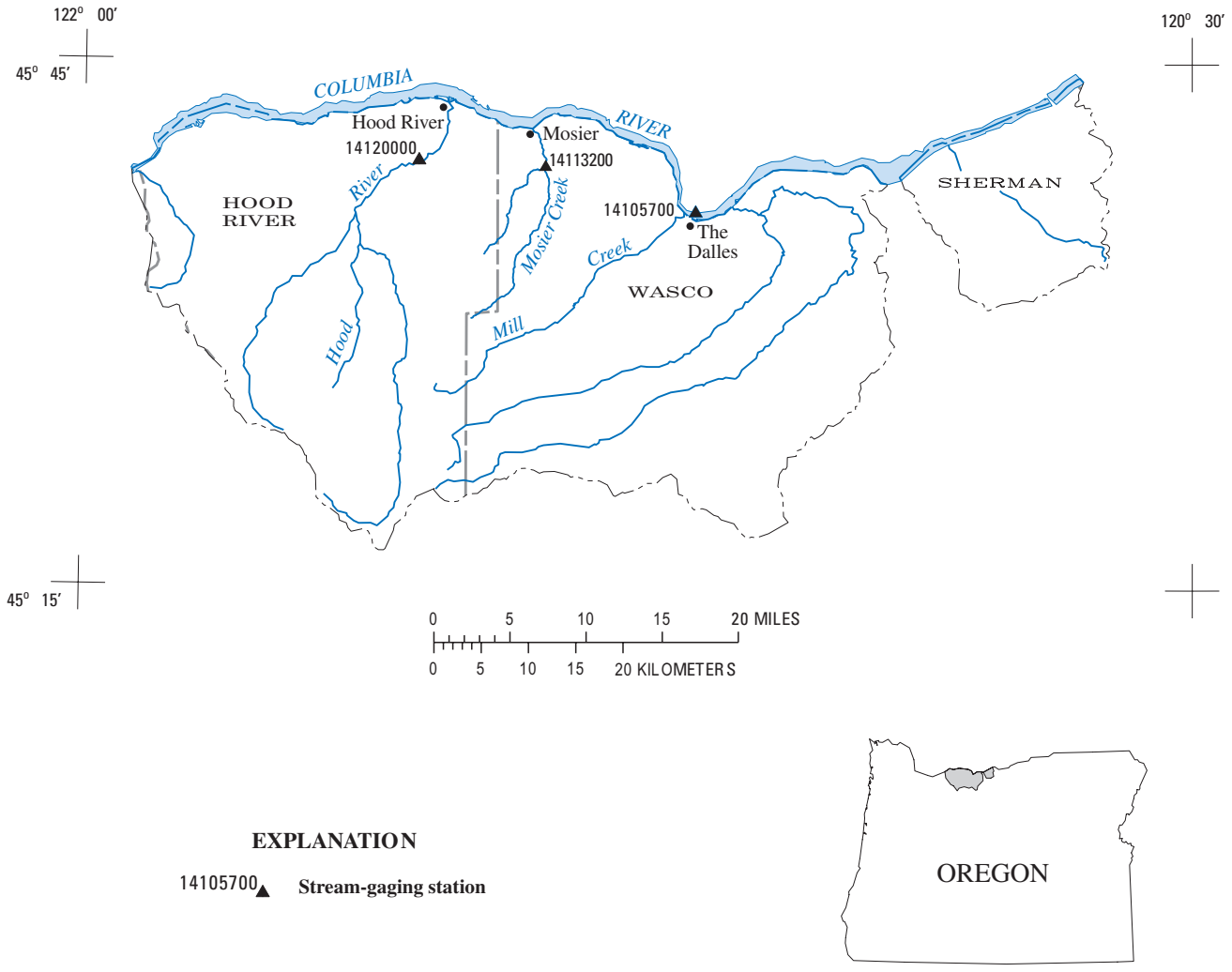
