

REFERENCE

SGS

*a changing world*

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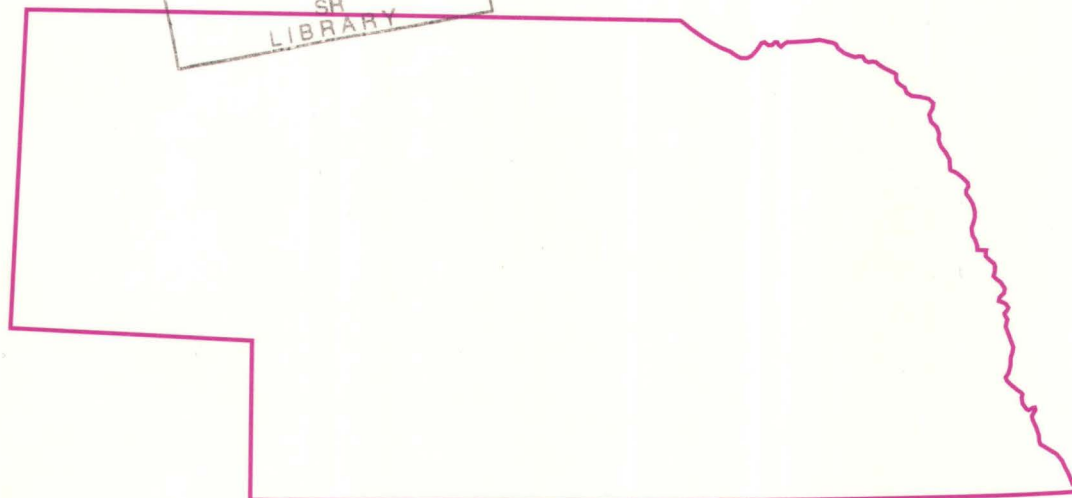
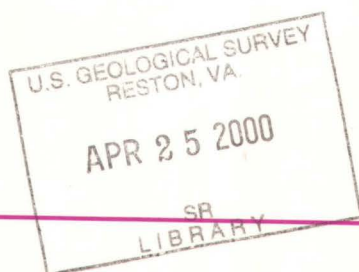
Ga 3

Nebraska

1999

# Water Resources Data Nebraska Water Year 1999

Water-Data Report NE-99-1



U.S. Department of the Interior  
U.S. Geological Survey



Prepared in cooperation with the Nebraska Department of Water Resources, the Conservation and Survey Division of the University of Nebraska, the Nebraska Natural Resources Commission, the Department of Environmental Quality, and other Federal, State, and local agencies

# CALENDAR FOR WATER YEAR 1999

1998

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	4	4	5	6	7			1	2	3	4	5
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	15	17	18	19
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
25	26	27	28	29	30	31	29	30						27	28	29	30	31		

1999

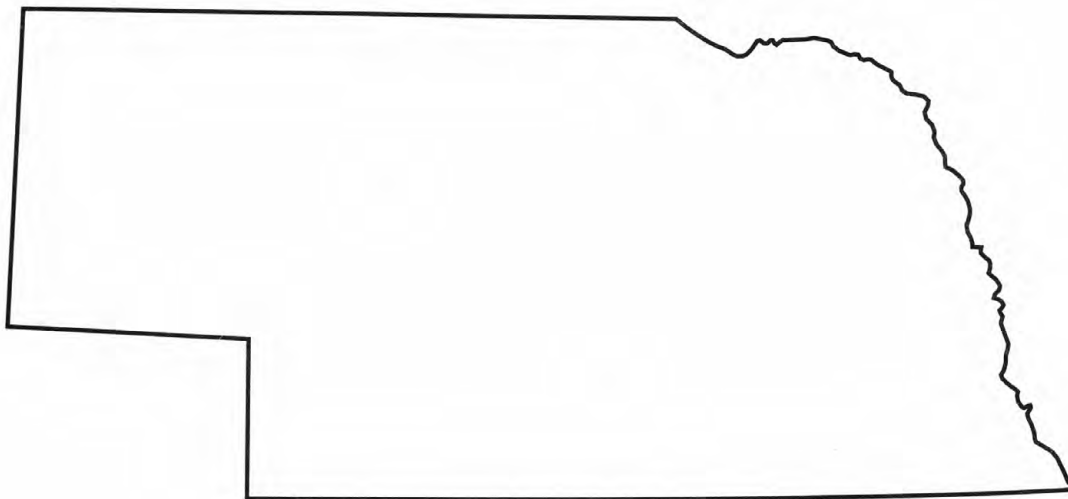
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S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2		1	2	3	4	5	6		1	2	3	4	5	6
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28							28	29	30	31			
31																				
APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3							1			1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												
JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7				1	2	3	4
4	5	6	7	8	9	10	9	9	10	11	12	13	14	5	6	7	8	9	10	11
11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		



# Water Resources Data Nebraska Water Year 1999

By Judith A. Boohar

Water-Data Report NE-99-1



Prepared in cooperation with the Nebraska Department of Water Resources, the Conservation and Survey Division of the University of Nebraska, the Nebraska Natural Resources Commission, the Nebraska Department of Environmental Quality, and other Federal, State, and local agencies



UNITED STATES DEPARTMENT OF THE INTERIOR  
BRUCE BABBITT, Secretary  
GEOLOGICAL SURVEY  
Charles G. Groat, Director

For information on the water programs in Nebraska, write to:

District Chief  
U.S. Geological Survey  
406 Federal Building  
100 Centennial Mall, North  
Lincoln, Nebraska 68508



## PREFACE

This annual hydrologic data report of Nebraska is one of a series of annual reports that documents 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, quality of water, and ground-water levels provide the hydrologic information needed by Federal, State, and local agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who edited and assembled the report.

In addition to the author, 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:

G.B. Engel, V.C. Walczyk, J.S. Stanton, P.A. Bartz, M.J. Griffin, G.S. Steele, V.L. McGuire, B.C. Fischer (student), and S.K. Sebree of the District office.

M. V. Kubicek, S.H. Hull, D.M. Schwartz, M. R. Pratt, and , and T.P. Boyle (student assistant) of the Lincoln field office.

R.A. Drudik, and V.A. John of the Ord field office.

D. E. Hitch, D.L. Curtis, J.D. Miller, and K.J. Miller (student assistant) of the North Platte field office.

This report was prepared in cooperation with the State of Nebraska and with other agencies under the general supervision of M.E. Slifer, District Chief, Nebraska.

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13. ABSTRACT (Maximum 200 words)  Water resources data for the 1999 water year for Nebraska consists of water-quality records for records of stage, discharge, and water quality of stream; stage and contents in lakes and reservoirs; and water levels and water quality in wells. This report contains discharge records for 95 streamflow-gaging stations, 13 partial-record or miscellaneous stream-flow stations, and 5 crest-stage, partial-record streamflow stations; stage and contents record for 7 lakes and reservoirs; water-quality records for 21 streamflow-gaging stations, for 9 ungaged streamsites, and for 478 (1998 water year) and 274 (1999 water year) wells; and water levels for 52 observation wells. These data represent that part of the National Water-Data System operated by the U. S. Geological Survey and cooperating Federal, State, and local agencies in Nebraska.				
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER,  
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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[Letter after station name designates type of data: (d) discharge, (st) stage, (e) elevation and/or contents, (c) chemical, (m) microbiological, (t) water temperature, and (s) sediment.] Each station has been assigned an 8-digit station number. For ease in reading the station number, the 06 preceding the number has been left off as well as the 00 following a 4-digit number.

	<i>Station number</i>	<i>Page</i>
<b>MISSOURI RIVER BASIN</b>		
<u>PONCA CREEK BASIN</u>		
Ponca Creek at Verdel (d)-----	4536	44
<u>NIOBRARA RIVER BASIN</u>		
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Niobrara River near Sparks (dc)-----	4615	48
Long Pine Creek near Riverview (d c) -----	4635	52
Keya Paha River at Wewela, SD (d)-----	4645	56
Niobrara River near Spencer (d)-----	4650	58
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<b>MISSOURI RIVER:</b>		
Lewis and Clark Lake Yankton, SD (e) -----	4670	64
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Omaha Creek at Homer (d)-----	6010	68
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Missouri River at Omaha (d) -----	6100	72
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North Platte River (head of Platte River) at Wyoming-Nebraska State line (d c) -----	6745	76
Lake McConaughy near Keystone (e) -----	6900	79
South Platte River:		
South Platte River at Julesburg, CO (d) -----	7640	80
South Platte River at Roscoe (d) -----	764880	82
Platte River:		
Plum Creek near Smithfield (d) -----	7675	84
Platte River near Overton (d c t s) -----	7680	86
Spring Creek near Overton (d c t)-----	768020	92
Buffalo Creek near Overton (d c t) -----	7690	96
Elm Creek near Elm Creek (d c t)-----	769525	100
North Dry Creek 2 mi SW of Platte River Bridge S of Kearney (d c t) -----	770195	104
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER,  
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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Loup River Power Canal near Genoa (d) -----	7925	162
Loup River near Genoa (d) -----	7930	164
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Clear Creek 1.75 mi W of Polk County Line (d c t) -----	794650	168
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Platte River near Leshara (d) -----	7965	178
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Elkhorn River at Norfolk (d) -----	7990	184
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Platte River near Ashland (d) -----	8010	204
Olive Branch (head of Salt Creek) near Hallam (d c t) -----	801180	206
Salt Creek at Roca (d) -----	8030	210
Salt Creek at Pioneers Boulevard at Lincoln (d) -----	803080	212
Haines Branch at SW 56th St. at Lincoln (d) -----	803093	214
Middle Creek at SW 40th St at Lincoln (d) -----	803170	216
Salt Creek at Lincoln (d) -----	8035	218
Little Salt Creek near Lincoln (d) -----	803510	220
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER,  
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GROUND-WATER WELLS, BY COUNTY,  
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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<b>ADAMS COUNTY</b>				
Well 403403098244001	Local number	7N 10W 23AB -----		418
<b>BLAINE COUNTY</b>				
Well 414958100061501	Local number	22N 24W 33CA -----		418
<b>BOONE COUNTY</b>				
Well 413323098074501	Local number	18N 7W 4CA -----		419
<b>BOX BUTTE COUNTY</b>				
Well 420945102551501	Local number	25N 48W 4DDD-----		419
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Well 404618098504401	Local number	9N 14W 1DC-----		420
Well 404345098560001	Local number	9N 14W 19DD-----		420
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Well 411420097173002	Local number	15N 1E 27DD2 -----		421
<b>CHASE COUNTY</b>				
Well 403220101384001	Local number	7N 38W 28CC-----		421
Well 403235101395501	Local number	7N 38W 29CBB-----		422
<b>CHERRY COUNTY</b>				
Well 423205100321501	Local number	30N 28W 36AAA -----		422
<b>COLFAX COUNTY</b>				
Well 412810097054501	Local number	17N 3E 4CC-----		423
<b>DAWES COUNTY</b>				
Well 424100103243501	Local number	31N 52W 3DC-----		423
<b>DAWSON COUNTY</b>				
Well 404949099445701	Local number	10N 21W 18DDD-----		424
<b>DUNDY COUNTY</b>				
Well 400155101521302	Local number	1N 40W 29BB2-----		425
<b>FILLMORE COUNTY</b>				
Well 402504097432201	Local number	5N 4W 12BDC-----		425
Well 403800097300701	Local number	8N 2W 26AD-----		426
<b>GARFIELD COUNTY</b>				
Well 414718099083201	Local number	21N 16W 14CB-----		426
<b>GOSPER COUNTY</b>				
Well 403626099451401	Local number	7N 21W 6BC-----		427
<b>HALL COUNTY</b>				
Well 405315098304302	Local number	11N 11W 25CC2-----		427

GROUND-WATER WELLS, BY COUNTY,  
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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**HAMILTON COUNTY**

Well 404836097584101	Local number	10N	6W	27ACAA -----	428
Well 405514097573901	Local number	11N	6W	13CB -----	428

**HARLAN COUNTY**

Well 400920099215501	Local number	2N	18W	9BCC -----	429
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**HOLT COUNTY**

Well 421605098203001	Local number	27N	9W	34DA -----	429
Well 423148098300601	Local number	30N	10W	32DAA -----	430
Well 423730098560001	Local number	31N	14W	27DDD -----	430

**KEARNEY COUNTY**

Well 402625098594501	Local number	6N	15W	34DC -----	431
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**KIMBALL COUNTY**

Well 411416103361101	Local number	15N	55W	26CCC -----	431
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**LANCASTER COUNTY**

Well 403929096401001	Local number	8N	7E	18DDDB -----	432
Well 403833096385501	Local number	8N	7E	20DDA -----	432
Well 404706096413001	Local number	10N	6E	36CDD -----	433

**NUCKOLLS COUNTY**

Well 400240098111301	Local number	1N	8W	23AB -----	433
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**PHELPS COUNTY**

Well 403123099261501	Local number	6N	19W	2AA -----	434
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**PLATTE COUNTY**

Well 412955097192001	Local number	18N	1E	28CD -----	434
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**SALINE COUNTY**

Well 403855097072501	Local number	8N	3E	19ADA -----	435
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**SARPY COUNTY**

Well 410308096190701	Local number	13N	10E	32DBBA -----	435
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**SAUNDERS COUNTY**

Well 410558096210601	Local number	13N	9E	13ADBA -----	436
Well 410428096211001	Local number	13N	9E	24DDCC -----	437
Well 410334096211601	Local number	13N	9E	36ABAA -----	438
Well 410527096203201	Local number	13N	10E	18CDBD -----	439
Well 410427096202501	Local number	13N	10E	19CDDD -----	440
Well 410340096202201	Local number	13N	10E	30CDDA -----	441
Well 410401096195201	Local number	13N	10E	30DAAB -----	442
Well 410314096201101	Local number	13N	10E	31ACDB -----	443
Well 410303096192901	Local number	13N	10E	32CABC -----	444
Well 410307096193801	Local number	13N	10E	32CBAB -----	445
Well 411005096281502	Local number	14N	8E	24ACD2 -----	446

GROUND-WATER WELLS, BY COUNTY,  
FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

**Page**

**SCOTTS BLUFF COUNTY**

Well 415325103392801	Local number	22N 55W 11DDC -----	447
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**SEWARD COUNTY**

Well 405406097115001	Local number	11N 2E 21DD -----	448
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**VALLEY COUNTY**

Well 412955099123201	Local number	18N 16W 30CC -----	448
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**WEBSTER COUNTY**

Well 400423098314001	Local number	1N 11W 11AB-----	449
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**YORK COUNTY**

Well 404618097482201	Local number	9N 4W 5CCC-----	449
Well 405305097351503	Local number	11N 2W 31BA3-----	450



## DISCONTINUED SURFACE-WATER GAGING STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Nebraska 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. Each station has been assigned an 8-digit station number. For ease in reading the station number, the 06 preceeding the number has been left off as well as the 00 following 4-digit number.

Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only),  
(--) not available

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
WHITE RIVER BASIN			
White River near Crawford (d)	4435	1,163	* 1897
White River at Crawford (d)	4440	313	1931-43, 1948-91
White River below Crawford (d)	4445	350	* 1931
White River below Cottonwood Creek near Whitney (d)	4450	676	1949-61
White River near Chadron (d)	4455	750	1931-43
Big Bordeaux Creek near Chadron (d)	445590	9.42	1968-79
PONCA CREEK BASIN			
Ponca Creek near Naper (d)	4534	373	1961-74
Ponca Creek at Anoka (d)	4535	504	1949-94
Ponca Creek at Lynch (d)	453550	--	1961-64
NIOBRARA RIVER BASIN			
Niobrara River at WYO-NE State Line (d)	4540	455	1956-94
Niobrara River at Agate (d)	4541	840	1957-91
Niobrara River above Box Butte Reservoir (d)	4545	1,400	1947-94
Niobrara River below Box Butte Reservoir (d)	4555	1,460	1947-91
Niobrara River near Dunlap (d)	4559	1,580	1931-42, 1962-71
Niobrara River near Hay Springs (d)	4565	1,790	1950-64
Niobrara River near Colclester (d)	4570	2,220	1948
Niobrara River near Gordon (d)	4575	4,290	1929-32, 1946-91
Antelope Creek near Gordon (d)	4580	160	* 1948
Bear Creek near Eli (d)	4585	360	1948-53
Niobrara River at Cody (d)	4590	5,570	1948-57
Snake River at Doughboy (d)	459175	405	1982-93
Snake River above Merritt Res. (d)	4592	440	1963-81
Snake River near Burge (d)	4595	646	1947-94
Gordon Creek near Simeon (d)	4600	--	* 1948

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
NIOBRARA RIVER BASIN-CONTINUED			
Niobrara River near Valentine (d)	4605	6,160	1901-06, 1928-32
Minnechaduza Creek near Kilgore (d)	4609	85.0	1958-74
Minnechaduza Creek at Valentine (d)	4610	390	1948-93
Niobrara River near Norden (d)	4620	8,390	1953-83, 1986
Plum Creek at Meadville (d)	4625	536	1948-75, 1977-94
Niobrara River at Meadville (d)	4630	--	1951-52
Long Pine Creek near Long Pine (d)	463080	246	1980-91
Niobrara River at Mariaville (d)	463720	9,810	1986-91
Keya Paha River near Naper	4649	1,690	1958-94
Eagle Creek near Redbird (d)	465310	206	1979-91
Redbird Creek at Redbird(d)	465440	157	1981-94
North. Banch Verdigre Creek near Verdigre (d)	465680	137	1980-92
Niobrara River at Niobrara (d)	4660	--	1954-58
BAZILLE CREEK BASIN			
Bazile Creek near Niobrara (d)	4665	440	1952-95
BOW CREEK BASIN			
Bow Creek near St. James (d)	478518	304	1979-93
BLACKBIRD CREEK BASIN			
Blackbird Creek near Macy (d)	6011	102	1979-80
TEKAMAH CREEK BASIN			
Tekamah Creek at Tekamah (d)	6080	23.0	1949-81
NEW YORK CREEK BASIN			
New York Creek at Herman (d)	6090	29.7	1946-69
PLATTE RIVER BASIN			
Mitchell Canal at WY-NE State Line (d)	6740	--	1938-41
North Platte River at Henry (d)	6750	--	1912-18
Horse Creek at WY-NE State Line (d)	6771	--	1969-70
Horse Creek near Lyman (d)	6775	1,707	1931-94
Sheep Creek near Morrill (d)	6780	362	1932-91

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
North Platte River at Morrill (d)	6785	--	1917-23
Dutch Flats Drain near Mitchell (d)	6788	--	1961-65
Dry Spotted Tail Creek at Mitchell (d)	6790	77.2	1949-79
North Platte River at Mitchell (d)	6795	24,300	1920-94
Tub Springs near Scottsbluff (d)	6800	--	1949-79
North Platte River at Scottsbluff (d)	6805	24,500	1887-1900, 1912, 1917-18
Winter Creek at Tri-State Canal, near Scottsbluff (d)	6807	--	1961-65
Winter Creek near Scottsbluff (d)	6810	--	1932-79
Gering Drain near Gering (d)	6815	79.8	1932-45, 1949-91
North Platte River near Minatare (d)	6820	24,700	1924-91
Alliance Drain near Minatare (d)	6822	--	1961-65
Ninemile Drain near Minatare (d)	6823	--	1961-65
Ninemile Drain near McGrew (d)	6825	--	1932-79
Bayard Sugar Factory Drain near Bayard (d)	6830	--	1932-79
Red Willow Creek near Bridgeport (d)	6835	83.0	* 1931
Red Willow Creek near Bayard (d)	6840	162	1932-79
North Platte River at Bridgeport (d)	6845	25,300	1917-91
Pumpkin Creek near Bridgeport (d)	6850	1,020	1932-91
North Platte River at Broadwater (d)	6855	--	1917-23
North Platte River at Lisco (d)	6860	26,700	1932-94
North Platte River at Oshkosh (d)	6865	31,300	1916-17, 1928-60
Blue Creek near Lewellen (d)	6870	1,190	1931-91
North Platte River at Lewellen (d)	6875	28,600	1941-91
North Platte River at Belmar (d)	6880	29,100	1917-26
Otter Creek near Lemoyne (d)	6885	13.9	1932-37
North Platte River at Lemoyne (d)	6890	--	1926-27
North Platte River at Martin (d)	6895	--	1934-38
North Platte River near Keystone (d)	6905	29,400	1942-94
North Platte River near Sutherland (d)	6910	29,800	1937-91
Birdwood Creek near Sutherland (d)	6915	250	1913-15
Birdwood Creek near Hershey (d)	6920	940	1932-91
Lincoln County Drain No. 1 near North Platte (d)	6925		1931, 1955-79
North Platte River at North Platte (d)	6930	30,900	1895-1994
Lodgepole Creek at Bushnell (upper station)(d)	7620	1,090	1931-32
Lodgepole Creek at Bushnell (d)	7625	1,350	1932-91

## DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
Lodgepole Creek at Sidney (d)	7630	2,190	1931-32
Lodgepole Creek at Ralton (d)	7635	3,307	1931, 1951-79
South Platte River at Big Springs (d)	7645	23,200	* 1903
South Platte River at Paxton (d)	7650	24,000	1923-24, 1931-33, 1937-70
South Platte River at North Platte (d)	7655	24,300	1917-94
Fremont Slough near North Platte (d)	765710		1983-85
Platte River at Brady (d)	7660	56,200	1939-91
Platte River near Cozad (d)	7665	56,500	1938-91
Platte River near Lexington (d)	7670	57,300	1902-06, 1916-24
Platte River near Overton (d)	7680	56,300	1915-94
Buffalo Creek near Darr (d)	7685	63.0	1947-69
Elm Creek near Overton (d)	7695	31.0	1947-58
Platte River near Odessa (d)	7700	58,100	1938-91
Whisky Slough 1 mi E of Phelps-Kearney County Line (d)	770175	--	1996-98
North Dry Creek near Kearney (d)	770190	--	1969-71
Downstream Drain near Newark (d)	770255	--	1996-98
Platte River near Grand Island (South Channel) (d)	770478	--	1984-87
Wood River near Riverdale (d)	7710	379	1946-73
Wood River near Gibbon (d)	7715	526	1949-76, **1991-95
Wood River near Alda (d)	7720	599	1954-94
Dry Creek near Cairo (d)	7730	25	1949-53
Silver Creek at Ovina (d)	773150	67.6	** 1991-95
Middle Loup River near Mullen (d)	7745	1,120	1947-48
Middle Loup River near Seneca (d)	7750	1,140	1948-53
Dismal River near Gem (d)	7760	1,360	1947-53
Dismal River at Dunning (d)	7765	2,040	* 1932, 1946-95
Middle Loup River near Milburn (d)	7770	3,690	1952-56, 1958 1960-64
Middle Loup River at Walworth (d)	7775	4,650	1941-60
Middle Loup River at Sargent (d)	7780	4,480	1937-38, 1953-70
Middle Loup River near Comstock (d)	7785	4,960	* 1937
Middle Loup River at Arcadia (d)	7790	5,040	1937-93
Middle Loup River at Loup City (d)	7795	4,860	1936-38, 1949-56
Middle Loup River at Rockville (d)	7800	5,310	1956-64, 1968-75
Boelus Power Canal near Boelus (d)	7805	--	1952-63
Middle Loup River at Boelus (d)	7810	--	1952-55
Middle Loup River at Boelus (combined flow)(d)	7815	--	1937-38
South Loup River near Cumro (d)	7820	1,340	1946-53
South Loup River at Ravenna (d)	7825	1,660	1941-58, 1968-75
Mud Creek near Broken Bow (d)	7830	440	1949-53
Mud Creek near Sweetwater (d)	7835	707	1946-94

## DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
Oak Creek near Loup City (d)	7843	41.9	1952-60, 1961-64
Oak Creek near Dannebrog (d)	7845	122	1949-57
Turkey Creek near Dannebrog (d)	7848	66.2	1966-93
North Loup River at Brewster (d)	7855	1,890	1945-51
North Loup River at Burwell (d)	7865	2,510	1953-60
Calamus River near Harrop (d)	7870	693	1979-97
Calamus River near Burwell (d)	7875	994	1941-95
North Loup River near Burwell (d)	7880	--	1937-38, 1952-60
North Loup River at Ord (d)	7885	3,760	1952-94
Mira Creek near North Loup (d)	788988	65.8	1980-93
North Loup River at Scotia (d)	7890	3,960	1937-70
Davis Creek near Cotesfield (d)	7895	94.0	1949-58
North Loup River near Cotesfield (d)	7900	--	1950-56
Spring Creek at Cushing (d)	7910	164	1949-53
Cedar River near Spalding (d)	7915	752	1945-53, 1958-94
Spalding Power Canal at Spalding (d)	7917	--	1960-64
Cedar River at Primrose (d)	791750	870	1960-64
Cedar River at Belgrade (d)	7918	1,060	1960-65
Cedar River near Fullerton (d)	7920	1,220	1931-32, 1941-95
Fullerton Power Canal at Fullerton (d)	7921	--	1960-64
Beaver Creek at Loretto (d)	7935	311	1945-53, 1980-91
Loup River at Columbus (d)	7945	15,200	1895-1915, 1931, 1934-78
Shell Creek at Newman Grove (d)	7950	122	1949-67
Platte River near Fremont (d)	7965	--	1911-15
Elkhorn River near Atkinson (d)	796973	586	1983-91
Holt Creek near Emmet (d)	796978	--	1979-89
Elkhorn River at Emmet (d)	796985	--	1980-82
Elkhorn River at O'Neill (d)	7970	651	1931-32
South Fork Elkhorn River near Ewing (d)	7980	314	1948-53, 1961-72, 1978-91
Clearwater Creek near Clearwater (d)	7983	210	1962-64, 1978-91
Elkhorn River at Neligh (d)	7985	2,200	1931-93
Elkhorn River at Meadow Grove (d)	7988	2,500	1960-65
Willow Creek near Foster (d)	799080	137	1976-93
Union Creek at Madison (d)	799230	174	1979-93
Pebble Creek at Scribner (d)	799385	204	1979-93
Logan Creek at Pender (d)	799450	731	1966-93
Salt Creek subwatershed No. 3 near Sprague(d)	8013	4.20	1955-59
Salt Creek subwatershed No. 1 near Roca (d)	8014	1.46	1955-61
Salt Creek subwatershed No. 12 near Roca (d)	8015	1.12	1954-61
Salt Creek subwatershed No. 34 near Roca (d)	8025	5.72	1954-61



WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
Antelope Creek at 17th St., at Lincoln (d)	8034	12.1	1958-62
Oak Creek near Raymond (d)	803450	88.7	1963-67
Dee Creek at Greenwood (d)	803550	14.3	* 1960
Cottonwood Creek above Czechland near Rescue	803920	--	1994-96
Cottonwood Creek tributary above Dam 6B near Prague	803935	--	1994-96
Silver Creek at Ithaca (d)	8045	80.0	1950-58
Salt Creek near Ashland (d)	8050	1,640	1948-67
LITTLE NEMAHA RIVER BASIN			
Little Nemaha River near Syracuse (d)	8105	218	1951-69
Brownell Creek subwatershed No. 1A near Syracuse (d)	8109	.19	1955-69
Brownell Creek subwatershed No. 1 near Syracuse (d)	8110	.77	1955-69
BIG NEMAHA RIVER BASIN			
North Fork Big Nemaha River at Humboldt (d)	8145	548	1953-96
Muddy Creek at Verdon (d)	8155	186	1953-72
KANSAS RIVER BASIN			
Pioneer Canal at CO-NE State Line (d)	8225	--	1950-51
Republican River at Benkelman (d)	8245	4,880	1947-94
Republican River at Max (d)	8280	7,740	1928-45
Muddy Creek at Stratton (d)	828490	157	1978
Swanson Lake near Trenton (e)	8290	8,620	1953-94
Republican River at Trenton (d)	8295	8,340	1947-93
Republican River at Culbertson (d)	8300	8,450	1931-50
Frenchman Creek near Champion (d)	8305	700	1932-40
Frenchman Creek below Champion (d)	8310	721	1935-56
Frenchman Creek near Imperial (d)	8315	1,050	1941-94
Frenchman Creek near Enders (d)	8325	1,140	1947-93
Frenchman Creek near Hamlet (d)	8335	1,270	1929-56
Stinking Water Creek near Wauneta (d)	8345	1,330	1941-50
Stinking Water Creek near Palisade (d)	8350	1,500	1950-94

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
KANSAS RIVER BASIN--CONTINUED			
Blackwood Creek near Culbertson (d)	8360	320	1946-86
Red Willow Creek above Hugh Butler Lake (d)	8373	582	1961-94
Hugh Butler Lake near McCook (e)	837390	730	1961-94
Red Willow Creek near McCook (d)	8375	740	1941-47, 1961-93
Dry Creek near Bartley (d)	8385	5.24	1955-57
Medicine Creek at Maywood (d)	8390	231	1951-58
Brushy Creek near Maywood (d)	8395	95.3	1951-58
Fox Creek at Curtis(d)	8400	74.3	1952-58, 1978-91
Dry Creek near Curtis (d)	8405	20	1951-58
Medicine Creek above Harry Strunk Lake (d)	8410	770	1950-94
Mitchell Creek above Harry Strunk Lake (d)	8415	52.0	1950-74
Harry Strunk Lake near Cambridge (e)	8420	880	1949-94
Medicine Creek below Harry Strunk Lake (d)	8425	900	1950-94
Medicine Creek at Cambridge (d)	8430	909	1936-57
Muddy Creek at Arapahoe (d)	8440	246	1951-72, 1978-93
Turkey Creek at Edison (d)	844210	74.9	1978-93
Sappa Creek near Beaver City (d)	8452	1,480	1937-72
Beaver Creek near Beaver City (d)	8470	2,080	1937-94
Harlan County Lake near Republican City (e)	8490	20,750	1953-94
Turkey Creek at Naponee (d)	8500	129	1948-53
Cottonwood Creek near Bloomington (d)	8502	15.6	1948-56
Republican River near Bloomington (d)	8505	21,020	1929-57
Center Creek at Franklin (d)	8510	177	1948-56, 1978-93
Thompson Creek at Riverton (d)	8515	290	1948-56, 1969-75
			1978-94
Elm Creek at Amboy (d)	8520	39.2	1948-54, 1978-93
Republican River near Guide Rock (d)	8530	22,040	1951-84
Beaver Creek near Rosemont (d)	8531	.75	1968-70
Big Blue River at Surprise (d)	8799	345	1964-93
Lincoln Creek near Seward (d)	8800	438	1954-73, 1974-94
Big Blue River at Seward (d)	8805	1,107	1954-94
Turkey Creek near Wilber (d)	8812	461	1960-94
Big Blue River at Beatrice (d)	8815	3,900	1911-15, 1975-94
Little Blue River below Pawnee Creek, near Pauline (d)	8829	929	1963-68
Little Blue River at Angus (d)	8835	--	1950-53
Little Blue River near Alexandria (d)	883570	1,557	1960-72, 1975-92
Big Sandy Creek at Alexandria (d)	883940	607	1980-93

\* Partial year only  
\*\* Irrigation season only.

## WATER RESOURCES DATA - NEBRASKA, 1999

## DISCONTINUED SURFACE-WATER CREST STAGE STATIONS

The following surface-water crest stage stations in Nebraska have been discontinued. The years given in the period of record represent water years for which the annual maximum has been determined for each station. Each station has been assigned an 8-digit station number. for ease in reading the station number, the preceeding the number has been left off as well as the 00 following a 4-digit number.

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
CHEYENNE RIVER BASIN			
Warbonnet Creek near Harrison	396490	24.5	1969-78
WHITE RIVER BASIN			
White River tributary near Glen	4432	7.97	1953-70
Deep Creek near Glen	4433	10.9	1953-78
Soldiers Creek near Crawford	4437	52.6	1955-78
White River tributary No. 2 near Crawford	4439	5.45	1953-70
Chadron Creek tributary at Chadron State Park near Chadron	445530	.59	1953-78
Chadron Creek at Chadron State Park near Chadron	445560	15.4	1953-78
NIOBRARA RIVER BASIN			
Niobrara River tributary near Belmont	4544	6.71	1971-78
Pebble Creek near Esther	4562	3.07	1953-78
Pebble Creek near Dunlap	4563	23.5	1953-70
Cottonwood Creek near Dunlap	4564	82.2	1953-78
Point of Rocks Creek near Marsland	4571	7.10	1970-78
Berea Creek near Alliance	4572	34.0	1953-78
Antelope Creek at Gordon	4577	61.1	1953-70
Antelope Creek tributary near Gordon	4578	26.6	1953-78
Big Beaver Creek near Valentine	4613	24.9	1971-79
Bone Creek tributary near Ainsworth	4631	.39	1956-68
Bone Creek tributary No. 2 near Ainsworth	4632	2.18	1958-68
Sand Draw tributary near Ainsworth	4633	1.07	1956-74
Honey Creek near O'Neill	4652	2.54	1958-68
Camp Creek near O'Neill	4653	1.65	1958-78
Blackbird Creek tributary near O'Neill	4654	.60	1958-68
Bingham Creek near Niobrara	465850	6.5	1968-79
WEIGAND CREEK BASIN			
Weigand Creek near Crofton	466950	3.5	1968-78

## DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
BOW CREEK BASIN			
West Bow Creek near Fordyce	478520	52.8	1964-65, 1968-78
OMAHA CREEK BASIN			
South Omaha Creek tributary near Walthill	6006	2.64	1951-67
South Omaha Creek near Walthill	6007	15.1	1951-67
South Omaha Creek tributary No. 2 near Walthill	6008	1.51	1950-78
South Omaha Creek at Walthill	6009	51.0	1951-78
TEKAMAH CREEK BASIN			
South Branch Tekamah Creek near Craig	6077	2.54	1950-67
South Branch Tekamah Creek tributary near Tekamah	6078	4.08	1951-78
South Branch Tekamah Creek near Tekamah	6079	9.73	1951-67
Tekamah Creek at Tekamah	6080	23.0	1982-89
NEW YORK CREEK BASIN			
New York Creek near Spiker	6086	1.75	1952-67
New York Creek tributary near Spiker	6087	1.55	1951-78
New York Creek north of Spiker	6088	6.50	1951-75
New York Creek east of Spiker	6089	13.9	1950-78
PAPILLION CREEK BASIN			
Big Papillion Creek near Orum	6107	8.52	1968-78
PLATTE RIVER BASIN			
Dry Spottedtail Creek tributary near Mitchell	678750	15.0	1971-78
Hackberry Creek near Redington	6849	16.6	1970-78
Ash Hollow near Oshkosh	6876	54.9	1971-78
Lodgepole Creek tributary near Kimball	762650	8.68	1970-78
Lodgepole Creek tributary near Sumol	7632	15.6	1968-78
South Fork Plum Creek tributary near Farnam	7671	9.81	1951-70
North Fork Plum Creek tributary near Farnam	7672	1.83	1952-78
Plum Creek tributary at Farnam	7673	19.8	1947-48, 1952-70
North Plum Creek near Farnam	7674	38.3	1952-70
Plum Creek near Farnam	767410	79.8	1947, 1951-78

## WATER RESOURCES DATA - NEBRASKA, 1999

## DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
Plum Creek near Smithfield	7675	229	1955-68, 1978
Buffalo Creek tributary No. 1 near Buffalo	768050	2.08	1965-78
East Buffalo Creek near Buffalo	7681	5.21	1951-78
Buffalo Creek at Buffalo	7682	33.5	1951-67
Buffalo Creek tributary No. 2 near Buffalo	7683	1.93	1952-65
West Buffalo Creek near Buffalo	7684	17.1	1951-78
Elm Creek tributary near Overton	7691	.58	1951-78
Elm Creek near Sumner	7692	14.9	1951-78
Elm Creek tributary No. 2 near Overton	7693	5.62	1951-78
Wood River tributary near Lodi	7706	2.02	1952-78
Wood River near Lodi	7707	12.9	1952-78
Wood River near Oconto	7708	26.4	1950, 1952-78
Wood River at Oconto	7709	44.8	1950, 1952-78
Wood River near Lomax	770910	79.6	1952-78
Wood River near Riverdale	7710	379	1974-80
North Fork Dismal River near Mullen	7757	670	1971-78
Lillian Creek tributary near Broken Bow	7776	2.02	1952-78
Lillian Creek near Broken Bow	7777	4.77	1947, 1951-78
Lillian Creek tributary near Walworth	7778	2.04	1951-78
South Branch Mud Creek tributary near Broken Bow	7826	.43	1951-78
South Branch Mud Creek near Broken Bow	782620	79.4	1976-78
South Branch Mud Creek at Broken Bow	7827	400	1945, 1951-75
North Branch Mud Creek at Broken Bow	7828	15.5	1952-67
Mud Creek tributary near Broken Bow	7829	5.98	1945, 1951-78
Turkey Creek near Farwell	7847	27.2	1950, 1953-78
Davis Creek tributary near North Loup	7891	2.29	1952-67
Davis Creek tributary No. 2 near North Loup	7892	6.79	1952-70
Davis Creek near North Loup	7893	21.1	1952-67
Davis Creek southwest of North Loup	7894	41.6	1951-78
East Branch Spring Creek tributary near Wolbach	7906	1.52	1952-78
West Branch Spring Creek at Brayton	7907	19.5	1945, 1952-78
West Branch Spring Creek near Wolbach	7908	36.9	1952-67
Mary's Creek at Wolbach	7909	7.63	1952-67
Spring Creek near Cushing	7911	184	1948, 1953-78
Skeedee Creek tributary near Genoa	793995	.59	1968-78



## WATER RESOURCES DATA - NEBRASKA, 1999

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## DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
PLATTE RIVER BASIN--CONTINUED			
Bone Creek near David City	794710	8.75	1968-78
Shell Creek at Newman Grove	7950	122	1961
South Fork Union Creek tributary near Cornlea	799190	6.54	1968-78
North Logan Creek near Laurel	799423	25.3	1965, 1968-78
Pond Creek near Schuyler	799850	.54	1968-78
Elkhorn River tributary near Nickerson	800350	6.53	1968-78
Olive Branch above Sprague	8012	43	1956-61
Olive Branch below Sprague	801320	81	1956-58
Hickman Branch above Hickman	801340	14.7	1956-61
Hickman Branch at Hickman	801360	42.8	1956-61
Antelope Creek at 48th Street, Lincoln	8032	6.82	1951, 1958-78
Antelope Creek at 27th Street, Lincoln	8033	10.4	1957-78
Antelope Creek at 17th Street, Lincoln	8034	12.5	1963-78
Dee Creek near Alvo	803540	8.06	1962-78
Dunlap Creek tributary near Weston	803570	.31	1950-78
North Fork Wahoo Creek near Prague	8036	15.2	1951-78
Dunlap Creek near Weston	8037	8.90	1951-67
North Fork Wahoo Creek at Weston	8039	43.7	1951-78
Silver Creek near Cedar Bluffs	8041	10.9	1950-78
Silver Creek near Colon	8042	29.9	1950-78
Silver Creek tributary near Colon	8043	14.3	1951-78
Silver Creek tributary at Colon	8044	22.4	1951-78
Silver Creek at Ithaca	8045	72.0	1959-78
Buffalo Creek near Gretna	805510	4.29	1968-78

## WEEPING WATER CREEK BASIN

Weeping Water Creek at Elmwood	8064	20.8	1951-67
Stove Creek near Elmwood	806420	5.23	1951-67
Stove Creek at Elmwood	806440	10.0	1950-78
Weeping Water Creek at Weeping Water	806460	75.5	1947, 1950-78
Weeping Water Creek tributary near Weeping Water	806470	.87	1950-78

## HONEY CREEK BASIN

Honey Creek near Peru	810060	3.40	1968-78
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## DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
LITTLE NEMAHA RIVER BASIN			
Hooper Creek tributary near Palmyra	8101	7.81	1950-78
Hooper Creek near Palmyra	8102	57.5	1951-67
Wolf Creek near Syracuse	8103	25.5	1951-67
Little Nemaha River tributary near Syracuse	8104	.76	1950-78
BIG NEMAHA RIVER BASIN			
Muddy Creek at Verdon	8155	186	1973
Temple Creek near Falls City	815510	3.02	1968-78
KANSAS RIVER BASIN			
North Branch Indian Creek near Max	8281	4.76	1962, 1970-78
Thompson Canyon near Trenton	8297	10	1966-78
Spring Creek tributary near Grant	8341	17.9	1970-78
Bobtail Creek near Palisade	8351	41	1966-78
Ash Creek near Red Willow	8371	22	1966-78
Medicine Creek at Maywood	8390	231	1960-78
Elkhorn Canyon near Maywood	8392	6.74	1952-78
Elkhorn Canyon southwest of Maywood	8394	13.2	1952-70
Brushy Creek near Maywood	8395	130	1947, 1960-76
Frazier Creek near Maywood	8396	11.3	1952-70
Frazier Creek tributary near Maywood	8397	.72	1952-78
Fox Creek (Site No. 1) near Curtis	8398	6.97	1952-70
Fox Creek north of Curtis	839850	13.8	1952-70
Fox Creek above Cut Canyon near Curtis	8399	31.8	1951-78
Cut Canyon near Curtis	839950	25.6	1951-78
Fox Creek at Curtis	8400	72.6	1947, 1960-70
Dry Creek near Curtis	8405	20	1947, 1960-70
Turkey Creek near Holdrege	8496	27.8	1941, 1960, 1968-78
Cottonwood Creek near Bloomington	8502	15.6	1957-78
Republican River near Bloomington	8505	20800	1970-78
Center Creek at Franklin	8510	146	1961-68
Republican River at Riverton	851090	-	1970-78
West Branch Thompson Creek at Hildreth	8511	65.2	1953-70
West Branch Thompson Creek near Hildreth	8512	110	1953-70
West Branch Thompson Creek tributary near Hildreth	8513	11.6	1953-78
West Branch Thompson Creek near Upland	8514	90.8	1953-78
Thompson Creek at Riverton	8515	290	1961-68
Elm Creek at Amboy	8520	39.2	1954-78
Beaver Creek near Rosemont	8531	.752	1971-78

WATER RESOURCES DATA - NEBRASKA, 1999

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DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Drainage area (mi<sup>2</sup>)</i>	<i>Period of record (water years)</i>
KANSAS RIVER BASIN--CONTINUED			
Republican River at Superior	8534	22300	1971-75, 1977
Big Blue River tributary near Hordville	879850	4.07	1968-78
Plum Creek near Seward	880508	85.5	1968-78
North Branch West Fork Big Blue River tributary at Giltner	880590	7.52	1968-78
School Creek tributary near Harvard	880710	13.1	1953-70
School Creek near Harvard	880720	55.1	1953-78
School Creek tributary No. 2 near Harvard	880730	14.0	1953-78
School Creek near Saronville	880740	89.4	1953-70
Beaver Creek tributary near Henderson	880775	1.16	1968-78
West Fork Big Blue River at Beaver Crossing	880790	1153	1967-68
South Fork Swan Creek tributary near Western	881250	1.00	1968-78
Indian Creek at Beatrice	881450	74.7	1961-93
Big Blue River at Beatrice	8815	3900	1969-74
Bear Creek near Adams	881510	2.85	1968-70
Big Blue River tributary near Beatrice	881530	1.86	1971-78
Little Blue River below Pawnee Creek near Pauline	8829	929	1969
Little Blue River near Angus	8831	1038	1958-68
Spring Creek tributary near Ruskin	883540	2.11	1968-78
South Fork Big Sandy Creek near Edgar	8836	15.2	1953-70
South Fork Big Sandy Creek near Davenport	8837	32.0	1950, 1952-78
South Fork Big Sandy Creek near Carleton	8838	50.4	1953-70
South Fork Big Sandy Creek near Hebron	8839	90.3	1953-70
Little Sandy Creek near Ohiowa	883955	11.6	1968-78
Dry Branch tributary near Fairbury	884005	4.51	1968-78

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS

The following surface-water quality stations in Nebraska have been discontinued or converted to partial-record stations. Water quality data (daily or periodic samples with collection frequency not less than quarterly) were collected and published for the period of record shown for each station. Each station has been assigned an 8-digit station number. For ease in reading the station number, the 06 preceding the number has been left off as well as the 00 following a 4-digit number.

Type of record:	c	chemical
	m	microbiological
	s	sediment
	t	temperature

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
WHITE RIVER BASIN			
White River at Crawford	4440	* 1957	c
White River near Whitney	4450	1969-72	c m t
White River at Slim Butte, SD	4457	* 1964, 1965-67	c
		1964-67	s
		1965-67	t
PONCA CREEK BASIN			
Ponca Creek at Anoka	4535	1949-53, 1964, 1967	c
		1949-52, 1967	s
** Ponca Creek at Verdel	4536	* 1930, *1949, *1971	c
		1975-80	c m t
NIOBRARA RIVER BASIN			
Niobrara River at Agate	4541	* 1952	c
Niobrara River above Box Butte Reservoir	4545	* 1952	c
Niobrara River near Verdel	4655	1976-80	c
		1972-81	s
		1959-84	t
		1958-65, 1967-94	m
Niobrara River near Dunlap	4559	1969-73	c m t
Niobrara River near Hay Springs	4565	1949-53, *1961, 1964	c
		1950-57	s
		1951-55	t
Niobrara River near Colclester	4570	1969-73	c m t
Niobrara River near Gordon	4575	1947-55	c s
		* 1964	c s t
Antelope Creek near Gordon	4577	* 1948-49	c
Bear Creek near Eli	4585	* 1947	c m t
Niobrara River near Cody	4590	1948-56	c s t
Snake River above Merritt Reservoir	4592	1964-75	t
		1976	c t
Ainsworth Canal near Johnstown	459350	1978-84	c t
Snake River near Burge	4595	1947-52	c
		1949-53	s



WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>		
NIOBRARA RIVER BASIN--CONTINUED					
Gordon Creek near Simeon	4600	* 1948	c		
Niobrara River at Valentine	4605	* 1948	c		
Minnechaduz Creek at Valentine	4610	* 1948-49	c		
** Niobrara River near Sparks	4615	1982-93	c		t
Niobrara River near Norden	4620	* 1953, *1961, 1964-67	c	s	t
Plum Creek at Johnstown	462450	1969-75, 1978-84	c m		t
Plum Creek near Johnstown	462470	1969-75, 1978-84	c m		t
Plum Creek near Meadville	4625	1948-49	c		*s
		1977-84	c		t
Niobrara River at Meadville	4630	1950-52	c	s	t
Long Pine Creek at Long Pine	463050	1978-84	c		t
Bone Creek at Ainsworth	463090	* 1969-75, 1978-84	c		t
Sand Draw near Johnstown	463290	1978-84	c		t
Sand Draw near Meadville	463310	1978-84	c		t
Bone Creek near Long Pine	463350	* 1969-75, 1978-84	c		t
Niobrara River near Mariaville	463720	1985-89	c m	s	
Keya Paha River at Wewela, SD	4645	1947-49	c		
** Niobrara River near Spencer	4650	* 1946-48	c		
		1976	c		t
Eagle Creek near Midway	465050	* 1957-66,	c		
		1976-90	c		t
East Branch Eagle Creek near Midway	4651	* 1957-66	c		
		1976-90	c		t
		1974-83	c		
Honey Creek near Midway	465202	* 1957-66	c		
Eagle Creek near Redbird	465310	1986-90	c		
Redbird Creek near Meek	465398	* 1957-66	c		
		1976-90	c		t
Blackbird Creek near Meek	465420	* 1957-66	c		
		1976-90	c		t
** Niobrara River near Verdel	4655	1958-65,1967-94,	c		
		1958-65,1967-84			t
		1972-81		s	
South Branch Verdigre Creek near Royal	465650	* 1967	c		
Verdigre River near Verdigre	4657	1948-49	c		
		1948-50		s	
BAZILLE CREEK BASIN					
Bazile Creek near Creighton	4662	* 1967	c		

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
MISSOURI RIVER			
Missouri River at Yankton, SD	4675	1951, 1957-59	c t
Missouri River at Decatur	6012	1969-73	c m t
Missouri River at Omaha	6100	1969-72	c m t
Missouri River at Bellevue	6106	1969-70, 1971-73	c m t
Missouri River near Mormon Bridge at Omaha	6098	1974-75	c m t
PLATTE RIVER BASIN			
Ft. Laramie Canal at WY-NE State Line near Lyman	6562	* 1964	c
Interstate Canal at WY-NE State Line near Henry	6566	* 1964	c
High Line Canal near Bayard	6568	* 1964	c
Low Line Canal near Bayard	656955	* 1964	c
North Platte River at WY-NE State Line at Henry	6745	* 1946, 1964	c
North Platte River S of Henry	6750	* 1938	c
South Horse Creek lateral at WY-NE State Line near Lyman	6771	* 1964	c
Kiowa Creek near Gering	677208	* 1964	c
Kiowa Creek above Ft. Laramie Canal near Lyman	677210	* 1963-64	c
Kiowa Creek above Horse Creek lateral near Lyman	677220	* 1963-64	c
Unnamed tributary to Kiowa Creek near Lyman	677221	* 1963-64	c
Owl Creek above Ft. Laramie Canal near Lyman	677234	* 1963-64	c
Owl Creek below Ft. Laramie Canal near Lyman	677235	* 1963-64	c
Owl Creek near Lyman	677240	* 1963-64	c
Unnamed eastern tributary to Kiowa Creek near Lyman	677245	* 1963-64	c
Kiowa Creek above Dry Creek Drain near Lyman	677250	* 1963-64	c
Dry Creek Drain below Ft. Laramie Canal near Lyman	677251	* 1963-64	c
Western tributary to Dry Creek Drain above Horse Creek lateral	677270	* 1963-64	c
Dry Creek Drain below Horse Creek lateral near Lyman	677274	* 1963-64	c

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>	
PLATTE RIVER BASIN--CONTINUED				
Western tributary to Dry Creek Drain near Lyman	677280	* 1963-64	c	
Dry Creek Drain near Lyman	677290	* 1963-64	c	s
Kiowa Creek near Lyman	6773	1961-65	c	s
Horse Creek near Lyman	6775	* 1949, *1964	c	
		1970-73		t
Lane Drain near Lyman	677550	* 1964	c	
Sheep Creek near Morrill	6780	* 1964	c	
Morrill Drain near Morrill	678580	* 1964	c	
Akers Draw near Morrill	678610	* 1949-64	c	
Brown Canyon Drain near Mitchell	6787	1961-65	c	s
Dutch Flats Drain near Mitchell	6788	1961-65	c	s
Dry Spottedtail Creek at Mitchell	6790	* 1964	c	
Bald Drain near Mitchell	6794	* 1964	c	
		1970-73	c	t
North Platte River at Mitchell	6795	* 1964	c	
Wet Spottedtail Creek near Mitchell	679950	* 1964	c	
Tub Springs near Scottsbluff	6800	* 1964	c	
Gering Canal at siphon under Gering Drain near Gering	680450	* 1964	c	
Winter Creek at Tri-State Canal near Scottsbluff	6807	1961-65	c	s
Hale Drain near Scottsbluff	6808	1961-65	c	s
Scottsbluff Drain No.1 near Scottsbluff	680950	* 1964	c	
Winter Creek near Scottsbluff	6810	* 1964	c	
Gering Drain tributary near Gering	681290	* 1963-64	c	
Gering Drain at Mitchell-Gering Canal near Gering	6813	1961-65	c	s
Gering Drain near Gering	6815	* 1964	c	s
Scottsbluff Drain No. 2 near Minatare	681950	* 1964	c	
North Platte River near Minatare	6820	* 1938, *1964	c	
Fairfield Seep near Minatare	682010	* 1964	c	
Alliance Drain near Minatare	6822	1961-65	c	*s
Ninemile Drain above Tri-State Canal near Minatare	682280	* 1963-64	c	
East Ninemile Drain near Minatare	682290	* 1963-64	c	
Ninemile Drain near Minatare	6823	1961-65	c	s
Ninemile Drain near McGrew	6825	* 1964	c	
North Platte River at McGrew	682505	1973-89	c	m
Bayard Sugar Factory Drain near Bayard	6830	* 1964	c	
Cleveland Drain near McGrew	683050	* 1964	c	
West Wildhorse Drain near Bayard	6832	1961-62	c	s

## DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Wildhorse Drain near Bayard	6833	1961-62	c s
Red Willow Creek near Bayard	6840	* 1964	c
DeGraw Drain near Bridgeport	684250	* 1964	c
Indian Creek near Bridgeport	684350	* 1964	c
Upper Dugout Creek near Bridgeport	684450	* 1964	c
North Platte River at Bridgeport	6845	* 1964	c
		1971-74	c t
		1970-73	c t
Pumpkin Creek near Bridgeport	6850	* 1949	c
North Platte River at Lisco	6860	1970-94	c m s
		1971-81	c
		1971-81	t
North Platte River at Oshkosh	6865	1951	c
Kingsley Reservoir (McConaughy Lake)	6900	1947-50	c
Sutherland Canal below diversion from North Platte River near Keystone	6903	* 1968	c
North Platte River near Keystone	6905	* 1945	c
		1973-74	c t
North Platte River at North Platte	6930	* 1950, *1958-59,	
		* 1965	c
Lodgepole Creek at Kimball	762550	1973-74	c m t
South Platte River at Julesburg, CO	764001	1946-69	c
South Platte River near Julesburg, CO	764201	1969-71	c
** South Platte River at Roscoe	764880	1975-83	c m t
Sutherland Canal below diversion from South Platte River near Paxton	7649	* 1968	c
South Platte River at Paxton	7650	* 1965	c
Supply Canal (Tri-County diversion) near Maxwell	7657	1951-72	c t
Platte River at Brady	7660	1950-72	c
		1951-72	t
South Platte River at North Platte	7655	1993-95	c s t
Tri-County Canal (1.25 mi below diversion) near North Platte	765698	1993-95	c s t
Platte River near Cozad	7665	* 1947-49, *1965,	
Platte River near Lexington	7670	1951	c
Johnson Reservoir below Power Plant No. 2 near Lexington	767040	1950-52, 1957-70	c
Plum Creek near Smithfield	7675	1998	c t
Larson Drain 2 miles SW of Platte River bridge S of Overton	767996	* 1968	c
Spring Creek below Lexington	768015	1973-74	c m t
Buffalo Creek near Darr	7685	* 1948	c
Unnamed Drain 2.2 miles SW of Platte River bridge S of Elm Creek	769950	* 1968	c

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>	
PLATTE RIVER BASIN--CONTINUED				
Unnamed Drain 8.2 miles N of Holdrege	769994	* 1968	c	
Unnamed Drain 5.2 miles SE of Platte River bridge S of Elm Creek	769996	* 1968	c	
Platte River near Odessa	7700	* 1947-49, 1950-52, * 1965	c	
Unnamed Drain 2.3 miles SE of Platte River bridge S of Odessa	770002	* 1968	c	
Whisky Slough 1 mi E of Phelps-Kearney County Line	770175	1998	c	t
North Dry Creek near Kearney	770190	1969-71	c m	t
Whiskey Slough 3.2 miles SW of Platte River bridge S of Kearney	770198	* 1968	c	
** Platte River near Kearney	7702	* 1947, *1959	c	
Platte River (North Channel) near Kearney	770205	1973-74	c m	t
Fort Kearney Slough near Newark	770240	1998	c	t
Crooked Creek Drain 0.8 mile NW of Newark	770250	* 1968	c	
Downstream Drain near Newark	770255	1998	c	t
Lost Creek 7.7 miles NE of Axtell	770340	* 1968	c	
Wood River near Riverdale	7710	* 1947-49, *1965-66, 1974	c	
		1947-52		s
Wood River near Gibbon	7715	* 1966, 1974, 1976	c	
Wood River near Alda	7720	* 1966, 1974	c m	t
Wood River near Grand Island	7722	* 1965-66, 1973-74	c m	t
Wood River near Chapman	7725	* 1958-59, 1962-80	c m	t
Warm Slough near Chapman	772750	* 1965-66	c	
Silver Creek near Silver Creek	7729	* 1951, *1965-66	c	
Prairie Creek near Cairo	772950	* 1965	c	
Silver Creek at Ovina	773150	* 1966	c	
Prairie Creek near Central City	7734	* 1965-66	c	
Prairie Creek near Fullerton	773410	* 1951	c	
Middle Loup River near Seneca	7750	* 1949-51		s
** Middle Loup River at Dunning	7755	* 1947-66	c	
		1950-52, 1954, *1977		s
		1950-56, 1966-89		t
Dismal River near Thedford	7759	1968-98	c	t
Dismal River near Gem	7760	1949-51		s
Dismal River at Dunning	7765	* 1952	c	
		1948-53, 1956-57		s
		1956, *1977		s



WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Middle Loup River near Milburn	7770	1949-55	s
		1970-74	c t
Middle Loup River at Walworth	7775	* 1949	s
Lillian Creek near Walworth	7779	1951	s
Detention structure near Sargent	7781	1960-62	s
Middle Loup River near Comstock	7785	1969-74	c t
Farwell Canal at Highway 58 above Sherman Reservoir	778860	1977-83	c t
Middle Loup River at Arcadia	7790	* 1949	c
		1948-57	s
		1977-83	c
Middle Loup River at Loup City	7795	1949-52	s
Deer Creek near Boleus	781530	1977-83	c t
South Loup River near Cumro	7820	* 1948	c
		1948-51	s
Mud Creek near Broken Bow	7830	1973-74	c m t
Mud Creek near Sweetwater	7835	* 1977	s
		1978-89	c m
** South Loup River at St. Michael	7840	1946-53	s
Oak Creek near Loup City	7843	1951-58	s
Oak Creek near Farwell	7844	1977-83	c t
Oak Creek near Dannebrog	7845	1977-83	c t
Dry Creek near Dannebrog	784505	1977-83	c t
Turkey Creek near Nysted	784750	1977-83	c t
Turkey Creek northeast of Dannebrog	784810	1977-83	c t
Turkey Creek tributary near St. Paul	784820	1977-83	c t
Unnamed Creek at St. Paul	785020	1977-83	c t
North Loup River at Brewster	7855	* 1950	c
		1948-51	s
** North Loup River at Taylor	7860	* 1956	c
		* 1949, *1977	s
		1974-81	c t
North Loup River near Burwell	7865	* 1944, 1952	c
		1949-57	s
Calamus River near Burwell	7875	* 1944, *1952-56	c
		* 1949-55	s
		1972-81	c t
North Loup River at Ord	7885	* 1944	c
		1949-55	s
North Loup River at Scotia	7890	* 1944	c
		* 1949	s
Davis Creek near Cotesfield	7895	* 1950-53, 1956	s
North Loup River near Cotesfield	7900	* 1950, 1951-54	s
Auger Creek at Elba	790245	1977-83	c t

