY CREEK DIVERSION AND MONTHLY CHANGE IN CONTENTS OF RESERVOIRS NEAR COOS BAY, OR, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

	14324588 Diversion from Joe Ney Creek into Pony Creek (acre-feet)	14324580 Pony Creek at Coos Bay (acre-feet)	14324570 Diversion from Lower Pony Creek Reservoir to City of Coos Bay (acre-feet)	14324560 Lower Pony Creek Reservoir Change in Contents (acre-feet)	14324550 Upper Pony Creek Reservoir Change in Contents (acre-feet)	Pony Creek adjusted for diversion and change in contents (acre-feet)	(inches)
October.....	0	0	324.1	-56.5	-123.0	144.6	0.70
November.....	0	0	295.8	+61.9	+216.0	573.7	2.76
December.....	0	476.2	322.2	+79.4	+671.0	1,548.8	7.45
CAL YR 1995...	0	5,228.7	4,157.0	+114.9	-4.0	9,496.6	46.67
January.....	0	1,296.8	322.3	-2.6	+3.0	1,619.5	7.79
February.....	0	1,838.7	302.8	+9.2	+5.0	2,155.7	10.37
March.....	0	386.1	324.3	-23.1	+330.0	1,017.3	4.89
April.....	0	596.0	336.3	-2.9	+8.0	937.4	4.51
May.....	0	428.8	376.1	-7.8	-10.0	787.1	3.79
June.....	0	8.8	437.9	-93.5	-83.0	270.2	1.30
July.....	0	0	485.3	+11.9	-350.0	147.2	0.71
August.....	0	0	482.3	+37.3	-450.0	69.6	0.33
September.....	0	0	381.6	-43.4	-309.0	29.2	0.14
WTR YR 1996...	0	5,031.4	4,391.2	-30.1	-92.0	9,300.5	44.73

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	16	21	23	11	4.5	1.6	.00	.00	.00
2	.00	.00	.00	11	17	6.2	11	3.8	1.3	.00	.00	.00
3	.00	.00	.00	10	15	2.5	8.0	3.0	.98	.00	.00	.00
4	.00	.00	.00	10	19	3.4	6.0	2.8	.49	.00	.00	.00
5	.00	.00	.00	8.4	19	4.3	4.3	2.8	.07	.00	.00	.00
6	.00	.00	.00	6.9	20	2.6	3.5	2.5	.00	.00	.00	.00
7	.00	.00	.00	7.4	21	1.7	2.9	2.0	.00	.00	.00	.00
8	.00	.00	.00	11	28	1.4	2.7	1.2	.00	.00	.00	.00
9	.00	.00	.00	22	57	.78	3.1	.56	.00	.00	.00	.00
10	.00	.00	.00	28	46	.96	3.3	.23	.00	.00	.00	.00
11	.00	.00	.00	20	32	5.6	4.0	.36	.00	.00	.00	.00
12	.00	.00	3.4	14	23	11	8.3	.49	.00	.00	.00	.00
13	.00	.00	11	10	18	11	8.1	.73	.00	.00	.00	.00
14	.00	.00	36	9.1	15	10	6.2	5.4	.00	.00	.00	.00
15	.00	.00	36	12	14	9.5	5.7	13	.00	.00	.00	.00
16	.00	.00	24	15	13	8.2	8.9	9.9	.00	.00	.00	.00
17	.00	.00	16	13	17	8.3	11	15	.00	.00	.00	.00
18	.00	.00	11	12	39	8.2	12	21	.00	.00	.00	.00
19	.00	.00	7.0	13	57	7.4	15	21	.00	.00	.00	.00
20	.00	.00	6.0	26	54	5.7	18	16	.00	.00	.00	.00
21	.00	.00	4.6	39	61	5.0	17	14	.00	.00	.00	.00
22	.00	.00	2.6	28	55	5.9	16	18	.00	.00	.00	.00
23	.00	.00	1.5	25	54	6.8	19	15	.00	.00	.00	.00
24	.00	.00	1.1	25	49	5.6	27	11	.00	.00	.00	.00
25	.00	.00	1.1	24	39	4.8	22	7.7	.00	.00	.00	.00
26	.00	.00	1.2	23	31	4.4	16	6.0	.00	.00	.00	.00
27	.00	.00	1.1	49	27	6.4	11	5.3	.00	.00	.00	.00
28	.00	.00	2.5	61	32	7.3	8.5	4.7	.00	.00	.00	.00
29	.00	.00	23	45	34	5.7	6.4	3.6	.00	.00	.00	.00
30	.00	.00	28	34	---	4.5	4.6	2.6	.00	.00	.00	.00
31	.00	---	23	26	---	6.5	---	2.0	---	.00	.00	---
TOTAL	0.00	0.00	240.10	653.8	927	194.64	300.5	216.17	4.44	0.00	0.00	0.00
MEAN	.000	.000	7.75	21.1	32.0	6.28	10.0	6.97	.15	.000	.000	.000
MAX	.00	.00	36	61	61	23	27	21	1.6	.00	.00	.00
MIN	.00	.00	.00	6.9	13	.78	2.7	.23	.00	.00	.00	.00
AC-FT	.00	.00	476	1300	1840	386	596	429	8.8	.00	.00	.00

CAL YR 1995 TOTAL 2636.08 MEAN 7.22 MAX 100 MIN .00 AC-FT 5230
WTR YR 1996 TOTAL 2536.65 MEAN 6.93 MAX 61 MIN .00 AC-FT 5030

14325000 SOUTH FORK COQUILLE RIVER AT POWERS, OR

LOCATION.--Lat 42°53'30", long 124°04'10", in SE 1/4 sec.12, T.31 S., R.12 W., Coos County, Hydrologic Unit 17100305, on left bank 0.6 mi downstream from highway bridge at Powers, 0.9 mi upstream from Woodward Creek, and at mile 64.5.

DRAINAGE AREA.--169 mi^2.

PERIOD OF RECORD.--September 1916 to September 1926, October 1928 to current year.

REVISED RECORDS.--WSP 1184: 1946(M). WSP 1448: 1917-18(M), 1919, 1920(M), 1925.

GAGE.--Water-stage recorder. Datum of gage is 197.42 ft above sea level. Prior to Nov. 17, 1938, nonrecording gage at various sites within 1 mi of present site at different datums.

REMARKS.--No estimated daily discharges. Records good. No regulation. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--77 years (water years 1917-26, 1930-96), 780 ft^3/s, 62.71 in/yr, 565,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,900 ft^3/s Dec. 22, 1964, gage height, 26.51 ft, from floodmarks, from rating curve extended above 19,000 ft^3/s on basis of contracted-opening measurement at gage height 18.14 ft and slope-area measurement of peak flow; minimum discharge, 6.4 ft^3/s Oct. 10-12, 1995.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1630	*17,500	*13.30	Feb. 9	0430	11,100	10.11
Jan. 20	1530	13,500	11.25	Apr. 23	2300	11,200	10.17

Minimum discharge, 20 ft^3/s Sept. 10-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	30	3640	1430	1950	1660	3520	615	364	87	40	23
2	36	29	1810	1080	1600	1460	2340	533	331	83	41	24
3	34	29	1290	880	1360	1560	1690	477	304	80	42	24
4	37	28	2100	838	1880	2580	1270	428	278	81	40	24
5	34	28	3210	717	4190	3380	1010	389	259	78	39	27
6	31	29	2420	631	6000	2370	835	354	241	75	36	27
7	29	29	1510	685	5570	1880	718	326	224	72	35	23
8	28	33	1180	1260	4900	2060	619	302	212	68	34	23
9	27	237	1310	2860	8280	2150	539	280	200	66	32	23
10	26	131	1500	2890	3770	1980	481	262	188	66	31	22
11	75	103	3020	1810	2340	2470	464	247	178	64	31	22
12	145	1360	14300	1290	1660	2140	759	232	168	62	29	21
13	81	616	8010	983	1270	1610	772	225	162	61	29	21
14	56	302	6650	843	1020	1300	654	395	156	57	27	24
15	45	229	4910	2210	844	1120	598	749	149	57	27	65
16	38	238	2710	2900	728	974	1150	657	144	57	26	80
17	35	265	1830	2650	1030	861	1600	1020	137	57	26	51
18	42	754	1350	2960	4310	788	1450	1550	130	65	26	40
19	43	414	1040	5130	6060	738	1560	1720	126	64	26	35
20	40	289	843	8730	5260	653	1600	1330	121	58	26	32
21	39	237	703	6560	4430	573	1490	1440	116	55	26	30
22	37	246	601	3440	2930	619	1720	2200	112	54	26	28
23	34	204	515	2970	3220	651	4560	1810	110	53	26	27
24	33	292	451	4880	2700	576	7460	1350	114	50	25	26
25	32	1560	400	3160	1820	518	3350	1040	112	49	25	25
26	34	1400	359	2360	1380	470	2100	827	108	47	25	25
27	36	878	364	5880	1140	522	1470	684	103	46	25	24
28	36	894	439	4580	1420	648	1120	581	98	45	24	23
29	35	975	3410	3190	1940	576	886	505	94	44	24	22
30	33	2710	2590	2530	---	525	728	449	91	43	24	21
31	32	---	2040	2320	---	1580	---	402	---	40	23	---
TOTAL	1304	14569	76505	84647	85002	40992	48513	23379	5130	1884	916	882
MEAN	42.1	486	2468	2731	2931	1322	1617	754	171	60.8	29.5	29.4
MAX	145	2710	14300	8730	8280	3380	7460	2200	364	87	42	80
MIN	26	28	359	631	728	470	464	225	91	40	23	21
AC-FT	2590	28900	151700	167900	168600	81310	96230	46370	10180	3740	1820	1750
CFSM	.25	2.87	14.6	16.2	17.3	7.82	9.57	4.46	1.01	.36	.17	.17
IN.	.29	3.21	16.84	18.63	18.71	9.02	10.68	5.15	1.13	.41	.20	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1996, BY WATER YEAR (WY)

MEAN	201	1006	1690	1799	1638	1339	931	457	175	61.7	34.9	45.3
MAX	1945	4232	5361	4244	4151	3818	2451	1568	699	186	101	384
(WY)	1951	1974	1965	1970	1958	1938	1963	1953	1937	1947	1947	1978
MIN	11.1	15.8	44.1	97.3	209	330	203	78.3	50.8	27.7	17.4	12.1
(WY)	1988	1937	1977	1977	1977	1934	1990	1939	1924	1926	1939	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1917 - 1996	
ANNUAL TOTAL	391772		383723			
ANNUAL MEAN	1073		1048		780	
HIGHEST ANNUAL MEAN					1374	1974
LOWEST ANNUAL MEAN					237	1977
HIGHEST DAILY MEAN	15300	Jan 9	14300	Dec 12	34900	Dec 22 1964
LOWEST DAILY MEAN	23	Sep 23	21	Sep 12	7.2	Oct 10 1994
ANNUAL SEVEN-DAY MINIMUM	26	Sep 18	22	Sep 7	7.3	Oct 7 1994
ANNUAL RUNOFF (AC-FT)	777100		761100		565100	
ANNUAL RUNOFF (CFSM)	6.35		6.20		4.62	
ANNUAL RUNOFF (INCHES)	86.24		84.46		62.71	
10 PERCENT EXCEEDS	2790		2910		2000	
50 PERCENT EXCEEDS	367		376		260	
90 PERCENT EXCEEDS	34		27		26	

14327250 ELK RIVER ABOVE ANVIL CREEK, NEAR PORT ORFORD, OR

LOCATION.--Lat 42°44'14", long 124°24'16", in SW 1/4 SE 1/4 sec.6, T.33 S., R.14 W., Curry County, Hydrolgic Unit 17100306, on left bank, 400 ft downstream from Oregon Fish and Wildlife Commission property, and at mile 11.0.

DRAINAGE AREA.--83.4 mi^2.

PERIOD OF RECORD.--October 1993 to current year. Operated by Oregon Water Resources Department January 1977 to September 1993.

GAGE.--Water-stage recorder. Elevation of gage is 504 ft above sea level.

REMARKS.--Records good. Slight regulation by fish hatchery 400 ft upstream from station.

AVERAGE DISCHARGE.--3 years (water years 1994-96), 585 ft^3/s, 95.23 in/yr, 423,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s Jan. 13, 1995, gage height 11.39 ft; minimum discharge, 18 ft^3/s Sept. 26, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	0600	6,060	8.01	Feb. 9	0100	*9,310	*10.44
Dec. 29	0900	5,000	7.11	Apr. 23	2300	7,850	9.38
Jan. 20	1500	8,070	9.54				

Minimum discharge, 37 ft^3/s Sept. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

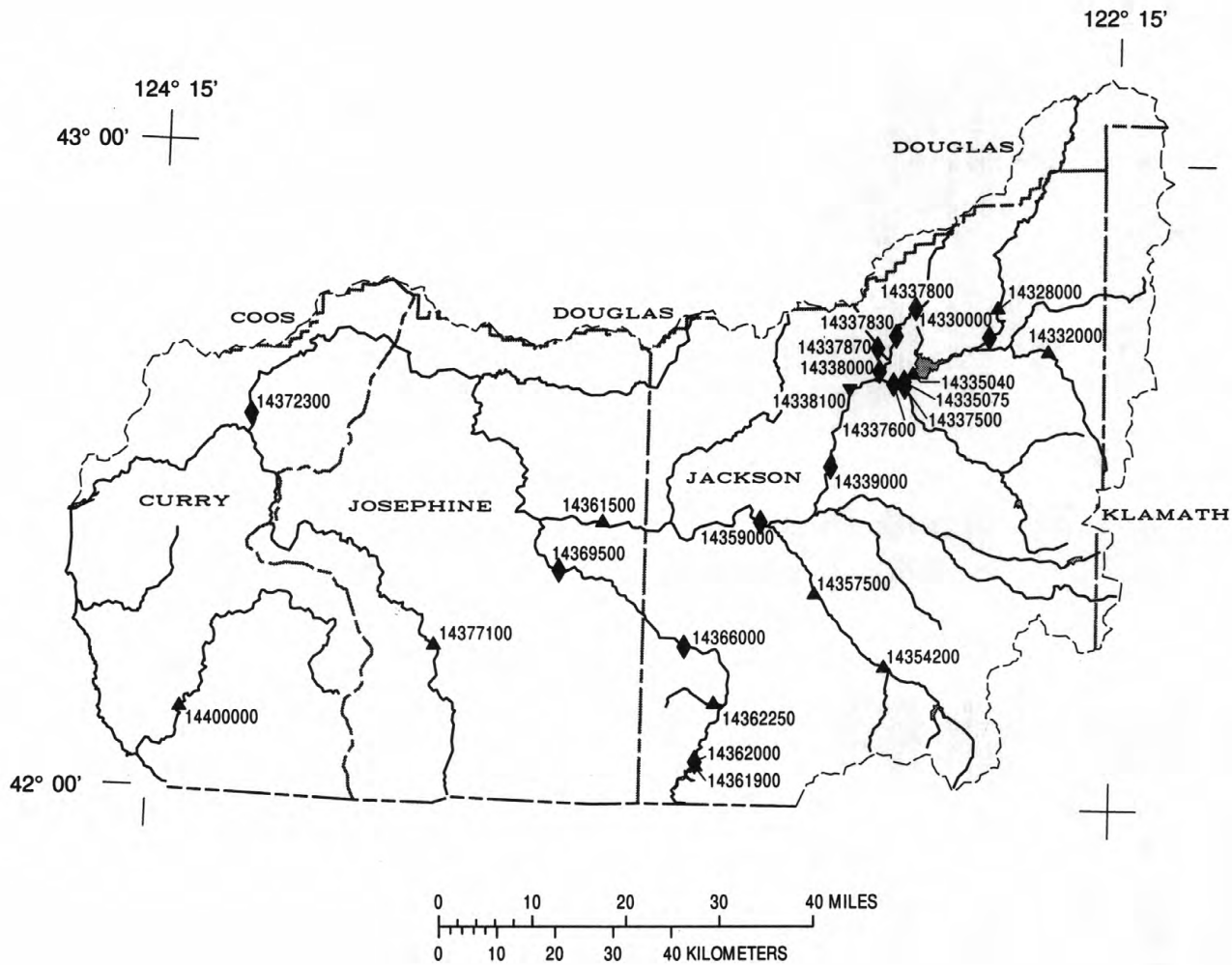
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	46	4320	e1800	1170	1370	1580	484	301	117	64	48
2	56	44	2060	e1200	991	1180	1130	439	282	115	65	47
3	58	43	1460	e900	892	1210	903	404	266	112	64	47
4	56	42	1750	e860	1040	2310	757	371	252	111	63	47
5	50	45	2280	e800	1520	2800	660	346	238	107	62	48
6	48	44	2000	e700	2450	1810	598	322	228	104	61	47
7	46	56	1360	e750	3830	1350	555	303	219	100	59	46
8	44	249	1070	e1500	4320	1210	519	286	211	97	59	46
9	43	383	1370	e2100	6040	1080	491	270	201	96	58	46
10	44	176	1310	2070	2590	978	478	257	195	95	57	45
11	184	1040	1430	1370	1710	1240	503	243	189	91	57	45
12	142	2410	3600	1050	1280	1110	623	231	184	89	55	46
13	96	1180	3230	872	1030	925	607	227	178	88	55	49
14	76	530	3090	839	867	802	566	473	172	85	54	66
15	66	370	2840	1970	762	722	620	862	169	83	54	155
16	62	338	1810	2400	700	660	996	663	165	82	53	73
17	60	312	1360	1760	992	612	1240	736	160	91	53	58
18	80	745	1080	1590	3000	577	1190	891	156	91	52	52
19	63	493	899	2090	3190	545	1160	1060	151	85	52	49
20	59	340	772	4640	2610	513	1200	867	147	83	52	47
21	56	301	688	3160	2430	487	1110	843	143	81	52	45
22	52	320	629	2050	1880	535	1360	1080	140	78	52	44
23	49	279	581	1950	2440	532	3210	857	153	76	51	43
24	48	655	539	2850	2090	496	4400	677	163	75	50	42
25	48	2070	507	1980	1490	473	2050	564	142	73	50	41
26	80	1830	480	1630	1160	451	1330	489	137	71	50	40
27	72	933	484	3440	986	466	968	437	133	70	50	40
28	63	708	561	2670	1110	477	765	399	130	69	49	40
29	57	1060	4090	2020	1430	451	637	367	123	68	48	39
30	52	4030	e3500	1640	---	431	548	342	119	66	49	39
31	49	---	e2500	1390	---	1050	---	318	---	65	48	---
TOTAL	2021	21072	53650	56041	56000	28853	32754	16108	5447	2714	1698	1520
MEAN	65.2	702	1731	1808	1931	931	1092	520	182	87.5	54.8	50.7
MAX	184	4030	4320	4640	6040	2800	4400	1080	301	117	65	155
MIN	43	42	480	700	700	431	478	227	119	65	48	39
AC-FT	4010	41800	106400	111200	111100	57230	64970	31950	10800	5380	3370	3010
CFSM	.78	8.42	20.8	21.7	23.2	11.2	13.1	6.23	2.18	1.05	.66	.61
IN.	.90	9.40	23.93	25.00	24.98	12.87	14.61	7.18	2.43	1.21	.76	.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1996, BY WATER YEAR (WY)

MEAN	60.6	490	1231	1567	1231	869	741	424	223	103	56.1	47.0
MAX	72.1	722	1731	2151	1931	1146	1092	520	310	137	68.1	54.6
(WY)	1995	1995	1996	1995	1996	1995	1996	1996	1995	1995	1995	1995
MIN	44.6	47.5	752	743	600	529	358	299	179	84.6	45.5	35.8
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1994 - 1996	
ANNUAL TOTAL	265299		277878			
ANNUAL MEAN	727		759		585	
HIGHEST ANNUAL MEAN					759	1996
LOWEST ANNUAL MEAN					309	1994
HIGHEST DAILY MEAN	7000	Jan 13	6040	Feb 9	7000	Jan 13 1995
LOWEST DAILY MEAN	42	Nov 4	39	Sep 29	23	Oct 9 1994
ANNUAL SEVEN-DAY MINIMUM	45	Sep 18	40	Sep 24	23	Oct 7 1994
ANNUAL RUNOFF (AC-FT)	526200		551200		423500	
ANNUAL RUNOFF (CFSM)	8.72		9.10		7.01	
ANNUAL RUNOFF (INCHES)	118.33		123.95		95.23	
10 PERCENT EXCEEDS	1850		2060		1490	
50 PERCENT EXCEEDS	350		391		266	
90 PERCENT EXCEEDS	52		48		42	

e Estimated



EXPLANATION

14371500 ▲ **Stream–gaging station**

14338100 ▼ **Water–quality data collection site**

14339000 ◆ **Stream–gaging station and water–quality data collection site**

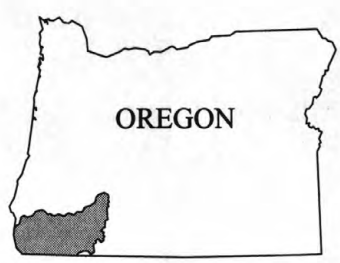


Figure 32. Location of surface-water and water-quality stations in the Rogue and Chetco River Basins.

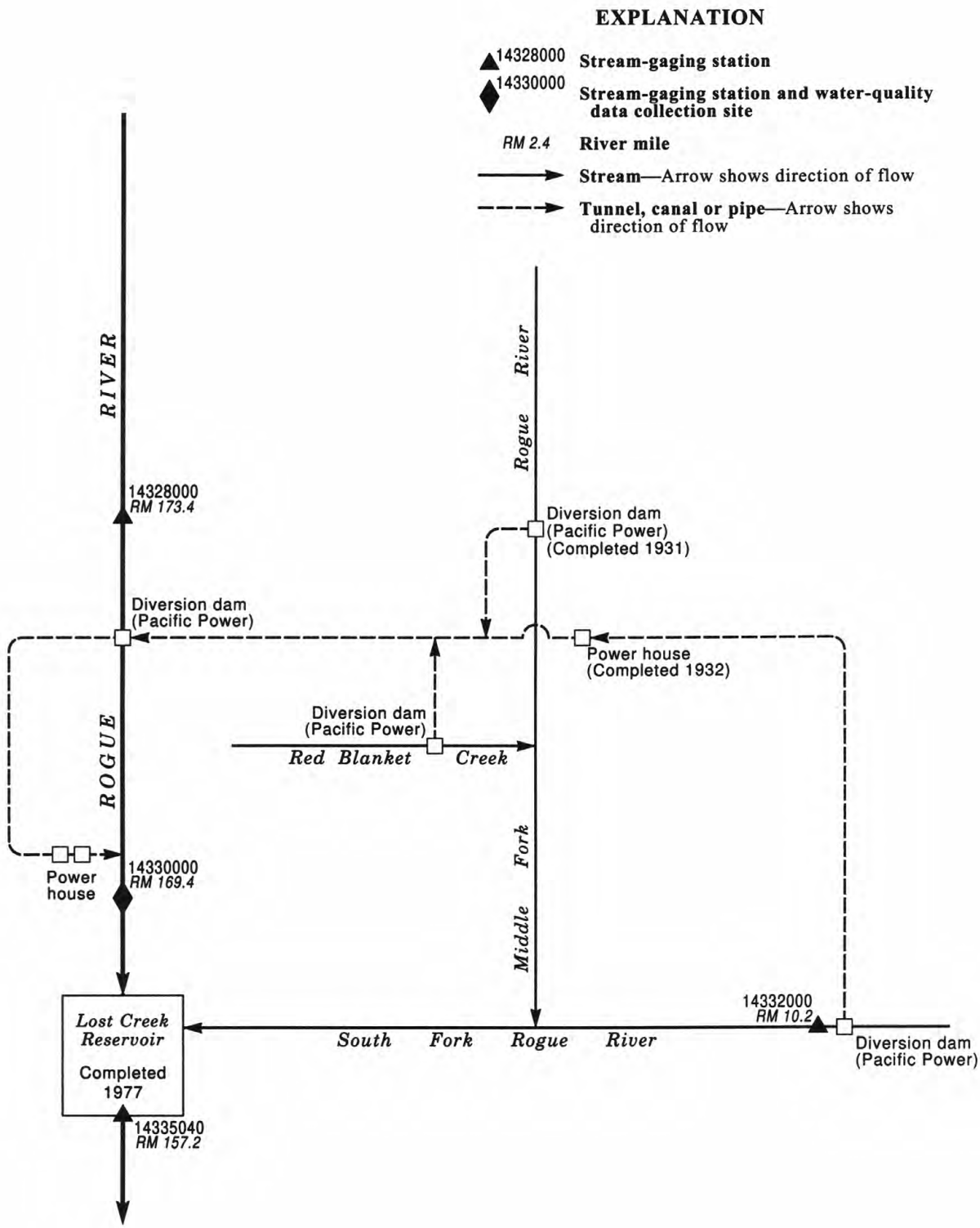


Figure 33. Schematic diagram showing gaging stations in the Rogue River Basin, upstream from Lost Creek Reservoir.

14328000 ROGUE RIVER ABOVE PROSPECT, OR

LOCATION.--Lat 42°46'30", long 122°29'55", in SE 1/4 NE 1/4 sec.19, T.32 S., R.3 E., Jackson County, Hydrologic Unit 17100307, Rogue River National Forest, on left bank 1.4 mi upstream from Pacific Power and Light Co. diversion dam, 1.8 mi northwest of Prospect, and at mile 173.4.

DRAINAGE AREA.--312 mi^2.

PERIOD OF RECORD.--January 1908 to February 1912, October 1923 to current year. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1925, published as "near Prospect."

REVISED RECORDS.--WSP 1248: 1925, 1927(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,620 ft above sea level, from river-profile map. Prior to Feb. 17, 1912, nonrecording gage at several sites within a few hundred feet upstream at various datums.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--76 years (water years 1909-11, 1924-96), 818 ft^3/s, 35.63 in/yr, 592,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft^3/s Dec. 22, 1964, gage height, 11.55 ft, from floodmark, from rating curve extended above 9,000 ft^3/s on basis of slope-area measurement at 16,600 ft^3/s; minimum observed discharge, 200 ft^3/s Nov. 20, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 1	1200	3,420	4.42	Feb. 19	0530	3,310	4.29
Dec. 12	1900	6,710	6.21	Apr. 24	0930	4,910	5.29
Dec. 30	2330	*6,920	*6.31	May 18	1430	3,130	4.16
Feb. 9	1300	4,260	4.91				

Minimum discharge, 413 ft^3/s Oct. 24, 25, Nov. 2-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	419	2740	2720	941	1090	1590	1700	1250	742	566	510
2	438	415	1780	2100	922	1060	1650	1650	1230	721	560	506
3	448	413	1340	1880	900	1060	1560	1510	1220	713	559	504
4	480	413	1460	1870	1040	1110	1430	1390	1210	701	559	504
5	442	413	1940	1640	1140	1180	1380	1320	1180	692	559	504
6	431	424	2150	1520	1650	1120	1440	1270	1140	679	559	504
7	426	473	1800	1450	2170	1100	1580	1240	1110	671	554	504
8	424	482	1680	2060	2350	1150	1730	1210	1090	664	549	500
9	424	686	2760	2060	3780	1330	1840	1170	1050	652	546	498
10	420	527	2200	2060	3150	1450	1770	1150	1030	645	542	498
11	477	537	2710	1760	2590	1640	1630	1150	991	638	540	494
12	570	1220	5410	1580	2370	1700	1550	1220	966	631	529	492
13	466	963	4650	1440	2280	1550	1440	1390	949	625	528	493
14	444	718	3170	1330	2230	1440	1380	2100	934	619	528	502
15	434	616	2660	1560	2180	1390	1350	2470	909	618	523	708
16	430	579	2060	1690	2180	1350	1450	2320	890	608	522	650
17	426	541	1740	1570	2480	1320	1400	2540	876	612	522	578
18	470	629	1550	1450	2830	1340	1320	3060	855	649	522	527
19	438	562	1390	1390	3060	1390	1280	2810	846	618	522	518
20	426	531	1270	1350	2530	1390	1260	2370	837	605	522	513
21	424	514	1180	1280	2240	1330	1240	2310	809	598	522	505
22	424	518	1110	1170	1880	1370	1410	2760	799	593	522	500
23	422	501	1050	1140	1680	1300	2100	2330	803	591	518	498
24	416	512	994	1060	1540	1230	4380	2050	877	585	516	493
25	414	705	947	1120	1400	1170	3260	1860	834	584	516	492
26	529	929	910	1070	1290	1120	2510	1750	828	617	516	488
27	489	786	887	1060	1250	1120	2150	1650	841	579	522	486
28	449	1120	902	1030	1200	1080	1880	1550	791	581	518	486
29	437	1030	1680	991	1130	1030	1740	1450	763	598	512	482
30	430	2400	4310	953	---	998	1720	1370	749	596	510	480
31	424	---	4710	938	---	1030	---	1300	---	579	510	---
TOTAL	13828	20576	65140	46292	56383	38938	52420	55420	28657	19604	16493	15417
MEAN	446	686	2101	1493	1944	1256	1747	1788	955	632	532	514
MAX	570	2400	5410	2720	3780	1700	4380	3060	1250	742	566	708
MIN	414	413	887	938	900	998	1240	1150	749	579	510	480
AC-FT	27430	40810	129200	91820	111800	77230	104000	109900	56840	38880	32710	30580
CFSM	1.43	2.20	6.73	4.79	6.23	4.03	5.60	5.73	3.06	2.03	1.71	1.65
IN.	1.65	2.45	7.77	5.52	6.72	4.64	6.25	6.61	3.42	2.34	1.97	1.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1996, BY WATER YEAR (WY)

MEAN	450	689	910	907	964	991	1191	1341	971	545	438	418
MAX	957	2062	3368	2158	2092	2820	1888	2263	2564	1010	659	602
(WY)	1951	1910	1965	1970	1958	1972	1966	1952	1933	1953	1976	1972
MIN	256	292	313	292	325	480	649	456	335	253	222	230
(WY)	1993	1932	1931	1937	1937	1977	1926	1992	1931	1931	1931	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1908 - 1996	
ANNUAL TOTAL	370724		429168			
ANNUAL MEAN	1016		1173		818	
HIGHEST ANNUAL MEAN					1268	1974
LOWEST ANNUAL MEAN					411	1931
HIGHEST DAILY MEAN	5410	Dec 12	5410	Dec 12	16000	Dec 23 1964
LOWEST DAILY MEAN	413	Sep 22	413	Nov 3	210	Jan 7 1937
ANNUAL SEVEN-DAY MINIMUM	416	Sep 18	417	Oct 31	216	Aug 30 1931
ANNUAL RUNOFF (AC-FT)	735300		851300		592800	
ANNUAL RUNOFF (CFSM)	3.26		3.76		2.62	
ANNUAL RUNOFF (INCHES)	44.20		51.17		35.63	
10 PERCENT EXCEEDS	1740		2190		1480	
50 PERCENT EXCEEDS	889		1030		630	
90 PERCENT EXCEEDS	433		481		357	

14330000 ROGUE RIVER BELOW PROSPECT, OR

LOCATION.--Lat 42°43'50", long 122°30'55", in SE 1/4 NW 1/4 sec.6, T.33 S., R.3 E., Jackson County, Hydrologic Unit 17100307, on right bank 600 ft downstream from Prospect No. 1 powerplant, 1.4 mi downstream from Mill Creek, 2.0 mi southwest of Prospect, 2.1 mi upstream from South Fork Rogue River, and at mile 169.4.

DRAINAGE AREA.--379 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1913 to September 1930, October 1968 to current year.

REVISED RECORDS.--WSP 1518: 1914-23, 1924(M), 1925, 1928.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,964.56 ft above sea level (Pacific Power and Light Co. bench mark). Prior to September 1927 nonrecording gage at site 1,000 ft upstream, above powerplants, at different datum, also concurrent nonrecording gage on headrace to obtain equivalent combined flow.

REMARKS.--Records good. Fluctuations caused by powerplant 600 ft upstream from station. Small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--28 years, (water years 1969-96), 1,462 ft^3/s, 1,059,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s Jan. 18, 1971, gage height, 7.62 ft, from high-water mark; minimum discharge, 166 ft^3/s Sept. 29, 1992, result of regulation by upstream diversion gates.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1890, 12.4 ft Dec. 22, 1964, from floodmarks, discharge, 25,000 ft^3/s, from records for station upstream from Prospect (station 14328000) and for station downstream from South Fork Rogue River near Prospect (station 14335000) after adjusting for estimated intervening tributary inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,090 ft^3/s Dec. 12, gage height 6.51 ft; minimum discharge, 338 ft^3/s Aug. 10, result of regulation by upstream diversion gates.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	944	869	3220	e3400	1660	1910	2350	2480	1930	1230	1170	1090
2	918	844	2310	e2750	1630	1840	2370	2380	1880	1240	1160	1090
3	926	864	1840	e2450	1630	1870	2260	2250	1840	1240	1180	1100
4	966	864	1970	e2300	1790	1910	2110	2140	1760	1260	1170	1100
5	916	867	2450	e2100	1890	1990	2090	2050	1710	1240	1170	1090
6	905	887	2710	e2000	2370	1910	2150	1970	1710	1230	1150	1090
7	895	906	2390	e1900	2820	1910	2300	1960	1680	1220	1140	1090
8	891	947	2250	e2500	3070	1920	2480	1830	1650	1150	1140	1100
9	890	1170	3280	e2500	4710	2100	2580	1790	1600	1220	1130	1050
10	890	1010	2820	2550	3860	2240	2490	1760	1570	1220	1100	1000
11	953	1030	3230	2540	3370	2450	2380	1760	1530	1220	1130	995
12	1060	1640	6020	2310	3140	2480	2350	1830	1450	1240	1120	995
13	943	1460	5300	2100	3080	2340	2150	2000	1450	1220	1110	1010
14	919	1220	3650	2020	3020	2220	2100	2710	1480	1240	1110	1030
15	912	1120	3280	2310	2950	2120	2100	3100	1490	1190	1090	1260
16	895	1080	2710	2430	2960	2110	2170	2980	1480	1210	1100	1200
17	890	1040	2430	2330	3250	2080	2110	3200	1420	1230	1100	1120
18	939	1140	2210	2170	3590	2070	2020	3700	1410	1280	1100	1060
19	892	1070	2030	2140	3890	2140	2000	3460	1390	1250	1110	1050
20	878	1030	1890	2120	3370	2120	1950	3030	1360	1220	1100	1090
21	878	1010	1780	2050	3100	2080	1950	2990	1380	1210	1100	1120
22	873	1010	1710	1910	2710	2120	2150	3430	1370	1200	1090	1120
23	866	986	1630	1830	2520	2020	2810	3030	1370	1180	1080	1110
24	873	993	1580	1750	2380	1970	5180	2760	1470	1190	1110	1110
25	871	1180	1530	1740	2220	1890	3980	2580	1370	1190	1100	1100
26	1010	1430	1480	1660	2110	1850	3240	2480	1390	1230	1080	1090
27	951	1270	1460	1670	2070	1880	2900	2380	1390	1190	1100	1100
28	905	1570	1490	1630	2000	1810	2650	2240	1340	1190	1090	1100
29	893	1520	2260	1630	1950	1790	2500	2130	1340	1210	1090	1090
30	883	2890	4780	1640	---	1730	2490	2050	1310	1200	1090	1090
31	878	---	5390	1660	---	1800	---	1980	---	1180	1090	---
TOTAL	28303	34917	83080	66090	79110	62670	74360	76430	45520	37720	34600	32640
MEAN	913	1164	2680	2132	2728	2022	2479	2465	1517	1217	1116	1088
MAX	1060	2890	6020	3400	4710	2480	5180	3700	1930	1280	1180	1260
MIN	866	844	1460	1630	1630	1730	1950	1760	1310	1150	1080	995
AC-FT	56140	69260	164800	131100	156900	124300	147500	151600	90290	74820	68630	64740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1996, BY WATER YEAR (WY)

MEAN	942	1219	1540	1645	1678	1827	1877	2037	1633	1196	1016	947
MAX	1342	2100	2736	2894	2728	3627	2668	3282	2923	1660	1356	1267
(WY)	1985	1974	1982	1974	1996	1972	1989	1971	1974	1971	1984	1984
MIN	606	728	926	946	946	1045	1272	933	765	717	632	623
(WY)	1993	1995	1991	1977	1977	1977	1977	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1969 - 1996	
ANNUAL TOTAL	584956		655440			
ANNUAL MEAN	1603		1791		1462	
HIGHEST ANNUAL MEAN					2053	1974
LOWEST ANNUAL MEAN					968	1992
HIGHEST DAILY MEAN	6020	Dec 12	6020	Dec 12	9780	Jan 16 1974
LOWEST DAILY MEAN	836	Aug 8	844	Nov 2	555	Oct 19 1992
ANNUAL SEVEN-DAY MINIMUM	848	Aug 2	867	Oct 30	560	Oct 14 1992
ANNUAL RUNOFF (AC-FT)	1160000		1300000		1059000	
10 PERCENT EXCEEDS	2400		2910		2260	
50 PERCENT EXCEEDS	1530		1630		1300	
90 PERCENT EXCEEDS	897		962		830	

e Estimated

14330000 ROGUE RIVER BELOW PROSPECT, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1976 to September 1981.
pH: November 1976 to September 1981.
WATER TEMPERATURE: October 1968 to current year.
DISSOLVED OXYGEN: October 1979 to September 1981.
SUSPENDED SEDIMENT DISCHARGE: November 1976 to September 1981 (October to April only, 1980 water year, November to April only, 1981 water year).

INSTRUMENTATION.--Water-quality monitor since November 1976. Automatic pumping sediment sampler November 1976 to April 1981.

REMARKS.--During low flows and warm weather, water temperatures may be influenced by return flows from hydroelectric plant 600 ft upstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 73 microsiemens Sept. 22, 1980; minimum recorded, 28 microsiemens Jan. 13, 1980, may have been lower during period of missing record Jan. 14-17, 1980.
pH: Maximum recorded, 8.3 units Aug. 10, 1981, may have been higher during period of no record in July and August 1981; minimum, 7.0 units Nov. 30, 1976.
WATER TEMPERATURE: Maximum, 20.5°C July 20, 1979 (result of regulation); minimum, 0.0°C at times most years.
DISSOLVED OXYGEN: Maximum, 13.6 mg/L Dec. 8, 1980, Feb. 21, 1981; minimum, 7.2 mg/L June 21, 1980, result of regulation.
SEDIMENT CONCENTRATION: Maximum daily mean (water years 1977-79), 1,270 mg/L (estimated) Jan. 11, 1979; minimum, 0 mg/L on many days each year. Maximum daily mean (period October 1979 to April 1981), 716 mg/L Oct. 25, 1979; minimum daily mean, 0 mg/L on several days in October and December 1979, Nov. 15-21, 28, Dec. 1, 1980, Jan. 19, 1981.
SEDIMENT DISCHARGE: Maximum daily (water years 1977-79), 17,790 tons Dec. 15, 1977; minimum daily, 0 tons on many days each year. Maximum daily (period October 1979 to April 1981), 5,570 tons Jan. 13, 1980; minimum daily, 0 tons on several days in October and December 1979, Nov. 15-21, 28, Dec. 1, 1980, Jan. 19, 1981.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 15.0°C July 8, 13, 24, 25; minimum, 1.0°C Jan. 24, but may have been less during period of no record.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.0	7.5	8.0	5.5	4.5	5.0	7.5	6.5	7.0	5.0	4.0	4.5
2	9.0	7.0	8.0	4.5	3.5	4.5	6.5	5.0	6.0	5.0	4.0	4.5
3	9.0	7.5	8.0	4.5	3.5	4.0	5.0	4.0	4.5	5.5	5.0	5.0
4	8.5	6.5	7.5	4.5	3.0	4.0	5.0	4.0	4.5	5.5	4.5	5.0
5	7.5	6.0	6.5	5.5	4.5	5.0	6.0	5.0	5.5	4.5	4.0	4.5
6	7.5	6.0	6.5	5.5	5.0	5.5	6.5	6.0	6.5	5.0	4.0	4.5
7	7.5	5.5	6.5	6.0	5.5	5.5	6.5	6.0	6.5	5.0	4.5	4.5
8	7.0	5.5	6.5	6.5	6.0	6.5	6.5	6.0	6.0	5.5	5.0	5.0
9	8.0	6.0	7.0	6.5	6.0	6.5	7.0	6.5	7.0	5.5	5.5	5.5
10	8.0	6.5	7.5	6.0	6.0	6.0	7.0	7.0	7.0	5.5	4.5	5.0
11	8.0	7.5	7.5	6.5	5.5	6.0	7.0	7.0	7.0	5.0	4.5	4.5
12	8.0	7.0	7.0	7.5	6.5	7.0	7.5	7.0	7.5	4.5	4.0	4.5
13	7.0	5.5	6.5	8.5	7.5	8.0	7.0	5.5	6.0	4.5	4.0	4.5
14	7.5	5.5	6.5	8.0	7.0	7.5	6.0	4.5	5.5	5.0	4.0	4.5
15	8.0	6.0	7.0	7.0	6.5	6.5	5.0	4.0	4.5	5.5	5.0	5.0
16	8.0	7.0	7.5	7.5	6.5	7.0	5.0	4.5	5.0	5.0	4.5	5.0
17	7.5	6.5	7.0	7.0	6.5	6.5	5.0	4.5	4.5	4.5	3.5	4.0
18	8.0	7.0	7.5	7.5	6.5	7.0	5.0	4.5	5.0	3.5	2.5	3.0
19	7.5	6.0	6.5	6.5	5.5	6.0	4.5	4.5	4.5	3.0	2.5	2.5
20	7.0	5.5	6.5	5.5	5.0	5.5	4.5	3.5	4.0	2.5	2.0	2.5
21	7.0	6.0	6.5	6.0	5.5	5.5	3.5	3.0	3.5	2.5	2.0	2.0
22	6.5	5.0	5.5	7.0	6.0	6.5	3.5	2.5	3.0	3.0	2.0	2.5
23	5.5	4.5	5.0	7.0	6.5	6.5	2.5	2.0	2.5	2.5	1.5	2.0
24	5.5	4.5	5.0	7.0	6.5	7.0	2.5	2.0	2.0	1.5	1.0	1.5
25	6.0	4.5	5.5	7.5	7.0	7.0	2.5	2.0	2.5	2.0	1.5	1.5
26	7.0	6.0	6.5	7.0	5.5	6.0	3.0	2.0	2.5	2.5	1.5	2.0
27	7.0	6.0	6.5	5.5	5.0	5.5	4.0	3.0	3.5	2.0	1.5	1.5
28	7.0	6.0	6.5	5.5	5.0	5.5	4.0	3.5	4.0	2.0	1.5	1.5
29	7.0	6.0	6.5	6.0	5.5	5.5	4.0	3.5	4.0	2.5	1.5	2.0
30	7.0	6.0	6.5	7.0	6.0	7.0	5.0	4.0	5.0	3.0	2.5	3.0
31	6.5	5.5	6.0	---	---	---	5.5	4.5	5.0	3.0	2.5	3.0
MONTH	9.0	4.5	6.5	8.5	3.0	6.0	7.5	2.0	5.0	5.5	1.0	3.5

14330000 ROGUE RIVER BELOW PROSEPECT, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	4.5	3.5	4.0	6.0	5.0	5.5	---	---	---
2	---	---	---	4.0	3.0	4.0	6.0	5.0	5.5	---	---	---
3	---	---	---	4.5	4.0	4.5	6.0	5.0	5.5	---	---	---
4	---	---	---	5.0	4.5	4.5	6.5	5.0	5.5	---	---	---
5	---	---	---	4.5	4.0	4.0	7.0	5.5	6.0	---	---	---
6	---	---	---	5.0	3.5	4.5	7.5	6.0	6.5	---	---	---
7	---	---	---	5.5	4.5	5.0	7.5	6.0	7.0	---	---	---
8	---	---	---	6.0	4.5	5.0	8.0	6.5	7.5	8.0	6.0	7.0
9	---	---	---	5.5	5.0	5.5	7.5	6.5	7.0	8.0	6.0	7.0
10	---	---	---	5.5	5.0	5.0	6.5	5.5	6.0	8.5	6.5	7.5
11	---	---	---	5.5	5.0	5.0	6.0	5.0	5.5	10.0	7.5	9.0
12	---	---	---	5.5	4.5	5.0	5.0	4.5	4.5	10.5	9.0	9.5
13	---	---	---	5.5	4.5	5.0	6.0	4.0	5.0	---	---	---
14	---	---	---	5.5	4.0	5.0	6.5	5.5	6.0	---	---	---
15	---	---	---	5.5	4.5	5.0	6.5	6.0	6.5	---	---	---
16	---	---	---	5.5	4.0	5.0	6.5	5.5	6.0	---	---	---
17	---	---	---	6.0	4.5	5.5	5.5	4.5	5.0	---	---	---
18	---	---	---	6.0	4.5	5.5	5.0	4.0	4.5	---	---	---
19	---	---	---	6.0	5.0	5.5	5.0	3.5	4.5	---	---	---
20	---	---	---	6.0	4.5	5.5	5.5	5.0	5.0	---	---	---
21	---	---	---	6.0	4.5	5.0	5.5	5.0	5.5	---	---	---
22	---	---	---	5.5	4.0	5.0	---	---	---	7.0	6.5	7.0
23	---	---	---	5.0	3.5	4.5	---	---	---	7.5	6.0	7.0
24	---	---	---	5.5	4.0	4.5	---	---	---	8.5	6.5	7.5
25	---	---	---	5.0	4.0	4.5	---	---	---	9.5	8.0	9.0
26	---	---	---	5.0	3.5	4.5	---	---	---	10.5	9.0	9.5
27	---	---	---	4.5	2.5	3.5	---	---	---	10.0	9.0	9.5
28	---	---	---	4.0	2.5	3.5	---	---	---	9.0	8.0	8.5
29	4.5	3.0	3.5	5.0	3.5	4.0	---	---	---	9.0	7.0	8.0
30	---	---	---	5.0	3.5	4.5	---	---	---	9.0	7.5	8.5
31	---	---	---	5.0	4.5	4.5	---	---	---	10.0	8.0	9.0
MONTH	---	---	---	6.0	2.5	4.5	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.5	8.5	9.5	14.0	11.0	12.5	14.5	11.5	12.5	11.5	9.0	10.0
2	11.5	10.0	10.5	14.5	11.5	13.0	12.5	10.5	11.5	11.0	9.0	10.0
3	12.0	10.5	11.0	14.5	11.5	13.0	12.0	9.5	10.5	11.0	9.0	10.0
4	12.0	10.5	11.0	13.5	11.0	12.0	12.0	9.0	10.5	10.0	8.5	9.0
5	11.5	10.0	10.5	13.0	10.0	11.5	12.0	9.5	10.5	10.0	7.5	8.5
6	12.5	10.5	11.0	13.5	10.0	11.5	12.0	9.0	10.5	9.5	7.5	8.5
7	13.0	11.0	11.5	14.0	11.0	12.5	13.0	9.5	11.0	10.0	7.5	8.5
8	12.5	11.0	11.5	15.0	11.5	13.0	13.5	10.5	11.5	10.5	8.0	9.0
9	11.5	10.0	10.5	14.5	11.5	13.0	14.0	11.0	12.5	11.0	8.5	9.5
10	11.5	9.5	10.0	14.5	11.5	12.5	14.5	11.5	12.5	11.5	9.0	10.0
11	11.5	9.5	10.5	14.5	11.5	12.5	14.0	11.0	12.5	11.0	9.0	10.0
12	12.0	10.0	11.0	14.5	11.5	13.0	13.5	11.0	12.0	10.5	9.0	10.0
13	12.5	10.5	11.0	15.0	12.0	13.5	14.5	11.0	12.5	9.5	8.5	9.0
14	12.5	10.5	11.0	14.5	12.5	13.5	14.5	11.5	13.0	8.5	8.0	8.5
15	12.5	10.0	11.0	14.5	12.0	13.0	14.0	10.5	12.5	9.0	8.5	8.5
16	11.5	10.0	10.5	14.0	11.5	12.5	13.0	10.5	12.0	9.0	8.0	8.5
17	11.0	9.0	10.0	12.5	9.5	11.0	13.0	10.0	11.5	9.0	7.5	8.0
18	10.5	8.0	9.0	10.0	8.5	9.5	12.0	9.0	10.5	9.0	7.0	8.0
19	10.0	8.0	9.0	11.0	8.0	9.5	11.5	9.0	10.0	9.5	7.5	8.5
20	11.5	8.5	10.0	12.0	8.5	10.5	11.5	9.0	10.0	9.0	7.5	8.5
21	12.0	9.0	10.5	13.5	10.0	11.5	11.5	8.5	10.0	9.0	7.0	8.0
22	11.5	9.0	10.0	14.5	11.0	12.5	12.0	9.0	10.5	8.0	6.5	7.0
23	10.0	9.0	9.5	14.5	11.5	13.0	12.0	9.0	10.5	7.5	6.0	7.0
24	9.5	8.0	9.0	15.0	12.0	13.5	12.5	10.0	11.0	8.0	6.0	7.0
25	10.0	8.0	9.0	15.0	12.0	13.5	12.5	10.5	11.5	8.5	6.5	7.5
26	10.0	8.0	9.0	14.5	12.0	13.0	13.0	11.0	11.5	9.0	7.0	7.5
27	10.5	8.5	9.5	14.5	12.0	13.0	12.0	10.5	11.0	9.5	7.0	8.0
28	11.5	9.0	10.0	13.0	11.5	12.0	12.0	9.5	10.5	9.5	7.5	8.5
29	12.5	9.0	10.5	13.0	10.0	11.5	12.5	9.5	11.0	10.0	8.0	9.0
30	13.5	10.0	11.5	14.5	11.0	12.5	12.5	10.0	11.0	9.5	8.0	9.0
31	---	---	---	14.5	11.5	13.0	12.0	10.0	11.0	---	---	---
MONTH	13.5	8.0	10.5	15.0	8.0	12.5	14.5	8.5	11.5	11.5	6.0	8.5

14332000 SOUTH FORK ROGUE RIVER NEAR PROSPECT, OR

LOCATION.--Lat 42°42'30", long 122°23'30", in SE 1/4 SW 1/4 sec.7, T.33 S., R.4 E., Jackson County, Hydrologic Unit 17100307, in Rogue River National Forest, on left bank 0.3 mi downstream from South Fork dam and intake of South Fork power canal, 0.31 mi downstream from Imnaha Creek, 5.6 mi southeast of Prospect, and at mile 10.2.