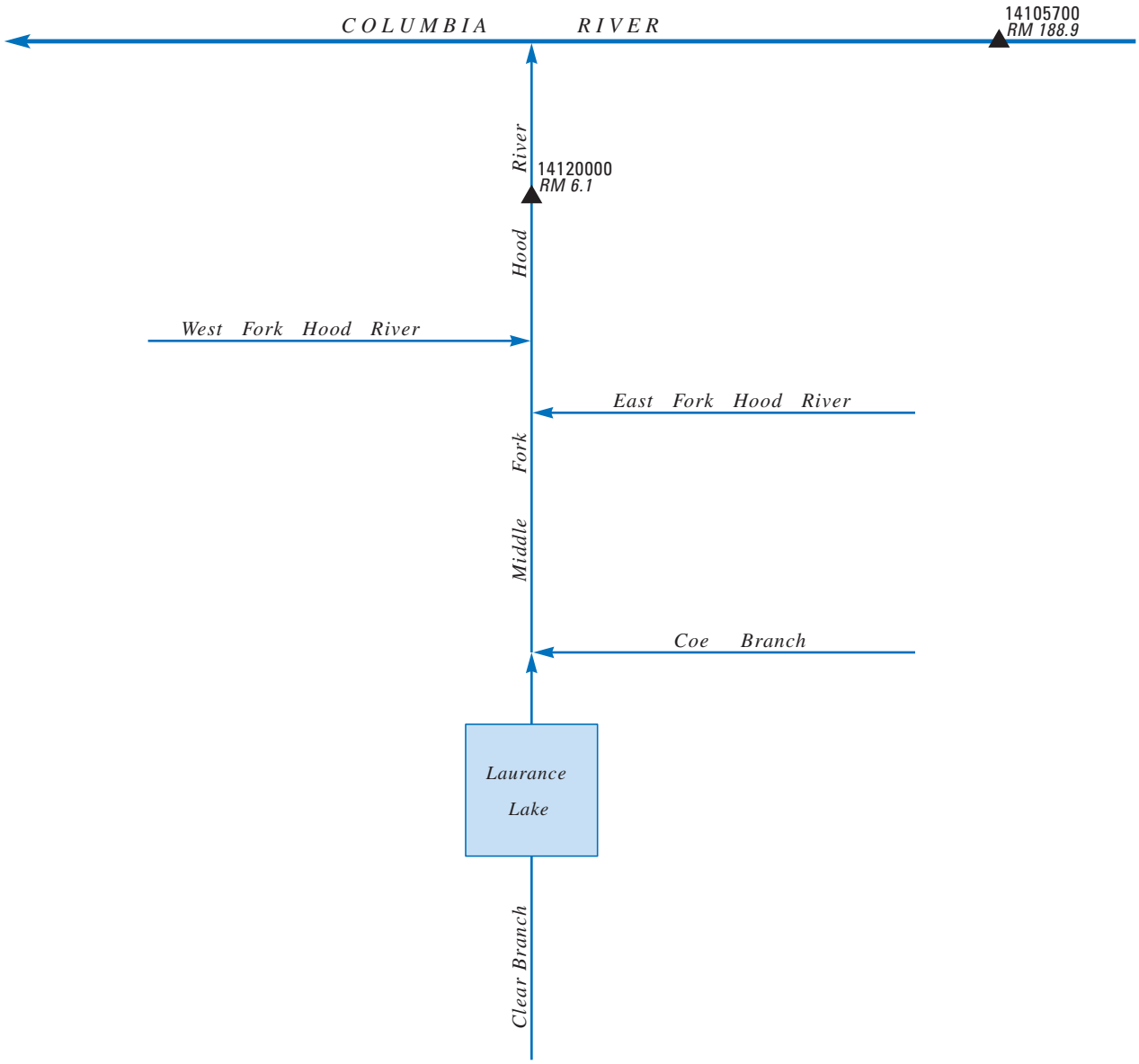