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Unnamed Creek south of Elba	790255	1977-83	c t
Loup River near Palmer	791150	1993-95	c s t
Cedar River near Spalding	7915	* 1947-49, *1959-60	c
		1946-47	s
		1957-63	c s
Cedar River at Belgrade	7918	* 1959	c
		1958-63	s
Loup River Power Canal at Diversion near Genoa	792499	1973-86	c m s t
Cedar River near Fullerton	7920	1958-59, 1974-96	c
		1974-83	t
** Loup River Power Canal near Genoa	7925	1950-53	s
** Loup River near Genoa	7930	1976, 1979-86	c s t
Beaver Creek at Loretto	7935	1947-49	c
		1946-51	s
Beaver Creek near Albion	7936	1973-78	c m t
** Beaver Creek at Genoa	7940	* 1977	s
		1978-89	c m
Loup River at Columbus	7945	* 1946	c
Platte River near Schuyler	7947	1966-68	c s
** Shell Creek near Columbus	7955	* 1948-49, *1968	c
		1948-49	s
** Platte River at North Bend	7960	* 1966-69	s
		1973-77	t
		1973-89	c m
Elkhorn River near Stuart	796950	* 1966, *1968-69	c
Elkhorn River near Atkinson	796973	1983-89	c m
Holt Creek near Emmet	796980	* 1966, *1968-69	c
Dry Creek near O'Neill	7972	* 1966, *1968-69	c
Elkhorn River near Inman	7974	* 1966, *1968-69	c
		1965-70	s
** Elkhorn River at Ewing	7975	* 1948-49, 1960-66, 1968-69, 1976	c
		1948-52, 1961	s
South Fork Elkhorn River at Ewing	7980	* 1948, 1960-66	c
		1961, 1963-67	s
Cache Creek near Ewing	798150	* 1967-68	c
Clearwater Creek at Clearwater	798302	* 1964, *1967-69	c
		1962-64	s
Antelope Creek near Neligh	798450	* 1967-68	c
Elkhorn River at Neligh	7985	* 1947, *1967-68, 1974-81	c t
		1948-51	s
		1962-64	s

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Cedar Creek at Oakdale	798550	* 1967-69	s
Elkhorn River at Meadow Grove	7988	* 1943, *1964, *1967-69	c s
Elkhorn River near Battle Creek	7989	* 1968-69	c
Battle Creek at Battle Creek	798920	* 1968-69	c
** Elkhorn River near Norfolk	7990	* 1976-77 1960-69, 1974-89	s t c m
North Fork Elkhorn River above Pierce	799020	* 1968-69	c
Dry Creek near Pierce	799030	* 1968-69	c
North Fork Elkhorn River below Dry Creek	799031	* 1968	c
Yankton Slough near Pierce	799040	* 1968	c
Willow Creek near Pierce	799050	* 1968-69	c
** North Fork Elkhorn River near Pierce	7991	* 1944, 1959-64, * 1968-69 * 1961, 1963-64	c s
North Fork Elkhorn River at Hadar	799110	* 1968-69	c
North Fork Elkhorn River at Norfolk	799130	* 1965, 1968-69 1965-68	c s
Union Creek near Stanton	799290	* 1964, *1968-69 1962-65	c s
Elkhorn River at Stanton	7993	* 1943, *1968-69	c
Humbug Creek near Pilger	799310	* 1968-69	c
Rock Creek near Beemer	799325	* 1968-69	c
Plum Creek near Beemer	799345	* 1968-69	c
** Elkhorn River at West Point	799350	1968-69, 1981-89	c m
Cuming Creek near Scribner	799365	* 1968-69	c
Pebble Creek at Scribner	799385	* 1968-69	c
Elkhorn River near Hooper	7994	* 1968-69	c
Middle Logan Creek at Laurel	799410	* 1968-69	c
Logan Creek at Wakefield	799445	* 1963	c
Logan Creek at Pender	799450	1964-68, 1973-89	c m
** Logan Creek near Uehling	7995	1968-71, 1974-81	t
Middle Fork Maple Creek near Schuyler	7999	* 1968	c
Bell Creek at Arlington	800250	* 1968-69	c
Elkhorn River at Waterloo	8005	1966-95	c m s t
** Platte River near Ashland	8010	* 1946, 1950-53, *1969	c
East inlet to Olive Creek Lake near Kramer	801148	* 1967	c
Olive Creek near Kramer	801150	* 1967	c
West tributary to Bluestem Lake near Sprague	801264	* 1967	c
Bluestem Lake near Sprague	801266	* 1968	c
Salt Creek near Roca	801330	1971-80	c m

## DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Tributary to Wagon Train Lake near Hickman	801345	* 1967	c
Wagon Train Lake near Hickman	801346	* 1967	c
West tributary to Stagecoach Lake near Hickman	801364	* 1967	c
South inlet to Stagecoach Lake near Hickman	801365	* 1967	c
Stagecoach Lake near Hickman	801366	* 1968	c
Hickman Branch near Roca	801370	1971	c m t
Hickman Branch at Roca	8026	* 1972	c m t
Salt Creek at Saltillo Siding	803010	* 1972	c
Cardwell Branch near Denton	803068	* 1968	c
South tributary to Yankee Hill Reservoir near Denton	803069	* 1968	c
Yankee Hill Reservoir at dam near Denton	803070	* 1968	c
Holmes Creek near Denton	803073	* 1968	c
Conestoga Lake near Denton	803075	* 1968	c
Salt Creek above Beal Slough at Lincoln	803080	1971-83	c m t
Beal Slough at Lincoln	803085	* 1971-72	c m t
Haines Branch at Lincoln	803098	* 1971-72	c m t
Salt Creek at A Street at Lincoln	8031	* 1950	c
West tributary to Twin Lakes Reservoir near Pleasant Dale	803113	* 1968	c
North tributary to Twin Lakes Reservoir near Pleasant Dale	803114	* 1968	c
Twin Lakes Reservoir near Pleasant Dale	803115	* 1968	c
Middle Creek near Malcolm	803128	* 1968	c
Pawnee Lake near Emerald	803130	* 1968	c
Middle Creek at Lincoln	803180	1971-72	c m t
Salt Creek at 14th Street at Lincoln	803190	1971-80	c m t
Antelope Creek above Antelope Lake at Lincoln	803196	* 1968	c
Antelope Lake at Lincoln	803198	* 1968	c
Antelope Creek at 52nd Street at Lincoln	803199	1983	c t
Antelope Creek at 27th Street at Lincoln	8033	1971-72, 1983	c m t
Antelope Creek at Lincoln	8034	* 1963	c
Antelope Creek at Court Street at Lincoln	803405	1971-83	c m t
Oak Creek at Agnew	803442	* 1968	c
Middle Oak Creek near Garland	803445	* 1968	c
Branched Oak Reservoir near Raymond	803448	* 1968	c
North Oak Creek near Valparaiso	803470	* 1971-72	c m t
Oak Creek above Air Base near Lincoln	803480	1971-72	c m t

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
PLATTE RIVER BASIN--CONTINUED			
Elk Creek near Lincoln	803485	* 1971-72	c m t
Oak Creek at 1st Street at Lincoln	803490	1968-69	c
Oak Creek at 14th Street at Lincoln	803493	1971-80	c m t
** Salt Creek at Lincoln	8035	1950-60, 1968-80	c m t
		1951-54	s
Dead Man's Run at 66th Street at Lincoln	803501	1983	c t
Dead Man's Run at Highway 6 at Lincoln	803503	1971-72, 1983	c m t
Little Salt Creek near Davey	803507	* 1952, *1969	c
** Little Salt Creek near Lincoln	803510	* 1952, *1969	c
		1971-72, 1974-77	c m t
Stevens Creek near Walton	803515	* 1971-72	c m t
** Stevens Creek near Lincoln	803520	* 1969, 1979-80	c
Salt Creek below Stevens Creek near Waverly	803525	1971-93	c m
Stevens Creek at Highway 6 near Lincoln	803523	1971-72, 1974-78	c m t
** Rock Creek near Ceresco	803530	1970-81	c m s t
Rock Creek near Greenwood	803534	* 1971-72, 1977	c m t
Camp Creek near Greenwood	803537	* 1971-72	c m t
Dee Creek at Greenwood	803550	* 1971-72	c m t
** Salt Creek at Greenwood	803555	1971-89	c m
		1971-72, 1981-84	t
		1972-76	s
Greenwood Creek near Greenwood	803558	* 1971-72	c m t
Callahan Creek near Greenwood	803563	* 1971-72	c m t
Salt Creek above Ashland	803565	1971-74	c m t
Salt Creek at Ashland	803567	* 1972	c
** Wahoo Creek at Ithaca	8040	1967-68	c
Silver Creek near Wahoo	804495	1974-78	c m t
Salt Creek near Ashland	8050	* 1950	c
Salt Creek at mouth near Ashland	805005	* 1971	c
Platte River near South Bend	805010	* 1960-65	c
		1960, 1965, 1970	s
Mill Creek at Louisville	805499	1973-81	c m s t
Cedar Creek near Manley	805520	* 1968	c
Cedar Creek near Louisville	805525	1973-81	c m s t
		* 1971	cmt
Platte River near Plattsmouth	805550	1969-72	c m t
Fourmile Creek near Plattsmouth	805565	1974-81	c m s t
Platte River at La Platte	805570	1974	c m t



WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
WEeping WATER CREEK BASIN			
Weeping Water Creek at Weeping Water	806460	1973-81	c m s t
S Br Weeping Water Creek near Union	806495	1973-81	c m s t
** Weeping Water Creek at Union	8065	* 1977	s
Weeping Water Creek near Union	806501	1973-81	c m s t
		* 1971	c m t
		* 1977	s
MISSOURI RIVER			
Missouri River at Nebraska City	8070	1951-73	c t
LITTLE NEMAHA RIVER BASIN			
Brownell Creek SWS No. 1A near Syracuse	8109	1955-69	s
Brownell Creek SWS No. 1 near Syracuse	8110	1955-69	s
** Little Nemaha River at Auburn	8115	* 1977	s
		1973-89	c m
BIG NEMAHA RIVER BASIN			
** Big Nemaha River at Falls City	8150	1951, 1973-89	c m
KANSAS RIVER BASIN			
** Arikaree River at Haigler	8215	1947-49	c
		1947-51	s
		1950-51	t
** North Fork Republican River at CO-NE State Line	8230	1947-49	c s
** Rock Creek at Parks	8240	* 1952-53	c
Republican River at Benkelman	8245	* 1950	s
		1969-73, 1980-89	c m
** South Fork Republican River near Benkelman	8275	1950	
Republican River near Max	8280	1946-47	c t
** Republican River at Stratton	8285	1951, 1953-54	s t
Swanson Lake near Trenton	8290	* 1957	c
Republican River at Trenton	8295	1947-49	c
		1947-49, 1953	t
		1947-51, 1953	s
		* 1975-76	c t
**** Enders Reservoir	8320	1952-57	c
Frenchman Creek near Enders	8325	1947-49	c
		1946-47, 1962, 1964	s
Frenchman Creek at Wauneta	8331	1962	s

## DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
KANSAS RIVER BASIN--CONTINUED			
Frenchman Creek 2.6 miles E of Enders Dam near Wauneta	8327	1962	s
Frenchman Creek 5.6 miles E of Enders Dam near Wauneta	8329	1962, 1964-67	s
Frenchman Creek above Sand Canyon near Hamlet	8333	1962	s
Frenchman Creek near Hamlet	8335	1962	s
** Frenchman Creek at Palisade	8340	1964-65, *1975-76 1971-76	c t s
** Frenchman Creek at Culbertson	8355	1970-87	c
** Republican River at McCook	8370	1957 1967-88 1956-57	c  t s
Red Willow Creek at Red Willow Diversion Dam near McCook	8379	1970-74	c t
** Red Willow Creek near Red Willow	8380	1950-53 1950-54	c t s
Republican River above Medicine Creek at Cambridge	8387	1951-58 1951	c s
Medicine Creek at Maywood	8390	1951-58	s t
Brushy Creek near Maywood	8395	1951-58 * 1956	s t c
Fox Creek at Curtis	8400	1951-58	s t
** North Fork Republican River at CO-NE State Line	8230	1947-49	c s
** Rock Creek at Parks	8240	* 1952-53	c
Republican River at Benkelman	8245	* 1950 1969-73, 1980-89	s c m
**South Fork Republican River near Benkelman	8275	1950	s
Dry Creek near Curtis	8405	* 1953-56 1951-58	c s
Medicine Creek above Harry Strunk Lk	8410	* 1951-56 1953-58 1951-58 1951-57 1946-49, 1951-57	c  t s t s
** Republican River at Cambridge	8435	1947-53 1951-53	c s

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

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<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>	
KANSAS RIVER BASIN--CONTINUED				
Turkey Creek near Edison	8442	* 1968	c	
** Republican River near Orleans	8445	1969-94	c	t
Sappa Creek near Oberlin, KS	8450	1952-53, 1963-64	c	
		1963		t
		1950, 1963		s
Sappa Creek near Beaver City	8452	1947-51	c	
		1949-52		t
		1947-52		s
Beaver Creek at Cedar Bluffs, KS	8465	1962-63	c	s t
Mitchell Creek above Harry Strunk Lk	8415	* 1951-56	c	
		1951-57		s
Harry Strunk Lake	8420	1952-56	c	
Medicine Creek below Harry Strunk Lk	8425	1951-52, 1954,		
		1956-57		s
		1970-74	c	t
Medicine Creek at Cambridge	843010	* 1947-53	c	
Beaver Creek near Beaver City	8470	1950-53	c	t
		1948-50, 1951-53		s
** Sappa Creek near Stamford	8475	* 1948-49, 1953	c	
		1950-53		t
		1947-53		s
Harlan County Reservoir	8490	1956-58	c	
** Republican River below Harlan County Dam	8495	1969-74	c	t
		1956-57		t
Republican River near Bloomington	8505	1947-49	c	
Thompson Creek at Riverton	8515	1950-52	c	
Republican River near Guide Rock	8530	1962-85	c m	t
** Republican River at Guide Rock	853020	1986-89	c m	
Republican River at Superior	8534	1969-73	c	
** Big Blue River at Surprise	8799	1965-70, 1974-81	c	t
		1965-72		s
Kezan Creek near Garrison	879945	* 1968-69	c	
Lincoln Creek near Utica	879995	* 1968-69	c	
Lincoln Creek near Seward	8800	1963-70, 1973-89	c m	
		1964-71		s
Big Blue River at Seward	8805	1978-89	c m	
Plum Creek at Seward	880510	* 1968-69	c	
Big Blue River near Milford	880550	* 1968-69	c	
West Fork Big Blue River below Hastings	880556	* 1968-69	c	
		1973-78	c m	t
Flessner Creek near Stockham	8806	* 1968	c	
School Creek near Grafton	880750	* 1968-69	c	
Beaver Creek near Beaver Crossing	880785	* 1968-69	c	

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

<i>Station name</i>	<i>Station number</i>	<i>Period of record (water years)</i>	<i>Type of record</i>
KANSAS RIVER BASIN--CONTINUED			
** West Fork Big Blue River near Dorchester	8808	1963-70, 1973-91 1988-93	c s
Big Blue River at Crete	880950	* 1951, *1963	c s
** Big Blue River near Crete	8810	1961-62, *1964, 1968-84	c m s
		1960-62, *1964 1962, 1968-84	t
Squaw Creek near Crete	881010	* 1968	c
Big Blue River at Wilber	881050	* 1964, *1969	c
Big Blue River near Wilber	881052	* 1964	c
Big Blue River at DeWitt	8811	* 1964	c
Clatonia Creek near DeWitt	881105	* 1968	c
Turkey Creek near Milligan	881110	1968-69	c
Turkey Creek above Brush Creek near Wilber	881150	* 1964	c
Turkey Creek near Wilber	8812	1965-72, 1966-70, 1973-89	s c m
Turkey Creek 2 miles SW of Wilber	881210	* 1964	c
Turkey Creek above Swan Creek near DeWitt	881220	* 1964	c
North Fork Swan Creek near Swanton	881353	* 1964	c
Swan Creek at Swanton	881356	* 1964	c
Swan Creek near DeWitt	881357	* 1968-69	c
Turkey Creek near DeWitt	881358	* 1964	c
Big Blue River near DeWitt	881420	* 1968-69	c
Cub Creek near Beatrice	881430	* 1968-69	c
Indian Creek at Beatrice	881450	* 1968-69	c
Big Blue River at Beatrice	8815	* 1960-69 * 1960-61, *1963 1978-83	c s c m t
Bear Creek near Beatrice	881520	* 1968-69	c
Cedar Creek near Holmesville	881530	* 1968	c
Mud Creek near Holmesville	881650	* 1968-69	c
Big Indian Creek at Wymore	881750	* 1968-69	c
Wildcat Creek near Barneston	881950	* 1968	c
** Big Blue River at Barneston	8820	1967-68 1981-93	c m t
Plum Creek at Barneston	882050	* 1968-69	c
Big Blue Creek near Oketo, KS	8824	1961-64	c
Sand Creek near Holstein	882550	* 1969	c
Cottonwood Creek near Roseland	882650	* 1968-69	c

WATER RESOURCES DATA - NEBRASKA, 1999  
DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

xli

<i>Station name</i>	<i>Station number</i>	<i>Period of record(water years)</i>	<i>Type of record</i>
KANSAS RIVER BASIN--CONTINUED			
Little Blue River below Pawnee Creek near Pauline	8829	* 1965, *1968	c
Pawnee Creek at Spring Ranch	882950	* 1968-69	c
** Little Blue River near Deweese	8830	1959-70, 1975-89 1979-81 1953, 1955-61	c m t s
Little Blue River above Oxbow Creek near Angus	8833	* 1968	c
Little Blue River at Angus	8835	1951-53	s
Elk Creek near Oak	883510	* 1968-69	c
Spring Creek at Hebron	883553	* 1968-69	c
Dry Creek near Hebron	883563	* 1968-69	c
Little Blue River near Alexandria (Gilead)	883570	* 1968	c
Big Sandy Creek near Davenport	883585	* 1968-69	c
Big Sandy Creek near Powell	883950	* 1968-69	c
Little Sandy Creek near Powell	883960	* 1968-69	c
Little Blue River at Fairbury	883995	* 1968-69	c
** Little Blue River near Fairbury	8840	1951-53, 1955-57 1952-63, *1960-61, * 1968	s c
Rose Creek near Endicott	884010	* 1968	c
Little Blue River at Steele City	884020	* 1968	c
*** Little Blue River at Hollenberg, KS	884025	1972-90	c s t

\* Less than 10 samples.

\*\* Current continuous-record surface-water gaging station.

\*\*\* Station operated by Nebraska USGS.

\*\*\*\* Current reservoir stations.





# WATER RESOURCES DATA - NEBRASKA, 1999

## 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 Nebraska 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 - Nebraska."

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 95 streamflow-gaging stations, for 13 partial-record or miscellaneous streamflow stations, including 5 crest-stage gages; (2) stage-only records for 3 stations; (3) stage and contents for 7 lakes and reservoirs; (4) water-quality records for 21 streamflow-gaging stations, for 9 ungaged streamsites, and for 478 (1998 water year) and 274 (1999 water year) wells; and (5) water-level records for 52 observation wells. Records included for stream stages and for ground-water levels are only a small fraction of those obtained during the water year. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Nebraska.

This series of annual reports for Nebraska 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 volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Nebraska 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 6A and 6B." 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." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Information Services, Federal Center, MS 517, Box 25046, Denver, CO 80225.

Additional information, including current prices, for ordering specific reports may be obtained from the Office Chief at the address given on the back of the title page or by telephone (402) 437-5082.

## COOPERATION

The U.S. Geological Survey and agencies of the State of Nebraska have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are: Nebraska Department of Water Resources; Conservation and Survey Division; University of Nebraska-Lincoln; Nebraska Natural Resources Commission; Big Blue River Compact Administration; Loup River Public Power District; Nebraska Public Power District; City of Lincoln; Lancaster County; and many of the Natural Resources Districts.

Assistance with funds or services was given by the U.S. Army Corps of Engineers in collecting records for 22 streamflow-gaging stations and 4 crest-stage gages, and by the U.S. Bureau of Reclamation in collecting records for 1 lake station, and in providing elevations or capacity tables for 5 reservoir stations.

The following organizations aided in collecting records: Nebraska Department of Water Resources, Central Nebraska Public Power and Irrigation District, Nebraska Public Power District, and Loup River Public Power District.

## SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow, chemical quality of streamflow, and ground-water levels are related to precipitation. The relation of these hydrologic characteristics to precipitation during water year 1999 at selected locations is discussed in this summary section.

Precipitation

Precipitation data from published reports of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, for the eight National Weather Service divisions in Nebraska are shown in figure 1 and listed in table 1. Precipitation for normal period (1961-90) and water year 1999, and departures from normal are shown for each quarter of the year to emphasize temporal as well as spatial variations of precipitation.

The precipitation totals for each division in Nebraska during water years 1997, 1998, 1999, and normal precipitation (1961-90) are shown in figure 2. Precipitation totals for each division for each month of water year 1999 and normal precipitation are shown in figure 3.

All divisions received greater-than-normal precipitation during the first and third quarters and less-than-normal precipitation during the second quarter of water year 1999 (table 1). Two divisions (Panhandle and Southwest) received greater-than-normal precipitation during the fourth quarter, and the other six divisions received less-than-normal precipitation during that same period.

Table 1. Precipitation and departures from normal, water year 1999

[All values are in inches. Period of record for normal, 1961-90. Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service published reports]

National Weather Service division	Precipitation											
	First quarter (October-December)			Second quarter (January-March)			Third quarter (April-June)			Fourth quarter (July-September)		
	Normal	Water year 1999	Departure	Normal	Water year 1999	Departure	Normal	Water year 1999	Departure	Normal	Water year 1999	Departure
Panhandle	1.80	5.07	3.27	1.77	0.74	-1.03	7.80	10.08	2.28	5.39	7.13	1.74
North Central	2.59	5.87	3.28	2.34	1.97	-.37	9.03	12.11	3.08	7.68	6.65	-1.03
Northeast	3.60	6.90	3.30	3.10	2.25	-.85	10.48	17.06	6.58	8.66	7.20	-1.46
Central	3.05	4.67	1.62	2.77	1.99	-.78	10.12	16.53	6.41	8.48	6.03	-2.45
East Central	4.40	5.67	1.27	3.46	2.92	-.54	11.20	17.66	6.46	10.11	8.50	-1.61
Southwest	2.17	3.86	1.69	2.11	1.18	-.93	8.58	10.62	2.04	6.72	9.33	2.61
South Central	2.93	4.91	1.98	2.70	1.36	-1.34	9.86	15.12	5.26	8.85	7.98	-0.87
Southeast	4.62	5.94	1.32	3.68	2.38	-1.30	11.02	16.79	5.77	11.02	6.60	-4.42

DISCHARGE IN CUBIC FEET PER SECOND

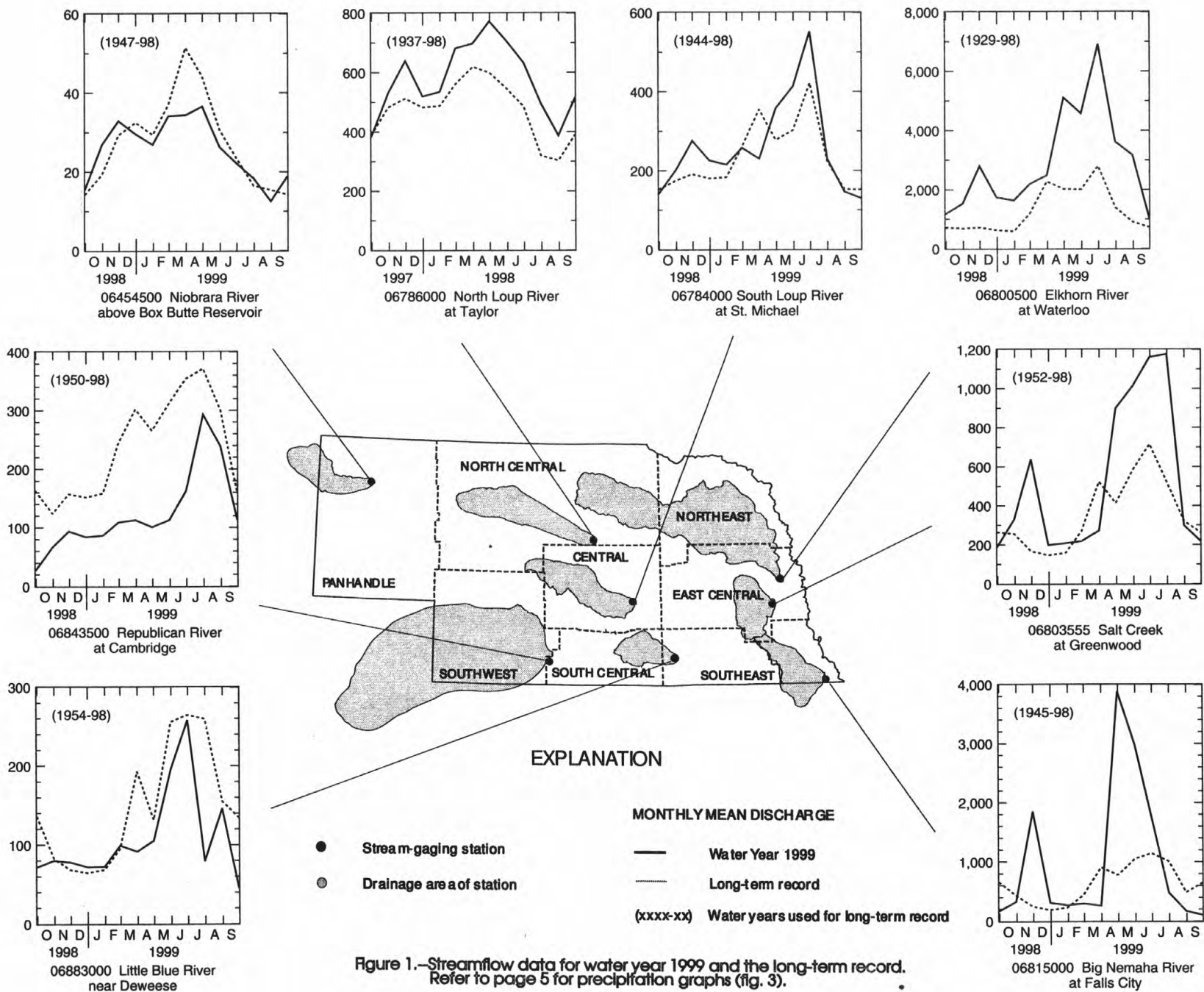


Figure 1.—Streamflow data for water year 1999 and the long-term record. Refer to page 5 for precipitation graphs (fig. 3).

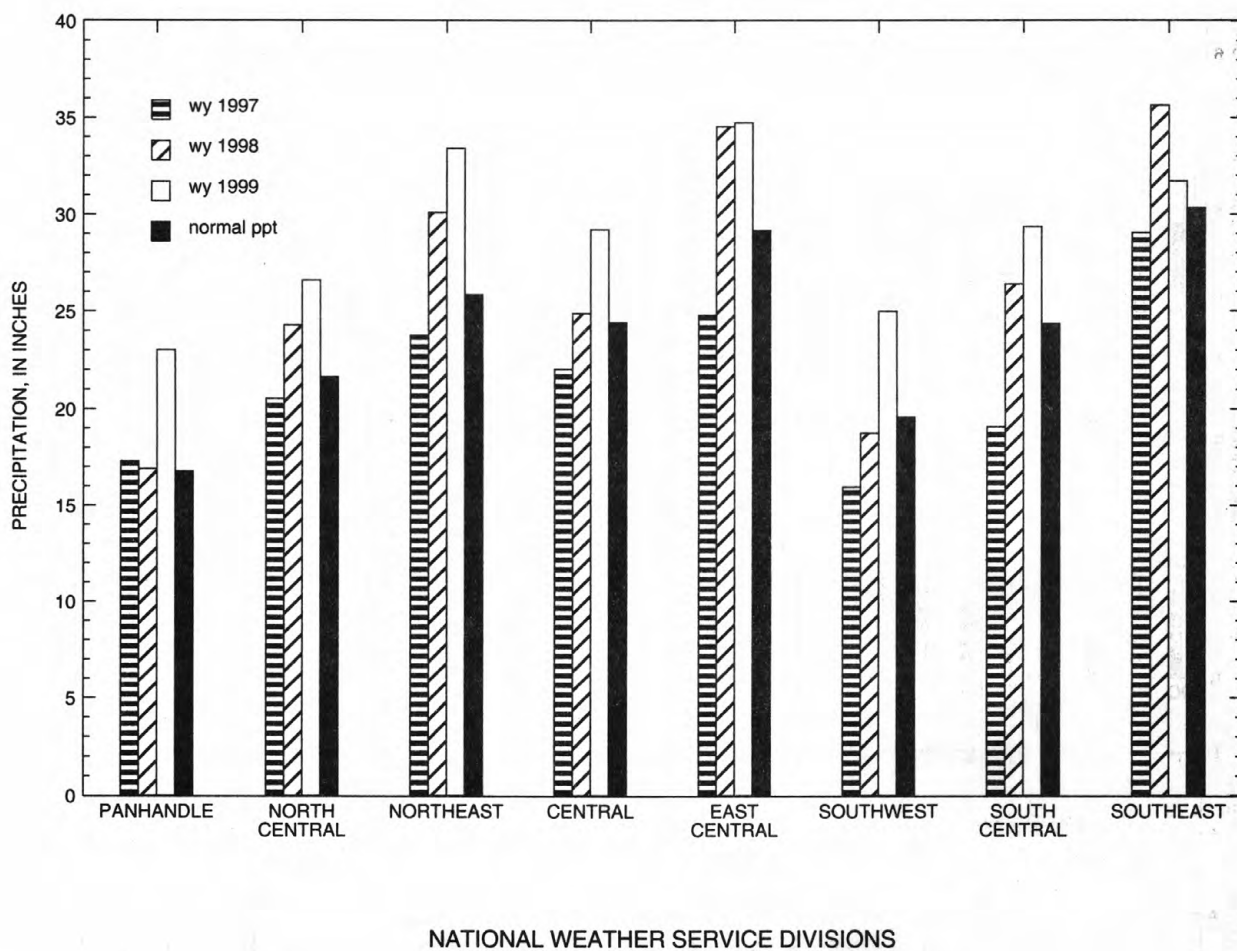


Figure 2.--Precipitation for water years 1997, 1998, 1999, and normal precipitation (1961-90) for the eight National Weather Service divisions in Nebraska.



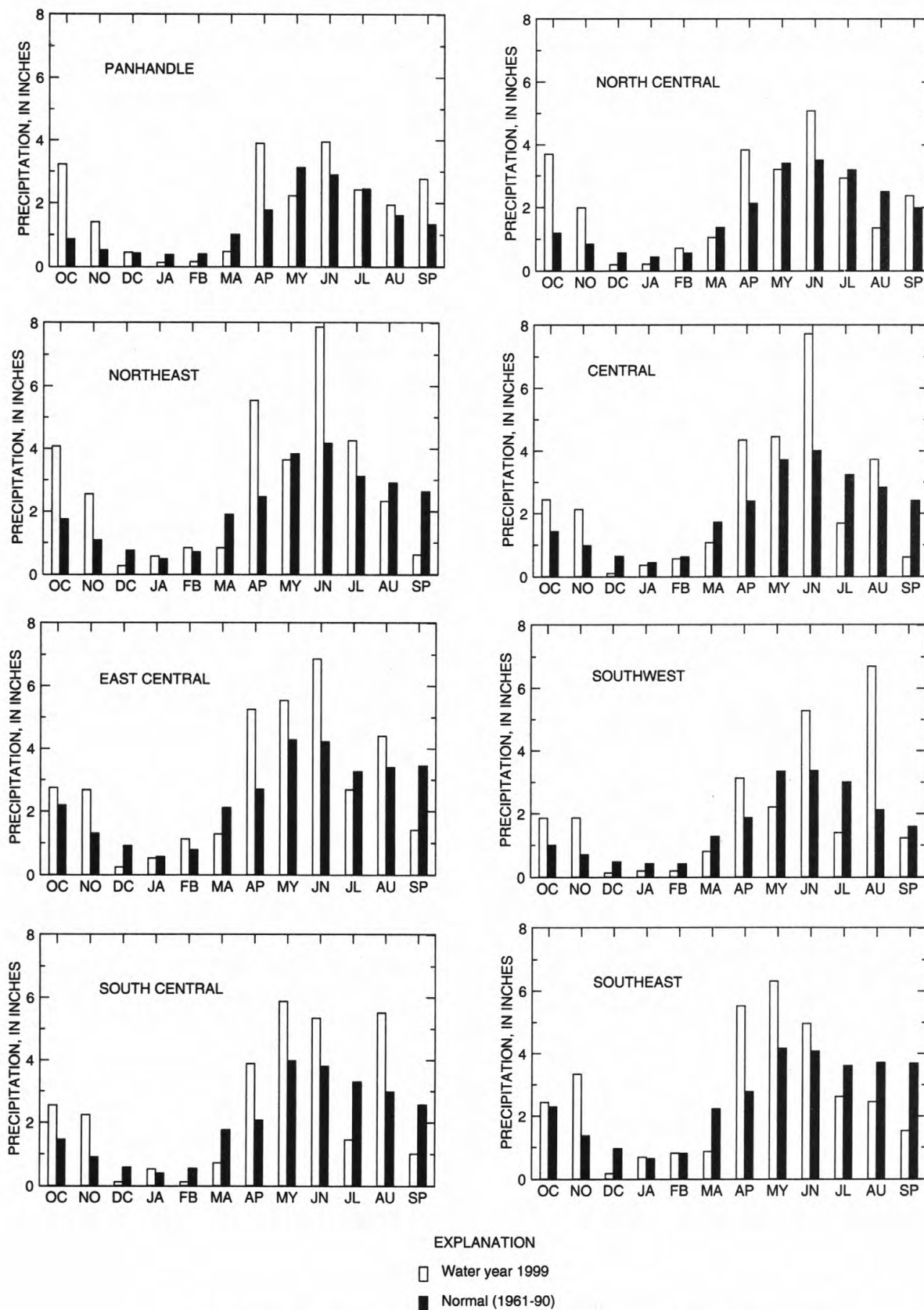


Figure 3.--Monthly precipitation for water year 1999 and normal precipitation (1961-90) for each National Weather Service division in Nebraska.

### Streamflow

This report covers representative stations that have drainage areas within or mostly within the eight National Weather Service division boundaries. The monthly mean flows for the current water year for each of these representative stations are compared to the monthly mean flows for the long-term record for each of these stations and to the precipitation data for the appropriate National Weather Service divisions. Although a station may lie outside a division boundary, the comparison of flow is made to the current year's precipitation within the division where most of the drainage area lies. Refer to page 3 (fig. 1) for the following stations.

The individual graphs demonstrate the varied streamflow conditions in the State during water year 1999. The plots of flow for the current water year each begin with values for the last month of the previous water year. For stations with regulated streamflow the period of record used for the long-term mean is from the completion of the last known storage structure or from the latest change in streamflow regulation upstream from the gage.

Although station 06883000, Little Blue River near Deweese, is located in the Southeast division, this station receives run-off from areas mostly in the South Central division. Except for November through February, flow at this station was less than the long-term mean. Much less-than-normal precipitation in the South Central division during March, July, and September, reduced flow to less than half of the long-term mean. Flow increased to nearly the long-term mean in June and August following periods of greater-than-normal precipitation.

Data for station 06843500, Republican River at Cambridge, was supplied by the Nebraska Department of Water Resources office in Cambridge, and is located at the eastern edge of the Southwest division. This station has a drainage area encompassing most of the Southwest division as well as northeastern Colorado and northwestern Kansas, only a little more than 50 percent contributes to run-off. Although precipitation was more than 5 inches greater than normal, flow at this station was less than the long-term mean during the entire water year 1999. This was partly due to the small flow at the end of the previous water year, which was less than 20 percent of the long-term mean for September 1998. The monthly mean flow increased following the precipitation pattern during the summer months, and for September 1999 it was more than 70 percent of the long-term mean.

Data for station 06454500, Niobrara River above Box Butte Reservoir, in the Panhandle division, was supplied by the Nebraska Department of Water Resources office in Bridgeport. Although precipitation was greater than normal for water year 1999, flow was less than the long-term mean except for October, November, July, and September.

Station 06786000, North Loup River at Taylor, located in the southeast part of the North Central division, receives run-off from the Sandhills in central and west-

central parts of the division. Greater-than-normal precipitation for the water year resulted in streamflow that was greater than the long-term mean during the entire water year. Although less-than-normal precipitation occurred during December, January, March, May, July, and August, precipitation was greater than twice the normal amount during October and November. Because ground water is the major contributor to streamflow at this site, it reflects the conditions of the ground-water table and streamflow generally remains relatively steady.

Station 06784000, South Loup River at St. Michael, is located near the southern edge of the Sandhills region in the Central division of the State. Flow generally follows the precipitation pattern of the entire division because the drainage area covers a good part of the Central division. A good part of the flow also is derived from ground-water discharge. Flow was greater than normal during the first part of the water year, mainly because of greater-than-normal precipitation during October and November. Flow started decreasing when the area received less-than-normal precipitation during winter months but increased again to greater than the long-term mean when the area received greater-than-normal precipitation during April through June.

Station 06800500, Elkhorn River at Waterloo, located in the East Central division of the State, has a drainage area that lies in the eastern part of the North Central division, as well as most of the Northeast division and part of the East Central division. Flow was greater than the long-term mean throughout the water year. Only December and May of all three divisions received less-than-normal precipitation, but these deficits were small compared to the greater-than-normal precipitation during October, November, April, and June in all three divisions.

Station 06803555, Salt Creek at Greenwood, is located in and receives run-off almost completely from the East Central division. Flow was more than three times greater than the long-term mean for November at this station. Greater-than-normal precipitation during October and November contributed to the increased flow during October through January, while greater-than-normal precipitation during April, May, and June, and contributed to the increased flow during the spring and summer.

Station 06815000, Big Nemaha River at Falls City, located in the southeast part of the Southeast division, receives run-off from the eastern portion of the division. Mean flow for this station generally followed the precipitation pattern for this division. Greater-than-normal precipitation occurred during October, November, January, February, April, May, and June. This produced run-off greater than the long-term mean during November through January and April through June. For November, run-off was more than seven times the mean; it was just under five times the mean for April.

### Water Quality

Water samples were collected to determine the water quality at various surface-water stations around the State. Parameters measured included specific conductance, pH, temperature (both water and air), barometric pressure, dissolved oxygen, sediment, bacteria, nutrients, and major ions.

Generally, the concentration of dissolved solids (which includes major ions) in streams is related inversely to streamflow. Large streamflows resulting from snowmelt and rainfall runoff have smaller dissolved-solids concentrations per unit volume, whereas small streamflows, composed largely of ground-water discharge to streams (base flow), have larger dissolved-solids concentrations. This inverse relation between dissolved solids and streamflow is less pronounced at stations downstream from lakes and reservoirs, where two components of flow (runoff and base flow) can be retained and mixed.

The presence of nitrogen in surface water is recognized as a major factor in growth of aquatic plants. The contribution of nitrogen, commonly resulting from application of agricultural fertilizers, to surface water can result in biological enrichment of algae and other aquatic plant growth. Dissolved oxygen in streams is essential for the survival of most aquatic organisms and plays an important role in the decomposition of wastes. Suspended-sediment concentration is directly related to stream turbidity and generally increases with stream discharge as a result of eroded sediment transported by run-off.

### Ground-Water Levels

Water-level changes during water year 1999 were determined from a statewide network of observation wells measured by 28 Federal, State, and local agencies. The network consists of 4,231 wells measured annually, semiannually, or monthly and 89 wells equipped with continuous recorders. Because of the importance of ground water as a source for irrigation and municipal supplies, most observation wells in Nebraska are located in those areas where large quantities of ground water are withdrawn. Water-level fluctuations in selected observation wells are shown in figure 4.

Data from 52 observation wells are included in this report; twenty-four of these wells are equipped with continuous recorders. The water-level readings in these 52 wells increased an average of 1.88 feet from the end of water year 1998 to the end of water year 1999.

In areas of Nebraska where ground water is used only for domestic and stock supplies, most water-level fluctuations are caused by variations in natural recharge to and discharge from the aquifers. In these areas, water levels commonly rise during the fall and winter months, when recharge from precipitation exceeds discharge through seepage to streams and evapotranspiration. Water

levels decline during the spring and summer months, when discharge by seepage to streams and by evapotranspiration is greater than recharge from precipitation.

In water year 1999 precipitation was greater than normal in all divisions (table 1), providing increased recharge to the aquifers.

Throughout much of the Central division of Nebraska, precipitation during the growing season was greater than normal from April, May, June and August, but less than normal in July and September. The hydrograph for the Buffalo County well (fig. 4) is generally representative of hydrographs for wells in this division and shows increasing water levels through June until withdrawals of ground water for irrigation purposes lowered water levels. The water level in the Buffalo County well was 0.30 foot higher at the end of water year 1999, than at the end of water year 1998. This increase was in addition to the increase of 4.48 feet from the end of water year 1997 to water year 1998.

The hydrograph for the observation well in Seward County (fig. 4) is generally representative of water-level fluctuations that occurred in the East Central division of the State during water years 1998 and 1999. The water level in this well was 1.91 feet higher at the end of water year 1999 than at the end of water year 1998, which had already increased 1.12 feet since the end of water year 1997.

Water-level fluctuations shown for an observation well in Chase County (fig. 4) are representative of those that occurred in irrigated areas in the Southwest division of the State during water years 1998 and 1999. Although the water level in the Chase County well was 0.12 foot lower at the end of water year 1999 than at the end of water year 1998, which was in addition to the 1.21 feet decrease since the end of water year 1997.

Water-level fluctuations for an observation well in Holt County (fig. 4) are generally representative of water-level fluctuations in wells in north-central Nebraska. The hydrograph shows that water levels have continued to recover from the end of water year 1998 through water year 1999, even though precipitation was less-than-normal during December, January, March, May, June, and August. The water level in this well was 0.59 foot higher at the end of water year 1999 than at the end of water year 1998, which had already increased 1.13 feet from water year 1997.

Ground-water levels typically reach the highest levels in early to late spring (March through June) (fig. 4) prior to withdrawals for ground-water irrigation. Exceptions to this can occur when leakage from surface-water irrigation canals, typically operating from May-June through September, recharge shallow aquifers (Scotts Bluff county well, fig. 4). The hydrograph for the observation well in Scotts Bluff County shows the influences of recharge

from surface irrigation canals. At the end of surface-water irrigation, infiltration of surface water slows or stops, and by late spring, ground-water levels return to near-normal conditions. More than twice the normal amount of precipitation during October helped replenish the aquifer but since water levels in this well are affected by surface-

water irrigation, annual comparisons are made from June to June (typically the lowest water levels during the year) rather than at the end of the water year. The water-level reading for this well was 0.08 foot higher at the end of June 1999 than at the end of June 1998.



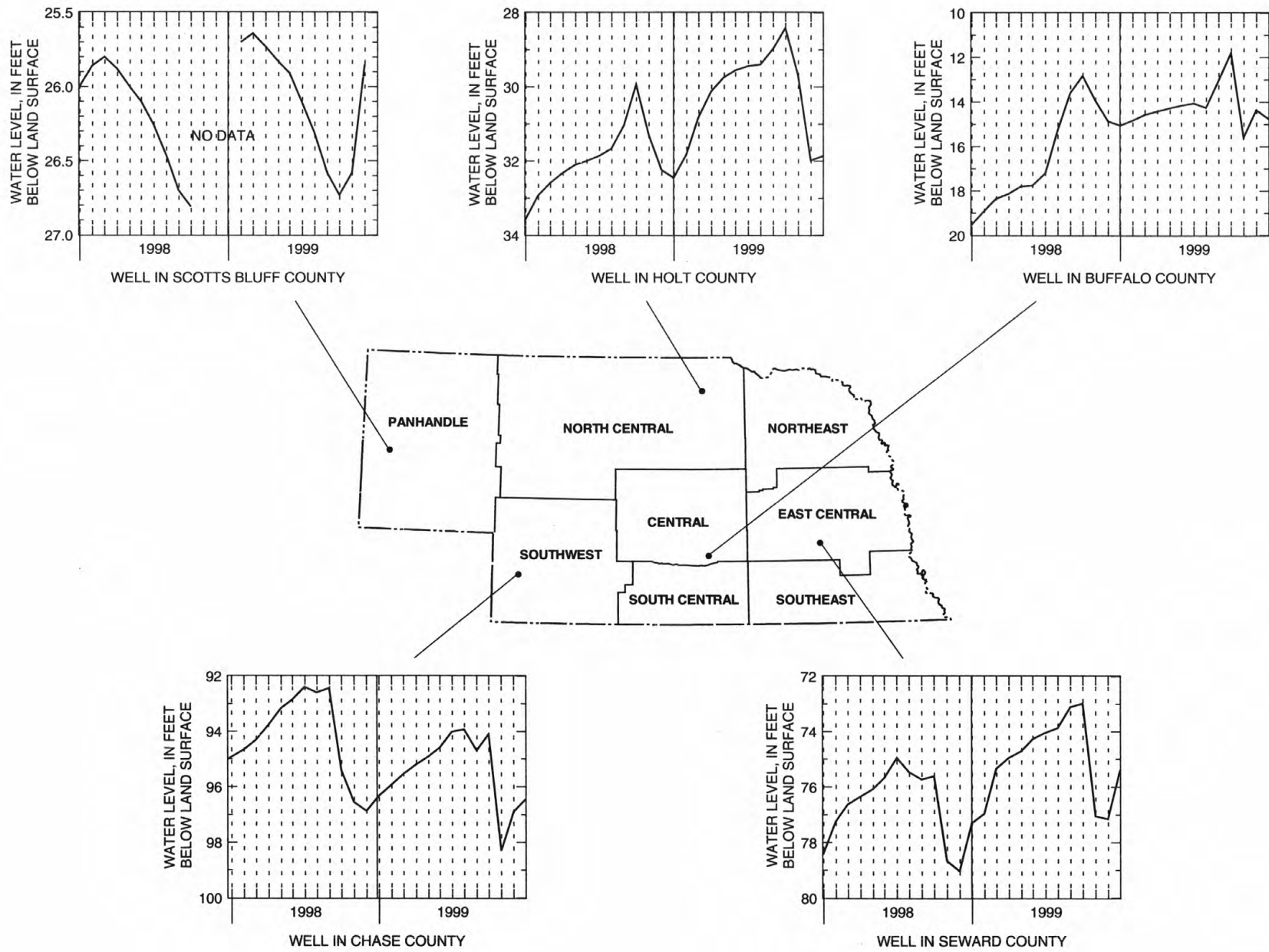


Figure 4.--Water levels in selected observation wells, water years 1998 and 1999.



## WATER RESOURCES DATA - NEBRASKA, 1999

## WATER USE

General water-use facts for the State of Nebraska for the year 1995 are listed below. Water-use information is collected and published every 5 years.

- Total water use in Nebraska was 25,241.59 million gallons per day (Mgal/d).
- Surface-water use was 19,040.61 Mgal/d, or 75.4 percent of total water use.
- Ground-water use was 6,200.98 Mgal/d, or 24.6 percent of total water use, of which 5,776.60 Mgal/d or 93.1 percent was used for irrigation.
- The largest use of water in Nebraska was for power generation, with 17,354.26 Mgal/d or 68.8 percent of all water use, of which greater than 99.9 percent was from surface water.
- Excluding power production, total water use was 7,887.33 Mgal/d, of which 6,196.12 Mgal/d or 78.6 percent was from ground water.
- Total population for 1995 was 1.64 million; total population for 1990 was 1.58 million, a 3.8 % increase since 1990.
- Total per capita use of all water was 15,419.42 GPD (gallons per day).
- Domestic water use was 197.25 Mgal/d, an average of 120 GPD per capita.
- Commercial water use was 78.98 Mgal/d, with 99.9 percent from public supply.
- Industrial water use was 56.61 Mgal/d, with 46.3 percent supplied from public supply.
- Irrigation water use was 6,996.38 Mgal/d, or 27.7 percent of all water use. This is 70.0 percent of all offstream water use.
- Livestock water use was 141.90 Mgal/d, or 1.4 percent of all offstream use.
- Total power generation was 24,451 Gwh (giga watt hours).

[ From Zheng, S. and Frankforter, J.D., Estimated Water Use in Nebraska, 1995, Nebraska Natural Resources Commission, publication, No. 501-2.]

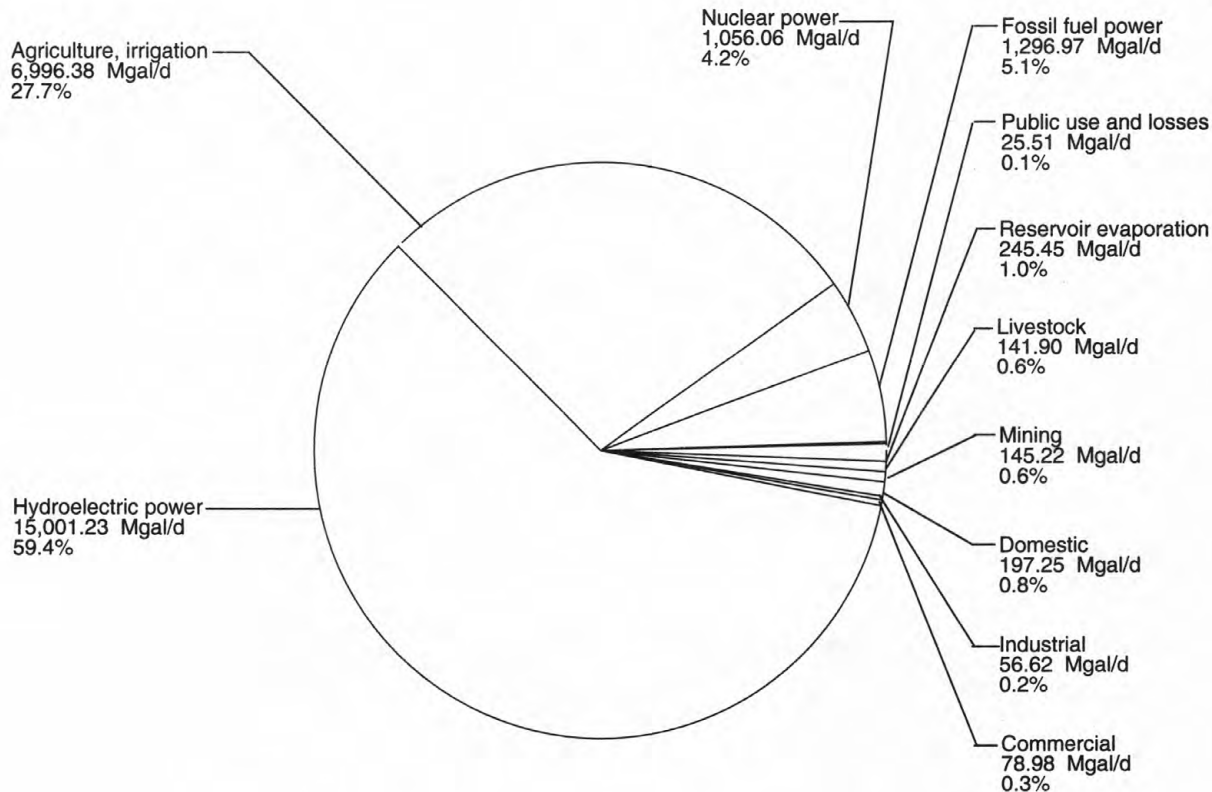


Figure 5.--(a) Estimated total water use in Nebraska, 1995.

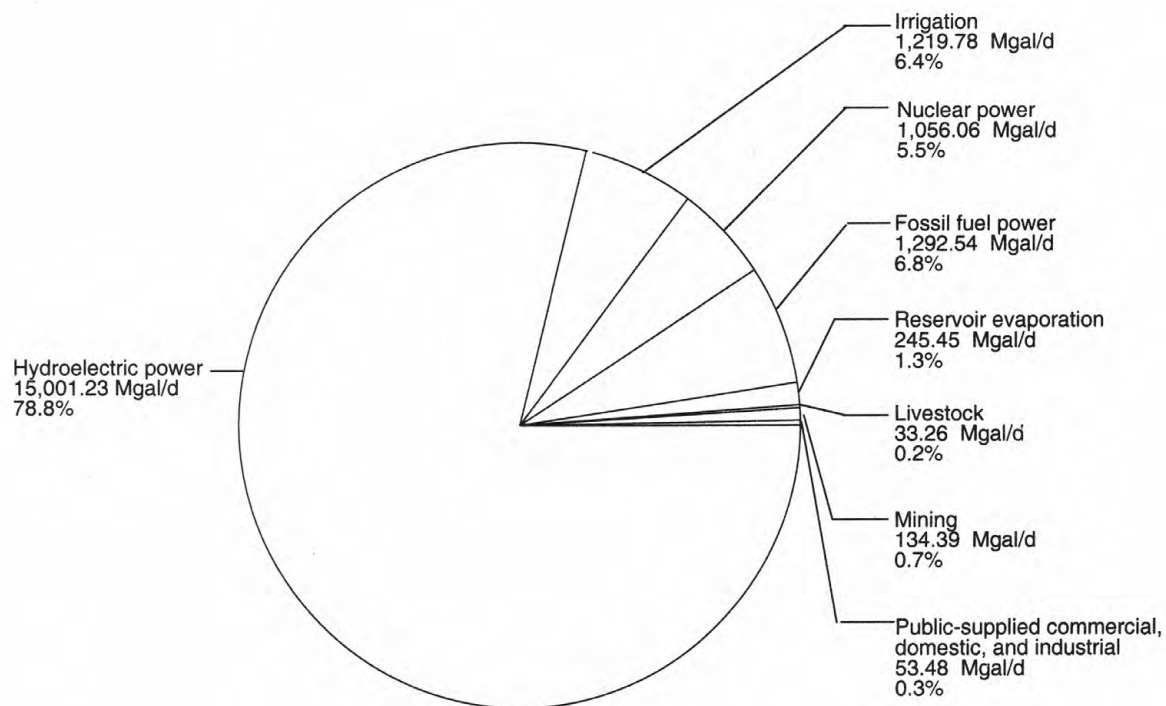


Figure 5.--(b) Estimated total surface-water use in Nebraska, 1995.

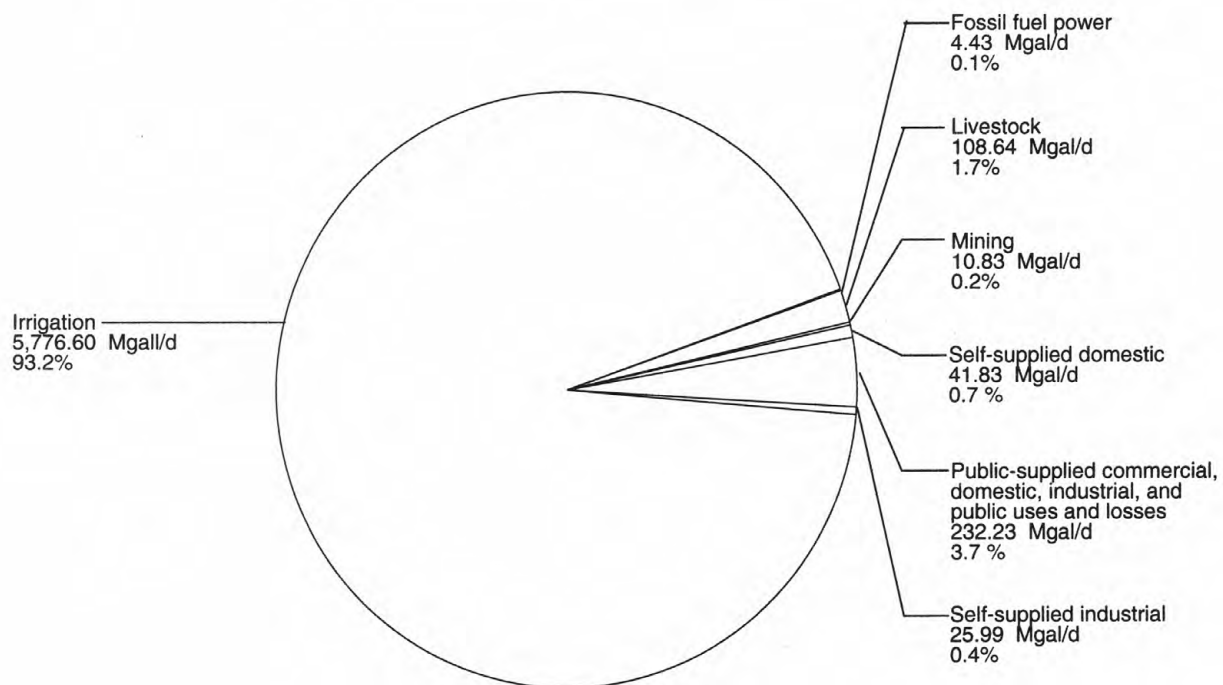


Figure 5.--(c) Estimated total ground-water use in Nebraska, 1995.

## 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 Nation'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 inorganic 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 re-mobilization 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 deposition generated from a network of 191 precipitation chemistry monitoring sites; (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO<sub>2</sub> emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred; (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO<sub>2</sub> and NO<sub>x</sub> 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 available through the world wide web at:

[http://wwwrvares.er.usgs.gov/nawqa/nawqa\\_home.html](http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html)

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.

## EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1999-water year that began October 1, 1998, and ended September 30, 1999. 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, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 6, 7, and 8. 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, whether streamsite or well, 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 systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for surface-water stations and the "latitude-longitude" system is used for wells.

### 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 indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

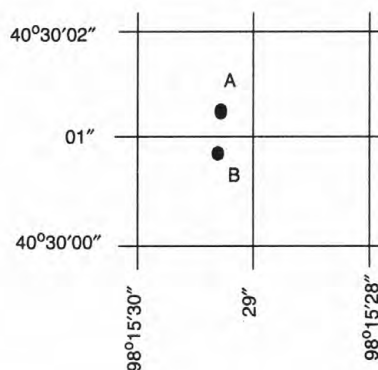
The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both 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 06797000, which appears just to the left of the station name, includes the two-digit Part number "06" plus the six-digit downstream-order number "797000." The Part number designates the major river basin; for example, Part "06" is the Missouri River Basin.

### Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. 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 1-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. (See figure).

#### COORDINATES:

Well A 403001098152901  
Well B 403001098152902



System for numbering wells (latitude and longitude)



### 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 "Discharge measurements at miscellaneous sites." Records of discharge measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately if made during the year. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 6.

### 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 relationships 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 relationship 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 adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, 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.