DRAINAGE AREA.--83.8 mi^2. Drainage area at site upstream from Imnaha Creek was used October 1931 to September 1949, 61.3 mi^2; and Imnaha Creek near Prospect, 22.2 mi^2.

PERIOD OF RECORD.--April 1924 to September 1931, October 1949 to current year. Equivalent records for period October 1931 to September 1949 may be obtained by combining flow of South Fork Rogue River above Imnaha Creek, near Prospect and Imnaha Creek near Prospect. Records for period October 1949 to September 1983 included flow of South Fork power canal.

REVISED RECORDS.--WSP 1318: 1925(M), 1927(M), 1930(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,300 ft above sea level, from topographic map. Prior to Sept. 10, 1965, at site 1,000 ft upstream at different datum.

REMARKS.--Records good except for estimated discharges, which are fair. All records given herein do not include flow in South Fork power canal (completed in March 1932) which diverts 1,500 ft upstream from station and returns water to main stem Rogue River upstream from South Fork Rogue River; practically no storage upstream from diversion dam.

AVERAGE DISCHARGE.--59 years (water years 1925-83), 178 ft^3/s, 129,000 acre-ft/yr (includes flow of South Fork power canal). 13 years (water years 1989-96), 66.7 ft^3/s, 48,320 acre-ft/yr (river only).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 7,010 ft^3/s Dec. 22, 1964, gage height, 11.1 ft, from floodmark, from rating curve extended above 410 ft^3/s on basis of measurement of flow over dam of 3,180 ft^3/s; no flow Jan. 31, 1950, Sept. 29, 30, 1967 (entire flow diverted to canal).

Combined flow, maximum discharge, 7,010 ft^3/s Dec. 22, 1964 (no flow in canal); minimum daily, about 38 ft^3/s Aug. 1-31, 1931.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 4,030 ft^3/s Dec. 30, gage height, 7.13 ft; minimum discharge, 3.9 ft^3/s July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	683	787	73	e145	e149	e223	171	112	12	17
2	12	13	232	630	67	e129	e155	e218	165	109	12	15
3	12	13	133	522	101	e126	e145	e177	302	106	11	13
4	13	14	451	429	165	e124	e140	e159	348	103	10	12
5	12	14	494	341	168	e121	e136	e149	328	101	9.5	14
6	13	15	347	305	169	e107	e159	e145	311	98	13	15
7	13	16	335	277	186	e101	e179	e142	300	95	15	14
8	14	20	347	363	228	e103	e188	e138	289	114	14	13
9	14	27	589	380	697	e123	e198	e133	277	38	14	59
10	13	16	343	340	614	e136	e188	e123	264	17	14	79
11	21	17	324	280	519	e145	e169	e124	250	15	13	95
12	24	43	692	247	455	e161	e151	e155	242	13	12	95
13	17	19	561	215	425	e159	e138	e200	234	11	12	97
14	15	15	432	189	396	e165	e118	e537	185	10	11	99
15	14	14	413	250	373	e159	e118	e580	146	9.0	15	127
16	14	13	316	239	373	e138	e136	e487	140	7.7	18	124
17	14	14	261	197	482	e133	e131	602	136	12	18	110
18	14	17	216	191	491	e131	e124	609	132	14	17	102
19	14	15	182	180	547	e121	e116	474	132	8.4	17	98
20	13	13	155	174	473	e133	e95	364	131	7.3	17	49
21	13	14	135	157	416	e128	e95	409	125	6.0	16	16
22	13	15	116	141	e350	e121	e92	647	118	6.9	15	14
23	13	14	101	134	e326	e121	e115	448	127	15	14	13
24	13	14	89	135	e280	e107	e811	371	143	19	13	13
25	13	27	78	123	e247	e86	e455	329	130	18	13	15
26	17	37	71	115	e215	e91	e365	312	129	17	17	14
27	15	25	66	122	e200	e91	e292	296	185	15	19	13
28	14	122	64	111	e177	e80	e253	267	144	17	18	12
29	14	61	311	106	e161	e73	e236	234	126	17	17	12
30	13	669	2410	88	---	e73	e223	210	118	16	17	11
31	13	---	1450	81	---	e113	---	187	---	12	17	---
TOTAL	439	1339	12397	7849	9374	3744	5870	9449	5828	1159.3	450.5	1380
MEAN	14.2	44.6	400	253	323	121	196	305	194	37.4	14.5	46.0
MAX	24	669	2410	787	697	165	811	647	348	114	19	127
MIN	12	13	64	81	67	73	92	123	118	6.0	9.5	11
AC-FT	871	2660	24590	15570	18590	7430	11640	18740	11560	2300	894	2740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1996, BY WATER YEAR (WY)

MEAN	17.2	26.8	70.3	54.2	92.6	103	126	153	103	19.8	12.6	24.1
MAX	71.6	75.9	400	253	323	238	345	335	301	76.8	34.4	56.9
(WY)	1994	1985	1996	1996	1996	1993	1989	1984	1984	1984	1987	1989
MIN	1.85	5.38	3.80	2.87	3.42	9.91	19.9	12.8	5.23	5.30	4.11	1.16
(WY)	1984	1986	1987	1985	1985	1985	1988	1992	1987	1988	1986	1984

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1984 - 1996	
ANNUAL TOTAL	34651		59278.8			
ANNUAL MEAN	94.9		162		66.7	
HIGHEST ANNUAL MEAN					162	1996
LOWEST ANNUAL MEAN					17.6	1987
HIGHEST DAILY MEAN	2410	Dec 30	2410	Dec 30	2410	Dec 30 1995
LOWEST DAILY MEAN	11	Aug 10	6.0	Jul 21	.22	Oct 7 1984
ANNUAL SEVEN-DAY MINIMUM	11	Aug 9	8.9	Jul 16	.23	Oct 2 1984
ANNUAL RUNOFF (AC-FT)	68730		117600		48320	
10 PERCENT EXCEEDS	218		400		189	
50 PERCENT EXCEEDS	33		118		14	
90 PERCENT EXCEEDS	13		13		4.0	

e Estimated

14335040 LOST CREEK LAKE NEAR MCLEOD, OR

LOCATION.--Lat 42°40'16", long 122°40'25", in SW 1/4 sec.26, T.33 S., R. 1 E., Jackson County, Hydrologic Unit 17100307, in outlet structure of Lost Creek Dam on Rogue River, 1.0 mi northeast of McLeod and at mile 157.2.

DRAINAGE AREA.--686 mi^2.

PERIOD OF RECORD.--February 1977 to current year.

REVISED RECORDS.--WDR OR-85-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers). Prior to Nov. 28, 1977, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam completed in October 1976. Storage began in February 1977. Total capacity, 465,000 acre-ft between elevations 1,551.0 ft and 1,872.0 ft, maximum pool elevation. Elevation of gated spillway crest, 1,823.0 ft. Usable storage, 315,000 acre-ft between elevation 1,751.0 ft and 1,872.0 ft. Water is used for flood control, recreation, power generation, pollution abatement, domestic use and other purposes. Readings during period of no U.S. Geological Survey record, Nov. 30 to Jan. 9, furnished by the U.S. Army Corps of Engineers.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 465,800 acre-ft June 1, 2, 1988, elevation, 1,872.24 ft; minimum contents since first filling, 100,800 acre-ft Oct. 29, 1977, elevation, 1,720.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 465,000 acre-ft Apr. 28, elevation, 1,872.00 ft; minimum contents, 281,100 acre-ft Nov. 3-6, elevation, 1,810.49 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,720	100,100	1,850	393,100
1,750	148,200	1,872	465,000
1,800	254,600	1,899	562,900

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1815.14	1810.63	1816.95	1828.01	1824.03	1850.30	1863.04	1869.15	1871.68	1861.16	1850.34	1829.62
2	1814.99	1810.53	1817.53	1829.24	1824.97	1850.71	1863.51	1869.33	1871.76	1860.55	1850.04	1828.81
3	1814.87	1810.50	1817.50	1829.21	1825.90	1851.14	1863.89	1869.31	1871.85	1859.87	1849.69	1828.00
4	1814.75	1810.49	1817.83	1828.52	1827.02	1851.63	1864.22	1869.22	1871.91	1859.11	1849.27	1827.19
5	1814.60	1810.49	1817.83	1826.40	1828.03	1852.18	1864.55	1869.15	1871.90	1858.33	1848.77	1826.37
6	1814.44	1810.53	1817.56	1824.03	1829.06	1852.63	1864.98	1869.09	1871.92	1857.56	1848.20	1825.55
7	1814.27	1810.60	1816.82	1821.61	1830.42	1853.05	1865.52	1869.13	1871.87	1856.76	1847.61	1824.72
8	1814.09	1810.75	1816.02	1820.98	1831.95	1853.49	1866.09	1869.23	1871.84	1856.02	1847.01	1823.89
9	1813.92	1811.07	1816.75	1821.39	1835.57	1854.08	1866.70	1869.30	1871.87	1855.49	1846.42	1823.05
10	1813.77	1811.21	1816.58	1821.75	1838.42	1854.78	1867.14	1869.34	1871.75	1855.11	1845.81	1822.22
11	1813.72	1811.39	1816.12	1821.71	1840.53	1855.65	1867.14	1869.39	1871.52	1854.91	1845.17	1821.39
12	1813.72	1812.09	1820.30	1821.41	1842.28	1856.54	1867.08	1869.51	1871.24	1854.74	1844.49	1820.75
13	1813.59	1812.34	1823.54	1820.92	1843.50	1857.31	1866.98	1869.91	1870.95	1854.56	1843.80	1820.24
14	1813.44	1812.34	1824.08	1820.30	1844.30	1857.96	1867.11	1870.29	1870.63	1854.40	1843.10	1819.76
15	1813.29	1812.26	1824.18	1820.13	1844.92	1858.53	1867.36	1869.90	1870.28	1854.20	1842.40	1819.55
16	1813.13	1812.17	1823.21	1820.27	1845.48	1859.08	1867.66	1869.52	1869.85	1853.98	1841.69	1819.27
17	1812.96	1812.15	1821.73	1820.60	1846.41	1859.58	1867.91	1869.80	1869.18	1853.81	1840.96	1818.97
18	1812.81	1812.23	1819.94	1821.04	1847.64	1860.06	1868.11	1870.33	1868.58	1853.66	1840.25	1818.75
19	1812.64	1812.24	1817.93	1821.58	1849.15	1860.53	1868.29	1870.43	1867.99	1853.46	1839.52	1818.68
20	1812.45	1812.21	1816.70	1822.27	1850.21	1860.89	1868.42	1870.06	1867.39	1853.25	1838.79	1818.73
21	1812.27	1812.16	1816.37	1822.78	1850.77	1861.10	1868.54	1869.85	1866.76	1853.04	1838.06	1818.71
22	1812.06	1812.10	1816.00	1822.96	1850.50	1861.35	1868.76	1870.37	1866.11	1852.82	1837.32	1818.69
23	1811.86	1812.01	1815.52	1823.16	1850.07	1861.52	1869.58	1870.40	1865.50	1852.57	1836.57	1818.67
24	1811.67	1812.02	1814.96	1823.17	1849.42	1861.62	1870.99	1870.66	1864.96	1852.34	1835.82	1818.67
25	1811.52	1812.16	1814.34	1823.12	1848.88	1861.65	1871.36	1870.80	1864.36	1852.09	1835.07	1818.67
26	1811.50	1812.42	1813.66	1822.99	1849.17	1861.64	1871.55	1870.84	1863.79	1851.87	1834.32	1818.68
27	1811.41	1812.47	1813.07	1823.07	1849.53	1861.79	1871.96	1870.77	1863.38	1851.61	1833.56	1818.67
28	1811.28	1812.65	1812.82	1823.03	1849.79	1861.80	1871.30	1870.88	1862.87	1851.37	1832.79	1818.67
29	1811.14	1812.62	1813.82	1822.91	1850.00	1861.89	1870.34	1871.18	1862.31	1851.13	1832.01	1818.68
30	1810.98	1814.64	1820.34	1822.77	---	1862.11	1869.33	1871.41	1861.75	1850.89	1831.22	1818.70
31	1810.81	---	1825.72	1823.09	---	1862.47	---	1871.58	---	1850.63	1830.42	---
MAX	1815.14	1814.64	1825.72	1829.24	1850.77	1862.47	1871.96	1871.58	1871.92	1861.16	1850.34	1829.62
MIN	1810.81	1810.49	1812.82	1820.13	1824.03	1850.30	1863.04	1869.09	1861.75	1850.63	1830.42	1818.67
(†)	281910	291910	321840	314590	393090	432980	455890	463550	430620	395050	335010	302700
(‡)	-11660	+10000	+29930	-7250	+78500	+39890	+22910	+7660	-32930	-35570	-60040	-32310

CAL YR 1995 MAX 1871.88 MIN 1790.45 AC-FT‡ +90660
WTR YR 1996 MAX 1871.96 MIN 1810.49 AC-FT‡ +9130

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14335075 ROGUE RIVER AT MCLEOD, OR

LOCATION.--Lat 42°39'35", long 122°41'30", in SW 1/4 NW 1/4 sec.34, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 0.3 mi upstream from Big Butte Creek, 0.1 southwest of McLeod, and at mile 155.6.

DRAINAGE AREA.--689 mi^2.

PERIOD OF RECORD.--May 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1976 to September 1981.
pH: November 1976 to September 1981.
WATER TEMPERATURE: November 1976 to current year.
DISSOLVED OXYGEN: November 1976 to September 1981.
SUSPENDED SEDIMENT DISCHARGE: October 1976 to September 1981 (October to April only, 1980 water year, November to April only, 1981 water year).

INSTRUMENTATION.--Water-quality monitor since November 1976. Automatic pumping sediment sampler November 1976 to April 1981.

REMARKS.--Water-discharge records obtained by subtracting Big Butte Creek near McLeod (station 14337500) from Rogue River near McLeod (station 14337600), were used for computation of daily sediment loads.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 76 microsiemens Nov. 11, 1977; minimum, 45 microsiemens Dec. 24, 25, 1977.
pH: Maximum, 9.2 units May 8, 9, 11, 12, 1981; minimum, 6.7 units Nov. 8-13, 1978.
WATER TEMPERATURE: Maximum, 15.5°C June 23, 1985, several days in July and August 1994; minimum, 0.5°C Jan. 9, 1977; minimum since full operation of Lost Creek Lake, 3.5°C several days in February 1979, February 1985, February and March 1989. The minimum may have been lower during period of missing record Feb. 1-20, 1985.
DISSOLVED OXYGEN: Maximum, 15.7 mg/L Jan. 8, 1977; minimum, 6.8 mg/L Aug. 20, 1977.
SEDIMENT CONCENTRATION: Maximum recorded daily mean, 75 mg/L Dec. 14, 1977; minimum daily, 0 mg/L many days.
SEDIMENT DISCHARGE: Maximum recorded daily, 1,570 tons Dec. 14, 1977; minimum daily, 0 tons many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 14.5°C Aug. 14-17; minimum, 5.0°C Mar. 13, 14, but may have been lower during period of missing record Jan. 18 to Feb. 5.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.0	8.5	8.5	8.0	7.5	7.5	9.0	9.0	9.0	6.5	6.5	6.5
2	9.0	8.5	8.5	8.0	7.0	7.5	9.0	9.0	9.0	6.5	6.5	6.5
3	9.0	8.5	8.5	8.0	7.0	7.5	9.0	9.0	9.0	6.5	6.5	6.5
4	9.0	8.5	8.5	8.0	7.0	7.5	9.0	9.0	9.0	6.5	6.5	6.5
5	9.0	8.5	8.5	8.0	7.5	8.0	9.5	9.0	9.0	7.0	6.5	7.0
6	9.0	8.0	8.5	8.0	7.5	7.5	9.5	9.0	9.5	7.0	6.5	7.0
7	9.0	8.0	8.5	8.0	7.5	8.0	9.5	9.0	9.0	7.0	6.5	7.0
8	9.0	8.5	8.5	8.0	8.0	8.0	9.0	9.0	9.0	7.0	7.0	7.0
9	9.0	8.5	8.5	8.5	8.0	8.0	9.0	9.0	9.0	7.0	6.5	6.5
10	9.0	8.5	8.5	8.0	8.0	8.0	9.0	9.0	9.0	7.0	6.5	6.5
11	8.5	7.5	8.0	8.5	8.0	8.5	9.5	9.0	9.0	6.5	6.5	6.5
12	8.0	7.0	7.5	8.5	8.0	8.5	9.5	8.5	9.0	6.5	6.5	6.5
13	8.0	7.0	7.5	9.0	8.5	8.5	9.0	9.0	9.0	6.5	6.5	6.5
14	8.0	7.5	7.5	9.0	8.5	8.5	9.0	9.0	9.0	6.5	6.5	6.5
15	8.0	7.0	7.5	8.5	8.5	8.5	9.0	8.5	9.0	6.5	6.5	6.5
16	8.0	7.0	7.5	9.0	8.5	8.5	8.5	8.5	8.5	6.5	6.5	6.5
17	8.0	7.5	7.5	8.5	8.5	8.5	8.5	8.5	8.5	6.5	6.0	6.5
18	8.0	7.5	8.0	9.0	8.5	8.5	8.5	8.5	8.5	---	---	---
19	8.0	7.0	7.5	8.5	8.0	8.5	8.5	8.5	8.5	---	---	---
20	7.5	7.0	7.5	8.5	8.0	8.5	8.5	8.0	8.0	---	---	---
21	7.5	7.0	7.5	8.5	8.0	8.5	8.0	7.5	8.0	---	---	---
22	7.5	7.0	7.0	8.5	8.5	8.5	8.0	7.5	7.5	---	---	---
23	7.5	7.0	7.5	8.5	8.5	8.5	7.5	7.5	7.5	---	---	---
24	8.0	7.0	7.5	8.5	8.5	8.5	7.5	7.5	7.5	---	---	---
25	8.0	7.0	7.5	8.5	8.5	8.5	7.5	7.0	7.5	---	---	---
26	8.0	7.0	7.5	8.5	8.5	8.5	7.0	7.0	7.0	---	---	---
27	8.0	7.5	7.5	8.5	8.5	8.5	7.0	7.0	7.0	---	---	---
28	8.0	7.5	7.5	9.0	8.5	8.5	7.0	7.0	7.0	---	---	---
29	8.0	7.5	7.5	9.0	8.5	8.5	7.0	6.5	7.0	---	---	---
30	8.0	7.5	7.5	9.0	9.0	9.0	7.0	7.0	7.0	---	---	---
31	8.0	7.5	7.5	---	---	---	7.0	6.5	6.5	---	---	---
MONTH	9.0	7.0	8.0	9.0	7.0	8.5	9.5	6.5	8.5	---	---	---

14335075 ROGUE RIVER AT MCLEOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	6.0	5.5	6.0	6.0	6.0	6.0	9.5	8.0	8.5
2	---	---	---	6.0	5.5	5.5	6.0	6.0	6.0	9.5	8.5	9.0
3	---	---	---	6.0	5.5	5.5	6.5	6.0	6.0	9.5	8.5	9.0
4	---	---	---	6.0	5.5	5.5	6.5	6.0	6.0	9.5	9.0	9.5
5	---	---	---	6.0	5.5	5.5	6.5	6.0	6.0	10.0	8.5	9.5
6	5.5	5.5	5.5	6.0	5.5	5.5	6.5	6.0	6.5	10.0	9.0	9.5
7	5.5	5.5	5.5	6.0	5.5	5.5	7.0	6.0	6.5	10.0	9.0	9.5
8	6.0	5.5	5.5	6.0	5.5	6.0	7.0	6.0	6.5	10.0	9.0	9.5
9	6.0	5.5	5.5	6.0	5.5	6.0	6.5	6.0	6.5	10.0	8.5	9.5
10	5.5	5.5	5.5	6.0	5.5	5.5	6.5	6.0	6.0	9.0	8.0	9.0
11	6.0	5.5	5.5	6.0	5.5	5.5	---	---	---	9.5	8.5	9.0
12	6.0	5.5	5.5	6.0	5.5	5.5	---	---	---	9.5	8.5	9.0
13	6.0	5.5	6.0	6.0	5.0	5.5	---	---	---	9.5	8.5	9.0
14	6.0	5.5	6.0	6.0	5.0	5.5	---	---	---	9.0	8.5	9.0
15	6.0	5.5	6.0	6.5	5.5	6.0	---	---	---	8.5	8.5	8.5
16	6.0	6.0	6.0	6.0	5.5	5.5	---	---	---	9.0	8.5	9.0
17	6.0	6.0	6.0	6.5	5.5	6.0	---	---	---	9.5	9.0	9.0
18	6.0	5.5	6.0	6.5	5.5	6.0	---	---	---	9.5	9.0	9.5
19	6.0	5.5	6.0	6.5	5.5	6.0	---	---	---	10.0	9.0	9.5
20	6.0	5.5	6.0	6.0	5.5	6.0	---	---	---	10.0	9.0	10.0
21	6.0	6.0	6.0	6.5	5.5	6.0	---	---	---	10.0	9.5	9.5
22	6.0	6.0	6.0	6.0	5.5	6.0	---	---	---	9.5	8.5	9.0
23	6.0	6.0	6.0	6.0	5.5	6.0	---	---	---	10.0	8.5	9.5
24	6.0	5.5	6.0	6.0	5.5	6.0	---	---	---	10.0	9.0	9.5
25	6.0	6.0	6.0	6.5	5.5	6.0	8.0	7.0	7.5	10.0	9.0	9.5
26	6.0	5.5	6.0	6.5	5.5	6.0	8.0	7.5	8.0	10.5	9.5	10.0
27	6.0	5.5	6.0	6.0	5.5	6.0	8.0	7.5	8.0	10.5	9.5	10.0
28	6.0	5.5	6.0	6.0	5.5	6.0	8.0	7.5	8.0	10.0	9.5	10.0
29	6.5	5.5	6.0	6.0	5.5	6.0	8.5	8.0	8.0	10.5	9.5	10.0
30	---	---	---	6.5	5.5	6.0	9.0	8.0	8.5	10.5	9.5	10.0
31	---	---	---	6.0	6.0	6.0	---	---	---	10.5	9.5	10.0
MONTH	---	---	---	6.5	5.0	6.0	---	---	---	10.5	8.0	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.5	10.0	10.5	10.0	9.0	9.5	12.5	11.0	12.0	13.5	11.5	12.5
2	10.5	10.0	10.5	10.0	9.0	9.5	12.5	11.0	12.0	12.0	11.0	12.0
3	11.5	10.0	10.5	10.0	9.0	9.5	12.5	11.0	12.0	12.5	11.5	12.0
4	11.0	10.0	11.0	10.0	9.0	9.5	12.5	11.5	12.0	12.5	11.5	12.0
5	---	---	---	10.0	9.0	9.5	12.0	11.5	12.0	12.5	11.5	12.0
6	---	---	---	10.0	9.0	10.0	13.5	11.5	12.5	12.5	11.5	12.0
7	---	---	---	10.5	9.5	10.0	13.5	12.5	13.0	12.5	12.0	12.5
8	---	---	---	10.5	9.5	10.0	13.5	12.5	13.5	12.5	11.5	12.0
9	---	---	---	10.5	9.5	10.5	14.0	12.5	13.5	12.0	9.0	10.5
10	---	---	---	11.0	10.0	10.5	14.0	13.0	13.5	---	---	---
11	---	---	---	11.0	10.0	10.5	14.0	13.0	13.5	10.5	9.5	10.0
12	---	---	---	11.0	10.0	10.5	14.0	13.0	13.5	10.5	9.0	10.0
13	---	---	---	11.5	10.0	11.0	14.0	13.0	13.5	10.0	9.5	10.0
14	---	---	---	11.5	10.0	11.0	14.5	13.0	13.5	10.0	9.5	10.0
15	---	---	---	11.5	10.0	11.0	14.5	13.0	14.0	11.0	9.5	10.0
16	---	---	---	11.5	10.5	11.0	14.5	13.0	14.0	10.5	9.5	10.0
17	---	---	---	11.5	10.5	11.0	14.5	13.0	14.0	10.5	10.0	10.5
18	9.5	9.0	9.5	11.5	10.5	11.0	13.5	12.0	13.0	10.5	9.0	10.0
19	9.5	9.0	9.5	11.5	10.5	11.0	12.5	12.0	12.5	10.0	9.0	9.5
20	10.0	9.0	9.5	11.5	10.5	11.0	13.0	12.0	12.5	10.0	8.0	9.0
21	10.0	9.0	9.5	12.0	10.5	11.0	13.0	12.0	12.5	9.0	8.0	8.5
22	10.0	9.0	9.5	12.0	10.5	11.0	13.0	12.0	12.5	8.5	7.0	7.5
23	9.5	9.0	9.5	12.0	10.5	11.5	13.0	12.0	12.5	7.5	6.5	7.0
24	9.5	9.0	9.5	12.0	10.5	11.5	13.0	12.5	13.0	7.5	6.5	7.0
25	9.5	9.0	9.5	12.0	10.5	11.5	13.0	12.5	13.0	7.5	6.5	7.0
26	10.0	9.5	9.5	12.0	11.0	11.5	13.5	12.5	13.0	7.5	6.5	7.0
27	10.0	9.5	9.5	12.0	11.0	11.5	13.5	12.5	13.0	8.0	7.0	7.5
28	9.5	8.5	9.5	12.0	11.0	11.5	13.5	13.0	13.0	8.0	7.5	7.5
29	9.5	8.5	9.0	12.0	11.5	11.5	13.5	13.0	13.0	8.5	7.5	7.5
30	9.5	8.5	9.5	12.5	11.0	11.5	13.5	13.0	13.5	8.5	7.5	8.0
31	---	---	---	12.5	11.0	11.5	13.5	13.0	13.5	---	---	---
MONTH	---	---	---	12.5	9.0	10.5	14.5	11.0	13.0	---	---	---
YEAR	---	---	---									

14337500 BIG BUTTE CREEK NEAR MCLEOD, OR

LOCATION.--Lat 42°39'05", long 122°41'25", in NE 1/4 NW 1/4 sec.3, T.34 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 225 ft upstream from county road bridge, 0.9 mi south of McLeod, and at mile 0.64.

DRAINAGE AREA.--245 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1957. October 1967 to current year.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,525.95 ft above sea level. Oct. 9, 1945, to Sept. 30, 1957, nonrecording gage at site 260 ft downstream at datum 0.53 ft higher.

REMARKS.--No estimated daily discharges. Records good. Slight regulation by fish hatchery 600 ft upstream from station. Several diversions in the vicinity of Butte Falls, the two largest being the city of Medford diversion and Eagle Point Irrigation District Canal.

AVERAGE DISCHARGE.--41 years (water years 1946-57, 1968-96), 257 ft^3/s, 185,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,950 ft^3/s Dec. 22, 1955, gage height, 12.75 ft, site and datum then in use, from rating curve extended above 3,300 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 6.4 ft^3/s June 23, 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 18.6 ft, present site, from floodmark by local resident, discharge, 16,800 ft^3/s, from rating curve, at former site, extended above 9,000 ft^3/s and field estimate of overflow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 14	1900	2,370	7.44	Jan. 27	1700	1,950	6.89
Dec. 30	2100	2,740	7.95	Feb. 9	1130	*3,240	*8.54
Jan. 20	2000	1,940	6.87				

Minimum discharge, 50 ft^3/s Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	55	388	1180	858	596	483	388	265	110	69	65
2	53	55	220	881	744	579	427	371	247	101	66	64
3	56	54	153	724	686	564	395	355	225	96	66	64
4	62	54	329	644	1240	575	362	339	214	94	67	69
5	61	55	519	556	1460	624	338	324	203	90	66	69
6	63	56	366	503	1430	565	323	310	190	94	70	69
7	64	72	325	461	1420	527	311	299	181	86	72	71
8	62	91	341	658	1530	509	304	289	173	83	70	71
9	61	99	616	858	2750	516	294	278	165	83	70	69
10	61	78	401	885	2340	520	313	235	158	83	70	66
11	75	61	476	741	1880	536	294	168	151	81	70	66
12	75	92	1570	657	1560	558	295	163	148	80	67	66
13	97	66	1330	591	1380	494	277	177	145	79	69	69
14	144	61	1240	540	1240	453	257	278	140	80	66	74
15	142	60	1920	771	1120	419	247	313	137	78	70	103
16	141	61	1010	918	1050	393	255	461	133	76	70	100
17	141	61	705	852	1130	377	250	712	131	79	69	81
18	128	69	559	872	1100	355	252	696	129	85	70	73
19	62	65	413	1040	1330	341	245	556	125	80	67	73
20	57	62	333	1240	1240	330	242	445	122	78	68	74
21	56	62	286	1280	1480	317	238	686	118	78	66	74
22	56	62	249	913	1130	318	234	943	116	74	66	74
23	56	61	214	923	1110	318	252	761	122	70	67	73
24	56	61	189	1190	1010	298	834	591	135	68	67	73
25	56	73	169	869	847	276	616	511	126	69	66	73
26	60	95	156	729	754	262	569	448	127	70	65	75
27	58	82	148	1380	692	407	537	400	206	70	65	79
28	58	113	151	1020	651	483	482	360	147	71	66	147
29	57	89	656	945	614	382	441	332	128	72	67	145
30	56	233	2040	1040	---	348	410	310	117	75	65	143
31	56	---	1960	1000	---	351	---	288	---	71	65	---
TOTAL	2288	2258	19432	26861	35776	13591	10777	12787	4724	2504	2097	2412
MEAN	73.8	75.3	627	866	1234	438	359	412	157	80.8	67.6	80.4
MAX	144	233	2040	1380	2750	624	834	943	265	110	72	147
MIN	53	54	148	461	614	262	234	163	116	68	65	64
AC-FT	4540	4480	38540	53280	70960	26960	21380	25360	9370	4970	4160	4780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1996, BY WATER YEAR (WY)

MEAN	123	189	383	461	479	492	368	239	140	80.3	67.4	70.1
MAX	330	535	1334	1325	1234	1362	723	492	450	148	121	106
(WY)	1951	1974	1956	1956	1996	1972	1974	1953	1953	1948	1956	1948
MIN	64.4	60.2	58.0	64.2	91.7	92.2	73.4	57.0	43.7	36.7	43.0	43.8
(WY)	1982	1988	1977	1977	1977	1992	1977	1968	1968	1968	1992	1988

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1946 - 1996	
ANNUAL TOTAL	85133		135507			
ANNUAL MEAN	233		370		257	
HIGHEST ANNUAL MEAN					501	1956
LOWEST ANNUAL MEAN					76.6	1992
HIGHEST DAILY MEAN	2040	Dec 30	2750	Feb 9	7190	Jan 22 1972
LOWEST DAILY MEAN	49	Sep 19	53	Oct 2	15	Jun 24 1977
ANNUAL SEVEN-DAY MINIMUM	50	Sep 18	55	Oct 30	30	Jun 23 1977
ANNUAL RUNOFF (AC-FT)	168900		268800		185900	
10 PERCENT EXCEEDS	508		1000		580	
50 PERCENT EXCEEDS	149		185		140	
90 PERCENT EXCEEDS	58		62		57	

14337500 BIG BUTTE CREEK NEAR MCLEOD, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1970 to current year.

INSTRUMENTATION.--Temperature recorder since August 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 24.0°C at times in 1973, 1977, 1979-81, 1990; minimum, 0.0°C at times most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.5°C July 25; minimum, 2.5°C Jan. 23, 24.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.5	10.0	11.5	8.0	5.5	7.0	9.5	8.0	9.0	6.5	5.5	6.0
2	13.5	9.5	11.5	7.5	5.0	6.0	8.0	6.5	7.5	6.5	5.0	6.0
3	12.5	10.0	11.5	7.0	4.5	5.5	6.5	6.0	6.0	7.5	6.5	7.0
4	11.5	8.0	10.0	6.5	4.0	5.5	8.0	6.5	7.5	7.5	6.0	7.0
5	11.0	7.5	9.5	8.5	6.5	7.5	8.5	7.5	8.0	6.5	5.5	6.0
6	11.0	8.0	9.5	8.0	7.0	8.0	9.0	8.5	8.5	7.0	6.0	6.5
7	11.0	7.5	9.5	10.0	8.0	9.0	9.0	8.5	9.0	7.0	6.0	6.5
8	10.5	7.5	9.0	9.5	8.5	9.0	8.5	8.0	8.5	7.5	6.5	7.0
9	12.0	8.5	10.0	9.5	8.0	9.0	9.5	8.5	9.5	7.5	7.5	7.5
10	12.5	9.0	10.5	8.5	8.0	8.5	9.5	8.5	9.0	7.5	6.5	7.0
11	11.5	10.5	11.0	9.0	8.5	8.5	9.5	8.5	9.0	6.5	5.5	6.0
12	11.5	9.5	10.5	10.0	9.0	9.5	9.5	8.5	9.5	6.5	5.0	6.0
13	10.5	7.5	9.0	11.5	10.0	10.5	8.5	8.0	8.0	6.5	5.0	5.5
14	11.0	8.0	9.0	10.5	9.0	9.5	8.0	7.0	7.5	7.0	5.5	6.0
15	11.0	8.5	9.5	9.5	8.5	9.0	7.5	6.5	7.0	8.0	7.0	7.5
16	12.0	10.0	10.5	10.0	9.0	9.5	7.0	6.5	6.5	7.5	6.0	6.5
17	10.5	9.0	10.0	9.5	8.5	9.0	7.0	6.0	6.5	6.0	5.5	5.5
18	12.5	10.0	11.0	10.5	8.5	9.5	7.0	6.5	6.5	5.5	5.0	5.5
19	10.5	7.5	9.0	9.0	7.5	8.5	6.5	5.5	6.0	6.0	5.5	5.5
20	10.0	8.0	9.0	8.0	6.5	7.5	6.0	5.5	6.0	6.0	5.5	5.5
21	10.5	8.0	9.0	9.0	7.5	8.0	5.5	4.5	5.0	5.5	5.0	5.5
22	8.5	6.0	7.5	9.5	8.5	9.0	5.5	4.5	5.0	5.5	4.5	5.0
23	8.5	5.5	7.0	9.5	8.5	9.0	4.5	3.5	4.0	5.0	2.5	4.5
24	9.0	6.0	7.5	10.0	8.5	9.5	4.0	3.0	3.5	4.5	2.5	3.5
25	9.0	6.5	8.0	9.5	9.0	9.5	4.0	3.0	3.5	5.0	4.0	4.5
26	11.5	9.0	10.0	9.0	8.0	8.5	4.5	3.0	4.0	5.0	4.0	4.5
27	10.0	8.5	9.5	8.0	7.5	8.0	5.5	4.5	5.0	4.5	3.5	4.0
28	10.5	8.5	9.5	9.0	8.0	8.5	6.0	5.0	5.5	5.0	4.0	4.5
29	10.0	7.5	9.0	9.0	8.0	8.5	6.5	5.5	6.0	5.5	4.5	5.0
30	10.0	8.0	9.0	9.5	9.0	9.0	7.5	6.5	7.0	5.5	4.5	5.0
31	10.0	7.5	9.0	---	---	---	7.5	6.5	7.5	6.5	5.0	5.5
MONTH	13.5	5.5	9.5	11.5	4.0	8.5	9.5	3.0	7.0	8.0	2.5	5.5

14337500 BIG BUTTE CREEK NEAR MCLEOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	4.0	5.0	7.0	4.5	6.0	10.5	8.0	9.0	13.5	10.5	12.0
2	5.0	3.5	4.5	7.0	4.5	6.0	9.5	8.0	8.5	12.0	10.0	11.0
3	6.5	4.0	5.0	7.5	6.5	7.0	10.5	7.5	9.0	10.5	9.0	9.5
4	6.5	5.5	6.0	7.5	6.5	7.0	10.5	7.0	9.0	10.5	7.0	9.0
5	7.0	6.0	6.5	7.0	6.0	6.5	11.5	7.5	9.5	11.5	8.5	10.0
6	7.0	6.0	6.5	7.5	5.0	6.5	12.5	8.5	10.5	12.0	8.0	10.0
7	8.0	6.5	7.0	8.5	7.0	8.0	13.0	9.0	11.0	12.0	9.0	10.5
8	8.0	6.5	7.5	9.5	7.0	8.5	13.5	10.0	12.0	12.0	8.5	10.0
9	8.0	7.0	7.5	10.0	8.5	9.0	12.5	10.0	11.0	12.0	8.0	10.0
10	7.5	6.5	7.0	9.0	8.0	8.5	10.0	9.0	9.5	13.0	9.0	11.0
11	8.0	5.5	6.5	8.5	8.0	8.5	9.5	8.5	9.0	15.0	10.0	12.5
12	8.0	5.5	6.5	8.5	6.5	7.5	9.5	7.5	8.5	16.5	12.0	14.0
13	7.5	5.5	6.5	8.5	6.0	7.0	11.0	6.5	8.5	15.0	13.0	14.0
14	7.5	5.5	6.5	8.5	5.5	7.5	11.0	8.0	9.5	14.0	12.5	13.5
15	8.0	5.5	6.5	9.0	6.5	8.0	10.5	9.0	10.0	13.5	12.0	13.0
16	9.0	7.0	8.0	9.0	6.0	7.5	10.0	9.0	9.5	14.0	11.5	13.0
17	8.5	7.5	8.0	10.0	7.0	8.5	9.0	7.0	8.0	13.5	11.0	12.0
18	8.5	7.5	8.0	10.0	7.0	8.5	9.0	6.5	7.5	12.0	10.5	11.5
19	8.0	6.5	7.0	10.0	7.5	9.0	9.0	7.0	8.0	12.5	10.0	11.0
20	7.5	6.0	6.5	9.5	6.5	8.0	9.5	6.5	8.0	13.5	10.0	11.5
21	6.5	5.0	5.5	9.5	6.5	8.0	10.5	7.5	9.0	13.5	11.0	12.0
22	6.0	4.5	5.5	9.0	7.0	8.0	9.5	8.5	9.0	12.0	10.0	11.0
23	5.5	4.5	5.0	8.5	6.0	7.5	10.0	9.0	9.5	11.5	9.0	10.5
24	5.5	4.0	5.0	9.0	5.5	7.0	11.5	9.5	10.5	13.0	8.5	11.0
25	5.0	3.0	4.0	9.0	5.5	7.0	11.5	7.5	9.5	14.5	10.5	12.5
26	4.5	3.0	4.0	8.5	5.0	7.0	12.0	9.0	10.5	15.0	11.5	13.0
27	5.5	4.0	5.0	8.0	5.0	6.5	11.0	7.5	9.5	14.0	11.5	12.5
28	6.0	5.0	5.5	7.5	4.0	5.5	11.5	7.5	9.5	12.5	10.0	11.0
29	7.0	5.0	6.0	8.5	5.5	7.0	12.5	8.5	11.0	13.0	9.0	11.0
30	---	---	---	8.0	6.0	7.0	13.0	10.0	11.5	13.5	9.5	11.5
31	---	---	---	8.5	7.0	7.5	---	---	---	14.5	11.0	13.0
MONTH	9.0	3.0	6.0	10.0	4.0	7.5	13.5	6.5	9.5	16.5	7.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.0	11.5	13.5	20.0	14.0	16.5	20.0	15.5	17.5	17.0	12.0	14.5
2	17.0	13.0	15.0	20.0	15.0	17.5	17.0	13.5	15.5	16.5	12.0	14.0
3	17.5	14.0	16.0	20.0	15.0	17.5	18.0	13.5	15.5	16.5	12.0	14.0
4	17.5	13.5	15.5	18.5	14.5	16.5	18.0	12.5	15.5	14.0	11.5	13.0
5	17.0	12.0	14.5	18.5	12.5	15.5	17.0	13.5	15.5	15.0	10.0	12.0
6	18.0	13.0	15.5	19.0	13.0	16.0	18.0	12.0	14.5	14.5	10.0	12.0
7	18.5	13.5	16.0	21.0	14.5	17.5	19.0	13.0	15.5	15.0	10.0	12.5
8	17.5	13.0	15.5	21.0	15.0	18.0	20.0	14.0	17.0	16.0	11.0	13.5
9	16.5	12.5	14.0	20.5	15.0	17.5	20.5	14.5	17.5	16.5	11.5	14.0
10	16.5	11.0	13.5	20.5	14.5	17.5	20.5	15.0	18.0	17.0	12.0	14.5
11	17.0	11.5	14.0	21.0	15.0	18.0	19.5	14.5	17.0	16.0	12.0	14.0
12	17.5	12.0	14.5	21.5	15.5	18.5	19.5	14.0	16.5	15.0	12.0	13.5
13	17.5	12.5	15.0	21.5	16.5	19.0	20.5	15.0	17.5	13.0	11.0	12.0
14	17.5	12.0	14.5	21.0	17.0	19.0	20.5	15.5	17.5	12.5	10.5	11.5
15	17.5	12.5	15.0	21.0	16.5	18.5	19.5	14.5	17.0	14.0	12.0	12.5
16	16.5	12.5	14.5	20.0	15.0	17.5	18.0	13.5	16.0	13.0	11.0	12.0
17	15.0	11.0	12.5	17.0	13.5	14.5	18.0	13.5	15.5	13.0	11.0	12.0
18	15.5	9.5	12.5	16.0	12.5	14.0	17.0	12.0	14.5	13.5	9.5	11.5
19	14.5	10.0	12.5	17.5	11.5	14.5	17.5	12.0	14.5	14.0	11.5	12.5
20	17.0	12.0	14.5	18.5	12.5	15.0	17.0	12.0	14.5	13.5	10.0	11.5
21	17.0	11.5	14.0	20.0	13.5	16.5	17.0	12.0	14.5	14.0	10.5	12.0
22	16.5	11.0	13.5	21.0	15.5	18.0	18.0	12.0	15.0	12.5	8.5	10.5
23	14.0	12.5	13.0	21.5	16.0	18.5	18.0	13.0	15.5	12.0	8.5	10.0
24	15.0	11.5	13.0	22.0	16.5	19.0	19.0	13.5	16.0	13.0	8.5	10.5
25	15.5	11.0	13.0	22.5	16.5	19.5	19.5	15.0	17.0	13.0	9.0	11.0
26	15.0	11.0	13.5	22.0	16.5	19.0	19.5	15.0	17.0	13.5	9.5	11.5
27	16.0	12.5	14.0	21.5	17.0	19.0	16.5	14.5	15.5	14.0	9.5	11.5
28	17.0	12.5	14.5	19.0	16.0	17.0	18.0	12.0	15.0	13.5	10.0	11.5
29	18.5	12.5	15.0	20.5	14.5	17.0	18.5	13.0	15.5	13.5	10.5	11.5
30	19.0	13.5	16.0	21.0	15.5	18.0	18.5	13.5	15.5	13.5	10.5	12.0
31	---	---	---	21.0	15.5	18.0	17.5	13.0	15.0	---	---	---
MONTH	19.0	9.5	14.5	22.5	11.5	17.5	20.5	12.0	16.0	17.0	8.5	12.5
YEAR	22.5	2.5	10.5									

14337600 ROGUE RIVER NEAR MCLEOD, OR

LOCATION.--Lat 42°39'20", long 122°42'50", in SW 1/4 sec.33, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on left bank at Obstinate J Ranch, 1.3 mi downstream from Big Butte Creek, 1.6 mi southwest of McLeod, and at mile 154.0.

DRAINAGE AREA.--938 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,489.08 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Diversions for irrigation upstream from station; most of low flow of Big Butte Creek is diverted near Butte Falls.