Figure 17. Location of surface-water stations in the Columbia River between the Deschutes River and Bonneville Dam and in the Hood River Basin.



EXPLANATION

▲14105700 **Stream-gaging station**

RM 6.1 **River mile**

Stream—Arrow shows direction of flow

Figure 18. 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). SP 1094: 1894. WSP 1248: 1866, 1888, 1899, 1909. WSP 1518: 1876(M).

GAGE.--Ultrasonic velocity meter (UVM) with water-stage and velocity-index recorder. Datum of gage is NGVD of 1929. 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.--No estimated daily discharges. Records good. 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.--127 years (water years 1879-2005), 190,300 ft^3/s, 137,800,000 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 UVM).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 291,000 ft^3/s May 18 maximum elevation, 80.18 ft May 18; minimum daily discharge, 75,400 ft^3/s Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97,000	120,000	150,000	131,000	144,000	124,000	152,000	166,000	218,000	212,000	171,000	119,000
2	89,700	123,000	149,000	127,000	155,000	137,000	149,000	185,000	232,000	197,000	173,000	101,000
3	104,000	114,000	140,000	165,000	152,000	126,000	125,000	184,000	218,000	181,000	140,000	98,100
4	121,000	128,000	143,000	163,000	152,000	146,000	129,000	177,000	233,000	143,000	141,000	85,500
5	114,000	126,000	145,000	165,000	161,000	146,000	155,000	192,000	170,000	190,000	136,000	93,400
6	109,000	132,000	157,000	177,000	156,000	108,000	176,000	195,000	209,000	154,000	145,000	94,800
7	124,000	108,000	146,000	171,000	167,000	132,000	140,000	197,000	183,000	170,000	134,000	87,800
8	155,000	116,000	166,000	166,000	156,000	127,000	124,000	213,000	183,000	179,000	156,000	94,900
9	107,000	131,000	151,000	113,000	154,000	124,000	113,000	241,000	212,000	194,000	131,000	99,600
10	81,000	116,000	126,000	152,000	169,000	142,000	128,000	228,000	187,000	172,000	148,000	85,600
11	103,000	115,000	128,000	148,000	166,000	135,000	133,000	259,000	204,000	175,000	146,000	76,500
12	100,000	124,000	135,000	125,000	154,000	128,000	145,000	270,000	164,000	170,000	133,000	92,000
13	103,000	119,000	141,000	178,000	112,000	128,000	152,000	246,000	169,000	178,000	139,000	94,700
14	91,700	124,000	150,000	205,000	132,000	119,000	136,000	242,000	182,000	197,000	110,000	84,200
15	128,000	125,000	139,000	165,000	157,000	118,000	155,000	231,000	190,000	208,000	125,000	85,100
16	86,300	123,000	171,000	133,000	166,000	138,000	121,000	228,000	177,000	194,000	125,000	90,100
17	86,700	130,000	196,000	153,000	166,000	115,000	124,000	261,000	182,000	198,000	148,000	95,800
18	103,000	133,000	175,000	122,000	168,000	159,000	123,000	291,000	194,000	169,000	146,000	88,700
19	118,000	124,000	149,000	152,000	146,000	140,000	133,000	267,000	143,000	163,000	149,000	75,400
20	136,000	132,000	170,000	131,000	122,000	116,000	131,000	259,000	188,000	150,000	130,000	88,500
21	136,000	133,000	179,000	139,000	125,000	141,000	125,000	277,000	181,000	180,000	116,000	115,000
22	137,000	132,000	184,000	137,000	145,000	143,000	173,000	262,000	200,000	180,000	130,000	97,400
23	126,000	131,000	214,000	133,000	136,000	149,000	146,000	267,000	231,000	159,000	140,000	103,000
24	107,000	118,000	165,000	135,000	120,000	136,000	131,000	253,000	202,000	143,000	134,000	96,400
25	121,000	105,000	140,000	150,000	112,000	138,000	134,000	237,000	212,000	171,000	122,000	82,300
26	124,000	137,000	137,000	164,000	113,000	118,000	184,000	256,000	192,000	179,000	118,000	93,700
27	118,000	122,000	147,000	163,000	133,000	96,800	185,000	263,000	206,000	156,000	129,000	115,000
28	98,900	106,000	142,000	152,000	136,000	124,000	198,000	275,000	187,000	164,000	125,000	85,200
29	112,000	146,000	151,000	151,000	---	151,000	166,000	226,000	201,000	167,000	115,000	103,000
30	100,000	132,000	147,000	123,000	---	143,000	171,000	178,000	206,000	169,000	137,000	115,000
31	113,000	---	146,000	134,000	---	167,000	---	187,000	---	190,000	124,000	---
TOTAL	3,450,300	3,725,000	4,779,000	4,623,000	4,075,000	4,114,800	4,357,000	7,213,000	5,856,000	5,452,000	4,216,000	2,836,700
MEAN	111,300	124,200	154,200	149,100	145,500	132,700	145,200	232,700	195,200	175,900	136,000	94,560
MAX	155,000	146,000	214,000	205,000	169,000	167,000	198,000	291,000	233,000	212,000	173,000	119,000
MIN	81,000	105,000	126,000	113,000	112,000	96,800	113,000	166,000	143,000	143,000	110,000	75,400
AC-FT	6,844,000	7,389,000	9,479,000	9,170,000	8,083,000	8,162,000	8,642,000	14,310,000	11,620,000	10,810,000	8,362,000	5,627,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1879 - 2005, BY WATER YEAR (WY)