In computing records of lake or reservoir contents, it is necessary to have available data from surveys, curves or tables defining the relationship of stage and 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 relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty 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



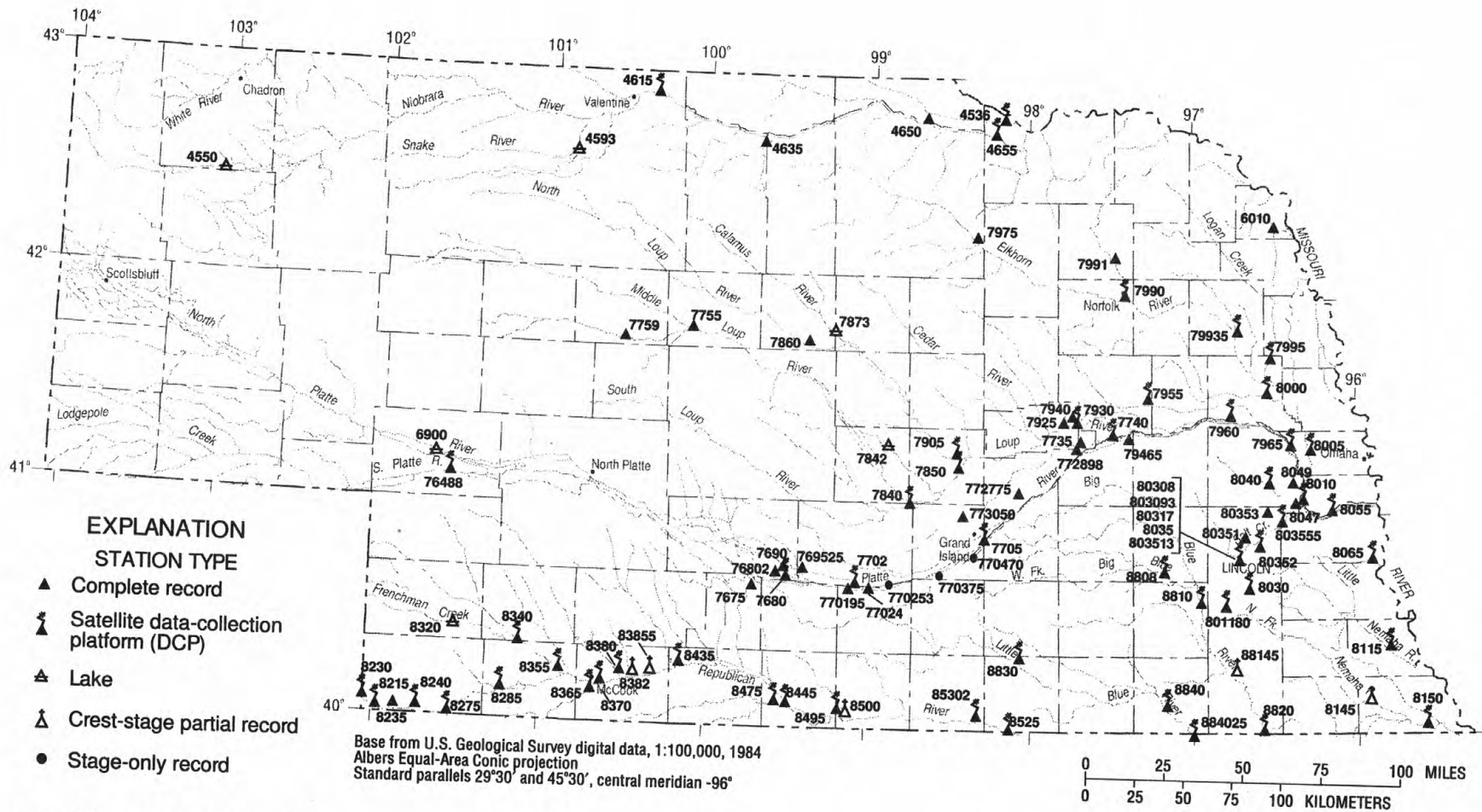


Figure 6. Location of active surface-water gaging stations.

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 1992 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 discharge for the current 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.

### 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, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

**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.**--Because of new information, published records 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 that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only 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 glossary), 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, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to 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.

**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.

**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 offices whose addresses are 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.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, and EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

### Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharges 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; the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CSFM"); 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 or in acre-feet may be 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 YEARS 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 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, daily, and instantaneous 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 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 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 and instantaneous extremes in the designated-period column may not be within the selected water years listed in the column heading. When this occurs, it should 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.)

**INSTANTANEOUS PEAK FLOW.**--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

**INSTANTANEOUS PEAK STAGE.**--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

**INSTANTANEOUS LOW FLOW.**--The minimum instantaneous discharge occurring for the water year or for the designated period.

**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 of 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 the runoff for a given time period were uniformly distributed on it.

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

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

**90 PERCENT EXCEEDS.**--The discharge that has been 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."

### 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 "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "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<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/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 due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to 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, for changes in contents of reservoirs, or for 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

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Nebraska District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of daily diversions of water from streams by canals are collected by and published in Hydrographic Reports of the Nebraska Department of Water Resources. Included are discharge records for streams and storage records for reservoirs not published in reports of the Geological Survey. Copies of the Hydrographic Reports may be obtained from the Nebraska Department of Water Resources, 301 Centennial Mall, South, P.O. Box 94676, Lincoln, NE 68509 (telephone number: 402-471-2363).

Records of discharge, not published by the Geological Survey, are collected in Nebraska at several sites by the U.S. Army Corps of Engineers. The National Water Data Exchange (NAWDEx), U.S. Geological Survey, Reston, VA 20192, maintains an index of these sites as well as sites where other agencies have collected water data.

### 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. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 7.

#### 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.

#### Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring 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, in treating the samples to prevent changes in



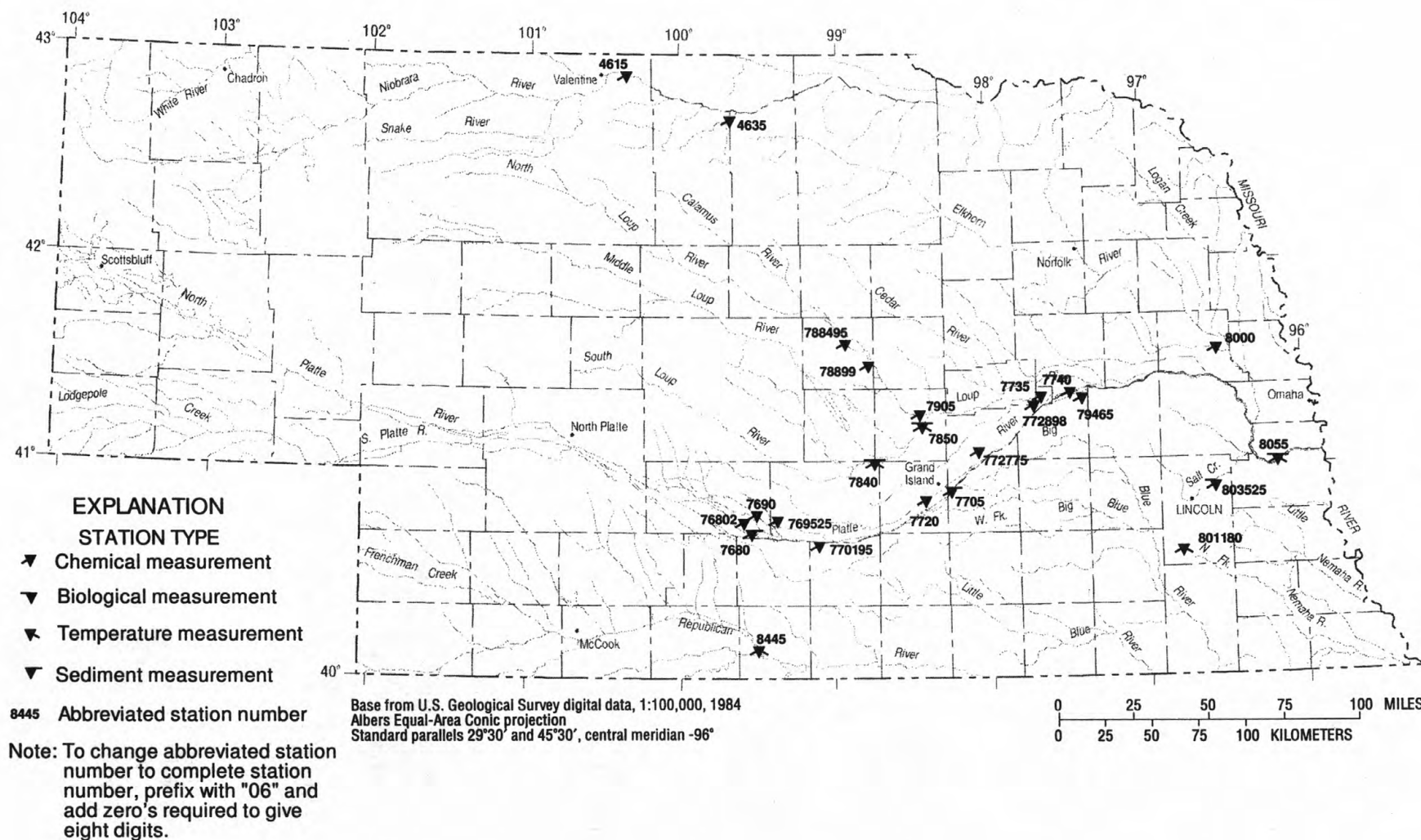


Figure 7.--Location of active surface-water quality stations.

quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are detailed in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters 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.

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 definitions) 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.

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.

Historical and current (1998) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

### Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the 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 Nebraska District office.

### Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections. 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, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

### Laboratory Measurements

Sediment samples are analyzed in Iowa City, Iowa; samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally; and all other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

### 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 temperature record, 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 to insure the most recent updates.

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.

### Records of Ground-Water Levels

Only water-level data from a network of selected observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Nebraska are shown in figure 8.

Although, in this report, records of water levels are presented for only selected wells, records are obtained through cooperative efforts of many Federal, State, and local agencies for several thousand observation wells throughout Nebraska and are placed in computer storage. Each spring, the Nebraska District and the Conservation and Survey Division of the University of Nebraska publish a report for the previous calendar year entitled "Groundwater Levels in Nebraska, 19\_\_ ." This report contains hydrographs of recorder wells, detailed maps showing changes in water levels from the previous year, and other useful items. Information about the availability of the data in the water-level file may be obtained from the District Chief, Nebraska District. (see address on back of front page.)

### Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference

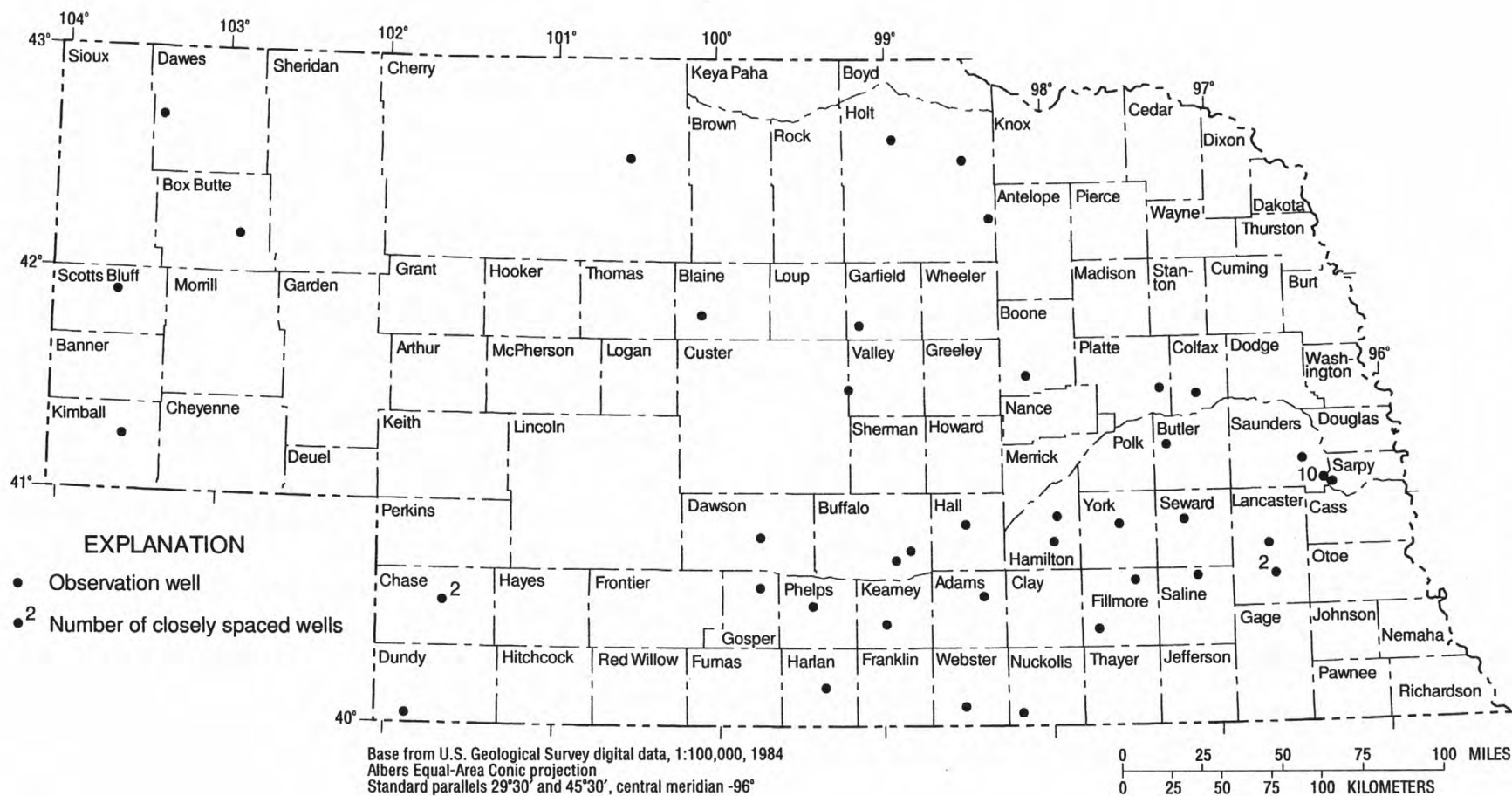


Figure 8.--Location of selected observation wells.



to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

### Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. Hydrographs also are presented for some wells. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

**LOCATION.**--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

**AQUIFER.**--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

**WELL CHARACTERISTICS.**--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

**DATUM.**--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method of determination.

**REMARKS.**--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should

identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

**PERIOD OF RECORD.**--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

**EXTREMES FOR PERIOD OF RECORD.**--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

### Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

### Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.



Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey TWRI publications referred to in the "Onsite Measurements and Sample Collection" and the "Laboratory Measurements: sections in the data report. In addition, the TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow the ISO standards. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed

to the atmosphere and to the material, possibly metal, comprising the casings.

#### Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

WATER RESOURCES DATA - NEBRASKA, 1999  
ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://www.water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3 1/2 -inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices. For Nebraska, the address is:

District Chief  
U.S. Geological Survey  
Rm. 406, Federal Bldg.  
100 Centennial Mall, North  
Lincoln, Nebraska 68508

e-mail: [info@ne20dnelnc.cr.usgs.gov](mailto:info@ne20dnelnc.cr.usgs.gov) (general information)  
[swinfo@ne20dnelnc.cr.usgs.gov](mailto:swinfo@ne20dnelnc.cr.usgs.gov) (surface-water information)  
[gwinfo@ne20dnelnc.cr.usgs.gov](mailto:gwinfo@ne20dnelnc.cr.usgs.gov) (ground-water information)  
[wqinfo@ne20dnelnc.cr.usgs.gov](mailto:wqinfo@ne20dnelnc.cr.usgs.gov) (water-quality information)

## 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.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly known as alkalinity).

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 325,851 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 measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Algae are mostly aquatic single-celled, colonial, or multi-celled 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 in milligrams dry weight of algae produced per liter of sample.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is 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 (see definition above).

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

Inch (IN., in.) as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it.

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.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases the water level can rise above the ground surface, yielding a flowing well.

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. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. 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 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded 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 warm-blooded 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° C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related

to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria which produce pink to red colonies with black or reddish-brown precipitate after incubation at 41° C on mE agar and subsequent transfer to EIA medium. Enterococci include Streptococcus faecalis, Streptococcus faecium, Streptococcus avium, and their variants.

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

**Benthic invertebrates** are invertebrate animals inhabiting the bottom of lakes, streams, and other water bodies. They are useful as indicators of water quality.

**Biochemical oxygen demand (BOD)** is a measure 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 furnace at a temperature of 500° C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter ( $\text{g}/\text{m}^3$ ), and periphyton and benthic organisms in grams per square meter ( $\text{g}/\text{m}^2$ ).

**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 ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass 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 organism are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

**Cfs-day** 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 2,447 cubic meters.

**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.

**Colloid** is any substance with particles in such fine state of subdivision dispersed in a medium (for example, water) that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

**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.

**Continuing-record station** is a site that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.
2. Water-quality, sediment, or other hydrologic measurements are recorded at least daily.

**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.

**Cubic foot per second ( $\text{ft}^3/\text{s}$ ,  $\text{ft}^3/\text{s}$ )** 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** 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.

**Datum**, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

**Gage datum** is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level. This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.



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.

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. See NOAA web site:

<http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>

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  $\mu$ m 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 specified.

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.

Extractable organic halides (EOX) are organic compounds which contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried stream bottom sediments. The ethyl acetate is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the stream bottom sediments.

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 ( $\text{CaCO}_3$ ).

High tide is the maximum height reached by each rising tide.

Hydrologic Benchmark 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 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 8-digit number.

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

Low tide is the minimum height reached by each rising tide.

Mean high tide is the average of all high tides over a specified period.

Mean low tide is the average of all low tides over a specified period.

Mean water level is the average of all tides over a specified period.



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.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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 ( $\mu\text{g/g}$ ) 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 ( $\mu\text{g/L}$ ,  $\mu\text{g/L}$ ) 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.

Microsiemens per centimeter ( $\mu\text{S/CM}$ ,  $\mu\text{s/cm}$ ) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

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.

Miscellaneous site, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. It is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates to know surface area used for obtaining benthic-invertebrate

samples. They consist of a series of spaced, hardboard plates on an eyebolt.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation'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 inorganic 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 re-mobilization 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.

National Water-Quality Assessment (NAWQA) Program of the 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.

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 area habitat, usually square meter ( $\text{m}^2$ ), 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, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS 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	.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 ( $1 \times 10^{12}$  of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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.

Polychlorinated biphenyls (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

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).

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [ $\text{mg C}/(\text{m}^2/\text{time})$ ] for periphyton and macrophytes or per volume [ $\text{mg C}/(\text{m}^3/\text{time})$ ] for phytoplankton. Carbon method defines 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.

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [ $\text{mg O}/(\text{m}^2/\text{time})$ ] for periphyton and macrophytes or per volume [ $\text{mg O}/(\text{m}^3/\text{time})$ ] for phytoplankton. Oxygen method defines 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.

River mile as used in this report, is the distance above the mouth of the river where the gaging station is located measured in miles..

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 "sea level" 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 and very close to it. 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). The entire sample is used for the analysis.

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<sup>3</sup>/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.

Suspended total residue at 105° C concentration is the concentration of suspended sediment in the sampled zone expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). A small aliquot of the sample is used for the analysis.

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.

7-day 10-year low flow (7 Q<sub>10</sub>) 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 from 55 to 75 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 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 emerged 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 collection.

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 planimeted. All areas shown are those for the stage when the planimeted 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  $\mu$ m 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  $\mu$ m 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  $\mu$ m 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.

Synoptic Studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical 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.

Turbidity is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU)

depending on the method and equipment used.

Volatile Organic Compounds (VOC's) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOC's are man-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water level is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

Water table is the surface of a ground-water body at which the water is at atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which is found the water table.

Water year in U.S. 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, 1999, is called the "1999 water year."

Well is an excavation (pit, hole, tunnel) generally cylindrical in form and often walled in, drilled, dug, drive, bored, or jetted into the grounds to such a depth as to penetrate water-yielding geologic material and allow the water to flow or be pumped to the surface.

Wet weight refers to the weight of animal tissue or other substance including its contained water.

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 reference 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."

### Book 1. Collection of Water Data by Direct Measurement

#### **Section D. Water Quality**

- 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.

### Book 2. Collection of Environmental Data

#### **Section D. Surface Geophysical Methods**

- 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.

#### **Section E. Subsurface Geophysical Methods**

- 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.

#### **Section F. Drilling and Sampling Methods**

- 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.

### Book 3. Applications of Hydraulics

#### **Section A. Surface-Water Techniques**

- 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.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 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.
- 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.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F. A. Kilpatrick, R. E. Rathbun, Nobuhiro Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble 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.

### Section B. Ground-Water Techniques

- 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.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 3-B4. *Regression modeling of ground-water flow*, by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R. L. Cooley: USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 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.

### **Section C. Sedimentation and Erosion Techniques**

- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by Thomas K. Edwards and G. Douglas Glysson: USGS--TWRI Book 3, Chapter C2. 1988. 80 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

## **Book 4. Hydrologic Analysis and Interpretation**

### **Section A. Statistical Analysis**

- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

### **Section B. Surface Water**

- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

### **Section D. Interrelated Phases of the Hydrologic Cycle**

- 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.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.



## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 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.

### **Section C. Sediment Analysis**

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

## **Book 6. Modeling Techniques**

### **Section A. Ground Water**

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 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.
- 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. 1996. 125 pages.

## **Book 7. Automated Data Processing and Computations**

### **Section C. Computer Programs**

- 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.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

## **Book 8. Instrumentation**

### **Section A. Instruments for Measurement of Water Level**

- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

### **Section B. Instruments for Measurement of Discharge**

- 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.

### **Book 9. Handbooks for Water-Resources Investigations**

#### **Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS--TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS--TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS--TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS--TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS--TWRI book 9, chap. A5. 1999. 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F. D. Wilde and D.B. Radtke: USGS--TWRI Book 9, Chapter A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, by D. N. Myers and F. D. Wilde: USGS--TWRI Book 9, Chapter A7. 1997. 49 pages.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom Material Samples*, by D.B. Radtke: USGS--TWRI Book 9, Chapter A8. 1998. 48 pages.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS--TWRI Book 9, Chapter A9. 1998. 60 pages.



WATER RESOURCES DATA - NEBRASKA, 1999  
SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value.
>	Actual value is known to be greater than the value shown.
<	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).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
V	Analyte was detected in both the environmental sample and the associated blank.

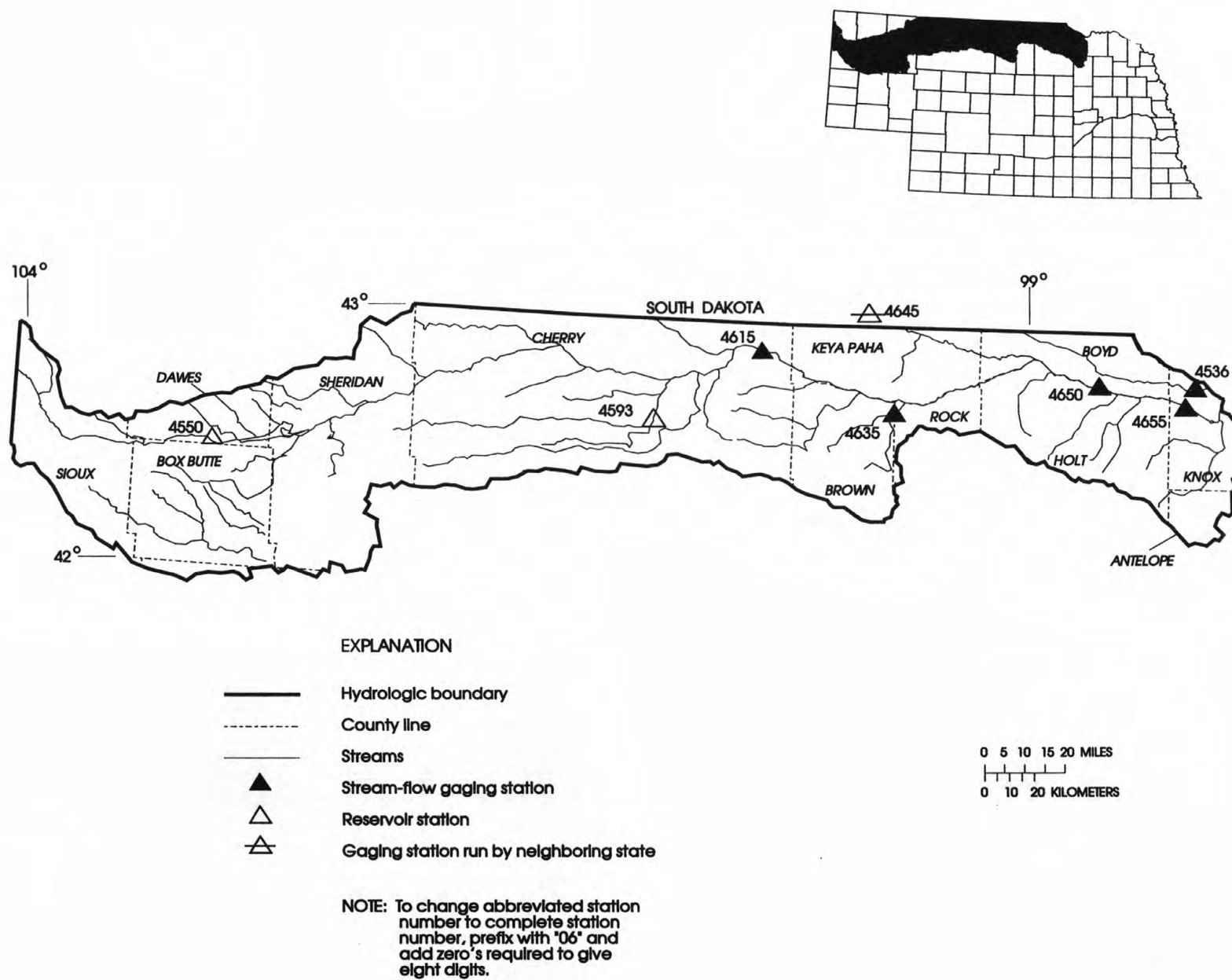
Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ( $\mu\text{g/L}$ ) 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 and 100's of nanograms per liter ( $\text{ng/L}$ ). Data above the  $\mu\text{g/L}$  levels 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).





# PONCA CREEK AND NIOBRARA RIVER BASINS

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*STATION NUMBER	STATION NAME	PAGE
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## PONCA CREEK BASIN

4536	Ponca Creek at Verdel .....	44
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## NIOBRARA RIVER BASIN

4550	Box Butte Reservoir near Hemingford .....	46
4593	Merritt Reservoir near Burge .....	47
4615	Niobrara River near Sparks.....	48
4635	Long Pine Creek near Riverview .....	52
4645	Keya Paha River at Wewela, SD .....	56
4650	Niobrara River near Spencer .....	58
4655	Niobrara River near Verdel .....	60

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.



## PONCA CREEK BASIN

06453600 PONCA CREEK AT VERDEL, NE

LOCATION.--Lat 42°48'40", long 98°10'35", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.30, T.33 N., R.7 W., Knox County, Hydrologic Unit 10150001, near right bank at right downstream end of bridge on State Highway 12, 0.6 mi east of Verdel and 3.8 mi upstream from mouth.

DRAINAGE AREA.--812 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 2117: Drainage area. WDR NE-96-1 (M).

GAGE.--Water-stage recorder and nonrecording gage read once daily. Datum of gage 1,232.9 ft above sea level (Nebraska Department of Roads reference marks). See WSP 1917 for history of changes prior to Nov. 15, 1962. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	143	107	e78	e90	168	92	244	181	222	80	40
2	32	145	104	e72	e94	151	83	228	214	537	78	38
3	46	121	101	e68	e98	141	80	231	181	751	78	45
4	68	113	99	e72	e106	139	80	332	154	1060	77	163
5	104	109	98	e80	e114	129	98	2960	140	742	74	205
6	121	103	95	e76	120	120	202	2610	133	486	72	152
7	103	102	92	e76	135	111	460	2300	125	316	72	109
8	71	101	85	e74	156	111	472	1750	146	232	71	75
9	60	112	78	e80	155	113	3090	1310	135	182	70	64
10	53	196	79	e82	151	110	2030	1000	144	149	66	60
11	50	253	85	e86	161	109	3440	793	132	128	64	55
12	44	217	85	e80	139	105	1630	849	124	114	62	51
13	40	229	86	e82	e105	99	1150	632	119	103	56	46
14	40	263	90	e86	102	103	892	557	116	92	54	45
15	39	336	88	e90	103	114	726	500	171	84	53	43
16	47	336	90	e88	113	135	562	442	358	115	51	41
17	73	340	86	e88	103	143	423	382	328	184	48	39
18	236	317	85	e86	95	128	402	334	239	297	48	37
19	153	271	e80	e88	93	117	378	294	215	216	46	35
20	105	224	e70	e88	91	115	337	263	189	1530	46	35
21	100	194	e62	e86	94	114	307	246	202	1810	45	35
22	85	173	e66	e82	86	110	319	293	234	738	45	36
23	72	159	e68	e82	75	113	321	285	278	429	45	36
24	65	146	e70	e80	111	113	298	230	822	293	44	35
25	61	138	e76	e80	98	113	281	209	844	214	43	35
26	60	127	e78	e80	119	110	302	197	479	170	43	32
27	62	122	e86	e78	159	101	336	181	332	143	43	32
28	72	118	e88	e80	198	106	312	163	256	128	40	31
29	133	115	e82	e86	---	110	287	149	231	115	42	31
30	203	111	e84	e86	---	114	265	142	243	104	45	31
31	207	---	e84	e84	---	102	---	186	---	91	42	---
TOTAL	2631	5434	2627	2524	3264	3667	19655	20292	7465	11775	1743	1712
MEAN	84.9	181	84.7	81.4	117	118	655	655	249	380	56.2	57.1
MAX	236	340	107	90	198	168	3440	2960	844	1810	80	205
MIN	26	101	62	68	75	99	80	142	116	84	40	31
AC-FT	5220	10780	5210	5010	6470	7270	38990	40250	14810	23360	3460	3400

e Estimated

# PONCA CREEK BASIN

45

06453600 PONCA CREEK AT VERDEL, NE --Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

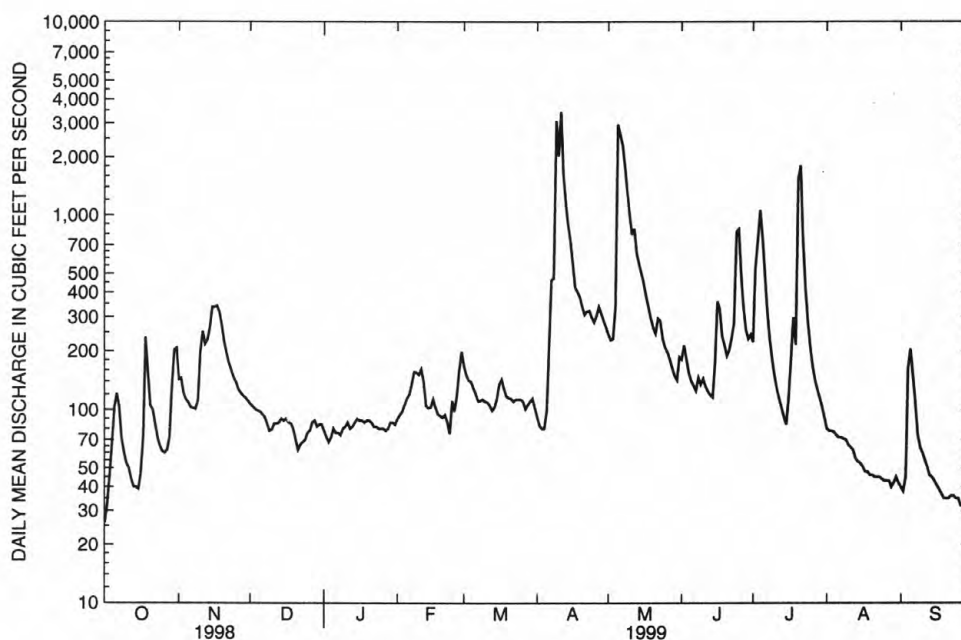
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.3	30.7	20.9	18.3	55.2	229	206	193	155	95.8	42.6	32.2
MAX	229	181	105	94.0	239	1333	818	1405	1237	742	327	251
(WY)	1996	1999	1997	1997	1996	1960	1984	1995	1962	1993	1962	1996
MIN	.000	.000	.000	.000	.000	6.53	4.77	4.02	5.64	.006	.000	.000
(WY)	1959	1977	1971	1959	1969	1965	1981	1981	1976	1966	1968	1958

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1958 -1999	
ANNUAL TOTAL	52462		82789			
ANNUAL MEAN	144		227		92.2	
MEDIAN OF ANNUAL MEANS					66	
HIGHEST ANNUAL MEAN					343	
LOWEST ANNUAL MEAN					3.75	
HIGHEST DAILY MEAN	1950	Jul 7	3440	Apr 11	14800	Mar 28 1960
LOWEST DAILY MEAN	24	Sep 12	26	Oct 1	*.00	Oct 1 1957
ANNUAL SEVEN-DAY MINIMUM	26	Sep 7	32	Sep 24	.00	Oct 1 1957
INSTANTANEOUS PEAK FLOW (STAGE)			4580	May 5	15700(**15.10)	Mar 27 1960
INSTANTANEOUS PEAK STAGE			12.18	May 5	***17.30	Mar 6 1993
ANNUAL RUNOFF (AC-FT)	104100		164200		66800	
10 PERCENT EXCEEDS	322		390		201	
50 PERCENT EXCEEDS	92		110		23	
90 PERCENT EXCEEDS	33		45		.17	

\* No flow for many days in 1957-60, 1965-72, 1974-77, 1979-81, 1989, 1991.

\*\* Site and datum then in use.

\*\*\* From floodmark, ice jam.



PONCA CREEK AT VERDEL

## NIOBRARA RIVER BASIN

## 06455000 BOX BUTTE RESERVOIR NEAR HEMINGFORD, NE

LOCATION.--Lat 42°27'30", long 103°04'03", in sec. 28, T. 29 N., R. 49 W., Dawes County, Hydrologic Unit 10150002, in control tower on dam near left bank on Niobrara River, 9 mi north of Hemingford.

DRAINAGE AREA.--1,460 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1945 to current year.

GAGE.--Electric tape gage read three or more times a month. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam; outlet gate first closed Oct. 3, 1945. Usable capacity, 30,420 acre-ft between elevations 3,969.00 ft, sill of outlet gate, and 4,007.00 ft, crest of spillway. Dead storage, 640 acre-ft. Figures given herein represent total contents. Water is used for irrigation of Mirage Flats project of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,210 acre-ft Mar. 26, 1948, elevation, 4,007.70 ft; minimum observed since operation of reservoir began, 640 acre-ft Aug. 26, 1985, elevation, 3,969.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 22,910 acre-ft July 5, elevation, 4,001.43 ft; minimum observed, 9,370 acre-ft Sept. 3, elevation, 3,988.95 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	*Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sep 30 .....	3,989.50	9,840	--
Oct. 31 .....	3,991.18	11,330	+1,490
Nov. 30 .....	3,993.67	13,740	+2,410
Dec. 31 .....	3,994.98	15,090	+1,350
CAL YR 1998 .....	--	--	+920
Jan. 31 .....	3,996.32	16,560	+1,470
Feb. 28 .....	3,997.65	18,100	+1,540
Mar. 31 .....	3,998.97	19,700	+1,600
Apr. 30 .....	4,000.17	21,230	+1,530
May 31 .....	4,000.93	22,230	+1,000
June 30 .....	4,001.35	22,800	+570
July 31 .....	3,996.68	16,960	-5,840
Aug. 31 .....	3,989.78	10,080	-6,880
Sept. 30 .....	3,989.87	10,160	+80
WTR YR 1999 .....	--	--	+320

\* Elevations read on or near last day of month.

# NIOBRARA RIVER BASIN

47

## 06459300 MERRITT RESERVOIR NEAR BURGE, NE

LOCATION.--Lat 42°38'06", long 100°52'18", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 29, T. 31 N., R. 30 W., Cherry County, Hydrologic Unit 10150005, in control house of outlet works of Merritt Dam on the Snake River, 8.1 mi southwest of Burge and 23 mi southwest of Valentine.

DRAINAGE AREA.--640 mi<sup>2</sup>, approximately, of which about 44 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--February 1964 to current year.

REVISED RECORDS.--WDR NE-67-1: Drainage area.

GAGE.--Direct reading, single vertical column, mercury-well type manometer read once daily. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam; storage began Feb. 19, 1964. Usable capacity, 72,872 acre-ft between elevations 2,875.0 ft, sill of canal outlet works, and 2,946.0 ft, crest of spillway. Dead and inactive storage, 1,614 acre-ft below elevation 2,875.0 ft. Figures given herein represent total contents. Water is used for irrigation of Ainsworth Unit of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 78,040 acre-ft May 21, 1982, elevation 2,947.2 ft; minimum since appreciable storage was attained, 20,060 acre-ft Oct. 1, 1968, elevation, 2,916.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed 74,780 acre-ft Apr. 20, elevation, 2,946.1 ft; minimum observed 34,320 acre-ft Sept. 3, elevation, 2,927.7 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	*Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 .....	2,937.2	51,880	--
Oct. 31 .....	2,943.5	67,470	+15,590
Nov. 30 .....	2,943.9	68,560	+1,090
Dec. 31 .....	2,944.3	69,670	+1,110
CAL YR 1998 .....	--	--	+840
Jan. 31 .....	2,944.1	69,110	-560
Feb. 28 .....	2,944.0	68,830	-280
Mar. 31 .....	2,944.0	68,830	0
Apr. 30 .....	2,946.1	74,780	+5,950
May 31 .....	2,945.9	74,200	-580
June 30 .....	2,946.1	74,780	+580
July 31 .....	2,939.9	58,180	-16,600
Aug. 31 .....	2,928.5	35,560	-22,620
Sept. 30 .....	2,933.6	44,450	+8,890
WTR YR 1999 .....	--	--	-7,430

\* Elevations read on or near last day of month.



## NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE

LOCATION.--Lat 42°54'10", long 100°21'40", in SE 1/4 sec.22, T.34 N., R.26 W., Cherry County, Hydrologic Unit 10150004, on left bank 18 ft downstream from highway bridge, 2.2 mi downstream from Big Beaver Creek, 5.5 mi downstream from Minnechaduza Creek, 6.5 mi southwest of Sparks, and at mile 142.5.

DRAINAGE AREA.--7150 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1209: 1947(M), 1948-50(P). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder and peak-stage indicator gage. Datum of gage is 2,287.57 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are fair. Natural flow of stream affected by irrigation and power developments, storage in Box Butte Reservoir (station 06455000), and since May 1964 by storage in Merritt Reservoir (station 06459300).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	590	836	990	e880	900	978	739	1130	739	882	568	576
2	629	807	980	e840	985	993	707	1130	725	827	571	605
3	639	943	960	e800	978	991	727	1260	728	1090	569	781
4	683	1030	958	e800	992	973	721	1150	907	944	593	925
5	778	1020	955	e840	975	981	772	1180	889	843	577	785
6	772	1120	963	e840	1000	908	795	1110	942	711	572	733
7	702	1180	947	e820	1000	974	783	1060	899	657	582	713
8	683	1140	936	e820	991	954	801	910	858	628	569	688
9	653	1200	922	e840	1000	949	859	875	840	598	553	740
10	657	1240	954	e840	994	975	905	1080	832	582	548	707
11	657	1010	935	e880	1040	1070	971	1140	829	563	537	671
12	656	966	927	e860	962	1040	911	1020	706	548	528	676
13	654	932	951	e860	955	1030	977	985	734	541	529	649
14	656	1090	960	e900	981	1040	965	1030	797	532	535	627
15	656	1130	950	947	1000	1020	992	1050	1070	529	527	611
16	654	1180	948	982	1010	1040	969	950	1120	787	519	608
17	664	1230	900	966	991	1050	934	997	1060	764	521	602
18	668	1220	895	953	986	1040	922	971	1040	669	527	598
19	639	1190	954	918	1060	1010	927	938	1010	669	528	636
20	640	1210	858	956	1030	982	934	1000	949	859	532	650
21	635	1190	768	972	1000	1000	1040	1060	913	908	561	628
22	623	1170	806	969	1030	1010	1130	1040	877	893	556	617
23	622	1170	e780	956	1000	947	1120	1010	885	806	563	608
24	626	1180	e800	956	980	957	1060	944	855	770	554	605
25	635	1170	e840	969	1010	941	1060	919	903	680	544	597
26	654	1110	e880	908	1000	921	1160	901	840	645	537	589
27	657	1070	e900	932	1030	897	1220	888	791	638	535	598
28	728	1020	e940	885	1010	927	1230	873	811	624	544	608
29	919	1000	e920	897	---	908	1200	861	854	609	569	610
30	852	997	e900	868	---	866	1190	797	927	585	561	603
31	877	---	e900	881	---	836	---	783	---	576	552	---
TOTAL	21158	32751	28277	27735	27890	30208	28721	31042	26330	21957	17061	19644
MEAN	683	1092	912	895	996	974	957	1001	878	708	550	655
MAX	919	1240	990	982	1060	1070	1230	1260	1120	1090	593	925
MIN	590	807	768	800	900	836	707	783	706	529	519	576
AC-FT	41970	64960	56090	55010	55320	59920	56970	61570	52230	43550	33840	38960

e Estimated

# NIOBARRA RIVER BASIN

49

06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

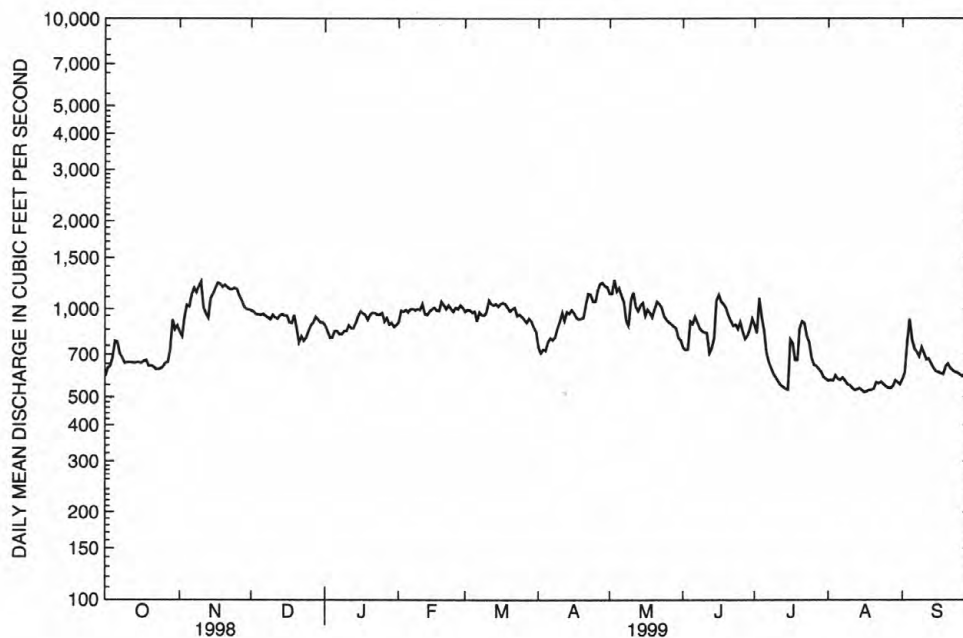
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	671	761	763	773	886	968	903	892	821	633	595	613
MAX	879	1092	950	1208	1403	1464	1214	1385	1470	1122	858	993
(WY)	1966	1999	1986	1984	1984	1949	1958	1995	1967	1962	1951	1951
MIN	481	484	448	525	631	584	615	612	506	383	417	426
(WY)	1977	1977	1969	1969	1975	1976	1967	1969	1985	1974	1980	1980

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1946 - 1999	
ANNUAL TOTAL	314149		312774			
ANNUAL MEAN	861		857		772	
HIGHEST ANNUAL MEAN					911	
LOWEST ANNUAL MEAN					598	
HIGHEST DAILY MEAN	1360	Jun 14	1260	May 3	5000	Feb 5 1984
LOWEST DAILY MEAN	517	Jul 20	519	Aug 16	100	Jan 10 1957
ANNUAL SEVEN-DAY MINIMUM	538	Jul 17	527	Aug 12	327	Dec 8 1949
INSTANTANEOUS PEAK FLOW (STAGE)			1560	Jul 16	*10200(6.73)	Mar 5 1949
INSTANTANEOUS PEAK STAGE			3.50	Jul 16	**10.06	Feb 7 1973
ANNUAL RUNOFF (AC-FT)	623100		620400		559500	
10 PERCENT EXCEEDS	1130		1070		1030	
50 PERCENT EXCEEDS	897		900		764	
90 PERCENT EXCEEDS	599		580		507	

\* From rating curve extended above 3,800 cfs.

\*\* Ice jam.



NIOBARRA RIVER NEAR SPARKS

## NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

## WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

PERIOD OF DAILY RECORD.-

SPECIFIC CONDUCTANCE: October 1982 to September 1993.

WATER TEMPERATURES: October 1982 to September 1993.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 354 microsiemens Dec. 3, 1983; minimum daily, 153 microsiemens Nov. 22, 26, 1988.

WATER TEMPERATURES: Maximum daily, 35.0°C July 1, 1990; minimum daily, 0.0°C on several days during winter periods.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE INST. (FT <sup>3</sup> /S) (00061)	SPECIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	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)
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## CHERRY COUNTY

DEC	08	1350	912	240	8.3	1.5	20	91	113	29	4.7	9.6
MAR	11	1340	1060	242	8.5	3.0	10	91	93	29	4.6	9.8
APR	27	1440	1220	240	8.4	14.5	20	98	117	31	4.9	10
JUL	21	0740	737	229	8.2	23.5	40	96	112	31	4.4	9.1

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

DATE	SODIUM ADSORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
------	---	--	---	--	---	---	---	--	--	--

## CHERRY COUNTY

DEC	08	.4	6.9	6.1	1.5	.37	52	181	.25	445	<.010
MAR	11	.4	6.2	5.2	1.5	.42	51	166	.23	474	<.010
APR	27	.5	6.8	5.4	1.7	.45	49	182	.25	599	<.010
JUL	21	.4	6.8	5.0	2.0	.39	54	181	.25	361	<.010

# NIOBRARA RIVER BASIN

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06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	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)	BORON, DIS- SOLVED (µ G/L AS B) (01020)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)
CHERRY COUNTY											
DEC 08	.484	.058	.30	.35	.84	.168	.102	.106	32	15	<3.0
MAR 11	.457	<.020	--	.25	.71	.159	.073	.075	27	23	E2.9
APR 27	.248	<.020	--	.32	.57	.166	.073	.080	33	14	E2.3
JUL 21	.389	<.020	--	.45	.84	.279	.073	.094	37	25	E2.8



## NIOBRARA RIVER BASIN

06463500 LONG PINE CREEK NEAR RIVERVIEW, NE

LOCATION.--Lat 42°41'21", long 99°40'43", in SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.5, T.31 N., R.20 W., Brown County, Hydrologic Unit 10150004, on left bank 15 ft downstream from county road bridge, 1 mi downstream from Bone Creek, 5.5 mi southwest of Riverview, and at mile 6.2.

DRAINAGE AREA.--458 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1948 to January 1954, September 1954 to current year.

REVISED RECORDS.--WSP 1729: 1952(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,983.34 ft above sea level, (levels by Bureau of Reclamation). Prior to Dec. 7, 1962, at site 100 ft upstream at present datum.

REMARKS.--Records good, except for periods of estimated record, which are poor. Flow includes return water from Ainsworth Irrigation District since 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	192	196	188	179	326	178	211	212	212	167	205
2	181	190	196	170	181	281	171	203	203	205	175	211
3	190	209	194	e165	185	251	175	207	200	198	182	227
4	207	220	192	e170	184	238	175	222	202	196	182	367
5	228	219	193	193	193	227	197	598	195	193	185	267
6	213	215	188	185	197	216	319	668	200	201	190	235
7	197	219	185	175	195	206	336	433	192	187	201	216
8	190	227	185	173	202	205	261	304	193	181	192	202
9	186	283	186	174	198	210	275	255	189	189	194	193
10	181	363	186	181	199	217	345	231	185	159	186	199
11	178	315	186	184	192	213	614	223	189	184	193	204
12	174	336	186	188	178	210	445	213	191	182	185	201
13	174	322	186	177	179	213	300	208	190	183	199	195
14	178	330	189	182	180	240	255	223	185	185	201	192
15	179	316	190	184	183	260	244	250	194	184	215	196
16	185	282	188	190	186	241	235	270	194	181	217	200
17	190	251	189	189	182	211	222	256	190	186	202	209
18	186	232	191	182	192	194	216	222	193	180	198	207
19	184	218	178	181	190	189	212	231	191	181	188	202
20	181	212	177	182	196	185	210	254	186	615	200	190
21	180	209	170	185	195	181	213	248	184	384	200	191
22	179	210	e165	183	199	185	214	234	180	283	203	190
23	181	202	172	181	180	189	213	221	188	236	202	180
24	182	200	173	178	184	195	211	210	211	199	197	176
25	180	197	187	173	191	196	214	203	199	198	196	173
26	180	196	186	176	263	192	236	198	193	190	193	168
27	185	197	189	175	500	190	274	206	194	190	197	168
28	189	196	189	172	453	198	271	207	208	180	199	172
29	228	198	186	173	---	195	244	202	220	182	220	169
30	202	194	184	174	---	191	224	196	213	176	209	169
31	194	---	187	174	---	185	---	195	---	180	209	---
TOTAL	5831	7150	5749	5557	5936	6630	7699	8002	5864	6580	6077	6074
MEAN	188	238	185	179	212	214	257	258	195	212	196	202
MAX	228	363	196	193	500	326	614	668	220	615	220	367
MIN	169	190	165	165	178	181	171	195	180	159	167	168
AC-FT	11570	14180	11400	11020	11770	13150	15270	15870	11630	13050	12050	12050

e Estimated

# NIOBRARA RIVER BASIN

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06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	140	142	139	136	146	168	171	183	173	163	160	157
MAX	254	238	191	180	256	257	369	495	396	368	256	263
(WY)	1996	1999	1996	1995	1996	1987	1995	1995	1951	1962	1998	1986
MIN	100	101	102	103	96.5	106	114	103	105	99.0	92.9	88.1
(WY)	1949	1950	1969	1957	1951	1951	1950	1948	1948	1949	1948	1948

## SUMMARY STATISTICS

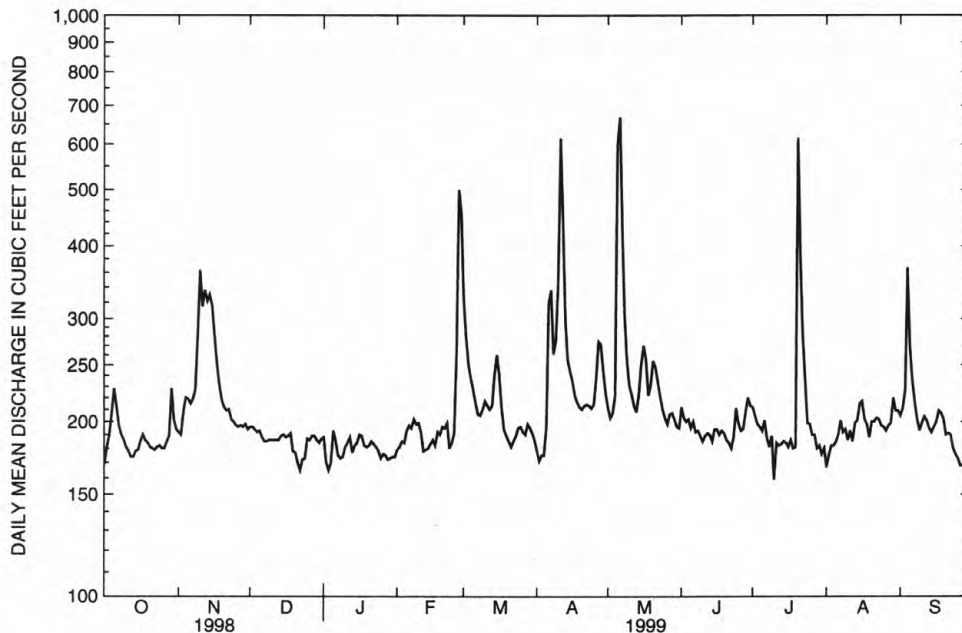
## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1948 - 1999

ANNUAL TOTAL	80531	77149	
ANNUAL MEAN	221	211	157
HIGHEST ANNUAL MEAN			231
LOWEST ANNUAL MEAN			111
HIGHEST DAILY MEAN	565	Jun 24	668
LOWEST DAILY MEAN	150	Jul 22	159
ANNUAL SEVEN-DAY MINIMUM	163	Mar 5	171
INSTANTANEOUS PEAK FLOW			788
INSTANTANEOUS PEAK STAGE			3.32
ANNUAL RUNOFF (AC-FT)	159700	153000	113900
10 PERCENT EXCEEDS	287	255	202
50 PERCENT EXCEEDS	201	194	145
90 PERCENT EXCEEDS	174	178	110

\* Backwater from fallen bridge



LONG PINE CREEK NEAR RIVERVIEW

## NIOBRARA RIVER BASIN

06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

## WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE INST. (FT <sup>3</sup> /S (00061)	SPECIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	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)
BROWN COUNTY											
DEC 09	0850	186	214	8.1	5.0	15	79	88	25	3.8	7.4
MAR 12	0910	211	219	8.1	4.5	20	78	91	25	3.8	8.7
APR 28	0845	278	217	8.1	11.0	50	85	101	27	4.1	10
JUL 20	1340	721	181	7.9	22.5	200	67	78	22	3.2	7.1

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

DATE	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
BROWN COUNTY											
DEC 09	.4	7.1	4.9	2.7	.22	55	170	.23	85.5	--	<.010
MAR 12	.4	5.7	4.0	2.8	.31	51	165	.22	94.2	--	<.010
APR 28	.5	5.0	2.9	2.1	.43	47	166	.23	124	--	<.010
JUL 20	.4	11	6.4	4.0	.28	31	147	.20	286	2.97	.054

# NIOBRARA RIVER BASIN

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06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	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)	BORON, DIS- SOLVED (µ G/L AS B) (01020)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)
BROWN COUNTY											
DEC 09	2.40	.035	.16	.19	2.6	.239	.201	.201	26	12	<3.0
MAR 12	2.15	<.020	--	.26	2.4	.193	.128	.141	23	36	E1.5
APR 28	1.27	<.020	--	.50	1.8	.331	.128	.137	23	49	E2.3
JUL 20	3.02	<.020	--	1.4	4.4	2.25	.528	.407	59	910	40



## NIOBRARA RIVER BASIN

## 06464500 KEYA PAHA RIVER AT WEWELA, SD

LOCATION.--Lat 43°01'44", long 099°46'49", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.24, T.95 N., R.76 W., Tripp County, Hydrologic Unit 10150006, on right bank at downstream side of bridge on U.S. Highway 183, 1.0 mi north of Wewela, 4.5 mi upstream from Holt Creek, and 11.5 mi downstream from Lost Creek.

DRAINAGE AREA.--1,070 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--November 1937 to September 1940, October 1947 to current year. Monthly discharge only for October 1947, published in WSP 1309.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,049.78 ft above sea level. Prior to June 21, 1957, nonrecording gage at site 13 ft upstream at same datum. Prior to Aug. 23, 1984, recording gage on left bank 13 ft downstream from bridge at same datum.

REMARKS.--Records good except those estimated daily discharges, which are poor. Satellite sata-collection platform at station.

COOPERATION.--Records provided by the Geological Survey, South Dakota District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	248	137	e85	e200	257	122	256	136	135	47	40
2	56	212	137	e77	e220	238	115	232	136	138	50	54
3	e77	198	135	e70	e240	216	114	232	134	249	49	74
4	e86	188	131	e64	e230	197	115	238	131	255	46	141
5	92	179	129	e58	e225	182	126	376	151	224	44	205
6	96	171	125	e58	e220	175	164	540	159	211	44	201
7	94	168	123	e59	e200	168	182	656	165	161	50	177
8	88	171	119	e60	178	165	225	616	159	125	53	139
9	83	199	124	e62	171	167	501	523	146	106	50	111
10	81	259	121	e64	172	171	618	497	136	93	54	94
11	76	212	120	e66	173	169	809	654	130	85	61	83
12	73	188	121	e68	149	169	700	1150	121	80	63	79
13	72	233	122	e70	e140	172	550	747	116	75	59	71
14	72	271	122	e72	e150	192	435	525	117	84	47	e68
15	73	274	121	e74	162	212	349	447	201	72	39	e70
16	108	285	121	e76	165	220	310	396	305	86	36	e70
17	140	280	120	e79	160	211	272	351	324	83	34	e65
18	189	262	e110	e80	158	184	248	321	318	90	33	e60
19	187	236	e100	e90	162	165	230	295	275	96	32	e68
20	151	214	e90	e100	e158	152	210	277	233	98	32	84
21	129	199	e80	e110	e156	141	208	255	191	78	38	e71
22	115	190	e70	e125	157	137	244	275	165	89	37	65
23	107	190	e73	e130	157	144	269	278	165	82	34	63
24	102	178	e76	e135	155	150	293	234	135	73	32	60
25	97	166	e80	e140	168	146	286	208	121	67	32	e72
26	93	158	e83	e145	216	140	299	190	107	63	31	e76
27	92	152	e86	e150	258	135	324	175	104	58	29	e73
28	95	146	e90	e155	269	133	332	162	116	52	28	e77
29	183	146	e95	e165	---	130	312	151	118	62	32	e81
30	258	141	e100	e175	---	128	285	142	126	69	35	83
31	279	---	e93	e180	---	124	---	135	---	54	36	---
TOTAL	3493	6114	3354	3042	5169	5290	9247	11534	4941	3293	1287	2675
MEAN	113	204	108	98.1	185	171	308	372	165	106	41.5	89.2
MAX	279	285	137	180	269	257	809	1150	324	255	63	205
MIN	49	141	70	58	140	124	114	135	104	52	28	40
AC-FT	6930	12130	6650	6030	10250	10490	18340	22880	9800	6530	2550	5310

e Estimated

# NIOBRARA RIVER BASIN

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06464500 KEYA PAHA RIVER AT WEWELA, SD--Continued

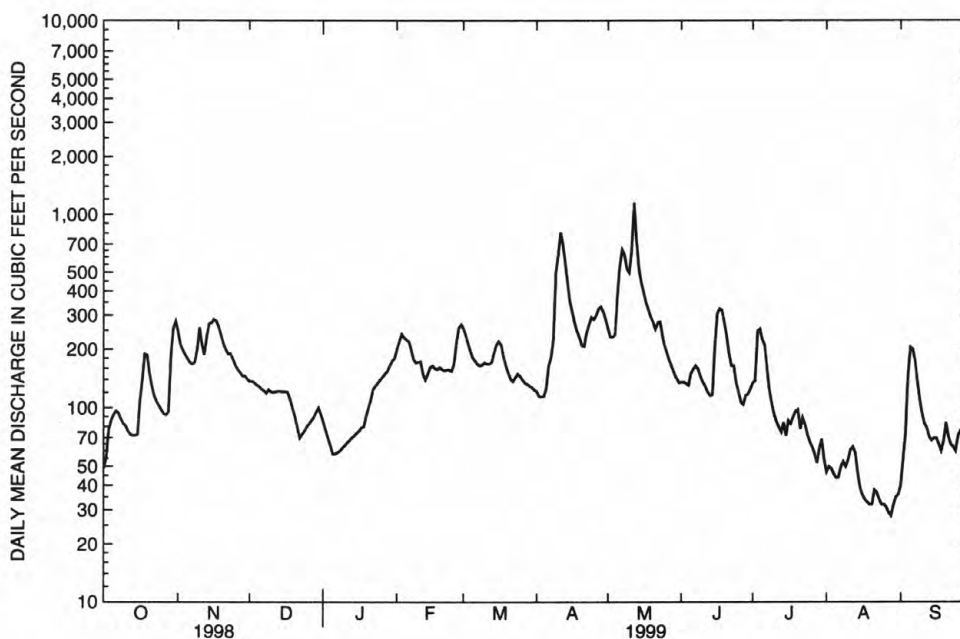
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939-40, 1948-99, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	40.6	46.5	36.8	31.9	76.5	178	164	145	108	64.1	37.2	31.4
MAX	141	204	108	135	546	598	605	754	512	607	178	89.2
(WY)	1996	1999	1999	1997	1997	1960	1952	1995	1962	1962	1998	1999
MIN	8.49	12.0	8.74	1.61	5.07	33.5	31.3	27.4	12.2	3.55	.80	3.71
(WY)	1977	1977	1956	1949	1979	1975	1976	1981	1976	1940	1976	1976

## SUMMARY STATISTICS      FOR 1998 CALENDAR YEAR      FOR 1999 WATER YEAR      WATER YEARS 1939-40,1948-99

ANNUAL TOTAL	56374	59439	
ANNUAL MEAN	154	163	<sup>a</sup> 80.0
HIGHEST ANNUAL MEAN			188
LOWEST ANNUAL MEAN			19.5
HIGHEST DAILY MEAN	789	Jun 25	1150
LOWEST DAILY MEAN	44	Sep 12	28
ANNUAL SEVEN-DAY MINIMUM	50	Sep 6	31
INSTANTANEOUS PEAK FLOW			1300
INSTANTANEOUS PEAK STAGE			5.26
ANNUAL RUNOFF (AC-FT)	111800	117900	57960
10 PERCENT EXCEEDS	291	278	164
50 PERCENT EXCEEDS	120	136	42
90 PERCENT EXCEEDS	60	58	15

- a Median of annual mean discharges, 67 ft<sup>3</sup>/s.  
 b Also Jan. 11 to Feb. 15, 1949, and Aug. 19 to Sept. 14, 1976.  
 c Gage height, 13.08 ft.  
 d Backwater from ice.