AVERAGE DISCHARGE.--12 years (water years 1966-77), 2,176 ft^3/s, 1,577,000 acre-ft/yr.
19 years (water years 1978-96), 1,994 ft^3/s, 1,445,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s Mar. 3, 1972, gage height, 12.24 ft; minimum discharge, 468 ft^3/s Feb. 18, 1977, result of closure of Lost Creek Dam, minimum prior to that time, 604 ft^3/s Sept. 5, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1928, 20.35 ft Dec. 22, 1964, from floodmarks, discharge, 74,300 ft^3/s, from slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,200 ft^3/s Dec. 14, gage height, 6.00 ft; minimum discharge, 934 ft^3/s Nov. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	1190	e3500	3760	1990	2780	2600	4170	2870	2790	1810	2370
2	1200	1080	e3100	4920	1780	2480	2770	3370	2850	2790	1810	2370
3	1200	974	e2800	5710	1730	2460	2710	3480	2830	2860	1890	2360
4	1210	960	e3200	7090	2450	2470	2570	3340	2830	2990	2000	2370
5	1210	958	e4400	7080	3120	2520	2480	3150	2820	2970	2120	2380
6	1210	956	e4600	6880	3650	2450	2350	3040	2700	2980	2240	2370
7	1220	980	e4500	7000	3900	2410	2300	2800	2780	2960	2260	2380
8	1220	983	5000	5790	4210	2400	2490	2610	2620	2860	2260	2380
9	1220	988	5240	4870	5210	2400	2640	2600	2460	2480	2250	2370
10	1200	969	5050	4750	4830	2400	2860	2560	2630	2230	2210	2360
11	1220	971	6350	4610	4390	2430	3430	2490	2770	1910	2330	2340
12	1230	1370	5220	4530	4100	2440	3420	2480	2770	1830	2340	2100
13	1260	1430	5540	4420	4350	2370	3260	2490	2750	1830	2350	1920
14	1300	e1400	7220	4390	4780	2320	2750	4030	2770	1820	2340	1920
15	1280	e1300	7400	4700	4740	2290	2530	6020	2760	1840	2350	1950
16	1290	e1300	6640	4590	4760	2260	2550	6020	2860	1840	2350	1940
17	1310	e1200	6390	3880	4810	2240	2540	5860	3220	1820	2350	1760
18	1300	e1200	6250	3870	4780	2270	2540	6000	3110	1810	2360	1550
19	1250	e1200	5810	4000	4980	2340	2540	5850	3010	1820	2360	1320
20	1240	e1200	4010	4280	4890	2450	2540	5740	3020	1820	2360	1150
21	1230	e1200	3150	4280	5340	2650	2530	5880	3020	1810	2360	1230
22	1240	e1200	3100	3800	5770	2650	2530	5910	3020	1820	2360	1210
23	1240	e1100	3060	3850	5690	2650	2540	5560	3020	1820	2370	1190
24	1220	e1100	3030	4020	5670	2620	5970	4480	3040	1810	2370	1150
25	1190	e1100	3010	3690	5210	2610	5960	4240	3040	1800	2360	1140
26	1180	e1300	2990	3590	3440	2590	5030	4170	2990	1810	2360	1150
27	1180	e1400	2570	4340	3120	2740	4010	4120	2910	1820	2370	1160
28	1190	e1700	2630	3780	3080	2840	5270	3540	2830	1810	2370	1220
29	1180	e1900	4370	3750	3030	2530	5540	2950	2820	1810	2380	1200
30	1190	e2700	4990	3870	---	2160	5530	2910	2800	1810	2370	1180
31	1200	---	4010	2970	---	2140	---	2880	---	1800	2370	---
TOTAL	38020	37309	139130	143060	119800	76360	98780	124740	85920	66170	70380	53490
MEAN	1226	1244	4488	4615	4131	2463	3293	4024	2864	2135	2270	1783
MAX	1310	2700	7400	7090	5770	2840	5970	6020	3220	2990	2380	2380
MIN	1180	956	2570	2970	1730	2140	2300	2480	2460	1800	1810	1140
AC-FT	75410	74000	276000	283800	237600	151500	195900	247400	170400	131200	139600	106100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	1257	1543	2190	1822	1749	1981	2347	2672	2359	2129	2158	1701
MAX	1905	3544	5081	4615	4131	3556	3821	4024	3755	3024	2921	2195
(WY)	1984	1985	1982	1996	1996	1986	1989	1996	1984	1984	1984	1983
MIN	894	898	964	1049	844	843	864	1578	1658	1123	1761	1290
(WY)	1993	1993	1993	1992	1988	1988	1994	1992	1992	1992	1994	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	791727		1053159			
ANNUAL MEAN	2169		2877		1994	
HIGHEST ANNUAL MEAN					3114	1984
LOWEST ANNUAL MEAN					1314	1992
HIGHEST DAILY MEAN	7400	Dec 15	7400	Dec 15	13000	Dec 15 1977
LOWEST DAILY MEAN	824	Jan 4	956	Nov 6	730	Feb 4 1981
ANNUAL SEVEN-DAY MINIMUM	907	Jan 2	971	Nov 4	734	Feb 6 1981
ANNUAL RUNOFF (AC-FT)	1570000		2089000		1445000	
10 PERCENT EXCEEDS	3560		5100		3120	
50 PERCENT EXCEEDS	1940		2540		1840	
90 PERCENT EXCEEDS	978		1200		1000	

e Estimated

14337600 ROGUE RIVER NEAR MCLEOD, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1970 to current year.

INSTRUMENTATION.--Temperature recorder since August 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 18.0°C July 17, 18, Aug. 7, 1973; minimum, 0.5°C Jan. 3-5, 14, 15, 1971. Maximum since full operation of Lost Creek Lake, 16.0°C July 30, 31, Aug. 1, 2, 1994; minimum, 3.0°C Feb. 2, 1979, Feb. 6, 7, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 13.5°C Aug. 14-18; minimum, 4.5°C Jan. 24, Feb. 2, 3.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.5	8.0	8.5	7.5	6.5	7.0	8.5	8.0	8.5	6.5	6.0	6.0
2	8.5	8.0	8.5	7.0	6.5	7.0	8.5	8.0	8.0	6.0	6.0	6.0
3	8.5	8.5	8.5	7.0	6.5	7.0	8.0	8.0	8.0	6.5	6.0	6.0
4	8.5	8.0	8.5	7.0	6.5	6.5	8.0	8.0	8.0	6.5	6.5	6.5
5	8.5	8.0	8.0	7.5	7.0	7.0	8.5	8.0	8.0	6.5	6.5	6.5
6	8.5	8.0	8.5	7.5	7.0	7.5	8.5	8.5	8.5	6.5	6.5	6.5
7	8.5	8.0	8.0	7.5	7.5	7.5	8.5	8.0	8.5	6.5	6.0	6.5
8	8.5	8.0	8.0	7.5	7.5	7.5	8.0	8.0	8.0	6.5	6.0	6.5
9	8.5	8.0	8.5	7.5	7.5	7.5	8.5	8.0	8.5	6.5	6.5	6.5
10	8.5	8.0	8.5	7.5	7.5	7.5	8.5	8.0	8.5	6.5	6.0	6.5
11	8.5	7.5	8.0	7.5	7.5	7.5	8.5	8.0	8.0	6.0	6.0	6.0
12	7.5	7.5	7.5	8.0	7.5	7.5	8.5	8.5	8.5	6.0	6.0	6.0
13	7.5	7.0	7.5	8.0	8.0	8.0	8.5	8.0	8.5	6.0	6.0	6.0
14	7.5	7.0	7.5	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0	6.0
15	7.5	7.0	7.5	8.0	7.5	8.0	8.0	7.5	8.0	6.5	6.0	6.0
16	7.5	7.0	7.5	8.0	8.0	8.0	8.0	7.5	7.5	6.0	6.0	6.0
17	7.5	7.5	7.5	8.0	8.0	8.0	7.5	7.5	7.5	6.0	5.5	6.0
18	8.0	7.5	7.5	8.0	8.0	8.0	7.5	7.5	7.5	5.5	5.5	5.5
19	7.5	7.0	7.5	8.0	7.5	8.0	7.5	7.5	7.5	5.5	5.5	5.5
20	7.0	7.0	7.0	8.0	7.5	8.0	7.5	7.5	7.5	6.0	5.5	5.5
21	7.0	7.0	7.0	8.0	7.5	8.0	7.5	7.0	7.0	5.5	5.5	5.5
22	7.0	6.5	7.0	8.0	8.0	8.0	7.0	7.0	7.0	5.5	5.5	5.5
23	7.0	6.5	7.0	8.0	8.0	8.0	7.0	6.5	6.5	5.5	5.0	5.5
24	7.0	6.5	7.0	8.0	8.0	8.0	6.5	6.5	6.5	5.0	4.5	5.0
25	7.0	7.0	7.0	8.0	8.0	8.0	6.5	6.5	6.5	5.0	5.0	5.0
26	7.5	7.0	7.0	8.0	8.0	8.0	6.5	6.5	6.5	5.0	5.0	5.0
27	7.5	7.0	7.5	8.0	8.0	8.0	6.5	6.5	6.5	5.0	5.0	5.0
28	7.5	7.0	7.5	8.0	8.0	8.0	6.5	6.5	6.5	5.0	5.0	5.0
29	7.5	7.0	7.5	8.0	8.0	8.0	6.5	6.0	6.5	5.0	5.0	5.0
30	7.5	7.0	7.5	8.5	8.0	8.0	7.0	6.5	6.5	5.5	5.0	5.0
31	7.5	7.0	7.5	---	---	---	7.0	6.5	7.0	5.5	5.0	5.5
MONTH	8.5	6.5	7.5	8.5	6.5	7.5	8.5	6.0	7.5	6.5	4.5	6.0

14337600 ROGUE RIVER NEAR MCLEOD, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	5.0	5.0	6.0	5.5	5.5	6.5	6.0	6.5	8.5	8.0	8.0
2	5.0	4.5	5.0	6.0	5.5	5.5	6.5	6.0	6.5	9.0	8.5	8.5
3	5.5	4.5	5.0	6.0	5.5	6.0	6.5	6.0	6.5	8.5	8.0	8.5
4	5.5	5.5	5.5	6.0	5.5	6.0	6.5	6.0	6.5	9.0	8.5	8.5
5	5.5	5.5	5.5	6.0	5.5	5.5	6.5	6.0	6.5	9.0	8.5	9.0
6	5.5	5.5	5.5	6.0	5.5	5.5	7.0	6.0	6.5	9.0	8.5	9.0
7	6.0	5.5	5.5	6.0	5.5	6.0	7.0	6.5	6.5	9.5	9.0	9.0
8	6.0	5.5	6.0	6.5	6.0	6.0	7.0	6.5	6.5	9.5	9.0	9.0
9	6.5	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	9.5	9.0	9.0
10	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.0	6.0	9.0	8.5	8.5
11	6.0	5.5	5.5	6.5	6.0	6.0	6.0	6.0	6.0	9.0	8.5	8.5
12	6.0	5.5	5.5	6.0	6.0	6.0	6.0	5.5	6.0	9.0	8.5	9.0
13	6.0	5.5	5.5	6.0	6.0	6.0	6.0	5.5	6.0	9.0	8.5	9.0
14	6.0	5.5	5.5	6.5	5.5	6.0	6.5	6.0	6.0	9.0	8.5	9.0
15	5.5	5.5	5.5	6.5	6.0	6.0	6.5	6.0	6.5	8.5	8.0	8.5
16	6.0	5.5	6.0	6.5	6.0	6.0	6.5	6.5	6.5	9.0	8.0	8.5
17	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	9.0	8.5	9.0
18	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	9.0	8.5	8.5
19	6.0	6.0	6.0	6.5	6.0	6.5	6.5	6.5	6.5	8.5	8.5	8.5
20	6.0	5.5	6.0	6.5	6.0	6.5	6.5	6.5	6.5	9.0	8.5	8.5
21	6.0	5.5	5.5	6.5	6.0	6.5	7.0	6.5	6.5	9.0	8.5	8.5
22	5.5	5.5	5.5	6.5	6.0	6.0	7.0	6.5	6.5	9.0	8.5	9.0
23	5.5	5.5	5.5	6.0	6.0	6.0	7.5	7.0	7.5	9.5	8.5	8.5
24	5.5	5.0	5.5	6.0	5.5	6.0	7.5	7.0	7.5	9.5	8.5	9.0
25	5.5	5.5	5.5	6.5	6.0	6.0	7.5	7.5	7.5	9.5	9.0	9.5
26	5.5	5.0	5.0	6.0	6.0	6.0	8.0	7.5	7.5	10.0	9.5	9.5
27	5.5	5.0	5.5	6.0	6.0	6.0	8.0	7.5	7.5	10.0	9.0	9.5
28	5.5	5.5	5.5	6.0	5.5	5.5	8.0	7.5	7.5	9.5	9.0	9.5
29	6.0	5.5	5.5	6.0	5.5	6.0	8.0	7.5	7.5	9.5	9.0	9.5
30	---	---	---	6.0	6.0	6.0	8.0	7.5	8.0	9.5	9.0	9.5
31	---	---	---	6.0	6.0	6.0	---	---	---	10.0	9.5	9.5
MONTH	6.5	4.5	5.5	6.5	5.5	6.0	8.0	5.5	6.5	10.0	8.0	9.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.0	9.5	10.0	9.5	9.0	9.5	12.0	11.0	11.5	12.5	11.5	12.0
2	10.5	10.0	10.0	9.5	9.0	9.5	11.5	11.0	11.5	11.5	11.0	11.5
3	10.5	10.0	10.0	9.5	9.0	9.5	11.5	11.0	11.5	11.5	11.0	11.5
4	10.5	10.0	10.0	9.5	9.0	9.5	11.5	11.0	11.5	11.5	11.0	11.0
5	10.5	10.0	10.0	9.5	9.0	9.5	11.5	11.0	11.5	11.5	11.0	11.0
6	10.5	10.0	10.0	9.5	9.0	9.5	12.0	11.0	11.5	11.5	11.0	11.5
7	10.5	9.5	10.0	10.0	9.5	9.5	12.5	12.0	12.5	11.5	11.0	11.5
8	10.0	9.5	9.5	10.0	9.5	9.5	13.0	12.0	12.5	11.5	11.0	11.5
9	10.0	9.0	9.5	10.0	9.5	10.0	13.0	12.5	12.5	11.5	9.5	10.5
10	9.5	9.0	9.5	10.5	9.5	10.0	13.0	12.5	12.5	9.5	9.0	9.0
11	9.5	9.0	9.0	10.5	10.0	10.0	13.0	12.5	13.0	9.5	9.0	9.0
12	9.5	9.0	9.0	11.0	10.0	10.5	13.0	12.5	12.5	9.5	9.0	9.0
13	9.5	9.0	9.5	11.0	10.0	10.5	13.0	12.5	13.0	9.5	9.0	9.0
14	9.5	9.0	9.5	11.0	10.5	10.5	13.5	12.5	13.0	9.5	9.0	9.0
15	9.5	9.0	9.5	11.0	10.5	10.5	13.5	12.5	13.0	9.5	9.0	9.5
16	9.5	9.0	9.5	11.0	10.0	10.5	13.5	12.5	13.0	9.5	9.0	9.5
17	9.5	9.0	9.0	11.0	10.5	10.5	13.5	13.0	13.0	9.5	9.5	9.5
18	9.5	9.0	9.0	11.0	10.5	10.5	13.5	12.0	12.5	9.5	9.0	9.5
19	9.5	9.0	9.0	11.0	10.0	10.5	12.0	11.5	12.0	9.0	8.5	9.0
20	9.5	9.0	9.5	11.0	10.0	10.5	12.0	11.5	12.0	9.0	8.5	8.5
21	10.0	9.0	9.5	11.0	10.5	11.0	12.0	11.5	12.0	8.5	7.5	8.0
22	9.5	9.5	9.5	11.5	10.5	11.0	12.0	11.5	12.0	8.0	7.0	7.5
23	9.5	9.0	9.0	11.5	10.5	11.0	12.0	11.5	12.0	7.0	6.5	6.5
24	9.5	9.0	9.0	11.5	11.0	11.0	12.5	12.0	12.0	7.0	6.5	6.5
25	9.5	9.0	9.0	11.5	11.0	11.0	12.5	12.0	12.0	7.0	6.5	6.5
26	9.5	9.0	9.5	11.5	11.0	11.5	12.5	12.0	12.0	7.0	6.5	7.0
27	9.5	9.0	9.5	11.5	11.0	11.5	12.5	12.0	12.0	7.0	6.5	7.0
28	9.5	9.0	9.5	11.5	11.0	11.0	12.5	12.0	12.5	7.5	7.0	7.5
29	9.5	8.5	9.0	11.5	11.0	11.0	12.5	12.0	12.5	8.0	7.0	7.5
30	9.5	9.0	9.0	12.0	11.0	11.5	12.5	12.0	12.5	8.0	7.5	8.0
31	---	---	---	12.0	11.0	11.5	13.0	12.5	12.5	---	---	---
MONTH	10.5	8.5	9.5	12.0	9.0	10.5	13.5	11.0	12.5	12.5	6.5	9.0
YEAR	13.5	4.5	8.0									

14337800 ELK CREEK NEAR CASCADE GORGE, OR

LOCATION.--Lat 42°46'25", long 122°40'15", in NW 1/4 sec.23, T.32 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 0.1 mi downstream from Sugarpine Creek, 6.5 mi northwest of town of Cascade Gorge, and at mile 10.7.

DRAINAGE AREA.--78.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1973 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,813.83 ft above sea level (levels by Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. No regulation. Some diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--23 years (water years 1974-96), 136 ft^3/s, 23.52 in/yr, 98,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft^3/s Jan. 15, 1974, gage height, 8.9 ft, from floodmark; minimum discharge, 0.45 ft^3/s Aug. 31, Sept. 1, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0730	*3,610	*7.25	Dec. 30	1100	2,690	6.61
Dec. 14	1830	2,440	6.42	Feb. 9	0730	2,490	6.46

Minimum discharge, 3.1 ft^3/s Aug. 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	8.3	440	685	492	212	551	171	96	19	6.2	3.6
2	8.0	8.0	207	466	408	228	427	148	85	18	5.9	3.6
3	7.5	8.0	136	368	349	273	351	132	78	18	6.2	3.7
4	9.4	8.0	206	319	648	318	276	116	71	17	6.1	3.7
5	8.0	8.0	429	273	1060	385	219	104	66	17	6.0	4.0
6	6.9	8.2	330	248	1420	327	190	96	60	16	6.0	4.3
7	6.6	11	216	238	1420	283	176	91	55	15	5.8	3.9
8	6.3	13	284	426	1500	277	165	83	51	15	5.2	3.5
9	6.3	22	818	608	2090	303	156	76	46	14	4.9	3.6
10	6.3	18	431	731	1350	298	155	70	43	14	4.7	3.6
11	12	20	924	500	1020	317	148	66	41	13	4.6	3.3
12	18	51	2840	375	858	314	140	62	40	12	4.5	3.5
13	11	40	1700	295	765	273	141	66	37	11	4.6	4.1
14	9.5	27	1410	244	680	234	137	134	34	11	4.5	5.4
15	8.3	21	1530	394	600	201	130	246	33	10	4.3	16
16	7.6	17	786	494	551	177	147	317	32	9.7	4.1	18
17	7.3	15	504	554	565	162	136	528	32	10	4.2	14
18	10	22	377	488	616	153	137	806	30	13	4.4	9.1
19	10	19	297	640	718	151	147	622	28	12	4.4	7.8
20	8.0	17	241	864	599	140	179	422	27	10	4.5	7.6
21	7.3	15	202	781	604	131	192	425	26	10	4.4	7.1
22	7.3	15	176	488	476	123	217	534	25	9.4	4.2	6.6
23	7.6	14	153	380	405	122	289	443	26	8.6	4.0	6.2
24	8.0	14	135	321	373	111	1270	353	28	8.3	4.1	5.8
25	8.1	32	122	274	318	99	846	283	28	7.7	3.7	5.5
26	19	75	112	240	270	93	529	224	31	7.3	3.9	5.5
27	16	71	105	348	236	104	378	183	27	6.6	4.4	5.2
28	12	154	110	383	213	121	296	153	24	6.9	4.6	5.2
29	10	94	565	326	202	124	234	132	22	7.9	4.1	4.9
30	9.5	287	2120	316	---	117	195	118	21	7.2	3.7	4.9
31	8.9	---	1360	430	---	167	---	107	---	6.6	3.4	---
TOTAL	290.3	1132.5	19266	13497	20806	6338	8554	7311	1243	361.2	145.6	183.2
MEAN	9.36	37.7	621	435	717	204	285	236	41.4	11.7	4.70	6.11
MAX	19	287	2840	864	2090	385	1270	806	96	19	6.2	18
MIN	6.3	8.0	105	238	202	93	130	62	21	6.6	3.4	3.3
AC-FT	576	2250	38210	26770	41270	12570	16970	14500	2470	716	289	363
CFSM	.12	.48	7.89	5.53	9.10	2.59	3.62	2.99	.53	.15	.06	.08
IN.	.14	.53	9.10	6.37	9.82	2.99	4.04	3.45	.59	.17	.07	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1996, BY WATER YEAR (WY)

MEAN	12.4	125	272	275	312	257	199	123	48.3	12.7	5.29	6.23
MAX	39.8	656	828	802	717	556	352	300	156	27.1	16.3	33.7
(WY)	1980	1974	1982	1974	1996	1974	1993	1975	1993	1995	1976	1986
MIN	2.47	7.76	8.00	11.3	11.2	34.1	54.5	18.3	7.10	3.57	.94	.91
(WY)	1989	1994	1977	1977	1977	1992	1992	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1973 - 1996	
ANNUAL TOTAL	64385.3		79127.8			
ANNUAL MEAN	176		216		136	
HIGHEST ANNUAL MEAN					292	1974
LOWEST ANNUAL MEAN					27.4	1977
HIGHEST DAILY MEAN	2840	Dec 12	2840	Dec 12	5200	Jan 15 1974
LOWEST DAILY MEAN	2.6	Sep 21	3.3	Sep 11	.52	Sep 1 1992
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 18	3.6	Sep 7	.60	Aug 26 1992
ANNUAL RUNOFF (AC-FT)	127700		156900		98810	
ANNUAL RUNOFF (CFSM)	2.24		2.74		1.73	
ANNUAL RUNOFF (INCHES)	30.40		37.35		23.52	
10 PERCENT EXCEEDS	413		565		350	
50 PERCENT EXCEEDS	85		80		48	
90 PERCENT EXCEEDS	6.3		4.9		3.8	

14337800 ELK CREEK NEAR CASCADE GORGE, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1973 to October 1976, August 1977 to current year.

INSTRUMENTATION.--Temperature recorder August 1973 to October 1976 and since August 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.5°C July 29, 30, 1973, Aug. 9-11, 1981; minimum, 0.0°C at times during most winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 25.0°C July 24-27; minimum recorded, 2.0°C Feb. 26, but may have been lower during period of missing record in December, January, and February.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.0	9.5	11.5	7.0	4.0	5.5				---	---	---
2	14.0	9.5	11.5	7.0	3.5	5.0				---	---	---
3	13.5	11.0	11.5	6.0	3.0	4.5				---	---	---
4	12.0	8.0	10.0	5.5	2.5	4.5				---	---	---
5	12.0	7.0	9.5	8.0	5.5	6.5				7.0	6.0	6.5
6	12.5	8.0	10.0	7.5	6.0	7.0				7.5	6.5	7.0
7	11.5	6.5	9.0	10.0	7.0	8.0				---	---	---
8	11.0	7.0	9.0	9.5	8.5	9.0				---	---	---
9	13.0	8.5	10.5	9.5	8.0	9.0				---	---	---
10	13.0	9.5	11.0	8.5	7.5	8.0				---	---	---
11	11.5	10.0	11.0	9.0	8.0	8.5				---	---	---
12	12.0	9.0	10.0	10.0	9.0	9.5				---	---	---
13	10.5	7.0	8.5	12.5	10.0	10.5				---	---	---
14	11.5	7.0	9.0	11.5	9.0	10.0				---	---	---
15	12.0	7.5	9.5	10.5	8.5	9.5				---	---	---
16	12.0	10.0	11.0	11.5	9.5	10.5				---	---	---
17	11.0	8.5	10.0	10.5	8.5	9.5				---	---	---
18	13.0	9.5	11.0	11.0	8.5	10.0				6.0	5.5	6.0
19	11.0	6.5	9.0	9.0	7.0	8.0				---	---	---
20	10.5	7.5	9.0	8.0	5.5	7.0				---	---	---
21	10.0	7.5	8.5	9.0	7.0	8.0				---	---	---
22	8.5	5.0	6.5	10.5	8.5	9.5				---	---	---
23	8.5	4.5	6.5	9.5	8.5	9.0				---	---	---
24	8.5	4.5	6.5	10.5	9.0	9.5				---	---	---
25	8.5	5.5	7.5	10.5	9.0	10.0				---	---	---
26	11.0	8.5	9.5	9.0	7.5	8.0				---	---	---
27	10.0	8.0	9.0	8.0	7.5	7.5				---	---	---
28	10.5	7.5	9.0	9.0	7.5	8.0				---	---	---
29	10.5	7.0	8.5	8.5	---	---				---	---	---
30	10.5	7.0	8.5	---	---	---				---	---	---
31	10.0	6.5	8.0	---	---	---				---	---	---
MONTH	14.0	4.5	9.5	12.5	2.5	8.0				7.5	5.5	6.5

14337800 ELK CREEK NEAR CASCADE GORGE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	7.0	3.5	5.0	8.5	7.0	7.5	13.0	8.5	10.5
2	---	---	---	7.0	4.0	5.5	8.0	7.0	7.5	12.0	8.5	10.0
3	---	---	---	7.5	5.5	6.5	9.5	6.0	7.5	10.0	7.0	8.0
4	---	---	---	7.0	6.0	6.5	10.5	5.5	7.5	10.5	5.0	7.5
5	---	---	---	6.5	5.5	6.0	11.5	6.5	8.5	12.5	6.5	9.0
6	---	---	---	7.5	4.5	6.0	13.0	7.0	9.5	12.5	6.0	9.0
7	7.0	6.5	7.0	8.5	6.5	7.0	13.5	8.0	10.0	13.0	7.0	9.5
8	7.5	6.5	7.0	9.0	6.0	7.5	14.0	9.0	11.0	13.0	6.5	9.5
9	7.5	6.5	7.0	8.5	7.0	8.0	11.0	9.0	10.0	13.0	6.0	9.0
10	8.0	6.5	7.0	8.5	6.5	7.5	9.0	8.0	8.5	14.0	7.0	10.5
11	8.0	6.5	7.0	8.5	6.5	7.5	9.0	7.0	8.0	16.0	8.5	12.0
12	8.0	6.0	7.0	9.0	6.0	7.0	9.0	6.5	7.5	17.0	11.0	14.0
13	8.0	6.0	7.0	8.5	5.5	7.0	11.0	5.5	8.0	14.5	12.0	13.5
14	8.0	6.0	6.5	9.0	4.5	6.5	11.5	6.5	9.0	13.0	12.0	12.5
15	8.0	6.0	7.0	9.5	5.0	7.0	10.5	8.5	9.5	12.5	11.0	12.0
16	8.5	6.5	7.5	9.0	5.0	7.0	9.0	7.5	8.5	12.5	10.0	11.5
17	8.0	7.0	7.5	10.0	5.5	7.5	7.5	6.0	7.0	11.5	10.0	10.5
18	8.0	7.0	7.5	11.0	5.5	8.0	8.0	6.0	7.0	10.5	9.5	10.0
19	8.0	6.5	7.0	10.5	6.5	8.0	8.0	5.5	6.5	10.5	9.0	9.5
20	7.5	5.0	7.0	10.0	5.5	7.5	8.5	5.5	6.5	11.5	7.5	9.5
21	6.0	5.0	5.5	10.5	5.5	7.5	9.5	6.5	7.5	11.0	9.5	10.0
22	6.0	5.0	5.5	8.0	5.5	7.0	8.0	7.0	7.5	10.0	8.5	9.0
23	5.5	4.5	5.0	8.0	5.0	6.0	9.0	7.5	8.5	10.5	8.0	9.0
24	5.5	4.0	4.5	9.0	4.0	6.0	9.0	7.5	8.5	12.0	7.5	9.5
25	5.0	3.0	4.0	9.0	3.5	6.0	10.0	6.5	8.5	13.5	8.5	11.0
26	4.5	2.0	3.5	9.0	3.0	6.0	11.0	7.5	9.0	14.0	9.5	11.5
27	5.5	3.5	4.5	7.0	4.0	4.5	10.5	6.0	8.0	13.5	9.5	11.0
28	5.5	4.0	5.0	7.0	4.0	5.5	11.0	6.0	8.5	12.0	8.5	10.0
29	7.5	4.5	5.5	7.5	4.5	5.5	13.0	7.0	10.0	12.5	7.5	9.5
30	---	---	---	8.0	4.0	6.0	13.5	8.0	10.5	13.0	7.5	10.0
31	---	---	---	7.5	6.0	6.5	---	---	---	14.0	9.0	11.5
MONTH	8.5	2.0	6.0	11.0	3.0	6.5	14.0	5.5	8.5	17.0	5.0	10.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.0	10.0	12.5	20.0	13.5	16.5	23.0	16.0	19.0	20.0	13.0	16.5
2	17.0	11.5	14.0	21.0	15.0	18.0	19.0	14.0	16.5	20.0	13.0	16.0
3	18.0	12.5	15.0	20.0	15.0	17.5	19.5	13.0	16.0	19.5	13.0	16.0
4	17.5	12.5	14.5	19.5	14.5	16.5	20.0	12.5	16.0	16.5	12.5	14.0
5	17.5	11.0	14.0	18.5	12.0	15.0	19.0	13.5	16.0	16.0	10.0	13.0
6	19.0	12.0	15.0	19.5	12.5	16.0	19.5	11.5	15.5	16.5	9.5	12.5
7	19.5	13.0	15.5	21.5	14.5	18.0	21.5	13.0	17.0	17.0	10.0	13.5
8	18.5	12.5	15.0	21.5	15.5	18.5	22.5	15.0	18.5	18.5	11.5	14.5
9	17.0	11.5	14.0	21.5	15.5	18.0	24.0	16.0	19.5	19.5	12.5	15.5
10	17.0	10.5	13.5	21.0	14.5	17.5	24.5	17.0	20.5	20.0	13.5	16.5
11	17.5	11.0	14.0	22.0	15.0	18.5	23.5	16.0	19.5	19.5	13.5	16.0
12	18.0	11.5	14.5	23.0	16.0	19.5	23.5	15.5	19.0	18.0	13.5	15.5
13	18.0	12.0	15.0	24.0	17.0	20.5	24.5	17.0	20.5	15.0	13.0	14.0
14	18.0	11.5	14.5	23.5	19.0	21.0	24.0	17.0	20.5	14.5	12.5	13.5
15	17.5	12.0	14.5	23.0	18.0	20.0	23.0	16.0	19.5	14.0	12.5	13.5
16	15.5	12.0	13.5	22.0	16.0	18.5	22.0	15.0	18.0	13.0	11.5	12.5
17	15.5	10.0	12.5	17.5	13.5	15.5	21.0	15.0	17.5	13.0	10.5	12.0
18	15.0	8.5	12.0	15.5	12.0	14.0	19.5	12.5	16.0	14.0	9.0	11.5
19	14.0	9.0	11.5	18.0	11.0	14.0	19.5	12.5	16.0	15.5	12.0	13.5
20	17.0	11.5	14.0	19.0	11.5	15.5	19.5	12.5	15.5	14.0	10.5	12.0
21	16.5	11.0	13.5	21.0	13.5	17.5	20.0	12.5	16.0	14.0	10.0	12.0
22	16.0	10.0	13.0	23.0	16.0	19.5	21.0	13.5	17.0	12.5	8.0	10.5
23	13.5	12.0	12.5	23.5	17.0	20.0	21.0	14.5	17.5	12.5	8.0	10.0
24	15.5	11.5	13.0	25.0	18.0	21.0	22.0	15.5	19.0	13.0	8.0	10.5
25	15.5	10.0	12.5	25.0	18.0	21.0	24.0	17.5	20.0	13.5	8.5	11.0
26	14.5	10.5	13.0	25.0	18.0	21.5	23.5	17.5	20.0	14.0	9.0	11.5
27	15.0	12.0	13.5	25.0	19.0	21.5	19.5	16.5	18.0	15.0	10.0	12.5
28	18.0	11.5	14.0	21.5	18.5	20.0	21.0	14.0	17.5	15.5	10.5	13.0
29	18.0	11.0	14.5	24.0	16.5	20.0	22.0	15.0	18.0	16.0	11.0	13.5
30	19.5	13.0	16.0	24.0	17.5	20.5	22.0	15.5	18.5	16.0	11.5	13.5
31	---	---	---	24.0	17.0	20.0	21.0	14.5	17.5	---	---	---
MONTH	19.5	8.5	14.0	25.0	11.0	18.5	24.5	11.5	18.0	20.0	8.0	13.5

14337830 ELK CREEK BELOW ALCO CREEK, NEAR TRAIL, OR

LOCATION.--Lat 42°40'46", long 122°42'37", in NW 1/4 sec.4, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on Corps of Engineers' Land, on right bank 500 ft downstream from Alco Creek, and 7.5 mi northeast of Trail.

DRAINAGE AREA.--111 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1986 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Elevation of gage is 1,680 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation. Some diversions upstream from station for irrigation. Operated as a low-flow station only. Discharges above 450 ft^3/s not published.

EXTREMES FOR PERIOD OF RECORD.--Minimum discharge recorded, 0.54 ft^3/s Sept. 23, 1992, but may have been less during period of estimated discharge during that year.

EXTREMES FOR CURRENT YEAR.--Minimum discharge, 2.3 ft^3/s Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.6	---	---	---	261	---	197	124	25	5.8	2.8
2	8.5	8.5	271	---	---	282	---	171	112	23	4.8	3.3
3	7.7	8.4	164	---	---	326	---	149	102	23	5.0	3.3
4	9.6	8.1	275	341	---	376	315	133	97	21	5.7	3.6
5	8.8	8.3	---	302	---	---	262	121	84	21	6.3	3.9
6	7.6	8.4	---	275	---	360	221	110	74	20	5.8	4.2
7	6.9	11	288	264	---	335	210	103	73	17	5.3	4.5
8	5.6	13	---	---	---	332	194	93	65	16	4.5	3.8
9	6.3	22	---	---	---	352	182	87	63	16	4.6	3.4
10	5.7	21	---	---	---	329	175	81	59	15	4.0	3.6
11	8.5	22	---	---	---	335	170	75	56	13	3.5	3.5
12	18	49	---	---	---	325	168	72	54	13	3.6	3.4
13	12	46	---	318	---	281	169	76	48	12	3.8	4.7
14	9.6	31	---	260	---	245	155	142	47	12	3.4	7.1
15	8.3	23	---	---	---	221	144	275	46	12	3.3	18
16	8.0	18	---	---	---	198	162	---	43	11	2.8	23
17	7.3	16	---	---	---	182	157	---	39	9.6	2.9	20
18	9.5	21	---	---	---	174	152	---	38	13	3.7	14
19	11	20	344	---	---	170	166	---	38	13	3.4	12
20	9.5	17	281	---	---	160	226	---	38	11	3.4	10
21	8.7	16	232	---	---	149	233	---	34	11	3.6	9.1
22	8.1	15	194	---	---	147	255	---	35	9.6	3.7	8.5
23	9.3	15	162	---	---	139	---	---	36	9.2	4.1	8.0
24	8.9	14	139	388	---	131	---	---	39	8.1	3.7	7.3
25	8.6	29	120	330	378	118	---	339	36	8.6	4.0	7.3
26	17	84	108	294	314	110	---	267	42	7.7	4.0	7.4
27	17	79	102	---	277	134	---	224	37	6.3	4.3	6.2
28	13	205	104	---	267	156	323	188	33	4.4	3.8	6.0
29	11	116	---	---	247	155	265	166	30	7.1	3.9	5.0
30	10	---	---	---	---	142	226	155	27	7.8	4.0	2.7
31	9.6	---	---	---	---	---	---	135	---	7.1	3.6	---
TOTAL	299.6	---	---	---	---	---	---	---	1649	403.5	128.3	219.6
MEAN	9.66	---	---	---	---	---	---	---	55.0	13.0	4.14	7.32
MAX	18	---	---	---	---	---	---	---	124	25	6.3	23
MIN	5.6	---	---	---	---	---	---	---	27	4.4	2.8	2.7
AC-FT	594	---	---	---	---	---	---	---	3270	800	254	436
CFSM	.09	---	---	---	---	---	---	---	.50	.12	.04	.07
IN.	.10	---	---	---	---	---	---	---	.55	.14	.04	.07

14337830 ELK CREEK BELOW ALCO CREEK, NEAR TRAIL, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April 1986 to current year.

INSTRUMENTATION.--Temperature recorder since April 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 31.5°C June 22, 1992, but may have been higher during period of missing record in August 1992; minimum, 0.0°C at times during most winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 28.0°C July 24-26; minimum, 2.0°C Feb. 26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.0	11.5	13.5	9.5	6.0	7.5	9.5	8.0	9.0	7.0	6.5	7.0
2	16.5	11.0	13.5	9.0	5.0	6.5	8.5	7.0	8.0	7.0	6.0	6.5
3	16.5	12.5	14.0	8.5	4.5	6.0	7.0	6.0	6.5	7.5	7.0	7.5
4	14.5	10.0	12.5	7.0	4.0	5.5	8.0	6.5	7.5	7.5	6.5	7.0
5	14.0	9.0	11.5	8.5	6.5	7.5	9.0	7.5	8.0	6.5	6.0	6.0
6	14.0	9.5	11.5	8.0	7.0	7.5	9.5	8.5	9.0	7.0	6.5	6.5
7	14.0	9.0	11.0	10.5	8.0	9.0	9.0	8.5	9.0	7.0	6.5	7.0
8	13.0	9.0	11.0	10.0	9.0	9.5	9.0	8.0	8.5	7.5	7.0	7.0
9	15.0	10.0	12.0	10.0	9.0	9.5	10.0	9.0	9.5	8.0	7.5	7.5
10	14.5	11.0	12.5	9.0	8.5	8.5	9.5	9.0	9.0	7.5	7.0	7.5
11	13.0	11.5	12.5	9.5	8.5	9.0	9.5	9.0	9.5	7.0	6.5	7.0
12	13.0	10.0	11.5	10.5	9.5	10.0	9.5	9.0	9.5	7.0	6.5	6.5
13	12.5	8.5	10.5	12.5	10.5	11.0	9.0	8.0	8.5	7.0	6.0	6.5
14	13.5	8.5	10.5	12.0	10.5	11.0	8.5	8.0	8.0	7.5	6.0	6.5
15	13.5	9.0	11.0	11.0	10.0	10.5	8.0	7.5	8.0	8.0	7.5	7.5
16	15.0	11.5	12.5	12.0	10.5	11.0	8.0	7.5	7.5	8.0	7.0	7.5
17	12.5	10.0	11.5	11.5	10.0	10.5	8.0	7.0	7.5	7.0	6.5	6.5
18	15.0	11.0	12.5	11.5	9.5	10.5	7.5	7.0	7.5	6.5	6.0	6.0
19	13.0	8.5	10.5	10.0	8.0	9.0	7.5	6.0	6.5	6.5	6.0	6.0
20	12.0	9.0	10.5	9.0	6.5	8.0	6.5	5.5	6.0	6.5	6.5	6.5
21	11.5	8.5	10.0	9.0	7.5	8.5	5.5	5.0	5.0	6.5	6.0	6.5
22	10.5	6.5	8.5	10.5	9.0	10.0	5.0	4.5	5.0	6.5	5.5	6.0
23	10.0	6.0	8.0	10.0	9.5	9.5	4.5	3.0	3.5	5.5	3.5	5.0
24	10.5	6.0	8.0	11.0	9.5	10.0	3.5	2.5	3.0	5.0	3.0	4.0
25	10.0	7.0	8.5	10.5	9.5	10.0	3.5	2.5	3.0	5.0	4.0	4.5
26	11.5	9.5	10.0	9.5	8.0	8.5	4.0	2.5	3.0	5.5	4.5	5.0
27	11.0	9.0	10.0	8.5	8.0	8.0	5.0	3.5	4.0	4.5	3.5	4.0
28	12.0	9.0	10.0	9.0	8.0	8.5	5.5	4.5	5.0	5.5	4.5	5.0
29	12.0	8.5	10.0	8.5	7.5	8.0	7.0	5.5	6.0	5.5	5.0	5.0
30	12.0	8.5	10.0	10.0	8.5	9.0	8.5	7.0	8.0	6.0	5.0	5.5
31	11.5	8.5	9.5	---	---	---	8.5	7.0	8.0	6.0	5.5	5.5
MONTH	16.5	6.0	11.0	12.5	4.0	9.0	10.0	2.5	7.0	8.0	3.0	6.0

14337830 ELK CREEK BELOW ALCO CREEK, NEAR TRAIL, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	5.0	5.5	7.0	3.5	5.0	8.5	6.5	7.5	13.5	8.5	11.0
2	6.0	5.0	5.5	6.5	4.0	5.0	8.0	7.0	7.5	12.0	8.5	10.0
3	6.0	5.0	5.5	7.0	5.5	6.5	9.5	6.0	7.5	10.0	7.0	8.5
4	6.5	5.5	6.0	7.0	6.0	6.5	10.0	5.5	7.5	10.0	5.0	7.5
5	6.5	6.0	6.5	6.5	5.5	6.0	11.0	6.0	8.5	12.0	7.0	9.5
6	6.5	6.5	6.5	7.5	4.5	6.0	12.5	7.0	9.5	12.0	6.5	9.5
7	7.0	6.5	7.0	8.5	6.5	7.0	13.0	7.5	10.5	12.5	7.0	10.0
8	7.0	6.5	7.0	9.0	6.0	7.5	14.0	9.0	11.5	12.5	7.0	9.5
9	7.5	6.5	7.0	9.0	7.0	8.0	12.0	9.5	10.5	12.0	6.5	9.5
10	7.5	6.5	7.0	8.5	7.0	7.5	9.5	8.0	8.5	13.5	7.5	10.5
11	7.5	6.0	6.5	8.5	7.0	7.5	9.0	7.5	8.0	15.0	9.5	12.5
12	7.5	5.5	6.5	9.0	6.0	7.0	9.0	6.5	7.5	17.0	11.5	14.0
13	7.5	5.5	6.5	8.5	5.5	7.0	11.0	5.5	8.0	15.0	12.5	13.5
14	7.5	5.5	6.5	9.0	5.0	6.5	11.0	6.5	9.0	13.5	12.0	12.5
15	7.5	5.5	6.5	9.0	5.0	7.0	10.5	8.5	9.5	12.5	11.0	12.0
16	8.0	6.5	7.0	8.5	5.0	7.0	9.5	8.0	8.5	12.5	10.0	11.0
17	7.5	7.0	7.5	9.5	5.5	7.5	8.0	6.0	7.0	11.0	10.0	10.5
18	7.5	7.0	7.0	10.5	5.5	8.0	8.5	6.0	7.0	10.0	9.0	9.5
19	7.5	6.5	7.0	10.0	6.5	8.5	7.5	6.0	6.5	10.5	9.0	9.5
20	7.0	5.5	6.5	9.5	5.5	7.5	8.5	5.5	7.0	11.5	8.0	9.5
21	6.0	5.0	5.5	9.5	5.5	7.5	9.5	6.5	7.5	10.5	9.5	10.0
22	5.5	5.0	5.5	8.5	6.0	7.5	8.5	7.0	8.0	10.0	8.5	9.5
23	5.0	4.5	5.0	8.5	5.0	6.5	9.0	7.5	8.5	10.5	8.0	9.0
24	5.5	4.0	4.5	8.5	4.5	6.5	9.0	7.5	8.5	12.0	7.5	10.0
25	5.0	3.0	4.0	8.0	4.0	6.0	10.0	6.5	8.5	13.5	9.0	11.0
26	4.5	2.0	3.5	8.0	3.5	6.0	11.5	7.5	9.0	14.0	10.5	12.0
27	5.0	3.5	4.5	7.5	4.0	5.0	10.5	6.5	8.5	13.5	10.0	11.5
28	5.5	4.0	5.0	7.0	3.5	5.0	11.5	6.0	8.5	12.5	9.0	10.5
29	7.0	4.5	5.5	7.5	4.5	6.0	13.0	7.0	10.0	13.0	8.5	10.5
30	---	---	---	7.5	4.5	6.0	13.5	8.5	11.0	13.0	8.5	11.0
31	---	---	---	7.0	6.0	6.5	---	---	---	14.0	10.0	12.0
MONTH	8.0	2.0	6.0	10.5	3.5	6.5	14.0	5.5	8.5	17.0	5.0	10.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.0	10.5	13.5	22.0	15.5	19.0	25.5	19.5	22.0	22.0	16.5	19.5
2	17.5	12.5	15.0	23.0	17.5	20.0	21.5	17.5	19.5	22.0	16.5	19.0
3	18.5	13.5	16.0	22.0	17.5	20.0	22.5	16.0	19.0	21.0	16.0	18.5
4	18.0	13.5	16.0	21.5	17.0	19.0	22.5	16.0	19.0	19.0	16.0	17.0
5	18.0	12.5	15.0	21.0	15.0	18.0	21.5	17.0	19.0	19.0	13.0	16.0
6	19.0	13.0	16.0	22.0	15.5	18.5	22.5	15.0	18.5	19.0	13.0	16.0
7	19.5	14.0	16.5	23.5	17.0	20.0	24.0	16.5	20.0	19.5	13.5	16.5
8	18.5	14.0	16.0	24.0	18.0	21.0	26.0	18.0	21.5	21.0	14.5	17.5
9	17.5	13.0	15.5	23.5	18.0	20.5	27.0	19.0	22.5	21.5	15.5	18.5
10	17.0	12.0	14.5	23.5	17.0	20.5	27.5	20.0	23.5	22.0	16.5	19.0
11	18.0	12.5	15.0	24.0	18.0	21.0	26.5	19.5	23.0	21.0	16.5	19.0
12	18.5	13.0	15.5	26.0	19.0	22.0	26.5	18.5	22.5	19.5	16.0	18.0
13	18.5	13.5	16.0	26.5	20.5	23.5	27.5	20.0	23.5	17.5	15.0	16.0
14	18.0	13.0	15.5	26.0	22.0	24.0	27.0	20.0	23.5	16.0	14.0	15.0
15	18.5	13.5	16.0	26.0	21.0	23.5	26.0	19.5	22.5	16.0	14.0	15.0
16	16.5	13.5	15.0	24.5	19.5	22.0	24.5	18.0	21.0	14.5	13.0	14.0
17	16.0	11.5	13.5	21.5	17.0	19.0	23.5	18.0	20.5	14.5	12.0	13.5
18	16.0	10.5	13.5	19.0	15.0	17.0	23.0	16.0	19.5	16.0	11.0	13.5
19	15.0	10.5	13.0	21.0	14.0	17.5	23.0	16.0	19.0	16.0	13.5	14.5
20	18.0	12.5	15.0	22.5	15.5	19.0	22.5	16.0	19.0	16.0	12.0	14.0
21	18.0	12.5	15.5	24.5	17.5	21.0	23.0	16.0	19.5	16.0	11.5	13.5
22	18.0	12.5	15.0	26.5	19.5	23.0	24.5	17.0	20.5	15.0	10.0	12.5
23	15.5	13.5	14.5	27.0	21.0	24.0	24.5	18.0	21.0	14.5	10.0	12.0
24	16.0	12.5	14.5	28.0	21.5	24.5	25.5	19.0	22.0	15.5	10.0	12.5
25	16.5	12.0	14.5	28.0	21.5	25.0	25.5	20.5	23.0	16.0	10.5	13.0
26	16.5	13.0	15.0	28.0	22.0	25.0	26.0	20.0	23.0	17.0	11.0	14.0
27	16.5	13.5	15.0	27.5	22.5	25.0	22.5	19.5	21.0	17.5	12.0	14.5
28	19.0	13.5	16.0	25.0	22.0	23.0	24.5	17.5	20.5	18.5	12.5	15.5
29	20.0	14.0	17.0	26.5	19.5	23.0	25.0	18.0	21.5	19.0	13.0	16.0
30	21.0	15.0	18.0	27.0	21.0	23.5	24.5	18.5	21.5	18.5	13.5	16.0
31	---	---	---	26.5	20.5	23.0	23.5	18.0	20.5	---	---	---
MONTH	21.0	10.5	15.0	28.0	14.0	21.5	27.5	15.0	21.0	22.0	10.0	15.5
YEAR	28.0	2.0	11.5									

14337870 WEST BRANCH ELK CREEK NEAR TRAIL, OR

LOCATION.--Lat 42°42'40", long 122°44'55", in SW 1/4 sec.7, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on Bureau of Land Management land, on left bank 300 ft upstream from Spot Creek and 5.3 mi northeast of Trail.

DRAINAGE AREA.--14.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to September 1976, October 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,773.24 ft above sea level (Corps of Engineers bench mark).

REMARKS.--Records good. No regulation or diversions upstream from station.