MEAN	104,600	108,600	116,600	119,600	129,300	146,900	203,500	335,700	430,800	294,500	171,200	119,400
MAX	174,800	200,800	258,300	275,000	340,400	345,000	386,400	624,400	1,002,000	793,300	385,700	198,200
(WY)	(1960)	(1928)	(1996)	(1997)	(1996)	(1983)	(1881)	(1897)	(1894)	(1880)	(1880)	(1880)
MIN	69,430	57,830	52,380	42,430	51,420	69,820	98,350	136,100	123,700	86,780	91,970	75,760
(WY)	(1930)	(1937)	(1937)	(1937)	(1937)	(1937)	(1944)	(1977)	(1977)	(2001)	(1994)	(1994)

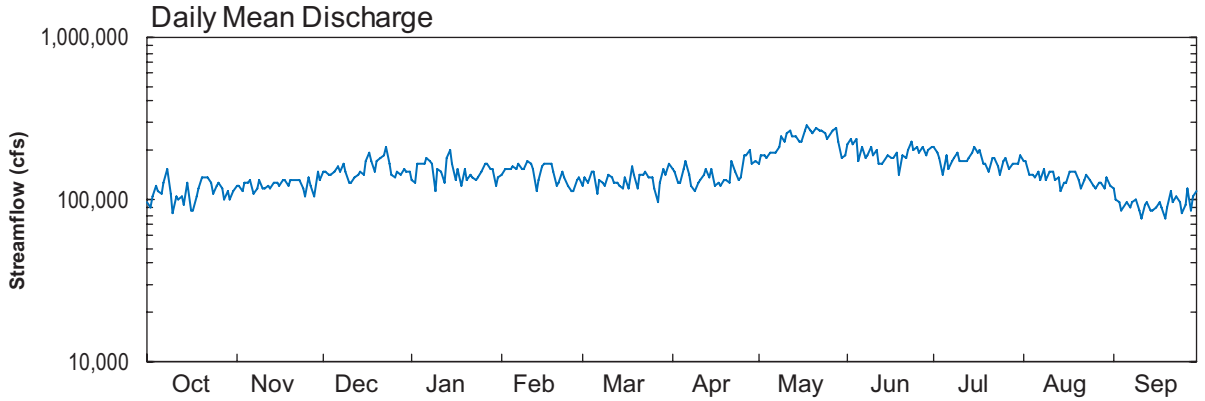
2005 Water Year

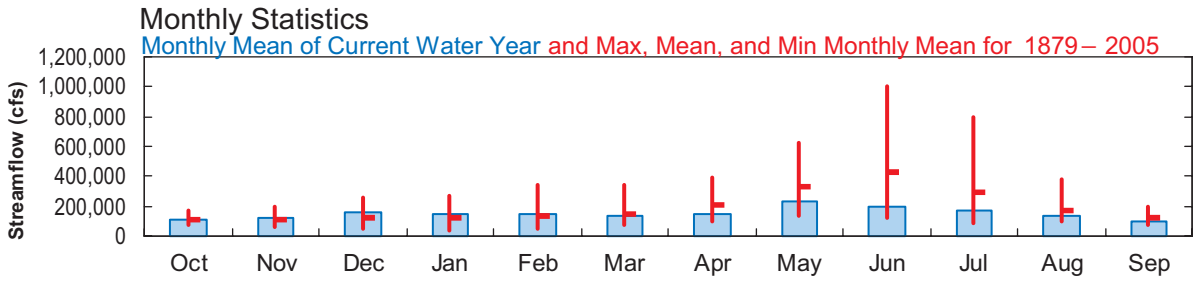
DESCHUTES RIVER BASIN

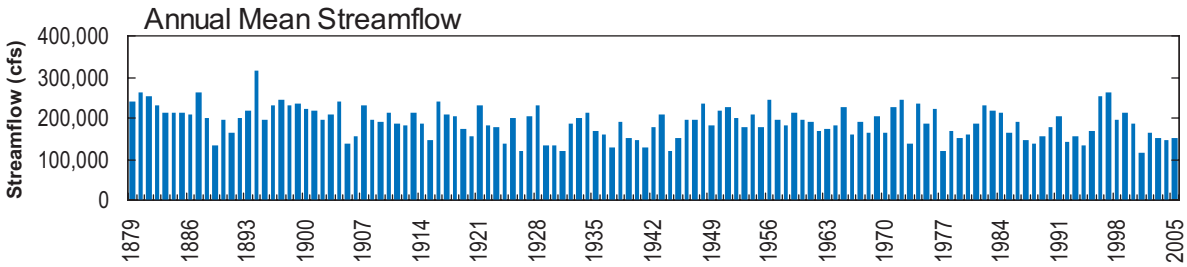
14105700 COLUMBIA RIVER AT THE DALLES, OR

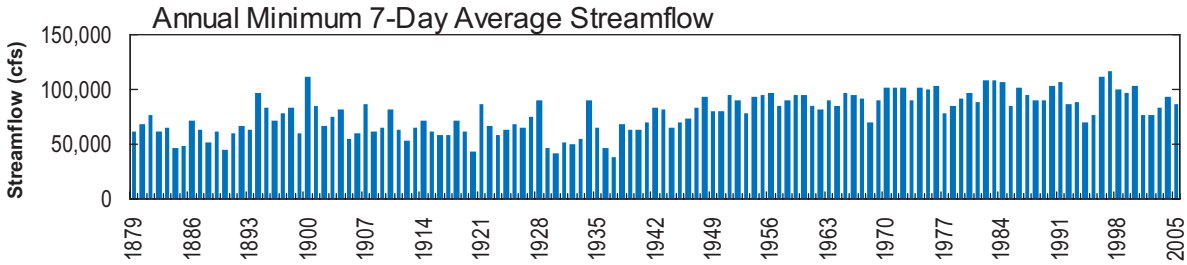
Latitude: 45°36'27" Longitude: 121°10'20" Hydrologic Unit Code: 17070105