KEYA PAHA RIVER AT WEWELA, SD

## NIOBRARA RIVER BASIN

06465000 NIOBRARA RIVER NEAR SPENCER, NE

LOCATION.--Lat 42°48'33", long 98°39'22", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.30, T.33 N., R.11 W., Boyd County, Hydrologic Unit 10150007, at Spencer powerplant dam 5 mi southeast of Spencer.

DRAINAGE AREA.--11,070 mi<sup>2</sup>.

PERIOD OF RECORD.--May to December 1908 (gage heights only); August 1913 to September 1914; October to December 1914, April to September 1915 (gage heights only); August 1927 to September 1936, June 1940 to current year. Published as "near Lynch" 1913-15. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder and hourly log and powerplant operation. Datum of gage is 1,473.67 ft above sea level. Elevation of taintor gate sill, 1,491.12 ft above sea level. Prior to December 1908, nonrecording gage on former highway bridge 275 ft downstream and Aug. 1, 1913, to Sept. 30, 1915, nonrecording gage at highway bridge 10 mi downstream at different datums. Aug. 1, 1927, to Sept. 30, 1936, and June 14, 1940, to Sept. 30, 1944, discharge computed as flow through powerhouse and over dam. Oct. 1, 1944, to Nov. 10, 1954, water-stage recorder at site 275 ft downstream at datum 4.98 ft higher, and Nov. 11, 1954, to Sept. 30, 1957, at site 0.3 mi downstream at datum 9.78 ft lower. Oct. 1, 1957 to Oct. 21, 1958, discharge computed as flow through powerhouse and over dam. Oct. 28, 1958, to Aug. 13, 1963, water-stage recorder at site 225 ft downstream at present datum. Aug. 14, 1963, gage moved to present site with discharge computed as flow through powerhouse and over dam.

REMARKS.--Records fair. Natural flow of stream affected by irrigation and power developments. Daily discharge determined from flow through turbines and taintor gates, computed from relation between head, and gage openings.

COOPERATION.--Powerplant log furnished by Nebraska Public Power District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1530	2010	2050	1600	2030	2530	1790	2410	2070	2010	1300	1060
2	1780	1680	2530	1610	2140	2420	1840	2280	1850	2140	1280	1060
3	1990	1980	2330	1470	2250	2360	1750	2490	1660	2550	1200	1290
4	2100	2050	2150	1070	2330	2280	1640	2730	1630	2340	1210	2050
5	2180	2130	1950	1030	2390	2180	1890	7560	1520	2100	1200	2460
6	1980	2070	1970	1320	2500	2180	2640	5930	1930	1940	1250	2300
7	2070	2210	1930	1450	2660	2100	2400	4720	1900	1660	1290	e2210
8	e1830	2270	1930	1630	3210	2170	2610	3330	1700	1550	1300	e1630
9	e1680	2380	1910	1720	3180	2210	5170	2900	1700	1540	1290	e1710
10	e1670	3600	1900	1580	2940	2170	4380	2620	1800	1450	1200	e1580
11	e1640	2770	1880	1620	2370	2160	5450	2700	1880	1340	1210	e1500
12	1730	2550	1880	1650	1900	2230	4520	2830	1720	1290	e1220	e1390
13	2140	2530	1880	1650	1980	2220	4000	2900	1720	1180	e1210	e1290
14	1750	2440	1930	1860	2130	2180	3350	2670	1570	1190	e1190	e1280
15	1690	2580	1900	1950	1870	2220	2720	2600	2260	1130	e1200	e1210
16	1750	2570	2040	1890	2110	2250	2390	2690	2890	2270	e1100	e1120
17	1890	2560	2290	2020	2120	2230	2380	2460	2540	1890	e1050	e1150
18	1930	2580	1770	e2050	2140	2190	2270	2270	2270	1750	e1030	e1230
19	e1790	2520	1090	2010	2130	2120	2120	2150	2120	1730	e1030	e1210
20	1750	2400	734	2050	2110	e2080	2090	2220	1980	7070	e1040	e1240
21	e1680	2380	425	2080	2150	1950	2160	2310	1920	5600	1050	e1390
22	e1660	2350	511	2050	1620	2060	2580	2250	1790	1860	1040	e1220
23	1620	2290	679	2050	e1950	2140	2490	2230	2860	2200	1070	e1220
24	1510	2420	436	2030	2280	2000	2370	2140	3170	1770	1150	e1210
25	e1550	2190	575	1990	2130	1970	2360	2030	2360	1620	1090	e1180
26	e1590	2170	854	1910	2320	1950	2640	1920	1840	1570	1040	e1150
27	1960	2150	1100	1880	2670	1930	2690	1860	1870	1440	1060	e1160
28	2170	2120	1620	1910	2710	2160	2690	1880	1980	1330	1030	e1210
29	3320	2040	1920	1910	---	1980	2670	1780	1970	1270	1090	e1240
30	2770	2010	1840	1910	---	1900	2520	1800	2030	1270	1070	e1230
31	2310	---	1690	1930	---	1870	---	1910	---	1300	1050	---
TOTAL	59010	70000	49694	54880	64320	66390	82570	84570	60500	61350	35540	42180
MEAN	1904	2333	1603	1770	2297	2142	2752	2728	2017	1979	1146	1406
MAX	3320	3600	2530	2080	3210	2530	5450	7560	3170	7070	1300	2460
MIN	1510	1680	425	1030	1620	1870	1640	1780	1520	1130	1030	1060
AC-FT	117000	138800	98570	108900	127600	131700	163800	167700	120000	121700	70490	83660

e Estimated

# NIOBRARA RIVER BASIN

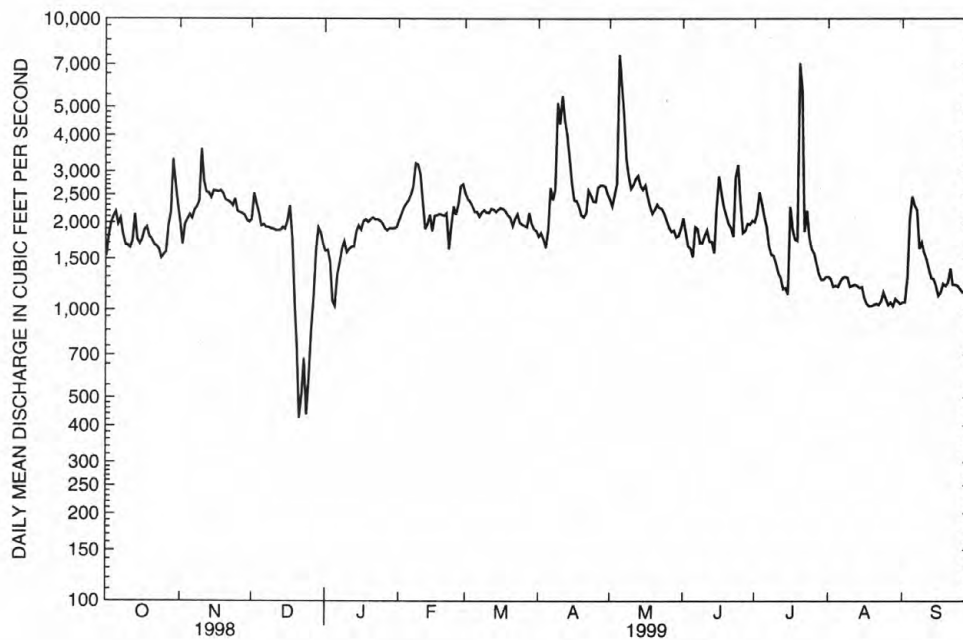
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06465000 NIOBRARA RIVER NEAR SPENCER, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1281	1346	1180	1232	1637	2242	1959	1879	1654	1162	1047	1123
MAX	1965	2333	1881	1860	3014	3941	3972	4649	3972	4156	2167	2143
(WY)	1996	1999	1994	1997	1997	1950	1995	1995	1962	1962	1951	1951
MIN	936	899	601	645	839	1276	1179	1014	830	549	612	746
(WY)	1941	1977	1928	1929	1950	1976	1934	1934	1933	1936	1970	1970

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1927 - 1999	
ANNUAL TOTAL	701090		731004			
ANNUAL MEAN	1921		2003		1479	
HIGHEST ANNUAL MEAN					2066	
LOWEST ANNUAL MEAN					1096	
HIGHEST DAILY MEAN	3820		7560		19000	
LOWEST DAILY MEAN	425		425		5.0	
ANNUAL SEVEN-DAY MINIMUM	602		602		168	
INSTANTANEOUS PEAK FLOW					27400	
INSTANTANEOUS PEAK STAGE					12.16	
ANNUAL RUNOFF (AC-FT)	1391000		1450000		1071000	
10 PERCENT EXCEEDS	2700		2650		2290	
50 PERCENT EXCEEDS	1910		1950		1310	
90 PERCENT EXCEEDS	1170		1190		776	



NIOBRARA RIVER NEAR SPENCER

## NIOBRARA RIVER BASIN

## 06465500 NIOBRARA RIVER NEAR VERDEL, NE

LOCATION.--Lat 42°44'23", long 098°13'26", in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.23, T.32 N., R.8 W., Knox County, Hydrologic Unit 10150007, on right bank at downstream side of county road bridge, 6.6 mi south of Verdel, 7.5 mi upstream from Verdigre Creek, and at mile 14.8.

DRAINAGE AREA.--11,580 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1938 to May 1940, June 1958 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,312.12 ft above sea level. Apr. 25, 1938, to June 16, 1939, nonrecording gage at site 2600 ft downstream; June 17, 1939, to June 13, 1940, nonrecording gage 2850 ft downstream; and June 14, 1940 to July 24, 1985, water-stage recorder at site 2600 ft downstream, all at datum 4.00 ft lower. Data collection platform at station.

REMARKS.--Records poor. Natural flow of stream affected by irrigation and power developments.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1650	2300	2630	e2200	e2400	e2900	2060	3580	2510	2830	1640	1630
2	1590	1950	2980	e2000	e2600	e2800	1950	2930	2030	3370	1510	1590
3	1670	1970	2680	e1800	e2800	e2700	1890	2780	2000	3570	1510	1820
4	1830	2050	2670	e1700	e3000	e2500	1830	2480	1610	3090	1450	3590
5	2540	1990	2340	e1600	e3500	2400	2110	5880	1500	3020	1370	2740
6	2620	2330	2080	e1700	e4000	2380	2660	5970	1670	2970	1410	2180
7	2350	2580	1990	e1800	e4400	2260	2350	4500	2030	2710	1480	1790
8	2330	2940	1830	e1900	e4700	2770	2150	2760	2080	2570	1470	1620
9	2240	3390	e1900	e1900	e5000	2770	5300	2150	2310	2330	1560	1350
10	2090	4500	e1950	e2000	5340	2570	4540	3250	2810	1880	1470	1300
11	2120	3290	e2000	e2100	3740	2470	5640	3580	2970	1620	1430	1410
12	2080	e3200	e2100	e2100	2990	2570	4640	3610	2880	1670	1630	1600
13	1970	e3150	e2200	e2200	e2900	2830	3870	3700	2660	1780	1410	1550
14	1840	e3100	e2300	e2200	e2800	2880	3580	3810	2640	1770	1350	1410
15	1830	e3000	2350	e2300	e2700	2820	3630	3990	3150	1710	1360	1430
16	2140	e2900	2420	e2300	e2500	2850	3180	3670	3570	2720	1340	1600
17	2900	2870	2390	e2400	e2600	2980	3120	3030	3250	2760	1340	1550
18	2900	2850	2390	e2400	e2600	2710	2040	2730	2770	1740	1430	1600
19	2420	2890	1900	e2400	e2600	2620	1890	3180	2400	1930	1390	1700
20	2200	2620	1420	e2500	e2500	2310	1740	3320	2110	6590	1380	1740
21	2050	2470	1140	e2500	e2400	2120	1780	3210	2580	5420	1350	1710
22	2090	2870	989	e2400	e2300	2120	2310	2430	2320	3980	1410	1640
23	2270	3160	1330	e2400	e2400	2370	2580	2940	2890	3550	1490	1650
24	2190	2860	1250	e2400	e2500	2310	2850	2510	3800	3050	1530	1780
25	2180	2890	1420	e2300	e2700	2300	3020	2720	3050	2630	1510	1720
26	2130	2710	1740	e2300	e2800	2320	3790	2820	2340	2410	1490	1610
27	2240	2550	e2100	e2200	e2700	2250	4080	2140	2650	2240	1470	1510
28	2190	2440	e2200	e2200	e3000	2690	3890	2270	2760	2110	1480	1500
29	2700	2560	e2300	e2100	---	2570	3960	2450	2750	2020	1560	1400
30	2900	2470	e2400	e2100	---	2370	3580	2430	2670	1920	1710	1290
31	2420	---	e2500	e2200	---	2260	---	2290	---	1810	1740	---
TOTAL	68670	82850	63889	66600	86470	78770	92010	99110	76760	83770	45670	51010
MEAN	2215	2762	2061	2148	3088	2541	3067	3197	2559	2702	1473	1700
MAX	2900	4500	2980	2500	5340	2980	5640	5970	3800	6590	1740	3590
MIN	1590	1950	989	1600	2300	2120	1740	2140	1500	1620	1340	1290
AC-FT	136200	164300	126700	132100	171500	156200	182500	196600	152300	166200	90590	101200

e Estimated



# NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

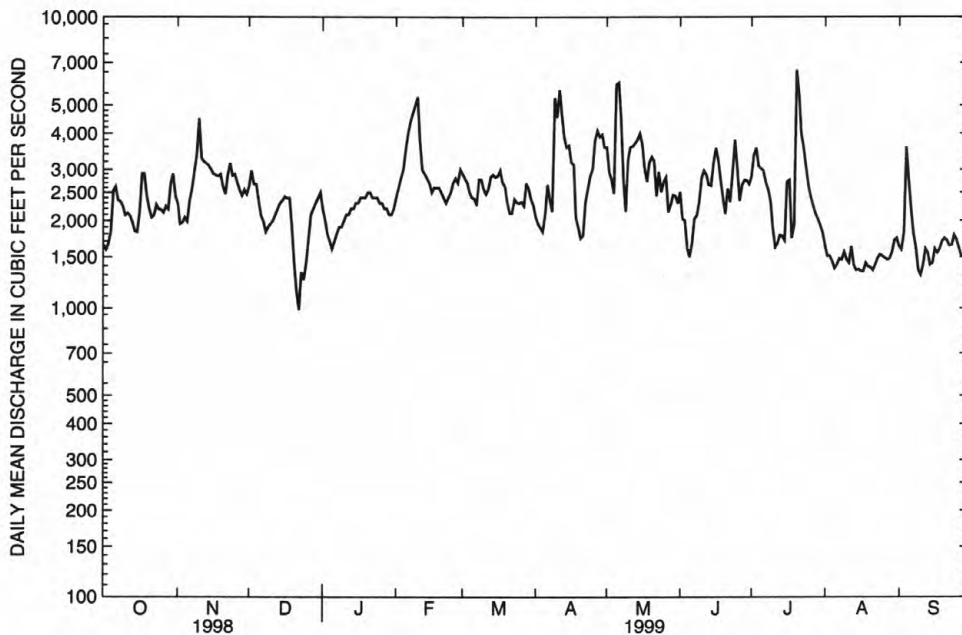
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1434	1526	1379	1433	1909	2583	2318	2173	1863	1398	1138	1259
MAX	2480	2762	2118	2148	3557	4425	4693	5290	4442	5370	2049	2094
(WY)	1996	1999	1997	1999	1997	1960	1995	1995	1962	1962	1962	1986
MIN	1009	943	787	706	941	1444	1282	1228	1044	551	644	704
(WY)	1977	1977	1969	1940	1939	1981	1939	1969	1976	1974	1971	1939

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1938 - 1999

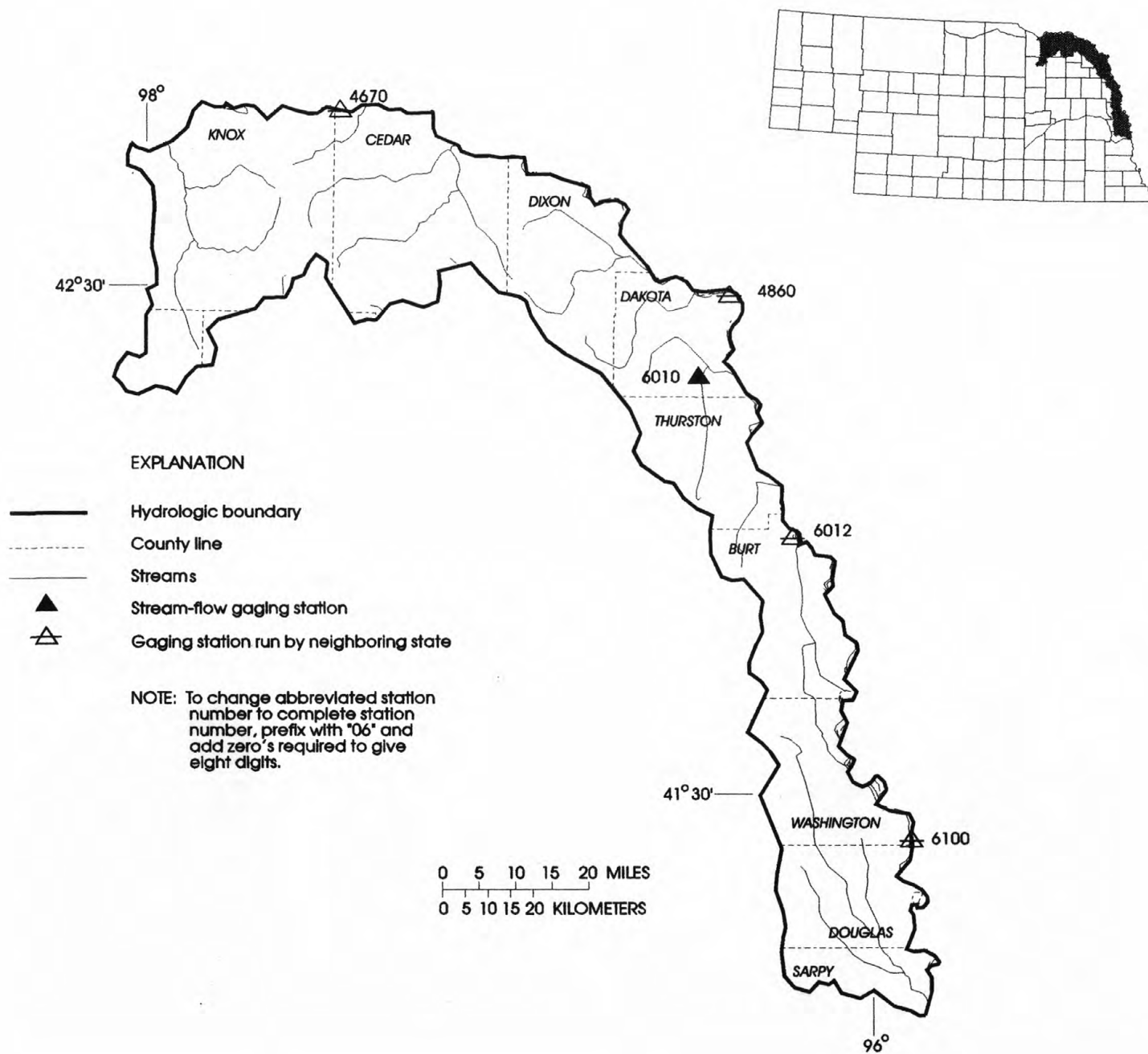
ANNUAL TOTAL	825419	895579	
ANNUAL MEAN	2261	2454	1708
HIGHEST ANNUAL MEAN			2461
LOWEST ANNUAL MEAN	*		1269
HIGHEST DAILY MEAN	4630	Jun 26	6590
LOWEST DAILY MEAN	800	Jan 14	989
ANNUAL SEVEN-DAY MINIMUM	1030	Jan 10	1330
INSTANTANEOUS PEAK FLOW			12200
INSTANTANEOUS PEAK STAGE			5.28
ANNUAL RUNOFF (AC-FT)	1637000	1776000	1238000
10 PERCENT EXCEEDS	3290	3560	2680
50 PERCENT EXCEEDS	2200	2350	1500
90 PERCENT EXCEEDS	1390	1510	882

\* Backwater from ice.



NIOBRARA RIVER NEAR VERDEL

MISSOURI RIVER MAIN STEM  
MISSOURI RIVER BASIN



# MISSOURI RIVER MAIN STEM

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*STATION NUMBER	STATION NAME	PAGE
MISSOURI RIVER		
4670	Lewis and Clark Lake near Yankton, SD .....	64
4860	Missouri River at Sioux City, IA .....	66
OMAHA CREEK BASIN		
6010	Omaha Creek at Homer.....	68
MISSOURI RIVER		
6012	Missouri River at Decatur, NE.....	70
6100	Missouri River at Omaha, NE .....	72

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## MISSOURI RIVER MAIN STEM

## 06467000 LEWIS AND CLARK LAKE NEAR YANKTON, SD

LOCATION.--Lat 42°50'56", long 097°28'54", in SW<sup>1</sup>/<sub>4</sub> sec.7, T.33 N., R.1 W., Cedar County, NE, Hydrologic Unit 10170101, in powerhouse of Gavins Point Dam on Missouri River, 3.75 mi southwest of Yankton, 13.6 mi upstream from James River, 32.5 mi downstream from Niobrara River, and at mile 811.0.

DRAINAGE AREA.--279,500 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--July 1955 to current year (monthend contents only). Prior to October 1955, published as Gavins Point Reservoir near Yankton.

GAGE.--Water-stage recorder. Datum of gage is above sea level. Prior to Dec. 9, 1955, recorder at temporary location on wall of intake structure unit 3.

REMARKS.--Reservoir is formed by earthfill dam; storage began in July 1955. Maximum capacity, 504,000 acre-ft below elevation 1,210.0 ft (top of spillway gates). Normal maximum, 442,600 acre-ft below elevation 1,208.0 ft. Inactive storage, 157,000 acre-ft below elevation 1,195.0 ft. Dead storage, 23,000 acre-ft below elevation 1,180.0 ft (crest of spillway). From capacity table put into use Nov. 1, 1986; maximum capacity, 491,700 acre-ft. Normal maximum, 432,000 acre-ft. Inactive storage, 149,400 acre-ft. Dead storage, 17,700 acre-ft. Figures given herein represent elevations at powerhouse and total contents adjusted for wind effect. The spillway consists of 14 taintor gates, each 40 ft wide by 30 ft high; spillway capacity, 280,000 ft<sup>3</sup>/s at pool elevation 1,210.0 ft. Crest of spillway is at elevation 1,180.0 ft. Normal releases are through 3 power units, installation completed in January 1957; maximum release through power units is 35,000 ft<sup>3</sup>/s at pool elevation, 1,210.0 ft. Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Records of elevation and contents provided by the Geological Survey, South Dakota District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 565,000 acre-ft, Apr. 1, 1960, affected by wind; minimum since initial filling, 61,950 acre-ft, Apr. 23, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 417,000 acre-ft, July 22; minimum contents, 311,000 acre-ft, Jan. 6.

## MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 .....	1,207.14	388,000	--
Oct. 31 .....	1,207.10	386,000	-2,000
Nov. 30 .....	1,207.32	392,000	+6,000
Dec. 31 .....	1,206.66	375,000	-17,000
CAL YR 1998. ....	--	--	-14,000
Jan. 31 .....	1,207.17	387,000	+12,000
Feb. 28 .....	1,206.18	362,000	-25,000
Mar. 31 .....	1,205.72	351,000	-11,000
Apr. 30 .....	1,206.11	360,000	+9,000
May 31 .....	1,205.85	354,000	-6,000
June 30 .....	1,205.96	358,000	+4,000
July 31 .....	1,205.30	339,000	-19,000
Aug. 31 .....	1,205.87	354,000	+15,000
Sept. 30 .....	1,206.89	381,000	+27,000
WTR YR 1999 .....	--	--	-7,000





## MISSOURI RIVER MAIN STEM

06486000 MISSOURI RIVER AT SIOUX CITY, IA

LOCATION.--Lat. 42°29'09", long 96°24'49", in NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.16, T.29 N., R.9 E., sixth principal meridian, Dakota County, Nebraska, Hydrologic Unit 10230001, on right bank on upstream side of bridge on U.S. Highway 20 and 77 at South Sioux City, Nebraska, 1.9 mi downstream from Big Sioux River, and at mile 732.2.

DRAINAGE.--314,600 mi<sup>2</sup>, approximately. The 3,959 mi<sup>2</sup> in Great Divide basin are not included.

PERIOD OF RECORD.--October 1897 to current year in reports of the U.S. Geological Survey. Prior to October 1928 and October 1931 to September 1938, monthly discharges only, published in WSP 1310. January 1879 to December 1890, monthly discharges only, in House Document 238, 73rd Congress, 2d session, Missouri River. Gage height records collected in this vicinity September 1878 to December 1899 are contained in reports of Missouri River Commission and since July 1889 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 716: 1929-30. WSP 876: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 1,056.98 ft above sea level. Sept. 2, 1878 to Dec. 31, 1905, nonrecording gages at various locations within 1.7 mi of present site and at various datums. Jan. 1, 1906 to Feb. 14, 1935, nonrecording gage, and Feb. 15, 1935 to Sept. 30, 1969, water-stage recorder at site 227 ft downstream at datum 19.98 ft higher, and Oct. 1, 1969 to Sept. 30, 1970 at datum 20.00 ft higher. Oct. 1, 1970 to Jan. 30, 1981, water-stage recorder at site 227 ft downstream at present datum.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers rain-gage and satellite data collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 441,000 ft<sup>3</sup>/s Apr. 14, 1952, gage height, 24.28 ft, datum then in use; minimum, 2,500 ft<sup>3</sup>/s Dec. 29, 1941; minimum gage height, 7.02 ft Jan. 19, 1996.

COOPERATION.--Records provided by Geological Survey, Iowa District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33000	40000	46000	25000	26700	30100	36000	34300	48100	39200	44700	48300
2	32700	40400	45800	24400	28400	30200	36100	35700	48000	43300	44400	48200
3	33000	40400	45800	23700	29400	31200	35800	36000	42600	46400	44000	48200
4	33500	40100	44000	22600	29600	32500	36300	36200	42700	45500	42500	48600
5	34900	40000	42500	23800	29100	32600	36400	36600	46300	46800	43300	48500
6	32000	41200	40200	25700	29300	32400	37700	35600	44000	49000	44600	49000
7	29500	42900	38400	24500	29300	32500	37000	33200	43300	49600	45200	49700
8	30300	42800	36900	23800	29500	32500	37100	33600	45800	50000	42500	49700
9	30600	42400	36400	23800	30000	33600	37400	33900	44900	49800	39500	49600
10	32800	45400	36000	23700	30200	34100	36800	33600	46000	48700	40700	49100
11	33500	43200	35600	23800	30700	33900	34900	33100	48400	47700	41600	48800
12	33600	42200	35200	25700	29800	33500	35800	32200	39800	47000	42400	48800
13	33100	43200	34700	24100	29700	33400	37200	34600	37400	46100	42500	48500
14	33000	43600	34400	23200	31600	33500	38600	35000	40400	45200	42900	48200
15	33100	44300	34200	24500	31100	33800	40800	35800	45500	44300	43100	48000
16	33400	45100	34100	27000	31100	34200	38900	37300	40900	43900	43600	48200
17	33700	45600	33800	28000	30800	35500	32600	39200	42000	43400	43200	48500
18	33600	46500	33700	26000	30700	35700	31500	38800	45800	43600	42800	48300
19	33300	47300	33400	24900	30700	36500	33300	36200	42100	42400	42700	48100
20	33600	47600	32600	25400	30500	33100	34400	37400	42900	43800	42400	48000
21	35400	48300	29100	25400	29900	38600	36200	40400	45900	53300	41900	48100
22	35800	48600	24100	25700	29500	37200	35000	42000	46000	54500	41200	48100
23	36000	48200	20600	26500	29200	36700	31900	44700	45800	48200	40900	48300
24	36000	47800	20500	27200	30000	35800	28900	45200	46200	46700	40800	48600
25	36000	47900	21700	26400	30000	35600	32500	44300	45700	47000	39700	48500
26	36300	47400	24000	27200	30200	35200	35700	43700	45200	47600	41900	48400
27	36100	47100	24300	27600	30600	35200	36300	43600	49500	46500	44300	48200
28	36700	46700	25200	27200	30300	35600	35400	43400	51800	46100	46800	48000
29	38700	46500	24800	26900	---	35100	32700	44300	41900	45900	47800	48200
30	40100	46200	24100	26500	---	35000	31700	45800	37200	45600	48100	48200
31	39500	---	24800	26400	---	35500	---	45900	---	45200	48000	---
TOTAL	1062800	1338900	1016900	786600	837900	1060300	1060900	1191600	1332100	1442300	1340000	1454900
MEAN	34280	44630	32800	25370	29920	34200	35360	38440	44400	46530	43230	48500
MAX	40100	48600	46000	28000	31600	38600	40800	45900	51800	54500	48100	49700
MIN	29500	40000	20500	22600	26700	30100	28900	32200	37200	39200	39500	48000
AC-FT	2108000	2656000	2017000	1560000	1662000	2103000	2104000	2364000	2642000	2861000	2658000	2886000

# MISSOURI RIVER MAIN STEM

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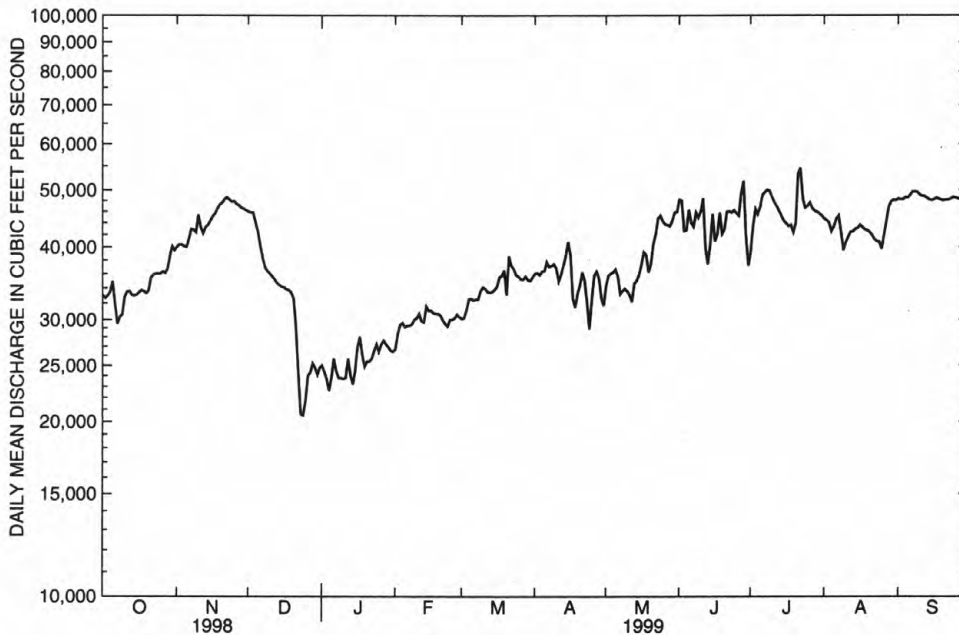
06486000 MISSOURI RIVER AT SIOUX CITY, IA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36110	31090	18850	16040	17340	23440	33400	34010	35840	36490	36890	37040
MAX	69300	71600	39880	27720	31120	47020	88040	78720	66400	65550	65360	66400
(WY)	1998	1998	1998	1987	1997	1997	1997	1997	1997	1997	1997	1997
MIN	14350	6951	8271	7316	6293	9135	17450	23820	23270	26890	24270	25790
(WY)	1962	1962	1962	1964	1963	1957	1957	1962	1960	1958	1993	1962

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		*WATER YEARS 1953 - 1999	
ANNUAL TOTAL	11942600		13925200			
ANNUAL MEAN	32720		38150		29750	
HIGHEST ANNUAL MEAN					55890	
LOWEST ANNUAL MEAN					19770	
HIGHEST DAILY MEAN	48600		Nov 22		54500	
LOWEST DAILY MEAN	20500		Dec 24		20500	
ANNUAL SEVEN-DAY MINIMUM	22900		Dec 22		22900	
INSTANTANEOUS PEAK FLOW					55400	
INSTANTANEOUS PEAK STAGE					20.93	
ANNUAL RUNOFF (AC-FT)	23690000		27620000		21560000	
10 PERCENT EXCEEDS	40000		48200		46800	
50 PERCENT EXCEEDS	32400		37200		30200	
90 PERCENT EXCEEDS	27500		27000		11500	

\* Post regulation, revised.



MISSOURI RIVER AT SIOUX CITY, IA

## OMAHA CREEK BASIN

## 06601000 OMAHA CREEK AT HOMER, NE

LOCATION.--Lat 42°19'29", long 096°29'43", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.11, T.27 N., R.8 E., Dakota County, Hydrologic Unit 10230001, on left bank 80 ft downstream from bridge on main street of Homer and at mile 4.7.

DRAINAGE AREA.--174 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-94-1: Drainage area. WDR NE-75-1: 1971-73.

GAGE.--Water-stage recorder. Datum of gage is 1,080.45 ft above sea level. Prior to Aug. 4, 1952, at bridge 0.5 mi downstream at datum 6.03 ft lower. Aug. 4, 1952, to Nov. 3, 1966, at site 80 ft upstream at datum 2.0 ft higher. Nov. 4, 1966 to Sept. 30, 1989, at present site at datum 2.0 ft higher. June 27, 1984 to Aug. 28, 1984, at temporary site 700 ft downstream at present datum.

REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	51	57	e42	e62	70	62	106	323	e440	93	63
2	42	51	58	e44	e66	80	63	103	160	e180	91	61
3	54	53	58	e48	e80	69	63	104	127	e400	91	59
4	96	51	58	e44	e94	68	63	113	1060	e300	90	63
5	101	49	58	e49	e72	66	86	119	265	e260	86	64
6	54	47	59	e48	e68	63	109	107	203	e220	101	58
7	49	48	57	e47	e64	60	82	101	179	e200	171	57
8	46	53	57	e47	e62	61	110	95	171	e180	102	55
9	46	55	58	e42	e60	66	131	91	162	e160	94	51
10	46	229	57	e45	e56	65	96	90	297	e150	89	52
11	46	104	58	e52	e54	64	91	103	334	e140	90	52
12	44	86	60	e50	e50	63	81	94	192	e130	99	52
13	44	78	64	e46	e56	63	79	86	175	e125	86	51
14	44	77	61	e56	e58	64	145	84	164	e140	83	50
15	42	82	60	e58	e58	67	352	85	189	e135	83	50
16	43	75	59	e60	62	76	206	232	214	e130	81	49
17	46	70	57	e58	54	75	176	139	172	e125	77	49
18	46	68	59	e60	59	66	156	101	163	e120	120	48
19	44	65	47	e58	58	64	145	92	161	e140	81	47
20	44	62	e40	e58	57	64	136	121	159	e150	77	47
21	45	62	e45	e58	52	63	134	110	155	e130	76	46
22	44	62	e50	e56	50	63	204	100	149	118	74	48
23	44	62	e40	e56	e52	62	147	117	175	116	73	47
24	44	59	e45	e54	e56	62	135	93	145	113	70	47
25	47	59	e48	e52	58	59	130	88	139	110	68	47
26	47	58	e50	e52	60	59	133	83	132	108	67	44
27	59	59	e48	e54	64	59	132	82	2190	106	65	44
28	72	59	e47	e56	67	61	125	77	e1600	106	64	45
29	123	59	e46	e56	---	61	116	75	e1000	102	66	44
30	61	59	e45	e58	---	60	109	74	e560	98	160	45
31	53	---	e45	e60	---	61	---	81	---	95	67	---
TOTAL	1653	2052	1651	1624	1709	2004	3797	3146	11115	5027	2735	1535
MEAN	53.3	68.4	53.3	52.4	61.0	64.6	127	101	370	162	88.2	51.2
MAX	123	229	64	60	94	80	352	232	2190	440	171	64
MIN	37	47	40	42	50	59	62	74	127	95	64	44
AC-FT	3280	4070	3270	3220	3390	3970	7530	6240	22050	9970	5420	3040

e Estimated

# OMAHA CREEK BASIN

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06601000 OMAHA CREEK AT HOMER, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

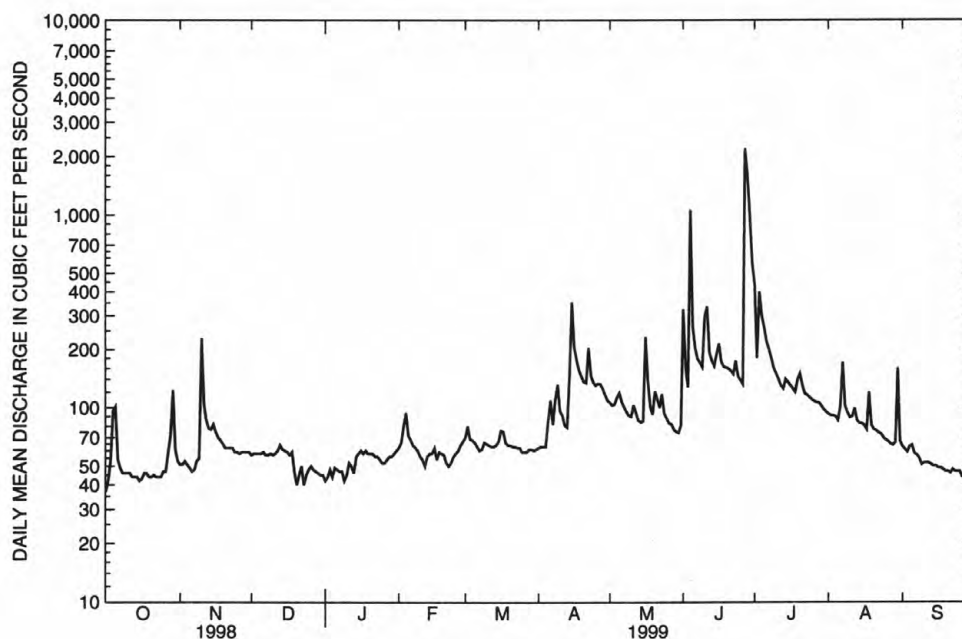
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.0	21.9	18.5	18.5	49.1	72.2	57.1	59.9	93.5	59.4	34.2	26.8
MAX	89.6	75.2	62.4	82.0	472	315	426	248	370	331	181	131
(WY)	1994	1994	1995	1973	1971	1993	1985	1984	1999	1996	1993	1993
MIN	1.17	2.36	2.46	1.99	1.49	6.33	4.14	4.04	7.60	4.34	2.55	.75
(WY)	1957	1956	1977	1957	1956	1956	1956	1981	1981	1976	1968	1948

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1946 - 1999

ANNUAL TOTAL	28249	38048	
ANNUAL MEAN	77.4	104	44.4
MEDIAN OF ANNUAL MEANS			35.2
HIGHEST ANNUAL MEAN			130
LOWEST ANNUAL MEAN			6.20
HIGHEST DAILY MEAN	513	Jun 11	2190
LOWEST DAILY MEAN	16	Jan 11	37
ANNUAL SEVEN-DAY MINIMUM	18	Jan 8	44
INSTANTANEOUS PEAK FLOW (STAGE)			5740
INSTANTANEOUS PEAK STAGE			**10.14
ANNUAL RUNOFF (AC-FT)	56030	75470	32180
10 PERCENT EXCEEDS	129	161	83
50 PERCENT EXCEEDS	59	64	18
90 PERCENT EXCEEDS	38	46	4.2

\* Discharge from rating curve extended above 3,700 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 16.38 ft and 23.62 ft. Gage height for this discharge from floodmark.

\*\* Stage may have been higher during no gage-height period June 28 to July 21.



OMAHA CREEK AT HOMER

## MISSOURI RIVER MAIN STEM

## 06601200 MISSOURI RIVER AT DECATUR, NE

LOCATION.--Lat 42°00'26", long 096°14'29", in NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.36, T.24 N., R.10 E., Burt County, Hydrologic Unit 10230001, on right bank 0.1 mi upstream from Iowa Highway 175 bridge at Decatur, and at mile 691.0.

DRAINAGE AREA.--316,200 mi<sup>2</sup>, approximately. The 3,959 mi<sup>2</sup> in Great Divide basin are not included.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage encoder. Datum of gage is 1,010.00 ft above sea level, supplementary adjustment of 1954.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers rain gauge and satellite data collection platform at station.

COOPERATION.--Records provided by Geological Survey, Iowa District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34500	41300	46700	25900	27600	30900	37000	34500	48600	41200	45300	48900
2	34500	41800	46400	26000	28400	30900	37200	36700	50500	46500	44800	48800
3	34600	41800	46300	25500	29700	31200	36800	36900	45800	48900	44800	48400
4	35100	41600	45300	24900	30500	32400	37100	37000	43400	50300	43000	48800
5	36600	41000	42900	25500	30200	32700	37300	37400	49400	48400	42700	49000
6	35100	41000	41800	26200	30300	32400	38000	37200	46100	51000	43900	48900
7	31300	42600	38900	27200	30400	32800	38900	34900	44900	50900	45200	49300
8	31100	43000	37400	25400	30500	32900	39100	34600	47200	50200	44500	49900
9	31900	43400	36200	25700	30700	33200	39600	35400	47400	50000	40200	50000
10	32500	44700	35800	25300	31000	33900	40500	35500	47500	49200	41000	50200
11	34000	45200	35600	25400	31100	33600	37200	35600	52500	48000	42100	50000
12	33800	42900	35400	25700	31000	33500	37500	33900	45900	47200	43400	49700
13	33400	44000	34900	26400	30300	33500	38600	35300	40900	46600	43800	49300
14	33300	44500	34500	24900	e31900	33600	40000	36400	40600	46200	43800	48900
15	33300	45200	34400	25200	31300	33900	42100	36700	47300	45700	43500	48300
16	33800	46100	34300	26300	30900	34200	41800	38300	44700	45200	43400	48200
17	34100	46700	33900	28200	30800	35000	35900	40000	42400	44800	43400	e48800
18	34200	47500	33600	27500	30700	36100	33400	41400	46500	45700	43200	48400
19	34100	48000	33300	26000	30600	36400	33900	39400	44400	43800	42700	48400
20	33900	48000	32500	25800	30500	35400	35500	39500	42800	43900	42800	48200
21	35000	48800	30600	26000	30100	36900	37400	42800	45700	51000	42500	48400
22	36300	49500	27400	26000	30100	39100	38200	44500	46600	56600	42400	48300
23	36300	49200	25000	26600	29600	37900	35400	45500	46300	53300	42400	48300
24	36400	48500	24100	27200	30200	37200	31000	46100	46400	48700	42400	48500
25	36500	48300	24500	27300	30300	36300	32500	44900	46400	48700	41900	48800
26	36800	47800	25600	27000	30500	36400	35300	44200	46300	49000	41700	49000
27	37300	47500	26400	27900	31100	36200	37600	44100	49900	48200	44800	49000
28	36900	47500	26800	27900	31100	36300	36900	44300	55500	46800	47100	48800
29	39200	47600	26500	27600	---	36300	34900	44700	48700	46500	48900	48600
30	41100	47200	26200	27400	---	35800	33300	46700	41400	45900	50300	48700
31	41200	---	26000	27300	---	36200	---	47100	---	45500	49000	---
TOTAL	1088100	1362200	1049200	817200	851400	1073100	1109900	1231500	1392000	1483900	1360900	1466800
MEAN	35100	45410	33850	26360	30410	34620	37000	39730	46400	47870	43900	48890
MAX	41200	49500	46700	28200	31900	39100	42100	47100	55500	56600	50300	50200
MIN	31100	41000	24100	24900	27600	30900	31000	33900	40600	41200	40200	48200
AC-FT	2158000	2702000	2081000	1621000	1689000	2128000	2201000	2443000	2761000	2943000	2699000	2909000

e Estimated



# MISSOURI RIVER MAIN STEM

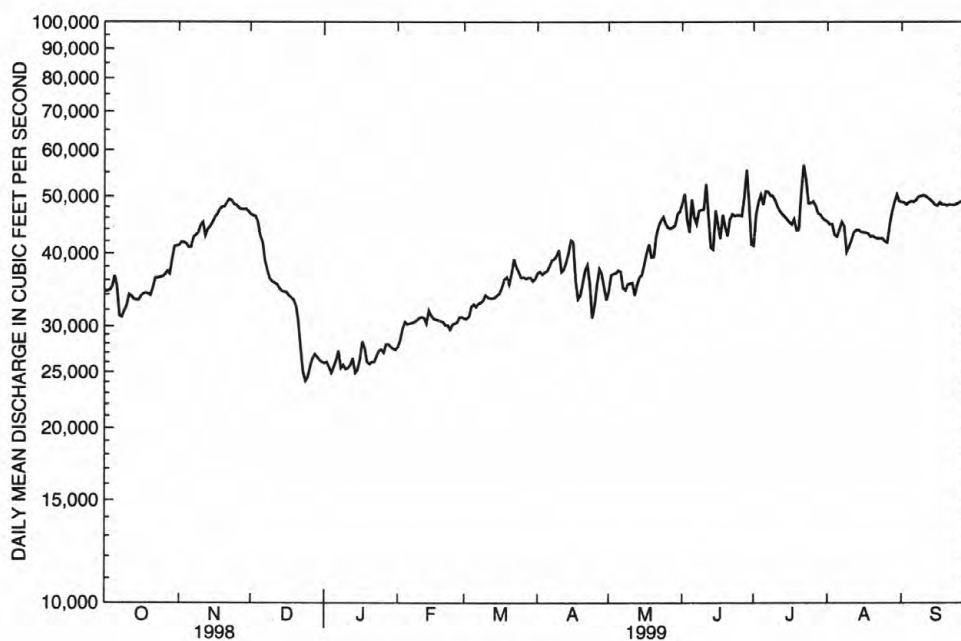
71

06601200 MISSOURI RIVER AT DECATUR, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38090	32440	22210	19140	21140	26340	37230	38840	40060	40590	38350	39870
MAX	70150	72350	41350	26850	32380	49450	90050	80690	67970	66520	66170	67290
(WY)	1998	1998	1998	1998	1997	1997	1997	1997	1997	1997	1997	1997
MIN	24250	10470	12070	12360	12210	11580	24410	26130	28240	27680	25700	26750
(WY)	1993	1991	1991	1990	1991	1991	1991	1991	1991	1991	1993	1993

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1988 - 1999
ANNUAL TOTAL	12236100	14286200	
ANNUAL MEAN	33520	39140	32900
HIGHEST ANNUAL MEAN			57440
LOWEST ANNUAL MEAN			21450
HIGHEST DAILY MEAN	49500	Nov 22	56600
LOWEST DAILY MEAN	23600	Jan 11	24100
ANNUAL SEVEN-DAY MINIMUM	24700	Jan 10	25500
INSTANTANEOUS PEAK FLOW			57000
INSTANTANEOUS PEAK STAGE			28.21
ANNUAL RUNOFF (AC-FT)	24270000	28340000	23830000
10 PERCENT EXCEEDS	41000	48800	56200
50 PERCENT EXCEEDS	33200	39100	31000
90 PERCENT EXCEEDS	27800	27500	14000



## MISSOURI RIVER MAIN STEM

06610000 MISSOURI RIVER AT OMAHA, NE  
(National Stream-Quality Accounting Network, NASQAN, station)

LOCATION.--Lat 41°15'32", long 95°55'20", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.23, T.15 N., R.13 E., Douglas County, Hydrologic Unit 10230006, on right bank on left side of concrete floodwall, at foot of Douglas Street, 275 ft downstream from Interstate 480 Highway bridge in Omaha, and at mile 615.9.

DRAINAGE AREA.--322,800 mi<sup>2</sup>, approximately. The 3,959 mi<sup>2</sup> in Great Divide basin are not included.

PERIOD OF RECORD.--September 1928 to current year. April 1872 to December 1899 (gage heights only) in reports of the Missouri River Commission and since January 1875, (gage heights only) in reports of the U.S. Weather Bureau.

REVISED RECORDS.--WSP 761: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 948.24 ft above sea level. See WSP 1730 for history of changes prior to Sept. 30, 1936. Oct. 1, 1936 to Sept. 30, 1982 at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. Flow regulated by upstream main-stem reservoirs. U.S. Army Corps of Engineers rain-gage and satellite data collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 396,000 ft<sup>3</sup>/s Apr. 18, 1952, gage height, 40.20 ft, present datum; minimum, about 2,200 ft<sup>3</sup>/s Jan. 6, 1937; minimum gage height, 6.85 ft, present datum, Feb. 5, 1989, result of freezeup.

COOPERATION.--Records provided by Geological Survey, Iowa District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35300	46300	50600	29500	29500	34000	39600	43000	54000	50400	48500	53900
2	35800	46700	50400	29500	29700	34200	40300	44500	60700	51600	48100	53100
3	36100	47400	49700	29000	30400	35000	40600	46100	61800	66300	47700	51900
4	36500	47200	49300	28500	31900	36200	40100	45600	53700	61900	47100	52000
5	37500	46700	47100	28300	32600	37500	40900	45600	59200	57500	45200	54100
6	38200	46600	46100	28800	32100	38100	41700	45500	62600	56300	45900	53700
7	36100	47600	44200	29600	31900	37900	42800	45300	55300	58400	70900	52600
8	33200	48800	42000	30200	32000	38000	43700	42600	52900	58000	65500	52300
9	34100	49200	40600	29000	32400	38100	45900	42200	54700	59400	55700	52300
10	35200	50100	39800	28800	33400	38300	47700	42700	56200	59000	48900	52200
11	36800	53800	39500	28500	34300	38700	47700	42500	61400	55400	48900	52100
12	38400	51500	39300	28400	35100	38300	45200	42300	65200	53200	51400	51800
13	38500	49600	39500	28900	34600	37500	44800	40800	56300	52100	52200	51000
14	37800	50400	39500	29100	34300	36900	47500	42000	50600	51300	49700	50600
15	37200	51400	38900	27900	35700	36600	56100	42800	50700	50900	48600	50700
16	37100	52800	39200	28300	35900	37000	58400	43700	57700	50800	47900	50200
17	37600	53000	39500	30000	35500	37600	52400	47500	56200	51600	47200	49900
18	37700	53400	39000	31400	35600	38600	44200	50600	55300	52500	47100	50300
19	37700	54100	38800	30600	35700	39100	41000	49100	58200	54600	47100	50500
20	37500	54600	37900	29400	35200	39600	41400	46500	55800	54000	46200	50900
21	37400	54600	36800	29300	34700	37600	42800	48300	54400	52900	45500	50900
22	38800	54700	33600	29600	34300	40200	50100	52100	56300	57600	45000	50700
23	39900	54200	30400	29900	33900	40700	55700	54500	56900	60700	44900	50500
24	40000	52900	28800	30100	33800	40000	47200	55700	56100	57600	44900	50500
25	40200	52900	28100	30500	34100	39500	42100	55200	55700	54200	45200	50800
26	40300	52100	28600	30500	33700	39400	43600	52900	55200	53500	44600	50800
27	40800	51800	29800	30400	33500	39400	47400	51300	59400	53200	45200	51100
28	41500	51400	30600	30900	33800	39500	49900	50800	65600	51400	48300	50900
29	42700	51100	30800	30700	---	39500	47300	50300	64900	50300	50900	51000
30	44800	50900	30500	30000	---	39000	44300	51100	54300	49700	53400	50900
31	46300	---	29600	29700	---	39400	---	53200	---	49300	55200	---
TOTAL	1187000	1527800	1188500	915300	939600	1181400	1372400	1466300	1717300	1695600	1532900	1544200
MEAN	38290	50930	38340	29530	33560	38110	45750	47300	57240	54700	49450	51470
MAX	46300	54700	50600	31400	35900	40700	58400	55700	65600	66300	70900	54100
MIN	33200	46300	28100	27900	29500	34000	39600	40800	50600	49300	44600	49900
AC-FT	2354000	3030000	2357000	1815000	1864000	2343000	2722000	2908000	3406000	3363000	3041000	3063000

# MISSOURI RIVER MAIN STEM

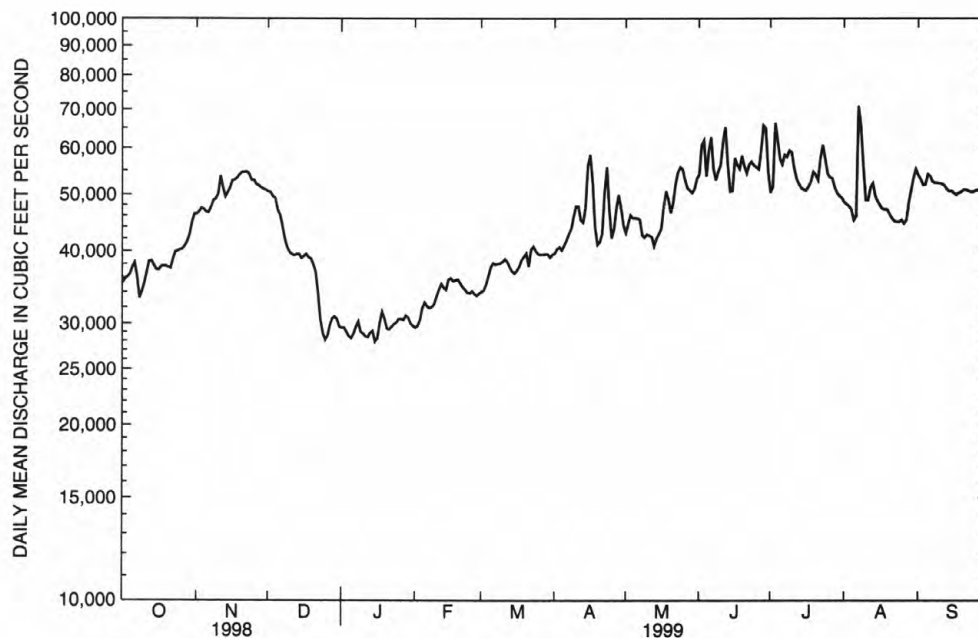
73

06610000 MISSOURI RIVER AT OMAHA, NE--Continued  
(National Stream-Quality Accounting Network, NASQAN, station)

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1998, BY WATER YEAR (WY)

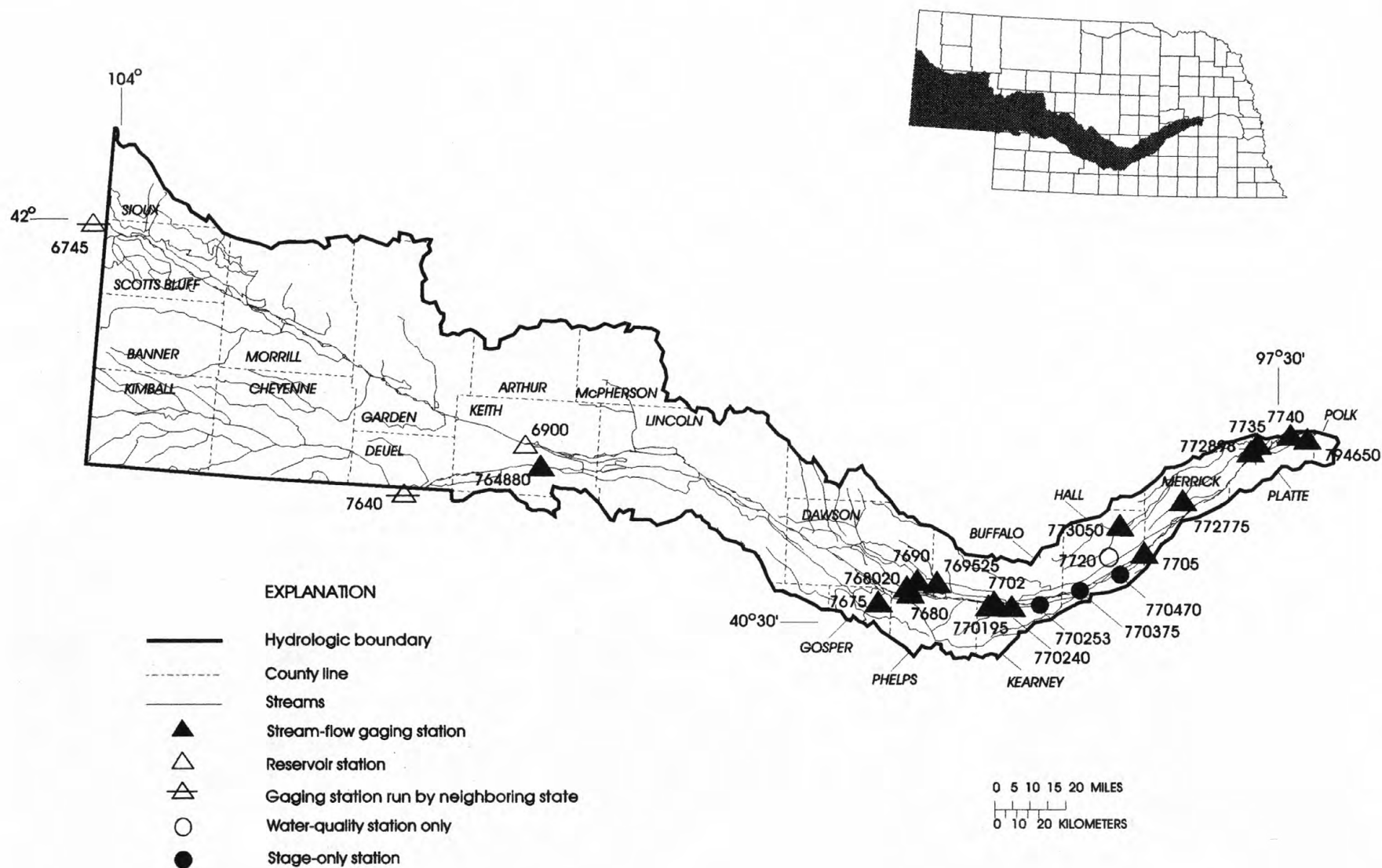
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38490	33970	20970	17590	19950	28280	38970	38680	42220	40900	39430	39370
MAX	74070	75040	44260	33250	40410	54660	93840	87620	76120	78560	68890	69770
(WY)	1998	1998	1998	1987	1997	1997	1997	1997	1997	1993	1997	1997
MIN	16920	8324	8296	8425	8162	10170	16480	26450	26890	27150	27280	28290
(WY)	1962	1962	1962	1964	1963	1957	1957	1961	1961	1958	1958	1958

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1953 - 1999	
ANNUAL TOTAL	13999500		16268300			
ANNUAL MEAN	38350		44570		33280	
HIGHEST ANNUAL MEAN					62150	
LOWEST ANNUAL MEAN					20490	
HIGHEST DAILY MEAN	59700		70900		116000	
LOWEST DAILY MEAN	24900		27900		2440	
ANNUAL SEVEN-DAY MINIMUM	25600		28600		4300	
INSTANTANEOUS PEAK FLOW			77200		120000	
INSTANTANEOUS PEAK STAGE			24.22		30.26	
ANNUAL RUNOFF (AC-FT)	27770000		32270000		24110000	
10 PERCENT EXCEEDS	49200		55700		53100	
50 PERCENT EXCEEDS	37700		45500		32600	
90 PERCENT EXCEEDS	30400		30500		13500	



MISSOURI RIVER AT OMAHA

# PLATE RIVER BASIN NORTH - SOUTH - MIDDLE PLATTE



PLATTE RIVER BASIN  
NORTH - SOUTH - MIDDLE PLATTE

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*STATION NUMBER	STATION NAME	PAGE
6745	North Platte River at Wyoming-Nebraska State Line .....	76
6900	Lake McConaughy near Keystone .....	79
7640	South Platte River at Julesburg, CO .....	80
764880	South Platte River at Roscoe.....	82
7675	Plum Creek near Smithfield .....	84
7680	Platte River near Overton .....	86
768020	Spring Creek near Overton.....	92
7690	Buffalo Creek near Overton .....	96
769525	Elm Creek near Elm Creek .....	100
770195	North Dry Creek 2 mi SW of Platte River bridge S of Kearney.....	104
7702	Platte River near Kearney .....	107
770240	Fort Kearney Slough near Newark.....	109
770253	Platte River near Newark.....	111
770375	Platte River near Prosser .....	112
770470	Platte River near Doniphan .....	113
7705	Platte River near Grand Island .....	114
7720	Wood River near Alda .....	120
772775	Warm Slough near Central City .....	122
772898	Silver Creek at Mile 4 near Silver Creek .....	126
773050	Prairie Creek near Ovina .....	130
7735	Prairie Creek near Silver Creek .....	132
7740	Platte River near Duncan .....	136
794650	Clear Creek 1.75 mi W of Polk County Line .....	168

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.