AVERAGE DISCHARGE.--22 years (water years 1974-76, 1978-96), 18.9 ft^3/s, 18.05 in/yr, 13,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,410 ft^3/s Jan. 15, 1974, gage height, 5.30 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.18 ft^3/s Aug. 17-19, 21, 1992 and Sept. 23, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0630	*457	3.25	Feb. 9	unknown	unknown	unknown
Dec. 14	2030	356	2.98				

Minimum discharge, 0.59 ft^3/s Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.3	22	45	66	23	91	12	8.0	2.8	1.2	.91
2	1.2	1.3	9.5	28	52	31	77	11	7.0	2.6	1.3	.84
3	1.3	1.3	5.5	20	42	40	58	9.7	6.3	2.6	1.3	.84
4	1.5	1.3	14	16	99	46	45	8.7	6.0	2.5	1.3	.83
5	1.3	1.3	39	13	181	46	28	8.1	5.7	2.5	1.3	.93
6	1.1	1.3	24	12	e220	42	22	7.4	5.2	2.2	1.3	.89
7	1.1	1.6	11	11	e210	36	19	6.9	5.0	2.2	1.2	.84
8	1.1	1.9	16	27	e225	30	15	6.6	4.8	2.2	1.1	.74
9	1.1	2.3	49	48	e300	28	14	6.3	4.5	2.1	1.0	.74
10	1.1	2.0	28	71	e165	25	14	6.0	4.4	2.1	1.0	.73
11	2.1	2.0	95	43	113	24	13	5.7	4.2	1.9	.96	.66
12	2.0	3.6	306	29	90	26	13	5.3	4.1	1.8	.98	.68
13	1.5	2.7	120	20	78	27	13	5.6	4.0	1.8	.94	.97
14	1.4	2.1	139	15	63	26	13	8.5	4.0	1.7	.84	1.3
15	1.3	1.7	156	29	50	22	12	13	3.9	1.7	.86	2.6
16	1.3	1.5	67	49	43	18	13	15	3.9	1.6	.89	1.7
17	1.3	1.5	38	63	42	16	13	26	3.8	1.9	.94	1.5
18	1.5	2.0	26	49	43	14	12	61	3.6	2.3	1.0	1.3
19	1.4	1.7	19	79	66	13	12	54	3.6	1.9	1.0	1.1
20	1.3	1.6	14	129	66	13	14	33	3.5	1.8	1.0	1.2
21	1.3	1.5	11	106	69	12	16	37	3.5	1.7	1.0	1.1
22	1.4	1.4	9.5	57	65	12	17	66	3.6	1.6	.92	1.0
23	1.4	1.4	7.9	40	51	11	19	53	3.5	1.5	.84	1.0
24	1.4	1.4	6.8	33	46	9.4	78	39	3.8	1.4	.77	.86
25	1.4	2.6	5.7	27	41	9.4	63	28	3.6	1.4	.74	.85
26	2.1	4.2	5.1	23	35	9.1	39	21	3.4	1.5	.73	.85
27	1.7	3.8	4.9	39	31	9.3	26	16	3.5	1.4	.93	.86
28	1.6	6.6	5.0	44	27	9.9	20	13	3.3	1.5	1.1	.85
29	1.6	4.6	61	37	24	9.8	16	12	3.1	1.6	.86	.82
30	1.4	12	135	42	---	9.8	14	10	2.9	1.4	.78	.78
31	1.4	---	88	65	---	14	---	9.0	---	1.3	.85	---
TOTAL	44.0	75.5	1537.9	1309	2603	661.7	819	613.8	129.7	58.5	30.93	30.27
MEAN	1.42	2.52	49.6	42.2	89.8	21.3	27.3	19.8	4.32	1.89	1.00	1.01
MAX	2.1	12	306	129	300	46	91	66	8.0	2.8	1.3	2.6
MIN	1.1	1.3	4.9	11	24	9.1	12	5.3	2.9	1.3	.73	.66
AC-FT	87	150	3050	2600	5160	1310	1620	1220	257	116	61	60
CFSM	.10	.18	3.49	2.97	6.32	1.50	1.92	1.39	.30	.13	.07	.07
IN.	.12	.20	4.03	3.43	6.82	1.73	2.15	1.61	.34	.15	.08	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1996, BY WATER YEAR (WY)

MEAN	2.91	18.8	35.7	40.1	46.7	37.1	25.0	11.1	5.11	2.12	1.56	1.72
MAX	7.27	102	104	140	100	124	52.4	28.2	17.2	4.94	4.29	4.44
(WY)	1980	1974	1982	1974	1983	1974	1974	1979	1993	1983	1976	1986
MIN	.75	1.70	3.45	6.53	9.47	3.18	4.54	1.67	.74	.31	.26	.36
(WY)	1989	1994	1990	1992	1988	1992	1990	1992	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1974 - 1996	
ANNUAL TOTAL	7448.61		7913.30			
ANNUAL MEAN	20.4		21.6		18.9	
HIGHEST ANNUAL MEAN					49.8	1974
LOWEST ANNUAL MEAN					4.05	1994
HIGHEST DAILY MEAN	306	Dec 12	306	Dec 12	904	Jan 15 1974
LOWEST DAILY MEAN	.61	Sep 22	.66	Sep 11	.20	Aug 18 1992
ANNUAL SEVEN-DAY MINIMUM	.71	Sep 10	.75	Sep 6	.21	Aug 15 1992
ANNUAL RUNOFF (AC-FT)	14770		15700		13660	
ANNUAL RUNOFF (CFSM)	1.44		1.52		1.33	
ANNUAL RUNOFF (INCHES)	19.51		20.73		18.05	
10 PERCENT EXCEEDS	53		61		49	
50 PERCENT EXCEEDS	5.5		5.7		5.1	
90 PERCENT EXCEEDS	.92		.99		.96	

e Estimated

14337870 WEST BRANCH ELK CREEK NEAR TRAIL, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1977 to current year.

INSTRUMENTATION.--Temperature recorder since August 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 27.0°C Aug. 14, 1992; minimum, 0.0°C at times during most winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 22.0°C July 24-27; minimum, 2.0°C Dec. 24-26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.0	10.0	11.5	6.5	4.5	5.5	9.5	7.0	9.0	7.0	6.5	7.0
2	13.0	9.5	11.5	6.0	4.0	5.0	8.0	6.0	7.0	7.0	6.0	6.5
3	13.0	10.5	11.5	5.0	3.5	4.5	6.0	5.5	6.0	8.0	7.0	7.5
4	11.5	8.5	10.0	6.5	3.0	5.0	8.0	6.0	7.0	7.5	5.5	6.5
5	10.5	7.5	9.5	7.5	6.0	7.0	9.0	7.0	8.0	6.5	5.5	6.0
6	11.5	8.5	10.0	7.5	6.5	7.0	9.5	8.5	9.0	7.0	6.0	6.5
7	10.5	7.5	9.0	9.0	7.5	8.0	9.0	8.0	8.5	7.0	6.0	6.5
8	10.5	7.5	9.0	9.5	8.5	9.0	9.0	8.0	8.5	8.0	7.0	7.5
9	12.0	9.0	10.0	9.0	7.5	8.5	9.5	9.0	9.5	8.5	8.0	8.0
10	12.0	9.5	10.5	8.0	7.0	7.5	9.5	8.5	9.0	8.0	7.0	7.5
11	11.5	10.0	11.0	9.0	8.0	8.5	9.5	9.0	9.5	7.5	6.5	7.0
12	11.0	9.0	9.5	10.5	9.0	9.5	9.5	9.0	9.5	7.5	6.0	7.0
13	9.5	7.0	8.5	11.0	9.5	10.5	9.0	8.0	8.5	6.5	5.5	6.0
14	10.5	7.5	9.0	10.0	9.0	9.5	8.5	8.0	8.5	7.5	5.5	7.0
15	10.5	8.0	9.5	10.0	8.5	9.5	8.5	7.5	8.0	8.5	7.5	8.0
16	12.5	10.0	11.0	10.0	9.0	10.0	8.0	7.0	7.5	8.0	6.5	7.5
17	10.5	8.5	10.0	10.0	8.5	9.0	8.0	6.5	7.5	7.0	6.0	6.5
18	12.0	9.5	10.5	9.5	8.0	9.0	7.5	6.5	7.0	6.0	5.5	6.0
19	9.5	7.0	8.5	8.5	7.0	7.5	7.0	5.5	6.0	7.0	6.0	6.5
20	10.0	7.5	9.0	7.5	5.5	6.5	6.5	5.0	5.5	7.0	6.5	7.0
21	10.0	8.0	9.0	9.0	7.0	8.0	5.0	4.0	4.5	7.0	6.5	7.0
22	8.0	5.5	7.0	10.0	8.5	9.0	4.5	3.5	4.0	6.5	5.5	6.0
23	7.5	5.0	6.5	9.0	8.0	8.5	3.5	3.0	3.0	5.5	3.0	5.0
24	7.5	5.0	6.5	10.0	8.5	9.5	3.0	2.0	2.5	5.0	3.0	4.5
25	8.5	6.0	7.5	10.0	8.5	9.5	3.0	2.0	2.5	5.0	4.5	5.0
26	10.0	8.5	9.0	8.5	7.5	8.0	3.5	2.0	3.0	5.5	4.0	5.0
27	9.5	7.5	8.5	7.5	7.0	7.5	4.5	3.5	4.0	5.5	3.5	4.5
28	9.5	8.0	9.0	9.0	7.5	8.0	5.5	4.5	5.0	6.0	5.5	6.0
29	9.0	7.5	8.5	8.5	7.0	8.0	8.0	5.5	6.5	6.0	5.5	5.5
30	9.5	7.5	9.0	9.5	8.5	9.0	9.0	8.0	8.5	6.0	5.5	6.0
31	9.0	6.5	8.0	---	---	---	8.5	7.0	8.5	6.5	6.0	6.0
MONTH	13.0	5.0	9.5	11.0	3.0	8.0	9.5	2.0	7.0	8.5	3.0	6.5

14337870 WEST BRANCH ELK CREEK NEAR TRAIL, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	5.5	6.0	6.5	4.0	5.0	8.5	7.0	7.5	13.0	8.5	10.5
2	6.0	5.5	5.5	7.5	4.5	5.5	8.5	6.5	7.5	11.5	8.5	10.0
3	6.5	5.0	6.0	7.5	6.0	6.5	9.0	6.0	7.5	9.0	6.5	8.0
4	6.5	6.0	6.5	7.5	6.5	7.0	10.0	5.5	7.5	10.5	5.0	7.5
5	7.0	6.5	6.5	6.5	5.5	6.0	11.0	6.5	8.5	11.5	6.5	9.0
6	7.0	7.0	7.0	7.5	4.5	6.0	12.5	7.5	9.5	11.5	6.0	9.0
7	7.5	7.0	7.0	8.5	6.5	7.5	13.5	8.0	10.5	12.0	7.0	9.0
8	7.5	7.0	7.5	9.5	6.5	8.0	14.0	9.0	11.5	11.5	6.5	8.5
9	8.0	7.0	7.5	9.5	8.0	8.5	11.5	9.0	10.0	11.5	6.0	8.5
10	8.0	7.0	7.5	9.5	7.5	8.5	9.0	8.0	8.5	12.5	6.5	9.5
11	8.0	6.5	7.0	9.5	7.0	8.0	9.5	7.5	8.5	14.0	8.5	11.0
12	8.0	6.5	7.0	9.0	6.5	7.5	9.0	6.5	7.5	15.5	10.5	13.0
13	8.0	6.5	7.0	8.5	6.0	7.0	10.5	5.5	8.0	13.5	12.0	12.5
14	8.0	6.0	7.0	9.0	5.0	7.0	11.0	6.5	9.0	12.5	11.5	12.0
15	8.0	6.0	7.0	9.0	6.0	7.5	10.5	8.5	9.5	12.0	11.0	11.5
16	9.0	7.0	8.0	9.0	5.0	7.0	9.0	7.5	8.0	12.5	9.5	11.0
17	9.0	7.5	8.5	10.0	6.0	7.5	7.5	6.0	7.0	10.5	9.5	10.0
18	8.5	7.5	8.0	10.5	6.0	8.0	8.5	5.5	7.0	10.0	9.0	9.5
19	8.0	7.0	7.5	10.5	7.0	8.5	8.0	6.0	6.5	10.0	8.5	9.0
20	8.0	5.5	7.0	9.5	5.5	7.5	8.5	5.5	7.0	11.0	8.0	9.5
21	6.5	5.5	6.0	10.0	5.5	7.5	9.5	6.5	7.5	10.0	9.0	9.5
22	6.5	5.5	6.0	8.5	5.5	7.0	8.5	7.5	8.0	9.5	8.0	8.5
23	6.0	5.0	5.5	8.0	5.0	6.0	9.5	8.0	8.5	10.0	7.5	8.5
24	6.0	4.5	5.5	8.5	4.0	6.0	9.5	7.5	8.5	11.0	7.5	9.0
25	5.5	3.5	4.5	8.5	3.5	5.5	10.0	7.0	8.5	12.5	8.5	10.5
26	4.5	3.0	4.0	8.5	3.5	6.0	11.0	7.5	9.0	12.5	9.5	11.0
27	5.5	4.0	4.5	6.5	4.0	4.5	10.5	6.5	8.5	12.0	9.0	10.5
28	6.0	4.5	5.0	7.0	4.0	5.5	11.0	6.0	8.5	11.0	8.0	9.5
29	7.0	4.5	5.5	7.0	4.0	5.0	13.0	7.5	10.0	11.5	7.0	9.5
30	---	---	---	7.5	4.0	6.0	13.5	8.5	10.5	11.5	7.5	9.5
31	---	---	---	7.5	6.0	6.5	---	---	---	13.0	9.0	11.0
MONTH	9.0	3.0	6.5	10.5	3.5	7.0	14.0	5.5	8.5	15.5	5.0	10.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	14.5	9.5	12.0	18.5	12.0	15.0	20.0	15.5	18.0	17.5	13.0	15.5
2	16.0	11.5	13.5	19.5	13.5	16.5	17.0	13.5	15.5	17.0	12.5	15.0
3	16.5	12.5	14.5	18.5	14.0	16.0	17.5	13.0	15.0	17.0	13.0	15.0
4	16.0	12.0	14.0	17.5	14.0	15.5	17.5	12.0	15.0	15.0	12.5	13.5
5	16.0	10.5	13.5	17.0	11.0	14.0	17.0	13.5	15.0	14.5	10.0	12.5
6	17.0	11.5	14.0	18.0	12.0	15.0	17.0	11.5	14.5	14.0	10.0	12.0
7	17.5	12.5	14.5	19.5	13.5	16.5	18.5	13.0	16.0	15.0	10.0	13.0
8	16.5	11.5	14.0	19.5	14.5	17.0	20.0	14.5	17.5	16.5	11.5	14.0
9	15.0	11.0	12.5	19.5	14.5	16.5	20.5	15.5	18.0	17.0	12.5	14.5
10	15.0	9.5	12.0	19.5	13.5	16.0	21.0	16.0	19.0	17.5	13.0	15.0
11	15.5	10.0	12.5	20.0	14.0	17.0	20.0	15.0	18.0	17.0	13.5	15.0
12	16.5	10.5	13.0	21.0	15.0	18.0	20.0	14.5	17.5	16.0	13.5	14.5
13	16.0	11.0	13.5	21.5	16.0	18.5	21.5	16.0	19.0	14.0	12.5	13.0
14	16.0	10.5	13.0	21.5	17.5	19.5	21.0	16.0	18.5	13.5	12.0	13.0
15	15.5	11.0	13.0	21.0	17.0	19.0	20.5	15.5	18.0	14.0	12.0	13.0
16	14.0	11.0	12.5	19.5	15.0	17.5	19.0	14.5	17.0	12.5	11.0	12.0
17	13.5	9.5	11.0	16.5	13.5	14.5	19.0	14.5	16.5	12.5	10.0	11.5
18	13.5	8.0	10.5	14.5	12.0	13.0	17.0	12.5	15.0	12.5	9.0	11.0
19	13.5	8.0	11.0	16.5	10.5	13.5	17.0	12.5	15.0	13.5	11.5	12.0
20	15.0	10.5	12.5	17.5	11.5	14.5	17.0	12.0	15.0	13.0	9.5	11.5
21	14.5	10.0	12.0	19.0	13.0	16.0	17.0	12.5	15.0	12.5	9.5	11.0
22	15.0	9.5	12.0	20.5	15.0	17.5	18.0	13.0	16.0	11.5	8.0	10.0
23	12.5	11.5	12.0	21.0	16.0	18.5	18.5	14.0	16.5	11.0	7.5	9.5
24	13.0	10.5	12.0	22.0	16.5	19.0	20.0	15.0	17.5	11.5	8.0	10.0
25	13.5	9.5	11.5	22.0	17.0	19.5	21.5	16.5	19.0	12.0	8.5	10.5
26	14.0	10.0	12.0	22.0	17.0	19.5	21.0	17.0	19.0	12.5	9.0	11.0
27	14.0	11.5	12.5	22.0	17.5	20.0	18.0	16.0	17.0	13.5	9.5	11.5
28	14.5	11.0	12.5	20.0	18.0	18.5	18.5	14.0	16.5	14.0	10.5	12.5
29	16.5	10.5	13.5	21.5	16.0	18.5	19.5	14.5	17.0	14.5	11.0	13.0
30	17.5	12.0	14.5	21.0	16.5	19.0	19.5	15.0	17.0	14.0	11.0	13.0
31	---	---	---	21.0	16.0	18.5	18.5	14.5	16.5	---	---	---
MONTH	17.5	8.0	12.5	22.0	10.5	17.0	21.5	11.5	17.0	17.5	7.5	12.5
YEAR	22.0	2.0	10.0									

14338000 ELK CREEK NEAR TRAIL, OR

LOCATION.--Lat 42°40'30", long 122°44'38", in NE 1/4 sec.30, T.33 S., R.1 E., Jackson County, Hydrologic Unit 17100307, on right bank 3.7 mi northeast of Trail and at mile 1.2.

DRAINAGE AREA.--129 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Prior to March 1946 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WDR OR-89-2: Drainage area. WDR OR-92-1: 1989(M), 1990(M), 1991(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,493.91 ft above sea level. Prior to July 5, 1946, nonrecording gage at various sites within 1.0 mi of present site at different datums. July 5, 1946, to June 22, 1950, nonrecording gage, and June 23, 1950, to May 23, 1954, water-stage recorder, at site 0.5 mi downstream at datum 25.21 ft lower, May 24, 1954, to Sept. 30, 1988 at site 0.8 mi downstream at datum 37.35 ft lower.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--50 years (water years 1947-96), 217 ft^3/s, 157,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,200 ft^3/s Dec. 22, 1964, gage height, 18.84 ft, from rating curve extended above 4,700 ft^3/s on basis of slope-area measurement of peak flow, site and datum then in use; minimum discharge, 0.01 ft^3/s Oct. 8, 1987, result of dam construction 1.3 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	0900	*5,790	*9.81	Feb. 9	1000	3,000	7.97
Dec. 30	1400	3,400	8.30				

Minimum discharge, 1.6 ft^3/s Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.3	557	969	835	285	711	214	130	25	6.7	2.3
2	9.0	8.9	301	593	671	318	662	190	116	23	6.2	1.9
3	8.2	8.9	182	447	534	371	480	171	105	22	6.3	1.7
4	9.9	8.8	287	380	962	417	360	153	96	21	6.4	1.9
5	9.6	8.7	577	315	1710	474	287	137	88	21	6.4	2.1
6	8.2	9.0	503	284	2120	413	244	124	80	19	6.3	2.5
7	7.4	11	303	263	2020	346	223	114	73	18	6.1	2.8
8	6.9	14	353	522	2000	327	209	104	68	17	5.3	2.7
9	7.0	20	1080	723	2650	345	199	96	63	17	4.6	2.5
10	7.0	21	608	1150	1740	329	199	90	59	17	4.0	2.4
11	9.6	22	1200	752	1340	338	190	82	56	15	3.4	2.2
12	21	44	4240	503	1130	355	185	77	54	15	3.4	2.2
13	16	48	2450	377	984	312	189	81	50	13	3.3	2.4
14	12	34	1940	301	848	271	180	146	48	12	3.1	4.7
15	9.6	25	2530	492	698	238	168	282	46	13	3.1	15
16	8.8	21	1270	685	631	213	182	353	44	12	3.1	23
17	8.1	19	698	905	631	195	176	571	43	11	3.1	20
18	9.4	22	498	731	690	185	174	1120	41	14	3.0	14
19	12	23	372	1020	869	180	180	911	39	14	3.2	11
20	10	20	294	1500	791	171	226	617	37	13	3.2	9.8
21	8.2	19	243	1480	879	156	241	506	35	12	3.3	9.2
22	8.7	18	209	879	752	152	256	784	34	11	3.3	8.3
23	8.3	17	180	592	589	146	299	669	34	10	3.2	7.8
24	8.3	17	155	479	549	133	1350	518	39	9.0	2.9	7.7
25	8.6	27	134	409	454	121	1100	387	37	8.4	2.7	6.7
26	14	80	118	358	376	112	681	298	42	8.1	2.5	6.3
27	19	78	108	553	324	139	500	244	37	7.6	2.5	6.1
28	15	191	110	696	291	166	359	209	33	5.6	3.2	5.8
29	13	123	623	565	269	171	282	185	30	8.0	3.0	5.5
30	11	321	2640	540	---	161	243	165	27	8.3	2.7	4.4
31	11	---	1870	730	---	189	---	146	---	7.6	2.5	---
TOTAL	325.8	1288.6	26633	20193	28337	7729	10735	9744	1684	427.6	122.0	194.9
MEAN	10.5	43.0	859	651	977	249	358	314	56.1	13.8	3.94	6.50
MAX	21	321	4240	1500	2650	474	1350	1120	130	25	6.7	23
MIN	6.9	8.7	108	263	269	112	168	77	27	5.6	2.5	1.7
AC-FT	646	2560	52830	40050	56210	15330	21290	19330	3340	848	242	387

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1996, BY WATER YEAR (WY)

MEAN	31.4	184	431	510	508	425	286	163	59.3	14.7	6.41	7.20
MAX	404	1008	1851	1283	1131	1074	565	358	254	36.1	25.1	43.7
(WY)	1951	1974	1965	1965	1958	1972	1956	1975	1953	1953	1976	1986
MIN	3.17	8.92	13.1	19.8	23.1	45.4	65.8	21.6	7.42	1.39	.21	.60
(WY)	1953	1994	1977	1977	1977	1992	1968	1992	1992	1994	1994	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1946 - 1996	
ANNUAL TOTAL	90207.7		107413.9			
ANNUAL MEAN	247		293		217	
HIGHEST ANNUAL MEAN					438	1974
LOWEST ANNUAL MEAN					41.7	1977
HIGHEST DAILY MEAN	4240	Dec 12	4240	Dec 12	12200	Dec 22 1964
LOWEST DAILY MEAN	1.3	Sep 23	1.7	Sep 3	.12	Sep 1 1994
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 18	2.1	Aug 31	.12	Sep 1 1994
ANNUAL RUNOFF (AC-FT)	178900		213100		157200	
10 PERCENT EXCEEDS	598		762		555	
50 PERCENT EXCEEDS	95		104		68	
90 PERCENT EXCEEDS	4.8		4.5		4.6	

14338000 ELK CREEK NEAR TRAIL, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1973 to current year.

INSTRUMENTATION.--Temperature recorder since June 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 31.5°C July 17, 1979, Aug. 16, 18, 1992; minimum, 0.0°C at times during most winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 27.5°C July 24-26; minimum, 2.0°C Dec. 24-26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.5	14.0	15.5	11.0	9.0	9.5	9.5	8.0	9.5	7.5	6.5	7.0
2	16.5	14.0	15.5	9.5	7.5	8.5	8.5	7.5	8.0	7.0	6.0	6.5
3	16.5	14.5	15.5	9.0	7.0	7.5	7.5	6.0	6.5	7.5	7.0	7.0
4	16.0	13.5	14.5	7.5	6.5	7.0	8.0	6.5	7.0	7.5	6.0	7.0
5	15.0	12.5	14.0	8.0	6.5	7.5	9.0	7.5	8.0	6.5	5.5	6.0
6	14.0	12.5	13.5	8.0	7.5	7.5	9.5	8.5	9.0	7.0	6.5	6.5
7	14.5	11.5	13.0	10.0	8.0	9.0	9.5	8.5	9.0	7.0	6.5	7.0
8	13.5	11.5	12.5	10.0	9.5	9.5	9.0	8.5	8.5	7.5	7.0	7.5
9	14.5	12.0	13.0	10.0	9.0	9.5	10.0	9.0	9.5	8.0	7.5	8.0
10	15.0	12.5	13.5	9.0	8.5	9.0	9.5	9.0	9.5	8.0	7.0	7.5
11	13.5	13.0	13.5	9.5	9.0	9.0	9.5	9.0	9.5	7.0	6.0	7.0
12	13.5	12.0	12.5	10.5	9.5	10.0	10.0	9.0	9.5	7.0	6.0	6.5
13	13.0	11.5	12.5	12.0	10.5	11.5	9.0	8.5	8.5	7.0	5.5	6.0
14	13.5	11.0	12.0	12.0	11.0	11.5	8.5	8.0	8.0	7.5	5.5	6.5
15	13.5	11.0	12.5	12.0	11.5	11.5	8.0	7.5	8.0	8.0	7.5	8.0
16	14.5	12.5	13.5	12.0	11.0	11.5	8.0	7.5	7.5	8.0	7.0	7.5
17	14.5	12.5	13.5	11.5	11.0	11.5	8.0	7.0	7.5	7.0	6.0	6.5
18	15.0	12.5	13.5	12.0	11.0	11.5	7.5	7.0	7.5	6.0	5.5	6.0
19	13.5	11.5	12.5	11.0	9.5	10.5	7.5	6.0	6.5	6.5	5.5	6.0
20	12.5	11.0	11.5	9.5	8.5	9.0	6.5	5.5	6.0	6.5	6.5	6.5
21	12.5	10.5	11.5	9.0	8.5	8.5	6.0	4.5	5.5	7.0	6.0	6.5
22	12.0	10.0	10.5	10.0	9.0	9.5	5.5	4.0	4.5	6.5	5.5	6.0
23	11.0	9.0	10.0	10.0	9.5	10.0	4.5	3.0	3.5	5.5	3.0	4.5
24	11.0	8.5	9.5	10.5	9.5	10.0	3.5	2.0	3.0	5.0	3.0	4.0
25	10.5	9.0	9.5	10.5	10.0	10.5	3.5	2.0	2.5	5.0	4.0	4.5
26	11.5	10.0	10.5	10.0	8.5	9.0	3.5	2.0	3.0	5.5	4.5	5.0
27	11.0	10.5	11.0	8.5	8.0	8.0	4.5	3.5	4.0	4.5	4.0	4.0
28	11.5	10.5	11.0	9.0	8.0	8.5	5.5	4.5	5.0	6.0	4.5	5.5
29	12.0	10.5	11.5	8.5	8.0	8.5	7.0	5.5	6.0	6.0	5.0	5.5
30	12.0	10.5	11.0	10.0	8.5	9.0	8.5	7.0	8.0	6.0	5.0	5.5
31	12.0	10.0	11.0	---	---	---	8.5	7.5	8.0	6.5	5.5	6.0
MONTH	16.5	8.5	12.5	12.0	6.5	9.5	10.0	2.0	7.0	8.0	3.0	6.0

14338000 ELK CREEK NEAR TRAIL, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.5	5.0	5.5	7.0	4.0	5.5	9.0	7.0	8.0	13.5	10.0	12.0
2	6.5	5.0	5.5	7.0	4.0	5.5	9.0	7.5	8.0	12.5	10.0	11.0
3	6.5	5.0	5.5	7.5	6.0	7.0	10.0	6.5	8.0	11.0	8.0	9.5
4	6.5	5.5	6.0	7.5	6.0	7.0	10.5	6.0	8.0	10.5	6.5	8.5
5	7.0	6.5	6.5	7.0	6.0	6.5	11.5	7.0	9.0	12.5	8.0	10.0
6	7.0	6.5	7.0	7.5	5.0	6.5	13.0	8.0	10.5	12.0	8.5	10.5
7	7.5	7.0	7.0	9.0	6.5	7.5	13.5	9.0	11.0	13.0	9.0	11.0
8	7.5	7.0	7.0	9.5	6.5	8.0	14.0	10.0	12.0	12.5	9.0	11.0
9	7.5	7.0	7.0	9.0	7.5	8.5	13.5	10.5	11.5	12.5	8.5	10.5
10	8.0	6.5	7.0	9.0	7.5	8.0	10.5	9.0	9.5	13.5	9.5	11.5
11	8.0	6.0	7.0	9.0	7.5	8.5	9.5	8.0	9.0	15.5	11.0	13.5
12	8.0	6.0	7.0	9.0	6.5	8.0	9.0	7.0	8.0	17.0	13.5	15.5
13	8.0	5.5	6.5	9.0	6.0	7.5	11.0	6.5	8.5	17.0	14.5	15.5
14	8.0	5.5	6.5	9.0	5.5	7.5	11.0	7.5	9.5	15.0	13.5	14.0
15	8.0	5.5	6.5	9.5	6.0	7.5	11.0	9.5	10.0	13.5	12.0	12.5
16	8.5	6.5	7.5	9.0	5.5	7.5	10.0	8.5	9.5	13.0	11.0	12.0
17	8.0	7.5	7.5	10.0	6.5	8.0	9.0	7.0	7.5	12.0	10.5	11.0
18	8.0	7.0	7.5	10.5	6.5	8.5	9.0	6.5	7.5	11.0	9.5	10.0
19	7.5	6.5	7.0	10.5	7.5	9.0	8.0	6.5	7.5	11.0	9.0	10.0
20	7.5	6.5	7.0	9.5	6.5	8.0	8.5	6.0	7.0	12.0	8.5	10.0
21	6.5	5.0	6.0	10.0	6.0	8.0	9.5	7.0	8.5	11.5	9.5	10.5
22	6.5	5.5	5.5	9.5	7.0	8.0	9.5	7.5	8.5	10.5	9.0	9.5
23	5.5	4.5	5.5	8.5	5.5	7.0	9.5	8.0	8.5	11.0	8.0	9.5
24	6.0	4.5	5.0	8.5	5.0	7.0	9.5	8.5	9.0	12.5	8.0	10.0
25	5.5	3.5	4.5	8.5	4.5	6.5	10.5	7.0	8.5	14.0	9.5	11.5
26	4.5	2.5	3.5	8.0	4.5	6.5	11.5	8.5	9.5	14.5	10.5	12.5
27	5.5	3.5	4.5	8.0	4.5	6.0	11.0	7.5	9.0	14.0	10.5	12.0
28	6.0	4.5	5.0	7.5	4.0	5.5	11.5	7.0	9.0	12.5	9.5	11.0
29	7.0	5.0	6.0	7.5	5.0	6.5	13.0	8.0	10.5	13.5	8.5	11.0
30	---	---	---	7.5	5.0	6.5	14.0	9.5	11.5	13.5	9.5	11.5
31	---	---	---	7.5	6.5	7.0	---	---	---	15.0	11.0	12.5
MONTH	8.5	2.5	6.0	10.5	4.0	7.0	14.0	6.0	9.0	17.0	6.5	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.5	12.0	14.0	23.0	19.5	21.0	25.5	22.0	23.5	23.0	19.5	21.5
2	18.0	13.5	15.5	24.0	20.5	22.0	23.0	20.5	22.0	23.0	19.0	21.0
3	19.0	15.5	17.0	24.0	21.0	22.5	22.5	19.5	21.0	22.5	18.5	20.5
4	18.5	15.5	17.0	22.0	20.5	21.5	22.5	18.5	21.0	20.5	18.0	19.5
5	18.5	14.5	16.5	21.5	19.0	20.5	22.0	19.0	20.5	21.5	17.0	19.0
6	19.5	15.0	17.0	22.0	19.0	20.5	22.5	18.0	20.0	20.5	16.5	18.5
7	20.0	16.5	18.0	24.0	20.0	21.5	23.5	18.5	21.0	20.0	16.5	18.5
8	19.0	16.0	17.5	24.0	21.0	22.5	24.5	20.0	22.5	21.0	17.0	19.0
9	18.5	15.5	17.0	24.5	21.0	22.5	25.5	21.0	23.5	21.0	17.0	19.5
10	17.5	14.0	16.0	24.5	21.0	22.5	26.5	22.0	24.5	21.5	17.5	20.0
11	18.0	14.5	16.5	24.5	21.0	22.5	26.0	22.0	24.0	21.5	18.0	20.0
12	19.0	15.0	17.0	25.5	21.5	23.5	25.5	21.5	23.5	20.5	17.5	18.5
13	19.0	16.0	17.5	26.5	22.5	24.5	26.5	22.0	24.5	18.0	17.0	17.5
14	19.0	15.5	17.0	26.5	24.0	25.0	26.0	22.0	24.0	17.5	16.5	17.0
15	19.0	16.0	17.5	26.0	24.0	25.0	25.5	22.0	24.0	17.0	15.5	16.5
16	18.0	16.0	17.0	25.0	22.5	24.0	25.0	21.0	23.0	16.0	14.5	15.5
17	17.0	14.0	15.5	23.0	19.5	21.5	24.5	21.0	22.5	15.0	14.0	14.5
18	16.5	13.5	15.0	19.5	18.0	19.0	24.0	20.0	22.0	16.0	13.0	14.5
19	16.5	14.0	15.0	20.5	17.0	18.5	23.0	19.5	21.5	16.5	14.5	15.5
20	18.0	15.0	16.5	21.5	17.5	19.5	23.0	19.0	21.0	16.0	14.0	15.5
21	18.5	16.0	17.0	23.5	18.5	21.0	23.5	19.0	21.5	16.5	13.5	15.0
22	18.5	16.0	17.0	25.5	20.5	23.0	24.0	19.0	21.5	16.5	13.0	14.5
23	17.5	16.0	16.5	26.0	22.5	24.0	24.5	20.0	22.0	15.5	12.5	14.0
24	17.0	14.5	16.0	27.5	23.0	25.0	24.5	20.5	22.5	15.5	12.5	14.0
25	17.5	15.0	16.0	27.5	23.5	25.5	25.0	21.5	23.5	16.0	12.5	14.5
26	17.5	15.5	16.5	27.5	24.0	26.0	25.5	22.0	23.5	16.5	13.0	14.5
27	18.5	16.5	17.5	27.0	24.5	26.0	23.5	21.5	22.5	17.5	13.5	15.5
28	19.5	16.5	18.0	25.5	23.0	24.5	24.0	20.0	22.0	18.0	14.5	16.0
29	20.5	17.0	18.5	26.5	22.0	24.0	24.0	20.5	22.5	18.5	15.0	17.0
30	22.0	18.5	20.0	26.5	22.5	24.5	24.0	20.5	22.5	18.0	15.5	17.0
31	---	---	---	26.5	22.5	24.5	24.0	20.0	22.0	---	---	---
MONTH	22.0	12.0	17.0	27.5	17.0	23.0	26.5	18.0	22.5	23.0	12.5	17.0
YEAR	27.5	2.0	12.5									

14338100 ROGUE RIVER AT TRAIL, OR

LOCATION.--Lat 42°38'51", long 122°48'18", in NW 1/4 NE 1/4 sec.3, T.34 S., R.1 W., Jackson County, Hydrologic Unit 17100307, on right bank 0.2 mi upstream from Trail Creek, and at mile 148.9.

DRAINAGE AREA.--Not determined.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: March 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since March 1988.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 19.0°C July 27, 29, 1992; minimum, 2.0°C Feb. 5, 6, 1989, Feb. 14, 15, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 15.5°C Aug. 9, 10, 12-17; minimum, 4.0°C Jan. 23, 24.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.0	8.0	9.0	8.5	6.0	7.0	9.0	8.0	8.5	6.5	6.0	6.0
2	11.0	8.0	9.0	8.5	6.0	7.0	8.5	8.0	8.0	6.5	6.0	6.0
3	10.5	8.0	9.0	8.0	6.0	7.0	8.0	8.0	8.0	6.5	6.0	6.5
4	10.5	8.0	8.5	8.0	6.0	7.0	8.5	8.0	8.0	6.5	6.5	6.5
5	10.5	7.5	8.5	8.0	7.0	7.5	8.5	8.0	8.5	6.5	6.5	6.5
6	10.0	8.0	8.5	8.0	7.0	7.5	8.5	8.5	8.5	6.5	6.5	6.5
7	10.5	7.5	8.5	9.0	7.0	7.5	8.5	8.0	8.5	6.5	6.5	6.5
8	10.0	7.5	8.5	8.0	7.5	7.5	8.5	8.5	8.5	7.0	6.5	6.5
9	10.5	8.0	9.0	8.0	7.5	7.5	9.0	8.5	8.5	7.0	6.5	6.5
10	10.0	8.0	9.0	8.0	7.0	7.5	8.5	8.5	8.5	7.0	6.5	6.5
11	8.5	7.0	8.0	8.0	7.5	7.5	9.0	8.5	8.5	6.5	6.0	6.0
12	9.5	7.0	8.0	8.5	7.5	8.0	9.5	8.5	9.0	6.5	6.0	6.0
13	9.5	6.5	7.5	9.0	8.0	8.5	8.5	8.0	8.5	6.0	5.5	6.0
14	9.5	7.0	7.5	9.0	8.0	8.0	8.0	8.0	8.0	6.5	5.5	6.0
15	9.5	7.0	8.0	8.5	8.0	8.0	8.0	7.5	8.0	7.0	6.5	6.5
16	9.0	7.0	8.0	9.0	8.0	8.0	8.0	7.5	7.5	6.5	6.0	6.5
17	9.0	7.0	8.0	9.0	8.0	8.0	8.0	7.5	7.5	6.0	5.5	6.0
18	9.5	7.0	8.0	9.0	8.0	8.0	8.0	7.5	7.5	5.5	5.5	5.5
19	9.0	6.5	7.5	8.5	7.5	8.0	7.5	7.5	7.5	6.0	5.5	6.0
20	8.0	6.5	7.0	8.5	7.5	8.0	7.5	7.0	7.5	6.0	5.5	6.0
21	8.5	6.5	7.0	8.5	7.5	8.0	7.0	6.5	7.0	6.0	5.5	6.0
22	8.5	6.0	7.0	8.5	8.0	8.0	7.0	6.5	6.5	6.0	5.5	5.5
23	8.5	6.0	7.0	8.5	8.0	8.0	6.5	6.0	6.5	5.5	4.0	5.0
24	8.5	6.0	7.0	8.5	8.0	8.0	6.5	6.0	6.0	5.0	4.0	4.5
25	8.0	6.5	7.0	8.5	8.0	8.0	6.5	6.0	6.0	5.5	4.5	5.0
26	9.0	7.0	7.5	8.5	8.0	8.0	6.5	6.0	6.0	5.5	5.0	5.0
27	8.5	7.0	7.5	8.0	7.5	8.0	6.5	6.0	6.5	5.0	4.5	4.5
28	9.0	7.0	7.5	8.5	8.0	8.0	6.5	6.0	6.5	5.5	4.5	5.0
29	9.0	7.0	7.5	8.5	8.0	8.0	7.0	6.0	6.5	5.5	5.0	5.0
30	9.0	7.0	7.5	9.0	8.0	8.5	7.5	7.0	7.0	5.5	5.0	5.5
31	8.5	6.5	7.5	---	---	---	7.5	6.5	7.0	6.0	5.0	5.5
MONTH	11.0	6.0	8.0	9.0	6.0	8.0	9.5	6.0	7.5	7.0	4.0	6.0

14338100 ROGUE RIVER AT TRAIL, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	4.5	5.0	6.5	5.0	5.5	7.5	6.5	7.0	10.5	8.0	9.0
2	5.5	4.5	5.0	6.0	5.0	5.5	7.5	6.5	6.5	10.0	8.5	9.0
3	6.0	4.5	5.0	6.5	5.5	6.0	8.0	6.0	6.5	9.5	8.0	8.5
4	6.0	5.5	6.0	6.5	5.5	6.0	8.0	6.0	7.0	10.5	8.0	9.0
5	6.5	6.0	6.0	6.0	5.5	5.5	8.0	6.0	7.0	10.5	8.5	9.5
6	6.5	6.0	6.0	6.5	5.0	5.5	9.0	6.5	7.5	10.5	8.5	9.5
7	6.5	6.0	6.5	7.0	6.0	6.0	9.0	6.5	7.5	10.5	8.5	9.5
8	7.0	6.0	6.5	7.0	6.0	6.5	9.0	7.0	7.5	11.0	8.5	9.5
9	7.0	6.5	6.5	7.0	6.5	6.5	7.5	6.5	7.0	11.0	8.5	9.5
10	6.5	6.0	6.5	7.0	6.0	6.5	7.0	6.5	6.5	10.5	8.0	9.0
11	6.5	5.5	6.0	6.5	6.0	6.5	7.0	6.0	6.5	10.5	8.5	9.5
12	6.5	5.5	6.0	7.5	5.5	6.5	7.0	5.5	6.5	11.0	8.5	9.5
13	6.5	5.5	6.0	7.0	5.5	6.0	7.5	5.5	6.5	10.5	8.5	9.5
14	6.5	5.5	6.0	7.5	5.0	6.0	7.5	6.0	7.0	9.5	9.0	9.0
15	6.5	5.5	6.0	7.5	5.5	6.5	7.5	6.5	7.0	9.0	8.5	8.5
16	6.5	6.0	6.0	7.0	5.0	6.0	7.5	6.5	7.0	9.5	8.5	9.0
17	6.5	6.0	6.5	8.0	5.5	6.5	7.0	6.5	6.5	9.5	9.0	9.0
18	6.5	6.0	6.0	8.0	5.5	6.5	7.5	6.5	7.0	9.5	8.5	9.0
19	6.5	6.0	6.0	7.5	6.0	6.5	7.5	6.5	7.0	9.5	8.5	9.0
20	6.5	5.5	6.0	7.5	5.5	6.0	7.5	6.5	7.0	10.0	8.5	9.0
21	6.0	5.0	5.5	7.5	5.5	6.5	8.0	6.5	7.0	9.5	8.5	9.0
22	5.5	5.0	5.5	6.5	5.5	6.0	8.0	7.0	7.0	9.5	8.5	9.0
23	5.5	5.0	5.5	7.0	5.5	6.0	8.5	7.5	8.0	10.0	8.0	9.0
24	5.5	5.0	5.0	7.0	5.0	6.0	8.5	7.5	8.0	10.5	8.5	9.5
25	5.5	5.0	5.0	7.0	5.5	6.0	8.5	7.5	8.0	11.0	9.0	10.0
26	5.5	4.5	5.0	7.0	5.0	6.0	9.0	7.5	8.0	11.0	9.5	10.0
27	6.0	5.0	5.0	6.0	5.5	5.5	9.0	7.5	8.0	10.5	9.5	10.0
28	5.5	5.0	5.5	6.5	5.0	5.5	8.5	7.0	8.0	10.5	9.0	9.5
29	6.5	5.0	5.5	7.0	5.5	6.0	9.0	8.0	8.5	11.0	9.0	10.0
30	---	---	---	7.0	5.5	6.0	9.0	8.0	8.5	11.0	9.0	10.0
31	---	---	---	6.5	6.0	6.0	---	---	---	11.5	9.5	10.5
MONTH	7.0	4.5	6.0	8.0	5.0	6.0	9.0	5.5	7.0	11.5	8.0	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.0	9.5	10.5	11.5	9.0	10.0	14.5	11.0	12.5	13.5	11.5	12.5
2	12.0	10.0	11.0	11.5	9.0	10.5	13.5	11.0	12.0	13.5	11.0	12.0
3	12.0	10.0	11.0	11.5	9.0	10.5	14.0	11.0	12.0	13.5	11.0	12.0
4	12.0	9.5	11.0	11.5	9.0	10.0	14.0	11.0	12.0	12.5	11.0	12.0
5	12.5	10.0	11.0	11.5	9.0	10.0	13.5	11.0	12.0	13.0	11.0	12.0
6	12.5	10.0	11.0	11.5	9.0	10.5	14.5	11.0	12.5	13.5	11.0	12.0
7	12.0	9.5	10.5	12.0	9.5	10.5	15.0	12.0	13.5	13.5	11.0	12.0
8	12.0	9.0	10.5	12.0	9.5	10.5	15.0	12.5	13.5	14.0	11.0	12.0
9	11.5	9.0	10.5	12.5	9.5	11.0	15.5	12.5	13.5	13.0	9.5	11.0
10	11.0	9.0	10.0	13.0	9.5	11.0	15.5	13.0	14.0	11.5	9.0	10.0
11	11.5	8.5	10.0	13.5	10.0	11.5	15.0	12.5	13.5	11.0	9.0	10.0
12	11.5	9.0	10.0	13.5	10.0	11.5	15.5	12.5	13.5	11.5	9.0	10.0
13	11.5	9.0	10.0	13.5	10.0	11.5	15.5	13.0	14.0	10.5	9.5	9.5
14	11.5	9.0	10.0	13.5	10.5	11.5	15.5	12.5	14.0	10.5	9.5	10.0
15	11.5	9.0	10.0	13.5	10.5	11.5	15.5	12.5	14.0	11.5	9.5	10.5
16	11.0	9.0	10.0	13.5	10.5	11.5	15.5	12.5	14.0	11.0	9.5	10.0
17	10.5	9.0	9.5	12.0	10.5	11.0	15.5	13.0	14.0	11.5	10.0	10.5
18	11.0	9.0	10.0	12.5	10.5	11.5	14.0	12.0	13.0	12.0	9.5	10.5
19	11.0	9.0	9.5	13.5	10.0	11.5	14.0	11.5	12.5	11.0	9.0	10.0
20	11.0	9.0	10.0	13.5	10.0	12.0	14.0	11.5	12.5	11.5	8.5	9.5
21	11.5	9.0	10.0	14.0	10.5	12.0	14.0	11.5	12.5	10.5	8.0	9.0
22	11.5	9.0	10.0	14.5	10.5	12.0	14.5	11.5	13.0	10.5	7.0	8.0
23	10.0	9.0	9.5	14.5	10.5	12.5	14.0	12.0	13.0	9.0	6.5	7.5
24	10.5	9.0	9.5	14.5	11.0	12.5	14.5	12.0	13.0	9.5	6.5	7.5
25	11.0	9.0	10.0	14.5	11.0	12.5	14.5	12.5	13.0	9.5	6.5	7.5
26	11.0	9.5	10.0	14.5	11.5	12.5	14.5	12.5	13.5	10.0	6.5	7.5
27	11.0	9.5	10.0	14.5	11.5	12.5	14.0	12.5	13.0	9.5	6.5	8.0
28	11.0	9.5	10.0	13.0	11.5	12.0	14.5	12.5	13.5	10.0	7.5	8.5
29	11.0	8.5	10.0	14.5	11.5	12.5	15.0	12.5	13.5	10.5	7.5	8.5
30	11.5	9.0	10.0	14.5	11.5	12.5	15.0	12.5	13.5	10.5	7.5	8.5
31	---	---	---	14.5	11.5	12.5	15.0	12.5	13.5	---	---	---
MONTH	12.5	8.5	10.0	14.5	9.0	11.5	15.5	11.0	13.0	14.0	6.5	10.0
YEAR	15.5	4.0	8.5									

14339000 ROGUE RIVER AT DODGE BRIDGE, NEAR EAGLE POINT, OR

LOCATION.--Lat 42°31'30", long 122°50'30", in SE 1/4 sec.17, T.35 S., R.1 W., Jackson County, Hydrologic Unit 17100307, on right bank 50 ft upstream from Dodge Bridge, 0.7 mi downstream from Reese Creek, 4.3 mi northwest of Eagle Point, and at mile 138.6.

DRAINAGE AREA.--1,215 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1094: 1942(M), 1943, 1945(M), 1946. WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,271.99 ft above sea level. Prior to Dec. 21, 1938, nonrecording gage, Dec. 21, 1938, to Aug. 15, 1968, water-stage recorder, at datum 2.27 ft higher, Aug. 16, 1968, to Sept. 30, 1976, water-stage recorder, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Diversions for irrigation upstream from station; most of low flow of Big Butte Creek (station 14337500) is diverted near Butte Falls.