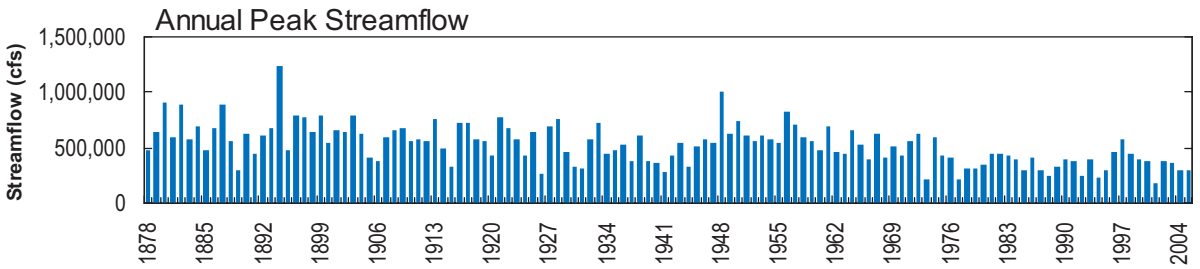
Wasco County Datum: 0.0 feet Drainage Area: 237,000 mi²











14113200 MOSIER CREEK NEAR MOSIER, OR

LOCATION.--Lat 45°38'57", long 121°22'33", in NW $^1/_4$ NW $^1/_4$ sec.19, T.2 N., R.12 E., Wasco County, Hydrologic Unit 17070105, on left bank 0.1 mi downstream from West Fork Mosier Creek, 2.5 mi southeast of Mosier and at mile 3.0.

DRAINAGE AREA.--41.5 mi^2.

PERIOD OF RECORD.--April 1963 to September 1981, June to September 2005.

GAGE.--Water-stage recorder. Datum of gage is 425 ft above NGVD of 1929, from topographic map. Prior to July 22, 1976, water-stage recorder at site 20 ft upstream at datum 3.57 ft higher. July 22, 1976 to Dec. 12, 1977, water-stage recorder at site 20 ft upstream at datum 1.57 ft higher.