## PLATTE RIVER BASIN

## 06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 41°59'19", long 104°03'10", in SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.3, T.23 N., R.60 W., Goshen County, Hydrologic Unit 10180009, on right bank 2000 ft upstream from bridge on NE State Highway 86, 250 ft upstream from Wyoming-Nebraska State line, and 0.7 mi southeast of Henry, NE.

DRAINAGE AREA.--22,218 mi<sup>2</sup>, of which 1,929 mi<sup>2</sup> is probably non-contributing.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WY-76-1: Drainage area.

GAGE.--Water-stage recorder. Sheet-piling control since Mar. 9, 1994. Datum of gage is 4,025 ft above sea level, from topographic map. Prior to Nov. 6, 1929, non-recording gage and Nov. 6, 1929, to Sept. 30, 1959, water-stage recorder at site 0.2 mi upstream at different datum. Oct. 7, 1959 to Feb. 22, 1972 water-stage recorder at site 0.2 mi upstream at different datum. Feb. 22, 1972 to Mar. 9, 1994, water-stage recorder at site 0.3 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, transbasin diversions, power development, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Gering-Mitchell Canal diverts from right bank 0.5 mi upstream. U.S. Corps of Engineers data collection platform with satellite telemetry at station.

COOPERATION.--Records provided by the Geological Survey, Wyoming District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	654	373	270	277	223	200	186	2210	3750	4180	2400	1190
2	566	378	269	e250	220	200	216	2760	3820	4320	1940	1270
3	520	385	269	e160	218	197	328	3190	3940	4350	1710	1140
4	528	376	266	e180	216	201	457	3270	3930	4150	1560	1210
5	542	371	262	261	218	202	591	3370	3930	4020	1350	1120
6	547	366	261	261	217	197	661	3450	4010	3920	1210	1080
7	525	362	260	251	215	197	653	3480	4020	3960	1070	1020
8	561	356	259	247	216	201	730	3560	3980	4080	1010	937
9	564	356	261	246	211	198	771	3570	3950	4210	1020	913
10	509	337	260	242	213	203	806	3550	3990	4220	1090	852
11	489	333	255	246	210	197	826	3610	4250	4190	1230	788
12	473	333	255	246	e220	197	829	3670	4090	4230	1190	739
13	463	326	256	244	212	197	839	3620	4120	4190	1200	695
14	448	322	254	240	214	197	855	3300	4180	4150	1220	702
15	438	315	251	239	211	197	874	3230	4270	4070	1200	690
16	431	308	246	239	212	194	906	3220	4330	2860	1190	679
17	437	307	247	236	212	191	979	3050	4250	2550	1180	671
18	419	307	247	232	213	189	1030	2960	4190	2410	1180	666
19	406	302	e230	232	211	184	1030	3080	4110	2510	1170	650
20	396	300	e200	232	211	186	1030	3200	4090	2620	1200	799
21	390	300	e180	232	208	184	1050	3210	4020	2530	1210	1200
22	389	294	e165	232	210	188	1060	3200	4070	2570	1240	1300
23	386	290	e180	232	207	187	1160	3140	4060	2540	1190	1280
24	381	291	e200	230	203	184	1320	3140	4120	2520	1170	1120
25	375	284	e220	225	204	184	1420	3190	4240	2510	1180	705
26	373	279	e235	227	203	183	1430	3320	4230	2530	1130	546
27	367	276	e250	226	200	187	1470	3520	4250	2530	1090	482
28	398	276	e270	225	202	184	1740	3550	4160	2560	1130	522
29	437	276	296	219	---	183	1760	3570	4000	2580	1120	684
30	408	276	283	219	---	184	1690	3620	4100	2660	1080	685
31	385	---	284	220	---	183	---	3660	---	2620	1080	---
TOTAL	14205	9655	7641	7248	5930	5956	28697	102470	122450	103340	38940	26335
MEAN	458	322	246	234	212	192	957	3305	4082	3334	1256	878
MAX	654	385	296	277	223	203	1760	3670	4330	4350	2400	1300
MIN	367	276	165	160	200	183	186	2210	3750	2410	1010	482
AC-FT	28180	19150	15160	14380	11760	11810	56920	203200	242900	205000	77240	52240

e Estimated

# PLATTE RIVER BASIN

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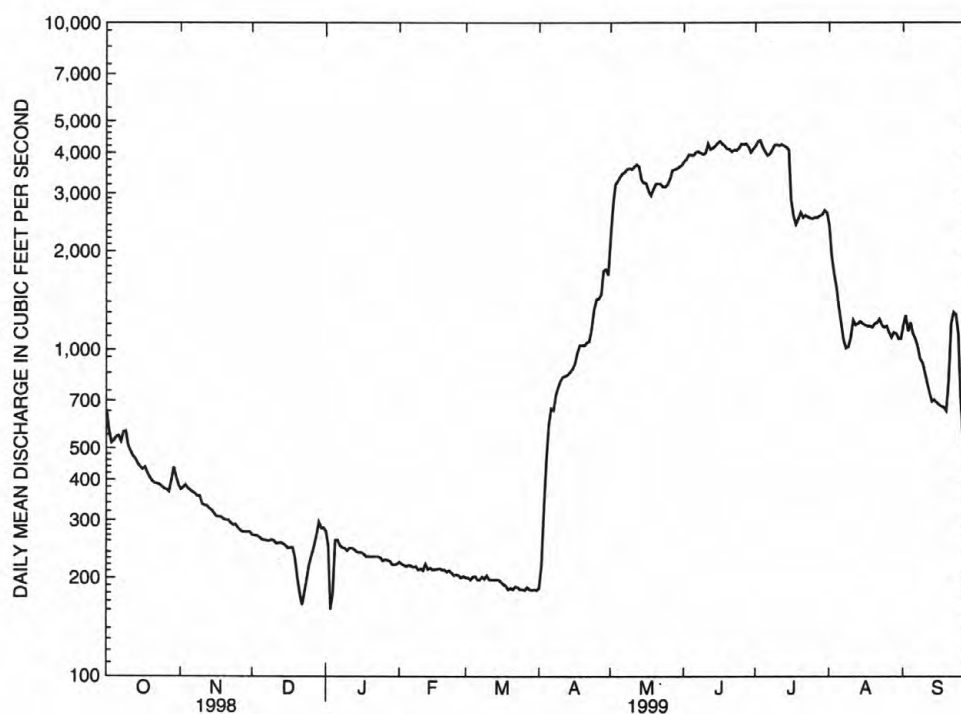
06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	508	424	375	332	338	513	672	1205	1703	1555	1269	868
MAX	1666	1454	895	751	1063	4202	4407	7226	10360	7170	5751	4766
(WY)	1987	1987	1930	1930	1984	1974	1974	1971	1929	1983	1983	1983
MIN	150	174	191	166	148	141	141	43.9	49.1	611	154	230
(WY)	1957	1935	1991	1993	1993	1991	1991	1990	1992	1934	1934	1934

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1929 - 1999	
ANNUAL TOTAL	330714		472867			
ANNUAL MEAN	906		1296		797	
HIGHEST ANNUAL MEAN					2863	
LOWEST ANNUAL MEAN					388	
HIGHEST DAILY MEAN	3960		4350		17600	
LOWEST DAILY MEAN	140		160		3.9	
ANNUAL SEVEN-DAY MINIMUM	160		184		4.4	
INSTANTANEOUS PEAK FLOW			4480		17900	
INSTANTANEOUS PEAK STAGE			5.22		7.04	
ANNUAL RUNOFF (AC-FT)	656000		937900		577400	
10 PERCENT EXCEEDS	2860		3980		1480	
50 PERCENT EXCEEDS	510		542		488	
90 PERCENT EXCEEDS	197		201		209	

- a Maximum observed.  
b Site and datum then in use.



NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE

06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE--Continued

PERIOD OF RECORD.--Water years 1966 to current year

## WATER QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	TEMPER- ATURE WATER (° C) (00010)	TEMPER- ATURE AIR (°C) (00020)	PH WATER WHOLE FIELD (STAND- ARD UNITS (00400)	BARO- METRIC PRES- SURE (MM OF OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV								
18	1455	310	934	8.0	9.0	8.2	660	10.5
FEB								
13	1535	211	892	7.5	12.5	8.1	661	10.6
MAY								
18	1010	2980	682	12.5	21.0	8.2	664	8.7
JUL								
22	1525	2650	545	22.5	25.5	7.8	662	8.3

DATE	OXYGEN DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT SUS- PENDE D (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE D (T/DAY) (80155)
NOV							
18	103	.02	2.2	.03	.01	104	87
FEB							
13	102	.02	2.4	.12	.03	117	67
MAY							
18	94	<.01.	.20	<.02	<.01	119	957
JUL							
22	111	.01	.45	<.02	.04	453	3240

# PLATTE RIVER BASIN

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## 06690000 LAKE MCCONAUGHY NEAR KEYSTONE, NE

LOCATION.--Lat 41°12'45", long 101°40'03", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.3, T.14 N., R.38 W., Keith County, Hydrologic Unit 10180014, near right bank at outlet tower of Kingsley Dam on North Platte River, 4.5 mi west of Keystone, and at mile 55.8.

DRAINAGE AREA.--29,300 mi<sup>2</sup>, approximately, of which about 25,800 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--February 1941 to current year.

GAGE.--Electric tape gage read once daily. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam; storage began Feb. 9, 1941. Capacity, 1,900,600 acre-ft (capacity table: Mar. 1, 1987) between elevations 3,130.0 ft, sill of outlet gates, and 3,270.0 ft, top of morning-glory spillway gates. Elevation of crest of morning-glory spillway is 3,254.0 ft. Dead storage negligible. Figures given herein represent total contents. Water is used for power development and irrigation in South-Central Nebraska by the Central Nebraska Public Power and Irrigation District.

COOPERATION.--Records of elevations and capacity table furnished by the Central Nebraska Public Power and Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,920,000 acre-ft July 12-16, 1971, elevation, 3,269.1 ft (capacity table, March 1946); minimum observed since reservoir filled to at least 25 percent capacity (April 1942), 383,600 acre-ft Oct. 17-19, 1956; elevation, 3,198.2 ft. (capacity table, March 1946).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,731,000 acre-ft July 7-8, elevation, 3,264.6 ft; minimum observed, 1,242,000 acre-ft Oct. 1-2, elevation, 3,246.7 ft.

### MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 .....	3,246.6	1,240,000	--
Oct. 31 .....	3,248.5	1,286,000	+46,000
Nov. 30 .....	3,249.7	1,316,000	+30,000
Dec. 31 .....	3,249.2	1,304,000	-12,000
CAL YR 1998.....	--	--	-219,000
Jan. 31 .....	3,250.4	1,334,000	+30,000
Feb. 28 .....	3,251.1	1,352,000	+18,000
Mar. 31 .....	3,250.9	1,346,000	-6,000
Apr. 30 .....	3,251.6	1,364,000	+18,000
May 31 .....	3,257.8	1,532,000	+168,000
June 30 .....	3,263.8	1,706,000	+174,000
July 31 .....	3,262.0	1,653,000	-53,000
Aug. 31 .....	3,259.8	1,588,000	-65,000
Sept. 30 .....	3,259.2	1,571,000	-17,000
WTR YR 1999.....	--	--	-331,000

## PLATTE RIVER BASIN

## 06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> and NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft downstream from bridge, and on right bank of channel 2, 5 ft downstream from bridge on U.S. Highway 385, and on left bank of channel 1, 5 ft upstream from bridge on U.S. Highway 385 0.9 mi southeast of Julesburg, 3.0 mi upstream from Colorado-Nebraska State line, and 8 mi downstream from Lodgepole Creek.

DRAINAGE AREA.--23,193 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WDR CO-86-1: Drainage area.

GAGE.--Three water-stage recorders with satellite telemetry. Datum of gages is 3,446.76 ft above sea level. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956, to Sept. 22, 1965, at site 300 ft downstream at present datum. Channel no. 4: Oct. 1, 1956, to Dec. 10, 1958, at site 135 ft downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft upstream at same datum. Since Aug. 16, 1996, water-stage recorder on channel no. 1; satellite telemetry installed Oct. 24, 1996.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of 1,200,000 acres upstream from station, and return flow from irrigated areas.

COOPERATION.--Records provided by Geological Survey, Colorado District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	656	376	530	727	662	284	790	4610	2140	229	342
2	560	730	379	450	710	581	288	1410	4870	1660	476	384
3	576	840	373	450	707	595	284	e4070	5240	1310	677	456
4	618	790	373	480	670	747	282	e6010	5310	1070	909	670
5	748	768	377	580	645	783	294	e7800	5130	858	1860	766
6	841	725	369	770	726	802	297	14100	4770	702	1920	1270
7	973	781	354	710	740	781	287	13200	4280	579	1960	1660
8	1020	769	413	670	737	763	265	10500	3980	477	3120	1720
9	1080	740	353	750	733	740	252	8370	3690	372	4440	1700
10	1150	704	359	850	745	719	262	6610	3080	283	4240	1660
11	1160	675	355	1050	762	671	235	5710	2620	219	4110	1540
12	1160	679	379	1250	752	612	219	e4940	2310	174	3960	1480
13	1160	687	466	1550	743	595	183	e4490	2220	148	3530	1400
14	1160	660	508	1450	784	537	158	e4110	2770	134	3870	1370
15	1180	624	527	1550	810	504	188	e3650	3320	133	3160	1340
16	1140	512	511	1550	855	484	190	e3280	4000	132	2470	1340
17	1040	446	479	1550	786	473	164	e2900	3930	123	2490	1350
18	969	408	459	950	717	456	127	2620	4250	122	2570	1200
19	940	372	500	e1150	685	437	101	2420	4870	142	1530	1110
20	949	359	360	e850	643	436	106	2230	5580	166	1250	1140
21	1000	358	300	640	666	416	133	2080	5990	514	1030	1160
22	1030	347	310	636	670	398	160	2020	6270	512	941	1180
23	989	348	320	629	664	393	166	1840	6310	476	883	1240
24	953	349	400	624	659	380	150	1860	6070	420	823	1460
25	957	367	550	672	673	369	149	1830	5290	393	740	1590
26	957	371	650	753	708	353	164	1770	4560	339	642	1440
27	923	373	670	762	715	334	510	1880	5010	263	561	1460
28	877	386	650	769	708	323	746	2230	4580	235	531	1480
29	729	393	650	744	---	306	731	3040	3600	218	579	1500
30	666	390	610	736	---	292	732	3560	2680	212	435	1530
31	657	---	570	723	---	284	---	4070	---	192	388	---
TOTAL	28730	16607	13950	26828	20140	16226	8107	135390	131190	14718	56324	37938
MEAN	927	554	450	865	719	523	270	4367	4373	475	1817	1265
MAX	1180	840	670	1550	855	802	746	14100	6310	2140	4440	1720
MIN	560	347	300	450	643	284	101	790	2220	122	229	342
AC-FT	56990	32940	27670	53210	39950	32180	16080	268500	260200	29190	111700	75250

e Estimated



# PLATTE RIVER BASIN

81

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1999, BY WATER YEAR (WY)

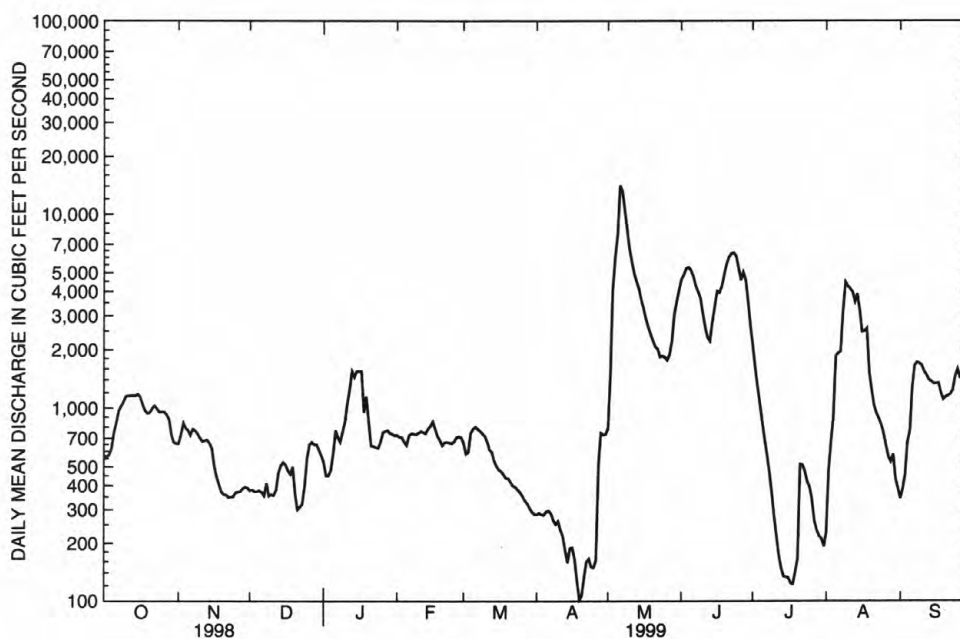
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	314	357	414	532	613	559	556	1090	1534	314	192	255
MAX	2427	2358	1371	1571	1864	2200	2808	9922	12200	5059	1882	1964
(WY)	1985	1985	1985	1998	1930	1939	1983	1980	1983	1983	1997	1984
MIN	5.85	23.0	18.8	89.9	78.9	56.9	17.3	24.1	8.33	2.15	2.52	5.60
(WY)	1904	1911	1912	1965	1935	1904	1904	1911	1910	1903	1902	1903

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1902 - 1999	
ANNUAL TOTAL	316473		506148			
ANNUAL MEAN	867		1387		564	
HIGHEST ANNUAL MEAN					2882	
LOWEST ANNUAL MEAN					76.3	
HIGHEST DAILY MEAN	2510		14100		30800	
LOWEST DAILY MEAN	50		101		a.00	
ANNUAL SEVEN-DAY MINIMUM	55		133		.00	
INSTANTANEOUS PEAK FLOW			14600		37600	
INSTANTANEOUS PEAK STAGE			b9.45		c10.44	
ANNUAL RUNOFF (AC-FT)	627700		1004000		408900	
10 PERCENT EXCEEDS	1580		3970		1180	
50 PERCENT EXCEEDS	831		730		237	
90 PERCENT EXCEEDS	80		283		29	

a-Also occurred Aug 19-20, 1902, and Jul 25 to Aug 7, 1903.

b-Gage height recorded for channel #1.

c-From floodmarks in gage well.



SOUTH PLATTE RIVER AT JULESBURG, CO

## PLATTE RIVER BASIN

06764880 SOUTH PLATTE RIVER AT ROSCOE, NE

LOCATION.--Lat 41°07'33" long 101°34'35", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.4, T.13 N., R.37 W., Keith County, Hydrologic Unit 10190018, on left bank 20 ft downstream from bridge on Highway L-51B connecting Interstate 80 and U.S. Highway 30, 0.5 mi southeast of Roscoe and at mile 54.1.

DRAINAGE AREA.--23,900 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,150 ft, from topographic map. Data collection platform at station.

REMARKS.--Record fair except for estimated periods, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	625	780	432	e620	669	933	336	811	4980	3000	110	144
2	597	808	427	e580	714	858	309	875	5550	2370	152	119
3	588	850	444	e500	760	773	310	2100	6050	1900	288	136
4	653	853	439	e500	806	745	305	5170	6290	1610	497	337
5	689	830	420	e530	831	816	339	7350	6370	1380	941	312
6	755	795	412	e630	850	831	349	10000	5970	1170	1570	431
7	836	801	404	e820	971	902	331	14100	5410	1000	1650	863
8	950	823	400	e760	1000	941	327	13300	4910	879	1830	1130
9	995	800	399	e720	980	951	319	11400	4430	743	3070	1270
10	1030	739	388	e800	962	918	337	9540	4050	589	3990	1290
11	1050	709	380	e900	939	899	310	7450	3630	472	3990	1290
12	1040	701	381	e1100	910	858	282	6080	3350	369	3990	1210
13	1090	726	413	e1300	909	789	294	5620	3140	294	3540	1180
14	1120	724	516	e1600	887	692	262	5750	3290	243	3310	1130
15	1130	711	600	e1500	913	609	232	5030	3880	208	3530	1100
16	1080	644	628	e1600	938	597	258	4510	4470	199	2600	1090
17	957	548	614	e1600	962	595	262	4210	4890	142	1940	1070
18	887	480	550	e1600	896	596	253	3820	4850	115	2100	1010
19	871	422	e520	e1500	834	640	226	3520	5230	159	1480	838
20	833	393	e460	e1200	784	641	195	3220	6010	290	1070	818
21	821	367	e410	e1000	751	606	202	3020	6520	139	847	877
22	860	369	e350	846	753	576	229	2850	6940	377	684	1010
23	881	368	e360	714	782	573	246	2640	7290	531	618	1080
24	849	380	e370	645	805	560	210	2450	7380	496	469	1120
25	869	385	e450	569	892	534	224	2460	7010	446	386	1290
26	928	403	e600	619	931	497	223	2410	5930	385	327	1280
27	960	406	e700	709	906	469	223	2390	5870	263	251	1250
28	995	409	e720	726	926	426	494	2600	6270	171	249	1470
29	962	426	e700	709	---	402	794	3050	4870	132	355	1570
30	847	445	e700	691	---	401	812	3690	3700	113	220	1680
31	795	---	e660	719	---	371	---	4260	---	112	154	---
TOTAL	27543	18095	15247	28307	24261	20999	9493	155676	158530	20297	46208	29395
MEAN	888	603	492	913	866	677	316	5022	5284	655	1491	980
MAX	1130	853	720	1600	1000	951	812	14100	7380	3000	3990	1680
MIN	588	367	350	500	669	371	195	811	3140	112	110	119
AC-FT	54630	35890	30240	56150	48120	41650	18830	308800	314400	40260	91650	58300

e Estimated

# PLATTE RIVER BASIN

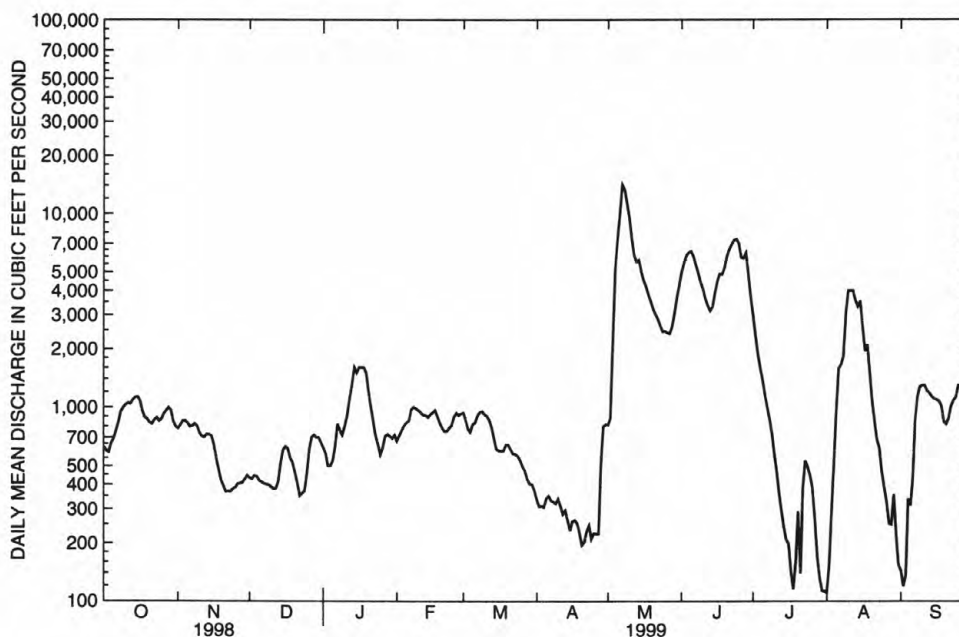
83

06764880 SOUTH PLATTE RIVER AT ROSCOE, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	586	501	565	918	1109	849	891	1631	3060	844	410	619
MAX	2392	2183	1323	1867	2280	1519	2767	7044	13800	6081	1924	2189
(WY)	1985	1985	1985	1998	1984	1987	1984	1983	1995	1995	1997	1996
MIN	96.9	77.5	98.5	145	455	273	199	76.7	50.8	13.1	6.45	.12
(WY)	1995	1995	1990	1995	1995	1995	1989	1992	1994	1990	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1983 - 1999	
ANNUAL TOTAL	349696		554051			
ANNUAL MEAN	958		1518		995	
HIGHEST ANNUAL MEAN					2941	
LOWEST ANNUAL MEAN					281	
HIGHEST DAILY MEAN	3480		14100		18100	
LOWEST DAILY MEAN	46		110		.00	
ANNUAL SEVEN-DAY MINIMUM	50		150		.00	
INSTANTANEOUS PEAK FLOW			14600		20100	
INSTANTANEOUS PEAK STAGE			10.69		11.29	
ANNUAL RUNOFF (AC-FT)	693600		1099000		720800	
10 PERCENT EXCEEDS	1910		4330		2040	
50 PERCENT EXCEEDS	800		806		449	
90 PERCENT EXCEEDS	101		286		52	



SOUTH PLATTE RIVER AT ROSCOE

## PLATTE RIVER BASIN

06767500 PLUM CREEK NEAR SMITHFIELD, NE

LOCATION.--Lat 40°38'30", long 099°42'37", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.21, T. 8 N., R. 21 W., Gosper County, Hydrologic Unit 10200101, on left bank 15 ft downstream from bridge on county road, 4.8 mi north and 1.4 mi east of Smithfield.

DRAINAGE AREA.--224 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1946 to September 1953, October 1968 to September 1975. Annual maximum, 1954-1968, 1978, at site 1.5 mi downstream at different datum. Continuous record collected September 1980 to January 1992 by Nebraska Department of Water Resources. April 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,400.00 ft, above sea level, from topographic map. Data collection platform at station.

REMARKS.--Records good except for estimated periods, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	e15	13	18	19	21	21	46	33	19	17
2	14	15	15	e10	17	19	21	28	44	29	20	16
3	15	26	15	5.1	18	19	21	37	22	23	20	17
4	14	22	15	5.2	18	19	22	35	21	21	19	20
5	14	17	14	10	18	19	20	56	20	19	18	16
6	12	15	14	12	18	20	31	45	17	18	19	14
7	11	15	15	12	18	20	21	27	16	18	22	14
8	10	17	15	13	18	20	18	23	16	18	20	13
9	10	17	15	e11	18	19	18	22	16	19	18	12
10	11	20	16	e10	17	19	17	21	36	19	17	12
11	11	19	16	8.3	16	19	17	21	213	19	69	15
12	11	16	16	10	17	20	16	20	230	20	54	15
13	11	17	16	10	19	20	16	19	190	22	22	13
14	11	17	15	15	19	20	20	19	96	23	18	13
15	11	16	15	16	18	20	31	23	25	23	17	13
16	12	15	15	15	17	19	22	34	24	22	16	13
17	12	15	15	15	17	19	18	25	23	21	16	13
18	12	15	15	16	18	20	17	27	22	22	34	13
19	11	15	15	17	18	21	17	21	22	22	30	13
20	11	15	15	17	18	21	17	20	22	21	19	13
21	11	15	9.3	17	18	21	24	20	22	19	16	14
22	12	15	10	16	19	21	21	22	21	19	15	14
23	12	16	13	17	18	21	21	22	20	18	14	14
24	12	15	15	17	18	21	20	19	19	18	15	14
25	13	e15	16	17	18	22	20	18	19	17	16	14
26	13	e15	16	17	18	22	29	18	19	18	16	14
27	13	e15	16	17	18	21	32	17	63	19	16	14
28	13	e15	14	17	19	19	26	16	206	19	16	14
29	14	e15	13	18	---	17	23	16	77	20	16	14
30	13	e15	15	18	---	21	22	19	32	19	18	14
31	13	---	13	18	---	21	---	27	---	19	18	---
TOTAL	375	488	452.3	429.6	501	619	639	758	1619	637	663	425
MEAN	12.1	16.3	14.6	13.9	17.9	20.0	21.3	24.5	54.0	20.5	21.4	14.2
MAX	15	26	16	18	19	22	32	56	230	33	69	20
MIN	10	13	9.3	5.1	16	17	16	16	16	17	14	12
AC-FT	744	968	897	852	994	1230	1270	1500	3210	1260	1320	843

e Estimated

# PLATTE RIVER BASIN

85

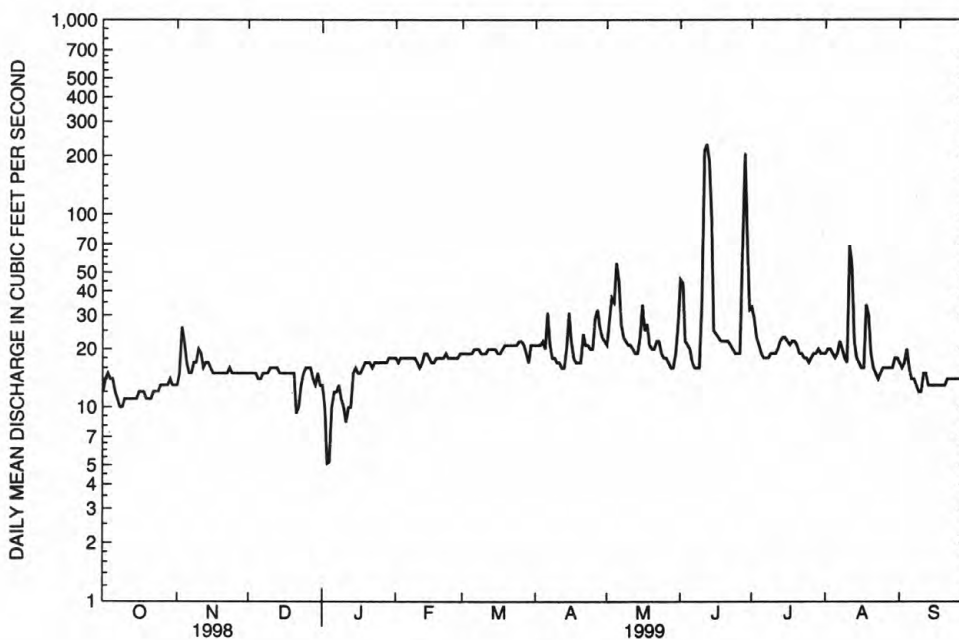
06767500 PLUM CREEK NEAR SMITHFIELD, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946-53, 1969-75, 1996-99, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.6	3.00	2.60	2.53	5.42	8.88	4.10	8.08	37.7	8.96	6.04	6.79
MAX	130	16.3	15.5	15.3	18.4	55.6	21.3	26.0	179	52.7	23.1	49.5
(WY)	1947	1997	1998	1998	1949	1948	1999	1996	1947	1948	1996	1969
MIN	.000	.000	.000	.000	.000	.000	.000	.055	.000	.000	.000	.000
(WY)	1948	1948	1947	1947	1951	1951	1948	1970	1952	1953	1947	1952

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1946-53, 1969-75, 1996-99
ANNUAL TOTAL	5508.4	7605.9	
ANNUAL MEAN	15.1	20.8	8.47
HIGHEST ANNUAL MEAN			27.4
LOWEST ANNUAL MEAN			.099
HIGHEST DAILY MEAN	75 Jul 30	230 Jun 12	1850 Jun 23 1947
LOWEST DAILY MEAN	8.2 Aug 30	5.1 Jan 3	.00 Jul 13 1946
ANNUAL SEVEN-DAY MINIMUM	9.1 Sep 6	9.6 Jan 1	.00 Jul 21 1946
INSTANTANEOUS PEAK FLOW		346 Jun 28	2800 Jun 23 1947
INSTANTANEOUS PEAK STAGE		10.04 Jun 28	*23.41 Jun 23 1947
ANNUAL RUNOFF (AC-FT)	10930	15090	6140
10 PERCENT EXCEEDS	18	23	17
50 PERCENT EXCEEDS	15	18	.09
90 PERCENT EXCEEDS	10	13	.00

\* Site and datum then in use.



PLUM CREEK NEAR SMITHFIELD



## PLATTE RIVER BASIN

## 06768000 PLATTE RIVER NEAR OVERTON, NE

LOCATION.--Lat 40°40'57", long 099°32'27", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.12, T.8 N., R.20 W., Dawson County, Hydrologic Unit 10200101, on left bank 25 ft upstream from county highway bridge, 4 mi south of Overton, 4 mi downstream from Plum Creek and at mile 142.

DRAINAGE AREA.--56,300 mi<sup>2</sup>, of which about 51,620 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to September 1914 (gage heights only), October 1914 to 1994, October 1997 to September 1998. Monthly discharge only for some periods, published in WSP 1310. Published as "near Elm Creek" 1914-15.

REVISED RECORDS.--WDR NE-67, WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,297.83 ft above sea level. July 1914 to October 1917, nonrecording gages at site 8 mi downstream at different datum. June 1918 to Sept. 12, 1928, nonrecording gage at present site (south channel only) at datum 4.0 ft higher. Sept. 13, 1928 to Sept. 30, 1930, nonrecording gage and Oct. 1, 1930 to Sept. 30, 1968, water-stage recorder, at present site (south channel only) at datum 2.0 ft higher. Oct. 1, 1968 to Feb. 3, 1976, water-stage recorder on south channel at present site at datum 2.0 ft higher, and Feb. 4 to June 2, 1976 (south channel gage discontinued), at datum 1.0 ft higher. Oct. 1, 1968 to July 10, 1974, north channel gage at present site at datum 2.0 ft higher and July 11, 1974 to June 1, 1976, at datum 1.0 ft higher. June 2, 1976 to Aug. 19, 1984, at site 600 ft downstream, at datum 1.0 ft higher. Aug. 20, 1984 to Oct. 6, 1986, at site 600 ft downstream. Data collection platform at station.

REMARKS.--Records fair except for period of estimated record, which is poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1840	2270	1910	e1250	2280	1940	1620	2050	3490	9160	879	2370
2	1950	2320	1740	e1100	2320	1930	1480	2080	3490	7400	1060	2000
3	1980	2400	1690	e1000	2280	1950	1440	2120	3670	5820	1260	2180
4	1970	2440	1780	e1300	2080	2010	1360	2060	3920	4770	1390	1970
5	1720	2510	1810	e1700	2280	1970	1560	2240	4400	4260	1540	2080
6	1840	2550	1840	2180	2400	1950	1700	2510	4430	4020	1910	2250
7	1890	2520	1840	2470	2370	1950	1790	3750	4810	3290	2300	2400
8	1890	2470	1930	2550	2360	1950	1870	5040	5070	1970	2610	2470
9	1870	2520	1990	2400	2350	1340	1810	6370	4870	967	3040	2470
10	1950	2500	1990	2490	2310	1880	1890	9290	5130	770	2820	2720
11	2000	2590	2030	2610	1880	1860	1920	12000	7460	740	3310	3440
12	1970	2550	2040	2760	2110	1710	1760	11200	7310	736	4570	3870
13	1970	2470	1990	2660	2210	1620	1540	8600	5640	724	4700	3990
14	1980	2360	2060	3020	2290	1670	1750	6390	4370	659	4710	4230
15	1340	2310	2050	3250	2260	1360	1970	5480	3830	652	4670	4130
16	1740	2210	2110	3050	2200	1520	1890	5050	3490	765	4330	4260
17	1900	2200	2180	2890	2170	1350	1820	4500	3330	846	4240	4410
18	1890	2180	2160	2730	2130	1580	1720	3830	3450	935	5240	4480
19	1800	2020	e2000	2880	2020	1740	1450	3270	3960	1040	5040	4590
20	1940	1910	e1600	2990	1970	1770	1550	2950	4220	1010	4420	4840
21	1940	1890	e1100	2640	1990	1860	1820	2780	4300	929	4150	5180
22	1930	1970	e1060	2720	2000	1470	1720	2690	4710	837	3790	5300
23	2050	1900	e1100	2610	2020	510	1740	2420	5130	898	3390	5140
24	2170	1860	e1200	2440	2150	539	1970	2180	5230	915	2920	4830
25	2150	1950	e1300	2310	2170	1570	2090	1960	5510	882	2600	4620
26	2130	2070	e1400	2290	2170	1600	2040	1840	5960	1050	2280	4350
27	2150	2130	e1500	2300	2130	1650	1810	1750	6990	980	1730	3200
28	2080	2140	e1500	2270	2030	1680	1880	1710	6750	925	1390	3400
29	2140	2180	e1440	2210	---	1680	2050	1720	7450	923	1350	3460
30	2170	2060	e1400	2170	---	1730	2160	1970	8240	913	1560	4130
31	2290	---	e1300	2250	---	1710	---	2120	---	864	2210	---
TOTAL	60630	67450	53040	73490	60930	51049	53170	123920	150610	60650	91409	108760
MEAN	1956	2248	1711	2371	2176	1647	1772	3997	5020	1956	2949	3625
MAX	2290	2590	2180	3250	2400	2010	2160	12000	8240	9160	5240	5300
MIN	1340	1860	1060	1000	1880	510	1360	1710	3330	652	879	1970
AC-FT	120300	133800	105200	145800	120900	101300	105500	245800	298700	120300	181300	215700

e Estimated

# PLATTE RIVER BASIN

87

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1396	1477	1580	1658	1954	2113	1946	2230	2522	1091	730	1236
MAX	6330	5765	5012	4281	6730	7206	10050	12590	18970	11380	6635	8040
(WY)	1974	1985	1985	1984	1984	1984	1984	1984	1983	1983	1983	1983
MIN	75.1	169	156	336	474	665	519	171	232	159	83.7	54.9
(WY)	1942	1942	1942	1942	1942	1957	1967	1956	1959	1956	1956	1956

## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

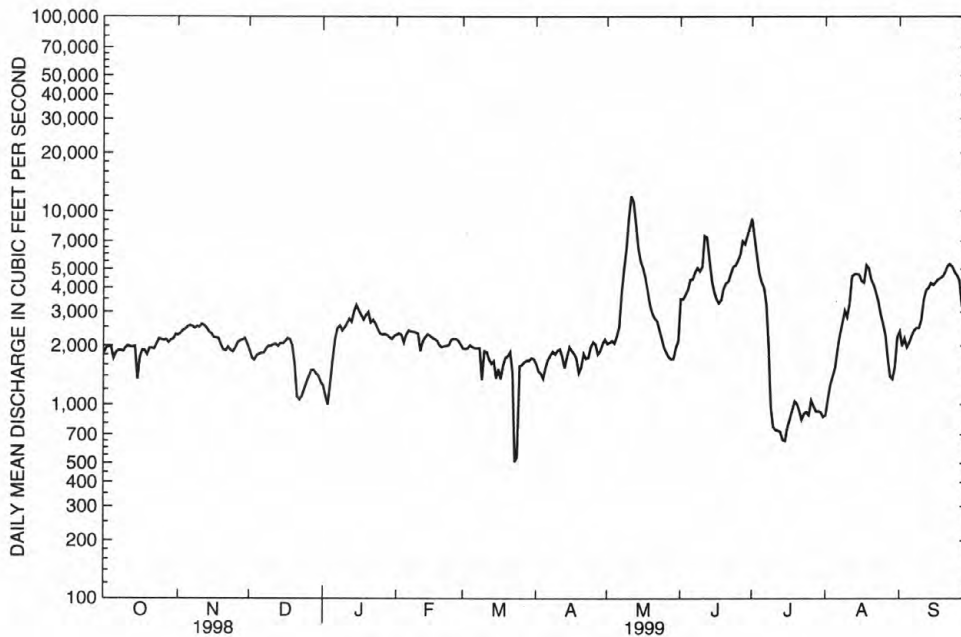
### WATER YEARS 1942 - 1999

(SINCE STORAGE IN LAKE MC CONAUGHY)

ANNUAL TOTAL	841405	955108	
ANNUAL MEAN	2305	2617	1657
MEDIAN OF ANNUAL MEANS			1250
HIGHEST ANNUAL MEAN			5835
LOWEST ANNUAL MEAN			*558
HIGHEST DAILY MEAN	5810	Apr 3	12000
LOWEST DAILY MEAN	305	Aug 20	510
ANNUAL SEVEN-DAY MINIMUM	408	Aug 18	721
INSTANTANEOUS PEAK FLOW (STAGE)			12200
INSTANTANEOUS PEAK STAGE			6.08
ANNUAL RUNOFF (AC-FT)	1669000	1894000	1201000
10 PERCENT EXCEEDS	3740	4710	3060
50 PERCENT EXCEEDS	2070	2120	1200
90 PERCENT EXCEEDS	902	1300	286

\* No flow at times in 1919, 1925, 1927-28, 1930-41.

\*\* South channel, datum then in use.



PLATTE RIVER NEAR OVERTON

## PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

## WATER-QUALITY RECORDS

Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	11...	1200	3.03	2640	932	8.8	8.0	6.0	705	12.2	106	1.47	.012
FEB	17...	1230	2.84	2190	979	8.7	6.5	4.5	697	12.6	107	--	<.010
APR	06...	1500	2.71	1740	972	8.5	15.0	12.5	705	13.0	132	1.63	.010
MAY	13...	1700	4.82	8050	1030	8.3	17.0	18.5	696	8.8	103	1.30	.012
	15...	1230	4.03	5450	1000	8.3	15.5	15.0	696	9.1	99	--	<.010
JUN	15...	1400	3.28	3760	940	7.8	16.5	20.0	701	8.1	97	1.40	.014
JUL	13...	1600	1.29	742	839	8.3	33.0	28.0	702	6.3	89	--	<.010
AUG	16...	1630	3.67	4260	896	--	33.0	27.5	704	8.9	123	--	<.010
SEP	13...	1430	3.41	4090	916	8.6	21.0	21.0	706	9.7	118	--	<.010

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV 11...	1.48	.060	.53	.28	.59	.34	1.8	2.1	.137	.080	.093
FEB 17...	2.05	.053	.66	.29	.72	.35	2.4	2.8	.142	.080	.075
APR 06...	1.64	<.020	--	--	.80	.32	2.0	2.4	.126	.064	.052
MAY 13...	1.32	<.020	--	--	.99	.47	1.8	2.3	<.050	.105	.100
15...	1.44	.024	.87	.45	.89	.47	1.9	2.3	.250	.104	.096
JUN 15...	1.42	.026	.86	.38	.88	.40	1.8	2.3	.253	.130	.116
JUL 13...	.436	<.020	--	--	1.3	.30	.74	1.8	.169	.020	.015
AUG 16...	.971	<.020	--	--	.74	.34	1.3	1.7	.213	.088	.074
SEP 13...	.695	<.020	--	--	1.3	.36	1.1	2.0	.201	.029	.026

## WATER-QUALITY RECORDS

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER-QUALITY RECORDS  
Ecosystem Platte River Data Collection

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

HYDROLOGIC UNIT CODE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DRAINAGE AREA (SQ. MI.) (81024)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	GAGE HEIGHT (FEET) (00065)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)
10200101	05-06-99	1500	2298	56300	60.0	--	2540
10200101	05-06-99	1501	2298	56300	95.0	--	2540
10200101	05-06-99	1502	2298	56300	130	--	2540
10200101	05-06-99	1503	2298	56300	165	--	2540
10200101	05-06-99	1504	2298	56300	200	--	2540
10200101	05-06-99	1505	2298	56300	235	--	2540
10200101	05-06-99	1506	2298	56300	270	--	2540
10200101	05-06-99	1507	2298	56300	305	--	2540
10200101	05-06-99	1508	2298	56300	340	--	2540
10200101	05-06-99	1509	2298	56300	490	--	2540
10200101	05-06-99	1510	2298	56300	530	--	2540
10200101	05-06-99	1511	2298	56300	740	--	2540
10200101	05-06-99	1512	2298	56300	780	--	2540
10200101	05-06-99	1514	2298	56300	820	--	2540
10200101	05-07-99	1430	2298	56300	--	--	3920
10200101	05-08-99	0930	2298	56300	--	--	4890
10200101	05-09-99	1000	2298	56300	--	--	6110
10200101	05-09-99	1100	2298	56300	--	--	6160
10200101	05-10-99	1000	2298	56300	--	--	8690
10200101	05-11-99	1900	2298	56300	--	--	12200
10200101	05-11-99	2000	2298	56300	--	--	12200
10200101	05-12-99	1600	2298	56300	--	--	11000
10200101	05-14-99	1200	2298	56300	--	--	6340
10200101	05-18-99	1400	2298	56300	--	--	3730
10200101	05-25-99	1100	2298	56300	--	--	1950
10200101	06-14-99	1600	2298	56300	--	--	4330
10200101	06-30-99	1130	2298	56300	--	--	7890
10200101	07-08-99	1330	2298	56300	--	2.39	1990
10200101	07-26-99	1400	2298	56300	--	1.76	1060
10200101	08-16-99	1500	2298	56300	--	--	4330
10200101	08-30-99	1300	2298	56300	--	2.22	1580



# PLATTE RIVER BASIN

91

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

## WATER-QUALITY RECORDS Ecosystem Platte River Data Collection

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SEDI- MENT, SUS- PENDED (MG/L) (80154)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0MM (80173)
05-06-99	--	.0	.0	1.8	23.3	75.6	95.3	98.8	100	--	--
05-06-99	--	.0	.1	1.4	14.3	56.5	79.3	93.9	100	--	--
05-06-99	--	.0	.0	.3	11.3	55.0	81.0	93.2	99.1	100	--
05-06-99	--	.0	.0	1.2	24.6	50.4	71.6	91.1	99.7	100	--
05-06-99	--	.0	.0	3.0	28.6	50.8	69.5	84.8	98.2	100	--
05-06-99	--	.0	.0	.7	15.7	40.0	60.0	84.3	97.1	100	--
05-06-99	--	.0	.0	1.1	10.4	30.7	57.6	83.7	99.3	100	--
05-06-99	--	.0	.1	8.4	44.4	81.8	96.3	98.9	100	--	--
05-06-99	--	.0	.0	1.2	11.0	33.8	60.6	80.7	91.7	93.4	100
05-06-99	--	.0	.1	2.9	39.9	81.0	96.0	99.5	100	--	--
05-06-99	--	.0	.0	.5	10.6	40.5	74.5	93.2	100	--	--
05-06-99	--	.0	.0	1.1	15.7	35.4	60.9	87.2	100	--	--
05-06-99	--	.0	.1	1.8	12.4	23.6	49.5	84.4	98.9	100	--
05-06-99	--	.0	.0	.1	5.8	33.3	76.3	97.3	100	--	--
05-07-99	457	--	--	--	--	--	--	--	--	--	--
05-08-99	412	--	--	--	--	--	--	--	--	--	--
05-09-99	--	.0	.1	2.0	18.3	48.6	73.8	90.0	99.1	100	--
05-09-99	388	--	--	--	--	--	--	--	--	--	--
05-10-99	288	--	--	--	--	--	--	--	--	--	--
05-11-99	245	--	--	--	--	--	--	--	--	--	--
05-11-99	--	.0	.1	1.9	19.3	45.3	68.2	86.2	95.3	97.4	100
05-12-99	175	--	--	--	--	--	--	--	--	--	--
05-14-99	156	--	--	--	--	--	--	--	--	--	--
05-18-99	137	--	--	--	--	--	--	--	--	--	--
05-25-99	--	.0	.3	2.1	15.0	44.5	70.2	88.1	97.7	100	--
06-14-99	--	.0	.1	2.0	19.8	53.0	79.4	93.8	100	--	--
06-30-99	--	.1	.6	4.8	22.4	49.4	71.8	87.0	96.2	97.7	100
07-08-99	--	.0	.2	2.8	15.2	36.7	56.4	76.6	93.3	97.5	100
07-26-99	--	.3	.8	4.3	19.0	37.9	57.3	75.1	90.2	95.3	100
08-16-99	--	.0	.2	5.3	31.2	59.3	76.6	88.2	97.3	100	--
08-30-99	--	.0	.2	4.3	24.1	53.2	76.2	91.7	97.3	100	--

## PLATTE RIVER BASIN

06768020 SPRING CREEK NEAR OVERTON, NE

LOCATION.--Lat 40°42'26", long 099°33'34", in SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub>, sec. 35, T. 9 N., R. 20 W., Dawson County, Hydrologic Unit 10200101, on upstream side of county road bridge, 1.0 mi west and 2.5 mi south of Overton.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,310 ft above sea level, from topographic map.

REMARKS.-- Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	10	12	e5.0	e8.0	9.9	9.3	16	155	228	107	77
2	13	13	12	e5.5	e8.0	10	8.8	20	110	183	128	73
3	8.8	19	12	e6.0	e8.0	11	9.0	26	82	118	149	70
4	8.9	18	12	e5.5	e7.8	9.6	8.8	23	74	98	142	86
5	8.3	15	11	e6.0	e7.2	9.7	22	73	74	89	137	81
6	8.5	15	11	e7.0	e7.4	10	23	53	69	85	149	80
7	7.7	15	12	e7.0	e7.6	9.7	16	37	67	85	166	82
8	7.1	16	11	e7.0	e8.0	9.8	11	31	65	84	169	90
9	7.0	16	14	e6.5	e9.0	12	9.8	25	64	71	163	92
10	6.9	19	18	e6.0	10	10	9.2	30	102	60	144	93
11	7.6	19	18	e6.4	12	10	9.3	28	326	62	177	75
12	7.2	16	14	e7.0	12	10	8.9	23	401	64	202	44
13	7.3	15	9.5	e7.4	11	9.9	8.7	37	246	68	181	43
14	7.5	15	9.0	e6.5	11	10	24	38	134	88	162	37
15	7.8	15	9.1	e6.0	10	10	17	60	118	91	156	23
16	8.0	14	8.8	e7.0	11	10	16	52	111	91	148	21
17	14	14	9.1	e7.4	9.5	11	13	54	108	99	129	20
18	15	13	8.8	e8.0	9.2	11	9.9	48	105	106	268	19
19	11	13	8.3	e8.0	9.3	9.5	9.8	47	104	107	431	19
20	10	13	9.2	e8.4	9.3	8.9	9.4	50	102	94	392	19
21	9.5	12	e7.0	e8.6	9.0	9.6	29	48	102	91	213	18
22	9.2	12	e6.0	e8.6	9.7	9.6	25	50	96	81	160	18
23	8.7	13	e5.0	e8.4	13	9.0	19	84	90	77	147	18
24	9.0	12	e5.5	e8.0	11	9.5	16	53	88	84	138	18
25	9.2	12	e6.0	e7.8	10	9.1	18	52	80	94	125	17
26	9.5	11	e6.0	e7.6	9.7	8.4	25	57	65	143	112	17
27	10	11	e7.0	e7.2	10	9.3	25	53	95	121	88	16
28	10	12	e7.5	e6.8	10	14	22	54	84	113	68	16
29	11	12	e6.5	e6.6	---	10	19	55	80	98	78	16
30	10	12	e6.0	e6.6	---	9.4	17	72	118	83	90	17
31	10	---	e5.5	e7.0	---	8.9	---	75	---	93	88	---
TOTAL	284.7	422	296.8	216.8	267.7	308.8	467.9	1424	3515	3049	5007	1315
MEAN	9.18	14.1	9.57	6.99	9.56	9.96	15.6	45.9	117	98.4	162	43.8
MAX	15	19	18	8.6	13	14	29	84	401	228	431	93
MIN	6.9	10	5.0	5.0	7.2	8.4	8.7	16	64	60	68	16
AC-FT	565	837	589	430	531	613	928	2820	6970	6050	9930	2610

e Estimated

# PLATTE RIVER BASIN

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06768020 SPRING CREEK NEAR OVERTON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.5	20.4	16.4	16.2	18.5	16.8	19.4	31.2	69.8	73.6	130	41.3
MAX	26.8	24.7	20.6	21.4	25.1	22.2	20.9	45.9	117	98.4	162	70.8
(WY)	1997	1997	1997	1997	1997	1997	1997	1999	1999	1999	1999	1996
MIN	9.18	14.1	9.57	6.99	9.56	9.96	15.6	20.2	33.0	35.8	99.3	17.9
(WY)	1999	1999	1999	1999	1999	1999	1999	1996	1997	1997	1998	1998

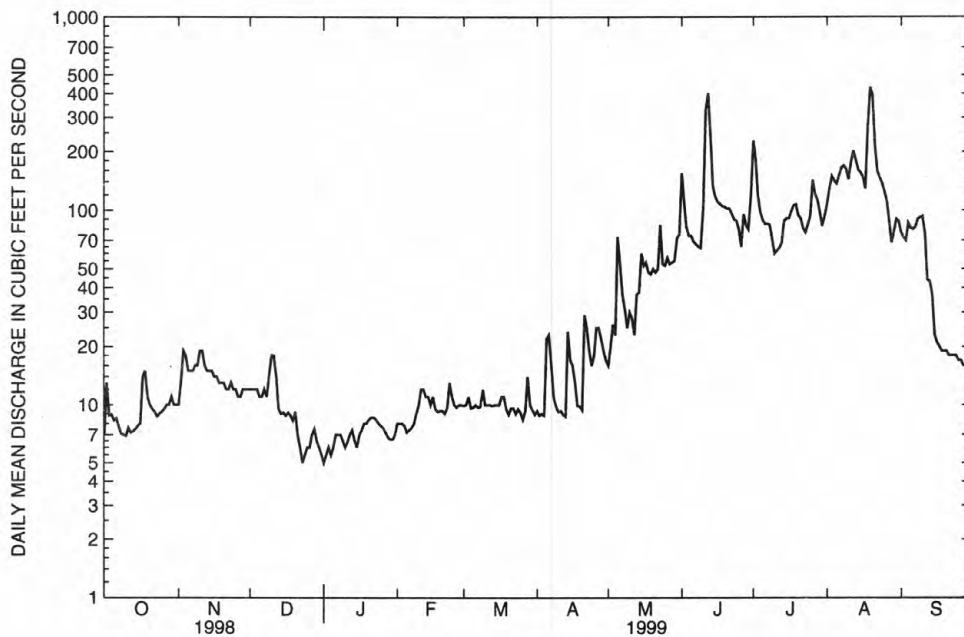
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1996 - 1999

ANNUAL TOTAL	13280.5	16574.7	
ANNUAL MEAN	36.4	45.4	39.3
HIGHEST ANNUAL MEAN			45.4
LOWEST ANNUAL MEAN			33.4
HIGHEST DAILY MEAN	176	Aug 6	431
LOWEST DAILY MEAN	5.0	Dec 23	5.0
ANNUAL SEVEN-DAY MINIMUM	6.1	Dec 21	5.6
INSTANTANEOUS PEAK FLOW			453
INSTANTANEOUS PEAK STAGE			7.62
ANNUAL RUNOFF (AC-FT)	26340	32880	28450
10 PERCENT EXCEEDS	94	115	102
50 PERCENT EXCEEDS	20	15	23
90 PERCENT EXCEEDS	8.3	7.3	9.5



SPRING CREEK NEAR OVERTON

## PLATTE RIVER BASIN

06768020 SPRING CREEK NEAR OVERTON, NE--Continued

## WATER-QUALITY RECORDS

Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	11...	1100	4.05	20	1410	8.6	4.0	1.0	705	13.0	99	2.35	.028
FEB	17...	1100	3.89	9.6	1290	8.6	3.0	1.0	699	16.7	129	2.72	.013
APR	06...	1300	4.01	18	717	8.3	12.0	11.5	704	11.1	111	2.09	.064
MAY	13...	1530	4.48	39	1250	8.1	21.5	19.5	696	7.9	95	2.65	.063
	15...	0930	4.97	73	--	--	8.1	14.5	--	--	--	2.17	.093
JUN	15...	1100	5.39	112	1210	8.0	15.6	18.2	704	9.6	111	2.75	.038
JUL	13...	1430	4.73	68	1100	8.3	30.0	25.0	702	8.9	118	1.93	.017
AUG	17...	1230	5.35	129	1170	8.2	28.0	23.5	705	7.4	94	--	<.010
SEP	13...	1630	4.41	44	1190	8.6	20.0	18.0	706	11.3	130	--	<.010

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)	
NOV	11...	2.37	.216	.95	.53	1.2	.74	3.1	3.5	.526	.385	.389
FEB	17...	2.74	.048	.56	.39	.61	.44	3.2	3.3	.237	.181	.173
APR	06...	2.16	.596	2.8	1.1	3.4	1.7	3.9	5.5	.851	.430	.356
MAY	13...	2.72	.107	2.1	.57	2.2	.67	3.4	4.9	<.050	.227	.244
	15...	2.26	.698	3.7	1.1	4.4	1.8	4.1	6.7	1.22	.305	.285
JUN	15...	2.78	.058	1.8	.48	1.8	.54	3.3	4.6	.698	.288	.265
JUL	13...	1.94	<.020	--	--	2.1	.44	2.4	4.1	.668	.135	.116
AUG	17...	2.10	<.020	--	--	1.9	.44	2.5	4.0	.635	.184	.161
SEP	13...	2.41	<.020	--	--	1.4	.41	2.8	3.8	.275	<.050	<.010

[illegible]



## PLATTE RIVER BASIN

06769000 BUFFALO CREEK NEAR OVERTON, NE

LOCATION.--Lat 40°44'04" , long 99°30'20" , in NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> , sec. 20, T. 9 N., R. 19 W., Dawson County, Hydrologic Unit 10200101, on downstream side of State Highway 30 bridge, 1.7 mi east of Overton.