AVERAGE DISCHARGE.--39 years (water years 1939-77), 2,636 ft^3/s, 1,910,000 acre-ft/yr.
19 years (water years 1978-96), 2,321 ft^3/s, 1,681,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft^3/s Dec. 22, 1964, gage height, 12.78 ft, datum then in use, from rating curve extended above 23,000 ft^3/s; minimum discharge, 567 ft^3/s Feb. 18, 1977, result of closure of Lost Creek dam, minimum prior to that time, 611 ft^3/s Aug. 6, 14, 29, Sept. 9, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft^3/s Dec. 12, gage height, 8.22 ft; minimum discharge, 917 ft^3/s Nov. 4-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	1140	3830	5620	3770	3430	4200	4800	3190	2950	1910	2460
2	1140	1090	3450	4780	3150	3120	3960	3680	3160	2950	1910	2470
3	1130	977	3180	5630	2810	3150	3590	3780	3110	2970	1970	2460
4	1140	922	3580	6300	4460	3220	3250	3640	3100	3130	2080	2470
5	1140	917	5560	7590	5960	3360	3030	3450	3080	3110	2200	2470
6	1140	917	5800	7690	7070	3210	2830	3310	2950	3110	2310	2470
7	1140	921	5430	7590	7080	3050	2720	3080	3000	3110	2340	2480
8	1150	962	5430	7170	7290	2990	2820	2840	2870	3040	2340	2480
9	1150	967	6690	6400	9300	3010	3020	2810	2670	2670	2330	2470
10	1130	955	5930	6730	7770	3000	3160	2770	2790	2380	2300	2450
11	1160	942	7680	5930	6620	3040	3780	2690	2960	2120	2400	2440
12	1180	1120	13500	5450	5930	3120	3770	2680	2960	1980	2420	2240
13	1200	1410	9530	5170	5930	2960	3630	2710	2950	1960	2430	2040
14	1240	1380	10500	4970	6200	2830	3160	4060	2950	1960	2420	2040
15	1220	1340	12900	5880	5950	2750	2850	6680	2930	1970	2420	2100
16	1200	1300	9120	6350	5850	2670	2910	6750	3000	1970	2430	2110
17	1230	1210	7810	5820	5910	2630	2900	7100	3310	1970	2430	1940
18	1230	1170	7300	5450	5970	2620	2890	7960	3310	1960	2440	1720
19	1210	1170	6910	6220	6690	2690	2890	7370	3170	1950	2440	1520
20	1210	1150	5630	7340	6510	2750	2950	6800	3180	1960	2450	1310
21	1170	1160	3880	7520	7670	2970	2960	7090	3170	1950	2440	1360
22	1180	1170	3600	5690	7430	2970	2980	7550	3170	1950	2440	1360
23	1170	1180	3490	5400	7220	2960	3060	6890	3180	1940	2440	1350
24	1160	1130	3420	5990	7090	2930	7740	5520	3210	1930	2450	1300
25	1130	1150	3360	4970	6310	2880	7730	4980	3200	1920	2440	1290
26	1130	1410	3300	4590	4320	2850	6300	4770	3170	1920	2440	1290
27	1140	1470	3210	6700	3860	3120	4850	4630	3080	1930	2450	1290
28	1130	1880	2760	5830	3750	3400	5740	4110	3000	1930	2460	1350
29	1120	2120	4860	5440	3640	3020	6090	3380	2980	1920	2470	1330
30	1130	2970	8830	5570	---	2530	6010	3290	2960	1930	2460	1300
31	1150	---	7850	5130	---	2610	---	3230	---	1900	2450	---
TOTAL	36100	37600	188320	186910	171510	91840	117770	144400	91760	70440	72910	57360
MEAN	1165	1253	6075	6029	5914	2963	3926	4658	3059	2272	2352	1912
MAX	1240	2970	13500	7690	9300	3430	7740	7960	3310	3130	2470	2480
MIN	1120	917	2760	4590	2810	2530	2720	2680	2670	1900	1910	1290
AC-FT	71600	74580	373500	370700	340200	182200	233600	286400	182000	139700	144600	113800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	1285	1817	2936	2510	2628	2550	2738	2875	2434	2153	2192	1740
MAX	1931	4925	7983	6029	6045	4645	4520	4658	3939	3152	3092	2200
(WY)	1983	1985	1982	1996	1982	1989	1989	1996	1984	1984	1984	1983
MIN	874	928	1274	1232	1080	920	969	1577	1656	1116	1795	1288
(WY)	1993	1988	1990	1992	1988	1992	1992	1992	1992	1992	1994	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	931802		1266920			
ANNUAL MEAN	2553		3462		2321	
HIGHEST ANNUAL MEAN					3671	1984
LOWEST ANNUAL MEAN					1381	1992
HIGHEST DAILY MEAN	13500	Dec 12	13500	Dec 12	23000	Dec 15 1977
LOWEST DAILY MEAN	917	Nov 5	917	Nov 5	823	Feb 12 1981
ANNUAL SEVEN-DAY MINIMUM	937	Nov 4	937	Nov 4	842	Feb 7 1981
ANNUAL RUNOFF (AC-FT)	1848000		2513000		1681000	
10 PERCENT EXCEEDS	4770		6740		3830	
50 PERCENT EXCEEDS	2130		2960		1980	
90 PERCENT EXCEEDS	1130		1170		1130	

14339000 ROGUE RIVER AT DODGE BRIDGE, NEAR EAGLE POINT, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1973 to current year.

INSTRUMENTATION.--Temperature recorder since August 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE:
Prior to construction of Lost Creek Dam and Lake: Maximum, 20.0°C July 27, 28, 1975; minimum, 0.0°C Jan. 6-8, 10, 11, 1974, Jan. 6-9, 1977.
After full operation of Lost Creek Dam and Lake: Maximum, 21.0°C July 26-29, 1992; minimum, 0.5°C Feb. 5, 6, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 17.5°C Aug. 9, 13, 15; minimum, 4.0°C Jan. 23, 24, Feb. 26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.0	8.5	10.0	9.0	6.0	7.5	9.5	8.5	9.0	7.0	6.0	6.5
2	12.0	8.5	10.0	8.5	6.0	7.5	9.0	8.0	8.5	6.5	6.0	6.0
3	11.5	8.5	10.0	8.5	6.0	7.5	8.0	8.0	8.0	6.5	6.0	6.5
4	11.5	7.5	9.5	8.0	6.0	7.0	8.5	8.0	8.5	7.0	6.5	6.5
5	11.0	7.5	9.5	9.0	7.5	8.0	9.0	8.5	8.5	6.5	6.5	6.5
6	11.0	8.0	9.5	8.5	7.5	8.0	9.0	8.5	9.0	7.0	6.5	6.5
7	11.0	7.5	9.5	10.0	8.0	9.0	9.0	8.5	9.0	6.5	6.5	6.5
8	10.5	8.0	9.5	9.0	8.5	8.5	8.5	8.5	8.5	7.0	6.5	7.0
9	11.5	8.0	10.0	8.5	8.0	8.5	9.5	8.5	9.0	7.0	7.0	7.0
10	11.5	8.5	10.0	8.5	7.5	8.0	9.0	8.5	9.0	7.0	6.5	7.0
11	10.5	8.5	9.5	9.0	8.0	8.5	9.0	8.5	9.0	6.5	6.0	6.5
12	10.5	7.0	8.5	9.5	8.5	9.0	10.0	9.0	9.5	6.5	6.0	6.5
13	10.0	7.0	8.5	10.0	8.5	9.5	9.0	8.5	9.0	6.5	6.0	6.0
14	10.5	7.0	9.0	10.0	8.5	9.0	8.5	8.0	8.5	6.5	6.0	6.5
15	10.5	7.0	9.0	9.5	8.5	9.0	8.5	8.0	8.0	7.5	6.5	7.0
16	10.5	7.5	9.0	10.0	8.5	9.0	8.0	8.0	8.0	7.0	6.5	6.5
17	10.0	7.5	9.0	9.5	8.5	9.0	8.0	7.5	8.0	6.5	6.0	6.0
18	11.0	7.0	9.0	9.5	8.5	9.0	8.0	7.5	8.0	6.0	5.5	6.0
19	10.0	7.0	8.5	9.5	8.0	8.5	8.0	7.5	7.5	6.5	5.5	6.0
20	9.5	7.0	8.0	8.5	7.5	8.0	8.0	7.0	7.5	6.0	6.0	6.0
21	9.5	6.0	8.0	9.0	8.0	8.5	7.5	6.5	7.0	6.5	6.0	6.0
22	9.0	6.0	7.5	9.5	8.5	9.0	7.5	6.5	7.0	6.0	5.5	6.0
23	---	6.0	---	9.0	8.5	8.5	7.0	6.0	6.5	5.5	4.0	5.5
24	9.5	6.5	8.0	9.5	8.5	9.0	7.0	5.5	6.0	5.5	4.0	4.5
25	9.0	7.0	8.0	9.0	8.5	9.0	6.5	5.5	6.0	5.5	5.0	5.5
26	10.0	8.0	9.0	9.0	8.0	8.5	6.5	5.5	6.0	5.5	5.0	5.5
27	9.5	7.5	8.5	8.5	8.0	8.5	6.5	6.0	6.5	5.0	4.5	5.0
28	10.0	7.5	8.5	9.5	8.5	8.5	6.5	6.0	6.5	5.5	4.5	5.0
29	10.0	7.0	8.5	9.0	8.0	8.5	7.0	6.5	6.5	5.5	5.0	5.5
30	10.0	7.5	8.5	9.5	8.5	9.0	8.0	7.0	7.5	6.0	5.5	5.5
31	9.5	7.5	8.5	---	---	---	8.0	7.0	7.5	6.5	5.5	6.0
MONTH	---	6.0	---	10.0	6.0	8.5	10.0	5.5	8.0	7.5	4.0	6.0

14339000 ROGUE RIVER AT DODGE BRIDGE, NEAR EAGLE POINT, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.0	4.5	5.5	7.0	4.5	5.5	8.5	7.0	7.5	11.0	9.0	10.0
2	5.5	4.5	5.0	6.5	4.5	5.5	8.0	6.5	7.5	10.0	8.5	9.0
3	6.0	4.5	5.0	7.0	5.5	6.0	9.0	6.0	7.5	11.5	8.0	9.5
4	6.0	5.5	6.0	6.5	5.5	6.0	9.0	6.0	7.5	12.0	8.5	10.0
5	6.5	6.0	6.0	6.5	5.5	6.0	9.5	6.5	7.5	12.5	9.0	10.0
6	6.5	6.0	6.0	7.0	5.0	6.0	10.5	6.5	8.5	12.5	9.0	10.5
7	7.0	6.0	6.5	7.5	6.0	6.5	10.5	7.0	8.5	12.5	9.0	10.5
8	7.0	6.0	6.5	8.0	6.0	7.0	10.5	7.5	8.5	12.5	8.5	10.5
9	7.0	6.5	6.5	7.5	6.5	7.0	8.5	7.5	8.0	12.5	8.5	10.0
10	7.0	6.0	6.5	7.5	6.5	7.0	8.0	7.0	7.5	13.0	8.5	10.5
11	6.5	5.5	6.0	7.5	6.5	7.0	8.0	6.5	7.0	13.5	9.5	11.0
12	6.5	5.5	6.0	8.0	6.0	7.0	8.0	6.5	7.0	11.5	9.5	10.5
13	6.5	5.0	6.0	8.0	5.5	6.5	9.0	6.0	7.0	10.5	9.5	10.0
14	6.5	5.0	6.0	8.0	5.0	6.5	9.0	6.5	7.5	10.0	9.0	9.5
15	6.5	5.0	6.0	8.5	5.5	7.0	8.5	7.0	7.5	10.5	9.0	9.5
16	6.5	5.5	6.0	8.0	5.5	6.5	9.0	7.5	8.0	10.5	9.5	10.0
17	6.5	6.0	6.5	9.0	5.5	7.0	8.0	6.5	7.0	10.5	9.0	9.5
18	6.5	6.0	6.5	9.0	6.0	7.0	8.5	6.5	7.5	10.0	9.0	9.5
19	6.5	6.0	6.0	9.0	6.0	7.5	8.5	6.5	7.0	11.0	9.0	10.0
20	6.5	5.5	6.0	8.5	6.0	7.0	8.5	6.5	7.5	10.5	9.0	9.5
21	6.0	5.0	5.5	8.5	5.5	7.0	9.0	6.5	7.5	10.0	9.0	9.5
22	5.5	5.0	5.5	7.0	5.5	6.5	8.0	7.0	7.5	10.5	8.5	9.5
23	5.5	5.0	5.5	8.0	5.5	6.5	9.0	8.0	8.5	11.5	8.5	10.0
24	5.5	4.5	5.0	8.5	5.0	6.5	9.5	8.0	8.5	12.5	9.5	11.0
25	6.0	4.5	5.0	8.5	5.0	6.5	10.0	7.5	8.5	12.5	10.0	11.0
26	5.5	4.0	4.5	8.0	5.0	6.5	10.0	7.5	8.5	12.0	9.5	11.0
27	6.0	4.5	5.0	6.0	5.5	6.0	9.5	7.5	8.5	12.0	9.5	10.5
28	5.5	5.0	5.5	7.0	5.0	6.0	10.0	8.0	9.0	13.0	9.0	11.0
29	7.0	5.0	6.0	8.0	5.0	6.5	10.5	8.0	9.0	13.0	9.5	11.0
30	---	---	---	7.5	5.5	6.5	11.5	8.0	9.5	13.5	10.0	11.5
31	---	---	---	7.0	6.0	6.5	---	---	---	14.0	10.0	12.0
MONTH	7.0	4.0	6.0	9.0	4.5	6.5	11.5	6.0	8.0	14.0	8.0	10.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	14.5	10.5	12.0	14.0	9.0	11.5	16.5	11.0	14.0	16.0	12.5	13.5
2	14.5	10.5	12.5	14.0	9.5	11.5	15.0	10.5	13.0	15.0	11.0	13.0
3	14.5	11.0	12.5	14.0	9.5	11.5	16.0	11.0	13.5	15.0	11.0	13.0
4	14.5	10.5	12.5	14.0	9.5	11.5	16.0	11.0	13.5	14.0	11.0	12.5
5	15.0	10.5	12.5	13.5	9.5	11.0	15.0	11.5	13.0	15.0	10.5	12.5
6	14.5	10.5	12.5	14.0	9.0	11.5	16.0	11.0	13.5	15.0	11.0	13.0
7	14.5	9.5	12.0	14.5	9.5	12.0	17.0	12.5	14.5	15.5	11.0	13.0
8	14.0	9.5	11.5	14.5	9.5	12.0	17.0	12.5	14.5	15.5	11.5	13.0
9	14.0	9.5	11.5	15.0	10.0	12.5	17.5	12.5	15.0	15.0	10.5	12.5
10	13.5	9.0	11.0	15.5	10.0	12.5	17.0	13.0	15.0	13.5	9.0	11.0
11	14.0	9.5	11.5	16.5	10.5	13.0	17.0	12.5	14.5	12.5	9.5	11.0
12	14.0	9.5	11.5	16.5	10.5	13.5	17.0	12.5	14.5	12.5	9.5	11.0
13	13.5	9.0	11.0	16.0	11.0	13.5	17.5	13.0	15.0	11.5	9.5	10.5
14	14.0	9.5	11.5	15.5	11.5	13.5	17.0	12.5	15.0	11.5	9.5	10.5
15	13.0	9.5	11.0	16.0	11.0	13.5	17.5	12.5	14.5	12.5	10.5	11.0
16	12.5	9.0	10.5	16.0	10.5	13.0	16.5	12.5	14.5	11.5	9.5	11.0
17	13.0	9.0	11.0	13.0	10.5	12.0	16.5	12.5	14.5	12.0	10.0	11.0
18	12.5	9.0	10.5	14.0	10.5	12.5	15.5	12.0	14.0	13.5	9.5	11.0
19	13.5	9.5	11.0	15.5	10.0	12.5	15.5	11.0	13.0	12.0	9.5	10.5
20	13.5	9.5	11.0	16.0	10.5	13.0	15.5	11.0	13.0	12.5	8.5	10.5
21	14.0	9.0	11.0	16.0	10.5	13.5	15.5	11.5	13.0	12.0	8.5	10.0
22	10.5	9.5	10.0	16.5	11.0	13.5	16.0	11.5	13.5	11.5	7.5	9.5
23	12.0	9.5	10.5	16.5	11.0	14.0	15.5	11.5	13.5	10.0	6.5	8.0
24	13.0	9.0	11.0	17.0	11.0	14.0	16.0	12.0	14.0	10.5	6.5	8.5
25	---	---	---	17.0	11.5	14.0	16.0	12.5	14.0	10.5	6.5	8.5
26	---	---	---	17.0	11.5	14.0	16.0	12.5	14.0	11.0	7.0	9.0
27	13.0	10.0	11.0	16.0	12.0	14.0	15.0	12.5	13.5	11.0	7.0	9.0
28	13.5	9.5	11.5	14.0	11.5	13.0	16.5	12.5	14.0	11.5	7.5	9.5
29	13.5	9.0	11.0	16.5	11.5	14.0	16.5	12.5	14.0	11.5	7.5	9.5
30	14.0	9.0	11.5	17.0	12.0	14.0	16.5	12.5	14.5	11.5	8.0	10.0
31	---	---	---	17.0	11.5	14.0	16.5	12.5	14.5	---	---	---
MONTH	---	---	---	17.0	9.0	13.0	17.5	10.5	14.0	16.0	6.5	11.0

14354200 BEAR CREEK BELOW ASHLAND CREEK, AT ASHLAND, OR

LOCATION.--Lat 42°12'58", long 122°43'16", in SE 1/4 SE 1/4 sec.32, T.38 S., R.1 E, Jackson County, Hydrologic Unit 17100308, on left bank, 0.1 mi downstream from Ashland Creek, and at mile 21.0.

DRAINAGE AREA.--168 mi^2.

PERIOD OF RECORD.--July 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,686.64 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1924 by Emigrant Lake. Water is diverted into basin from the Klamath River basin. Many diversions for irrigation and municipal use upstream from station.

AVERAGE DISCHARGE.--6 years (water years 1991-96) 64.5 ft^3/s, 46,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,610 ft^3/s Dec. 12, 1995, gage height 6.09 ft; minimum discharge, 0.33 ft^3/s Oct. 18, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,610 ft^3/s Dec. 12, gage height, 6.09 ft; minimum discharge, 12.0 ft^3/s Oct. 29, Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	15	51	168	211	268	171	121	64	18	56	27
2	22	14	28	126	207	169	138	118	53	22	50	26
3	23	14	24	109	236	183	121	110	51	44	44	23
4	21	15	31	98	787	190	115	95	51	51	41	14
5	20	15	61	89	675	183	105	87	55	52	38	17
6	20	15	42	83	622	161	160	83	60	46	40	26
7	18	16	40	78	702	163	161	81	54	44	38	29
8	19	17	39	154	853	168	161	78	53	41	42	28
9	18	16	67	232	989	177	164	62	52	43	54	28
10	18	16	84	213	1100	173	169	54	49	50	55	29
11	21	16	177	136	996	255	164	48	44	67	51	31
12	20	16	1370	109	925	260	163	47	43	69	51	32
13	19	16	437	93	879	158	167	57	40	66	51	30
14	18	16	523	85	831	145	164	74	42	68	65	23
15	17	15	793	301	803	152	174	83	40	60	54	52
16	17	16	573	863	792	320	254	122	39	55	51	28
17	16	15	483	530	807	318	162	190	35	75	55	32
18	18	18	440	338	820	316	85	156	28	56	55	29
19	18	16	413	480	599	314	82	134	32	51	50	25
20	17	15	395	522	311	309	79	126	27	50	38	19
21	18	15	383	579	370	239	89	173	24	48	39	19
22	19	16	329	656	286	164	108	237	32	45	39	17
23	18	15	240	662	383	164	161	215	44	44	39	17
24	17	15	234	834	505	159	309	196	50	52	41	20
25	18	21	230	639	478	140	265	166	44	59	42	21
26	18	19	228	570	418	98	201	125	46	61	39	23
27	18	18	225	627	348	136	160	99	45	59	42	27
28	16	18	225	547	336	140	138	101	37	58	42	26
29	15	19	301	357	333	124	119	103	28	67	32	15
30	15	20	608	231	---	122	117	96	21	64	32	14
31	15	---	281	234	---	119	---	82	---	75	33	---
TOTAL	573	488	9355	10743	17602	5987	4626	3519	1283	1660	1399	747
MEAN	18.5	16.3	302	347	607	193	154	114	42.8	53.5	45.1	24.9
MAX	26	21	1370	863	1100	320	309	237	64	75	65	52
MIN	15	14	24	78	207	98	79	47	21	18	32	14
AC-FT	1140	968	18560	21310	34910	11880	9180	6980	2540	3290	2770	1480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1996, BY WATER YEAR (WY)

MEAN	12.3	15.3	68.4	98.7	135	86.5	85.5	104	58.7	42.9	44.2	26.0
MAX	19.7	21.0	302	347	607	193	209	250	99.5	53.5	55.5	40.4
(WY)	1994	1995	1996	1996	1996	1996	1995	1995	1993	1996	1991	1991
MIN	4.93	9.70	14.4	18.5	16.9	13.6	12.7	22.3	34.8	23.6	35.2	8.33
(WY)	1991	1993	1991	1992	1992	1992	1992	1992	1994	1992	1994	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1991 - 1996	
ANNUAL TOTAL	41247		57982			
ANNUAL MEAN	113		158		64.5	
HIGHEST ANNUAL MEAN					158	1996
LOWEST ANNUAL MEAN					22.0	1992
HIGHEST DAILY MEAN	1370	Dec 12	1370	Dec 12	1370	Dec 12 1995
LOWEST DAILY MEAN	14	Nov 2	14	Nov 2	.90	Oct 20 1990
ANNUAL SEVEN-DAY MINIMUM	15	Oct 29	15	Oct 29	1.4	Oct 23 1990
ANNUAL RUNOFF (AC-FT)	81810		115000		46730	
10 PERCENT EXCEEDS	297		451		134	
50 PERCENT EXCEEDS	55		60		32	
90 PERCENT EXCEEDS	18		17		9.8	

14357500 BEAR CREEK AT MEDFORD, OR

LOCATION.--Lat 42°19'28", long 122°51'55", in NW 1/4 sec.30, T.37 S., R.1 W., Jackson County, Hydrologic Unit 17100308, on left bank 300 ft upstream from 10th street Bridge, in Medford, and at mile 10.1.

DRAINAGE AREA.--289 mi^2.

PERIOD OF RECORD.--March 1915 to June 1920 (no low-flow records), October 1920 to September 1981, December 1983 to current year. Monthly discharge only for some periods, published in WSP 1318.

REVISED RECORDS.--WSP 1044: 1944. WSP 1448: 1916, 1917(M), 1918-20, 1922, 1924, 1927(M), 1928, 1930. WSP 1568: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,343.27 ft above sea level. Prior to Sept. 19, 1991, at site 0.2 mi downstream, at datum 1.29 ft lower, Dec. 31, 1947, to Sept. 23, 1985, at datum 2.00 ft higher. See WSP 1738 for history of changes prior to Dec. 31, 1947.

REMARKS.--No estimated daily discharges. Records good. Flow partly regulated since 1924 by Emigrant Lake. Water is diverted into basin from the Klamath River basin. Many diversions for irrigation and municipal use upstream from station.

AVERAGE DISCHARGE.--74 years (water years 1921-81, 1984-96), 110 ft^3/s, 79,400 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft^3/s Dec. 2, 1962, gage height, 10.04 ft, present datum; maximum gage height, about 13.0 ft Feb. 20, 1927, from floodmarks, present datum, site then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,760 ft^3/s Dec. 12, gage height, 8.71 ft; minimum discharge, 19 ft^3/s several days in October and November.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	24	92	257	371	361	213	163	86	44	64	57
2	38	23	49	205	320	233	181	168	81	32	58	58
3	35	23	41	183	346	236	165	163	72	41	56	52
4	35	23	63	166	1330	247	159	129	61	55	49	42
5	34	24	117	152	972	247	166	121	55	61	60	28
6	30	25	81	144	819	221	196	113	56	56	54	35
7	23	25	71	141	829	215	196	109	48	53	47	40
8	26	29	57	252	968	216	188	109	48	49	41	49
9	29	31	94	387	1190	221	226	88	50	41	45	50
10	25	26	101	375	1180	216	221	93	48	37	56	46
11	41	26	236	234	1070	281	212	76	47	54	59	43
12	47	27	2160	195	984	322	201	71	46	53	56	43
13	34	26	724	174	938	197	196	88	38	45	48	60
14	31	25	802	160	894	181	203	114	44	61	79	70
15	29	25	1800	429	857	174	212	108	52	70	49	130
16	28	25	827	1510	837	332	292	173	62	45	46	98
17	28	25	614	1000	853	337	208	290	69	86	49	95
18	28	31	546	515	857	336	141	227	52	68	62	93
19	28	27	503	744	801	331	133	174	49	55	74	87
20	26	26	473	855	519	325	130	162	53	54	48	86
21	28	24	452	993	997	274	147	220	38	50	46	78
22	28	26	402	844	533	181	154	281	38	40	49	78
23	29	25	290	986	546	174	207	246	53	36	47	74
24	26	25	276	1620	731	159	402	219	91	36	41	63
25	26	28	269	879	648	146	337	205	89	42	45	62
26	27	39	265	754	566	102	253	175	68	43	48	55
27	27	31	262	906	459	190	220	149	69	45	69	48
28	26	28	262	783	431	208	191	131	65	51	63	51
29	25	31	391	592	414	159	174	132	51	92	49	32
30	24	41	1030	524	---	156	159	128	45	121	43	26
31	25	---	444	472	---	159	---	112	---	92	54	---
TOTAL	936	814	13794	17431	22260	7137	6083	4737	1724	1708	1654	1829
MEAN	30.2	27.1	445	562	768	230	203	153	57.5	55.1	53.4	61.0
MAX	50	41	2160	1620	1330	361	402	290	91	121	79	130
MIN	23	23	41	141	320	102	130	71	38	32	41	26
AC-FT	1860	1610	27360	34570	44150	14160	12070	9400	3420	3390	3280	3630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1996, BY WATER YEAR (WY)

MEAN	31.6	59.0	149	206	211	192	188	132	72.5	32.1	32.5	34.7
MAX	216	290	1137	1080	873	787	686	391	232	95.4	114	91.6
(WY)	1963	1985	1965	1965	1958	1957	1974	1963	1953	1971	1976	1971
MIN	4.74	8.23	17.3	13.2	11.5	13.7	4.88	1.46	2.12	.53	.39	.70
(WY)	1932	1937	1937	1937	1931	1931	1931	1931	1931	1924	1924	1931

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1921 - 1996	
ANNUAL TOTAL	56807		80107			
ANNUAL MEAN	156		219		110	
HIGHEST ANNUAL MEAN					304	1974
LOWEST ANNUAL MEAN					8.42	1931
HIGHEST DAILY MEAN	2160	Dec 12	2160	Dec 12	7110	Dec 22 1964
LOWEST DAILY MEAN	23	Oct 7	23	Oct 7	.20	Jul 30 1922
ANNUAL SEVEN-DAY MINIMUM	24	Oct 30	24	Oct 30	.20	Jul 23 1924
ANNUAL RUNOFF (AC-FT)	112700		158900		79400	
10 PERCENT EXCEEDS	389		671		254	
50 PERCENT EXCEEDS	75		88		50	
90 PERCENT EXCEEDS	28		28		11	

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR

LOCATION.--Lat 42°26'15", long 122°59'10", in SW 1/4 sec.18, T.36 S., R.2 W., Jackson County, Hydrologic Unit 17100308, on right bank at Raygold, 0.1 mi downstream from Gold Ray Dam, 1.0 mi downstream from Bear Creek, 5.6 mi northwest of Central Point, and at mile 125.8.

DRAINAGE AREA.--2,053 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1905 to current year. Prior to October 1921, published as "near Tolo."

REVISED RECORDS.--WSP 1248: 1906, 1914(M), 1915. WSP 1398: 1910(M). WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,121.78 ft above sea level. Prior to Sept. 19, 1914, nonrecording gage and Sept. 19, 1914, to Sept. 30, 1956, water-stage recorder, at site 300 ft upstream at same datum.

REMARKS.--Water-discharge records excellent except for estimated daily discharges, which are good. Flow regulated since February 1977 by Lost Creek Lake (station 14335040). Slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--72 years (water years 1906-77), 2,976 ft^3/s, 2,156,000 acre-ft/yr.
19 years (water years 1978-96), 2,779 ft^3/s, 2,013,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131,000 ft^3/s Dec. 23, 1964, gage height, 23.43 ft, from rating curve extended above 63,000 ft^3/s on basis of slope-area measurement of 113,000 ft^3/s; minimum discharge recorded, 418 ft^3/s Sept. 19, 1968, as result of regulation, but may have been lower during periods of no record during water years 1931-34.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,600 ft^3/s Dec. 15, gage height, 10.36 ft; minimum discharge, 1,060 ft^3/s Nov. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	1310	4340	7460	5660	4570	5310	5640	3490	2870	1940	2570
2	1290	1260	3770	5990	4590	4010	5150	4240	3340	2840	1950	2620
3	1270	1150	e3600	6360	4050	4020	4650	4300	3250	2850	2050	2600
4	1280	1080	e3700	6960	8300	4270	4180	4120	3140	3030	2170	2610
5	1280	1090	e5200	8110	9660	4500	3860	3880	3100	3050	2260	2600
6	1270	1080	e7500	8380	10100	4260	3600	3740	2990	3030	2350	2580
7	1260	1090	e6500	8170	9790	4030	3490	3430	2990	3010	2390	2610
8	1270	1130	e6100	8540	10100	3940	3430	3090	2910	2960	2390	2600
9	1280	1140	e7100	8140	14300	3980	3960	3020	2670	2570	2390	2600
10	1280	1120	e7600	10100	12100	4000	4100	2960	2730	2280	2370	2570
11	1260	1120	e7900	7070	9820	4100	4790	2830	2900	2070	2470	2540
12	1410	1230	e16000	6320	8550	4380	4790	2770	2900	1910	2520	2360
13	1400	1600	e20000	5890	8120	3910	4630	2860	2840	1890	2430	2230
14	1390	1580	12700	5590	8280	3740	4040	4090	2860	1910	2450	e2230
15	1390	1520	23900	7170	7830	3640	3650	7050	2840	1910	2400	e2280
16	1340	1480	14100	9660	7630	3640	3760	7260	2920	1910	2460	2450
17	1350	1390	10000	10100	7780	3600	3760	8260	3200	2030	2450	2280
18	1360	1370	8810	7530	7840	3550	3620	9360	3270	2040	2480	2060
19	1350	1350	8110	9430	9120	3650	3560	8400	3080	1960	2490	1810
20	1340	1320	6930	9810	8530	3630	3640	7460	e3050	1920	2480	1620
21	1350	1320	5010	12700	13600	3810	3710	8050	e3000	1920	2430	1630
22	1350	1340	4460	8760	10700	3740	3690	9820	e3000	1910	2460	1600
23	1360	1340	4150	8020	9490	3720	3780	8150	e3050	1900	2450	1620
24	1340	1310	4010	14800	9920	3600	9130	6480	e3100	1900	2450	1530
25	1320	1320	3900	8350	8400	3540	9290	5730	e3150	1860	2450	1490
26	1290	1600	3840	6880	6060	3410	7450	5400	3180	1880	2500	1460
27	1310	1630	3780	11300	5250	3840	5820	5170	3120	1870	2550	1460
28	1310	1990	3330	9840	4990	4890	6390	4710	3050	1900	2540	1500
29	1290	2310	5210	8080	4800	4250	6830	3900	2950	2020	2530	1450
30	1300	3060	14100	8230	---	3360	6630	3720	2930	2110	2520	1400
31	1310	---	11700	7810	---	3410	---	3570	---	1970	2510	---
TOTAL	40950	42630	247350	261550	245360	120990	144690	163460	91000	69280	74280	62960
MEAN	1321	1421	7979	8437	8461	3903	4823	5273	3033	2235	2396	2099
MAX	1410	3060	23900	14800	14300	4890	9290	9820	3490	3050	2550	2620
MIN	1260	1080	3330	5590	4050	3360	3430	2770	2670	1860	1940	1400
AC-FT	81220	84560	490600	518800	486700	240000	287000	324200	180500	137400	147300	124900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	1419	2220	3868	3270	3555	3331	3463	3341	2615	2196	2228	1875
MAX	2110	6184	10780	8437	8461	6151	5596	5273	4426	3161	3115	2508
(WY)	1984	1985	1982	1996	1996	1989	1983	1996	1993	1984	1984	1983
MIN	932	1089	1512	1446	1407	1111	1125	1605	1649	1117	1744	1434
(WY)	1995	1988	1990	1992	1992	1992	1992	1992	1992	1992	1994	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	1169330		1564500			
ANNUAL MEAN	3204		4275		2779	
HIGHEST ANNUAL MEAN					4532	1984
LOWEST ANNUAL MEAN					1491	1992
HIGHEST DAILY MEAN	23900	Dec 15	23900	Dec 15	35600	Dec 19 1981
LOWEST DAILY MEAN	1080	Nov 4	1080	Nov 4	880	Oct 18 1994
ANNUAL SEVEN-DAY MINIMUM	1100	Nov 4	1100	Nov 4	897	Oct 12 1994
ANNUAL RUNOFF (AC-FT)	2319000		3103000		2013000	
10 PERCENT EXCEEDS	6240		8540		4920	
50 PERCENT EXCEEDS	2430		3160		2170	
90 PERCENT EXCEEDS	1310		1340		1290	

e Estimated

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1973 to current year.

INSTRUMENTATION.--Temperature recorder since August 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, prior to operation of Lost Creek Dam, 22.0°C July 25, 26, 1976; minimum, 0.0°C Jan. 7, 1974. Maximum since full operation of Lost Creek Dam, 26.0°C July 26, 1996; minimum, 1.0°C Dec. 30, 1978, Jan. 30, 1980, Feb. 5, 6, 1989, Dec. 21, 1990.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 26.0°C July 26; minimum, not determined.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	9.5	7.5							
2	---	11.0	---	8.5	7.0							
3	12.5	11.0	12.0	8.0	7.0							
4	12.0	10.0	11.0	8.0	6.5							
5	11.5	9.5	10.5	9.0	7.5							
6	11.5	10.0	10.5	9.5	8.0							
7	11.5	10.0	10.5	---	---							
8	11.5	---	---	---	---							
9	12.0	10.0	11.0	---	---							
10	---	---	---	---	---							
11	12.5	10.5	11.0	---	---							
12	11.0	9.5	10.5	---	---							
13	11.0	9.0	10.0	---	---							
14	11.0	9.0	10.0	---	---							
15	11.0	9.5	10.0	---	---							
16	11.5	10.5	11.0	---	---							
17	11.5	9.0	10.0	---	---							
18	11.5	10.5	11.0	---	---							
19	11.0	9.0	10.0	---	---							
20	10.5	8.5	9.5	---	---							
21	10.0	8.5	9.5	---	---							
22	9.5	7.5	8.5	---	---							
23	9.0	7.5	8.5	---	---							
24	9.0	8.0	8.5	---	---							
25	9.5	8.0	8.5	---	---							
26	10.5	---	---	---	---							
27	10.5	9.0	---	---	---							
28	10.5	9.0	---	---	---							
29	10.5	9.0	---	---	---							
30	10.0	---	---	---	---							
31	10.0	9.0	---	---	---							
MONTH	---	---	---	---	---							

14359000 ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	7.0	---	---	---	---		12.0	9.5	10.5
2	---	---	---	7.0	---	---	---	---		12.0	11.0	11.5
3	---	---	---	7.0	---	---	---	---		11.5	10.5	11.0
4	---	---	---	7.5	---	---	---	---		11.5	9.0	10.5
5	---	---	---	7.5	---	---	---	---		12.0	10.0	11.0
6	---	---	---	---	---	---	---	---		12.5	10.0	11.5
7	---	---	---	7.5	6.5	---	---	---		12.5	10.5	11.5
8	---	---	---	8.5	7.5	---	---	---		13.0	10.0	11.5
9	8.0	7.5	7.5	---	---	---	---	---		13.0	10.0	11.5
10	7.5	7.0	7.0	---	---	---	---	---		13.0	10.5	12.0
11	7.5	6.5	7.0	9.0	---	---	---	---		14.5	11.0	12.5
12	7.0	---	---	8.5	---	---	8.5	7.5		15.0	12.0	13.5
13	7.0	---	---	---	---	---	9.5	7.0		14.5	12.5	13.0
14	7.0	6.0	6.5	---	---	---	9.5	8.0		13.0	11.5	12.0
15	7.0	---	---	---	---	---	10.0	8.5		11.5	10.0	10.5
16	---	---	---	---	---	---	10.0	8.5		11.0	9.5	10.5
17	---	---	---	---	---	---	9.5	8.0		11.0	10.5	10.5
18	7.5	---	---	---	---	---	8.5	7.5		11.0	10.0	10.5
19	7.5	6.5	7.0	---	---	---	9.0	7.5		11.0	9.5	10.5
20	7.0	---	---	---	---	---	9.0	8.0		12.0	10.0	10.5
21	7.0	5.5	6.0	---	---	---	9.5	8.0		11.5	10.0	10.5
22	6.0	5.5	6.0	9.0	---	---	9.5	8.5		11.0	10.5	11.0
23	6.0	5.5	5.5	8.0	---	---	10.0	8.5		11.0	9.5	10.5
24	6.0	4.5	5.5	8.0	---	---	10.0	9.5		12.0	10.0	11.0
25	6.0	---	---	8.0	---	---	10.0	8.5		13.5	11.0	12.0
26	5.5	---	---	8.0	---	---	10.5	9.0		13.5	11.5	12.5
27	6.0	---	---	8.5	6.5	7.0	10.5	9.0		13.0	11.5	12.5
28	6.0	---	---	7.0	5.5	6.0	10.0	9.0		12.5	11.0	11.5
29	7.0	---	---	8.0	---	---	11.0	9.5		13.0	11.0	12.0
30	---	---	---	8.0	---	---	11.5	10.0		13.0	11.5	12.5
31	---	---	---	---	---	---	---	---		14.0	12.0	13.0
MONTH	---	---	---	---	---	---	---	---		15.0	9.0	11.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	14.5	12.5	13.5	14.5	11.5	13.0	23.0	15.0	18.0	18.5	13.5	15.5
2	15.5	13.0	14.0	14.5	11.5	13.5	21.5	13.5	16.5	17.5	13.0	15.0
3	15.5	13.5	14.5	14.5	12.0	13.5	21.5	14.0	16.5	18.0	12.0	14.5
4	15.5	13.5	14.5	14.0	11.5	12.5	21.0	12.5	16.0	17.0	12.5	14.0
5	15.5	13.0	14.5	13.5	10.0	12.0	21.0	14.5	16.5	18.0	11.0	13.5
6	16.0	13.0	14.5	14.0	10.5	12.0	18.5	12.0	15.0	18.0	11.0	14.0
7	16.0	13.5	15.0	14.0	11.0	12.5	20.0	12.5	16.0	18.0	11.5	14.0
8	15.5	13.0	14.5	14.0	11.0	12.5	21.0	14.5	17.5	19.0	12.5	15.0
9	15.0	12.5	14.0	14.5	11.5	13.0	22.0	15.0	18.0	19.0	13.0	15.5
10	15.0	12.0	14.0	21.5	12.5	16.0	22.0	15.5	18.0	19.5	13.0	15.5
11	14.5	12.0	13.5	22.5	14.0	17.5	20.0	14.0	16.5	---	---	---
12	15.0	12.0	13.5	23.5	14.5	18.0	22.0	14.0	17.0	---	---	---
13	15.0	12.0	13.5	24.0	15.5	19.0	23.0	15.0	18.0	15.0	12.0	13.5
14	14.5	12.0	13.5	24.5	17.5	20.0	22.5	15.0	17.5	---	---	---
15	14.5	12.0	13.5	23.5	16.5	19.0	22.5	14.5	17.5	---	---	---
16	14.5	12.0	13.0	23.0	14.5	17.5	22.0	13.5	17.0	---	---	---
17	13.5	11.0	12.5	16.5	13.0	15.0	21.5	14.0	16.5	13.5	11.0	12.0
18	13.5	10.5	12.0	19.5	11.5	14.5	20.5	13.0	15.5	18.0	9.5	13.0
19	13.5	11.0	12.0	21.0	10.5	14.5	19.0	12.5	15.0	17.5	13.0	14.5
20	---	---	---	22.0	11.5	15.5	21.5	12.5	15.5	18.0	11.0	14.0
21	---	---	---	23.0	13.5	17.0	22.0	12.5	16.0	19.0	11.5	14.5
22	---	---	---	24.0	15.0	18.5	22.0	13.0	16.5	19.0	10.0	13.5
23	---	---	---	24.5	16.0	19.5	21.5	13.5	16.5	18.0	10.0	13.0
24	---	---	---	25.0	16.5	19.5	22.5	14.0	17.5	18.5	9.5	13.5
25	---	---	---	25.5	17.0	20.0	23.5	15.0	18.5	19.0	10.0	13.5
26	13.5	11.0	12.5	26.0	17.0	20.0	23.0	15.5	18.0	19.5	10.5	14.0
27	13.5	11.5	12.5	24.0	17.5	20.0	17.5	14.0	15.5	20.0	11.0	14.5
28	14.5	11.5	13.0	21.5	17.0	18.5	20.5	13.0	16.0	20.5	12.0	15.5
29	14.5	11.0	13.0	22.0	15.5	18.0	22.5	14.0	17.0	21.0	12.5	16.0
30	14.5	11.5	13.0	23.5	16.0	18.5	23.0	14.5	17.5	20.5	13.0	16.0
31	---	---	---	23.5	16.0	19.0	21.5	14.5	17.0	---	---	---
MONTH	---	---	---	26.0	10.0	16.5	23.5	12.0	17.0	---	---	---

14361500 ROGUE RIVER AT GRANTS PASS, OR

LOCATION.--Lat 42°25'50", long 123°19'00", in NW 1/4 sec.20, T.36 S., R.5 W., Josephine County, Hydrologic Unit 17100308, on right bank at city of Grants Pass filter plant, 0.6 mi upstream from bridge on State Highway 99 at Grants Pass, and at mile 101.8. Prior to Sept. 3, 1983, at site 300 ft upstream.

DRAINAGE AREA.--2,459 mi^2.

PERIOD OF RECORD.--October 1938 to current year. Prior to January 1939 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WSP 1738: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 884.28 ft above sea level. Prior to Aug. 8, 1957, at site 300 ft upstream at datum 4.00 ft higher and Aug. 8, 1957, to Sept. 2, 1983, at site 300 ft upstream at datum 1.00 ft higher.

REMARKS.--Records good. Flow regulated since February 1977 by Lost Creek Lake (station 14355040), slight regulation by Fish Lake and Emigrant Lake. Large fluctuations at times caused by Savage Rapids Dam 5.5 mi upstream from station. Many diversions from Rogue River and tributaries upstream from station, the largest of which is at Savage Rapids Dam of Grants Pass Irrigation District, 5.5 mi upstream from station. Continuous water-quality records for the period August 1973 to September 1987 have been collected at this location.

AVERAGE DISCHARGE.--39 years (water years 1939-77), 3,543 ft^3/s, 2,566,000 acre-ft/yr.
19 years (water years 1978-96), 3,123 ft^3/s, 2,263,000 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 152,000 ft^3/s Dec. 23, 1964, gage height, 35.15 ft, present datum, from rating curve extended above 93,000 ft^3/s; minimum discharge, 195 ft^3/s Jan. 30, 1961; minimum daily, 606 ft^3/s Sept. 10, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1861 reached a stage of about 43 ft, present datum (information furnished by Corps of Engineers). Flood in February 1890 reached a stage of about 36 ft, present datum, and that of Feb. 21, 1927, about 32 ft, present datum, according to local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,700 ft^3/s Dec. 15, gage height, 12.57 ft; minimum discharge, 990 ft^3/sSept. 26, result of regulation at Savage Rapids Dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	1580	4860	9090	8200	5990	6990	6790	3760	2900	1760	2450
2	1330	1560	4990	7110	6650	5530	6670	4700	3610	2850	1730	2500
3	1330	1420	4150	7090	5730	5120	5700	4820	3470	2780	1780	2490
4	1370	1290	4320	7760	9470	5280	5050	4610	3380	2990	1870	2500
5	1340	1250	5680	8740	12400	5590	4580	4300	3320	3060	1990	2500
6	1330	1260	8040	9120	12900	5690	4270	4080	3220	3050	2160	2480
7	1320	1250	6920	8910	12700	5200	4080	3850	3080	3020	2170	2490
8	1330	1280	6560	9750	12600	4920	4010	3550	3090	3000	2170	2520
9	1340	1360	7530	9650	13900	4820	4270	3320	2790	2660	2160	2530
10	1340	1340	7890	10900	16800	4830	4620	3230	2720	2260	2160	2490
11	1370	1310	8170	8660	13000	4800	5140	2950	3000	2010	2160	2480
12	1660	1360	17000	7570	11200	5050	5290	2640	3000	1730	2290	2300
13	1570	1830	21500	6940	10100	4970	5090	3050	2980	1720	2270	2170
14	1670	1990	13000	6520	9890	4540	4590	3720	2960	1730	2270	2140
15	1650	1890	24700	8210	9610	4300	4080	7520	2940	1760	2280	e2260
16	1680	1850	18500	10600	9160	4150	4170	7880	2990	1730	2290	2490
17	2190	1750	11800	13100	8970	4180	4220	8600	3540	1740	2310	2350
18	1620	1670	10200	9210	9370	4060	4050	10800	3250	1850	2320	2130
19	1510	1660	9300	12200	10300	4040	3970	9910	3160	1800	2380	1870
20	1540	1630	8310	12700	11300	4070	4060	8570	3170	1760	2360	1540
21	1630	1600	6190	17300	13100	4120	4110	8610	3170	1740	2340	1470
22	1620	1630	5080	11500	15100	4180	4130	11700	3130	1720	2340	1500
23	1620	1640	4740	9850	11900	4120	4260	9730	3150	1670	2330	1480
24	1620	1610	4510	17700	12500	3970	9460	7850	3330	1660	2340	1430
25	1580	1600	4370	11400	11500	3880	11200	6660	3330	1640	2340	1360
26	1570	1820	4260	9090	9680	3720	9050	6200	3250	1640	2350	1240
27	1580	2080	4180	13600	7400	4000	7080	5850	3230	1650	2420	1280
28	1580	2220	3830	14100	6660	5500	6890	5400	3120	1690	2450	1320
29	1560	2830	5400	11000	6310	4710	7630	4370	3000	1750	2420	1310
30	1570	3190	14700	10600	---	3850	7370	4050	2930	1950	2410	1250
31	1580	---	13700	10900	---	3810	---	3890	---	1800	2410	---
TOTAL	47420	50750	274380	320870	308400	142990	166080	183200	95070	65310	69030	60320
MEAN	1530	1692	8851	10350	10630	4613	5536	5910	3169	2107	2227	2011
MAX	2190	3190	24700	17700	16800	5990	11200	11700	3760	3060	2450	2530
MIN	1320	1250	3830	6520	5730	3720	3970	2640	2720	1640	1730	1240
AC-FT	94060	100700	544200	636400	611700	283600	329400	363400	188600	129500	136900	119600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	1490	2542	4600	4056	4540	4001	3979	3565	2662	2130	2160	1831
MAX	2282	7669	14030	10350	10960	8119	6843	5910	4572	3127	3080	2642
(WY)	1984	1985	1982	1996	1983	1983	1983	1996	1993	1984	1984	1983
MIN	1008	1160	1557	1575	1641	1099	1211	1857	1549	1059	1620	1333
(WY)	1995	1988	1990	1992	1992	1992	1994	1992	1992	1992	1994	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	1371500		1783820			
ANNUAL MEAN	3758		4874		3123	
HIGHEST ANNUAL MEAN					5276	1984
LOWEST ANNUAL MEAN					1538	1992
HIGHEST DAILY MEAN	24700	Dec 15	24700	Dec 15	50400	Feb 18 1983
LOWEST DAILY MEAN	1040	Sep 23	1240	Sep 26	744	Oct 10 1994
ANNUAL SEVEN-DAY MINIMUM	1160	Sep 22	1290	Nov 4	799	Sep 22 1994
ANNUAL RUNOFF (AC-FT)	2720000		3538000		2263000	
10 PERCENT EXCEEDS	7860		10800		5880	
50 PERCENT EXCEEDS	2790		3350		2220	
90 PERCENT EXCEEDS	1530		1570		1300	

e Estimated

14361900 APPLEGATE LAKE NEAR COPPER, OR

LOCATION.--Lat 42°03'25", long 123°06'30", in SE 1/4 sec.25, T.40 S., R.4 W., Jackson County, Hydrologic Unit 17100309, in outlet structure of Applegate Dam on Applegate River, 2.5 mi northeast of former town of Copper, 13 mi south of Ruch, and at mile 46.3.

DRAINAGE AREA.--223 mi^2.