REMARKS.--No estimated daily discharges. Records good. No regulation. Several small pumping diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--18 years (water years 1964-81), 28.5 ft^3/s, 20,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,790 ft^3/s Dec. 23, 1964, gage height, 8.9 ft, datum then in use, from rating curve extended above 1,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum discharge, 0.35 ft^3/s July 25, 26, Aug. 6, 7, 1978, Aug. 1, 2005.

EXTREMES FOR PERIOD JUNE TO SEPTEMBER 2005.--Maximum discharge, 3.8 ft^3/s June 8, gage height, 2.24 ft; minimum discharge, 0.35 ft^3/s Aug. 1, gage height, 1.70 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	1.6	0.71	1.1
2	---	---	---	---	---	---	---	---	---	1.5	0.89	1.0
3	---	---	---	---	---	---	---	---	---	1.5	0.87	0.97
4	---	---	---	---	---	---	---	---	---	1.4	0.82	1.0
5	---	---	---	---	---	---	---	---	---	1.3	0.77	1.1
6	---	---	---	---	---	---	---	---	---	1.3	0.78	1.1
7	---	---	---	---	---	---	---	---	---	1.3	0.74	1.0
8	---	---	---	---	---	---	---	---	3.5	1.4	0.75	1.1
9	---	---	---	---	---	---	---	---	3.3	1.6	0.74	1.0
10	---	---	---	---	---	---	---	---	3.0	1.5	0.77	1.2
11	---	---	---	---	---	---	---	---	3.0	1.5	0.77	1.3
12	---	---	---	---	---	---	---	---	2.9	1.4	0.79	1.2
13	---	---	---	---	---	---	---	---	2.8	1.3	0.79	1.1
14	---	---	---	---	---	---	---	---	2.7	1.2	0.75	1.1
15	---	---	---	---	---	---	---	---	2.5	1.2	0.75	1.1
16	---	---	---	---	---	---	---	---	2.5	1.1	0.79	1.2
17	---	---	---	---	---	---	---	---	3.1	1.1	0.88	1.2
18	---	---	---	---	---	---	---	---	3.1	1.0	0.97	1.3
19	---	---	---	---	---	---	---	---	2.8	0.97	0.91	1.2
20	---	---	---	---	---	---	---	---	2.5	0.94	0.88	1.2
21	---	---	---	---	---	---	---	---	2.2	0.95	0.86	1.2
22	---	---	---	---	---	---	---	---	2.1	1.0	0.83	1.2
23	---	---	---	---	---	---	---	---	2.0	1.1	0.86	1.2
24	---	---	---	---	---	---	---	---	2.0	0.96	0.91	1.3
25	---	---	---	---	---	---	---	---	1.9	0.92	0.91	1.3
26	---	---	---	---	---	---	---	---	1.8	0.95	0.88	1.3
27	---	---	---	---	---	---	---	---	2.2	0.88	0.86	1.3
28	---	---	---	---	---	---	---	---	2.1	0.84	0.84	1.3
29	---	---	---	---	---	---	---	---	1.9	0.80	0.87	1.2
30	---	---	---	---	---	---	---	---	1.7	0.81	1.0	1.7
31	---	---	---	---	---	---	---	---	---	0.75	1.1	---
TOTAL	---	---	---	---	---	---	---	---	---	36.07	26.04	35.47
MEAN	---	---	---	---	---	---	---	---	---	1.16	0.84	1.18
MAX	---	---	---	---	---	---	---	---	---	1.6	1.1	1.7
MIN	---	---	---	---	---	---	---	---	---	0.75	0.71	0.97

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

LOCATION.--Lat 45°39'20", long 121°32'50", in NE ¼ SE ¼ 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 NGVD of 1929 (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.--Records good. Some daily fluctuation possibly caused by diversion dam upstream from station and sawmill at Dee. Diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--44 years (water years 1899, 1914, 1916-17, 1966-2005), 970 ft^3/s, 702,400 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)
Jan. 18	1400	*3,850	*7.48				