DRAINAGE AREA.--175 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to September 1958. April 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,296.67 ft above sea level. October 1949 to September 1958 at datum 0.41 ft higher.

REMARKS.-- Records fair except for periods of estimated record which are poor..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.7	5.1	e3.5	e4.1	4.3	3.3	8.8	122	151	79	109
2	6.9	4.6	5.5	e3.4	4.2	4.9	3.2	9.0	150	237	110	107
3	11	4.0	6.0	e3.1	5.7	4.2	2.7	10	118	160	136	106
4	7.6	4.2	6.0	e3.0	4.4	3.5	2.7	12	102	136	149	108
5	7.6	4.1	5.4	e3.1	5.3	3.7	3.9	20	84	121	147	121
6	8.0	4.3	4.8	e3.5	4.1	3.8	4.5	34	78	113	143	128
7	10	3.7	4.9	e3.1	4.9	3.3	4.5	27	72	111	145	122
8	8.6	3.3	4.9	e3.0	5.2	3.7	7.3	20	71	112	146	120
9	9.3	3.2	4.8	e3.2	4.2	3.7	8.1	14	69	95	147	108
10	8.8	3.3	5.1	e3.5	3.8	3.4	6.2	13	83	62	137	104
11	7.2	3.9	4.8	e3.8	3.7	3.7	5.4	11	219	88	108	112
12	7.6	4.4	4.8	e3.6	3.0	3.6	4.6	13	472	99	127	74
13	5.6	5.6	5.4	e3.5	3.6	3.9	4.0	13	390	101	132	35
14	3.4	5.3	5.1	e4.0	3.9	4.2	5.9	36	119	84	136	33
15	3.4	5.3	5.3	e4.2	4.0	4.7	8.3	54	107	89	149	33
16	3.7	5.0	5.3	e4.2	3.7	4.4	8.2	71	111	86	e150	15
17	3.4	4.8	4.4	e4.3	3.6	4.9	7.7	95	113	80	160	12
18	2.1	4.2	5.8	e4.3	3.3	3.7	6.6	101	116	87	227	11
19	2.0	4.3	5.4	e4.5	3.1	3.0	7.2	82	109	93	195	9.6
20	5.2	3.8	5.1	e4.5	3.1	3.2	6.8	79	96	94	137	8.7
21	4.3	3.7	e4.0	e4.5	2.9	3.3	7.8	84	105	80	143	8.0
22	4.2	4.6	e3.5	e4.5	2.9	2.7	11	69	103	70	120	7.7
23	3.9	4.7	e3.2	e4.3	2.6	2.7	7.3	90	99	71	99	7.1
24	4.4	4.4	e3.5	e4.2	3.5	3.0	6.3	86	100	75	77	6.3
25	4.6	4.3	e3.5	e4.0	4.2	2.7	6.8	69	128	79	66	5.7
26	4.9	4.2	e3.5	e3.7	3.6	2.3	7.5	74	106	90	77	5.1
27	5.1	4.9	e3.8	e3.7	4.4	2.5	8.3	81	108	99	68	4.6
28	4.9	5.8	e3.8	e3.7	4.6	2.9	8.7	74	111	88	61	4.2
29	5.0	5.4	e3.6	e3.7	---	3.0	9.0	78	108	83	67	4.1
30	5.3	5.2	e3.6	e3.8	---	2.8	9.3	100	116	79	88	4.3
31	5.1	---	e3.5	e4.0	---	2.5	---	74	---	75	105	---
TOTAL	177.0	133.2	143.4	117.4	109.6	108.2	193.1	1601.8	3885	3088	3831	1533.4
MEAN	5.71	4.44	4.63	3.79	3.91	3.49	6.44	51.7	130	99.6	124	51.1
MAX	11	5.8	6.0	4.5	5.7	4.9	11	101	472	237	227	128
MIN	2.0	3.2	3.2	3.0	2.6	2.3	2.7	8.8	69	62	61	4.1
AC-FT	351	264	284	233	217	215	383	3180	7710	6130	7600	3040

e Estimated

# PLATTE RIVER BASIN

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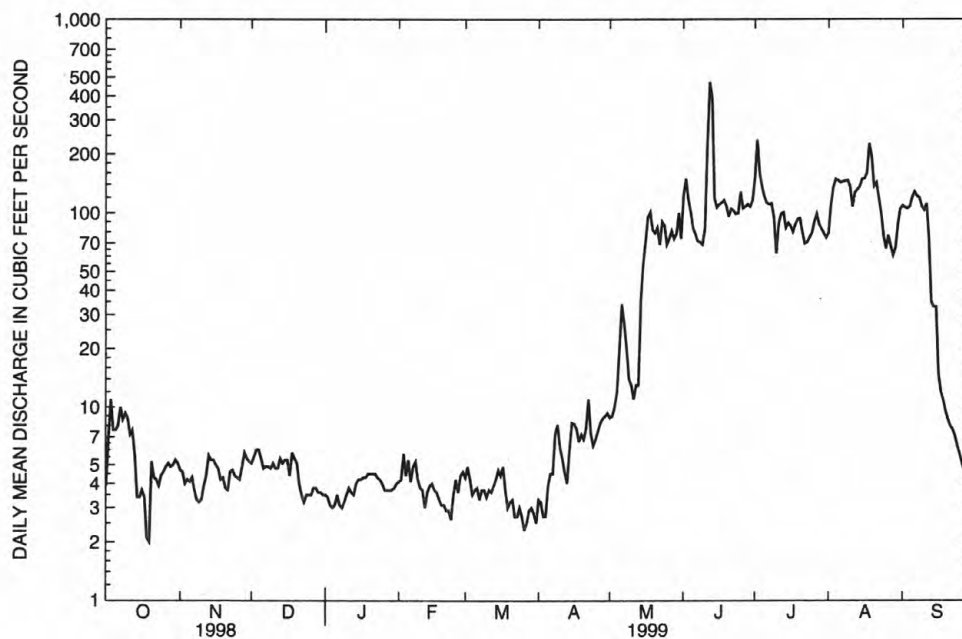
06769000 BUFFALO CREEK NEAR OVERTON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.8	4.47	3.51	2.85	3.53	4.61	4.19	20.1	47.5	49.2	59.7	37.7
MAX	33.1	15.4	13.4	10.9	9.96	15.3	12.0	51.7	130	106	174	71.1
(WY)	1951	1998	1997	1998	1997	1952	1998	1999	1999	1951	1996	1950
MIN	.30	.000	.000	.000	.000	.000	.000	2.12	10.4	2.04	.000	.88
(WY)	1957	1955	1955	1954	1955	1956	1955	1958	1956	1954	1955	1955

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1949-58,1996-99

ANNUAL TOTAL	12010.6	14921.1	
ANNUAL MEAN	32.9	40.9	19.2
HIGHEST ANNUAL MEAN			40.9
LOWEST ANNUAL MEAN			3.07
HIGHEST DAILY MEAN	196	Aug 5	472
LOWEST DAILY MEAN	2.0	Oct 19	2.0
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 14	2.7
INSTANTANEOUS PEAK FLOW			509
INSTANTANEOUS PEAK STAGE			10.79
ANNUAL RUNOFF (AC-FT)	23820	29600	13930
10 PERCENT EXCEEDS	84	117	70
50 PERCENT EXCEEDS	12	5.7	5.5
90 PERCENT EXCEEDS	4.3	3.3	.00



BUFFALO CREEK NEAR OVERTON

## PLATTE RIVER BASIN

06769000 BUFFALO CREEK NEAR OVERTON, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	11...	1000	3.88	4.3	1170	8.1	4.0	1.5	705	11.6	90	1.75	.016
FEB	17...	0900	3.69	3.5	1110	8.1	1.0	.5	699	13.3	101	2.37	.023
APR	06...	1100	3.63	4.6	1120	8.3	9.0	6.0	704	11.7	102	.760	.018
MAY	13...	1400	4.10	12	1410	8.3	19.0	17.0	696	7.9	90	3.75	.270
	15...	1100	5.24	50	1100	8.1	14.5	15.0	696	8.9	97	1.42	.073
JUN	15...	0930	6.54	105	1070	7.8	16.5	18.8	704	18.4	215	2.06	.131
JUL	13...	1100	6.55	104	893	8.1	26.5	22.0	702	6.2	77	.527	.013
AUG	17...	1000	7.52	151	1020	8.1	23.0	23.5	705	6.7	86	1.60	.010
SEP	13...	1730	4.66	34	973	8.7	20.0	18.5	706	10.7	124	.944	.011

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV 11...	1.77	.124	.92	.70	1.0	.83	2.6	2.8	.333	.286	.276
FEB 17...	2.39	.066	.58	.53	.65	.60	3.0	3.0	.098	.064	.055
APR 06...	.778	.023	.94	.86	.97	.89	1.7	1.7	.087	.033	.015
MAY 13...	4.02	.604	1.4	1.1	2.0	1.7	5.8	6.1	<.050	.859	.920
15...	1.49	.283	1.7	.73	1.9	1.0	2.5	3.4	.495	.235	.225
JUN 15...	2.19	.214	2.1	.59	2.3	.81	3.0	4.5	.824	.422	.376
JUL 13...	.540	.049	2.3	.40	2.3	.45	.99	2.9	.740	.089	.071
AUG 17...	1.61	.037	1.9	.34	1.9	.38	2.0	3.5	.598	.173	.152
SEP 13...	.955	<.020	--	--	1.5	.38	1.3	2.4	.224	<.050	<.010

## WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## PLATTE RIVER BASIN

06769525 ELM CREEK NEAR ELM CREEK, NE

LOCATION.--Lat 40°43'44", long 099°23'53", in NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>, sec. 20, T. 9 N., R. 18 W., Buffalo County, Hydrologic Unit 10200101, on right downstream side of bridge.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,270 ft above sea level, from topographic map.

REMARKS.-- Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	180	17	15	1.6
2	.00	.00	.00	.00	.00	.00	.00	.00	82	8.6	16	4.0
3	.00	.00	.00	.00	.00	.00	.00	.00	46	7.2	14	7.9
4	.00	.00	.00	.00	.00	.00	.00	.00	22	6.9	14	15
5	.00	.00	.00	.00	.00	.00	.00	.00	11	12	11	18
6	.00	.00	.00	.00	.00	.00	.00	.00	10	11	13	18
7	.00	.00	.00	.00	.00	.00	.00	.00	10	12	15	17
8	.00	.00	.00	.00	.00	.00	.00	.00	10	12	16	18
9	.00	.00	.00	.00	.00	.00	.00	.00	10	8.6	15	19
10	.00	.00	.00	.00	.00	.00	.00	.00	50	5.4	11	20
11	.00	.00	.00	.00	.00	.00	.00	.00	188	9.3	37	20
12	.00	.00	.00	.00	.00	.00	.00	.00	110	6.1	20	11
13	.00	.00	.00	.00	.00	.00	.00	.00	17	7.0	18	.40
14	.00	.00	.00	.00	.00	.00	.00	.00	12	7.9	19	3.0
15	.00	.00	.00	.00	.00	.00	.00	.00	12	8.6	18	1.4
16	.00	.00	.00	.00	.00	.00	.00	.00	13	10	16	.35
17	.00	.00	.00	.00	.00	.00	.00	.00	12	5.8	15	.32
18	.00	.00	.00	.00	.00	.00	.00	.00	11	5.8	20	.30
19	.00	.00	.00	.00	.00	.00	.00	.00	11	6.1	18	.25
20	.00	.00	.00	.00	.00	.00	.00	.00	11	4.0	19	.28
21	.00	.00	.00	.00	.00	.00	.47	.01	11	8.8	19	.00
22	.00	.00	.00	.00	.00	.00	.00	8.2	11	8.6	19	.00
23	.00	.00	.00	.00	.00	.00	.00	27	12	9.3	19	.00
24	.00	.00	.00	.00	.00	.00	.00	9.4	14	6.2	17	.00
25	.00	.00	.00	.00	.00	.00	.00	8.6	11	7.3	18	.00
26	.00	.00	.00	.00	.00	.00	.00	10	10	11	6.9	.00
27	.00	.00	.00	.00	.00	.00	.00	12	11	12	.20	.00
28	.00	.00	.00	.00	.00	.00	.00	12	10	9.8	.13	.00
29	.00	.00	.00	.00	.00	---	.00	13	9.5	8.0	.81	.00
30	.00	.00	.00	.00	---	.00	.00	89	12	13	4.2	.00
31	.00	---	.00	.00	---	.00	---	118	---	15	2.9	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.47	307.21	939.5	280.3	447.14	175.80
MEAN	.000	.000	.000	.000	.000	.000	.016	9.91	31.3	9.04	14.4	5.86
MAX	.00	.00	.00	.00	.00	.00	.47	118	188	17	37	20
MIN	.00	.00	.00	.00	.00	.00	.00	.00	9.5	4.0	.13	.00
AC-FT	.00	.00	.00	.00	.00	.00	.9	609	1860	556	887	349



# PLATTE RIVER BASIN

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06769525 ELM CREEK NEAR ELM CREEK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996-99, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.024	.000	.000	.000	.60	.004	7.42	14.6	7.35	10.4	3.04
MAX	.000	.073	.000	.000	.000	1.79	.016	9.91	31.3	12.6	14.4	5.86
(WY)	1997	1997	1997	1997	1997	1998	1999	1999	1999	1998	1999	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.63	5.31	3.70	6.71	1.69
(WY)	1997	1998	1997	1997	1997	1997	1996	1997	1997	1996	1996	1996

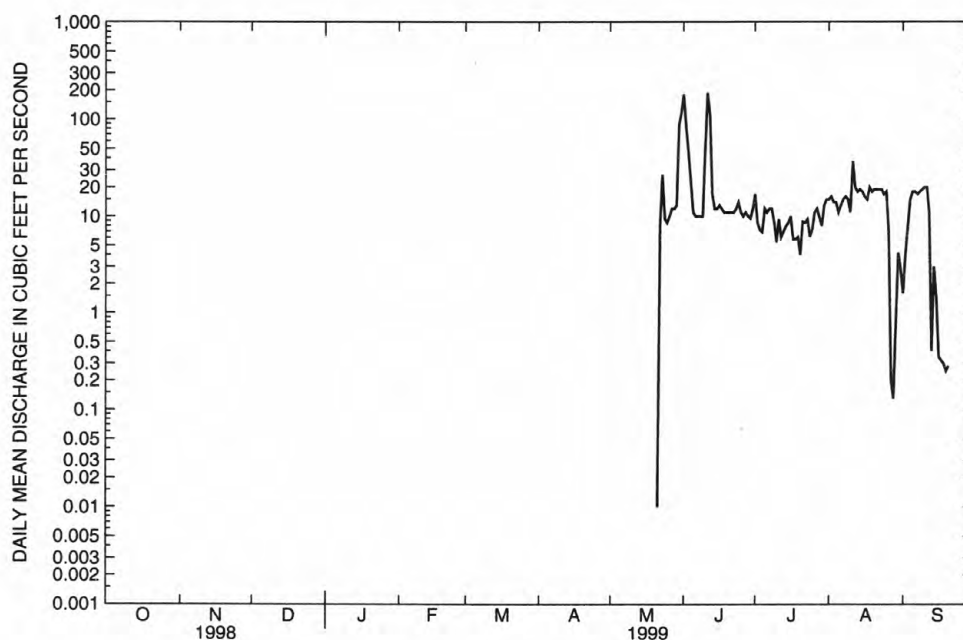
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1996 - 1999

ANNUAL TOTAL	1498.76	2150.42	
ANNUAL MEAN	4.11	5.89	3.93
HIGHEST ANNUAL MEAN			5.89
LOWEST ANNUAL MEAN			1.80
HIGHEST DAILY MEAN	150 May 21	188 Jun 11	188 Jun 11 1999
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Mar 21 1996
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Mar 21 1996
INSTANTANEOUS PEAK FLOW		310 Jun 1	317 May 21 1998
INSTANTANEOUS PEAK STAGE		8.69 Jun 1	8.76 May 21 1998
ANNUAL RUNOFF (AC-FT)	2970	4270	2850
10 PERCENT EXCEEDS	14	15	12
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00



ELM CREEK NEAR ELM CREEK

## PLATTE RIVER BASIN

06769525 ELM CREEK NEAR ELM CREEK, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
MAY	27...	1630	3.09	12	1330	8.0	27.5	22.0	765	8.4	96	--	<.010
JUN	01...	1130	8.36	188	186	7.3	21.0	15.5	698	7.1	78	1.27	.055
	15...	0830	3.04	12	826	7.6	17.5	19.5	705	9.1	108	1.02	.073
JUL	13...	1000	2.19	8.4	8	8.0	25.0	23.5	702	7.7	99	.127	.011
AUG	17...	0930	2.34	13	1010	8.2	22.0	23.0	705	7.1	90	--	<.010

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)	
MAY	27...	<.050	.031	1.1	.46	1.2	.49	--	--	.203	.017	.011
JUN	01...	1.33	.460	7.4	.69	7.9	1.2	2.5	9.2	.656	.633	
	15...	1.09	.055	1.7	.45	1.8	.50	1.6	2.9	.544	.205	.199
JUL	13...	.138	<.020	--	--	1.8	.32	.46	1.9	.439	.013	<.010
AUG	17...	1.48	<.020	--	--	1.6	.37	1.9	3.1	.430	.129	.113

## PLATTE RIVER BASIN

06769525 ELM CREEK NEAR ELM CREEK, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO <sub>4</sub> ) (00660)	ACETO- CHLOR, WATER FLTRD REC (µ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC. (µ G/L) (46342)	ATRA- ZINE, WATER, DISS, REC (µ G/L) (39632)	CYANA- ZINE, WATER, DISS, REC (µ G/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µ G/L) (04040)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µ G/L) (82630)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PROP- CHLOR, WATER, DISS, REC (µ G/L) (04024)	SI- MAZINE, WATER, DISS, REC (µ G/L) (04035)
MAY											
27...	.03	0600	<.050	.860	<.0500	.100	.390	<.050	<.0500	<.0500	<.0500
JUN											
01...	1.9	0500	.100	10.1	<.0500	.830	2.75	<.050	<.0500	<.0500	<.0500
15...	.61	0700	.090	1.24	<.0500	.110	.150	<.050	<.0500	<.0500	<.0500
JUL											
13...	--	<.0500	<.050	.850	<.0500	.260	.500	<.050	<.0500	<.0500	<.0500
AUG											
17...	.35	<.0500	<.050	.110	<.0500	.0700	<.050	<.050	<.0500	<.0500	<.0500

## PLATTE RIVER BASIN

06770195 NORTH DRY CREEK 2 MI SW OF PLATTE RIVER BRIDGE SOUTH OF KEARNEY, NE

LOCATION.--Lat 40°38'28", long 099°06'56", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec.22, T. 8 N., R.16 W., Kearney County, Hydrologic Unit 10200101, on downstream side of county road bridge, 1.1 mi south of Platte River bridge on Highway 44, and 1.6 mi west of Highway 44, and approximately 2 mi south of Kearney.

DRAINAGE AREA.--77.7 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,140 ft above sea level.

REMARKS.--Records good except for period of estimated record, which is poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	13	e12	15	14	14	17	260	49	30	21
2	15	20	14	e11	15	15	15	22	177	41	29	20
3	13	23	15	e10	16	16	16	32	52	37	31	18
4	12	20	15	e9.0	15	15	16	28	37	32	28	15
5	12	17	15	e10	15	15	21	95	32	30	26	14
6	12	15	15	e11	16	15	24	44	27	29	51	14
7	12	15	15	e11	16	15	18	33	25	31	87	13
8	11	17	16	e10	16	17	16	28	24	36	37	13
9	12	16	14	e10	15	17	17	26	22	42	24	12
10	12	21	14	e11	14	17	17	25	40	44	21	13
11	12	18	15	e12	18	17	15	24	102	44	150	13
12	12	16	14	e12	18	17	14	23	76	41	201	14
13	12	15	14	e13	16	16	14	23	38	46	62	16
14	12	16	14	e13	14	16	25	24	31	46	38	14
15	14	16	15	e13	16	16	35	68	29	47	33	13
16	12	14	20	e13	15	17	27	39	31	45	29	13
17	13	14	23	e14	14	17	23	34	29	44	25	13
18	12	15	23	15	15	21	22	30	28	49	95	12
19	12	14	e22	14	15	17	20	25	28	38	53	12
20	12	14	e20	14	14	16	19	24	28	38	36	12
21	13	14	e10	15	13	16	21	23	28	41	31	12
22	13	14	e8.0	15	19	17	22	28	27	41	29	12
23	13	13	e8.0	14	18	16	22	35	28	45	27	12
24	13	13	e9.0	15	15	16	21	31	29	46	25	12
25	13	13	e10	15	15	15	21	29	26	45	27	11
26	13	13	e11	15	16	15	23	29	23	43	28	11
27	13	13	e12	16	16	15	21	27	45	37	28	11
28	14	14	e13	15	15	14	19	27	75	35	27	11
29	13	14	e13	15	---	14	18	26	62	38	28	11
30	13	14	e12	14	---	14	18	94	46	39	28	11
31	16	---	e14	15	---	13	---	98	---	35	24	---
TOTAL	391	465	446.0	402.0	435	491	594	1111	1505	1254	1388	399
MEAN	12.6	15.5	14.4	13.0	15.5	15.8	19.8	35.8	50.2	40.5	44.8	13.3
MAX	16	23	23	16	19	21	35	98	260	49	201	21
MIN	10	13	8.0	9.0	13	13	14	17	22	29	21	11
AC-FT	776	922	885	797	863	974	1180	2200	2990	2490	2750	791

e Estimated

# PLATTE RIVER BASIN

105

06770195 NORTH DRY CREEK 2 MI SW OF PLATTE RIVER BRIDGE SOUTH OF KEARNEY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.0	19.1	15.5	12.9	16.3	19.2	21.5	32.3	34.4	52.1	33.8	15.4
MAX	17.0	22.6	18.0	13.9	16.9	24.7	33.7	47.7	50.2	84.8	44.8	30.1
(WY)	1997	1998	1998	1998	1997	1998	1998	1996	1999	1996	1999	1996
MIN	12.4	15.5	14.1	11.9	15.5	15.8	11.5	18.8	16.6	26.4	17.4	8.02
(WY)	1998	1999	1997	1997	1999	1999	1996	1997	1997	1997	1997	1997

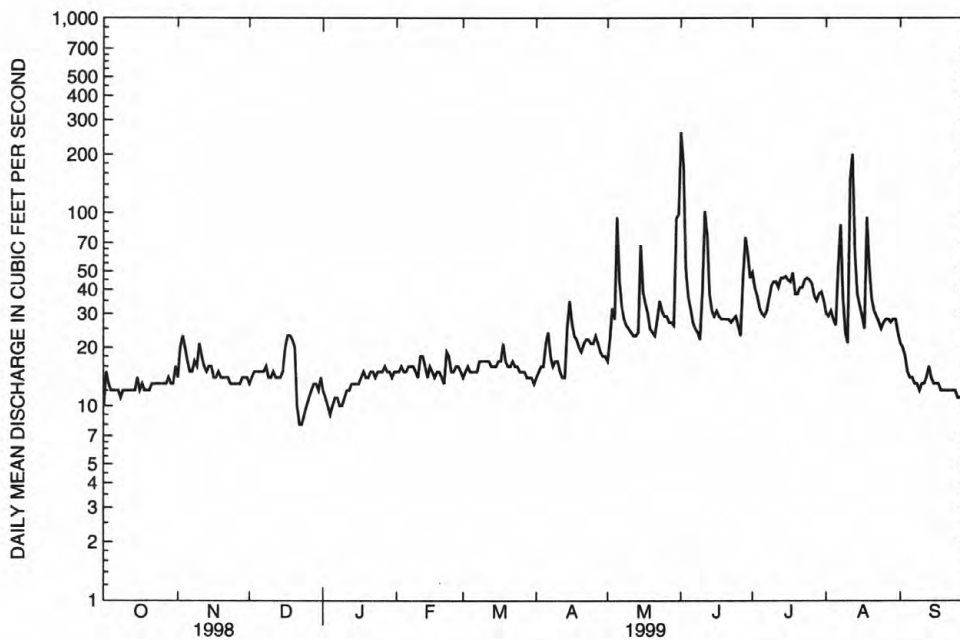
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1996 - 1999

ANNUAL TOTAL	8702.8	8881.0	
ANNUAL MEAN	23.8	24.3	22.1
HIGHEST ANNUAL MEAN			24.7
LOWEST ANNUAL MEAN			17.2
HIGHEST DAILY MEAN	227	Jul 10	386
LOWEST DAILY MEAN	8.0	Jan 15	5.0
ANNUAL SEVEN-DAY MINIMUM	8.9	Sep 15	9.7
INSTANTANEOUS PEAK FLOW			423
INSTANTANEOUS PEAK STAGE			6.12
ANNUAL RUNOFF (AC-FT)	17260	17620	15990
10 PERCENT EXCEEDS	39	41	39
50 PERCENT EXCEEDS	17	16	18
90 PERCENT EXCEEDS	10	12	10



NORTH DRY CREEK 2 MI SW OF PLATTE RIVER BRIDGE SOUTH OF KEARNEY



## PLATTE RIVER BASIN

06770195 NORTH DRY CREEK 2 MI SW OF PLATTE RIVER BRIDGE SOUTH OF KEARNEY, NE--Continued

## WATER-QUALITY RECORDS

Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)		
JUN	14...	1600	3.28	31	1160	7.6	22.0	24.0	710	3.4	44	1.08	.619

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)	
JUN	14...	1.70	5.84	4.8	--	11	<.10	--	12	2.34	1.82	1.42

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO <sub>4</sub> ) (00660)	ACETO- CHLOR, WATER FLTRD REC ( $\mu$ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC ( $\mu$ G/L) (46342)	ATRA- ZINE, WATER, DISS, REC ( $\mu$ G/L) (39632)	CYANA- ZINE, WATER, DISS, REC ( $\mu$ G/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC ( $\mu$ G/L) (04040)	METO- LACHLOR WATER DISSOLV ( $\mu$ G/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV ( $\mu$ G/L) (82630)	PRO- METON, WATER, DISS, REC ( $\mu$ G/L) (04037)	PROP- CHLOR, WATER, DISS, REC ( $\mu$ G/L) (04024)	SI- MAZINE, WATER, DISS, REC ( $\mu$ G/L) (04035)	
JUN	14...	4.4	<.0500	<.050	10.1	<.0500	.940	2.21	<.050	<.0500	<.0500	<.0500

## PLATTE RIVER BASIN

107

## 06770200 PLATTE RIVER NEAR KEARNEY, NE

LOCATION.--Lat 40°39'32", long 99°05'08", in SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.14, T.8 N., R.16 W., Kearney County, Hydrologic Unit 10200101, on right bank near downstream side of bridge on State Highway 44, 2 mi south of Kearney, and at mile 117.

DRAINAGE AREA.--57,260 mi<sup>2</sup>, of which about 52,540 mi<sup>2</sup> contributes directly to surface runoff..

PERIOD OF RECORD.--January 1982 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,134.11 ft above sea level. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1940	2020	e1400	2930	2590	1750	2170	4630	8380	762	2130
2	1720	2150	2100	e1200	2830	2690	1460	2220	5280	8480	936	2000
3	1780	2340	2070	e960	2800	2650	1460	2300	4960	7290	1170	1950
4	1780	2430	2010	e1600	2700	2740	1440	2610	4740	6080	1440	2170
5	1720	2350	2020	e1750	2550	2770	1670	3370	4760	5270	1540	2030
6	1500	2480	1990	e1900	2680	2770	1720	3400	4920	4970	1750	2110
7	1590	2620	1950	e2000	2620	2720	1770	3770	4900	4420	2460	2240
8	1670	2630	1840	e2200	2620	2770	1870	4770	5220	3050	2770	2490
9	1750	2720	1810	e2300	2670	2800	1860	5810	5190	1900	3220	2760
10	1920	2720	1780	e2500	2740	1800	1740	7100	5370	1370	3360	2770
11	2010	2490	1800	e2800	2830	2490	1750	9010	6570	1180	4460	3130
12	1960	2390	1910	e3200	2390	2320	1800	11300	7720	1110	5330	3680
13	1940	2360	1890	e3200	2570	2150	1510	10700	7200	1090	5670	3840
14	1920	2460	1940	e3300	2580	2060	1740	8210	5690	993	5440	4010
15	1840	2450	1970	e3600	2650	2060	2000	6690	4640	956	5200	4020
16	1200	2490	1950	e3500	2590	1580	2180	5980	4060	942	4930	4020
17	1780	2390	2030	e3300	2500	1840	2050	5620	3530	942	4680	4150
18	1910	2330	2140	e3300	2530	1560	2050	4970	3410	1070	5990	4380
19	1960	2180	e1800	e3300	2550	2090	1840	4290	3590	1040	5880	4590
20	1900	1990	e1300	e3200	2580	2240	1640	3700	3930	1080	5660	4830
21	1940	1980	e1200	e3200	2510	2110	1710	3250	4020	990	5220	4870
22	1880	2020	e1200	e3200	2410	2080	2020	3020	4180	842	4800	4780
23	1880	2160	e1250	e3100	2410	1170	1890	3260	4670	717	4280	4560
24	1980	2180	e1350	e3100	2330	700	1900	2940	5110	763	3740	4250
25	1980	2220	e1450	3110	2420	892	2030	2590	5090	787	3110	4050
26	1910	2210	e1550	3030	2500	1520	2180	2320	5370	897	2770	3850
27	1920	2230	e1600	2960	2440	1660	2030	2180	6310	1040	2150	3780
28	1920	2200	e1600	2810	2480	1870	1770	2140	7310	910	1660	2900
29	1760	2220	e1500	2760	---	1910	1920	2130	6920	796	1500	3410
30	1720	2160	e1500	2860	---	1910	2050	3480	7540	733	1520	3690
31	1870	---	e1400	2910	---	1900	---	3580	---	728	1710	---
TOTAL	55860	69490	53920	83550	72410	64412	54800	138880	156830	70816	105108	103440
MEAN	1802	2316	1739	2695	2586	2078	1827	4480	5228	2284	3391	3448
MAX	2010	2720	2140	3600	2930	2800	2180	11300	7720	8480	5990	4870
MIN	1200	1940	1200	960	2330	700	1440	2130	3410	717	762	1950
AC-FT	110800	137800	107000	165700	143600	127800	108700	275500	311100	140500	208500	205200

e Estimated

## PLATTE RIVER BASIN

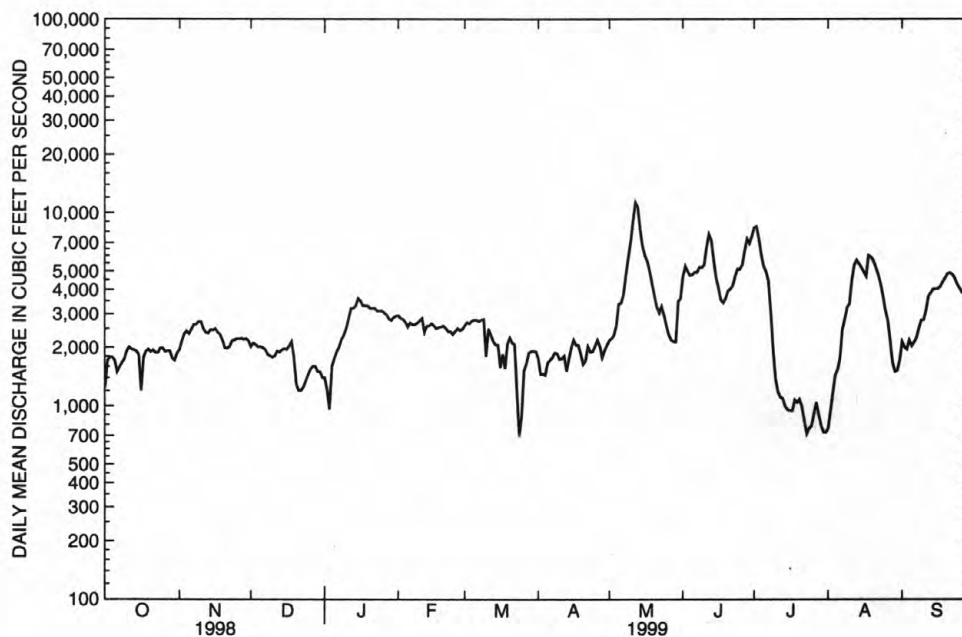
06770200 PLATTE RIVER NEAR KEARNEY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1751	1809	1894	2126	2515	2645	2476	2732	3854	2015	1427	2055
MAX	3859	4717	4404	4487	6612	7148	9535	11770	17660	10910	6393	7903
(WY)	1987	1985	1985	1984	1984	1984	1984	1984	1983	1983	1983	1983
MIN	464	792	734	864	1157	1132	724	289	315	123	288	230
(WY)	1992	1990	1990	1991	1995	1991	1989	1989	1992	1990	1991	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1902 - 1999	
ANNUAL TOTAL	839259		1029516			
ANNUAL MEAN	2299		2821		2270	
HIGHEST ANNUAL MEAN					5418	
LOWEST ANNUAL MEAN					797	
HIGHEST DAILY MEAN	4930		Apr 7	11300	May 12	22300
LOWEST DAILY MEAN	299		Jul 21	700	Mar 24	3.0
ANNUAL SEVEN-DAY MINIMUM	366		Jul 18	838	Jul 26	13
INSTANTANEOUS PEAK FLOW (STAGE)				11900 (6.51)	May 12	23700 (7.42)
INSTANTANEOUS PEAK STAGE				*6.63	Dec 23	*8.62
ANNUAL RUNOFF (AC-FT)	1665000		2042000		1645000	
10 PERCENT EXCEEDS	3870		5100		4430	
50 PERCENT EXCEEDS	2080		2320		1700	
90 PERCENT EXCEEDS	947		1360		449	

\* Backwater from ice.



PLATTE RIVER NEAR KEARNEY

## PLATTE RIVER BASIN

109

06770240 FORT KEARNEY SLOUGH NEAR NEWARK, NE

LOCATION.--Lat 40°38'28", long 98°59'22", in SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.22, T.8 N., R.15 W., Kearney County, Hydrologic Unit 10200203, on downstream side of culvert on Highway L-5DA, 2.0 mi west of State Highway 10, and 1.1 mi west of Newark.

PERIOD OF RECORD.--March 1996 to September 1999 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 2,100.6 ft above sea level.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.7	5.3	4.9	5.1	5.0	6.5	9.8	31	11	3.1	2.5
2	1.7	3.5	5.7	5.2	5.1	4.8	5.9	9.7	20	8.9	3.6	2.4
3	1.6	4.2	5.7	e4.5	5.2	4.8	6.3	9.7	17	8.2	3.6	2.2
4	1.9	4.4	6.0	5.3	4.9	5.0	6.1	9.7	15	7.7	3.2	2.0
5	1.6	4.5	5.7	5.1	5.1	4.9	9.0	11	14	7.5	3.5	2.1
6	1.6	4.3	5.3	4.6	5.0	4.6	10	9.6	12	7.1	6.3	2.2
7	1.6	4.3	5.2	4.6	5.1	4.8	9.4	9.6	11	6.6	3.7	2.0
8	1.7	4.9	5.2	4.5	5.0	5.1	9.6	9.6	11	6.8	3.5	2.1
9	1.8	6.2	5.2	4.5	4.8	4.8	8.8	9.6	10	5.9	3.3	1.6
10	1.9	5.9	5.4	4.6	5.3	4.9	9.3	9.6	10	5.5	2.8	.89
11	2.0	5.6	5.5	5.3	4.8	4.8	8.3	9.6	15	5.1	17	.85
12	1.9	5.9	5.5	5.0	4.6	4.9	8.5	9.6	14	5.1	4.1	.66
13	2.0	6.3	5.4	4.3	4.6	5.0	9.1	9.6	13	5.2	3.6	.71
14	2.5	6.2	5.3	4.7	5.0	5.1	9.7	9.6	11	5.2	3.4	.68
15	2.8	6.3	5.3	5.3	4.8	5.4	9.7	9.6	9.5	4.8	3.1	.76
16	2.7	5.6	5.2	4.9	4.6	5.5	9.8	9.6	11	4.0	2.9	1.4
17	2.4	5.6	5.4	5.1	4.8	5.1	9.8	9.6	11	3.9	2.6	2.4
18	2.1	5.7	5.4	4.8	4.7	5.0	9.8	9.6	9.5	4.4	4.6	2.5
19	2.2	5.1	5.0	4.8	4.6	5.2	9.8	9.6	9.2	3.8	3.4	1.8
20	2.3	5.1	4.9	5.0	4.5	5.3	9.8	9.6	9.1	4.3	3.1	1.7
21	2.3	5.7	4.9	5.0	4.5	5.3	9.8	9.6	8.9	4.8	2.9	1.8
22	2.4	6.1	e4.0	4.7	4.9	5.4	9.8	9.6	8.7	4.6	2.8	2.2
23	2.7	5.0	4.8	4.7	4.7	5.4	9.8	9.6	8.6	4.2	2.9	2.5
24	3.0	5.6	4.8	4.7	4.8	5.4	9.8	9.8	8.4	4.0	3.1	2.7
25	3.0	5.2	4.9	4.6	4.8	5.4	9.8	9.6	8.3	4.0	2.8	2.5
26	3.1	5.2	5.1	4.9	5.0	5.7	9.8	9.6	7.8	3.7	2.7	1.6
27	3.1	5.5	4.9	4.7	4.8	6.0	9.8	9.6	12	3.7	2.9	1.2
28	3.2	6.0	5.2	4.6	4.8	5.6	9.8	9.6	13	3.4	2.6	1.0
29	2.7	6.3	4.8	4.7	---	5.6	9.8	9.6	11	3.2	2.4	1.6
30	2.5	5.1	5.1	4.8	---	6.1	9.8	22	9.3	2.7	2.6	2.2
31	2.5	---	4.8	4.9	---	6.9	---	17	---	2.4	2.6	---
TOTAL	70.5	158.0	160.9	149.3	135.9	162.8	273.2	319.5	359.3	161.7	114.7	52.75
MEAN	2.27	5.27	5.19	4.82	4.85	5.25	9.11	10.3	12.0	5.22	3.70	1.76
MAX	3.2	6.3	6.0	5.3	5.3	6.9	10	22	31	11	17	2.7
MIN	1.6	2.7	4.0	4.3	4.5	4.6	5.9	9.6	7.8	2.4	2.4	.66
AC-FT	140	313	319	296	270	323	542	634	713	321	228	105

e Estimated

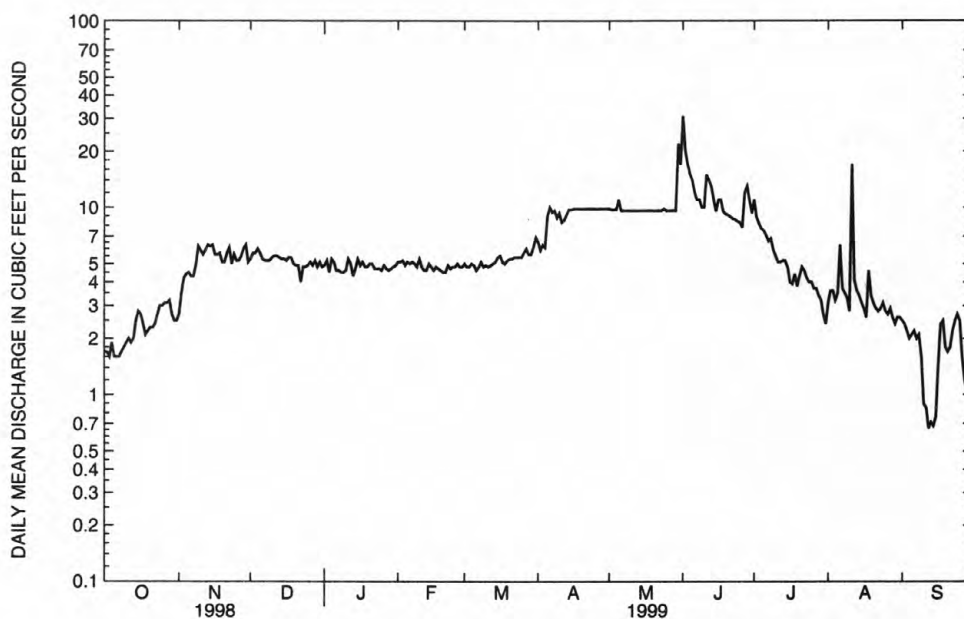
## PLATTE RIVER BASIN

06770240 FORT KEARNEY SLOUGH NEAR NEWARK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996- 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.09	8.35	7.06	5.70	6.73	7.91	10.8	12.3	14.0	7.08	5.32	2.21
MAX	6.60	11.5	8.26	6.95	8.53	10.1	19.4	17.5	20.4	14.3	11.0	5.26
(WY)	1997	1997	1998	1997	1997	1997	1998	1996	1996	1996	1996	1996
MIN	2.27	5.27	5.19	4.82	4.85	5.25	6.74	7.23	7.54	1.84	1.32	.51
(WY)	1999	1999	1999	1999	1999	1999	1996	1997	1997	1997	1997	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1902 - 1999	
ANNUAL TOTAL	2904.82		2118.55			
ANNUAL MEAN	7.96		5.80		7.05	
HIGHEST ANNUAL MEAN					8.82	
LOWEST ANNUAL MEAN					5.80	
HIGHEST DAILY MEAN	70	May 22	31	Jun 1	80	Jun 16 1996
LOWEST DAILY MEAN	.09	Sep 10	.66	Sep 12	.00	Mar 26 1996
ANNUAL SEVEN-DAY MINIMUM	.15	Sep 9	.85	Sep 10	.02	Sep 8 1997
INSTANTANEOUS PEAK FLOW			47	Jun 1	140	Jun 16 1996
INSTANTANEOUS PEAK STAGE			6.74	Jun 1	6.85	May 22 1998
ANNUAL RUNOFF (AC-FT)	5760		4200		5110	
10 PERCENT EXCEEDS	16		9.8		15	
50 PERCENT EXCEEDS	5.8		5.0		6.5	
90 PERCENT EXCEEDS	1.1		2.2		1.6	



FORT KEARNEY SLOUGH NEAR NEWARK



## PLATTE RIVER BASIN

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06770253 PLATTE RIVER NEAR NEWARK, NE

LOCATION.--Lat 40°40'06", long 098°54'53", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.17, T.8 N., R. 14 W., Buffalo County, Hydrologic Unit 10200101, on left bank, at Audobon Sanctuary, 0.4 mi south of county road, 2 mi east of State Highway 10, and 3 mi east of Newark.

PERIOD OF RECORD.--April to September 1999 (stage record only).

GAGE.--Water-stage recorder. Datum of gage is 2,076.42 ft above sea level.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum instantaneous gage height, 5.00 ft May 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	3.00	3.53	4.55	2.94	3.06
2	---	---	---	---	---	---	---	3.05	3.83	4.57	3.00	3.16
3	---	---	---	---	---	---	---	3.13	3.83	4.33	3.17	3.18
4	---	---	---	---	---	---	---	3.21	3.75	4.09	3.37	3.26
5	---	---	---	---	---	---	---	3.38	3.72	3.98	3.45	3.27
6	---	---	---	---	---	---	---	3.30	3.72	3.91	3.56	3.33
7	---	---	---	---	---	---	---	3.41	3.67	3.93	3.75	3.33
8	---	---	---	---	---	---	---	3.71	3.66	3.79	3.84	3.38
9	---	---	---	---	---	---	---	3.98	3.64	3.57	3.97	3.48
10	---	---	---	---	---	---	---	4.21	3.73	3.34	4.10	3.50
11	---	---	---	---	---	---	---	4.49	4.00	3.22	4.41	3.42
12	---	---	---	---	---	---	---	4.85	4.31	---	4.54	3.57
13	---	---	---	---	---	---	---	4.91	4.27	---	4.61	3.56
14	---	---	---	---	---	---	---	4.53	3.98	---	4.66	3.51
15	---	---	---	---	---	---	---	4.22	3.95	---	3.95	3.53
16	---	---	---	---	---	---	---	4.04	---	---	---	3.50
17	---	---	---	---	---	---	---	3.95	3.52	---	---	3.38
18	---	---	---	---	---	---	---	3.77	3.51	---	---	3.26
19	---	---	---	---	---	---	---	3.61	3.52	---	---	3.35
20	---	---	---	---	---	---	---	3.50	3.62	---	---	3.54
21	---	---	---	---	---	---	---	3.36	3.64	---	---	3.66
22	---	---	---	---	---	---	---	3.27	3.72	2.67	---	3.73
23	---	---	---	---	---	---	2.91	3.31	3.82	2.64	---	3.75
24	---	---	---	---	---	---	2.91	3.21	3.95	2.68	---	3.69
25	---	---	---	---	---	---	2.97	3.12	4.02	2.72	---	3.61
26	---	---	---	---	---	---	3.03	3.07	4.05	2.75	3.25	3.49
27	---	---	---	---	---	---	3.01	3.05	4.23	2.72	3.02	3.44
28	---	---	---	---	---	---	2.91	3.03	4.46	2.66	2.91	3.18
29	---	---	---	---	---	---	2.88	2.98	4.40	2.74	2.92	3.32
30	---	---	---	---	---	---	2.93	3.29	4.46	2.90	2.95	3.36
31	---	---	---	---	---	---	---	3.36	---	2.96	2.96	---
MAX	---	---	---	---	---	---	---	4.91	---	---	---	3.75
MIN	---	---	---	---	---	---	---	2.98	---	---	---	3.06

## PLATTE RIVER BASIN

06770375 PLATTE RIVER NEAR PROSSER, NE

LOCATION.--Lat 40°43'45", long 098°38'07", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.23, T.9 N., R. 12 W., Hall County, Hydrologic Unit 10200101, on right bank, at Rowe Sanctuary, 0.4 mi north of Denman road. 3 mi west of Wood River road, and 3.5 mi northwest of Prosser.

PERIOD OF RECORD.--April to September 1999 (stage record only).

GAGE.--Water-stage recorder. Elevation of gage is 1,975 ft above sea level.

REMARKS.--Records good.

EXTREMES FOR CURRENT YEAR.--Maximum instantaneous gage height, 5.18 ft May 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	3.03	3.77	4.66	2.53	---
2	---	---	---	---	---	---	---	3.07	4.09	4.62	2.55	---
3	---	---	---	---	---	---	---	3.12	4.01	4.45	2.69	---
4	---	---	---	---	---	---	---	3.16	3.89	4.19	2.72	---
5	---	---	---	---	---	---	---	3.39	3.81	4.00	2.73	---
6	---	---	---	---	---	---	---	3.32	3.82	3.89	2.87	---
7	---	---	---	---	---	---	---	3.31	3.77	3.77	2.91	---
8	---	---	---	---	---	---	---	3.50	3.77	3.52	2.98	---
9	---	---	---	---	---	---	---	3.78	3.75	3.11	3.04	---
10	---	---	---	---	---	---	---	4.05	3.84	2.74	3.12	---
11	---	---	---	---	---	---	---	4.39	4.06	2.54	3.47	---
12	---	---	---	---	---	---	---	4.83	4.36	2.43	3.62	---
13	---	---	---	---	---	---	---	5.13	4.45	2.40	3.78	---
14	---	---	---	---	---	---	---	4.84	4.13	2.38	3.80	---
15	---	---	---	---	---	---	---	4.41	3.83	2.33	3.77	---
16	---	---	---	---	---	---	---	4.11	3.64	2.36	3.77	---
17	---	---	---	---	---	---	---	3.96	3.49	2.40	3.70	---
18	---	---	---	---	---	---	---	3.75	3.45	2.49	4.14	---
19	---	---	---	---	---	---	---	3.58	3.49	2.49	4.08	---
20	---	---	---	---	---	---	---	3.49	3.57	2.49	4.00	---
21	---	---	---	---	---	---	---	3.39	3.57	2.52	3.83	---
22	---	---	---	---	---	---	---	3.32	3.59	2.49	3.68	---
23	---	---	---	---	---	---	2.92	3.36	3.72	2.46	3.52	---
24	---	---	---	---	---	---	2.86	3.31	3.91	2.45	3.37	---
25	---	---	---	---	---	---	2.87	3.24	4.00	2.47	3.28	---
26	---	---	---	---	---	---	2.91	3.17	4.09	2.51	3.20	---
27	---	---	---	---	---	---	2.94	3.15	4.32	2.54	3.09	---
28	---	---	---	---	---	---	2.91	3.15	4.57	2.61	2.95	---
29	---	---	---	---	---	---	2.92	3.14	4.61	2.57	2.90	---
30	---	---	---	---	---	---	2.99	3.34	4.57	2.53	2.91	---
31	---	---	---	---	---	---	---	3.71	---	2.51	2.84	---
MAX	---	---	---	---	---	---	---	5.13	4.61	4.66	4.14	---
MIN	---	---	---	---	---	---	---	3.03	3.45	2.33	2.53	---

# PLATTE RIVER BASIN

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## 06770470 PLATTE RIVER NEAR DONIPHAN, NE

LOCATION.--Lat 40°47'18", long 098°26'17", in SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.33, T.10 N., R. 10 W., Hall County, Hydrologic Unit 10200101, on left bank, at Whooping Crane Trust Sanctuary, 3.2 mi west of State Highway 34, and 3 mi northwest of Doniphan.

PERIOD OF RECORD.--April to September 1999 (stage record only).

GAGE.--Water-stage recorder. Datum of gage is 1899.80 ft above sea level.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum instantaneous gage height, 4.51 ft May 13.

### GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2.72	3.22	4.07	1.91	2.55
2	---	---	---	---	---	---	---	2.80	3.40	4.08	1.98	2.63
3	---	---	---	---	---	---	---	2.86	3.37	3.97	2.05	2.60
4	---	---	---	---	---	---	---	2.89	3.26	3.66	2.11	2.62
5	---	---	---	---	---	---	---	3.16	3.14	3.39	2.20	2.65
6	---	---	---	---	---	---	---	3.06	3.11	3.23	2.40	2.60
7	---	---	---	---	---	---	---	3.05	3.11	3.12	2.49	2.59
8	---	---	---	---	---	---	---	3.16	3.13	2.95	2.57	2.62
9	---	---	---	---	---	---	---	3.37	3.18	2.63	2.65	2.68
10	---	---	---	---	---	---	---	3.55	3.32	2.28	2.76	2.71
11	---	---	---	---	---	---	---	3.79	3.50	2.08	3.07	2.78
12	---	---	---	---	---	---	---	4.12	3.73	2.01	3.16	2.91
13	---	---	---	---	---	---	---	4.45	3.91	2.01	3.22	2.97
14	---	---	---	---	---	---	---	4.35	3.73	2.02	3.26	2.96
15	---	---	---	---	---	---	---	4.01	3.51	1.99	3.24	3.00
16	---	---	---	---	---	---	---	3.67	3.37	1.99	3.21	3.01
17	---	---	---	---	---	---	---	3.57	3.22	1.98	3.13	3.05
18	---	---	---	---	---	---	---	3.41	3.14	2.02	3.48	3.08
19	---	---	---	---	---	---	---	3.24	3.15	2.01	3.54	3.14
20	---	---	---	---	---	---	---	3.14	3.20	2.01	3.47	3.20
21	---	---	---	---	---	---	---	3.07	3.23	2.02	3.36	3.25
22	---	---	---	---	---	---	---	2.96	3.21	1.98	3.25	3.26
23	---	---	---	---	---	---	---	2.76	2.93	1.95	3.12	3.23
24	---	---	---	---	---	---	---	2.68	2.85	1.92	3.01	3.19
25	---	---	---	---	---	---	---	2.66	2.76	1.94	2.92	3.08
26	---	---	---	---	---	---	---	2.70	2.68	1.95	2.86	3.00
27	---	---	---	---	---	---	---	2.73	2.62	1.99	2.80	2.95
28	---	---	---	---	---	---	---	2.70	2.58	1.99	2.68	2.87
29	---	---	---	---	---	---	---	2.65	2.56	1.98	2.56	2.76
30	---	---	---	---	---	---	---	2.70	2.65	1.92	2.49	2.86
31	---	---	---	---	---	---	---	3.12	---	1.89	2.45	---
MAX	---	---	---	---	---	---	---	4.45	3.98	4.08	3.54	3.26
MIN	---	---	---	---	---	---	---	2.56	3.11	1.89	1.91	2.55

## PLATTE RIVER BASIN

## 06770500 PLATTE RIVER NEAR GRAND ISLAND, NE

LOCATION.--Lat 40°52'28", long 098°16'54", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.31, T.11 N., R. 8 W., Merrick County, Hydrologic Unit 10200101, on left bank 20 ft downstream from bridge on U.S. Highway 34, 2 mi upstream from Burlington Northern Inc. bridge, 5 mi southeast of Grand Island, and at mile 70.0.