PERIOD OF RECORD.--December 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam completed in October 1980. Storage began Dec. 2, 1980. Total capacity, 82,200 acre-ft between elevations 1,763.0 ft and 1,987.0 ft, maximum pool elevation. Elevation of gated spillway crest, 1,943.7 ft. Usable contents, 75,200 acre-ft between elevations 1,854.0 ft and 1,987.0 ft. Water is used for flood control, recreation, pollution abatement, irrigation, and other purposes.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 82,280 acre-ft May 1, 1995, elevation, 1,987.08 ft; minimum contents since first filling, 7,230 acre-ft Jan. 11, 1991, elevation, 1,855.1 ft, from graph of gage readings furnished by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 82,210 acre-ft Apr. 29, elevation, 1,987.01 ft; minimum contents, 13,830 acre-ft Nov. 30, elevation, 1,879.81 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,840.0	4,400	1,900.0	21,380	1,960.0	58,060
1,860.0	8,330	1,920.0	30,960	1,980.0	75,470
1,880.0	13,890	1,940.0	43,090	1,990.0	85,190

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1939.02	1907.72	1880.81	1910.48	1910.92	1933.28	1966.62	1985.71	1986.94	1982.35	1975.30	1959.19
2	1937.98	1906.70	1880.93	1910.59	1912.27	1934.38	1966.94	1984.90	1986.95	1982.21	1974.94	1958.48
3	1936.92	1905.66	1880.78	1908.53	1913.54	1935.66	1966.75	1984.29	1986.95	1982.04	1974.53	1957.76
4	1935.86	1904.57	1882.27	1905.96	1918.01	1937.25	1967.06	1984.69	1986.93	1981.87	1974.10	1957.04
5	1934.81	1903.51	1885.07	1903.03	1923.63	1938.74	1967.94	1985.07	1986.93	1981.68	1973.70	1956.33
6	1933.74	1902.41	1886.04	1900.60	1930.20	1939.92	1968.94	1985.51	1986.94	1981.50	1973.28	1955.60
7	1932.68	1901.30	1885.72	1898.73	1933.90	1941.22	1970.18	1986.06	1986.93	1981.29	1972.88	1954.88
8	1931.60	1900.27	1885.91	1899.12	1936.42	1943.01	1971.59	1986.53	1986.94	1981.08	1972.44	1954.17
9	1930.52	1899.28	1886.07	1899.79	1938.86	1945.42	1972.65	1986.87	1986.98	1980.84	1972.02	1953.48
10	1929.45	1898.17	1886.93	1900.18	1937.65	1947.31	1973.27	1986.85	1986.91	1980.57	1971.59	1952.75
11	1928.40	1897.05	1888.92	1900.11	1934.81	1949.49	1973.70	1986.82	1986.73	1980.32	1971.11	1952.02
12	1927.36	1895.96	1906.16	1899.78	1931.03	1950.79	1974.09	1986.85	1986.33	1980.12	1970.64	1951.25
13	1926.40	1894.85	1909.62	1899.21	1926.65	1951.60	1974.59	1986.59	1985.89	1979.95	1970.14	1950.28
14	1925.41	1893.67	1910.00	1898.49	1921.66	1952.47	1975.29	1985.64	1985.60	1979.79	1969.63	1949.34
15	1924.39	1892.46	1911.55	1899.80	1916.13	1953.37	1976.14	1984.08	1985.55	1979.59	1969.15	1948.54
16	1923.39	1891.23	1909.39	1901.11	1913.67	1954.17	1977.17	1983.92	1985.35	1979.39	1968.64	1947.59
17	1922.36	1890.09	1905.53	1901.73	1916.69	1954.97	1977.97	1984.70	1985.12	1979.17	1968.13	1946.61
18	1921.34	1889.22	1900.84	1902.61	1921.00	1956.00	1978.65	1985.33	1984.87	1978.97	1967.63	1945.45
19	1920.30	1888.28	1896.43	1903.84	1925.73	1957.08	1979.33	1985.01	1984.63	1978.74	1967.12	1944.31
20	1919.23	1887.36	1895.58	1905.79	1929.29	1957.88	1980.03	1984.28	1984.48	1978.51	1966.60	1942.99
21	1918.27	1886.50	1895.53	1907.31	1932.77	1958.43	1980.84	1984.78	1984.29	1978.28	1966.09	1942.17
22	1917.34	1885.72	1895.51	1907.32	1935.13	1958.90	1981.77	1984.97	1984.09	1978.04	1965.54	1941.11
23	1916.43	1884.88	1895.48	1907.34	1936.59	1959.29	1983.54	1985.05	1983.91	1977.79	1964.92	1940.04
24	1915.48	1884.01	1895.44	1909.16	1937.52	1959.91	1983.95	1985.55	1983.72	1977.54	1964.30	1938.96
25	1914.55	1883.24	1895.45	1909.24	1937.62	1960.33	1983.04	1985.98	1983.53	1977.28	1963.68	1937.89
26	1913.61	1882.65	1895.42	1909.28	1937.02	1960.69	1983.63	1986.28	1983.37	1977.01	1963.04	1936.85
27	1912.68	1881.84	1895.50	1911.74	1936.05	1961.25	1985.14	1986.56	1983.19	1976.73	1962.44	1935.82
28	1911.74	1881.02	1895.67	1913.01	1934.90	1961.75	1986.24	1986.81	1983.01	1976.45	1961.80	1934.79
29	1910.73	1880.18	1898.04	1912.36	1933.57	1962.20	1987.01	1986.89	1982.78	1976.16	1961.16	1933.76
30	1909.74	1879.81	1905.37	1911.03	---	1962.78	1986.36	1986.94	1982.55	1975.89	1960.52	1932.71
31	1908.74	---	1909.12	1909.92	---	1964.03	---	1986.93	---	1975.60	1959.85	---
MAX	1939.02	1907.72	1911.55	1913.01	1938.86	1964.03	1987.01	1986.94	1986.98	1982.35	1975.30	1959.19
MIN	1908.74	1879.81	1880.78	1898.49	1910.92	1933.28	1966.62	1983.92	1982.55	1975.60	1959.85	1932.71
(†)	25300	13830	25480	25860	38860	61340	81570	82140	77880	71420	57900	38320
(‡)	-17820	-11490	+11650	+380	+13000	+22480	+20230	+570	-4260	-6460	-13520	-19580

CAL YR 1995 MAX 1987.03 MIN 1879.81 AC-FT‡ +9470
WTR YR 1996 MAX 1987.01 MIN 1879.81 AC-FT‡ -4800

† Contents, in acre-feet, at 2400, on last day of month.
‡ Change in contents, in acre-feet.

14362000 APPLEGATE RIVER NEAR COPPER, OR

LOCATION.--Lat 42°03'50", long 123°06'37", in SW 1/4 NW 1/4 sec.30, T.40 S., R.3 W., Jackson County, Hydrologic Unit 17100309, U.S. Corps of Engineers land, on left bank 0.1 mi downstream from Brushy Gulch, 0.6 mi downstream from Applegate Dam, 3.1 mi northeast of former town of Copper, and at mile 45.7.

DRAINAGE AREA.--225 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to January 1939 monthly discharge only, published in WSP 1318.

REVISED RECORDS.--WDR OR-78-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,747.51 ft above sea level. Prior to Oct. 1, 1977, at site 0.6 mi upstream at datum 12.15 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1980 by Applegate Lake (station 14361900). Some storage during winter in Squaw Lakes Reservoir, capacity, 1,100 acre-ft on Squaw Creek upstream from station. Diversions upstream from station from Carberry Creek for irrigation in Thompson Creek basin. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--43 years (water years 1939-81), 438 ft^3/s, 317,300 acre-ft/yr.
15 years (water years 1982-96), 410 ft^3/s, 296,800 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,800 ft^3/s Jan. 15, 1974, gage height, 25.38 ft, site and datum then in use, from high-water mark in well, from rating curve extended above 12,000 ft^3/s on basis of four slope-area measurements of peak flows made in 1950, 1955, 1964, and 1974; minimum discharge, 1.5 ft^3/s Dec. 20, 1980, result of regulation at Applegate dam, 0.6 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,820 ft^3/s Apr. 24, gage height, 7.76 ft; minimum discharge, 142 ft^3/s Dec. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	404	298	199	656	421	926	821	1360	558	280	213	311
2	400	298	148	775	276	470	1180	1360	557	246	238	326
3	400	299	148	1180	279	473	1150	1140	529	246	267	327
4	399	301	149	1210	377	497	806	599	517	246	264	324
5	397	301	152	1220	774	542	535	535	471	246	261	320
6	395	302	244	1050	913	547	514	471	448	246	258	320
7	395	307	309	900	1840	549	516	395	447	248	258	320
8	392	307	155	639	2610	551	520	393	397	249	258	309
9	389	306	155	627	3090	554	664	444	375	262	258	312
10	391	301	155	629	3090	702	742	605	397	272	258	311
11	393	301	710	630	3070	813	693	602	443	258	267	311
12	381	300	720	630	3030	929	637	650	554	223	274	322
13	354	302	1070	629	2990	918	526	861	547	210	276	404
14	351	302	1430	628	2950	760	392	1450	459	210	276	402
15	349	301	1240	628	2900	675	356	1680	328	210	275	399
16	349	299	1500	633	2080	648	357	940	392	216	273	398
17	347	285	1620	636	1360	613	360	1040	389	218	273	404
18	344	246	1690	639	1410	534	361	1420	389	215	270	451
19	344	246	1500	642	1240	552	346	1470	374	215	270	450
20	344	237	705	640	1220	620	288	1370	329	215	270	424
21	317	221	486	729	998	684	238	1300	328	215	270	395
22	301	221	439	817	972	685	223	1360	334	215	285	396
23	301	221	405	772	1060	645	382	1090	335	215	307	397
24	299	219	369	487	1060	494	2960	741	333	215	304	399
25	298	218	334	761	1190	523	2290	699	333	218	303	389
26	298	218	328	683	1290	526	1210	697	325	215	300	381
27	298	221	301	534	1320	524	531	661	309	212	298	371
28	296	224	301	696	1310	524	549	607	307	213	303	369
29	292	225	464	975	1310	476	628	634	307	213	307	366
30	297	226	638	1040	---	379	1330	619	307	213	307	368
31	300	---	653	947	---	297	---	591	---	213	307	---
TOTAL	10815	8053	18717	23662	46430	18630	22105	27784	12118	7088	8548	10976
MEAN	349	268	604	763	1601	601	737	896	404	229	276	366
MAX	404	307	1690	1220	3090	929	2960	1680	558	280	307	451
MIN	292	218	148	487	276	297	223	393	307	210	213	309
AC-FT	21450	15970	37130	46930	92090	36950	43850	55110	24040	14060	16950	21770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1996, BY WATER YEAR (WY)

MEAN	340	401	515	451	594	513	425	604	388	221	209	266
MAX	506	1033	2374	1016	1685	1303	909	1416	1026	340	326	435
(WY)	1984	1985	1982	1995	1983	1995	1982	1983	1983	1983	1995	1983
MIN	204	187	121	115	123	117	118	165	140	109	108	110
(WY)	1982	1988	1995	1991	1991	1994	1994	1994	1990	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1982 - 1996	
ANNUAL TOTAL	236258		214926			
ANNUAL MEAN	647		587		410	
HIGHEST ANNUAL MEAN					829	1983
LOWEST ANNUAL MEAN					157	1992
HIGHEST DAILY MEAN	4580	Jan 13	3090	Feb 9	4580	Jan 13 1995
LOWEST DAILY MEAN	119	Jan 1	148	Dec 2	85	Feb 21 1985
ANNUAL SEVEN-DAY MINIMUM	120	Jan 1	178	Nov 29	91	Feb 20 1985
ANNUAL RUNOFF (AC-FT)	468600		426300		296800	
10 PERCENT EXCEEDS	1360		1220		835	
50 PERCENT EXCEEDS	360		395		250	
90 PERCENT EXCEEDS	223		223		123	

14362000 APPLEGATE RIVER NEAR COPPER, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1980 to September 1987.
pH: September 1980 to September 1987.
WATER TEMPERATURE: January 1977 to current year.
DISSOLVED OXYGEN: September 1980 to September 1987.

INSTRUMENTATION.--Water-quality monitor since September 1980.

REMARKS.--Temperatures are controlled by releases from Applegate Lake.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 188 microsiemens Sept. 13, 1980; minimum, 61 microsiemens Dec. 3, 1980, Dec. 20, 1981, June 19, 20, 1983.
pH: Maximum, 9.0 units Sept. 4, 1980; minimum recorded, 7.1 units Oct. 8-10, 13, 16, 17, 1986.
WATER TEMPERATURE: Maximum, 26.5°C Aug. 7, 1978; minimum, 0.0°C on many days during winter periods prior to filling of Applegate Lake.
DISSOLVED OXYGEN: Maximum, 15.2 mg/L Feb. 17, 18, 1986; minimum, 4.9 mg/L Sept. 28-30, 1981.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 16.5°C July 3, 4, but may have been higher during period July 18 to Sept. 19; minimum, 5.0°C many days in January, February, March.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.5	8.0	8.5	9.0	9.0	9.0	11.0	10.5	10.5	6.0	6.0	6.0
2	9.0	8.5	9.0	9.5	9.0	9.0	10.5	10.0	10.5	6.5	6.0	6.0
3	9.0	8.5	9.0	9.5	9.0	9.5	10.5	10.0	10.0	6.5	6.0	6.0
4	9.5	9.0	9.0	9.5	9.0	9.5	10.0	9.5	10.0	6.0	6.0	6.0
5	10.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	6.0	6.0	6.0
6	10.0	9.5	9.5	10.0	9.5	10.0	9.5	8.0	9.0	6.0	6.0	6.0
7	10.5	10.0	10.0	10.5	9.5	10.0	9.5	8.5	9.0	6.0	6.0	6.0
8	10.5	10.0	10.5	10.5	10.0	10.5	9.5	9.0	9.0	6.0	6.0	6.0
9	11.0	10.5	10.5	10.5	10.0	10.0	9.5	9.0	9.0	6.0	6.0	6.0
10	11.5	11.0	11.0	10.5	10.0	10.5	10.0	9.0	9.5	6.0	6.0	6.0
11	11.0	8.5	9.0	11.5	10.5	10.5	10.0	8.5	9.0	6.5	6.0	6.0
12	9.0	8.5	8.5	11.0	10.5	10.5	9.0	9.0	9.0	6.5	6.0	6.5
13	9.0	8.5	8.5	10.5	10.5	10.5	9.0	8.5	8.5	6.0	6.0	6.0
14	9.0	8.5	9.0	11.0	10.5	10.5	8.5	7.5	8.0	6.0	5.5	6.0
15	9.0	9.0	9.0	11.0	10.5	10.5	8.0	7.5	7.5	6.0	6.0	6.0
16	9.0	8.5	9.0	11.0	10.5	10.5	7.5	7.0	7.5	6.0	5.5	6.0
17	9.0	9.0	9.0	11.0	10.5	11.0	7.0	7.0	7.0	6.0	6.0	6.0
18	9.5	9.0	9.0	11.0	11.0	11.0	7.0	7.0	7.0	6.0	5.5	6.0
19	9.5	9.0	9.0	11.0	10.5	11.0	7.5	7.0	7.5	5.5	5.5	5.5
20	9.5	9.0	9.0	11.0	10.5	11.0	7.5	7.0	7.5	6.0	5.0	5.5
21	9.0	8.5	8.5	11.0	10.5	11.0	7.5	7.0	7.0	5.5	5.5	5.5
22	8.5	8.5	8.5	11.0	10.5	10.5	7.0	6.5	7.0	5.5	5.0	5.5
23	8.5	8.5	8.5	11.0	10.5	10.5	6.5	6.5	6.5	5.5	5.0	5.5
24	8.5	8.5	8.5	11.5	10.5	11.0	6.5	6.0	6.5	5.5	5.0	5.5
25	8.5	8.5	8.5	11.0	10.5	11.0	6.0	6.0	6.0	5.0	5.0	5.0
26	9.0	8.5	8.5	11.0	10.5	10.5	6.0	5.5	6.0	5.0	5.0	5.0
27	9.0	8.5	8.5	10.5	10.5	10.5	5.5	5.5	5.5	5.0	5.0	5.0
28	9.0	8.5	8.5	10.5	10.5	10.5	5.5	5.5	5.5	5.5	5.0	5.0
29	9.0	8.5	9.0	11.0	10.0	10.5	5.5	5.5	5.5	5.0	5.0	5.0
30	9.0	8.5	9.0	11.0	10.5	10.5	6.0	5.5	5.5	5.0	5.0	5.0
31	9.0	9.0	9.0	---	---	---	6.0	5.5	6.0	5.5	5.0	5.0
MONTH	11.5	8.0	9.0	11.5	9.0	10.5	11.0	5.5	8.0	6.5	5.0	5.5

14362000 APPLEGATE RIVER NEAR COPPER, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	5.0	5.5	5.5	5.0	5.0	6.5	6.5	6.5	8.5	8.0	8.0
2	5.5	5.5	5.5	5.0	5.0	5.0	6.5	6.5	6.5	8.5	8.0	8.5
3	5.5	5.5	5.5	5.0	5.0	5.0	6.5	6.5	6.5	9.0	8.5	8.5
4	5.5	5.5	5.5	5.5	5.0	5.0	6.5	6.5	6.5	9.5	9.0	9.0
5	5.5	5.5	5.5	5.5	5.0	5.0	6.5	6.5	6.5	9.5	9.0	9.0
6	5.5	5.5	5.5	5.5	5.0	5.0	6.5	6.5	6.5	9.5	9.0	9.0
7	5.5	5.5	5.5	5.5	5.0	5.5	6.5	6.5	6.5	9.5	9.0	9.0
8	6.5	5.5	6.0	5.5	5.0	5.5	6.5	6.5	6.5	9.5	9.0	9.0
9	6.5	6.0	6.5	5.5	5.0	5.5	6.5	6.5	6.5	10.0	9.0	9.5
10	6.5	6.5	6.5	5.5	5.5	5.5	6.5	6.5	6.5	10.0	9.0	9.5
11	6.5	6.5	6.5	5.5	5.5	5.5	6.5	6.5	6.5	10.0	9.0	9.5
12	6.5	6.5	6.5	5.5	5.5	5.5	6.5	6.5	6.5	10.0	9.0	9.5
13	6.5	6.5	6.5	6.0	5.5	5.5	7.0	6.5	6.5	10.0	9.0	9.5
14	6.5	6.5	6.5	6.0	5.5	6.0	7.0	6.5	6.5	9.0	8.5	9.0
15	6.5	6.5	6.5	6.0	5.5	6.0	6.5	6.5	6.5	9.0	8.5	8.5
16	6.5	6.5	6.5	6.0	5.5	6.0	7.0	6.5	6.5	10.5	9.0	9.5
17	6.5	6.5	6.5	6.0	6.0	6.0	6.5	6.5	6.5	10.5	9.0	10.0
18	6.5	6.5	6.5	6.0	6.0	6.0	7.0	6.5	6.5	9.0	8.5	9.0
19	6.5	6.5	6.5	6.0	6.0	6.0	7.0	6.5	6.5	9.0	8.5	8.5
20	6.5	6.5	6.5	6.5	6.0	6.0	7.0	6.5	6.5	9.0	8.5	8.5
21	6.5	6.5	6.5	6.5	6.0	6.0	7.0	6.5	7.0	9.5	8.5	9.0
22	6.5	6.0	6.0	6.5	6.0	6.0	8.5	6.5	7.5	9.0	8.5	9.0
23	7.0	6.0	6.0	6.5	6.0	6.5	10.5	8.0	9.0	11.0	8.5	9.5
24	6.0	6.0	6.0	6.5	6.0	6.5	9.0	7.0	7.5	12.0	10.5	11.5
25	6.0	5.5	5.5	6.5	6.0	6.5	7.0	7.0	7.0	12.0	10.5	11.0
26	5.5	5.0	5.5	6.5	6.0	6.5	8.5	7.0	7.5	11.0	10.5	11.0
27	5.5	5.0	5.5	6.5	6.0	6.5	9.0	8.0	8.5	11.0	10.0	10.5
28	5.5	5.0	5.5	6.5	6.0	6.5	9.0	8.0	8.5	11.0	10.5	10.5
29	5.5	5.0	5.0	6.5	6.0	6.5	8.5	8.0	8.5	11.5	10.0	11.0
30	---	---	---	6.5	6.0	6.5	8.5	8.0	8.0	12.0	11.0	11.5
31	---	---	---	6.5	6.5	6.5	---	---	---	12.5	11.0	12.0
MONTH	7.0	5.0	6.0	6.5	5.0	6.0	10.5	6.5	7.0	12.5	8.0	9.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.5	11.5	12.0	15.5	15.0	15.0				---	---	---
2	12.5	11.5	12.0	15.5	14.5	15.0				---	---	---
3	12.5	11.5	12.5	16.5	14.5	15.5				---	---	---
4	13.0	11.5	12.5	16.5	14.5	15.5				---	---	---
5	13.0	12.0	12.5	16.0	14.0	15.0				---	---	---
6	13.5	12.0	13.0	---	---	---				---	---	---
7	13.5	12.5	13.0	16.0	14.5	15.5				---	---	---
8	13.5	12.0	13.0	15.0	14.0	14.5				---	---	---
9	14.0	12.0	13.0	15.0	14.0	14.5				---	---	---
10	14.0	11.5	13.0	15.5	14.5	15.0				---	---	---
11	13.5	11.0	12.5	15.5	15.0	15.0				---	---	---
12	14.0	12.5	13.5	16.0	15.0	15.5				---	---	---
13	14.0	12.5	13.5	15.5	15.0	15.5				---	---	---
14	14.0	12.5	13.5	16.0	15.5	15.5				---	---	---
15	14.0	12.5	13.5	16.0	15.5	16.0				---	---	---
16	13.5	12.0	12.5	16.0	15.5	15.5				---	---	---
17	13.0	11.5	12.5	15.5	14.0	15.0				---	---	---
18	13.0	12.0	12.5	---	---	---				---	---	---
19	13.5	12.0	13.0	---	---	---				---	---	---
20	13.0	12.0	13.0	---	---	---				15.0	14.0	14.5
21	13.5	12.5	13.0	---	---	---				14.5	14.0	14.0
22	13.5	12.5	13.0	---	---	---				14.5	12.5	13.5
23	15.0	13.0	14.0	---	---	---				13.5	13.0	13.5
24	15.0	13.0	14.0	---	---	---				13.5	12.5	13.5
25	15.0	13.5	14.5	---	---	---				13.5	10.5	13.0
26	15.0	14.5	14.5	---	---	---				11.5	10.5	11.0
27	15.0	14.5	14.5	---	---	---				11.5	11.0	11.5
28	15.0	14.5	14.5	---	---	---				12.0	11.5	11.5
29	15.5	14.0	14.5	---	---	---				12.0	11.5	12.0
30	15.5	14.5	15.0	---	---	---				12.5	12.0	12.0
31	---	---	---	---	---	---				---	---	---
MONTH	15.5	11.0	13.5	---	---	---				---	---	---

14362250 STAR GULCH NEAR RUCH, OR

LOCATION.--Lat 42°09'15", long 123°04'27", in NE 1/4 NE 1/4 sec.29, T.39 S., R.3 W., Jackson County, Hydrologic Unit 17100309, Bureau of Land Management land, on left bank 1.0 mi downstream from Benson Gulch, 6.0 mi southwest of Ruch, and at mile 1.1.

DRAINAGE AREA.--16.0 mi^2.

PERIOD OF RECORD.--July 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,667.04 ft above sea level.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--13 years (water years 1984-96), 3.96 ft^3/s, 2,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226 ft^3/s Mar. 20, 1995, gage height, 3.43 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 15	1000	42	2.27	Feb. 5	0530	89	2.73
Jan. 20	2300	72	2.59	Feb. 21	1700	65	2.52
Jan. 24	0530	69	2.56	Mar. 5	0130	42	2.26
Jan. 27	2130	*111	*2.88				

Minimum discharge, 0.25 ft^3/s Aug. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.53	1.6	6.3	35	22	23	8.5	5.2	2.2	.74	.45
2	.46	.55	.85	5.7	31	24	23	8.0	4.9	2.1	.74	.45
3	.44	.55	.66	5.1	27	31	19	7.5	4.7	2.0	.80	.41
4	.45	.58	1.1	4.6	70	38	15	7.4	4.4	2.0	.82	.43
5	.45	.58	1.6	4.2	88	38	14	7.0	4.3	2.0	.84	.49
6	.40	.59	1.6	3.8	79	31	12	6.7	4.1	1.9	.87	.51
7	.38	.61	1.2	3.6	69	28	12	6.5	3.9	1.7	.75	.48
8	.39	.73	.90	4.9	60	28	11	6.3	3.8	1.6	.65	.45
9	.37	.84	.78	5.7	53	28	10	6.1	3.7	1.6	.60	.43
10	.37	.75	.97	7.4	41	25	10	5.9	3.6	1.6	.55	.41
11	.39	.76	5.6	7.7	33	23	9.6	5.6	3.5	1.5	.50	.37
12	.46	.81	25	7.0	27	20	9.8	5.5	3.4	1.4	.52	.37
13	.47	.81	20	6.2	24	18	9.3	5.6	3.3	1.3	.50	.53
14	.44	.81	14	5.4	21	16	8.9	5.9	3.2	1.3	.46	.68
15	.38	.79	39	6.5	19	15	8.7	5.8	3.1	1.2	.48	1.1
16	.34	.76	25	11	17	14	9.1	5.7	3.1	1.2	.48	.89
17	.36	.75	14	21	16	13	8.7	7.7	3.0	1.3	.50	.80
18	.39	.81	9.9	23	17	12	8.3	8.6	2.9	1.5	.54	.77
19	.45	.81	8.0	34	31	12	8.4	7.7	2.9	1.4	.58	.72
20	.47	.81	6.8	41	43	12	8.1	7.0	2.8	1.2	.58	.71
21	.48	.78	5.8	55	62	11	8.5	9.6	2.8	1.2	.57	.64
22	.63	.80	5.1	31	55	11	8.4	13	2.7	1.1	.53	.65
23	.80	.81	4.5	25	46	11	8.8	11	3.0	1.0	.48	.60
24	.81	.77	4.1	58	46	10	16	9.8	3.3	.94	.42	.53
25	.81	.81	3.7	35	40	9.7	17	8.6	3.1	.90	.37	.47
26	.70	.95	3.5	25	34	9.3	14	7.8	3.2	.85	.35	.44
27	.51	.77	3.2	68	30	10	12	7.2	3.0	.79	.38	.43
28	.54	.75	3.3	79	27	11	11	6.7	2.7	.86	.42	.39
29	.54	.75	4.2	46	24	9.9	9.8	6.4	2.5	.90	.40	.37
30	.55	1.0	6.2	37	---	9.6	9.1	6.0	2.3	.78	.37	.34
31	.55	---	6.8	37	---	10	---	5.6	---	.75	.41	---
TOTAL	15.30	22.42	228.96	710.1	1165	560.5	352.5	226.7	102.4	42.07	17.20	16.31
MEAN	.49	.75	7.39	22.9	40.2	18.1	11.7	7.31	3.41	1.36	.55	.54
MAX	.81	1.0	39	79	88	38	23	13	5.2	2.2	.87	1.1
MIN	.34	.53	.66	3.6	16	9.3	8.1	5.5	2.3	.75	.35	.34
AC-FT	30	44	454	1410	2310	1110	699	450	203	83	34	32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1996, BY WATER YEAR (WY)

MEAN	.65	3.00	5.67	7.90	9.58	9.42	6.11	2.87	1.45	.80	.43	.42
MAX	1.98	18.0	36.5	23.5	40.2	26.6	19.6	7.31	3.41	3.14	2.16	2.00
(WY)	1984	1985	1984	1995	1996	1995	1995	1996	1996	1983	1983	1983
MIN	.021	.23	.87	1.13	1.58	.95	1.00	.22	.012	.000	.000	.000
(WY)	1993	1993	1990	1992	1992	1992	1994	1992	1992	1994	1988	1991

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1983 - 1996	
ANNUAL TOTAL	3035.09		3459.46			
ANNUAL MEAN	8.32		9.45		3.96	
HIGHEST ANNUAL MEAN					9.81	1984
LOWEST ANNUAL MEAN					.60	1992
HIGHEST DAILY MEAN	108	Jan 9	88	Feb 5	139	Dec 14 1983
LOWEST DAILY MEAN	.33	Sep 23	.34	Oct 16	.00	Aug 10 1987
ANNUAL SEVEN-DAY MINIMUM	.37	Sep 18	.39	Aug 25	.00	Aug 21 1987
ANNUAL RUNOFF (AC-FT)	6020		6860		2870	
10 PERCENT EXCEEDS	25		28		9.1	
50 PERCENT EXCEEDS	3.0		3.3		1.2	
90 PERCENT EXCEEDS	.48		.45		.04	

14366000 APPLEGATE RIVER NEAR APPLEGATE, OR

LOCATION.--Lat 42°14'30", long 123°08'20", in NE 1/4 sec.26, T.38 S., R.4 W., Jackson County, Hydrologic Unit 17100309, on left bank 0.9 mi downstream from Keeler Creek, 1.8 mi southeast of Applegate, and at mile 26.7.

DRAINAGE AREA.--483 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

RECORDS.--WSP 1738: Drainage area. WSP 1935: 1953(M). WDR OR-76-1: 1956(M), 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 1,285.33 ft above sea level. Prior to Dec. 23, 1938, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1980 by Applegate Lake (station 14361900). Many diversions for irrigation upstream from station. McDonald Creek Canal diverts from McDonald Creek upstream from station for irrigation in Bear Creek basin. Thompson Creek Irrigation Association ditch diverts upstream from station for irrigation in Thompson Creek basin. Fowler-Keeler and Berryman ditches divert upstream from station for irrigation downstream. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--42 years (water years 1939-80), 548 ft^3/s, 397,000 acre-ft/yr.
15 years (water years 1982-96), 501 ft^3/s, 362,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,200 ft^3/s Jan. 15, 1974, gage height, 20.41 ft, from rating curve extended above 18,000 ft^3/s on basis of slope-area measurements of flow at gage heights 18.00 ft and 19.57 ft; minimum discharge, 4.6 ft^3/s Sept. 22-25, 1979. Minimum since first filling of Applegate Lake, 65 ft^3/s Aug. 2, 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 20, 1927, reached a stage of 18.7 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,720 ft^3/s Apr. 24, gage height, 6.75 ft; minimum discharge, 182 ft^3/s Dec. 3, 4, July 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	388	302	266	797	1000	1530	1030	1650	689	283	190	290
2	388	302	191	813	738	809	1540	1650	678	244	200	309
3	388	302	182	1240	676	825	1520	1490	642	242	236	315
4	388	302	186	1290	1240	875	1130	794	613	241	241	314
5	388	302	201	1300	1780	944	732	706	575	238	242	313
6	388	302	222	1170	1930	894	679	637	504	228	239	314
7	387	305	396	993	2720	872	676	539	498	226	232	310
8	384	309	197	792	3820	880	682	531	453	231	231	306
9	382	312	193	751	4420	899	809	550	403	236	235	303
10	371	310	196	775	4330	1010	948	699	418	248	237	310
11	387	308	659	769	4180	1190	895	702	435	243	241	311
12	390	307	1660	761	4070	1270	799	749	581	214	251	313
13	360	308	1330	750	3960	1310	705	901	571	197	251	394
14	356	310	1810	737	3860	1060	550	1620	519	197	246	403
15	354	312	1850	802	3750	924	495	2040	335	192	245	419
16	354	312	1800	888	3020	863	506	1240	376	194	248	413
17	352	311	1890	960	1870	824	497	1250	386	206	247	411
18	345	261	1890	957	1990	725	489	1750	380	205	252	459
19	343	261	1770	1110	1970	707	479	1790	375	204	251	459
20	343	256	936	1230	2020	758	426	1670	325	201	247	444
21	329	240	606	1610	2140	843	376	1690	324	199	248	409
22	307	239	550	1360	1940	843	349	1840	326	195	261	411
23	305	239	498	1240	1960	823	454	1610	338	190	289	411
24	304	238	471	1710	1910	626	3300	1050	340	189	288	410
25	302	239	422	1420	1960	635	3120	958	341	190	289	402
26	302	245	413	1170	1980	633	1590	930	337	189	289	400
27	300	240	384	1410	1980	651	861	878	322	187	287	381
28	298	243	380	1630	1920	669	733	802	313	192	289	376
29	295	243	476	1650	1870	624	824	799	306	193	291	376
30	296	242	781	1640	---	521	1530	787	301	200	288	376
31	302	---	819	1630	---	454	---	751	---	193	287	---
TOTAL	10776	8402	23625	35355	71004	26491	28724	35053	13004	6587	7868	11062
MEAN	348	280	762	1140	2448	855	957	1131	433	212	254	369
MAX	390	312	1890	1710	4420	1530	3300	2040	689	283	291	459
MIN	295	238	182	737	676	454	349	531	301	187	190	290
AC-FT	21370	16670	46860	70130	140800	52540	56970	69530	25790	13070	15610	21940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1996, BY WATER YEAR (WY)

MEAN	336	450	665	606	845	724	587	737	442	208	182	247
MAX	507	1261	3077	1415	2552	1892	1304	1705	1237	370	308	425
(WY)	1983	1985	1982	1995	1983	1995	1982	1983	1983	1983	1995	1983
MIN	218	195	149	142	148	142	139	160	119	86.5	74.5	83.8
(WY)	1982	1988	1995	1991	1992	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1982 - 1996	
ANNUAL TOTAL	299745		277951			
ANNUAL MEAN	821		759		501	
HIGHEST ANNUAL MEAN					1072	1983
LOWEST ANNUAL MEAN					153	1992
HIGHEST DAILY MEAN	6480	Jan 14	4420	Feb 9	7230	Feb 18 1983
LOWEST DAILY MEAN	138	Jan 5	182	Dec 3	67	Aug 2 1992
ANNUAL SEVEN-DAY MINIMUM	142	Jan 1	190	Jul 23	71	Jul 31 1992
ANNUAL RUNOFF (AC-FT)	594500		551300		362800	
10 PERCENT EXCEEDS	1780		1760		1110	
50 PERCENT EXCEEDS	384		420		270	
90 PERCENT EXCEEDS	264		236		138	

14366000 APPLEGATE RIVER NEAR APPLEGATE, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1973 to current year.

INSTRUMENTATION.--Temperature recorder since August 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 28.0°C July 29, 30, Aug. 3, 4, 1974; minimum, 0.0°C on several days during winter periods most years. Maximum since full operation of Applegate Lake, 25.5°C July 5, 1984, July 16, 19, 27, 1992; minimum, 0.0°C on several days during winter periods most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 23.5°C July 14, 24, 25; minimum, 4.0°C Dec. 24-26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.0	9.5	11.0	9.5	7.0	8.0	11.0	9.5	10.5	6.0	5.0	5.5
2	12.0	8.5	10.5	8.5	7.0	8.0	9.5	8.0	8.5	6.0	5.0	5.5
3	12.0	9.0	10.5	9.0	6.0	7.5	8.0	7.5	7.5	6.5	6.0	6.0
4	11.5	8.0	10.0	9.0	6.5	7.5	9.5	8.0	9.0	6.5	6.0	6.0
5	11.5	8.0	10.0	9.5	8.5	9.0	9.5	9.0	9.5	6.5	6.0	6.0
6	11.5	9.0	10.5	10.0	8.0	9.0	9.5	9.0	9.5	7.0	6.0	6.5
7	12.0	8.5	10.5	11.0	9.0	10.0	9.5	8.5	9.0	6.5	6.0	6.0
8	12.0	9.0	10.5	11.0	10.0	10.5	9.5	9.0	9.0	7.0	6.5	6.5
9	12.5	9.5	11.0	11.0	9.5	10.0	10.5	9.5	9.5	7.0	6.5	7.0
10	13.0	10.0	11.5	10.0	9.0	9.5	9.5	8.5	9.0	7.0	6.0	6.5
11	12.5	10.0	11.5	11.0	8.5	10.0	10.0	9.0	9.5	6.5	5.5	6.0
12	11.0	8.5	10.0	12.0	11.0	11.5	9.0	8.0	8.5	6.5	5.5	6.0
13	11.0	7.5	9.5	12.0	10.0	11.0	8.5	8.0	8.0	6.5	5.5	6.0
14	11.0	8.0	10.0	11.5	9.5	10.5	8.0	7.5	8.0	6.5	5.0	6.0
15	11.5	8.5	10.0	11.0	10.0	10.5	8.0	7.5	7.5	7.0	6.5	6.5
16	12.0	10.0	11.0	11.0	9.5	10.5	7.5	7.0	7.5	6.5	5.0	5.5
17	11.5	8.5	10.0	11.5	9.5	10.5	7.5	7.0	7.0	6.5	5.0	5.5
18	12.0	10.0	11.0	11.5	10.0	11.0	7.5	7.0	7.5	6.0	5.5	5.5
19	11.0	8.0	10.0	10.5	9.5	10.0	7.5	7.0	7.5	6.5	5.5	6.0
20	11.0	8.5	10.0	9.5	8.0	9.0	7.5	7.0	7.0	6.0	5.5	6.0
21	11.0	9.0	10.0	10.5	9.5	10.0	7.0	6.5	7.0	6.0	5.5	6.0
22	9.5	7.0	8.5	11.0	10.0	10.5	6.5	6.0	6.0	6.0	5.5	5.5
23	9.5	7.0	8.5	10.5	10.0	10.5	6.0	4.5	5.5	6.0	5.5	5.5
24	10.0	7.0	8.5	10.5	9.5	10.0	5.5	4.0	5.0	6.5	5.5	6.0
25	10.0	7.5	9.0	11.0	10.0	10.5	5.5	4.0	4.5	6.0	5.0	5.5
26	11.5	9.5	10.5	10.0	9.0	9.5	6.0	4.0	5.0	6.0	5.0	5.5
27	11.0	9.0	10.0	9.5	9.0	9.5	6.0	5.0	5.5	6.5	5.5	6.0
28	10.5	8.5	9.5	11.0	9.5	10.0	6.0	5.0	5.5	6.5	5.5	6.0
29	10.5	8.0	9.5	10.5	9.0	10.0	7.0	6.0	6.5	6.5	5.5	6.0
30	10.5	8.0	9.5	11.5	10.5	11.0	7.0	6.0	6.5	6.5	6.0	6.0
31	10.5	8.5	9.5	---	---	---	6.5	5.5	6.5	7.0	6.0	6.0
MONTH	13.0	7.0	10.0	12.0	6.0	10.0	11.0	4.0	7.5	7.0	5.0	6.0

14366000 APPLEGATE RIVER NEAR APPLEGATE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.0	6.0	6.5	7.5	5.0	6.0	9.0	7.0	8.0	11.5	8.5	9.5
2	6.5	5.0	5.5	7.5	5.0	6.0	8.5	6.5	7.0	11.0	8.5	9.5
3	7.0	5.0	6.0	8.0	6.0	7.0	9.5	6.5	7.5	11.0	8.0	9.0
4	7.5	6.5	7.0	8.0	6.0	7.0	10.0	6.0	7.5	12.0	7.5	9.5
5	7.5	6.5	7.0	7.0	5.5	6.5	10.5	6.5	8.5	12.5	8.0	10.0
6	8.0	7.0	7.5	7.5	5.0	6.5	11.5	7.0	9.0	12.5	7.5	10.0
7	7.5	6.5	7.0	8.5	6.5	7.5	12.0	7.5	9.5	13.0	8.5	10.5
8	7.5	6.5	7.0	9.0	6.5	7.5	12.0	7.5	9.5	12.5	8.0	10.5
9	7.5	7.0	7.0	9.0	7.0	8.0	10.0	7.5	8.5	13.0	8.0	10.5
10	7.5	7.0	7.0	8.5	6.5	7.5	8.5	7.0	7.5	13.5	8.0	10.5
11	7.5	6.5	7.0	8.5	6.5	7.5	9.0	6.5	7.5	14.0	9.0	11.5
12	7.5	6.5	7.0	8.0	6.5	7.0	9.0	6.5	7.5	14.5	10.0	12.0
13	7.5	6.5	7.0	8.5	6.0	7.0	10.0	5.5	8.0	12.5	10.5	11.5
14	7.5	6.5	7.0	8.5	5.5	7.0	10.5	7.0	8.5	11.0	9.5	10.5
15	7.5	6.5	7.0	9.0	6.0	7.0	10.0	7.5	9.0	10.5	9.0	10.0
16	8.0	6.5	7.0	9.0	5.5	7.0	9.5	7.5	8.5	12.0	9.5	10.5
17	8.0	7.0	7.5	9.5	5.5	7.5	8.5	6.0	7.5	11.5	10.0	10.5
18	7.5	7.0	7.0	9.5	6.0	7.5	9.5	6.5	8.0	11.0	9.0	10.0
19	7.5	6.5	7.0	9.5	6.0	8.0	8.5	6.5	7.5	11.0	9.0	9.5
20	8.0	6.5	7.0	9.0	6.0	7.5	9.0	6.0	7.5	11.5	9.0	10.0
21	7.0	6.0	6.5	9.5	6.0	7.5	11.0	7.5	9.0	11.0	9.5	10.0
22	7.0	6.0	6.5	8.0	6.5	7.0	10.5	8.0	9.5	11.0	9.0	10.0
23	7.0	6.0	6.5	8.5	6.0	7.0	11.0	9.0	10.0	11.5	9.0	10.0
24	7.0	5.5	6.0	9.0	5.5	7.0	11.0	7.5	9.0	14.5	10.0	12.0
25	6.5	5.5	6.0	9.0	5.5	7.0	9.5	7.0	8.0	15.5	10.5	12.5
26	6.5	5.0	5.5	9.0	5.0	7.0	10.5	7.5	8.5	15.0	10.5	12.5
27	6.5	5.0	5.5	7.5	6.5	7.0	12.0	8.0	9.5	14.5	10.5	12.5
28	6.5	5.5	6.0	7.5	6.0	6.5	12.0	7.5	9.5	14.0	10.5	12.0
29	7.0	5.5	6.0	9.0	5.0	7.0	12.5	8.0	10.0	14.5	10.0	12.0
30	---	---	---	9.0	5.5	7.0	11.5	8.5	10.0	15.5	10.5	12.5
31	---	---	---	9.0	6.5	8.0	---	---	---	16.0	11.0	13.5
MONTH	8.0	5.0	6.5	9.5	5.0	7.0	12.5	5.5	8.5	16.0	7.5	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	11.5	14.0	21.0	15.0	18.0	21.5	17.0	19.0	18.0	14.0	16.0
2	17.5	12.5	14.5	21.5	16.0	19.0	19.5	15.5	17.5	18.0	13.5	16.0
3	17.5	12.5	15.0	21.5	16.5	19.0	20.0	15.5	18.0	18.0	14.0	16.5
4	17.5	12.5	15.0	20.5	16.5	18.5	20.5	15.0	17.5	17.5	14.0	15.5
5	18.0	12.0	15.0	20.0	14.5	17.5	19.0	15.0	17.0	17.5	13.5	15.5
6	---	---	---	21.0	15.0	18.0	19.5	14.0	17.0	17.0	12.5	15.0
7	---	---	---	22.0	16.5	19.0	20.5	15.0	18.0	17.5	13.0	15.5
8	18.5	12.5	15.5	21.5	17.0	19.0	21.0	16.0	18.5	17.5	13.5	15.5
9	17.5	12.5	15.0	21.0	16.5	19.0	21.5	16.5	19.0	18.0	13.5	16.0
10	18.0	12.0	15.0	21.5	15.5	18.5	21.5	16.5	19.0	18.5	14.5	16.5
11	18.0	12.0	15.0	22.0	16.0	19.0	20.5	16.0	18.5	---	---	---
12	18.5	12.0	15.0	22.5	17.0	19.5	21.0	16.0	19.0	---	---	---
13	18.0	12.5	15.0	22.5	18.0	20.5	21.5	17.0	19.5	16.5	14.0	15.5
14	18.0	12.0	15.0	23.5	19.0	21.0	20.5	16.5	19.0	---	---	---
15	18.0	12.5	15.5	21.5	19.0	20.0	21.0	16.5	19.0	---	---	---
16	17.0	12.5	15.0	21.5	16.5	19.0	19.5	15.0	17.5	15.5	13.5	14.5
17	17.0	11.0	14.0	19.0	16.0	17.0	19.5	15.0	17.5	16.0	13.5	14.5
18	17.0	11.0	14.0	19.5	14.5	17.0	19.0	14.0	17.0	16.5	12.5	15.0
19	17.0	11.0	14.0	20.0	14.5	17.0	19.5	14.5	17.0	17.0	14.5	16.0
20	17.5	12.5	15.5	20.5	15.0	17.5	19.5	14.5	17.5	17.0	13.5	15.5
21	17.5	12.5	15.0	22.0	16.5	19.0	20.0	15.0	17.5	16.5	13.5	15.0
22	18.0	11.5	15.0	22.5	17.5	20.0	20.5	15.5	18.0	16.0	12.0	14.0
23	16.0	14.0	15.0	23.0	18.5	20.5	20.0	15.5	18.0	16.0	11.5	14.0
24	17.0	13.5	15.0	23.5	18.5	21.0	21.0	16.0	18.5	16.0	12.5	14.0
25	18.0	14.0	16.0	23.5	19.0	21.0	20.0	17.0	18.5	15.5	12.0	14.0
26	17.0	13.0	15.5	23.0	18.5	21.0	20.0	16.0	18.0	14.5	11.0	13.0
27	18.0	14.0	16.0	22.5	18.5	20.5	18.5	15.0	17.0	15.0	11.0	13.0
28	19.5	14.0	17.0	20.5	18.0	19.0	19.5	14.5	17.0	15.5	11.5	13.5
29	20.0	14.0	17.0	22.5	17.5	19.5	19.5	15.0	17.5	15.5	12.0	14.0
30	20.5	14.5	18.0	22.5	18.0	20.0	19.0	14.5	17.0	15.5	12.5	14.0
31	---	---	---	22.0	17.5	20.0	19.0	15.0	17.0	---	---	---
MONTH	20.5	11.0	15.0	23.5	14.5	19.0	21.5	14.0	18.0	---	---	---

14369500 APPLEGATE RIVER NEAR WILDERVILLE, OR

LOCATION.--Lat 42°21'15", long 123°24'20", in SE 1/4 NE 1/4 sec.16, T.37 S., R.6 W., Josephine County, Hydrologic Unit 17100309, on left bank 0.3 mi downstream from Jackson Creek, 3.6 mi southeast of Wilderville, and at mile 7.6.

DRAINAGE AREA.--698 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to September 1955, September 1978 to current year.

REVISED RECORDS.--WSP 1318: 1943. WSP 1738: 1951, 1953, drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 947.18 ft above sea level (Corps of Engineers bench mark). Prior to Sept. 1, 1978, nonrecording gage at site 1,100 ft upstream at datum 2.36 ft higher.

REMARKS.--Records good. Flow regulated since December 1980 by Applegate Lake (station 14361900). Many diversions for irrigation upstream from station. Wilderville ditch diverts up to 16 ft^3/s 0.3 mi upstream and at the mouth of Jackson Creek. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--19 years (water years 1939-55, 1979, 1980), 717 ft^3/s, 519,500 acre-ft/yr.
15 years (water years 1982-96), 697 ft^3/s, 504,800 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,500 ft^3/s Jan. 18, 1953, gage height, 18.3 ft, from floodmark, site and datum then in use, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 0.78 ft^3/s Aug. 22-24, 1979. Minimum since first filling of Applegate Lake, 34 ft^3/s Aug. 4, 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1955, reached a stage of 20.3 ft, from floodmark, former site and datum, discharge, 66,500 ft^3/s, from rating curve extended above 12,000 ft^3/s on basis of slope-area measurement of peak flow.

Flood of February 1927 reached a stage of 22 ft at former site, from local resident. Floods of Dec. 22, 1964, and Jan. 15, 1974, are known to have exceeded the December 1955 flood.