Minimum discharge, 140 ft^3/s, Sept. 7, gage height, 1.53 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	389	575	483	452	584	410	1,180	695	637	302	220	178
2	387	1,150	454	440	557	395	1,110	683	593	273	205	180
3	385	1,060	436	418	539	387	1,030	643	537	268	187	173
4	381	806	428	406	569	376	1,010	640	506	258	188	163
5	348	665	427	371	604	371	921	670	494	262	215	155
6	426	600	426	391	569	366	948	661	484	345	209	149
7	405	545	453	401	550	367	969	620	450	356	207	160
8	385	510	1,060	394	525	370	990	615	418	298	209	171
9	471	485	1,090	383	509	364	877	765	384	335	203	184
10	379	467	2,050	378	497	361	810	744	362	294	192	183
11	342	447	2,110	371	490	357	918	677	360	286	181	170
12	329	429	1,450	379	497	353	865	635	391	286	183	162
13	328	407	1,080	395	531	341	795	603	377	270	195	157
14	331	396	1,040	376	500	332	771	615	370	246	194	159
15	326	391	927	379	477	328	734	730	340	259	188	161
16	316	395	804	440	469	330	864	735	333	307	197	166
17	334	381	728	525	457	360	923	705	456	268	203	165
18	526	410	676	3,110	439	334	860	806	409	248	189	166
19	575	415	644	2,060	431	395	794	970	396	259	176	170
20	460	388	609	1,550	432	435	761	866	361	239	197	174
21	564	379	574	1,330	415	393	745	815	365	234	219	173
22	590	374	553	1,110	407	383	744	803	355	315	222	175
23	623	e370	527	995	401	403	951	710	313	282	185	175
24	629	485	510	857	394	384	941	650	302	231	162	170
25	555	772	504	773	390	373	1,090	606	302	217	160	172
26	545	632	513	726	387	625	1,000	580	305	215	176	175
27	602	548	487	696	383	2,780	907	570	315	209	204	179
28	530	494	472	661	401	2,120	843	580	323	229	192	177
29	507	461	474	677	---	1,780	781	575	308	227	209	186
30	610	457	465	658	---	1,420	745	572	297	223	170	471
31	657	---	455	617	---	1,150	---	564	---	227	178	---
TOTAL	14,235	15,894	22,909	22,719	13,404	19,143	26,877	21,103	11,843	8,268	6,015	5,399
MEAN	459	530	739	733	479	618	896	681	395	267	194	180
MAX	657	1,150	2,110	3,110	604	2,780	1,180	970	637	356	222	471
MIN	316	370	426	371	383	328	734	564	297	209	160	149
AC-FT	28,240	31,530	45,440	45,060	26,590	37,970	53,310	41,860	23,490	16,400	11,930	10,710

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR—Continued

DISCHARGE, CUBIC FEET PER SECOND—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 2005, BY WATER YEAR (WY)												
MEAN	479	1,005	1,402	1,524	1,534	1,332	1,298	1,189	887	551	391	361
MAX	996	2,546	4,109	3,313	4,217	2,915	2,358	2,418	2,439	1,687	1,088	804
(WY)	(1998)	(1996)	(1978)	(1974)	(1996)	(1972)	(1916)	(1969)	(1899)	(1899)	(1899)	(1899)
MIN	218	282	438	363	430	618	704	532	278	229	194	180
(WY)	(1988)	(1988)	(1977)	(1979)	(1977)	(2005)	(1973)	(1992)	(1992)	(1992)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1899 - 2005	
ANNUAL TOTAL	278,096		187,809			
ANNUAL MEAN	760		515		970	
HIGHEST ANNUAL MEAN					1,664	1899
LOWEST ANNUAL MEAN					465	1977
HIGHEST DAILY MEAN	5,630	Jan 29	3,110	Jan 18	19,200	Feb 7, 1996
LOWEST DAILY MEAN	167	Jan 6	149	Sep 6	144	Sep 13, 1994
ANNUAL SEVEN-DAY MINIMUM	318	Sep 4	162	Sep 12	155	Sep 10, 1994
ANNUAL RUNOFF (AC-FT)	551,600		372,500		702,400	
10 PERCENT EXCEEDS	1,240		911		1,810	
50 PERCENT EXCEEDS	640		418		744	
90 PERCENT EXCEEDS	353		185		299	

2005 Water Year

HOOD RIVER BASIN

14120000 HOOD RIVER AT TUCKER BRIDGE, NEAR HOOD RIVER, OR

Latitude: 45° 39 ' 20" Longitude: 121° 32 ' 50" Hydrologic Unit Code: 17070105

Hood river County Datum: 383.20 feet Drainage Area: 279 mi²