DRAINAGE AREA.--57,650 mi<sup>2</sup>, of which about 52,940 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1942. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,831.90 ft above sea level (Nebraska Department of Highway's benchmark). Prior to Oct. 23, 1933, nonrecording gage at bridge 68 ft downstream, and Oct. 23, to Aug. 19, 1980, water-stage recorder at site 90 ft downstream, all at same datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs (since storage in Lake McConaughy in 1942), power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	2410	2490	e1450	e2500	2490	2150	2220	5330	8990	783	1760
2	1650	2860	2350	e1400	e2600	2460	2090	2420	6260	9100	903	2060
3	2070	2910	2340	e1300	e2600	2480	2020	2640	6320	8720	1040	2030
4	2180	2760	2350	e1100	e2500	2500	1900	2690	5730	6980	1200	2080
5	2160	2650	2440	e1500	e2400	2540	2240	3840	5050	5620	1340	2210
6	2030	2710	2460	e1600	2200	2560	2650	4020	5020	4870	1750	2120
7	1860	2950	2430	e1700	2400	2560	2410	3590	5090	4560	2040	2130
8	1970	3120	2450	e1800	2430	2590	2340	3790	5130	4140	2290	2140
9	2000	3180	2460	e2000	2560	2680	2210	4650	5370	3140	2460	2250
10	2010	3310	2430	e2100	2530	2620	2110	5620	6070	2190	2740	2340
11	1970	3160	2460	e2200	2510	1990	2070	6860	6550	1680	3910	2310
12	1940	3090	2420	e2300	2460	2400	2140	8470	7530	1400	4680	2690
13	1900	3070	2400	e3000	2170	2400	2130	10800	8420	1160	4880	3010
14	1980	2970	2450	e3050	2460	2320	2950	11700	7770	1040	5160	3110
15	2070	2890	2480	e3100	2490	2280	3440	9390	6560	954	5090	3170
16	2120	2840	2490	e3400	2460	2170	2980	7320	5900	1010	4960	3240
17	1530	2800	2490	e3500	2430	1730	2710	6800	5170	1120	4590	3400
18	1860	2680	2490	e3400	2500	1880	2500	6510	4680	1270	6090	3650
19	2010	2590	2340	e3200	2520	1700	2420	5730	4440	1330	6720	4010
20	1990	2510	1350	e3200	2450	1990	2260	5060	4410	1230	6350	4390
21	1980	2450	e1300	e3200	2400	1980	2100	4920	4400	1190	5840	4550
22	2000	2440	e1200	e3100	2250	1950	2130	4590	4230	1130	5170	4690
23	2050	2450	e1200	e3100	2370	1860	2520	4460	4710	1060	4430	4730
24	2110	2490	e1300	e3100	2380	1440	2410	4210	4980	933	3900	4640
25	2130	2520	e1400	e3000	2460	1050	2470	3740	5410	890	3440	4340
26	2150	2580	e1500	e2800	2500	1040	2570	3450	5620	886	2930	4050
27	2180	2540	e1600	e2700	2500	1720	2530	3190	6610	877	2550	3870
28	2230	2510	e1600	e2700	2510	1870	2320	3030	7810	948	2240	3600
29	2200	2470	e1600	e2700	---	2020	2060	2930	8720	852	1950	2790
30	2070	2490	e1500	e2600	---	2090	2140	3010	8300	758	1730	3230
31	2130	---	e1500	e2600	---	2090	---	4770	---	746	1650	---
TOTAL	61670	82400	63270	77900	68540	65450	70970	156420	177590	80774	104806	94590
MEAN	1989	2747	2041	2513	2448	2111	2366	5046	5920	2606	3381	3153
MAX	2230	3310	2490	3500	2600	2680	3440	11700	8720	9100	6720	4730
MIN	1140	2410	1200	1100	2170	1040	1900	2220	4230	746	783	1760
AC-FT	122300	163400	125500	154500	135900	129800	140800	310300	352200	160200	207900	187600

e Estimated

# PLATTE RIVER BASIN

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06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1285	1382	1404	1505	2033	2411	2087	2315	2592	1210	625	992
MAX	6970	5250	4607	4955	7065	7051	9906	12190	17000	10810	5865	6575
(WY)	1974	1985	1985	1984	1984	1984	1984	1984	1983	1983	1983	1983
MIN	.000	.000	.000	37.0	418	769	544	148	20.0	.000	.000	.000
(WY)	1942	1942	1942	1942	1942	1957	1967	1955	1956	1953	1953	1953

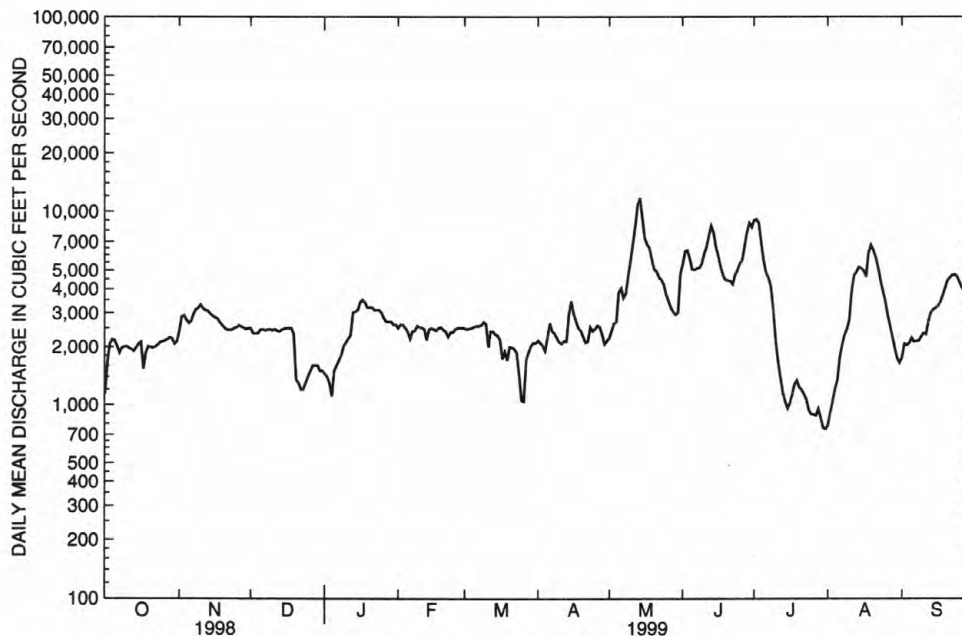
## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1942 - 1999 (SINCE STORAGE IN LAKE MCCONAUGHY)

ANNUAL TOTAL	959652	1104380	
ANNUAL MEAN	2629	3026	1649
MEDIAN OF ANNUAL MEANS			1245
HIGHEST ANNUAL MEAN			5380
LOWEST ANNUAL MEAN			414
HIGHEST DAILY MEAN	7540	Apr 8	11700
LOWEST DAILY MEAN	423	Aug 24	746
ANNUAL SEVEN-DAY MINIMUM	540	Aug 22	836
INSTANTANEOUS PEAK FLOW (STAGE)			12300
INSTANTANEOUS PEAK STAGE			4.62
ANNUAL RUNOFF (AC-FT)	1903000	2191000	1195000
10 PERCENT EXCEEDS	4290	5350	3300
50 PERCENT EXCEEDS	2490	2490	1180
90 PERCENT EXCEEDS	1200	1400	138

\* No flow at times in many years.

\*\* Maximum for period of record (1934-98) 30,000 ft<sup>3</sup>/s June 6, 1935.

\*\*\* Backwater from ice.



PLATTE RIVER NEAR GRAND ISLAND



## PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

## WATER-QUALITY RECORDS

Platte River Tributaries Study

## WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	10...	1500	2.74	3290	924	8.7	.5	4.5	706	12.5	105	--	<.010
FEB	16...	1600	2.40	2440	10	8.6	8.0	6.5	712	12.4	108	--	<.010
APR	07...	1030	2.45	2400	970	8.3	16.0	11.5	710	13.6	134	--	<.010
MAY	13...	0900	4.46	10200	985	8.1	17.0	16.0	713	7.9	86	--	<.010
	18...	1230	3.38	6650	983	8.3	19.0	17.0	716	9.8	108	--	<.010
JUN	16...	0930	3.23	5950	910	8.0	12.5	16.0	718	9.1	98	--	<.010
JUL	14...	1030	1.76	1070	848	8.6	25.0	23.0	707	9.7	123	--	<.010
AUG	18...	0900	3.25	5870	839	8.3	24.0	24.0	713	--	--	--	<.010
SEP	14...	1300	2.57	3100	890	8.9	20.0	18.5	717	11.8	134	--	<.010

DATE		NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV	10...	1.47	.043	.32	.26	.36	.30	1.8	1.8	.098	.068	.076
FEB	16...	2.25	.057	.75	.30	.81	.36	2.6	3.1	.177	.077	.071
APR	07...	1.65	<.020	--	--	.87	.33	2.0	2.5	.187	.068	.067
MAY	13...	.876	<.020	--	--	1.3	.62	1.5	2.1	<.050	.104	.082
	18...	1.47	<.020	--	--	.95	.68	2.1	2.4	.237	.106	.095
JUN	16...	1.50	.025	1.1	.37	1.1	.40	1.9	2.6	.448	.282	.260
JUL	14...	<.050	<.020	--	--	1.7	.34	--	--	.264	.010	<.010
AUG	18...	.691	<.020	--	--	1.4	.30	.99	2.1	.323	.017	.069
SEP	14...	.073	<.020	--	--	1.7	.32	.39	1.8	.223	<.050	<.011

# PLATTE RIVER BASIN

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06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

## WATER-QUALITY RECORDS Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO <sub>4</sub> ) (00660)	ACETO- CHLOR, WATER, FLTRD REC (µ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC, REC (µ G/L) (46342)	ATRA- ZINE, WATER, DISS, REC (µ G/L) (39632)	CYANA- ZINE, WATER, DISS, REC (µ G/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µ G/L) (04040)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µ G/L) (82630)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PROP- CHLOR, WATER, DISS, REC (µ G/L) (04024)	SI- MAZINE, WATER, DISS, REC (µ G/L) (04035)
NOV											
10...	.23	<.0500	<.050	.080	<.0500	.0900	<.050	<.050	<.0500	<.0500	<.0500
FEB											
16...	.22	<.0500	<.050	.060	<.0500	.100	<.050	<.050	<.0500	<.0500	<.0500
APR											
07...	.21	<.0500	<.050	.080	<.0500	.100	<.050	<.050	<.0500	<.0500	<.0500
MAY											
13...	.25	<.0500	<.050	.160	<.0500	.0700	.050	<.050	<.0500	<.0500	<.0500
18...	.29	--	--	--	--	--	--	--	--	--	--
JUN											
16...	.80	<.0500	<.050	1.43	<.0500	.220	.160	<.050	<.0500	<.0500	<.0500
JUL											
14...	--	<.0500	<.050	.480	<.0500	.380	.100	<.050	<.0500	<.0500	<.0500
AUG											
18...	.21	<.0500	<.050	.170	<.0500	.0900	<.050	<.050	<.0500	<.0500	<.0500
SEP											
14...	--	<.0500	<.050	.130	<.0500	.0700	<.050	<.050	<.0500	<.0500	<.0500

## PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER-QUALITY RECORDS  
Ecosystem Platte River Data Collection

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

HYDROLOGIC UNIT CODE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DRAIAGE AREA (SQ. MI.) (81024)	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	GAGE HEIGHT (FEET) (00065)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)
10200101	05-07-99	1100	1832	57650	60.0	--	3590
10200101	05-07-99	1101	1832	57650	120	--	3590
10200101	05-07-99	1102	1832	57650	180	--	3590
10200101	05-07-99	1103	1832	57650	240	--	3590
10200101	05-07-99	1104	1832	57650	300	--	3590
10200101	05-07-99	1105	1832	57650	360	--	3590
10200101	05-07-99	1106	1832	57650	420	--	3590
10200101	05-07-99	1108	1832	57650	480	--	3590
10200101	05-07-99	1109	1832	57650	540	--	3590
10200101	05-07-99	1110	1832	57650	600	--	3590
10200101	05-07-99	1111	1832	57650	660	--	3590
10200101	05-07-99	1112	1832	57650	720	--	3590
10200101	05-07-99	1113	1832	57650	780	--	3590
10200101	05-07-99	1114	1832	57650	840	--	3590
10200101	05-09-99	1600	1832	57650	--	--	4750
10200101	05-10-99	1500	1832	57650	--	--	5740
10200101	05-10-99	1600	1832	57650	--	--	5780
10200101	05-12-99	1400	1832	57650	--	--	8670
10200101	05-14-99	1500	1832	57650	--	--	11600
10200101	05-15-99	0900	1832	57650	--	--	9780
10200101	05-15-99	1000	1832	57650	--	--	9550
10200101	05-17-99	1600	1832	57650	--	--	6720
10200101	05-18-99	1100	1832	57650	--	--	6720
10200101	05-19-99	1000	1832	57650	--	--	5910
10200101	05-26-99	0900	1832	57650	--	2.59	3590
10200101	06-16-99	1130	1832	57650	--	--	5930
10200101	06-29-99	1500	1832	57650	--	--	9050
10200101	07-09-99	1000	1832	57650	--	2.70	3200
10200101	07-26-99	1600	1832	57650	--	1.60	863
10200101	08-18-99	1100	1832	57650	--	3.26	5950
10200101	08-30-99	1600	1832	57650	--	2.05	1700

# PLATTE RIVER BASIN

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06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

## WATER-QUALITY RECORDS Ecosystem Platte River Data Collection

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SEDI- MENT, SUS- PENDED (MG/L) (80154)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0MM (80173)
05-07-99	--	.0	.2	7.6	60.8	89.5	96.8	99.1	100	--	--
05-07-99	--	.0	.3	9.2	42.8	78.5	93.2	98.9	100	--	--
05-07-99	--	.0	.3	18.3	91.2	99.1	99.6	99.8	100	--	--
05-07-99	--	.1	2.0	9.8	20.5	40.3	64.0	85.2	99.0	100	--
05-07-99	--	.0	.1	3.6	31.1	71.8	91.9	98.8	100	--	--
05-07-99	--	.0	.3	6.4	21.7	60.8	83.0	91.7	98.3	100	--
05-07-99	--	.0	.0	2.4	26.1	69.5	87.4	95.7	98.9	100	--
05-07-99	--	.0	.1	2.3	17.8	43.6	71.2	91.1	99.7	100	--
05-07-99	--	.0	.2	3.7	30.9	67.0	86.4	95.3	98.9	100	--
05-07-99	--	.0	.1	3.2	42.5	83.0	95.2	98.6	100	--	--
05-07-99	--	.0	.1	3.1	31.4	67.7	89.3	97.3	100	--	--
05-07-99	--	.0	.1	1.7	16.9	46.6	69.4	87.4	97.9	100	--
05-07-99	--	.5	6.7	36.8	49.0	70.4	90.3	97.2	99.3	100	--
05-07-99	--	.0	.3	8.9	43.9	72.8	89.7	98.4	100	--	--
05-09-99	318	--	--	--	--	--	--	--	--	--	--
05-10-99	337	--	--	--	--	--	--	--	--	--	--
05-10-99	--	.0	.3	7.0	40.6	67.8	83.8	94.4	99.3	100	--
05-12-99	306	--	--	--	--	--	--	--	--	--	--
05-14-99	225	--	--	--	--	--	--	--	--	--	--
05-15-99	--	.0	.2	8.1	43.6	72.9	86.6	94.6	98.2	100	--
05-15-99	333	--	--	--	--	--	--	--	--	--	--
05-17-99	178	--	--	--	--	--	--	--	--	--	--
05-18-99	206	--	--	--	--	--	--	--	--	--	--
05-19-99	158	--	--	--	--	--	--	--	--	--	--
05-26-99	--	.0	.3	6.9	30.2	53.5	73.7	87.5	95.9	98.0	100
06-16-99	--	.0	.2	6.2	35.8	67.5	84.0	92.4	96.7	96.7	100
06-29-99	--	.0	.3	7.2	41.9	74.1	89.7	97.8	100	--	--
07-09-99	--	.0	.2	6.4	33.8	64.0	82.8	93.6	98.9	100	--
07-26-99	--	.1	.4	7.2	38.9	67.4	87.1	97.7	99.5	100	--
08-18-99	--	.0	.3	7.2	38.3	70.6	86.0	95.0	97.5	100	--
08-30-99	--	.0	.2	6.1	25.7	49.8	73.1	90.2	100	--	--

## PLATTE RIVER BASIN

06772000 WOOD RIVER NEAR ALDA, NE

WATER-QUALITY RECORDS  
Platte River Tributaries Study

LOCATION.--Lat 40°51'10", long 98°28'20", in NE1/4 SE1/4 sec.7, T.10 N., R.10 W., Hall County.

DRAINAGE AREA.--599 mi<sup>2</sup>.

PERIOD OF RECORD.--Water years 1966, 1974, October 1997 to current year.

## WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
NOV	10... 1330	4.34	6.5	1510	8.5	.5	4.0	706	13.6	113	7.55	.098
FEB	16... 1500	4.36	4.1	1150	8.6	7.0	8.0	712	14.7	133	5.62	.128
APR	07... 0900	4.97	16	1490	8.2	11.5	10.0	710	--	--	7.59	.730
MAY	12... 1830	5.08	22	942	8.4	16.5	21.0	710	8.6	104	6.69	.151
JUN	01... 1430	6.23	68	1320	7.9	24.2	19.5	7	7.1	0	7.95	.342
	15... 1600	7.62	159	255	7.4	16.0	18.0	714	7.3	82	2.81	.041
JUL	14... 0830	5.40	35	1360	8.2	23.0	22.0	707	7.5	93	13.4	.054
AUG	17... 1800	4.90	18	643	8.2	26.0	29.5	713	6.7	95	5.53	.012
SEP	14... 1100	4.54	6.2	1400	8.6	17.0	15.5	716	11.7	126	12.2	.044

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV 10...	7.65	3.48	1.5	1.6	5.0	5.0	13	13	2.27	2.48	2.41
FEB 16...	5.75	3.91	--	1.1	<.10	5.0	11	--	1.59	1.43	1.27
APR 07...	8.32	2.32	2.7	1.8	5.0	4.1	12	13	1.65	1.50	1.22
MAY 12...	6.84	.072	2.5	.96	2.6	1.0	7.9	9.4	<.050	1.27	1.08
JUN 01...	8.29	.240	4.6	.75	4.8	.99	9.3	13	2.21	1.17	1.35
15...	2.85	.026	6.1	.66	6.1	.69	3.5	9.0	2.93	.766	.754
JUL 14...	13.4	.022	1.5	.74	1.6	.76	14	15	1.29	1.00	.918
AUG 17...	5.54	.020	1.7	.86	1.7	.88	6.4	7.3	1.23	1.03	1.09
SEP 14...	12.2	<.020	--	--	1.1	.78	13	13	.809	.748	.705



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WATER-QUALITY RECORDS  
Platte River Tributaries Study[illegible]

## PLATTE RIVER BASIN

06772775 WARM SLOUGH NEAR CENTRAL CITY, NE

LOCATION.--Lat 41°05'27", long 98°04'39", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.13, T.11 N., R. 7 W., Merrick County, Hydrologic Unit 10200103, on downstream side of county road bridge, 4 mi southwest of Central City.

## WATER-DISCHARGE-RECORDS

PERIOD OF RECORD.--May 1996 to current year.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WDR CO-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,718 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.27	4.1	e2.5	.00	9.7	7.3	19	51	48	.34	.00
2	e.00	1.2	4.4	e2.3	.57	9.2	6.3	18	99	57	.01	.00
3	e.00	1.8	4.6	e2.2	4.1	8.6	6.5	20	108	50	.44	.00
4	e.00	1.9	4.5	e2.2	5.1	8.8	6.3	21	90	39	.00	.00
5	e.10	2.2	4.5	e2.4	6.0	8.4	11	24	65	28	.22	.00
6	e.13	2.2	4.1	e2.6	6.0	7.1	31	28	36	21	.98	.00
7	e.13	2.4	3.8	e3.0	6.3	6.8	38	29	26	21	.06	.00
8	e.13	3.0	3.6	e2.7	6.3	8.1	39	29	22	13	.00	.00
9	e.13	4.3	3.6	e3.0	5.8	7.7	29	25	18	10	.00	.00
10	e.13	8.7	3.0	e3.0	6.0	8.0	23	22	16	7.4	.00	.00
11	e.13	9.3	3.2	e3.0	5.4	8.5	20	19	21	6.3	.13	.00
12	e.13	10	3.4	e3.0	6.4	9.0	20	18	18	5.0	.00	.00
13	e.13	10	3.4	e3.0	5.6	9.1	20	16	16	4.0	.00	.00
14	e.13	10	3.4	e3.0	4.2	9.2	26	14	15	3.0	.00	.00
15	e.12	9.3	4.3	e3.0	4.4	9.6	103	20	15	2.3	.00	.00
16	e.11	8.9	3.5	e3.0	3.9	9.8	135	26	18	1.6	.00	.00
17	e.11	8.0	3.3	e3.0	3.9	8.8	88	28	22	1.5	.00	.00
18	e.11	7.9	3.7	e3.0	4.1	7.4	62	31	23	2.8	2.9	.00
19	e.10	6.7	4.8	e3.0	3.8	6.9	43	29	25	2.9	1.5	.00
20	e.10	6.4	e4.0	e3.0	3.8	6.7	34	45	24	3.3	2.0	.00
21	e.10	6.4	e3.0	e3.0	3.6	6.6	30	76	20	2.7	2.0	.00
22	e.10	6.5	e1.9	e3.0	6.9	7.8	26	82	16	1.5	1.7	.00
23	.09	5.9	e2.0	e3.0	9.6	8.1	23	79	19	1.0	1.9	.00
24	.17	5.8	e2.1	e2.9	4.7	9.0	21	72	27	.66	1.7	.00
25	.25	5.6	e2.3	e2.7	5.6	8.7	21	70	27	.67	1.0	.00
26	.25	5.4	e2.5	e2.0	8.3	8.5	21	70	25	.00	.34	.00
27	.28	5.2	e3.0	e1.5	11	8.7	22	62	33	.76	.41	.00
28	.37	5.1	e3.0	e1.2	9.9	7.8	22	23	39	.44	.00	.00
29	.49	5.3	e3.0	e1.0	---	6.9	20	20	35	.26	.00	.00
30	.23	4.7	e3.0	e.45	---	7.3	19	19	34	.00	.00	.00
31	.13	---	e2.4	.09	---	7.5	---	18	---	.72	.00	---
TOTAL	4.38	170.37	105.4	76.74	151.27	254.3	973.4	1072	1003	335.81	17.63	0.00
MEAN	.14	5.68	3.40	2.48	5.40	8.20	32.4	34.6	33.4	10.8	.57	.000
MAX	.49	10	4.8	3.0	11	9.8	135	82	108	57	2.9	.00
MIN	.00	.27	1.9	.09	.00	6.6	6.3	14	15	.00	.00	.00
AC-FT	8.7	338	209	152	300	504	1930	2130	1990	666	35	.00

e Estimated

# PLATTE RIVER BASIN

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06772775 WARM SLOUGH NEAR CENTRAL CITY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.50	11.5	7.66	5.96	9.07	13.4	29.0	27.9	36.8	3.89	.84.57	
MAX	19.4	23.1	14.4	9.50	14.0	23.2	66.7	36.8	68.2	10.8	2.73	2.26
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1999	1997	1997
MIN	.000	5.68	3.40	2.48	5.40	8.20	.000	16.3	10.8	.52	.000	.000
(WY)	1997	1999	1999	1999	1999	1999	1996	1997	1997	1996	1996	1996

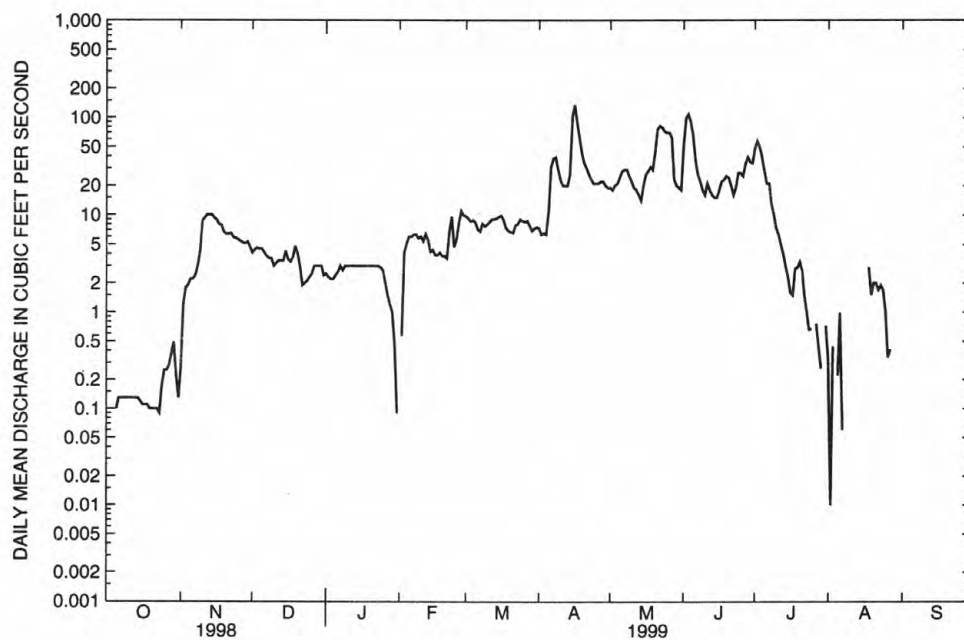
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1996 - 1999

ANNUAL TOTAL	6980.69	4164.30	
ANNUAL MEAN	19.1	11.4	13.8
HIGHEST ANNUAL MEAN			23.1
LOWEST ANNUAL MEAN			6.92
HIGHEST DAILY MEAN	413	Apr 8	413
LOWEST DAILY MEAN	.00	Jul 21	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 13	.00
INSTANTANEOUS PEAK FLOW		157	443
INSTANTANEOUS PEAK STAGE		6.03	8.04
ANNUAL RUNOFF (AC-FT)	13850	8260	10010
10 PERCENT EXCEEDS	48	29	30
50 PERCENT EXCEEDS	6.2	4.1	6.0
90 PERCENT EXCEEDS	.00	.00	.00



WARM SLOUGH NEAR CENTRAL CITY

## PLATTE RIVER BASIN

06772775 WARM SLOUGH NEAR CENTRAL CITY, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
NOV	23...	1200	3.23	5.9	860	7.5	7.0	724	9.7	84	9.54	.056
FEB	28...	0830	3.57	10	701	--	3.4	771	9.4	70	9.00	.100
APR	08...	1400	4.68	41	672	18.0	16.5	693	8.9	100	3.38	.050
MAY	12...	1630	3.87	17	762	19.5	21.0	720	14.7	175	7.50	.062
	18...	1030	4.49	31	714	16.5	14.5	720	9.9	103	4.93	.059
JUN	16...	1300	3.88	18	800	16.4	14.3	724	9.6	99	9.93	.056
JUL	14...	1800	3.08	3.4	711	35.0	30.0	--	15.7	--	9.19	.081
AUG	18...	1430	3.15	3.4	497	29.0	27.0	717	6.2	83	1.65	.101

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV 23...	9.60	.021	.48	.50	.50	.52	10	10	.158	.140	.131
FEB 28...	9.10	<.020	--	--	.78	.43	9.5	9.9	.087	.045	.043
APR 08...	3.43	.079	1.5	1.1	1.6	1.2	4.6	5.0	.240	.179	.141
MAY 12...	7.56	.031	1.0	.51	1.1	.54	8.1	8.6	.181	.129	.109
18...	4.99	.024	1.1	.75	1.1	.78	5.8	6.1	.217	.164	.137
JUN 16...	9.98	.067	.88	.59	.95	.66	11	11	.286	.215	.201
JUL 14...	9.27	<.020	--	--	1.0	.58	9.9	10	.184	.124	.108
AUG 18...	1.75	<.020	--	--	1.6	.76	2.5	3.3	.381	.229	.203

## PLATTE RIVER BASIN

06772775 WARM SLOUGH NEAR CENTRAL CITY, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO <sub>4</sub> ) (00660)	ACETO- CHLOR, WATER FLTRD REC (µ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC, REC (µ G/L) (46342)	ATRA- ZINE, WATER, DISS, REC (µ G/L) (39632)	CYANA- ZINE, WATER, DISS, REC (µ G/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µ G/L) (04040)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µ G/L) (82630)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PROP- CHLOR, WATER, DISS, REC (µ G/L) (04024)	SI- MAZINE, WATER, DISS, REC (µ G/L) (04035)
NOV 23...	.40	<.0500	<.050	.170	<.0500	.520	<.050	<.050	<.0500	<.0500	<.0500
FEB 28...	.13	<.0500	<.050	.130	<.0500	.400	<.050	<.050	<.0500	<.0500	<.0500
APR 08...	.43	<.0500	<.050	.080	<.0500	.260	<.050	<.050	<.0500	<.0500	<.0500
MAY 12...	.33	.0500	<.050	.310	<.0500	.540	.050	<.050	<.0500	<.0500	<.0500
18...	.42	--	--	--	--	--	--	--	--	--	--
JUN 16...	.62	<.0500	<.050	.220	<.0500	.490	<.050	<.050	<.0500	<.0500	<.0500
JUL 14...	.33	.310	<.050	.500	<.0500	.730	.070	<.050	<.0500	<.0500	<.0500
AUG 18...	.62	<.0500	<.050	.240	<.0500	.280	.050	<.050	<.0500	<.0500	<.0500



## PLATTE RIVER BASIN

06772898 SILVER CREEK, AT MILE 4, NEAR SILVER CREEK, NE

LOCATION.--Lat 41°17'51", long 097°42'50", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec. 6, T.15 N., R. 3 W., Merrick County, Hydrologic Unit 10200103, on downstream side of county road bridge, 3 mi southwest of Silver Creek, and at mile 4.0.

DRAINAGE AREA.--160 mi<sup>2</sup>, approximately.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,556 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor.

REVISIONS.--The maximum discharge for the water year 1998 has been revised to 1,670 ft<sup>3</sup>/s, Apr. 8, 1998, gage height, 8.42 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	9.1	19	e11	21	23	25	52	2100	220	14	3.4
2	3.9	14	19	e11	21	23	24	54	1850	162	14	3.0
3	3.4	17	19	e11	23	22	25	58	853	123	14	2.7
4	4.5	18	18	e11	21	22	23	60	412	92	14	2.5
5	6.4	19	17	e11	22	21	34	68	222	76	13	2.4
6	5.6	19	16	e11	21	20	68	83	140	68	16	2.1
7	e5.5	20	16	e12	22	21	73	80	100	62	17	2.0
8	e5.4	21	e15	e12	22	23	72	67	84	59	15	1.8
9	e5.3	23	e15	e12	21	21	63	58	75	59	14	1.6
10	e5.1	30	e15	e12	22	21	56	52	74	53	13	1.5
11	e4.9	30	e15	e12	21	21	47	50	72	51	15	1.3
12	e4.8	31	e15	e12	21	22	43	47	70	46	16	1.2
13	4.7	32	e14	e13	23	22	41	45	67	41	14	1.1
14	5.0	31	e14	e13	22	23	83	43	64	37	13	.92
15	5.3	30	e13	e13	22	23	336	56	67	34	12	.88
16	5.6	30	e13	13	21	23	273	70	81	34	12	.84
17	5.7	28	e13	16	21	21	187	91	83	34	11	.86
18	5.2	28	e13	15	22	20	140	107	75	45	11	.86
19	5.1	26	e13	15	21	20	111	90	70	40	11	.77
20	5.2	26	e12	16	21	20	96	102	69	35	9.5	.83
21	5.3	26	e9.0	18	21	19	87	214	66	32	8.6	.84
22	5.4	27	e8.0	17	18	23	78	212	62	31	7.7	.77
23	5.7	25	e7.0	18	15	26	72	289	65	29	7.0	.79
24	6.8	24	e7.0	18	e19	28	68	253	65	28	6.2	.85
25	7.1	24	e8.0	17	e23	27	67	172	62	25	5.4	.77
26	7.4	23	e9.0	18	25	26	67	120	60	24	5.0	.77
27	7.7	22	e9.0	19	24	27	65	91	800	22	4.4	.79
28	9.1	21	e10	18	23	28	63	115	719	20	4.0	.77
29	9.5	22	10	19	---	25	61	116	402	18	3.7	.77
30	8.2	20	e10	20	---	25	55	129	270	16	3.6	.76
31	8.1	---	e11	19	---	26	---	467	---	15	3.3	---
TOTAL	179.0	716.1	402.0	453	599	712	2503	3511	9199	1631	327.4	40.44
MEAN	5.77	23.9	13.0	14.6	21.4	23.0	83.4	113	307	52.6	10.6	1.35
MAX	9.5	32	19	20	25	28	336	467	2100	220	17	3.4
MIN	2.1	9.1	7.0	11	15	19	23	43	60	15	3.3	.76
AC-FT	355	1420	797	899	1190	1410	4960	6960	18250	3240	649	80

e Estimated

# PLATTE RIVER BASIN

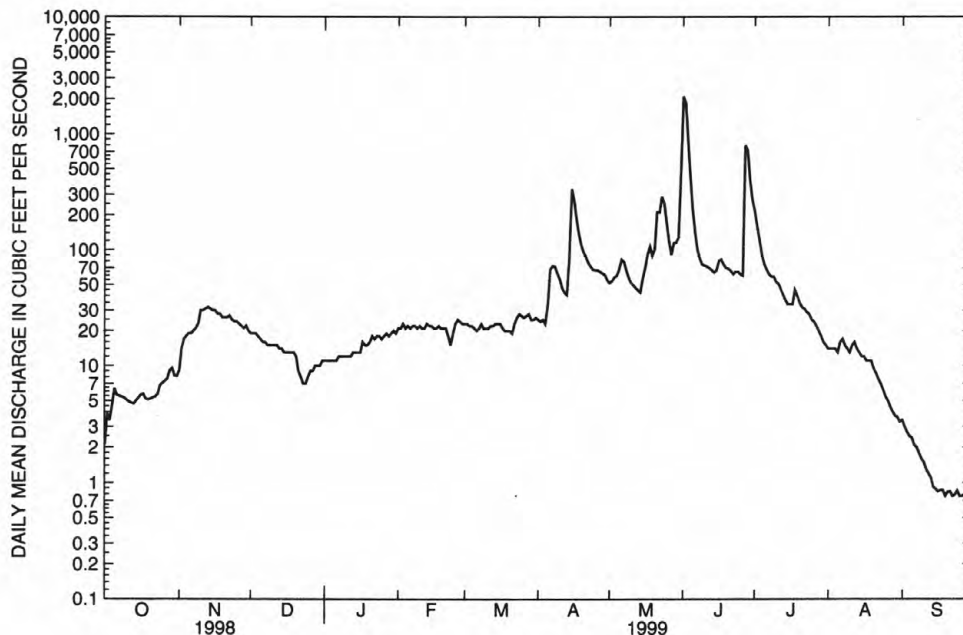
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06772898 SILVER CREEK, AT MILE 4, NEAR SILVER CREEK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.05	24.5	14.6	12.6	19.2	37.3	102	59.3	141	22.3	7.61	3.09
MAX	6.44	31.0	16.6	14.6	21.4	68.1	197	113	307	52.6	16.2	7.15
(WY)	1997	1997	1997	1999	1999	1998	1998	1999	1999	1999	1996	1996
MIN	5.77	18.6	13.0	11.0	15.5	20.8	25.2	36.3	26.1	4.93	.14	.61
(WY)	1999	1998	1999	1998	1998	1997	1997	1996	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1996 - 1999	
ANNUAL TOTAL	16875.95		20272.94			
ANNUAL MEAN	46.2		55.5		39.4	
HIGHEST ANNUAL MEAN					55.5	
LOWEST ANNUAL MEAN					16.7	
HIGHEST DAILY MEAN	1770	Apr 8	2100	Jun 1	2100	Jun 1 1999
LOWEST DAILY MEAN	.41	Aug 20	.76	Sep 30	.00	Aug 27 1997
ANNUAL SEVEN-DAY MINIMUM	1.0	Aug 14	.78	Sep 24	.00	Aug 27 1997
INSTANTANEOUS PEAK FLOW			3070	Jun 1	3070	Jun 1 1999
INSTANTANEOUS PEAK STAGE			9.11	Jun 1	9.11	Jun 1 1999
ANNUAL RUNOFF (AC-FT)	33470		40210		28530	
10 PERCENT EXCEEDS	81		88		68	
50 PERCENT EXCEEDS	15		21		15	
90 PERCENT EXCEEDS	3.5		4.0		1.9	



SILVER CREEK, AT MILE 4, NEAR SILVER CREEK

## PLATTE RIVER BASIN

06772898 SILVER CREEK, AT MILE 4, NEAR SILVER CREEK, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	23...	1400	4.33	25	696	8.5	10.0	9.0	729	9.9	90	13.4	.046
FEB	28...	1030	4.39	23	647	8.2	--	4.6	771	9.9	76	15.1	.120
APR	08...	1100	4.98	70	651	8.1	13.0	12.5	709	9.7	98	9.97	.093
MAY	12...	1430	4.92	46	672	8.3	20.5	22.5	724	10.3	126	12.8	.044
	18...	0900	5.45	109	590	8.1	13.5	13.0	729	9.4	94	8.81	.063
JUN	16...	1530	5.22	83	650	8.0	16.0	17.0	726	9.0	98	11.1	.035
JUL	14...	2000	4.72	35	681	8.3	30.0	28.0	--	8.1	--	12.6	.046
AUG	18...	1600	4.49	11	611	8.7	30.0	31.0	720	10.9	157	9.92	.106
SEP	14...	1630	4.20	.91	571	8.7	19.0	23.5	723	16.2	202	11.1	.100

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV											
23...	13.5	.021	.56	.44	.58	.46	14	14	.150	.137	.128
FEB											
28...	15.2	<.020	--	--	.86	.59	16	16	.226	.187	.183
APR											
08...	10.1	.088	1.6	1.1	1.7	1.2	11	12	.465	.393	.338
MAY											
12...	12.8	.024	.69	.51	.72	.53	13	14	.185	.163	.140
18...	8.87	.077	1.7	1.1	1.8	1.2	10	11	.461	.366	.362
JUN											
16...	11.1	.034	.84	.67	.88	.70	12	12	.261	.204	.182
JUL											
14...	12.6	<.020	--	--	.80	.54	13	13	.125	.095	.081
AUG											
18...	10.0	<.020	--	--	.97	.56	11	11	.076	.033	.018
SEP											
14...	11.2	<.020	--	--	.61	.47	12	12	.027	.009	<.010

# WATER-QUALITY RECORDS

## Platte River Tributaries Study

[illegible]

## PLATTE RIVER BASIN

06773050 PRAIRIE CREEK NEAR OVINA, NE

LOCATION.--Lat 40°59'03", long 098°24'59", in NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.26, T.12 N., R.10 W., Hall County, Hydrologic Unit 10200103, on downstream side of right pier of Hall County bridge number 18V7 on Engelman Road, 1.75 mi north of the Highway 2, Airport Road, and Engelman Road intersection.

DRAINAGE AREA.--132 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1991 to September 1995 (partial years only, 1991-1993, 1995). November 1996 to September 1999 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,873 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated period, which are poor. Natural flow of stream affected by beaver activity, small pump diversions, and runoff from irrigation above gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.52	1.7	e.80	2.5	2.0	2.4	4.2	577	144	23	6.4
2	.12	1.1	1.5	e.90	2.7	2.2	2.1	5.0	1010	158	19	5.2
3	.27	1.4	1.6	e.90	2.6	2.2	2.2	12	779	74	19	6.7
4	.31	1.1	1.8	e.90	2.6	2.1	2.5	25	163	33	18	8.5
5	.31	.77	1.7	e.80	2.8	2.1	4.5	297	61	25	16	5.5
6	.31	.70	1.4	e1.0	2.5	2.0	11	301	36	23	20	4.6
7	.37	.68	1.4	e1.2	2.4	1.9	4.9	105	28	22	21	4.9
8	.31	.93	1.6	e1.3	2.1	2.1	3.1	33	26	22	17	4.7
9	.28	1.2	1.4	e1.4	2.3	2.1	2.7	18	25	21	11	4.1
10	.38	1.3	1.4	e1.2	2.5	2.0	2.6	14	73	21	9.3	3.8
11	.31	1.3	1.4	e1.4	2.5	2.0	2.4	11	233	22	20	3.5
12	.28	1.1	1.5	e2.2	3.0	1.9	2.5	9.2	191	22	58	3.3
13	.25	1.1	1.5	e2.3	2.3	2.0	2.5	8.2	69	23	38	3.2
14	.38	1.1	1.7	2.3	2.2	2.2	18	9.1	39	26	26	3.1
15	.39	1.1	1.4	2.5	2.3	2.1	58	50	37	25	12	3.1
16	.41	1.1	1.4	2.8	2.1	1.7	19	75	235	29	7.8	3.0
17	.36	1.2	1.4	2.8	2.2	2.3	8.8	33	166	36	6.1	3.1
18	.37	1.2	e1.0	e2.7	2.2	2.3	6.2	22	55	28	28	3.0
19	.33	1.1	e.80	2.5	2.2	2.1	4.8	14	38	31	37	2.8
20	.33	1.2	e.60	2.6	1.9	2.0	3.8	39	30	29	59	3.0
21	.36	1.2	e.70	2.6	.2.1	2.1	3.9	151	28	26	26	3.3
22	.48	1.4	e.80	3.2	4.0	2.2	4.0	52	26	28	11	3.0
23	.67	1.5	e.90	2.3	2.7	2.4	3.9	388	162	35	7.1	3.0
24	.45	1.3	e1.2	2.2	2.3	2.4	3.9	238	195	30	6.6	3.1
25	.47	1.5	1.4	2.4	2.3	2.2	4.3	55	107	27	9.2	3.0
26	.51	1.4	e1.3	2.3	2.2	2.2	5.4	24	38	23	12	2.8
27	.51	1.5	e1.2	2.3	2.2	2.2	5.0	19	52	21	12	2.8
28	.56	1.6	e1.1	2.5	2.2	2.2	4.3	286	48	29	11	2.8
29	.67	1.5	e1.0	2.5	---	2.2	4.4	113	30	30	9.5	2.9
30	.55	1.5	e.90	2.3	---	2.2	4.3	79	36	31	8.5	2.8
31	.83	---	e.70	2.4	---	1.8	---	242	---	25	7.0	---
TOTAL	12.21	35.60	39.40	61.50	67.9	65.4	207.4	2731.7	4593	1119	585.1	115.0
MEAN	.39	1.19	1.27	1.98	2.42	2.11	6.91	88.1	153	36.1	18.9	3.83
MAX	.83	1.6	1.8	3.2	4.0	2.4	58	388	1010	158	59	8.5
MIN	.08	.52	.60	.80	1.9	1.7	2.1	4.2	25	21	6.1	2.8
AC-FT	24	71	78	122	135	130	411	5420	9110	2220	1160	228

e Estimated



# PLATTE RIVER BASIN

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06773050 PRAIRIE CREEK NEAR OVINA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.49	3.78	3.47	3.31	3.94	6.77	12.7	29.7	42.9	33.5	15.9	2.84
MAX	6.90	5.25	4.62	4.40	4.63	11.9	36.3	88.1	153	109	46.6	8.70
(WY)	1998	1998	1994	1994	1998	1994	1998	1999	1999	1993	1997	1997
MIN	.39	1.19	1.27	1.98	2.42	2.11	4.73	4.85	6.12	5.47	5.00	.14
(WY)	1999	1999	1999	1999	1999	1999	1997	1994	1997	1997	1998	1991

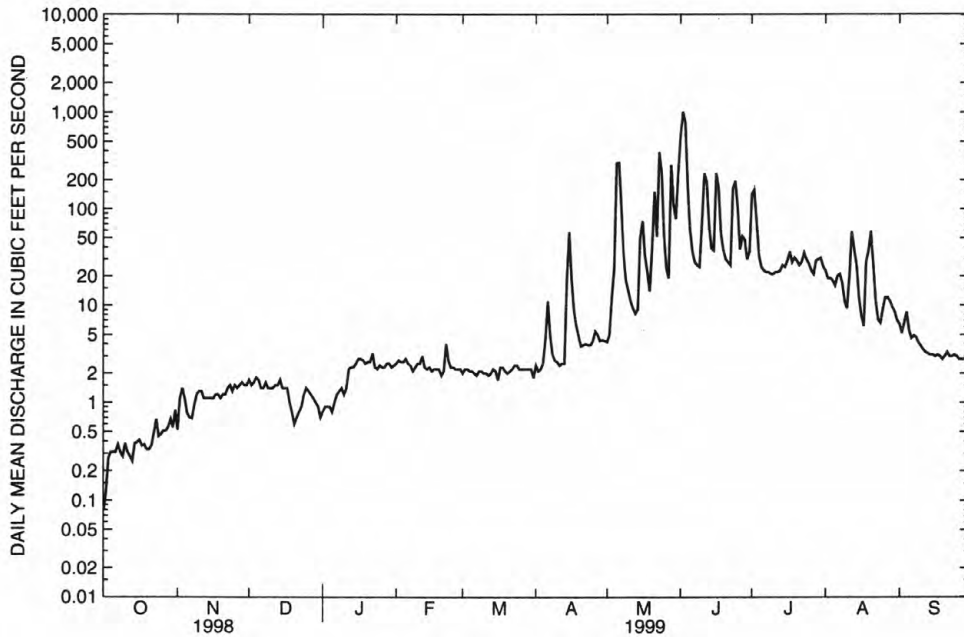
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1991 - 1999

ANNUAL TOTAL	3787.61	9633.21	
ANNUAL MEAN	10.4	26.4	14.7
HIGHEST ANNUAL MEAN			26.4
LOWEST ANNUAL MEAN			6.17
HIGHEST DAILY MEAN	206	May 24	1080
LOWEST DAILY MEAN	.08	Oct 1	.00
ANNUAL SEVEN-DAY MINIMUM	.10	Sep 26	.00
INSTANTANEOUS PEAK FLOW			1290
INSTANTANEOUS PEAK STAGE			10.77
ANNUAL RUNOFF (AC-FT)	7510	19110	10640
10 PERCENT EXCEEDS	21	49	26
50 PERCENT EXCEEDS	4.3	2.7	5.0
90 PERCENT EXCEEDS	.35	.74	1.0



PRAIRIE CREEK NEAR OVINA

## PLATTE RIVER BASIN

06773500 PRAIRIE CREEK NEAR SILVER CREEK, NE

LOCATION (REVISED).--Lat 41°19'43", long 097°40'30", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.28, T.16 N., R. 3 W., Merrick County, Hydrologic Unit 10200103, on the downstream side of bridge on Nebraska Highway 34, 2 mi northwest of Silver Creek.

DRAINAGE AREA.--492 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1949 to September 1953. October 1996 to current year.

REVISED RECORDS.--WDR NE-97-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,550 ft above sea level.

REMARKS.--Records good except for periods estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	9.1	23	e21	e29	34	29	67	692	356	64	33
2	8.6	12	23	e21	e29	33	25	70	954	292	64	29
3	9.8	17	21	e20	e29	31	28	70	735	313	61	28
4	12	17	22	e20	e29	33	27	77	731	324	58	26
5	16	18	22	e20	e30	29	38	89	825	263	54	25
6	12	19	21	e20	e30	28	76	109	874	186	61	25
7	11	22	20	e20	e30	28	101	164	685	150	67	26
8	10	21	20	e20	e30	33	111	280	309	128	66	19
9	9.9	24	19	e20	e30	30	108	241	195	200	63	17
10	9.6	33	21	e21	e31	29	89	156	163	156	54	17
11	8.9	40	19	e21	e31	30	69	124	147	125	54	17
12	8.4	38	20	e22	e31	31	60	106	151	113	55	15
13	8.7	39	20	e22	e31	32	53	e90	184	106	59	14
14	9.2	37	20	e23	e30	32	93	82	207	100	74	13
15	9.3	36	22	e23	e30	31	398	91	168	99	85	12
16	9.0	33	20	e24	e30	32	420	102	167	98	83	12
17	9.3	31	20	e25	e29	31	502	118	150	98	64	12
18	9.0	31	22	e25	e29	28	429	144	217	145	54	12
19	9.5	27	14	e25	e28	27	253	135	257	177	48	11
20	8.7	27	e13	e26	e28	26	159	131	192	127	50	12
21	8.5	27	e15	e26	e30	25	133	160	157	101	61	11
22	8.0	26	e16	e27	e31	29	108	248	138	95	64	12
23	7.9	26	e17	e27	e32	32	90	380	130	94	61	11
24	8.5	26	e18	e28	e31	33	81	444	127	93	43	11
25	8.3	25	e19	e28	e30	35	81	412	161	97	35	11
26	9.4	23	e20	e28	e29	35	80	473	246	96	32	9.7
27	9.8	23	e20	e28	e30	35	77	323	841	89	31	8.8
28	11	25	e21	e28	e34	32	76	204	1460	81	36	8.6
29	11	27	e22	e29	---	28	76	156	743	76	39	8.5
30	10	23	e22	e29	---	28	71	176	447	71	39	8.3
31	8.9	---	e22	e29	---	29	---	220	---	66	34	---
TOTAL	296.6	782.1	614	746	841	949	3941	5642	12453	4515	1713	474.9
MEAN	9.57	26.1	19.8	24.1	30.0	30.6	131	182	415	146	55.3	15.8
MAX	16	40	23	29	34	35	502	473	1460	356	85	33
MIN	6.4	9.1	13	20	28	25	25	67	127	66	31	8.3
AC-FT	588	1550	1220	1480	1670	1880	7820	11190	24700	8960	3400	942

e Estimated

# PLATTE RIVER BASIN

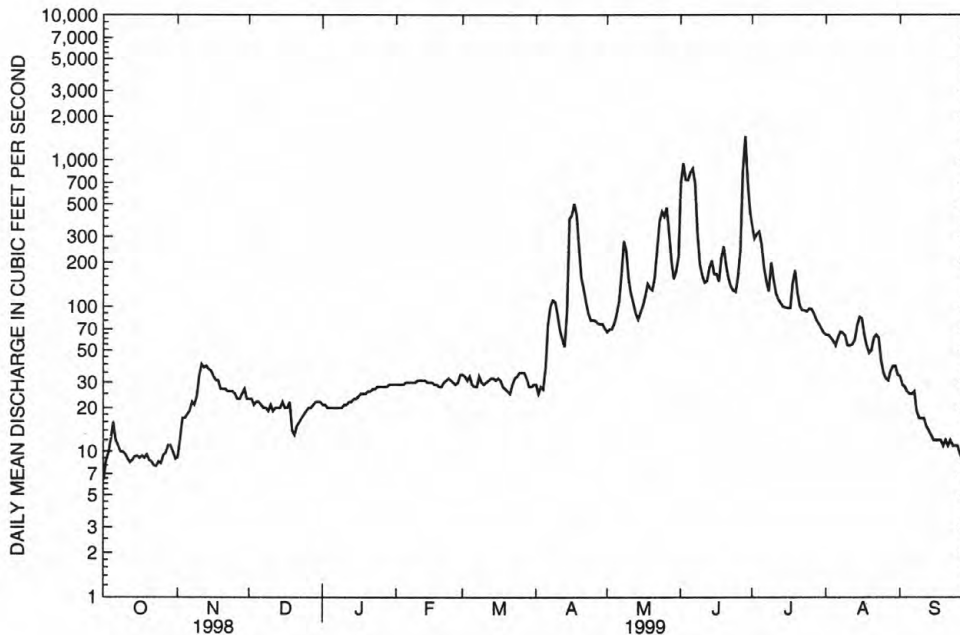
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06773500 PRAIRIE CREEK NEAR SILVER CREEK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.9	60.8	27.0	24.6	33.5	65.7	157	123	231	75.8	42.9	33.1
MAX	90.0	80.8	36.9	29.7	38.6	133	435	182	415	146	55.3	86.8
(WY)	1998	1998	1998	1998	1998	1998	1998	1999	1999	1999	1999	1997
MIN	9.57	26.1	19.8	20.1	30.0	30.6	18.1	46.1	56.8	20.2	36.1	10.2
(WY)	1999	1999	1999	1997	1999	1999	1996	1997	1997	1997	1998	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1996 - 1999	
ANNUAL TOTAL	36461.9		32967.6			
ANNUAL MEAN	99.9		90.3		81.3	
HIGHEST ANNUAL MEAN					113	
LOWEST ANNUAL MEAN					40.9	
HIGHEST DAILY MEAN	1590		1460		1590	
LOWEST DAILY MEAN	6.3		6.4		2.7	
ANNUAL SEVEN-DAY MINIMUM	7.1		8.5		3.1	
INSTANTANEOUS PEAK FLOW			1630		1640	
INSTANTANEOUS PEAK STAGE			9.28		9.29	
ANNUAL RUNOFF (AC-FT)	72320		65390		58900	
10 PERCENT EXCEEDS	243		202		169	
50 PERCENT EXCEEDS	35		31		34	
90 PERCENT EXCEEDS	9.5		11		13	



PRAIRIE CREEK NEAR SILVER CREEK

## PLATTE RIVER BASIN

06773500 PRAIRIE CREEK NEAR SILVER CREEK, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

## WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	
NOV	23...	1530	2.83	26	602	8.4	11.0	9.0	729	9.3	84	2.84	.015
FEB	28...	1130	3.00	34	573	8.2	--	6.0	771	9.6	76	2.88	.013
APR	08...	0930	3.79	111	535	8.1	--	13.0	709	8.9	92	2.07	.027
MAY	12...	1330	3.82	105	701	8.4	19.5	18.5	725	9.5	107	3.14	.024
	18...	0800	4.19	144	726	7.9	9.0	14.0	729	9.4	95	3.12	.026
JUN	16...	1700	4.38	163	650	8.1	16.0	18.7	726	8.2	93	2.25	.016
JUL	15...	1130	4.74	100	876	8.3	29.0	25.5	--	8.8	--	4.37	.019
AUG	18...	1700	3.14	52	546	8.2	29.0	29.5	720	10.1	141	2.97	.028
SEP	15...	1130	2.69	13	556	8.4	16.0	15.0	728	10.7	111	2.47	.040

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)
NOV											
23...	2.86	.080	.46	.32	.54	.40	3.3	3.4	.297	.278	.259
FEB											
28...	2.89	.041	.75	.28	.79	.32	3.2	3.7	.242	.147	.158
APR											
08...	2.10	.064	3.2	1.0	3.2	1.1	3.2	5.3	.808	.237	.191
MAY											
12...	3.17	.028	2.1	.82	2.1	.84	4.0	5.3	<.050	.714	.651
18...	3.15	.057	2.2	1.2	2.3	1.3	4.4	5.4	1.01	.425	.782
JUN											
16...	2.27	.030	2.2	.75	2.2	.78	3.1	4.5	1.13	.727	.700
JUL											
15...	4.39	<.020	--	--	1.8	.48	4.9	6.2	.785	.569	.485
AUG											
18...	3.00	<.020	--	--	2.0	.50	3.5	5.0	.785	.518	.521
SEP											
15...	2.51	<.020	--	--	.55	.24	2.7	3.1	.170	.127	.116

WATER-QUALITY RECORDS  
Platte River Tributaries Study[illegible]



## PLATTE RIVER BASIN

## 06774000 PLATTE RIVER NEAR DUNCAN, NE

LOCATION.--Lat 41°22'04", long 097°29'40", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.12, T.16 N., R. 2 W., Platte County, Hydrologic Unit 10200103, on left bank near northwest corner of county bridge, 1.5 mi south of Duncan, and 15.3 mi upstream from Loup River, and at mile 114.

DRAINAGE AREA.--59,300 mi<sup>2</sup>, of which about 54,630 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1895 to December 1909 (irrigation seasons only 1885-1900). July 1910 to December 1911 (gage heights and discharge measurements only), April 1912 to September 1915, June 1928 to current year. Published as "near Columbus" 1895-1915.

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1897, 1899-1901, 1903-05, 1929-32, 1935(M), 1936. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 1,476.82 ft above sea level. June 1895 to December 1909, April 1912 to September 1915, and June to October 1928, nonrecording gage at site 7 mi downstream at different datums. Oct. 25, 1928, to Feb. 20, 1935, nonrecording gage, and Feb. 20, 1935 to Mar. 21, 1984, recording gage both at present site at 2.00 ft higher datum. Mar. 22, 1984, to Mar. 4, 1987, at site 300 ft downstream at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

1	1530	2400	2740	e2200	e3100	2850	2450	2590	7830	10600	1070	2100
2	1350	2720	2750	e2000	e3300	2750	2410	2680	9080	10700	1080	2030
3	1450	3230	2790	e1800	e3500	2760	2390	2940	8750	10700	1190	2200
4	2060	3290	2720	e1600	e3400	2820	2390	3020	8270	10300	1250	2320
5	2460	3130	2700	e2000	e3800	2830	2500	3090	7530	8610	1310	2210
6	2390	3100	2700	e2300	e3300	2800	2900	3960	6850	7000	1650	2340
7	2250	3070	2680	e2100	e3000	2770	3120	4450	6490	6090	2180	2330
8	2190	3230	2690	e1900	e2950	2820	3030	4470	5960	5510	2570	2290
9	2190	3480	2610	e1700	e2880	2810	2870	4530	5640	5300	2640	2300
10	2250	3920	2530	e2000	e2840	2790	2740	5300	6000	4170	2810	2360
11	2300	3910	2490	e2300	e2630	2670	2490	6310	6400	3160	3200	2490
12	2340	3730	2480	e2600	e2580	2280	2450	7250	6690	2550	4340	2560
13	2400	3600	2470	e2350	e2570	2320	2470	8540	7660	2130	4790	2750
14	2490	3570	2420	e2200	e2370	2480	2900	10100	8630	1870	5070	3040
15	2520	3480	2400	e3000	e2380	2520	4990	11300	8300	1740	5410	3200
16	2520	3370	2380	e3200	e2450	2540	5390	9550	7430	1710	5610	3320
17	2500	3310	2380	e3300	e2540	2490	4770	7580	6540	1690	5290	3410
18	2230	3240	2360	e3200	e2610	2250	4320	6790	5800	2040	5080	3490
19	1910	3070	2290	e3000	e2610	2120	3650	6060	5470	2050	5830	3620
20	2120	2990	e2000	e2900	e2610	2110	3240	5930	5400	1720	6390	3970
21	2180	2990	e1800	e2800	e2580	2080	3010	5810	5550	1590	6170	4310
22	2190	2920	e1500	e2900	e2550	2290	2840	5330	5690	1530	5800	4480
23	2160	2790	e1900	e2800	e2350	2450	2780	5310	6050	1480	5330	4580
24	2240	2760	e1800	e2800	e2580	2480	2910	5110	6280	1410	4720	4560
25	2310	2710	e2200	e2600	e2610	2410	2980	4700	6440	1340	4220	4530
26	2320	2720	e2400	e3000	e2640	2010	2950	4350	6640	1290	3790	4300
27	2390	2720	e2500	e3200	e2750	1770	3010	3950	8730	1300	3260	4080
28	2450	2720	e2500	e3000	e2820	1970	2990	3610	10100	1260	2760	3930
29	2580	2770	e2300	e2600	---	2230	2850	3330	10500	1240	2400	3740
30	2570	2800	e2100	e2800	---	2400	2660	3220	10700	1230	2180	3120
31	2460	---	e2000	e3000	---	2480	---	4370	---	1130	2040	---
TOTAL	69300	93740	73580	79150	78300	76350	92450	165530	217400	114440	111430	95960
MEAN	2235	3125	2374	2553	2796	2463	3082	5340	7247	3692	3595	3199
MAX	2580	3920	2790	3300	3800	2850	5390	11300	10700	10700	6390	4580
MIN	1350	2400	1500	1600	2350	1770	2390	2590	5400	1130	1070	2030
AC-FT	137500	185900	145900	157000	155300	151400	183400	328300	431200	227000	221000	190300

e Estimated

# PLATTE RIVER BASIN

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06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

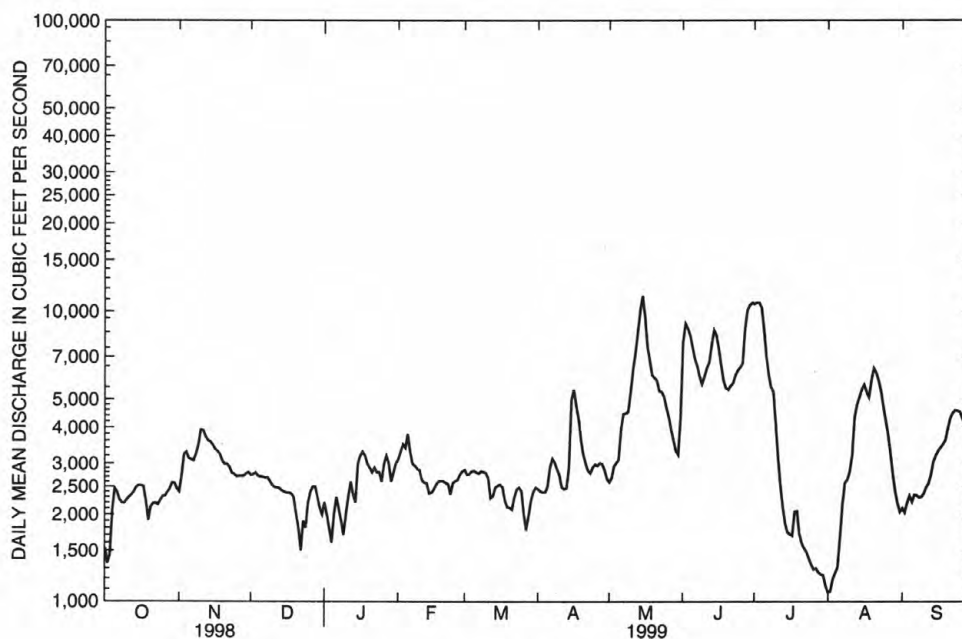
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1378	1537	1491	1548	2315	2955	2547	2670	2995	1481	673	994
MAX	6673	5617	5107	5603	8795	9531	13410	15450	18320	12590	6135	6785
(WY)	1974	1985	1985	1984	1984	1984	1984	1984	1983	1983	1983	1983
MIN	.000	.000	15.7	44.5	269	820	574	150	11.3	.000	.000	.000
(WY)	1957	1957	1942	1942	1942	1957	1967	1955	1956	1956	1956	1956

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1942 - 1999 (SINCE STORAGE IN LAKE McCONAUGHY)	
ANNUAL TOTAL	1156758		1267630		1877	
ANNUAL MEAN	3169		3473		1400	
MEDIAN OF ANNUAL MEANS					6652	
HIGHEST ANNUAL MEAN					494	
LOWEST ANNUAL MEAN					1956	
HIGHEST DAILY MEAN	13800	Apr 8	11300	May 15	23800	Jul 1 1983
LOWEST DAILY MEAN	380	Jan 14	1070	Aug 1	.00	Jan 4 1942
ANNUAL SEVEN-DAY MINIMUM	711	Jan 11	1170	Jul 29	.00	Oct 1 1943
INSTANTANEOUS PEAK FLOW (STAGE)			11600	May 15	*25400	(6.36) Mar 28 1960
INSTANTANEOUS PEAK STAGE			6.56	May 15	**7.86	Mar 11 1993
ANNUAL RUNOFF (AC-FT)	2294000		2514000		1360000	
10 PERCENT EXCEEDS	4930		6210		4000	
50 PERCENT EXCEEDS	2810		2770		1290	
90 PERCENT EXCEEDS	1360		1990		100	

\* Maximum for period of record (1912-15, 1928-99) 44,100 ft<sup>3</sup>/s. 6.50 ft June 23, 1905, site and datum then in use.