No flow was observed at present site during the late summer of 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,460 ft^3/s Feb. 9, gage height, 7.43 ft; minimum discharge, 172 ft^3/s July 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405	e340	351	1370	2050	2270	1860	1930	808	311	182	268
2	402	e340	311	1230	1550	1590	e2500	1900	788	270	179	282
3	391	e340	254	1530	1380	1510	e2450	1850	745	259	207	288
4	391	e345	284	1640	2120	1690	e2030	1200	689	265	223	296
5	396	e340	370	1630	2880	1880	e1600	1010	665	269	225	297
6	400	e340	400	1550	3020	1700	e1450	896	603	258	226	295
7	397	e345	477	1300	3150	1610	e1450	775	577	250	222	293
8	396	e350	329	1290	4800	1640	e1450	727	536	246	219	290
9	395	e350	288	1390	5860	1660	e1550	711	465	244	220	282
10	410	e345	292	1490	5890	1660	e1680	860	466	252	222	290
11	417	e345	647	1300	5370	1840	e1550	886	461	250	226	297
12	422	e345	3730	1190	5010	1800	e1300	905	565	231	235	306
13	401	e345	2700	1100	4790	1880	e1120	990	587	207	235	350
14	389	e350	2990	1040	4560	1610	e930	1570	570	202	231	395
15	388	e350	4750	1300	4370	1430	e870	2150	413	197	223	e415
16	388	e350	2960	1800	4150	1330	e860	1650	396	193	226	431
17	389	e350	2520	2110	2370	1270	e850	1470	421	202	224	s427
18	388	e305	2440	1940	2590	1170	832	2230	411	211	229	450
19	e385	e300	2340	2710	3240	1110	825	2280	402	210	234	468
20	e380	e295	1570	2990	3250	1120	810	2050	367	207	237	469
21	e365	e280	1030	4490	4230	1200	736	2110	349	206	236	429
22	e345	e275	852	2900	3550	1200	680	2280	345	199	236	423
23	e340	274	743	2360	3070	1190	810	2090	354	188	258	423
24	e340	273	679	4900	3340	1000	e3970	1460	376	183	268	423
25	e340	274	604	3010	2910	949	e3750	1280	373	181	267	423
26	e335	288	565	2290	2700	928	e2000	1200	371	181	266	412
27	e335	284	537	3770	2610	1020	e1160	1120	354	180	266	392
28	e335	278	527	4270	2490	1200	e1020	1020	338	180	263	383
29	e335	279	819	2960	2390	1050	e1150	971	327	184	266	369
30	e335	289	1760	2760	---	893	1670	945	319	190	266	368
31	e340	---	1630	2710	---	882	---	899	---	186	265	---
TOTAL	11675	9564	39749	68320	99690	43282	44913	43415	14441	6792	7282	10934
MEAN	377	319	1282	2204	3438	1396	1497	1400	481	219	235	364
MAX	422	350	4750	4900	5890	2270	3970	2280	808	311	268	469
MIN	335	273	254	1040	1380	882	680	711	319	180	179	268
AC-FT	23160	18970	78840	135500	197700	85850	89080	86110	28640	13470	14440	21690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1996, BY WATER YEAR (WY)

MEAN	365	632	1071	1033	1385	1134	888	820	475	197	162	243
MAX	569	2099	4719	2309	4241	2715	2177	1916	1333	390	290	482
(WY)	1984	1985	1982	1995	1983	1983	1982	1983	1983	1983	1995	1983
MIN	253	239	196	209	263	230	173	166	98.4	53.5	39.3	66.0
(WY)	1995	1988	1991	1991	1994	1994	1994	1992	1992	1994	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1982 - 1996	
ANNUAL TOTAL	399505		400057			
ANNUAL MEAN	1095		1093		697	
HIGHEST ANNUAL MEAN					1546	1983
LOWEST ANNUAL MEAN					192	1994
HIGHEST DAILY MEAN	9080	Jan 14	5890	Feb 10	16200	Feb 18 1983
LOWEST DAILY MEAN	217	Jan 4	179	Aug 2	35	Jul 20 1994
ANNUAL SEVEN-DAY MINIMUM	227	Jan 1	182	Jul 23	37	Jul 31 1992
ANNUAL RUNOFF (AC-FT)	792400		793500		504800	
10 PERCENT EXCEEDS	2480		2700		1600	
50 PERCENT EXCEEDS	495		531		338	
90 PERCENT EXCEEDS	281		233		137	

e Estimated

14369500 APPLEGATE RIVER NEAR WILDERVILLE, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: September 1978 to current year.

INSTRUMENTATION.--Temperature recorder since September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 29.0°C June 22, 1992; minimum, 0.0°C Feb. 6, 7, 1989.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 27.0°C July 14, 24, 25; minimum, 4.5°C Dec. 24-26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.0	12.5	14.0	10.5	8.0	9.5	12.0	10.5	11.5	7.5	6.5	7.0
2	14.5	12.0	13.5	9.0	7.0	8.0	10.5	9.0	9.5	6.5	6.0	6.5
3	14.0	12.5	13.0	8.5	6.5	7.5	9.0	8.0	8.5	7.5	6.5	7.0
4	13.5	11.0	12.5	8.0	6.0	7.5	10.0	8.5	9.5	7.5	6.5	7.0
5	13.0	10.5	12.0	9.5	8.0	9.0	10.5	9.5	10.0	7.0	6.5	7.0
6	13.0	11.0	12.0	10.0	9.0	9.5	10.5	10.0	10.5	7.5	6.5	7.0
7	13.5	11.0	12.0	11.5	9.5	10.5	11.0	10.0	10.5	7.0	6.5	7.0
8	13.5	11.0	12.0	12.0	11.0	11.5	10.5	10.0	10.5	8.0	7.0	7.5
9	14.0	11.5	12.5	11.5	10.5	11.0	11.5	10.5	11.0	8.5	8.0	8.0
10	14.5	12.0	13.0	10.5	9.5	10.0	11.5	10.5	10.5	8.5	7.5	8.0
11	14.0	12.5	13.5	11.0	9.5	10.5	11.0	10.0	10.5	7.5	6.5	7.0
12	12.5	11.0	12.0	13.0	10.5	12.0	10.5	9.5	10.0	7.0	6.5	7.0
13	12.5	10.0	11.5	13.0	11.5	12.5	9.5	8.5	9.0	7.0	6.5	7.0
14	12.5	10.0	11.5	12.5	11.0	12.0	9.0	8.0	8.5	7.5	6.5	7.0
15	13.0	10.5	12.0	13.0	11.5	12.0	9.0	8.5	8.5	8.5	7.5	8.0
16	14.0	12.0	13.0	12.0	10.5	11.5	8.5	8.0	8.0	8.0	6.5	7.5
17	13.0	11.0	12.5	11.5	10.5	11.0	8.0	7.5	8.0	7.5	6.5	6.5
18	14.5	12.0	13.0	12.5	11.0	11.5	8.5	8.0	8.0	7.0	6.5	6.5
19	13.5	11.0	12.0	11.5	10.5	10.5	8.5	8.0	8.0	7.5	7.0	7.0
20	12.0	10.5	11.5	10.5	10.0	10.0	8.5	7.5	8.0	7.5	6.5	7.0
21	12.0	10.5	11.5	10.5	9.0	10.0	8.0	7.5	8.0	7.0	6.5	7.0
22	11.5	9.0	10.5	11.5	10.5	11.0	7.5	6.5	7.0	7.0	6.0	6.5
23	10.5	8.5	10.0	11.5	10.5	11.0	6.5	5.5	6.0	7.0	6.5	6.5
24	10.5	8.5	10.0	12.0	10.5	11.0	5.5	4.5	5.0	7.0	6.5	7.0
25	11.0	9.0	10.0	12.0	11.0	11.5	5.5	4.5	5.0	7.0	6.0	6.5
26	12.5	10.5	11.5	11.0	10.0	10.5	6.0	4.5	5.0	6.5	6.0	6.5
27	12.5	11.0	11.5	10.5	9.5	10.0	6.5	5.5	6.0	7.0	6.0	6.5
28	12.0	10.5	11.5	11.0	9.5	10.0	7.0	6.5	6.5	7.5	6.5	7.0
29	11.5	9.5	11.0	11.0	9.5	10.5	8.0	7.0	7.5	7.0	6.5	7.0
30	11.5	9.5	10.5	12.0	11.0	11.5	9.0	8.0	8.5	7.0	6.5	7.0
31	12.0	10.0	11.0	---	---	---	9.0	7.5	8.0	7.5	6.5	7.0
MONTH	15.0	8.5	12.0	13.0	6.0	10.5	12.0	4.5	8.5	8.5	6.0	7.0

14369500 APPLEGATE RIVER NEAR WILDERVILLE, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.5	6.5	7.0	8.0	5.5	6.5	---	---	---	13.0	10.0	11.5
2	7.5	6.0	7.0	8.0	6.0	7.0	---	---	---	12.0	9.5	11.0
3	7.5	6.0	7.0	8.5	7.5	8.0	---	---	---	12.0	9.0	10.5
4	8.5	7.5	8.0	---	---	---	---	---	---	12.5	8.5	10.5
5	8.5	7.5	8.0	---	---	---	---	---	---	13.0	9.5	11.5
6	9.0	8.0	8.5	---	---	---	---	---	---	13.5	10.0	11.5
7	9.0	8.0	8.5	---	---	---	---	---	---	13.5	10.5	12.0
8	8.5	7.5	8.0	---	---	---	---	---	---	14.0	10.5	12.0
9	8.5	8.0	8.0	---	---	---	---	---	---	14.0	10.5	12.0
10	8.5	7.5	8.0	---	---	---	---	---	---	14.0	10.5	12.5
11	8.5	7.0	7.5	---	---	---	---	---	---	15.5	11.5	13.5
12	8.5	7.0	7.5	---	---	---	---	---	---	16.5	13.0	14.5
13	8.5	7.0	7.5	---	---	---	---	---	---	15.0	13.0	14.0
14	8.0	6.5	7.5	---	---	---	---	---	---	13.0	11.5	12.5
15	8.0	6.5	7.5	---	---	---	---	---	---	12.0	10.5	11.5
16	8.5	7.5	8.0	---	---	---	---	---	---	13.0	10.5	11.5
17	9.0	8.0	8.5	---	---	---	---	---	---	13.0	11.0	12.0
18	8.5	8.0	8.0	---	---	---	10.5	7.0	9.0	12.0	10.5	11.0
19	8.5	7.5	8.0	---	---	---	10.5	8.0	9.0	12.0	9.5	11.0
20	8.5	7.0	8.0	---	---	---	10.0	7.5	8.5	13.0	9.5	11.0
21	8.0	6.5	7.0	---	---	---	11.0	8.5	9.5	12.0	10.0	11.0
22	8.0	6.5	7.0	---	---	---	11.5	9.5	10.5	12.0	10.0	11.0
23	7.0	6.5	7.0	---	---	---	12.0	10.0	11.0	12.0	9.5	10.5
24	7.5	6.0	6.5	---	---	---	---	---	---	14.5	10.0	12.0
25	7.0	6.0	6.5	---	---	---	---	---	---	15.5	12.0	14.0
26	7.0	5.0	6.0	---	---	---	12.0	8.5	10.0	15.5	12.5	14.0
27	7.0	5.5	6.0	---	---	---	12.5	8.5	10.5	15.5	12.5	14.0
28	7.0	6.0	6.5	---	---	---	12.5	9.5	11.0	15.0	12.0	13.5
29	8.0	6.0	7.0	---	---	---	14.0	10.0	12.0	15.0	11.5	13.5
30	---	---	---	---	---	---	13.5	10.5	12.0	15.5	12.0	13.5
31	---	---	---	---	---	---	---	---	---	16.5	13.0	14.5
MONTH	9.0	5.0	7.5	---	---	---	---	---	---	16.5	8.5	12.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.5	14.0	16.0	23.0	17.5	20.5	24.5	20.5	22.5	20.0	16.5	18.5
2	19.0	15.0	17.0	23.5	19.0	21.5	22.0	19.0	20.5	20.0	16.0	18.5
3	19.0	15.5	17.0	22.5	19.0	21.0	22.5	18.5	20.5	19.5	16.0	18.0
4	19.0	15.5	17.0	21.5	18.5	20.0	22.5	18.0	20.5	19.0	16.0	17.0
5	19.0	15.5	17.0	21.5	17.0	19.5	21.0	19.0	20.0	18.0	14.5	16.5
6	20.0	16.0	18.0	22.5	17.5	20.0	21.5	17.0	19.5	18.0	14.5	16.5
7	20.5	16.5	18.5	24.0	18.5	21.0	23.0	18.0	20.5	18.5	15.0	17.0
8	20.0	16.5	18.0	24.0	20.0	22.0	24.0	19.5	21.5	19.5	15.5	18.0
9	19.5	15.5	17.5	23.5	19.5	21.5	24.5	20.0	22.5	20.0	16.0	18.0
10	19.5	15.0	17.0	23.5	18.5	21.0	24.5	20.5	22.5	20.0	16.5	18.5
11	19.5	15.0	17.0	24.0	19.0	21.5	23.5	19.5	21.5	---	---	---
12	19.0	15.0	17.0	25.0	20.0	22.5	23.5	19.5	21.5	---	---	---
13	19.0	16.0	17.5	26.0	21.0	23.5	24.0	20.5	22.0	17.5	15.5	16.5
14	18.5	15.5	17.0	27.0	23.0	24.5	23.5	19.5	21.5	---	---	---
15	19.5	15.5	17.5	25.0	22.0	23.5	23.5	20.0	21.5	---	---	---
16	18.5	15.5	17.0	24.0	19.5	22.0	23.0	19.0	21.0	---	---	---
17	18.0	14.0	16.0	22.0	18.5	20.0	22.0	18.5	20.5	16.5	14.5	15.5
18	18.0	13.5	16.0	20.5	17.0	18.5	21.0	17.0	19.0	16.5	13.5	15.0
19	18.0	14.0	16.0	21.5	16.5	19.0	21.0	17.0	19.0	17.0	15.5	16.0
20	19.5	15.0	17.0	22.5	18.0	20.0	21.0	17.0	19.5	17.0	14.5	16.0
21	19.0	15.0	17.0	24.0	19.5	21.5	21.5	17.5	19.5	17.0	14.5	16.0
22	19.5	15.0	17.5	25.0	20.0	22.5	22.0	18.0	20.0	16.0	13.5	14.5
23	18.5	16.0	17.0	26.0	22.0	24.0	22.0	18.5	20.5	15.5	13.0	14.5
24	17.5	14.5	16.0	27.0	22.5	24.5	22.5	18.5	20.5	16.0	13.0	14.5
25	19.5	15.0	17.0	27.0	22.5	24.5	23.0	19.5	21.5	16.0	13.5	14.5
26	18.5	15.5	17.5	26.5	22.5	24.5	22.5	19.0	21.0	16.5	13.0	15.0
27	19.0	16.0	17.5	26.0	22.0	24.0	21.0	18.5	20.0	16.0	13.0	15.0
28	20.5	15.5	18.0	24.5	22.0	23.5	21.5	17.5	19.5	16.5	13.5	15.5
29	21.5	16.5	19.0	25.5	21.0	23.5	22.0	18.0	20.0	17.0	14.0	15.5
30	22.0	17.0	20.0	26.0	22.0	24.0	21.5	17.5	20.0	16.5	14.5	15.5
31	---	---	---	25.5	21.5	23.5	21.0	18.0	19.5	---	---	---
MONTH	22.0	13.5	17.5	27.0	16.5	22.0	24.5	17.0	20.5	---	---	---

14372300 ROGUE RIVER NEAR AGNESS, OR

LOCATION.--Lat 42°34'50", long 124°03'30", in NE 1/4 NW 1/4 sec.6, T.35 S., R.11 W., Curry County, Hydrologic Unit 17100310, on left bank 0.8 mi upstream from Shasta Costa Creek, 1.5 mi north of Agness, 2.6 mi upstream from Illinois River, and at mile 29.7.

DRAINAGE AREA.--3,939 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 113.81 ft above sea level (levels by U.S. Bureau of Public Roads).

REMARKS.--Records good. Flow regulated since February 1977 by Lost Creek Lake (station 14335040), since December 1980 by Applegate Lake (station 14361900), slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation and mining.

AVERAGE DISCHARGE.--36 years (water years 1961-96), 5,827 ft^3/s, 4,222,000 acre-ft/yr.
19 years (water years 1978-96), 5,239 ft^3/s, 3,796,000 acre-ft/yr (since operation began at Lost Creek Lake).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290,000 ft^3/s Dec. 23, 1964, from slope-area measurement; maximum gage height, 68.03 ft Dec. 23, 1964, from floodmark (backwater from Illinois River); minimum discharge, 608 ft^3/s July 9, 10, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61,700 ft^3/s Dec. 12, gage height, 18.10 ft; minimum discharge, 1,540 ft^3/s Sept. 28, but may have been less during period of missing record.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	e1950	7950	15600	16300	12200	14100	10600	5730	3480	2100	2690
2	2110	e1900	7070	11700	12900	11200	14800	8670	5500	3410	2040	2760
3	2080	e1850	5590	10200	10900	10700	11800	7870	5280	3300	2050	2800
4	2110	e1800	5980	10700	12100	12200	10000	7460	5020	3270	2160	2770
5	2120	e1750	7750	11000	21900	15400	8510	6640	4890	3470	2260	2810
6	2100	e1700	10200	11800	24300	13200	7570	6250	4740	3480	2420	2810
7	2090	e1700	8490	11500	24200	11400	7080	5950	4480	3470	2570	2780
8	2070	e1750	7900	12500	24000	10900	6730	5530	4420	3420	2530	2810
9	2100	e1800	8300	14800	31300	10800	6620	5280	4170	3300	2510	2830
10	2110	e1800	9690	17800	31300	10300	6930	5080	3870	2950	2480	2810
11	2270	1820	11800	14400	23900	10500	7190	5010	3900	2640	2460	2790
12	2300	2720	42700	11900	20000	10500	7940	4570	4060	2350	2540	2770
13	2500	e3100	47500	10400	17700	9730	7670	4930	4130	2140	2610	2550
14	2320	e3200	28000	9510	16600	8750	7150	5690	4080	2140	2550	2610
15	2370	e2850	39700	10200	15700	7970	6440	8710	3970	2150	2600	2740
16	2310	e2700	32500	14700	14800	7440	6880	10700	3790	2100	2550	3030
17	2340	e2550	19800	20100	14100	7210	8050	10700	4110	2060	2570	2970
18	2740	e2300	16000	16300	17600	6920	7680	14500	4240	2170	2580	2800
19	2120	2070	14300	21700	26100	6690	7620	15900	4030	2250	2650	2600
20	1970	1920	12800	27400	26000	6560	7840	13300	4000	2200	2670	2350
21	2050	1860	10000	38100	29700	6540	7770	12600	3880	2140	2640	2050
22	2100	1840	7770	26000	27900	6720	8120	16800	3880	2120	2610	2010
23	2040	1830	7080	19300	22200	6680	9670	15400	3790	2070	2630	2040
24	2030	1920	6530	31000	23400	6400	18900	12700	3980	2010	2670	2020
25	2020	2460	6160	25800	19700	6030	24300	10300	4110	2000	2680	1970
26	2020	2880	5880	18100	16200	5840	17500	9150	4060	1980	2660	1900
27	2000	2770	5780	25700	13200	5900	13100	8460	3980	1980	2660	1790
28	2000	2890	5810	34700	12500	7460	10400	7910	3840	1980	2750	1800
29	e1950	3440	9770	22600	12500	7310	10900	7050	3630	2020	2740	1830
30	e1900	6000	19100	18900	---	6450	10500	6310	3510	2100	2690	1780
31	e1900	---	23400	19400	---	7040	---	6020	---	2260	2680	---
TOTAL	66280	71120	451300	563810	579000	272940	299760	276040	127070	78410	78310	74270
MEAN	2138	2371	14560	18190	19970	8805	9992	8905	4236	2529	2526	2476
MAX	2740	6000	47500	38100	31300	15400	24300	16800	5730	3480	2750	3030
MIN	1900	1700	5590	9510	10900	5840	6440	4570	3510	1980	2040	1780
AC-FT	131500	141100	895200	1118000	1148000	541400	594600	547500	252000	155500	155300	147300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1996, BY WATER YEAR (WY)

MEAN	1961	4517	8585	8461	9905	7881	6680	5043	3379	2368	2265	2100
MAX	3497	16650	29250	18190	30280	17750	15090	8905	6292	3446	3371	3187
(WY)	1983	1985	1982	1996	1983	1983	1982	1996	1993	1984	1984	1983
MIN	1421	1386	2124	2839	3071	2048	2083	2124	1821	1212	1671	1346
(WY)	1989	1988	1990	1992	1988	1992	1994	1992	1992	1994	1994	1980

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1978 - 1996	
ANNUAL TOTAL	2592310		2938310			
ANNUAL MEAN	7102		8028		5239	
HIGHEST ANNUAL MEAN					9827	1983
LOWEST ANNUAL MEAN					2286	1992
HIGHEST DAILY MEAN	59300	Jan 9	47500	Dec 13	148000	Feb 18 1983
LOWEST DAILY MEAN	1510	Sep 23	1700	Nov 6	979	Oct 8 1979
ANNUAL SEVEN-DAY MINIMUM	1700	Sep 21	1760	Nov 4	1020	Oct 4 1980
ANNUAL RUNOFF (AC-FT)	5142000		5828000		3796000	
10 PERCENT EXCEEDS	15800		19000		10800	
50 PERCENT EXCEEDS	4170		5180		2970	
90 PERCENT EXCEEDS	2030		2020		1660	

e Estimated

14372300 ROGUE RIVER NEAR AGNESS, OR--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1960 to September 1987, January 1995 to current year.

INSTRUMENTATION.--Temperature recorder from October 1960 to September 1987, January 1995 to September 1995.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 26.5°C on several days in 1962, Aug. 3, 6, 9-11, 1977; minimum, 1.0°C Jan. 22-25, 1962, Dec. 9-16, 1972, Jan. 9, 10, 1977, Jan. 1-3, 1979.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 23.5°C Aug. 10-13, but may have been higher during period July 1-31; minimum, 5.0°C Dec. 25, 26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.5	14.5	15.5	11.0	10.0	10.5	11.0	10.0	10.5	9.0	8.0	8.5
2	16.5	14.5	15.5	11.0	9.5	10.0	10.5	9.5	10.0	8.5	7.5	8.0
3	16.0	14.5	15.0	9.5	8.0	9.0	9.5	9.0	9.5	7.5	7.0	7.5
4	15.5	14.0	14.5	8.5	7.5	8.0	9.0	8.5	9.0	7.5	7.0	7.5
5	15.0	13.5	14.0	8.5	7.5	8.0	9.5	8.5	9.0	8.0	7.5	7.5
6	15.0	13.0	14.0	8.5	7.5	8.0	9.5	9.5	9.5	7.5	7.0	7.5
7	14.5	12.5	13.5	9.0	8.0	8.5	10.0	9.5	10.0	8.0	7.5	8.0
8	13.5	12.5	13.0	10.0	9.0	9.5	10.0	10.0	10.0	8.0	7.5	8.0
9	14.0	12.5	13.0	11.0	10.0	10.5	10.0	10.0	10.0	9.0	8.0	8.5
10	14.0	12.5	13.5	11.0	10.5	10.5	10.5	10.0	10.0	9.0	8.5	9.0
11	14.0	13.0	13.5	11.0	10.5	11.0	10.5	10.0	10.5	8.5	8.0	8.5
12	14.5	13.0	13.5	11.5	11.0	11.0	11.0	10.5	10.5	8.0	7.5	8.0
13	14.0	12.5	13.5	12.0	11.0	11.5	10.5	9.5	10.0	7.5	7.0	7.5
14	14.0	12.5	13.0	12.5	11.5	12.0	9.5	9.5	9.5	7.5	7.0	7.5
15	13.5	11.5	12.5	12.5	12.0	12.0	9.5	9.0	9.0	8.0	7.0	8.0
16	14.0	12.0	13.0	13.0	12.0	12.5	9.0	8.5	8.5	8.5	8.0	8.5
17	13.5	12.0	13.0	12.5	12.0	12.5	8.5	8.5	8.5	8.5	7.5	8.0
18	14.0	12.5	13.0	12.5	11.5	12.0	9.0	8.0	8.5	7.5	7.0	7.5
19	14.0	12.5	13.0	11.5	11.0	11.0	9.0	8.5	8.5	7.5	7.0	7.0
20	13.0	12.0	12.5	11.5	10.5	11.0	9.0	8.5	8.5	8.0	7.5	7.5
21	13.0	11.5	12.0	11.0	10.5	10.5	8.5	8.0	8.0	8.0	7.0	7.5
22	12.0	11.0	11.5	11.0	10.5	10.5	8.0	7.0	7.5	7.5	7.0	7.0
23	12.0	10.5	11.0	10.5	10.0	10.5	7.5	6.5	7.0	7.0	7.0	7.0
24	11.5	10.0	10.5	11.0	10.0	10.5	6.5	5.5	6.0	7.0	6.5	7.0
25	11.0	10.0	10.5	11.5	11.0	11.0	6.0	5.0	5.5	7.0	6.0	6.5
26	11.5	10.0	10.5	11.0	10.5	10.5	6.0	5.0	5.5	7.0	6.5	6.5
27	11.5	10.0	10.5	10.5	10.0	10.0	6.0	5.5	6.0	7.0	6.5	6.5
28	12.0	10.5	11.5	10.5	10.0	10.0	7.0	6.0	6.5	7.0	6.5	7.0
29	12.0	10.5	11.5	10.5	9.5	10.0	8.5	7.0	8.0	7.5	7.0	7.0
30	12.0	10.5	11.0	11.0	10.5	10.5	9.0	8.5	8.5	7.5	7.0	7.0
31	12.0	10.5	11.0	---	---	---	9.0	9.0	9.0	7.5	7.0	7.5
MONTH	16.5	10.0	12.5	13.0	7.5	10.5	11.0	5.0	8.5	9.0	6.0	7.5

14372300 ROGUE RIVER NEAR AGNESS, OR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.5	7.0	7.5	8.0	7.5	8.0	9.5	8.5	9.0	13.0	12.5	13.0
2	7.5	6.5	7.0	8.0	7.5	8.0	10.0	9.5	10.0	13.0	12.0	12.5
3	7.0	6.5	7.0	8.5	7.5	8.0	10.0	9.5	9.5	13.0	11.5	12.5
4	8.0	7.0	7.5	9.0	8.0	8.5	10.5	9.5	10.0	12.0	11.0	11.5
5	9.0	8.0	8.5	8.5	8.0	8.0	11.5	10.0	10.5	13.0	11.0	12.0
6	9.0	8.5	8.5	8.5	8.0	8.0	12.5	10.5	11.5	14.0	11.5	12.5
7	9.5	9.0	9.0	9.0	8.0	8.5	13.5	11.5	12.5	14.0	11.5	13.0
8	9.5	9.0	9.5	10.0	8.5	9.5	14.5	12.5	13.0	14.5	12.0	13.0
9	9.5	9.0	9.5	10.5	9.5	10.0	14.0	12.5	13.5	14.5	12.0	13.0
10	9.5	9.0	9.0	10.5	10.0	10.0	12.5	11.0	12.0	15.0	12.0	13.5
11	9.0	8.5	9.0	10.5	10.0	10.0	11.0	10.0	10.5	15.5	13.0	14.0
12	9.0	8.5	8.5	10.5	9.5	10.0	10.5	9.0	10.0	16.0	14.0	15.0
13	9.0	8.5	8.5	10.0	9.0	9.5	10.5	9.5	10.0	16.5	15.5	16.0
14	8.5	8.0	8.5	10.0	9.0	9.5	11.0	10.0	10.5	16.0	15.0	15.5
15	8.5	8.0	8.5	10.5	9.0	9.5	11.5	10.0	11.0	15.5	13.5	14.5
16	9.0	8.0	8.5	10.5	9.0	9.5	11.0	10.0	10.5	14.0	12.5	13.0
17	9.5	9.0	9.0	10.5	9.0	10.0	10.0	9.5	9.5	13.0	12.0	12.5
18	9.5	9.0	9.5	11.0	9.0	10.0	9.5	9.0	9.5	12.5	11.5	12.0
19	9.5	9.0	9.0	11.5	9.5	10.5	10.0	8.5	9.0	12.0	11.5	12.0
20	9.0	8.0	8.5	11.5	10.0	10.5	10.0	9.0	9.5	12.5	11.5	12.0
21	8.5	7.5	8.0	11.5	9.5	10.5	10.5	9.0	9.5	12.5	12.0	12.5
22	7.5	7.0	7.5	10.5	9.0	9.5	10.5	9.5	10.0	12.0	11.5	12.0
23	7.5	7.0	7.5	10.0	8.5	9.0	11.0	10.0	10.5	12.0	11.5	12.0
24	7.0	6.5	7.0	10.0	8.5	9.0	11.0	10.0	10.5	13.0	11.5	12.0
25	7.0	6.5	7.0	10.0	8.5	9.0	11.5	10.5	10.5	14.0	13.0	13.5
26	7.0	6.5	6.5	10.0	8.5	9.0	11.5	10.5	11.0	15.0	14.0	14.5
27	6.5	6.0	6.5	9.5	8.5	9.0	11.5	10.5	11.0	15.5	14.0	14.5
28	6.5	6.0	6.5	9.0	7.5	8.0	11.5	11.0	11.0	15.0	13.5	14.5
29	7.5	6.0	7.0	8.0	7.5	8.0	12.0	11.0	11.5	14.5	13.0	14.0
30	---	---	---	9.0	7.5	8.0	13.0	12.0	12.5	15.5	13.0	14.0
31	---	---	---	9.5	8.5	9.0	---	---	---	16.5	13.5	15.0
MONTH	9.5	6.0	8.0	11.5	7.5	9.0	14.5	8.5	10.5	16.5	11.0	13.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.5	14.5	16.0				---	---	---	20.5	19.0	20.0
2	19.0	15.5	17.0				22.0	20.5	21.5	20.0	18.5	19.5
3	19.5	16.5	18.0				22.0	20.0	20.5	19.5	18.5	19.0
4	19.5	17.0	18.0				21.5	19.5	20.5	18.5	17.0	18.0
5	19.5	17.0	18.5				21.5	19.5	20.5	18.0	16.5	17.0
6	20.0	17.5	18.5				21.0	19.0	20.0	17.5	16.0	16.5
7	20.0	17.5	18.5				21.0	19.0	20.0	17.5	16.0	16.5
8	20.0	17.5	19.0				21.5	19.5	20.5	18.5	16.5	17.0
9	19.5	17.5	18.5				23.0	20.5	21.5	19.0	17.0	18.0
10	18.5	17.0	18.0				23.5	21.5	22.0	19.5	18.0	18.5
11	18.5	17.0	18.0				23.5	21.5	22.0	---	18.0	---
12	19.0	16.5	18.0				23.5	21.0	22.0	19.0	17.5	18.5
13	18.5	16.5	18.0				23.5	21.5	22.0	17.5	16.5	17.0
14	19.0	16.5	18.0				23.0	21.0	22.0	---	---	---
15	18.5	16.5	17.5				23.0	21.0	22.0	---	---	---
16	18.0	16.5	17.5				23.0	21.0	21.5	16.0	15.0	15.5
17	17.5	16.0	16.5				22.0	20.0	21.0	16.0	14.5	15.0
18	---	---	---				21.0	19.5	20.0	16.0	14.5	15.5
19	---	---	---				20.5	19.0	19.5	16.5	15.0	15.5
20	---	---	---				20.5	18.5	19.5	16.5	15.0	15.5
21	---	---	---				20.5	18.5	19.5	16.5	15.0	15.5
22	---	---	---				21.0	19.0	19.5	16.5	15.0	15.5
23	---	---	---				21.0	19.0	20.0	16.0	14.5	15.0
24	---	---	---				21.0	19.5	20.0	16.5	14.0	15.0
25	---	---	---				21.5	19.5	20.0	16.0	14.0	15.0
26	---	---	---				22.0	20.0	20.5	16.5	14.0	15.0
27	---	---	---				21.5	20.0	20.5	16.5	14.0	15.0
28	---	---	---				21.0	19.5	20.5	16.5	14.0	15.5
29	---	---	---				21.0	19.5	20.0	17.0	14.5	16.0
30	---	---	---				21.0	19.5	20.0	17.5	15.0	16.0
31	---	---	---				21.0	19.5	20.0	---	---	---
MONTH	20.0	14.5	18.0				23.5	18.5	20.5	20.5	14.0	16.5

14377100 ILLINOIS RIVER NEAR KERBY, OR

LOCATION.--Lat 42°13'55", long 123°39'45", in SE 1/4 SE 1/4 sec.29, T.38 S., R.8 W., Josephine County, Hydrologic Unit 17100311, Siskiyou National Forest, on right bank 1.6 mi upstream from Josephine Creek, 2.5 mi northwest of Kerby, and at mile 50.3.

DRAINAGE AREA.--380 mi^2.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,198.8 ft above sea level. Prior to Jan. 28, 1965, water-stage recorder, and Jan. 28 to Sept. 30, 1965, nonrecording gage 700 ft downstream at datum 2.99 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation. Diversions for irrigation upstream from station. Several observations of water temperature were obtained during the year.

AVERAGE DISCHARGE.--35 years (water years 1962-96), 1,249 ft^3/s, 44.64 in/yr, 904,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,200 ft^3/s Dec. 22, 1964, gage height, 45.28 ft, from floodmark, site and datum then in use, from rating curve extended above 30,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge, 12 ft^3/s Aug. 24, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1930	*23,400	*24.24	Jan. 24	0430	11,800	16.74
Dec. 15	0900	14,500	18.48	Jan. 27	1830	12,500	17.24
Jan. 20	2000	13,100	17.61	Apr. 24	0630	15,000	18.84

Minimum recorded discharge, 33 ft^3/s Aug. 16, but may have been less during period of missing record.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	63	2690	3360	2940	2680	6600	1880	918	259	e72	e38
2	43	71	1410	2460	2530	2510	4480	1700	865	240	e73	e37
3	41	74	844	2000	2240	2860	3140	1540	824	224	e70	e36
4	44	75	2260	1720	5440	4490	2480	1380	774	e220	e69	e38
5	46	74	3740	1480	7030	6530	2110	1270	724	e200	e65	e37
6	47	75	3070	1300	6770	4160	1930	1180	691	e190	e66	e37
7	48	79	1580	1230	5890	3810	1880	1110	651	e185	e65	41
8	50	86	1050	2890	5570	4480	1830	1040	612	e180	e64	44
9	55	106	1110	3800	8050	4360	1730	e950	586	e170	e62	42
10	56	122	1200	3740	5540	3990	1620	e900	564	e160	e61	38
11	61	106	4350	2650	4140	5090	1470	e840	537	e150	e59	37
12	72	263	17800	2100	3360	4380	1730	e800	514	e145	e55	36
13	79	327	11500	1730	2900	3370	1780	e750	495	e140	e54	38
14	70	202	7870	1490	2570	2800	1620	e1200	473	e135	53	41
15	57	155	12400	3470	2310	2450	1550	1790	454	e130	60	62
16	53	135	5730	5400	2150	2220	2310	1670	424	e125	49	98
17	57	130	3410	4680	3230	2040	3310	2000	414	e125	47	82
18	51	232	2850	5020	5590	1950	2800	4910	391	e130	41	78
19	51	269	2360	7430	7630	1920	3060	4590	364	e120	42	74
20	51	200	1950	8350	6340	1760	3240	2940	346	e115	47	73
21	59	174	1630	8350	6800	1590	3140	3840	328	e110	40	72
22	57	214	1380	4630	5040	1610	3310	4580	320	e105	40	71
23	58	236	1200	4350	4800	1560	4380	3110	323	e100	41	70
24	65	201	1050	8930	4780	1420	12600	2410	350	e97	41	69
25	70	499	943	4770	3470	1310	6580	2000	349	e95	43	67
26	84	998	857	3400	2780	1220	4240	1710	344	e92	e43	64
27	81	539	833	9670	2400	1420	3180	1500	333	e90	e43	63
28	80	390	1010	6850	2480	2200	2580	1320	318	e86	e42	63
29	77	332	5290	4450	2730	1820	2210	1190	294	e87	e41	64
30	75	1750	8070	3660	---	1570	2010	1080	276	e83	e40	61
31	73	---	5890	3380	---	2060	---	991	---	e75	e39	---
TOTAL	1857	8177	117327	128740	127500	85630	94900	58171	14856	4363	1627	1671
MEAN	59.9	273	3785	4153	4397	2762	3163	1876	495	141	52.5	55.7
MAX	84	1750	17800	9670	8050	6530	12600	4910	918	259	73	98
MIN	41	63	833	1230	2150	1220	1470	750	276	75	39	36
AC-FT	3680	16220	232700	255400	252900	169800	188200	115400	29470	8650	3230	3310
CFSM	.16	.72	9.96	10.9	11.6	7.27	8.32	4.94	1.30	.37	.14	.15
IN.	.18	.80	11.49	12.60	12.48	8.38	9.29	5.69	1.45	.43	.16	.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1996, BY WATER YEAR (WY)

MEAN	225	1454	2536	2838	2507	2361	1628	919	369	97.2	46.9	65.1
MAX	1771	6344	9242	7184	6686	4867	4518	2439	1214	280	116	358
(WY)	1963	1974	1965	1970	1986	1983	1982	1963	1993	1983	1976	1978
MIN	25.0	82.4	115	236	358	508	433	315	82.7	36.5	19.0	15.5
(WY)	1988	1988	1977	1977	1977	1988	1977	1992	1992	1987	1992	1992

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1962 - 1996	
ANNUAL TOTAL	643131		644819			
ANNUAL MEAN	1762		1762		1249	
HIGHEST ANNUAL MEAN					2372	1974
LOWEST ANNUAL MEAN					275	1977
HIGHEST DAILY MEAN	22100	Jan 9	17800	Dec 12	64000	Dec 22 1964
LOWEST DAILY MEAN	34	Sep 17	36	Sep 3	13	Aug 22 1992
ANNUAL SEVEN-DAY MINIMUM	35	Sep 17	37	Aug 31	14	Sep 8 1992
ANNUAL RUNOFF (AC-FT)	1276000		1279000		904500	
ANNUAL RUNOFF (CFSM)	4.64		4.64		3.29	
ANNUAL RUNOFF (INCHES)	62.96		63.12		44.64	
10 PERCENT EXCEEDS	5110		4770		3100	
50 PERCENT EXCEEDS	723		842		503	
90 PERCENT EXCEEDS	46		49		38	

e Estimated

14400000 CHETCO RIVER NEAR BROOKINGS, OR

LOCATION.--Lat 42°07'25", long 124°11'10", in SE 1/4 sec.12, T.40 S., R.13 W., Curry County, Hydrologic Unit 17100312, on right bank 16 ft upstream from bridge, 0.5 mi upstream from Elk Creek, 6.8 mi northeast of Brookings, and at mile 10.7.

DRAINAGE AREA.--271 mi^2.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--27 years (water years 1970-96), 2,241 ft^3/s, 112.35 in/yr, 1,623,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,800 ft^3/s Jan. 16, 1971, gage height, 27.45 ft; minimum discharge, 42 ft^3/s Oct. 14, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 32.25 ft, from high-water mark on bridge pier, discharge, 85,400 ft^3/s, from rating curve extended above 45,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 12	1900	*33,600	*17.98	Feb. 9	0500	23,100	14.55
Jan. 20	1930	20,500	13.59	Apr. 24	0230	28,700	16.47

Minimum discharge, 72 ft^3/s Sept. 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	89	14400	6890	4720	3780	7030	2440	1150	315	134	82
2	103	88	9180	4660	3890	3450	4680	2120	1040	302	134	78
3	98	86	6190	3730	3230	3730	3330	1880	960	292	134	76
4	97	84	9760	3140	5590	7740	2530	1700	894	290	130	75
5	92	85	11500	2700	11500	11200	2040	1520	835	275	127	76
6	90	84	10300	e2500	15400	7510	1740	1350	786	259	124	77
7	89	95	6900	e2400	14600	5750	1520	1230	740	246	119	76
8	87	327	4970	e5000	15200	5800	1290	1130	700	238	116	75
9	86	735	5790	7890	19400	5320	1130	1040	665	230	114	73
10	86	405	6240	7050	12300	4790	1020	980	635	222	112	73
11	138	562	13500	4600	8420	9210	1010	923	606	215	109	72
12	232	6690	28500	3450	5940	7880	1400	873	576	212	108	73
13	170	3210	21700	2710	5060	5480	1490	846	552	207	106	77
14	132	1300	17300	2420	e4500	4160	1280	2350	529	201	104	97
15	114	818	16200	5960	e3700	3410	1220	5780	506	197	102	467
16	108	728	11100	7650	e3200	2840	2320	4420	486	198	101	287
17	105	717	7660	6180	e5000	2380	4030	5790	469	195	99	165
18	108	2330	5460	6170	e7000	2090	4170	12500	455	208	96	125
19	104	1500	4170	9720	e10000	1890	4760	11600	438	199	94	107
20	99	970	3390	14000	e9000	1600	4570	7500	422	190	94	99
21	95	842	2840	13900	e9500	1360	4500	7560	410	183	95	93
22	92	1200	2450	9570	e7000	1430	5670	8640	395	175	95	88
23	91	1020	2130	8340	e6400	1370	11200	5660	394	170	94	84
24	90	1210	1870	12300	e6000	1120	22400	4180	434	166	91	83
25	89	5690	1710	8530	e5000	1010	12400	3280	418	162	88	83
26	109	6530	1560	6280	4110	919	8150	2650	387	157	89	80
27	115	3510	1520	15500	2990	956	5550	2200	371	152	90	78
28	105	2580	1870	12700	3140	1380	4230	1870	368	150	91	77
29	98	2430	11100	9300	3750	1080	3420	1630	350	146	89	76
30	92	12500	13500	7010	---	919	2860	1430	334	140	87	76
31	90	---	11500	5740	---	2080	---	1270	---	136	85	---
TOTAL	3318	58415	266260	217990	215540	113634	132940	108342	17305	6428	3251	3148
MEAN	107	1947	8589	7032	7432	3666	4431	3495	577	207	105	105
MAX	232	12500	28500	15500	19400	11200	22400	12500	1150	315	134	467
MIN	86	84	1520	2400	2990	919	1010	846	334	136	85	72
AC-FT	6580	115900	528100	432400	427500	225400	263700	214900	34320	12750	6450	6240
CFSM	.39	7.19	31.7	25.9	27.4	13.5	16.4	12.9	2.13	.77	.39	.39
IN.	.46	8.02	36.55	29.92	29.59	15.60	18.25	14.87	2.38	.88	.45	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1996, BY WATER YEAR (WY)

MEAN	560	3163	4915	5011	4539	3989	2470	1226	617	199	119	205
MAX	2540	10230	12770	13150	11490	7041	6956	3495	2121	442	310	1531
(WY)	1982	1974	1982	1970	1986	1989	1982	1996	1993	1983	1983	1978
MIN	48.3	107	121	479	619	859	673	430	221	121	69.1	54.9
(WY)	1988	1994	1977	1977	1977	1988	1977	1973	1992	1973	1987	1987

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR		FOR 1996 WATER YEAR		WATER YEARS 1970 - 1996	
ANNUAL TOTAL	1248625		1146571			
ANNUAL MEAN	3421		3133		2241	
HIGHEST ANNUAL MEAN					3911	1982
LOWEST ANNUAL MEAN					549	1977
HIGHEST DAILY MEAN	30300	Jan 31	28500	Dec 12	48500	Jan 17 1971
LOWEST DAILY MEAN	78	Sep 23	72	Sep 11	44	Oct 22 1991
ANNUAL SEVEN-DAY MINIMUM	81	Sep 19	74	Sep 6	46	Oct 19 1974
ANNUAL RUNOFF (AC-FT)	2477000		2274000		1623000	
ANNUAL RUNOFF (CFSM)	12.6		11.6		8.27	
ANNUAL RUNOFF (INCHES)	171.40		157.39		112.35	
10 PERCENT EXCEEDS	10400		9240		5910	
50 PERCENT EXCEEDS	1070		1130		768	
90 PERCENT EXCEEDS	94		89		82	

e Estimated

SILVER LAKE BASIN

430701121040001 SILVER LAKE RANGER STATION, OR

LOCATION.--Lat 43°07'01", Long 121°04'00", in NE 1/4 SW 1/4 sec.21, T.28 S., R.14 E., Lake County, Hydrologic Unit 17120005, at Silver Lake Ranger Station, 0.5 mi south of State Highway 31, and 1 mi southwest of town of Silver Lake.

PERIOD OF RECORD.--August 1983 to current year (weekly composite).

INSTRUMENTATION.--The wet-deposition sample collector is an Aerochem Metrics Model 301 wet/dry deposition collector. Refer to WDR OR-92-1 for further description of instrumentation.

REMARKS.--Inches of precipitation obtained from an on-site recording weighing-bucket gage. Samples are collected by Silver Lake Ranger Station personnel and analyzed by the Illinois State Water Survey Central Analytical Laboratory.

WATER-QUALITY DATA

DATE	TOTAL PRECIP-ITATION, FOR DEFINED PERIOD (IN) (00193)	SPEC. CONDUC-TANCE, FIELD ATM DEP WET TOT (US/CM) (83154)	SPEC. CONDUC-TANCE, LAB ATM DEP WET TOT (US/CM) (83156)	PH, FIELD ATM DEP WET TOT (UNITS) (83106)	PH, LAB ATM DEP WET TOT (UNITS) (83107)	CALCIUM, ATM DEP WET DIS (MG/L) (82932)	MAG-NESIUM, ATM DEP WET DIS (MG/L) (83002)
OCT 1995 03-10	0.01	--	4.5	--	5.33	--	--
OCT 10-17	0.17	6.2	5.1	4.94	5.04	0.03	0.009
OCT 17-24	0.01	--	6.3	--	5.08	--	--
OCT 24-31	<0.01	--	--	--	--	--	--
OCT 31-NOV 07	<0.01	--	--	--	--	--	--
NOV 07-14	E0.26	3.1	2.0	5.32	5.46	<0.01	<0.003
NOV 14-21	0.03	--	2.9	--	5.39	0.03	0.008
NOV 21-28	0.11	4.4	3.5	5.08	5.18	0.02	0.003
NOV 28-DEC 05	0.98	2.9	2.4	5.36	5.31	<0.01	<0.003
DEC 05-12	1.47	3.0	1.6	5.28	5.51	0.01	<0.003
DEC 12-19	1.10	3.1	2.0	5.23	5.44	<0.01	<0.003
DEC 19-26	0.00	--	--	--	--	--	--
DEC 26 1995-JAN 02 1996	0.15	3.5	2.6	5.25	5.43	0.03	0.004
JAN 02-09	0.23	3.5	2.2	5.22	5.38	0.01	<0.003
JAN 09-16	0.26	3.1	1.9	5.33	5.54	<0.01	0.003
JAN 16-23	0.68	E3.0	2.4	E5.04	5.42	0.01	0.006
JAN 23-30	0.17	--	2.2	--	5.51	0.01	0.005
JAN 30-FEB 06	0.32	5.2	2.4	5.43	5.33	0.01	<0.003
FEB 06-13	0.01	--	4.6	--	5.14	--	--
FEB 13-20	0.25	4.3	2.0	5.25	5.51	0.02	0.004
FEB 20-27	0.33	3.0	2.0	5.49	5.46	0.03	0.005
FEB 27-MAR 05	0.09	4.7	3.6	5.08	5.31	0.03	0.004
MAR 05-12	0.07	7.9	3.1	4.84	5.44	0.02	0.004
MAR 12-19	0.00	--	--	--	--	--	--
MAR 19-26	0.02	--	4.6	--	5.36	--	--
MAR 26-APR 02	0.67	3.2	2.0	5.23	5.57	0.03	0.005
APR 02-09	0.00	--	--	--	--	--	--
APR 09-16	0.07	9.5	2.9	4.78	5.64	0.11	0.017
APR 16-23	0.18	6.9	3.8	4.99	5.44	0.04	0.008
APR 23-30	0.44	4.4	2.5	5.02	5.48	0.07	0.006
APR 30-MAY 07	0.00	--	--	--	--	--	--
MAY 07-14	0.21	6.2	3.2	4.98	5.42	0.07	0.011
MAY 14-21	1.07	5.1	3.8	5.02	5.23	0.05	0.012
MAY 21-28	0.40	5.3	2.5	4.90	5.34	0.01	0.003
MAY 28-JUN 04	<0.01	--	--	--	--	--	--

E - Estimated.

CHEMICAL QUALITY OF PRECIPITATION

SILVER LAKE BASIN

430701121040001 SILVER LAKE RANGER STATION, OR--Continued

WATER-QUALITY DATA

DATE	SODIUM, ATM DEP WET DIS (MG/L) (83138)	POTAS-SIUM, ATM DEP WET DIS (MG/L) (83120)	SULFATE, ATM DEP WET DIS AS SO4 (MG/L) (83160)	CHLO-RIDE, ATM DEP WET DIS (MG/L) (82944)	NI-TROGEN AMMON., ATM DEP WET DIS AS NH4 (MG/L) (83047)	NI-TROGEN NITRATE, ATM DEP WET DIS AS NO3 (MG/L) (83071)	PHOS-PHORUS ORTHO, ATM DEP WET DIS AS PO4 (MG/L) (83111)
OCT 1995							
03-10	--	--	--	--	--	--	--
OCT 10-17	0.053	0.014	0.21	0.07	0.03	0.36	<0.003
OCT 17-24	--	--	--	--	--	--	--
OCT 24-31	--	--	--	--	--	--	--
OCT 31-NOV 07	--	--	--	--	--	--	--
NOV 07-14	0.049	0.005	0.03	0.04	0.02	0.14	<0.003
NOV 14-21	0.069	0.017	0.08	0.09	0.04	0.21	<0.003
NOV 21-28	0.025	0.008	0.14	0.04	<0.02	0.26	<0.003
NOV 28-DEC 05	0.013	<0.003	0.03	<0.03	<0.02	0.11	<0.003
DEC 05-12	0.027	<0.003	<0.03	<0.03	<0.02	<0.03	<0.003
DEC 12-19	0.052	<0.003	<0.03	0.05	0.05	0.19	<0.003
DEC 19-26	--	--	--	--	--	--	--
DEC 26 1995-JAN 02 1996	0.032	0.003	0.03	0.04	0.02	0.18	<0.003
JAN 02-09	0.025	<0.003	0.04	0.03	<0.02	0.15	<0.003
JAN 09-16	0.051	0.010	<0.03	0.05	<0.02	0.07	<0.003
JAN 16-23	0.075	0.006	0.03	0.07	0.09	0.15	<0.003
JAN 23-30	0.028	0.005	0.03	0.03	0.04	0.14	<0.003
JAN 30-FEB 06	0.015	<0.003	0.03	<0.03	<0.02	0.19	<0.003
FEB 06-13	--	--	--	--	--	--	--
FEB 13-20	0.038	<0.003	0.03	0.05	0.03	0.08	<0.003
FEB 20-27	0.046	<0.003	0.05	0.04	<0.02	0.11	<0.003
FEB 27-MAR 05	0.074	0.011	0.07	0.06	0.16	0.26	<0.003
MAR 05-12	0.137	0.014	0.07	0.15	0.03	0.43	<0.003
MAR 12-19	--	--	--	--	--	--	--
MAR 19-26	--	--	--	--	--	--	--
MAR 26-APR 02	0.036	0.004	<0.03	<0.03	<0.02	<0.03	0.016
APR 02-09	--	--	--	--	--	--	--
APR 09-16	0.053	0.014	0.24	0.08	<0.02	0.08	<0.003
APR 16-23	0.087	0.017	0.28	0.08	0.12	0.28	<0.003
APR 23-30	0.033	<0.003	0.11	0.04	0.03	0.10	<0.003
APR 30-MAY 07	--	--	--	--	--	--	--
MAY 07-14	0.025	0.003	0.17	0.06	<0.02	0.20	<0.003
MAY 14-21	0.051	0.004	0.24	0.07	0.06	0.36	<0.003
MAY 21-28	0.018	<0.003	0.04	0.03	<0.02	<0.03	<0.003
MAY 25-JUN 04	--	--	--	--	--	--	--

430701121040001 SILVER LAKE RANGER STATION, OR--Continued

WATER-QUALITY DATA

DATE	TOTAL PRECIP-ITATION, FOR DEFINED PERIOD (IN) (00193)	SPEC. CONDUC-TANCE, FIELD ATM DEP WET TOT (US/CM) (83154)	SPEC. CONDUC-TANCE, LAB ATM DEP WET TOT (US/CM) (83156)	PH, FIELD ATM DEP WET TOT (UNITS) (83106)	PH, LAB ATM DEP WET TOT (UNITS) (83107)	CALCIUM, ATM DEP WET DIS (MG/L) (82932)	MAG-NESIUM, ATM DEP WET DIS (MG/L) (83002)
JUN 1996							
04-11	0.00	--	--	--	--	--	--
JUN 11-18	0.18	22.8	10.6	4.43	4.87	0.19	0.049
JUN 18-25	0.10	25.3	11.6	4.32	4.80	0.23	0.051
JUN 25-JUL 02	0.21	7.1	4.8	4.88	5.05	0.04	0.010
JUL 02-09	0.00	--	--	--	--	--	--
JUL 09-16	<0.01	--	--	--	--	--	--
JUL 16-23	0.03	--	8.0	--	4.91	0.11	0.021
JUL 23-30	0.79	--	--	--	--	--	--
JUL 30-AUG 06	0.02	--	24.9	--	4.34	0.11	0.023
AUG 06-13	<0.01	--	--	--	--	--	--
AUG 13-20	<0.01	--	--	--	--	--	--
AUG 20-27	0.33	38.8	22.9	4.34	5.25	0.63	0.067
AUG 27-SEP 03	0.07	11.7	11.2	4.76	4.77	0.14	0.015
SEP 03-10	0.00	--	--	--	--	--	--
SEP 10-17	0.32	7.6	4.8	4.85	5.10	0.03	0.008
SEP 17-24	0.01	--	4.0	--	5.42	0.06	<0.015
SEP 24-OCT 01	0.00	--	--	--	--	--	--

DATE	SODIUM, ATM DEP WET DIS (MG/L) (83138)	POTAS-SIUM, ATM DEP WET DIS (MG/L) (83120)	SULFATE, ATM DEP WET DIS AS SO4 (MG/L) (83160)	CHLO-RIDE, ATM DEP WET DIS (MG/L) (82944)	NI-TROGEN AMMON., ATM DEP WET DIS AS NH4 (MG/L) (83047)	NI-TROGEN NITRATE, ATM DEP WET DIS AS NO3 (MG/L) (83071)	PHOS-PHORUS ORTHO, ATM DEP WET DIS AS PO4 (MG/L) (83111)
JUN 1996							
04-11	--	--	--	--	--	--	--
JUN 11-18	0.250	0.110	0.78	0.16	0.16	1.31	<0.003
JUN 18-25	0.304	0.186	0.98	0.21	0.02	1.00	<0.003
JUN 25-JUL 02	0.086	0.013	0.12	0.13	<0.02	0.14	<0.003
JUL 02-09	--	--	--	--	--	--	--
JUL 09-16	--	--	--	--	--	--	--
JUL 16-23	0.153	0.033	0.23	0.20	0.11	0.05	<0.003
JUL 23-30	--	--	--	--	--	--	--
JUL 30-AUG 06	0.181	0.033	1.31	0.36	0.16	2.91	<0.003
AUG 06-13	--	--	--	--	--	--	--
AUG 13-20	--	--	--	--	--	--	--
AUG 20-27	0.179	0.192	1.99	0.45	1.63	4.12	0.005
AUG 27-SEP 03	0.075	0.060	0.42	0.14	0.33	0.98	<0.003
SEP 03-10	--	--	--	--	--	--	--
SEP 10-17	0.055	0.018	0.21	0.10	0.05	0.30	<0.003
SEP 17-24	0.168	0.020	<0.15	0.30	<0.10	0.35	<0.015
SEP 24-OCT 01	--	--	--	--	--	--	--

SANDY RIVER BASIN

452650122091801 BULL RUN RESERVOIR NUMBER TWO, OR

LOCATION.--Lat 45°26'55", long 122°08'45", in SE 1/4 SE 1/2 sec.26, T.1 S., R.5 E., Clackamas County, Hydrologic Unit 17080001, in Mount Hood National Forest, on headworks dam on Bull Run River, 4.4 mi northeast of town of Bull Run, and approximately 20 mi east of Portland.

PERIOD OF RECORD.--June 1980 to September 1981 (event sampling), September 1981 to November 1981 (weekly composite), July 1982 to current year (weekly composite).

INSTRUMENTATION.--A bulk-type plastic double cylinder with receiving funnel directing deposition to inner cylinder was used for the period of record June 1980 to September 1981. The wet-deposition sample collector is an Aerochem Model 301 wet/dry deposition collector. Refer to WDR OR-92-1 for further description of instrumentation.

REMARKS.--Inches of precipitation obtained from an on-site recording weighing-bucket gage. The sample collector is located in the restricted access area of the city of Portland's Bull Run River Watershed. Samples are collected by Bull Run Headworks Water Quality Laboratory personnel and analyzed by the Illinois Supply Central Analytical Laboratory.

WATER-QUALITY DATA

DATE	TOTAL PRECIP-ITATION, FOR DEFINED PERIOD (IN) (00193)	SPEC. CONDUC-TANCE, FIELD ATM DEP WET TOT (US/CM) (83154)	SPEC. CONDUC-TANCE, LAB ATM DEP WET TOT (US/CM) (83156)	PH, FIELD ATM DEP WET TOT (UNITS) (83106)	PH, LAB ATM DEP WET TOT (UNITS) (83107)	CALCIUM, ATM DEP WET DIS (MG/L) (82932)	MAG-NESIUM, ATM DEP WET DIS (MG/L) (83002)
OCT 1995 03-10	0.64	13.4	13.9	4.75	4.76	0.07	0.071
OCT 10-17	3.44	4.3	3.9	5.24	5.25	0.01	0.019
OCT 17-24	2.19	7.9	8.5	5.00	5.03	0.05	0.058
OCT 24-31	0.99	3.4	2.6	5.26	5.39	0.01	0.007
OCT 31-NOV 07	E1.60	7.5	6.8	5.19	5.46	0.06	0.060
NOV 07-14	6.50	3.9	3.6	5.23	5.37	0.01	0.023
NOV 14-21	E0.86	4.1	3.8	5.32	5.30	0.01	0.019
NOV 21-28	6.89	3.4	3.1	5.29	5.40	0.01	0.016
NOV 28-DEC 05	E4.84	5.5	6.8	5.16	5.32	0.03	0.060
DEC 05-12	2.44	4.5	3.9	5.21	5.33	0.01	0.017
DEC 12-19	2.11	8.6	8.6	5.03	5.28	0.06	0.097
DEC 19-26	0.00	--	--	--	--	--	--
DEC 26 1995-JAN 02 1996	3.47	5.9	6.1	5.24	5.31	0.02	0.058
JAN 02-09	4.11	4.2	5.5	5.24	5.46	0.02	0.031
JAN 09-16	3.93	3.6	3.2	5.29	5.32	<0.01	0.015
JAN 16-23	3.40	7.4	6.6	5.18	5.31	0.03	0.061
JAN 23-30	2.54	6.0	5.2	5.02	5.28	0.01	0.036
JAN 30-FEB 06	3.02	3.3	4.7	5.27	5.39	0.04	0.027
FEB 06-13	E8.14	3.1	2.3	5.31	5.43	0.02	--
FEB 13-20	2.25	3.7	3.7	5.26	5.39	0.01	0.014
FEB 20-27	2.65	E4.4	4.7	E4.72	5.23	0.02	0.030
FEB 27-MAR 05	2.32	2.9	2.6	5.31	5.50	<0.01	0.004
MAR 05-12	1.15	7.0	6.9	4.89	4.97	0.04	0.017
MAR 12-19	0.23	7.8	8.4	5.02	4.99	0.06	0.030
MAR 19-26	0.36	--	9.4	4.96	5.06	0.08	0.049
MAR 26-APR 02	1.79	4.8	2.4	5.15	5.45	0.01	0.008
APR 02-09	0.04	--	15.3	--	4.93	0.44	0.094
APR 09-16	2.74	5.3	5.4	5.18	5.35	0.05	0.032
APR 16-23	3.01	5.3	4.3	5.27	5.44	0.04	0.028
APR 23-30	2.24	8.6	9.1	5.21	5.41	0.07	0.089
APR 30-MAY 07	0.59	11.5	10.7	4.80	4.95	0.13	0.037
MAY 07-14	1.87	5.3	5.1	5.02	5.14	0.04	0.009
MAY 14-21	2.37	5.1	5.4	5.21	5.16	0.03	0.015
MAY 21-28	2.10	5.4	5.2	5.20	5.21	0.02	0.028
MAY 28-JUN 04	0.51	10.6	12.0	4.90	4.91	0.08	0.061

E - Estimated.

CHEMICAL QUALITY OF PRECIPITATION

SANDY RIVER BASIN

452650122091801 BULL RUN RESERVOIR NUMBER TWO, OR--Continued

WATER-QUALITY DATA

DATE	SODIUM, ATM DEP WET DIS (MG/L) (83138)	POTAS-SIUM, ATM DEP WET DIS (MG/L) (83120)	SULFATE, ATM DEP WET DIS AS SO4 (MG/L) (83160)	CHLO-RIDE, ATM DEP WET DIS (MG/L) (82944)	NI-TROGEN AMMON., ATM DEP WET DIS AS NH4 (MG/L) (83047)	NI-TROGEN NITRATE, ATM DEP WET DIS AS NO3 (MG/L) (83071)	PHOS-PHORUS ORTHO, ATM DEP WET DIS AS PO4 (MG/L) (83111)
OCT 1995 03-10	0.651	0.038	0.90	1.05	0.26	0.86	<0.003
OCT 10-17	0.175	0.012	0.17	0.28	0.02	0.18	<0.003
OCT 17-24	0.489	0.026	0.41	0.86	0.08	0.44	<0.003
OCT 24-31	0.074	<0.003	0.08	0.11	<0.02	0.03	<0.003
OCT 31-NOV 07	0.487	0.056	0.41	0.83	0.09	0.27	<0.003
NOV 07-14	0.220	0.008	0.12	0.39	<0.02	0.12	<0.003
NOV 14-21	0.186	0.011	0.11	0.33	0.06	0.22	<0.003
NOV 21-28	0.180	0.006	0.10	0.29	<0.02	0.14	<0.003
NOV 28-DEC 05	0.571	0.022	0.27	1.01	0.02	0.13	<0.003
DEC 05-12	0.172	0.009	0.12	0.28	0.02	0.21	<0.003
DEC 12-19	0.880	0.044	0.31	1.48	<0.02	0.11	<0.003
DEC 19-26	--	--	--	--	--	--	--
DEC 26 1995-JAN 02 1996	0.564	0.023	0.20	0.94	0.04	0.23	0.004
JAN 02-09	0.322	0.011	0.16	0.50	0.04	0.17	<0.003
JAN 09-16	0.153	0.006	0.12	0.25	0.03	0.18	<0.003
JAN 16-23	0.613	0.020	0.24	1.09	0.04	0.19	<0.003
JAN 23-30	0.308	0.011	0.18	0.56	0.03	0.24	<0.003
JAN 30-FEB 06	0.259	0.012	0.25	0.41	0.11	0.22	<0.003
FEB 06-13	--	--	--	--	--	--	--
FEB 13-20	0.167	0.007	0.16	0.26	0.03	0.14	<0.003
FEB 20-27	0.310	0.007	0.18	0.53	<0.02	0.16	<0.003
FEB 27-MAR 05	0.071	0.003	0.08	0.09	0.05	0.14	<0.003
MAR 05-12	0.155	0.015	0.25	0.22	0.11	0.74	<0.003
MAR 12-19	0.265	0.030	0.56	0.38	0.10	0.62	<0.003
MAR 19-26	0.400	0.025	0.54	0.59	0.20	0.98	<0.003
MAR 26-APR 02	0.106	<0.003	0.03	0.16	0.03	<0.03	<0.003
APR 02-09	0.677	0.080	0.85	0.99	0.38	2.59	0.042
APR 09-16	0.258	0.019	0.27	0.43	0.07	0.36	<0.003
APR 16-23	0.294	0.012	0.21	0.46	0.08	0.21	<0.003
APR 23-30	0.818	0.038	0.46	1.48	0.13	0.30	<0.003
APR 30-MAY 07	0.280	0.031	0.87	0.45	0.31	1.08	<0.003
MAY 07-14	0.056	0.018	0.30	0.10	0.07	0.47	<0.003
MAY 14-21	0.144	0.005	0.24	0.23	0.05	0.37	<0.003
MAY 21-28	0.277	0.012	0.30	0.45	0.08	0.35	<0.003
MAY 28-JUN 04	0.510	0.026	0.74	0.89	0.26	0.99	<0.003

SANDY RIVER BASIN

452650122091801 BULL RUN RESERVOIR NUMBER TWO, OR--Continued

WATER-QUALITY DATA

DATE	TOTAL PRECIP-ITATION, FOR DEFINED PERIOD (IN) (00193)	SPEC. CONDUC-TANCE, FIELD ATM DEP WET TOT (US/CM) (83154)	SPEC. CONDUC-TANCE, LAB ATM DEP WET TOT (US/CM) (83156)	PH, FIELD ATM DEP WET TOT (UNITS) (83106)	PH, LAB ATM DEP WET TOT (UNITS) (83107)	CALCIUM, ATM DEP WET DIS (MG/L) (82932)	MAG-NESIUM, ATM DEP WET DIS (MG/L) (83002)
JUN 1996							
04-11	0.00	--	--	--	--	--	--
JUN 11-18	0.38	8.4	8.4	5.08	5.17	0.07	0.063
JUN 18-25	1.30	5.0	3.9	5.16	5.20	0.01	0.008
JUN 25-JUL 02	0.26	6.8	7.3	5.13	5.17	0.07	0.018
JUL 02-09	0.10	11.0	10.7	4.66	4.71	0.05	0.017
JUL 09-16	0.00	--	--	--	--	--	--
JUL 16-23	0.35	9.3	10.1	4.83	4.77	0.03	0.030
JUL 23-30	0.00	--	--	--	--	--	--
JUL 30-AUG 06	0.67	7.4	8.5	5.08	5.01	0.06	0.025
AUG 06-13	0.00	--	--	--	--	--	--
AUG 13-20	0.00	--	--	--	--	--	--
AUG 20-27	0.04	--	--	--	--	--	--
AUG 27-SEP 03	0.00	--	--	--	--	--	--
SEP 03-10	0.27	11.8	14.0	4.93	4.83	0.17	0.044
SEP 10-17	3.39	5.4	5.5	5.02	5.21	0.02	0.023
SEP 17-24	0.78	8.2	9.7	4.90	4.86	0.03	0.034
SEP 24-OCT 01	0.00	--	--	--	--	--	--

DATE	SODIUM, ATM DEP WET DIS (MG/L) (83138)	POTAS-SIUM, ATM DEP WET DIS (MG/L) (83120)	SULFATE, ATM DEP WET DIS AS SO4 (MG/L) (83160)	CHLO-RIDE, ATM DEP WET DIS (MG/L) (82944)	NI-TROGEN AMMON., ATM DEP WET DIS AS NH4 (MG/L) (83047)	NI-TROGEN NITRATE, ATM DEP WET DIS AS NO3 (MG/L) (83071)	PHOS-PHORUS ORTHO, ATM DEP WET DIS AS PO4 (MG/L) (83111)
JUN 1996							
04-11	--	--	--	--	--	--	--
JUN 11-18	0.591	0.152	0.49	0.99	0.14	0.43	<0.003
JUN 18-25	0.090	0.009	0.20	0.14	0.11	0.26	<0.003
JUN 25-JUL 02	0.103	0.025	0.59	0.14	0.36	0.91	<0.003
JUL 02-09	0.134	0.061	0.86	0.22	0.18	0.67	<0.003
JUL 09-16	--	--	--	--	--	--	--
JUL 16-23	0.232	0.010	0.54	0.42	<0.02	0.55	<0.003
JUL 23-30	--	--	--	--	--	--	--
JUL 30-AUG 06	0.199	0.022	0.78	0.33	0.24	0.53	<0.003
AUG 06-13	--	--	--	--	--	--	--
AUG 13-20	--	--	--	--	--	--	--
AUG 20-27	--	--	--	--	--	--	--
AUG 27-SEP 03	--	--	--	--	--	--	--
SEP 03-10	0.282	0.066	1.00	0.49	0.44	1.77	<0.003
SEP 10-17	0.229	0.011	0.31	0.39	0.13	0.30	<0.003
SEP 17-24	0.307	0.024	0.55	0.51	0.15	0.68	<0.003
SEP 24-OCT 01	--	--	--	--	--	--	--

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usuable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to these events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1996

Station name and number	Location and drainage area	Period of record	Water year 1996 maximum Date	Gage height (ft)	Discharge (ft^3/s)	Period of record maximum Date	Gage height (ft)	Discharge (ft^3/s)
			NESTUCCA RIVER BASIN					
Walker Creek near Fairdale (14302850)	Lat 45°18'12", long 123°24'51", in SW 1/4 SW 1/4 sec.15, T.3 S., R.6 W., Yamhill County, Hydrologic Unit 17100203, at culvert, 5.3 mi southwest of Fairdale, and at mile 0.5. Drainage area is 2.72 mi^2.	1992-96	2-08-96	unknown	450	2-08-96	unknown	450

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements at miscellaneous sites during water year 1996

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		KLAMATH RIVER BASIN				
Keno Power Canal	Link River	Lat 42°13'16", long 121°47'35", in SW 1/4 NW 1/4 sec.32 T.38 S., R.9 E., Klamath County, Hydrologic Unit 18010204, 600 ft downstream from Link River gage, and 1,200 ft upstream from Main Street Bridge	3,810	1961-95	12-11-95 7-11-96	235 234
		SANDY RIVER BASIN				
14138700 Bull Run River at Upper Flume, near Brightwood	Sandy River	Lat 45°27'54", long 121°51'16", in NE 1/4 SW 1/4 sec.20, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, at flume, 0.6 mi downstream from outlet structure, at Bull Run Lake, and 9.7 mi northeast of Brightwood.	---	1992-95	1- 3-96 3- 5-96 5-15-96 7-11-96	22 39 15 13
Bull Run River 1,000 ft downstream from Lower Flume, near Brightwood	.....do.....	Lat 45°28'20", long 121°52'07", in NW 1/4 NE 1/4 sec. 19, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, 1,000 ft downstream from Lower Flume, 1.4 mi downstream from outlet structure, at Bull Run Lake, and 9.5 mi northeast of Brightwood.	---	1994	7-30-96	23
Bull Run River 1,200 ft downstream from Lower Flume, near Brightwood	.....do.....	Lat 45°28'21", long 121°52'09", in NW 1/4 NE 1/4 sec. 19, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 1708001, 1,200 ft downstream from Lower Flume, 1.4 mi downstream from outlet structure, at Bull Run Lake, and 9.5 mi northeast of Brightwood.	---	1994	7-30-96	24
Bull Run River 1,400 ft downstream from Lower Flume, near Brightwood	.....do.....	Lat 45°28'23", long 121°52'11", in NW 1/4 NE 1/4 sec. 19, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, 1,400 ft downstream from Lower Flume, 1.4 mi downstream from outlet structure, at Bull Run Lake, and 9.5 mi northeast of Brightwood.	---	1994	7-30-96	21
Bull Run River 1,700 ft downstream from Lower Flume, near Brightwood	.....do.....	Lat 45°28'24", long 121°52'14", in NW 1/4 NE 1/4 sec. 19, T.1 S., R.8 E., Multnomah County, Hydrologic Unit 17080001, 1,700 ft downstream from Lower Flume, 1.5 mi downstream from outlet structure, at Bull Run Lake, and 9.5 mi northeast of Brightwood.	---	1994	7-30-96	22
		WILLAMETTE RIVER BASIN				
Wallace Creek	Middle Fork Willamette River	Lat 44°00'01", long 122°54'16", Lane County, Hydrologic Unit 17090001, 0.5 mi north of Jasper, at mouth.	---	---	4-15-96	4.7
Middle Fork Willamette River	Willamette River	Lat 44°00'44", long 122°56'11", Lane County, Hydrologic Unit 17090001, at mile 192.8.	---	1992	4-15-96 7-23-96	2,080 2,450
Mill Race Diversion	Middle Fork Willamette River	Lat 44°01'21", long 122°57'45", lane County Hydrologic Unit 17090001, south of Springfield.	---	---	4-15-96 7-23-96	70 87
Pudding Creek	.....do.....	Lat 44°01'22", long 122°57'48", Lane County, Hydrologic Unit 17090001, 2.5 mi southeast of Springfield, at mouth.	---	1992	4-15-96 7-23-96	13 5.7
Middle Fork Willamette River	Willamette River	Lat 44°01'28", long 122°57'59", Lane County, Hydrologic Unit 17090001, downstream from Pudding Creek, and at mile 190.5.	---	---	7-23-96	2,750
Middle Fork Willamette River	.....do.....	Lat 44°01'36", long 122°58'18", Lane County, Hydrologic Unit 17090001, downstream from Pudding Creek, and at m;ile 190.2.	---	---	4-15-96	1,920
Unnamed Tributary to MF Willamette River, at mile 188.5	Middle Fork Willamette	Lat 44°01'48", long 122°59'48", Lane County, Hydrologic Unit 17090001, 2.0 mi south of Springfield, and at mouth.	---	---	4-15-96 7-23-96	9.7 18
Middle Fork Wilamette River	Willamette River	Lat 44°01'23", long 123°00'31", Lane County, Hydrologic Unit 17090001, upstream from Coast Fork Willamette River, and at mile 187.8.	---	---	7-23-96	2,670
Willamette River	Columbia River	Lat 44°10'52", long 123°08'15", Lane County, Hydrologic Unit 17090003, 0.1 mi southwest of Lanes Turn Road, and at mile 169.6.	---	---	5- 7-96 7-24-96	6,930 4,730
Willamette River	.....do.....	Lat 44°14'20", long 123°09'54", Lane-Linn County, Hydrologic Unit 17090003, upstream from Curtis Slough, and at mile 163.7.	---	---	5- 7-96	6,990
Willamette River	.....do.....	Lat 44°14'35", long 123°10'00", Lane-Linn County, Hydrologic Unit 17090003, upstream from Curtis Slough, and at mile 163.3.	---	---	7-24-96	5,100

Discharge measurements at miscellaneous sites during water year 1996--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		WILLAMETTE RIVER BASIN				
Willamette River	Columbia River	Lat 44°19'13", long 123°13'02", Linn-Benton County, Hydrologic Uhit 17090003, 0.2 mi downstream from McCartney park, and at mile 156.3.	---	---	5- 7-96 7-24-96	7,170 5,230
Unnamed Tributary	Flat Creek	Lat 44°12'55", long 123°13'43", Lane County Hydrologic Unit 17090003, at High Pass Road, near Junction City.	8.38	---	4-18-96 5-13-96 7-24-96 10-24-96 11-18-96	4.7 1.4 e0.10 0.39 40
Willamette River	Columbia River	Lat 44°22'28", long 123°14'17", Linn-Benton County, Hydrologic Unit 17090003, upstream from Norwood Island, at at mile 149.6.	---	---	5- 7-96 7-24-96	7,120 5,200
Shafer Creek	Long Tom River	Lat 44°18'42", long 123°17'42", Benton County, Hydrologic Unit 17090003, at Territorial Road, near Monroe.	2.60	---	4-18-96 5-13-96 7-24-96 10-24-96 11-18-96	4.2 2.1 e0.15 0.15 11
Willamette River	Columbia River	Lat 44°31'55", long 123°14'58", Benton County, Hydrologic Unit17090003, 0.1 mi upstream from City of Corvallis water intake, ant at mile 134.4.	---	1992-93	5- 8-96 7-30-96	7,680 5,430
East Channel	Willamette River	Lat 44°33'15", long 123°15'01", Linn-Benton County, Hydrologic Unit 17090003, in Corvallis, and at mouth.	---	1992-93	5- 8-96 7-30-96	117 25
Marys River	.....do.....	Lat 44°33'23", long 123°16'22", Benton County, Hydrologic Unit 17090003, in Corvallis, at Avery Park Bridge, and at mile 0.8.	---	---	5- 8-96 7-30-96	499 51
Dixon Creek	.....do.....	Lat 44°34'23", long 123°15'28", Benton County, Hydrologic Unit 17090003, at 5th Street in Corvallis.	4.75	1992-93	4-18-96 5- 8-96 5-15-96 7-25-96 7-30-96 10-14-96 11-16-96	5.6 1.4 05.1 0.29 0.31 0.93 4.1
Willamette River	Columbia River	Lat 44°35'10", long 123°11'51", Benton County, Hydrologic Unit 17090003, 0.4 mi upstream Dead River, and at mile 127.5.	---	1992-93	5- 8-96 7-30-96	7,990 5,310
Willamette River	.....do.....	Lat 44°36'50", long 123°10'56", Linn-Benton County, Hydrologic Unit 17090003, at Willamette Drive, and at mile 124.4.	---	---	5- 8-96 7-30-96	8,050 5,260
Willamette River	.....do.....	Lat 44°38'24", long 123°07'06", Linn-Benton County, Hydrologic Unit 17090003, 0.4 mi upstream from Calapooia River, ant at mile 119.9.	---	---	5-8-96 7-30-96	8,160 5,300
Unnamed Tributary	Shedd Slough	Lat 44°27'42", long 123°07'23", Linn County, Hydrologic Unit 17090003, at Fayetteville Road.	3.38	---	4-24-96 5-13-96 7-25-96 10-24-96 11-18-96	8.0 0.73 no flow e0.30 25
Shedd Slough	Calapooia River	Lat 44°29'25", long 123°07'03", Linn County, Hydrologic Unit 17090003, at Bell Plain Road, near Shedd.	---	---	4-24-96	190
Lake Creek	.....do.....	Lat 44°32'39", long 123°07'28", Linn County, Hydrologic Unit 17090003, near Tangent.	10.84	---	4-18-96 5-13-96 7-25-96 11-16-96 11-18-96 11-19-96	2.8 1.6 no flow 2.5 28 >2,640
Unnamed Tributary	Oak Creek	Lat 44°34'26", long 123°07'07", Linn County, Hydrologic Unit 17090003, at Looney Drive, near Albany.	7.83	---	4-18-96 5-13-96 7-25-96 10-24-96 11-17-96	3.0 1.5 no flow 2.9 8.8
Truax Creek	Willamette River	Lat 44°38'56", long 123°01'27", Linn County, Hydrologic Unit 17090003, at Scravel Hill Road, near Draperville.	6.70	---	4-18-96 5-13-96 7-23-96 10-24-96 11-17-96	4.2 2.8 0.05 5.0 32
Unnamed Tributary S.Santiam River at mile 35.2	South Santiam River	Lat 44°25'17", long 122°42'33", Linn County, Hydrologic Unit 17090006, 2.0 mi northeast of Sweet Home, and at mile 0.6.	---	---	4-29-96	0.90
Unnamed Tributary S.Santiam River at mile 33.8	.....do.....	Lat 44°24'16", 122°43'55", Linn County, Hydrologic Unit 17090006, 0.3 mi north of Sweet Home, at mouth.	---	---	4-29-96	3.7

e Estimated.

Discharge measurements at miscellaneous sites during water year 1996--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		WILLAMETTE RIVER BASIN				
South Santiam River	Santiam River	Lat 44°24'03", long 122°44'09", Linn County, Hydrologic Unit 17090006, in Sweet Home, upstream from Ames Creek, ant at mile 33.6.	---	---	9-17-96	774
Ames Creek	South Santiam River	Lat 44°24'02", long 122°44'09", Linn County, Hydrologic Unit 17090006, in Sweet Home, at mouth.	---	---	4-29-96 9-16-96	31 3.5
South Santiam River	Santiam River	Lat 44°24'04", long 122°44'22", Linn County, Hydrologic Unit 17090006, in Sweet Home, downstream from Ames Creek, and at mile 33.4.	---	---	4-30-96	4,370
Unnamed Tributary S.Santiam River at mile 33.3	South Santiam River	Lat 44°23'59", long 122°44'30", Linn County, Hydrologic Unit 17090006, in Sweet Home, and at mile 0.1.	---	---	4-29-96	3.6
Roaring Creek	.....do.....	Lat 44°24'28", long 122°45'43", Linn County, Hydrologic Unit 17090006, in Sweet Home, 1.6 mi west of Sweet Home, at mouth.	---	---	4-29-96	8.7
Unnamed Tributary S.Santiam River at mile 30.7	.....do.....	Lat 44°25'35", long 122°45'38", Linn County, Hydrologic Unit 17090006,, 2.0 mi northwest of Sweet Home, and at mile 0.4.	---	---	4-29-96	7.7
McDowell Creek	.....do.....	Lat 44°27'45", long 122°45'35", Linn County, Hydrologic Unit 17090006, 3.7 mi southeast of Waterloo, and at mile 0.5.	---	---	4-29-96 9-16-96	91 17
South Santiam River	Santiam River	Lat 45°27'40", long 122°46'04", Linn County, Hydrologic Unit 17090006, 3.5 mi southeast of Waterloo, downstream from McDowell Creek, and at mile 27.7.	---	---	4-30-96 9-17-96	4,320 718
Unnamed Tributary S.Santiam River at mile 25.0	South Santiam River	Lat 44°28'35", long 122°47'47", Linn County, Hydrologic Unit 17090006, 0.5 mi east of Fairview, and at mile 0.5.	---	---	4-29-96 9-16-96	31 1.3
Hamilton Creek	.....do.....	Lat 44°30'38", long 122°49'57", Linn County, Hydrologic Unit 17090006, at bridge, and at mile 1.2.	---	---	4-29-96 9-16-96	91 17
South Santiam River	Santiam River	Lat 44°32'20", long 122°53'17", Linn County Hydrologic Unit 17090006, in Lebanon, and at mile 18.2.	---	---	4-30-96 9-17-96	3,740 682
South Fork Ash Creek	Ash Creek	Lat 44°50'32", long 123°14'48", Polk County, Hydrologic Unit 17090007, at Monmouth Highway, near Monmouth.	6.44	---	4-18-96 5-13-96 7-24-96 11-16-96 11-18-96	18 4.6 no flow 3.0 6.9
Willamette River	Columbia River	Lat 44°51'44", long 123°09'45", Polk-Marion County, Hydrologic Unit 17090007, 1.5 mi northeast of Independence, and at mile 94.2.	---	1992-93	5- 9-96 7-31-96	14,000 7,060
Willamette River	.....do.....	Lat 44°54'56", long 123°06'35", Polk-Marion County, Hydrologic Unit 17090007, upstream from Browns Island, and at mile 89.1.	---	1993	5- 9-96 7-31-96	14,000 7,070
Rickreal Creek	Willamette River	Lat 44°55'45", long 123°07'05", Polk County, Hydrologic Unit 17090007, 0.2 mi south of Eola, and at mile 0.2.	---	1992-93	5- 9-96 7-31-96	135 6.8
Pettijohn Creek	.....do.....	Lat 44°56'10", long 123°04'18", Marion County, Hydrologic Unit 17090007, in Minto Brown Park in Salem, at mouth.	---	---	5- 9-96 7-31-96	7.9 no flow
14190970 Pringle Creek	.....do.....	Lat 44°55'45", long 123°01'53", Marion County, Hydrologic Unit 17090007, at Bush Park, at Salem.	8.57	---	4-18-96 5-15-96 7-23-96 10-14-96 11-14-96	38 17 11 12 24
Pringle Creek	.....do.....	Lat 44°56'20", long 123°02'37", Marion County, Hydrologic Unit 17090007, in Salem, and at mouth.	---	---	5- 9-96 7-31-96	136 97
Simpson Creek	Beaver Creek	Lat 44°51'46", long 122°50'58", Marion County, Hydrologic Unit 17090007, near Brownell Drive, near Aumsville.	2.90	---	4-18-96 5-13-96 7-24-96 10-24-96 11-17-96	4.4 4.8 0.42 3.4 12
Mill Creek	Willamette River	Lat 44°57'03", long 123°02'09", Marion County, Hydrologic Unit 17090007, at Northeast Front Street, in Salem, and at mile 0.1.	---	1992-93	5- 9-96 7-31-96	110 64
Claggett Creek	.....do.....	Lat 45°00'16", long 123°01'28", Marion County, Hydrologic Unit 17090007, at North River Road, in Keizer.	8.52	---	4-19-96 5-13-96 7-23-96 10-14-96 11-14-96	9.2 12 2.9 13 12

Discharge measurements at miscellaneous sites during water year 1996--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		WILLAMETTE RIVER BASIN				
Willamette River	Columbia River	Lat 45°00'53", long 123°04'31", Marion County, Hydrologic Unit 17090007, at Spongs Landing County Park, and at mile 77.8.	---	---	5-9-96 7-31-96	14,900 6,970
Agency Creek	South Yamhill River	Lat 45°04'48", long 123°36'50", in sec.1, T.5 S., R.8 W., Yamhill County, Hydrologic Unit 17090008.	---	---	8-27-96	4.1
Rogue River	.....do.....	Lat 45°03'45", long 123°36'31", in sec.12, T.6 S., R.8 W., Polk County, Hydrologic Unit 17090008.	---	---	8-26-96	1.1
Rock Creek	.....do.....	Lat 45°03'25", long 123°36'31", in sec.13, T.6 S., R.8 W., Polk County, Hydrologic Unit 17090008.	---	---	8-27-95	5.8
Rowell Creek	.....do.....	Lat 45°03'35", long 123°32'06", in sec.58, T.6 S., R.7 W., Polk County, Hydrologic Unit 17090008.	---	1995	8-26-96	2.0
Cosper Creek	.....do.....	Lat 45°03'50", long 123°34'13", in sec.58, T.6 S., R.7 W., Polk County, Hydrologic Unit 17090008.	---	1995	8-26-96	0.57
Gold Creek	....do.....	Lat 45°02'35", long 123°32'22", in sec.47, T.6 S., R.7 W., Polk County, Hydrologic Unit 17090008.	---	1995	8-26-96	0.70
Coast Creek	.....do.....	Lat 45°09'15", long 123°29'49", in sec.12, T.5 S., R.7 W., Yamhill County, Hydrologic Unit 17090008.	---	---	8-26-96	5.5
Tindle Creek	.....do.....	Lat 45°07'03", long 123°30'31", in sec.23, T.5 S., R.7 W., Yamhill County, Hydrologic Unit 17090008.	---	---	8-27-96	0.14
South Yamhill River	Yamhill River	Lat 45°04'39", long 123°37'29", in sec.2, T.6 S., R.8 W., Yamhill County, Hydrologic Unit 17090008.	---	---	8-26-96	6.1
South Yamhill River	.....do.....	Lat 45°05'57", long 123°23'39", Yamhill County, Hydrologic Unit 17090008, in Sheridan at bridge, and at mile 37.7.	---	---	6-13-96 9-18-96	280 141
Unnamed Tributary to S. Yamhill River, at mile 35.1	South Yamhill River	Lat 45°05'19", long 123°20'44", Yamhill County, Hydrologic Unit 17090008, east of Sheridan, and at mouth.	---	---	6-11-96	0.33
Unnamed Tributary	.....do.....	Lat 45°04'19", long 123°19'13", Polk County, Hydrologic Unit 17090008, at Dejong Road, near Ballston.	9.84	---	4-19-96 5-14-96 11-14-96 11-18-96	54 9.4 2.3 8.2
Unnamed Tributary to S. Yamhill River, at mile 30.1	.....do.....	Lat 45°05'21", long 123°16'38", Yamhill County, Hydrologic Unit 17090008, northeast of Ballston, and at mouth.	---	---	6-11-96	1.7
South Yamhill River	Yamhill River	Lat 45°06'32", long 123°15'40", Yamhill County, Hydrologic Unit 17090008, at Bellevue Highway, and at mile 26.9.	---	---	6-13-96 9-18-96	292 149
Deer Creek	South Yamhill River	Lat 45°07'29", long 123°16'29", Yamhill County, Hydrologic Unit 17090008, at Delaschmutt Lane, and at mile 1.1.	---	---	9-18-96	9.7
Deer Creek	.....do.....	Lat 45°08'02", long 123°15'24", Yamhill County, Hydrologic Unit 17090008, at mouth.	---	---	6-12-96	37
Unnamed Tributary to S. Yamhill River, at mile 19.6	.....do.....	Lat 45°10'21", long 123°15'21", Yamhill County, Hydrologic Unit 17090008, at Masonville Road, and at mile 1.5.	---	---	6-12-96	0.60
Unnamed Tributary	Ash Swale	Lat 45°06'18", long 123°11'16", Yamhill County, Hydrologic Unit 17090008, at Old Bethel Road, near Amity.	4.54	---	4-19-96 5-14-96 7-24-96 10-19-96 11-17-96	26 3.3 0.24 0.60 13
Salt Creek	South Yamhill River	Lat 45°09'42", long 123°13'08", Yamhill County, Hydrologic Unit 17090008, at mouth.	---	---	6-12-96	7.4
14194000 South Yamhill River near Whiteson	Yamhill River	Lat 45°10'08", long 123°12'25", Yamhill County, Hydrologic Unit 17090008, at Whiteson Bridge on State Highway 99W, 1.3 mi northwest of Whiteson, 1.4 mi downstream from Salt Creek, and at mile 16.71.	502	1992	6-13-96 9-19-96	375 148
Cozine Creek	South Yamhill River	Lat 45°12'18", long 123°11'39", Yamhill County, Hydrologic Unit 17090008, at Davis Street in McMinnville, and at mile 0.5.	---	---	6-13-96 9-19-96	1.9 2.0

Discharge measurements at miscellaneous sites during water year 1996--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		WILLAMETTE RIVER BASIN--Continued				
West Fork Palmer Creek	Yamhill River	Lat 45°12'44", long 123°05'02", Yamhill County, Hydrologic Unit 17090008, at Webfoot Road, near Dayton.	8.81	---	4-19-96	29
					5-14-96	12
					7-23-96	0.20
					10-19-96	8.5
					11-17-96	13
Willamette River	Columbia River	Lat 45°15'54", long 122°59'39", Yamhill-Marion County, Hydrologic Unit 17090007, at Hess Creek, upstream from Ash Island, and at mile 52.4.	---	---	5-10-96	15,800
					8- 1-96	7,370
Chehalem Creek	Willamette River	Lat 45°17'12", long 122°58'46", Yamhill County, Hydrologic Unit 17090007, 1.0 mi south of Newberg, and at mile 1.0.	---	---	5-10-96	33
					7-31-96	2.0
Willamette River	Columbia River	Lat 45°15'41", long 122°54'21", Yamhill-Marion County, Hydrologic Unit 17090007, and at mile 46.5.	46.5	1993	5-10-96	15,900
					8- 1-96	7,090
West Champoeg Creek	Champoeg Creek	Lat 45°09'47", long 122°56'48", Marion County, Hydrologic Unit 17090007, near Woodburn.	5.78	---	4-24-96	58
					5-13-96	2.7
					7-23-96	0.51
					10-24-96	3.7
					11-19-96	187
					11-20-96	50
Champoeg Creek	Willamette River	Lat 45°15'09", long 122°52'58", Marion County, Hydrologic Unit 17090007, in Champoeg State Park, and at mile 0.2.	---	1993	5-10-96	24
					7-31-96	2.7
Willamette River	Columbia River	Lat 45°15'47", long 122°50'38", Clackamas-Marion County, Hydrologic Unit 17090007, in Butteville, at historic ferry location, and at mile 43.0.	---	1993	5-10-96	15,700
					8- 1-96	7,070
Corral Creek	Willamette River	Lat 45°17'06", long 122°48'10", Clackamas County, Hydrologic Unit 17090007, 1.5 mi west of Wilsonville, and at mile 0.6.	---	1993	5-10-96	7.0
					7-31-96	0.70
Willamette River at I-5, near Wilsonville	Columbia River	Lat 45°17'38", long 122°47'04", Clackamas County, Hydrologic Unit 17090007, in Wilsonville, at Seely Ditch, and at mile 39.0.	---	1993	1-22-96	116,000
					4- 8-96	17,240
					5-10-96	16,300
					8- 1-96	7,290
					8- 8-96	7,510
Senecal Creek	Mill Creek	Lat 45°12'23", long 122°49'45", Marion County, Hydrologic Unit 17090009, at Fellers Road, near Donald.	8.69	---	5-14-96	9.5
					7-22-96	0.41
					10-19-96	3.2
					10-24-96	6.4
					11-17-96	6.3
Deer Creek	Senecal Creek	Lat 45°13'53", long 122°46'47", Marion County, Hydrologic Unit 17090009, at Fargo Road, near Aurora.	5.97	---	4-19-96	11
					5-14-96	9.1
					7-22-96	1.3
					10-19-96	3.4
					11-17-96	16
Pudding River	Molalla River	Lat 44°59'39", long 122°50'39", Marion County, Hydrologic Unit 17090009, southwest of Stayton, at Highway 213, and at mile 49.7.	---	---	5- 2-96	201
					9-24-96	5.1
Silver Creek	Pudding River	Lat 45°00'24", long 122°49'26", Marion County, Hydrologic Unit 17090009, west of Silverton, at Brush Creek Drive, and at mile 1.3.	---	---	9-24-96	27
Abiqua Creek	.....do.....	Lat 45°01'52", long 122°47'22", Marion County, Hydrologic Unit 17090009, northwest of Silverton, at Highway 214, and at mile 2.9.	---	---	5- 2-96	336
Abiqua Creek	.....do.....	Lat 45°02'16", long 122°48'51", Marion County, Hydrologic Unit 17090009, northwest of Silverton, at Mount Angel Highway, and at mile 1.0.	---	1993	9-24-96	24
Pudding River	Molalla River	Lat 45°02'18", long 122°49'59", Marion County, Hydrologic Unit 17090009, southwest of Mount Angel, at Nusom Road, downstream from Abiqua Creek, and at mile 45.5.	---	1993	5- 2-96	757
					9-24-96	53
Pudding River	.....do.....	Lat 45°03'47", long 122°49'44", Marion County, Hydrologic Unit 17090009, west of Mount Angel, at Saratoga Road, and at mile 40.7.	---	---	5- 2-96	783
					9-24-96	47
Pudding River	.....do.....	Lat 45°07'34", long 122°49'09", Marion County, Hydrologic Unit 17090009, southeast of Woodburn, at Highway 214, and at mile 26.8.	---	1993	5- 3-96	923
					9-25-96	80
Pudding River	.....do.....	Lat 45°09'01", long 122°47'31", Marion County, Hydrologic Unit 17090009, east of Woodburn, at Highway 211, and at mile 22.3.	---	---	5- 3-96	961
					9-25-96	113

Discharge measurements at miscellaneous sites during water year 1996--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Discharge (ft^3/s)
		WILLAMETTE RIVER BASIN--Continued				
Butte Creek	Pudding River	Lat 45°08'52", long 122°46'44", Clackamas-Marion County, Hydrologic Unit 17090009, east of Woodburn, at Highway 211, and at mile 1.0.	---	1993	5- 3-96	205
					9-25-96	15
Pudding River	Molalla River	Lat 45°10'49", long 122°45'13", Clackamas-Marion County, Hydrologic Unit 17090009, east of Hubbard, at Whiskey Hill Road, and at mile 17.5.	---	---	5- 3-96	1,210
					9-25-96	105
Beaverton Creek	Rock Creek	Lat 45°29'08", long 122°50'12", Washington County, Hydrologic Unit 17090010, at Wetlands Park, near Aloha.	13.01	---	4-19-96	46
					5-14-96	52
					7-25-96	e1.0
					11- 6-96	16
14206680 Baker Creek	Tualatin River	Lat 45°24'08", long 122°55'36", Washington County, Hydrologic Unit 17090010, near Scholls.	9.64 (revised)	1966-67 1990	4-19-96	34
					5-14-96	15
					7-25-96	2.0
					10-19-96	6.8
					11-18-96	18
Chicken Creek	.....do.....	Lat 45°22'04", long 122°52'12", Washington County, Hydrologic Unit 17090010, at Edy Road, near Scholls.	4.16	---	4-19-96	12
					5-14-96	7.6
					7-23-96	1.5
					10-19-96	2.3
					11-18-96	6.3
14207000 Oswego Canal	Willamette River	Lat 45°23'18", long 122°43'11", in NW 1/4 NW 1/4 sec.20, T.2 S.,R.1 E., Clackamas County, Hydrologic Unit 17090010, on left bank 0.4 mi downstream from point of diversion on Tualatin River, 1.0 mi upstream from Lake Oswego, and 3.5 mi southwest of town of Lake Oswego.	---	---	2-10-96	3,560
14207740 Willamette River abv Falls at Oregon City	.....do.....	Lat 45°20'55", long 122°37'08", in SW 1/4 SW 1/4 sec.31, T.2 S., R.2 E., Clackamas County, Hydrologic Unit 17090007, 1.6 mi downstream from Tualatin River, and at mile 26.8.	---	---	11- 6-95	16,000
					4- 8-96	19,900
					8- 8-96	8,320
		NESTUCCA RIVER BASIN				
14302850 Walker Creek	Nestucca River	Lat 45°18'12", long 123°24'51", in SW 1/4 SW 1/4 sec.15, T.3S., R.6 W., Yamhill County, Hydrologic Unit 17100203 5.3 mi southwest of Fairdale, and at mile 0.5.	2.72	1991-96	10- 4-95	1.4
					1-12-96	20
					2- 7-96	365
					3-13-96	15
					5- 7-96	8.5
					7-10-96	1.2
		UMPQUA RIVER BASIN				
Singe Creek near Steamboat	Steamboat Creek	Lat 43°22'13", long 122°37'00", Douglas County, Hydrologic Unit 17100301, off Highway 38, near Steamboat Falls, near mouth.	---	---	9-13-96	1.8
City Creek near Steamboat	.....do.....	Lat 43°30'03", long 122°35'49", Lane County, Hydrologic Unit 17100301, adjacent to Highway 38, upstream from Steamboat Falls, near mouth.	---	---	9- 9-96	0.71
Steamboat Creek	North Umpqua River	Lat 43°30'42", long 122°34'48", Lane County, Hydrologic Unit 17100301, adjacent to Highway 38, upstream from Steamboat Falls, near mouth.	---	---	9-12-96	1.7
Horse Heaven Creek near Steamboat	Steamboat Creek	Lat 43°30'44", long 122°34'53", Lane County, Hydrologic Unit 17100301, adjacent to Highway 38, upstream from Steamboat Falls, near mouth.	---	---	9-11-96	1.2

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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