\*\* Backwater from ice.



PLATTE RIVER NEAR DUNCAN

## PLATTE RIVER BASIN

06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

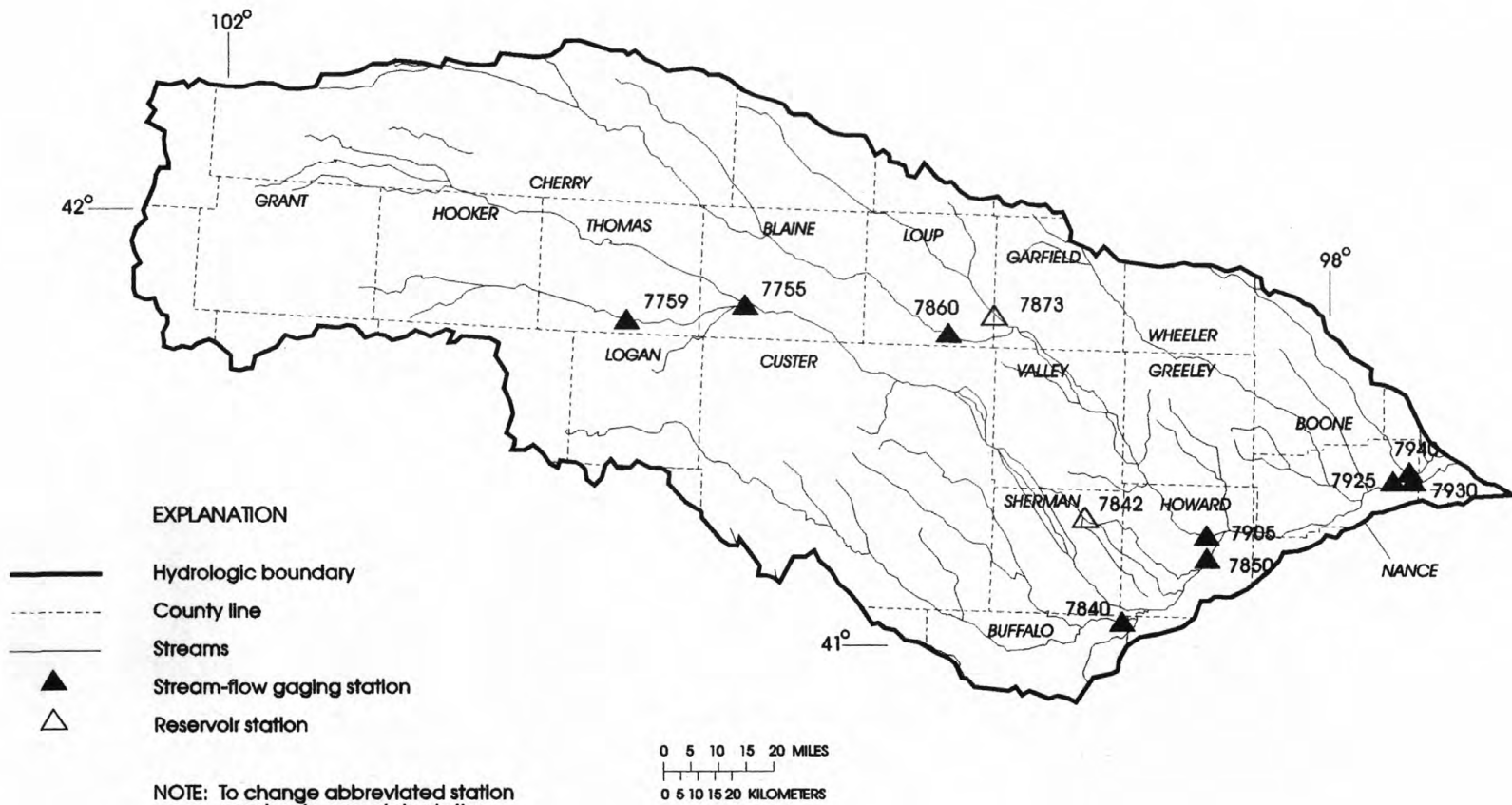
WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
NOV	24... 0930	4.42	2760	977	8.5	7.5	5.0	725	9.4	78	--	<.010
FEB	28... 1300	4.50	2850	927	8.3	--	7.3	771	11.8	97	1.64	.013
APR	07... 1600	4.73	3140	890	8.3	24.0	17.2	721	14.0	155	--	<.010
MAY	12... 1030	5.76	7090	916	8.5	20.0	16.0	725	9.7	104	--	<.010
	17... 1730	5.80	7290	980	8.4	18.0	18.5	724	11.9	134	--	<.010
JUN	17... 0830	5.49	6640	841	8.0	13.9	15.9	728	8.8	93	--	<.010
JUL	15... 1000	4.04	1770	842	8.2	26.0	25.0	--	9.6	--	--	<.010
AUG	19... 1000	5.38	5760	847	8.7	26.0	22.5	727	9.1	111	--	<.010
SEP	15... 1000	4.68	3140	9	8.5	12.0	16.0	729	10.5	111	--	<.010

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)	
NOV	24...	2.19	.023	.45	.27	.47	.29	2.5	2.7	.147	.126	.121
FEB	28...	1.65	<.020	--	--	.80	.33	2.0	2.4	.253	.178	.185
APR	07...	1.88	<.020	--	--	1.1	.34	2.2	2.9	.297	.104	.091
MAY	12...	1.59	<.020	--	--	1.9	.48	2.1	3.4	<.050	.133	.113
	17...	1.32	.037	1.1	.73	1.1	.76	2.1	2.4	.242	.113	.104
JUN	17...	1.55	<.020	--	--	1.5	.78	2.3	3.1	.554	.255	.273
JUL	15...	.304	<.020	--	--	1.4	.34	.64	1.7	.248	.013	<.010
AUG	19...	.162	<.020	--	--	1.2	.38	.54	1.4	.369	.030	.024
SEP	15...	<.050	<.020	--	--	1.0	.33	--	--	.280	.007	<.010

[illegible]

# PLATE RIVER BASIN LOUP RIVER BASIN





# PLATTE RIVER BASIN

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## LOUP RIVER BASIN

*STATION NUMBER	STATION NAME	PAGE
7755	Middle Loup River at Dunning .....	142
7759	Dismal River near Thedford .....	144
7840	South Loup River at St. Michael.....	146
7842	Sherman Reservoir near Loup City .....	150
7850	Middle Loup River at St. Paul.....	151
7860	North Loup River at Taylor .....	155
7873	Calamus Reservoir near Burwell .....	157
7905	North Loup River near St. Paul .....	158
7925	Loup River Power Canal near Genoa .....	162
7930	Loup River near Genoa.....	164
7940	Beaver Creek at Genoa .....	166

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## PLATTE RIVER BASIN

## 06775500 MIDDLE LOUP RIVER AT DUNNING, NE

LOCATION.--Lat 41°49'50", long 100°06'20", in NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.33, T.22 N., R.24 W., Blaine County, Hydrologic Unit 10210001, on left bank near upstream end of bridge on State Highway 2 at north edge of Dunning, 1.0 mi upstream from Dismal River, and at mile 204..

DRAINAGE AREA.--1,830 mi<sup>2</sup>, of which about 79 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--September 1945 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,604.14 ft above sea level. Prior to Sept. 12, 1946, nonrecording gage, and Sept. 12, 1946, to Sept. 30, 1962, water-stage recorder at site 0.2 mi upstream at datum 3.03 ft higher. Oct. 1, 1962, to May 15, 1989, at present site, and May 15, 1989, to Mar. 20, 1990, at site 0.2 mi upstream, both at datum 3.00 ft higher.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	438	476	465	435	465	540	545	544	492	496	480	507
2	461	491	470	422	451	529	512	552	481	490	476	507
3	471	543	465	e380	458	505	491	537	485	497	480	527
4	472	504	464	e390	458	510	495	549	482	483	474	624
5	460	510	467	e420	482	511	534	565	478	478	470	549
6	449	532	447	e420	488	523	533	498	483	468	546	516
7	448	514	433	e410	488	504	551	463	470	472	525	514
8	446	505	419	e410	500	504	582	465	467	470	496	496
9	449	554	432	e420	499	476	545	490	477	469	487	486
10	450	516	429	e440	518	508	566	510	513	459	479	487
11	458	473	425	e480	501	508	534	535	490	463	496	491
12	442	465	431	e520	462	519	534	507	473	468	490	499
13	448	462	425	554	464	526	553	499	471	467	467	475
14	451	475	434	498	476	523	561	539	461	466	477	473
15	458	482	438	487	493	536	509	537	529	475	477	462
16	459	481	449	478	486	563	483	519	523	478	479	468
17	454	491	421	491	491	548	477	521	491	475	479	471
18	427	508	452	460	499	538	492	499	505	477	487	472
19	425	479	440	464	486	534	506	496	508	488	477	483
20	424	455	440	461	481	529	524	519	499	635	480	478
21	420	454	407	474	493	522	535	503	498	573	486	465
22	423	468	383	478	494	532	557	509	496	521	488	470
23	427	472	391	459	485	517	528	498	508	517	489	468
24	440	472	473	475	511	532	534	489	526	505	478	465
25	447	475	529	455	516	512	561	482	523	497	478	466
26	446	468	561	456	558	511	579	482	524	498	487	465
27	465	462	532	446	539	531	569	489	540	490	492	457
28	475	467	490	452	527	549	578	488	514	482	497	458
29	499	478	442	445	---	532	572	490	505	486	531	454
30	477	478	451	421	---	527	553	486	502	483	516	451
31	477	---	445	444	---	532	---	479	---	484	509	---
TOTAL	13986	14610	13950	14045	13769	16231	16093	15739	14914	15210	15173	14604
MEAN	451	487	450	453	492	524	536	508	497	491	489	487
MAX	499	554	561	554	558	563	582	565	540	635	546	624
MIN	420	454	383	380	451	476	477	463	461	459	467	451
AC-FT	27740	28980	27670	27860	27310	32190	31920	31220	29580	30170	30100	28970

e Estimated

# PLATTE RIVER BASIN

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06775500 MIDDLE LOUP RIVER AT DUNNING, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

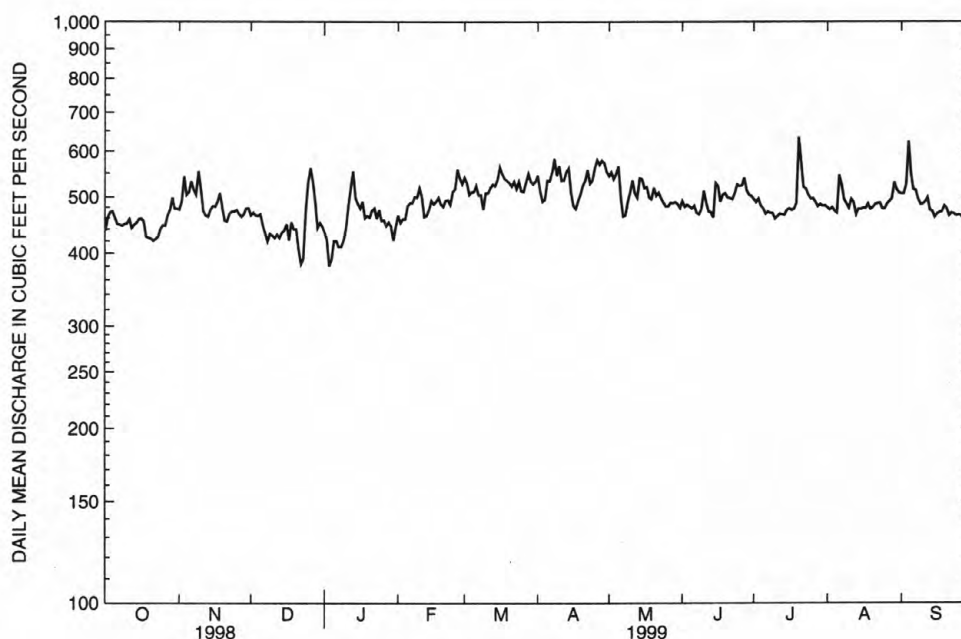
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	409	418	414	409	429	454	454	442	420	396	398	400
MAX	519	517	509	494	526	544	553	590	545	491	490	504
(WY)	1997	1992	1994	1998	1998	1993	1995	1995	1995	1999	1998	1996
MIN	346	364	336	322	365	359	334	353	342	324	341	330
(WY)	1951	1948	1950	1949	1994	1968	1951	1948	1948	1970	1947	1955

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1946 - 1999

ANNUAL TOTAL	178855	178324	
ANNUAL MEAN	490	489	420
HIGHEST ANNUAL MEAN			498
LOWEST ANNUAL MEAN			365
HIGHEST DAILY MEAN	610	Jun 8	635
LOWEST DAILY MEAN	383	Dec 22	380
ANNUAL SEVEN-DAY MINIMUM	419	Dec 17	407
INSTANTANEOUS PEAK FLOW (STAGE)			702(3.74)Sep 4
INSTANTANEOUS PEAK STAGE			**5.31
ANNUAL RUNOFF (AC-FT)	354800	353700	304500
10 PERCENT EXCEEDS	542	537	500
50 PERCENT EXCEEDS	488	486	414
90 PERCENT EXCEEDS	437	443	350

\* Caused by ice jam release upstream.

\*\* Backwater from ice.



MIDDLE LOUP RIVER AT DUNNING

## PLATTE RIVER BASIN

06775900 DISMAL RIVER NEAR THEDFORD, NE  
(Hydrologic bench-mark station and Radiochemical program)

LOCATION.--Lat 41°46'45", long 100°31'30", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.23, T.21 N., R.28 W., Thomas County, Hydrologic Unit 10210002, on right bank 1,400 ft downstream from bridge on U.S. Highway 83, 2 mi upstream from boundary of Nebraska National Forest (Bessey Division), 14 mi south of Thedford, and at mile 32.9.

DRAINAGE AREA.--966 mi<sup>2</sup>, approximately, of which about 30 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,800.13 ft above sea level.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	239	232	208	212	233	221	227	224	250	216	216
2	224	251	232	199	207	223	211	231	229	250	216	227
3	228	260	236	183	217	224	206	234	236	252	218	224
4	230	248	226	195	207	230	208	229	238	250	218	248
5	234	232	226	204	226	228	223	227	236	248	214	236
6	224	240	222	204	216	227	226	212	229	245	241	218
7	217	234	214	199	219	223	226	212	227	245	229	227
8	222	234	216	192	219	221	226	216	224	248	220	220
9	226	241	215	176	226	223	222	216	229	243	220	214
10	227	233	217	212	230	227	223	220	238	243	220	218
11	227	234	214	215	213	217	219	216	229	238	216	220
12	218	230	222	212	212	210	220	218	231	245	220	216
13	222	235	216	217	217	220	226	218	229	250	214	212
14	229	237	217	205	222	225	232	229	227	245	214	218
15	232	245	225	208	217	223	224	234	257	248	216	218
16	231	251	222	210	217	220	208	229	252	248	214	216
17	231	248	218	206	221	226	205	231	236	236	214	220
18	224	228	224	205	228	215	213	231	236	236	222	224
19	228	236	201	212	219	220	216	229	245	255	224	224
20	232	233	204	210	228	218	220	234	252	339	218	222
21	226	231	201	217	224	213	219	231	248	283	216	220
22	226	239	190	214	227	218	233	234	250	243	216	229
23	226	230	198	209	220	220	234	231	250	248	210	222
24	233	229	214	207	219	219	223	224	250	234	214	222
25	226	230	203	203	234	221	236	224	262	231	212	234
26	236	236	210	207	229	219	244	222	257	224	214	227
27	240	227	212	211	225	225	244	224	262	231	210	227
28	250	224	210	209	224	215	245	229	245	220	212	231
29	256	239	213	212	---	215	231	227	248	222	243	229
30	243	228	206	214	---	221	229	229	248	220	229	231
31	241	---	204	212	---	221	---	227	---	220	218	---
TOTAL	7126	7102	6660	6387	6175	6860	6713	6995	7224	7590	6778	6710
MEAN	230	237	215	206	221	221	224	226	241	245	219	224
MAX	256	260	236	217	234	233	245	234	262	339	243	248
MIN	217	224	190	176	207	210	205	212	224	220	210	212
AC-FT	14130	14090	13210	12670	12250	13610	13320	13870	14330	15050	13440	13310

# PLATTE RIVER BASIN

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06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued  
(Hydrologic bench-mark station and Radiochemical program)

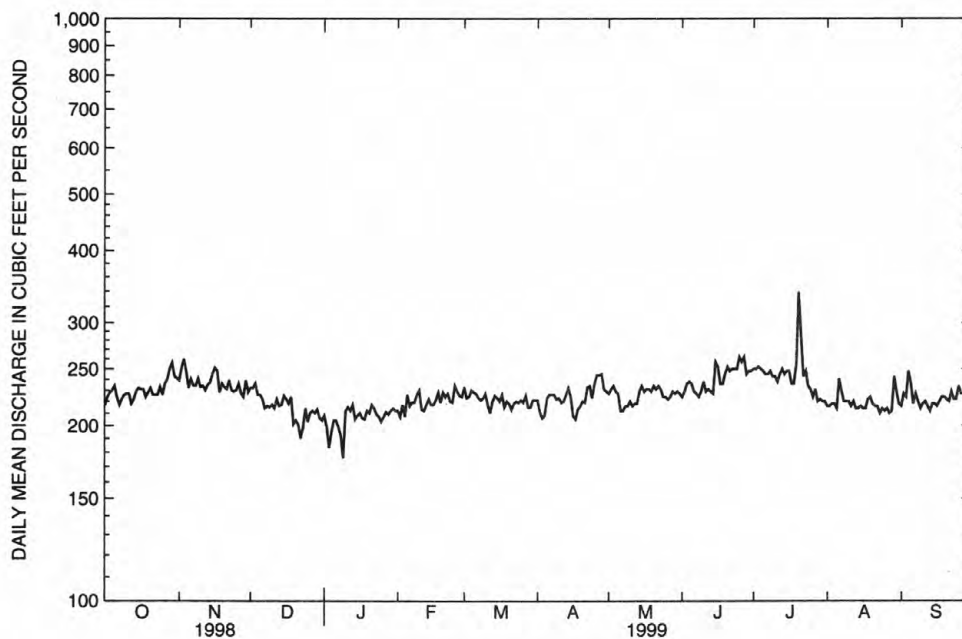
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	199	203	201	200	203	208	210	207	201	199	196	197
MAX	235	237	230	230	251	239	254	246	241	245	234	237
(WY)	1998	1999	1995	1985	1997	1997	1995	1995	1999	1999	1998	1997
MIN	181	183	170	175	185	188	191	183	179	172	176	179
(WY)	1974	1970	1979	1972	1968	1971	1985	1967	1975	1980	1974	1974

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1967 - 1999

ANNUAL TOTAL	81726	82320	
ANNUAL MEAN	224	226	202
HIGHEST ANNUAL MEAN			231
LOWEST ANNUAL MEAN			188
HIGHEST DAILY MEAN	296	May 24	339
LOWEST DAILY MEAN	190	Jan 10	176
ANNUAL SEVEN-DAY MINIMUM	193	Jan 8	193
INSTANTANEOUS PEAK FLOW (STAGE)			388
INSTANTANEOUS PEAK STAGE		1.42	Jul 20
ANNUAL RUNOFF (AC-FT)	162100	163300	146400
10 PERCENT EXCEEDS	240	245	226
50 PERCENT EXCEEDS	223	224	199
90 PERCENT EXCEEDS	207	210	182

\* Backwater from ice.



DISMAL RIVER NEAR THEDFORD



## PLATTE RIVER BASIN

06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE

LOCATION.--Lat 41°01'53", long 098°44'25", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.12, T.12 N., R.13 W., Buffalo County, Hydrologic Unit 10210004, 5 ft downstream and 30 ft shoreward from left downstream corner of county highway bridge, 0.6 mi northeast of St. Michael, 3.4 mi upstream from Sweet Creek, and at mile 9.0.

DRAINAGE AREA.--2,320 mi<sup>2</sup>, of which about 1,590 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,921.26 ft above sea level. Prior to June 22, 1947, water-stage recorder, and June 25 to Sept. 30, 1947, nonrecording gage, at present site at datum 2.00 ft higher. Oct. 1, 1947 to July 3, 1958, nonrecording gage at present site and datum. July 4, 1958 to Sept. 7, 1960, water-stage recorder at site 600 ft upstream at present datum. Sept. 8, 1960 to June 24, 1968, water-stage recorder at site 100 ft upstream at present datum. June 25 to Nov. 21, 1968, nonrecording gage at present site and datum. Nov. 22, 1968 to May 19, 1981, water-stage recorder at site 40 ft upstream at present datum. May 20 to July 16, 1981, water-stage recorder at site 70 ft upstream at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Minor irrigation developments above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	208	245	e215	e220	269	251	353	1250	629	113	143
2	197	246	245	e200	e225	264	242	367	1010	401	127	130
3	191	278	253	e185	e250	276	250	395	499	451	134	123
4	198	292	248	e184	e270	265	238	510	439	378	134	122
5	188	301	253	e190	290	259	324	831	382	325	138	126
6	184	284	256	e205	268	257	446	645	324	296	143	143
7	211	294	247	e200	267	256	426	464	356	275	151	134
8	221	315	240	e190	262	251	352	431	320	257	145	133
9	182	307	241	e190	252	258	337	445	258	248	134	120
10	167	332	236	e200	254	245	313	447	407	235	125	118
11	162	328	237	e210	253	250	303	415	1390	226	178	111
12	162	309	236	e240	263	237	287	388	1020	225	184	109
13	174	296	234	e215	256	239	266	352	456	219	158	106
14	188	290	232	e215	253	227	484	350	399	199	167	108
15	188	283	236	e225	248	218	521	536	475	184	180	112
16	187	278	235	e250	252	214	381	444	797	191	148	118
17	190	277	232	e240	259	215	338	400	484	182	132	124
18	200	278	236	e235	240	216	402	378	428	223	200	127
19	216	270	236	e235	238	209	363	327	365	192	252	124
20	206	266	e200	e240	242	206	339	299	302	171	174	136
21	201	269	e175	e235	249	190	457	295	371	156	146	137
22	210	273	e165	e230	269	195	578	308	379	146	141	141
23	212	264	e175	e215	284	199	341	363	529	146	139	143
24	221	259	e185	e215	287	204	329	498	537	145	138	145
25	229	258	e190	e210	261	203	302	374	360	145	130	144
26	227	247	e210	e210	266	202	322	518	308	155	112	145
27	232	245	e225	e215	272	201	383	308	387	152	103	143
28	236	252	e235	e210	279	214	391	333	789	162	104	145
29	239	243	e235	e210	---	221	401	449	710	153	111	147
30	230	247	e220	e220	---	241	372	295	831	126	141	148
31	221	---	e220	e220	---	237	---	272	---	129	146	---
TOTAL	6218	8289	7013	6654	7229	7138	10739	12790	16562	7122	4528	3905
MEAN	201	276	226	215	258	230	358	413	552	230	146	130
MAX	239	332	256	250	290	276	578	831	1390	629	252	148
MIN	148	208	165	184	220	190	238	272	258	126	103	106
AC-FT	12330	16440	13910	13200	14340	14160	21300	25370	32850	14130	8980	7750

e Estimated

# PLATTE RIVER BASIN

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06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE--Continued

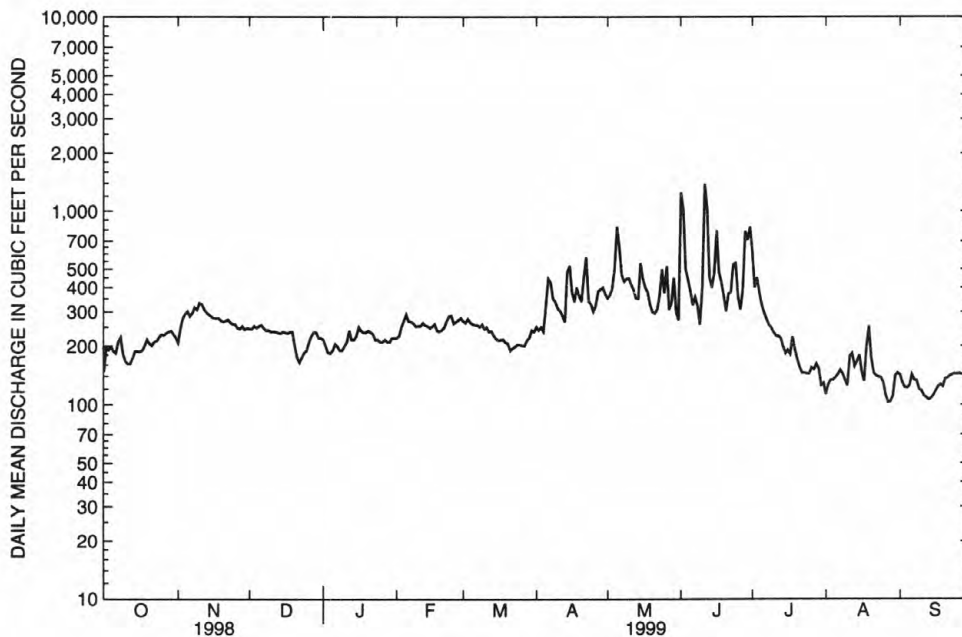
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	175	193	181	184	261	353	279	304	424	224	153	151
MAX	619	276	275	281	543	1747	549	562	2741	1121	482	370
(WY)	1947	1999	1994	1973	1966	1978	1984	1951	1947	1993	1962	1949
MIN	87.5	129	116	96.5	138	201	171	176	126	26.5	21.3	51.0
(WY)	1957	1957	1956	1972	1989	1981	1992	1975	1981	1980	1955	1956

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1944 - 1999	
ANNUAL TOTAL	95207		98187			
ANNUAL MEAN	261		269		240	
HIGHEST ANNUAL MEAN					483	
LOWEST ANNUAL MEAN					161	
HIGHEST DAILY MEAN	1400 Jul 6		1390 Jun 11		28000 Jun 23 1947	
LOWEST DAILY MEAN	110 Jul 21		103 Aug 27		.00 Aug 5 1980	
ANNUAL SEVEN-DAY MINIMUM	127 Sep 7		112 Sep 10		.65 Aug 4 1980	
INSTANTANEOUS PEAK FLOW			2090 Jun 1		*50000 Jun 22 1947	
INSTANTANEOUS PEAK STAGE			5.66 Jun 1		**27500 (11.00) Jun 24 1947	
ANNUAL RUNOFF (AC-FT)	188800		194800		173600 Jun 22 1947	
10 PERCENT EXCEEDS	385		419		341	
50 PERCENT EXCEEDS	236		238		193	
90 PERCENT EXCEEDS	148		140		104	

\* Maximum discharge, estimated.

\*\* Maximum discharge, computed.



SOUTH LOUP RIVER AT ST. MICHAEL

06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1974 to current year.

PERIOD OF DAILY RECORD.--

**SUSPENDED SEDIMENT DISCHARGE:** June 1946 to June 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--

**SEDIMENT CONCENTRATIONS:** Maximum daily, 19,300 mg/L June 19, 1946; minimum daily, 13 mg/L Dec. 30, 31, 1951.

**SEDIMENT LOADS:** Maximum daily, 672,000 tons June 22, 1947; minimum daily, 6.1 tons Dec. 30, 31, 1951.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. FT <sup>3</sup> /S (00061)	SPECIFIC CON-DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)
DATE	TIME								
BUFFALO COUNTY									
OCT	21	1030	193	425	8.4	12.0	9.0	--	--
DEC	02	1035	235	449	8.2	10.5	6.5	--	--
JAN	04	1340	184	498	7.8	-10.0	.5	--	--
MAR	03	0920	271	447	8.5	1.0	2.5	25	200
APR	13	1010	259	440	8.4	17.5	14.0	--	--
MAY	24	0940	498	392	8.2	21.5	18.5	--	--
JUL	07	0950	279	478	8.6	26.5	24.5	80	220
AUG	17	0910	139	402	8.6	24.5	23.0	--	--
SEP	28	1020	152	436	8.5	15.5	15.0	--	--

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

[illegible]

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## PLATTE RIVER BASIN

## 06784200 SHERMAN RESERVOIR NEAR LOUP CITY, NE

LOCATION.--Lat 41°18'10", long 98°52'45", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 1, T. 15 N., R. 14 W., Sherman County, Hydrologic Unit 10210003, in control house of outlet works of Sherman Dam, 5 mi northeast of Loup City.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Mercury-column pressure gage read once daily. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam; closure date of dam, August 1960. First diversions from Middle Loup River, Nov. 8, 1962. Usable capacity, 65,237 acre-ft between elevations 2,118.5 ft, sill of canal outlet works, and 2,162.3 ft, crest of spillway. Dead and inactive storage, 3,839 acre-ft below elevation 2,118.5 ft. Figures given herein represent total contents. Water is used for irrigation of Farwell Unit of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 70,810 acre-ft June 25, 1989, elevation, 2,162.9 ft; minimum observed since appreciable storage was attained, 9,450 acre-ft Aug. 2, 1980, elevation, 2,127.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 70,520 acre-ft June 27, elevation, 2,162.8 ft; minimum observed, 40,720 acre-ft Sept. 5, elevation, 2150.7 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	*Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 .....	2,157.4	55,920	--
Oct. 31 .....	2,156.8	54,430	-1,490
Nov. 30 .....	2,156.5	53,700	-730
Dec. 31 .....	2,156.0	52,480	-1,220
CAL YR 1998.....	--	--	0
Jan. 31 .....	2,155.6	51,530	-950
Feb. 28 .....	2,155.3	50,820	-710
Mar. 31 .....	2,154.9	49,880	-940
Apr. 30 .....	2,156.4	53,450	+3,570
May 31 .....	2,161.9	67,930	+14,480
June 30 .....	2,162.5	69,650	+1,720
July 31 .....	2,157.3	55,670	-13,980
Aug. 31 .....	2,151.2	41,750	-13,920
Sept. 30 .....	2,155.8	52,000	+10,250
WTR YR 1999.....	--	--	-3,920

\* Elevations read on or near last day of month.



## PLATTE RIVER BASIN

151

## 06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE

LOCATION.--Lat 41°12'13", long 098°26'46", in SE $\frac{1}{4}$  NW $\frac{1}{4}$  NE $\frac{1}{4}$  sec.10, T.14 N., R.10 W., Howard County, Hydrologic Unit 10210003, on left bank at St. Paul, 50 ft upstream from bridge on U.S. Highway 281, 6 mi upstream from confluence with North Loup River, and at mile 74.0.

DRAINAGE AREA.--8,075 mi<sup>2</sup>, of which about 3,130 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1894 to September 1915, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1036: 1943. WSP 1390: 1896, 1903, 1928(M), 1944. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,776.61 ft above sea level. See WSP 1918 for history of changes prior to June 5, 1957. June 5, 1957, to Mar. 16, 1978, water-stage recorder on left bank approximately 410 ft upstream at same datum. Mar. 17 to May 31, 1978, nonrecording gage on railroad bridge immediately upstream at same datum. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record, which are poor. Diversions above station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1770	1740	1740	e1450	e2300	1980	2390	1320	4360	3010	526	1080
2	2190	1830	1700	e1350	e2500	2100	2320	1430	4580	2100	582	880
3	1700	1750	1840	e1250	e3500	2090	2180	1620	2470	1680	699	707
4	1730	1960	1900	e1200	e4200	1990	2100	1720	1830	1420	768	630
5	1540	1910	1880	e1300	4980	2020	2420	3410	1980	1240	725	709
6	1700	1870	1810	e1300	3380	2140	2920	2700	1650	1190	766	1170
7	1310	2050	1780	e1250	2660	2320	2470	2050	1440	1110	867	1230
8	1210	2090	1720	e1250	2250	2340	2360	1380	1440	940	956	899
9	1140	1940	1640	e1250	1930	2330	2480	1300	1210	921	1160	749
10	1190	2200	1580	e1400	2040	2170	2330	1190	1170	757	848	689
11	1230	2390	1730	e1600	2110	2030	2270	1220	4050	686	1030	699
12	1320	2070	1600	e1550	1990	1960	2090	1130	3910	694	1050	670
13	1250	1870	1620	e1500	1800	1950	1790	1060	2480	608	810	648
14	1140	1800	1670	e1580	1780	1970	2570	1120	1790	642	789	724
15	1240	1800	1380	e1700	1780	1860	3630	1270	1580	570	791	782
16	1230	1920	1400	e1650	1890	1870	3020	1430	3200	647	691	733
17	1500	1870	1550	e1650	1890	1910	2350	1310	2580	706	582	940
18	1510	1830	1580	e1650	1840	1960	1820	1200	1880	1570	704	883
19	1270	1850	1640	e1600	1960	1850	1660	1030	1370	1360	674	840
20	1420	1880	1270	e1650	1920	1870	1520	1200	1100	1110	620	917
21	1390	1840	936	e1600	1820	1790	1880	1250	1070	854	505	920
22	1330	2050	306	e1600	1610	1750	2590	1080	1060	877	484	986
23	1220	1980	e600	e1550	1880	1860	2020	1580	1160	1040	492	972
24	1360	1980	e700	e1550	1990	1910	1700	1660	1490	891	522	917
25	1510	2020	e1000	e1550	1680	1990	1670	1160	1510	644	554	947
26	1650	1920	e1300	e1600	1800	2140	1540	1350	1280	819	568	818
27	1580	1920	e1400	e1600	1890	2140	1500	1470	2470	720	550	796
28	1440	1850	e1700	e1650	2040	2270	1210	1510	4040	678	547	798
29	1650	1760	e1650	e1800	---	2220	1050	1740	3300	714	623	840
30	1510	1730	e1550	e1900	---	2130	1190	1630	3200	645	909	773
31	1740	---	e1500	e1950	---	2130	---	1600	---	565	1150	---
TOTAL	44970	57670	45672	47480	63410	63040	63040	46120	66650	31408	22542	25346
MEAN	1451	1922	1473	1532	2265	2034	2101	1488	2222	1013	727	845
MAX	2190	2390	1900	1950	4980	2340	3630	3410	4580	3010	1160	1230
MIN	1140	1730	306	1200	1610	1750	1050	1030	1060	565	484	630
AC-FT	89200	114400	90590	94180	125800	125000	125000	91480	132200	62300	44710	50270

e Estimated

## PLATTE RIVER BASIN

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1166	1299	1157	1174	1548	1772	1357	1157	1209	659	580	765
MAX	2444	1922	1836	1844	2478	4022	2291	2476	3253	3642	1171	1790
(WY)	1993	1999	1971	1990	1984	1978	1984	1995	1967	1993	1992	1985
MIN	404	771	686	770	969	1181	767	519	395	124	174	240
(WY)	1964	1965	1969	1972	1979	1970	1981	1975	1972	1980	1980	1980

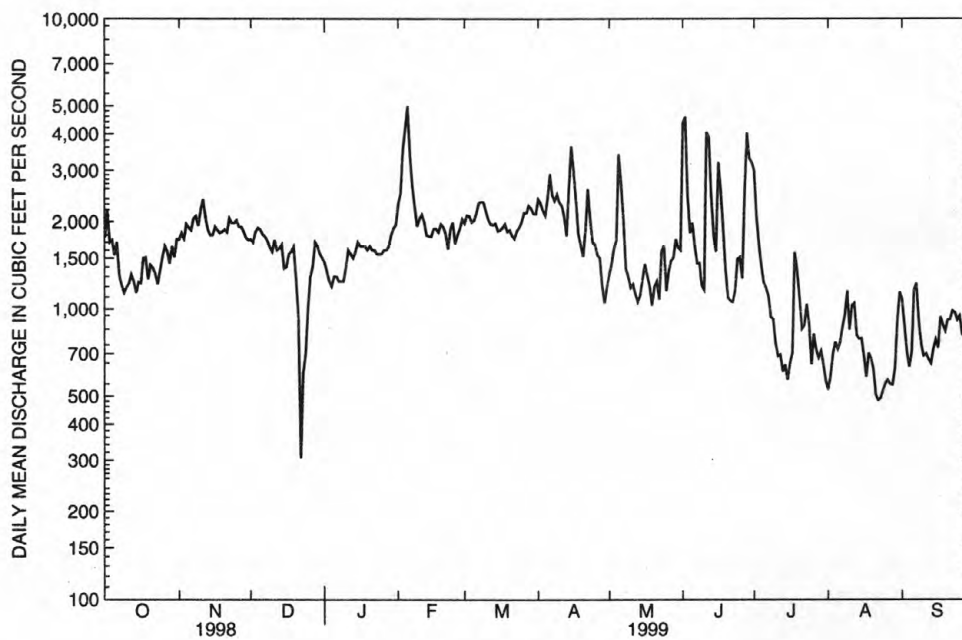
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1963 - 1999

ANNUAL TOTAL	483967	577348	
ANNUAL MEAN	1326	1582	1150
HIGHEST ANNUAL MEAN			1832
LOWEST ANNUAL MEAN			831
HIGHEST DAILY MEAN	4200	Mar 28	4980
LOWEST DAILY MEAN	232	Jul 19	306
ANNUAL SEVEN-DAY MINIMUM	272	Jul 15	525
INSTANTANEOUS PEAK FLOW			7610
INSTANTANEOUS PEAK STAGE			5.12
ANNUAL RUNOFF (AC-FT)	959900	1145000	833400
10 PERCENT EXCEEDS	1960	2320	1870
50 PERCENT EXCEEDS	1340	1580	1090
90 PERCENT EXCEEDS	538	707	364



MIDDLE LOUP RIVER AT ST. PAUL

## 153

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		HOWARD COUNTY					HOWARD COUNTY		
DATE	TIME	DIS-CHARGE, INST. FT <sup>3</sup> /S (00061)	SPECIFIC CONDUCT-ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (°C) (00020)	TEMPER-ATURE WATER (°C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)
OCT									
DEC	20 0940	1450	276	8.2	12.5	11.0	--	--	--
	01 0910	1800	300	8.3	14.5	7.0	--	--	--
JAN	14 1130	1580	319	7.8	5.5	.5	--	--	--
MAR	01 0850	1880	296	8.3	9.0	6.0	25	120	136
APR	12 1005	2250	295	8.3	14.0	10.5	--	--	--
JUN	02 0910	5100	227	7.8	23.0	19.0	--	--	--
JUL	06 0900	1350	343	8.7	24.5	23.0	50	150	165
AUG	16 0930	685	319	8.6	23.5	24.0	--	--	--
SEP	27 1310	835	297	8.4	16.0	16.5	--	--	--

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

[illegible]

## PLATTE RIVER BASIN

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE--Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## PLATTE RIVER BASIN

155

## 06786000 NORTH LOUP RIVER AT TAYLOR, NE

LOCATION.--Lat 41°46'37", long 099°22'45", in NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.22, T.21 N., R.18 W., Loup County, Hydrologic Unit 10210006, on left bank 25 ft downstream from bridge on U.S. Highway 183, 0.4 mi north of Taylor and at mile 80.6.

DRAINAGE AREA.--2,350 mi<sup>2</sup>, of which about 186 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--November 1936 to current year.

REVISED RECORDS.--WSP 856: 1937. WSP 1310: 1939(M). WSP 1730: 1956-57(M). WSP 1918: 1952. WDR NE-75: 1974. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,248.21 ft above sea level. Prior to Sept. 28, 1938, nonrecording gage at same site and datum. Sept. 28, 1938, to July 16, 1958, water-stage recorder at site 450 ft upstream at same datum.

REMARKS.--Records good except for periods of estimated record, which are poor. North Loup Public Power and Irrigation District canal began diversion from river in April 1939 at point 5 mi above station. Several smaller diversions above station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	413	579	682	e480	e640	728	714	872	613	699	345	395
2	482	631	684	e440	e640	750	694	904	574	661	385	362
3	538	747	672	e390	e660	739	681	893	566	642	376	415
4	628	774	661	e360	e640	712	669	933	431	612	357	693
5	634	628	672	e430	e660	714	780	1030	461	581	345	783
6	580	580	644	e450	e640	678	830	851	460	534	516	661
7	489	632	648	e440	e660	623	842	649	523	515	599	563
8	461	616	631	e450	e700	590	805	697	499	487	575	496
9	479	679	599	e470	e680	611	863	697	483	429	508	489
10	496	687	615	e520	e720	622	847	653	704	418	436	476
11	495	543	590	e593	e700	628	868	637	722	397	497	483
12	476	509	503	e580	e660	646	841	669	660	385	476	478
13	469	630	500	e520	e660	622	790	633	623	346	420	445
14	473	627	517	e560	e700	675	783	646	633	333	378	437
15	464	645	514	e600	e700	726	756	785	723	303	363	436
16	523	673	540	e580	e680	757	680	754	807	364	324	436
17	652	702	517	e600	e680	694	628	712	708	499	278	542
18	564	690	498	e600	e680	631	612	643	659	476	302	567
19	527	668	438	e580	e660	694	695	613	633	457	292	564
20	511	627	327	e600	e640	686	713	673	616	778	302	534
21	500	662	e310	e580	e640	670	737	622	616	958	309	538
22	511	664	e300	e560	e640	720	736	654	607	673	313	554
23	515	637	e320	e560	e660	761	841	792	619	504	321	541
24	526	602	e330	e540	e700	787	818	742	647	486	322	534
25	507	596	e380	e520	e740	813	728	658	730	436	319	525
26	526	593	e430	e520	788	734	765	613	667	504	357	514
27	547	595	e480	e540	758	714	897	587	794	431	330	500
28	612	630	e560	e600	730	797	877	568	777	378	328	511
29	635	651	e540	e660	---	708	807	552	706	364	444	520
30	647	667	e520	e640	---	703	866	542	693	352	470	503
31	618	---	e500	e620	---	695	---	576	---	332	423	---
TOTAL	16498	19164	16122	16583	19056	21628	23163	21850	18954	15334	12010	15495
MEAN	532	639	520	535	681	698	772	705	632	495	387	516
MAX	652	774	684	660	788	813	897	1030	807	958	599	783
MIN	413	509	300	360	640	590	612	542	431	303	278	362
AC-FT	32720	38010	31980	32890	37800	42900	45940	43340	37600	30410	23820	30730

e Estimated



## PLATTE RIVER BASIN

06786000 NORTH LOUP RIVER AT TAYLOR, NE--Continued

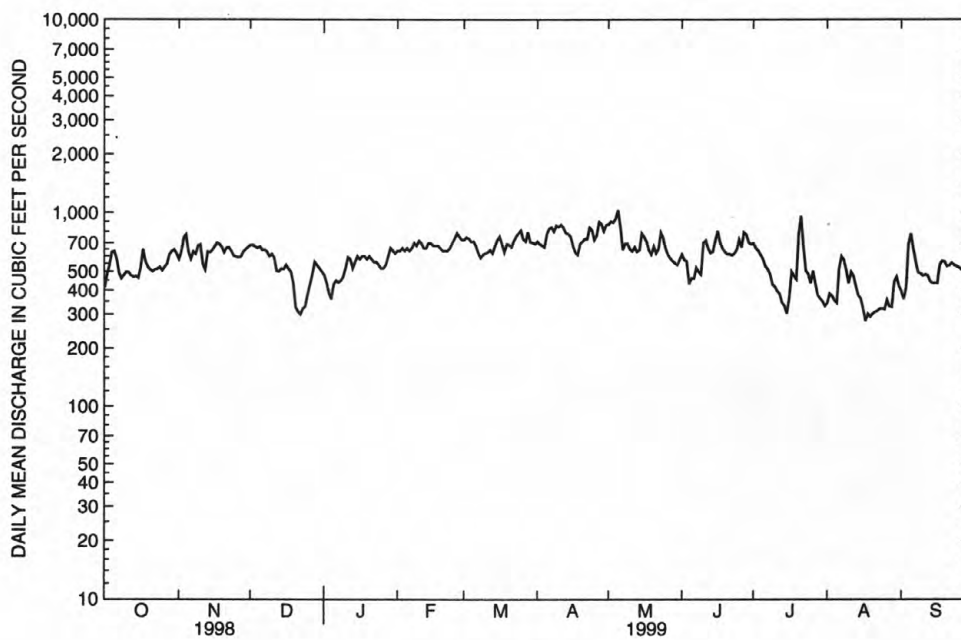
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	485	515	483	489	562	621	601	547	488	322	305	391
MAX	706	730	669	738	863	896	836	1128	870	716	527	665
(WY)	1984	1987	1994	1941	1984	1993	1993	1995	1995	1962	1992	1951
MIN	295	373	365	331	402	454	404	300	284	119	143	200
(WY)	1941	1976	1979	1937	1939	1995	1940	1940	1940	1974	1969	1940

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1937 - 1999	
ANNUAL TOTAL	199981		215857			
ANNUAL MEAN	548		591		484	
HIGHEST ANNUAL MEAN					644	
LOWEST ANNUAL MEAN					354	
HIGHEST DAILY MEAN	1150		1030		2690	
LOWEST DAILY MEAN	216		278		45	
ANNUAL SEVEN-DAY MINIMUM	234		302		74	
INSTANTANEOUS PEAK FLOW (STAGE)			1180 (4.31)		3480 (5.59)	
INSTANTANEOUS PEAK STAGE			*5.76		**9.50	
ANNUAL RUNOFF (AC-FT)	396700		428200		350900	
10 PERCENT EXCEEDS	715		763		686	
50 PERCENT EXCEEDS	559		612		478	
90 PERCENT EXCEEDS	317		385		270	

\* Backwater from ice.

\*\* From floodmark; ice jam.



NORTH LOUP RIVER AT TAYLOR

# PLATTE RIVER BASIN

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## 06787300 CALAMUS RESERVOIR NEAR BURWELL, NE

LOCATION.--Lat 41°49'38", long 99°13'11", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.31, T.22 N., R.16W., Garfield County, Hydrologic Unit 10210008, near right bank in control house of outlet works of Calamus Dam on Calamus River, 4 mi upstream from mouth, 5.5 mi northwest of Burwell.

DRAINAGE AREA.--1,050 mi<sup>2</sup>, approximately, of which about 110 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--November 1985 to current year.

GAGE.--Fluid gage with continuous recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 1, 1985. Usable capacity, 102,750 acre-ft between elevations 2213.3 ft, bottom of conservation pool, and 2244.0 ft, top of inlet structure; inactive capacity, 23,830 acre-ft between elevations 2185.0 ft, sill of outlet gate, and 2213.3 ft. Dead storage 817 acre-ft below elevation 2185.0 ft. Figures given herein represent total contents. Water is used for irrigation of North Loup project of Bureau of Reclamation.

COOPERATION.--Records of elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 131,100 acre-ft June 25, 1988, elevation, 2244.71 ft; minimum observed since appreciable storage was attained, 51,830 acre-ft Sept. 30, 1999, elevation 2224.87 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 129,460 acre-ft May 5, elevation, 2244.40 ft; minimum observed, 51,830 acre-ft Sept. 30, elevation, 2224.87 ft.

## MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	*Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 .....	2,234.91	86,220	--
Oct. 31 .....	2,239.39	105,190	+18,970
Nov. 30 .....	2,241.98	117,320	+12,130
Dec. 31 .....	2,242.18	118,300	+980
CAL YR 1998.....	--	--	+300
Jan. 31 .....	2,242.02	117,520	-780
Feb. 28 .....	2,242.05	118,680	+160
Mar. 31 .....	2,243.46	124,650	+6,970
Apr. 30 .....	2,244.08	127,810	+3,160
May 31 .....	2,244.11	127,960	+150
June 30 .....	2,241.93	117,080	-10,880
July 31 .....	2,236.14	91,180	-25,900
Aug. 31 .....	2,229.24	65,510	-25,670
Sept. 30 .....	2,224.87	51,830	-13,680
WTR YR 1999.....	--	--	-34,390

\* Elevations read on or near last day of month.

## PLATTE RIVER BASIN

06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE

LOCATION.--Lat 41°15'48", long 098°26'56", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.22, T.15 N., R.10 W., Howard County, Hydrologic Unit 10210007, on right bank 310 ft downstream from bridge on U.S. Highway 281, 3 mi north of St. Paul, and 2.9 mi upstream from confluence with Middle Loup River.

DRAINAGE AREA.--4,302 mi<sup>2</sup>, of which about 1,240 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1894 to September 1915, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 976: 1942. WSP 1390: 1896. WDR NE-75-1: 1974. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,759.29 ft, adjusted, above sea level. See WSP 1918 for history of changes prior to Oct. 1, 1954. Data collection platform at station.

REMARKS.--Records good except for period of estimated record, which is poor. Natural flow affected by diversions and ground-water withdrawals for irrigation and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	877	902	1380	e780	e910	1450	1080	1530	3270	1720	642	1020
2	965	880	1290	e740	e940	1490	1130	1390	2000	1600	621	948
3	897	999	1310	e700	e1000	1400	1230	1460	1180	1460	666	935
4	845	1080	1350	e660	e1200	1320	1130	1770	1120	1340	674	1050
5	901	1190	1390	e708	e1300	1300	1350	3690	1400	1250	640	1200
6	892	1130	1380	e700	e1200	1350	1970	2610	942	1210	652	1430
7	826	1150	1330	e680	1100	1360	1810	2160	896	1090	926	1540
8	770	1140	1250	e680	1120	1430	1780	1800	864	956	993	1430
9	659	1130	1180	e680	1160	1340	1990	1460	900	983	1060	1320
10	626	1360	1170	e720	1280	1300	2040	1330	1090	879	1080	1270
11	640	1110	1230	e780	1420	1260	1720	1480	2090	839	1180	1240
12	662	1030	1240	e760	1390	1260	1640	1120	1920	823	1260	1180
13	672	1010	1250	e700	1260	1130	1650	995	1580	764	1180	1120
14	666	1130	1240	e740	1280	1080	2280	739	1520	698	988	1110
15	668	1260	1300	e780	1250	1170	2020	762	1650	643	908	1080
16	665	1520	1320	e760	1310	1190	1860	914	2330	605	909	1090
17	695	1640	1270	e760	1330	1330	1550	1170	2000	644	865	1120
18	947	1720	1280	e760	1300	1240	1340	1090	1650	885	773	1170
19	924	1720	1200	e740	1290	1080	1280	1040	1510	931	748	1150
20	876	1600	927	e760	1190	976	1180	1130	1370	955	674	1090
21	821	1540	e800	e760	1100	941	1310	1270	1250	1020	651	1070
22	778	1490	e680	e740	1110	1030	1410	1190	1240	1610	653	1020
23	775	1560	e720	e740	1120	1030	1510	1840	1290	1720	713	1040
24	813	1570	e700	e720	1100	1120	1480	2000	1500	1380	705	1020
25	821	1560	e780	e740	1150	1050	1410	1790	1850	1170	668	977
26	845	1570	e820	e760	1290	1130	1490	1720	1430	930	709	990
27	833	1510	e860	e760	1350	1100	1550	1670	3760	807	736	1040
28	860	1490	e940	e800	1420	1160	1660	1670	3490	826	744	1150
29	894	1470	e880	e880	---	1190	1640	1620	2330	750	751	1200
30	880	1450	e820	e880	---	1160	1550	1450	1810	668	841	1200
31	903	---	e800	e880	---	1110	---	1350	---	652	954	---
TOTAL	24896	39911	34087	23248	33870	37477	47040	47210	51232	31808	25564	34200
MEAN	803	1330	1100	750	1210	1209	1568	1523	1708	1026	825	1140
MAX	965	1720	1390	880	1420	1490	2280	3690	3760	1720	1260	1540
MIN	626	880	680	660	910	941	1080	739	864	605	621	935
AC-FT	49380	79160	67610	46110	67180	74340	93300	93640	101600	63090	50710	67840

e Estimated

# PLATTE RIVER BASIN

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06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	890	928	875	883	1125	1265	1110	1064	1059	710	679823	
MAX	1224	1330	1385	1703	1861	2589	1843	1743	2516	2471	1812	1384
(WY)	1996	1999	1998	1998	1998	1936	1987	1995	1947	1993	1966	1965
MIN	568	647	433	517	603	787	702	576	606	199	221	326
(WY)	1940	1938	1930	1940	1942	1934	1946	1943	1934	1974	1941	1940

## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

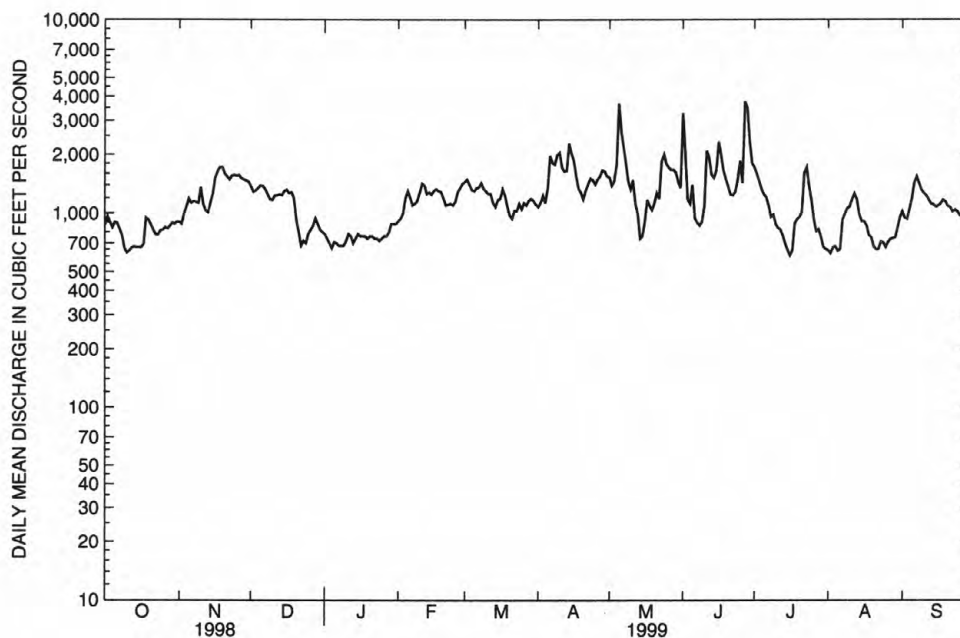
### FOR 1999 WATER YEAR

### WATER YEARS 1928 - 1999

ANNUAL TOTAL	435838	430543	
ANNUAL MEAN	1194	1180	949
HIGHEST ANNUAL MEAN			1223
LOWEST ANNUAL MEAN			668
HIGHEST DAILY MEAN	5700	Jun 18	3760
LOWEST DAILY MEAN	410	Jul 17	605
ANNUAL SEVEN-DAY MINIMUM	475	Jul 15	650
INSTANTANEOUS PEAK FLOW (STAGE)			6130 (4.80)
INSTANTANEOUS PEAK STAGE			*4.96
ANNUAL RUNOFF (AC-FT)	864500	854000	687800
10 PERCENT EXCEEDS	1650	1650	1370
50 PERCENT EXCEEDS	1080	1130	894
90 PERCENT EXCEEDS	694	709	507

\* Backwater from ice.

\*\* From floodmark, datum then in use.



NORTH LOUP RIVER NEAR ST. PAUL

06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1974 to current year.

PERIOD OF DAILY RECORD.--

**SPECIFIC CONDUCTANCE:** July 1974 to September 1978.

WATER TEMPERATURES: July 1974 to September 1978.

**SUSPENDED SEDIMENT DISCHARGE:** April 1946 to June 1953.

EXTREMES FOR PERIOD OF RECORD.--

**SPECIFIC CONDUCTANCE:** Maximum daily, 426 microsiemens Jan. 18, 1976; minimum daily, 138 microsiemens Oct. 21, 1977.

**WATER TEMPERATURES:** Maximum, 34.0° C July 17, 1978; minimum, 0.0°C on many days during winter periods.

**SEDIMENT CONCENTRATIONS:** Maximum daily, 17,400 mg/L Apr. 27, 1951; minimum daily, not determined.

SEDIMENT LOADS: Maximum daily, 463,000 tons June 22, 1947; minimum daily, 20 tons Aug. 3, 1946, Feb. 22, 1953.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

				PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)
DATE	TIME	DIS- CHARGE, INST. FT <sup>3</sup> /S (00061)	SPECIFIC CONDUCT- ANCE (μ S/CM) (00095)							
HOWARD COUNTY										
OCT	20	1320	838	264	8.2	14.0	12.5	--	--	--
DEC	01	1255	1410	236	8.3	19.5	9.0	--	--	--
JAN	05	1130	708	304	7.8	3.0	.5	--	--	--
MAR	01	1320	1430	243	7.8	20.0	10.0	20	99	114
APR	12	1300	1620	242	8.1	21.0	14.0	--	--	--
JUN	02	1330	1640	304	7.9	29.0	23.0	--	--	--
JUL	06	1255	1200	248	8.9	27.0	26.5	40	110	124
AUG	16	1315	918	234	9.1	29.0	28.0	--	--	--
SEP	27	0950	1010	228	8.4	15.0	15.5	--	--	--

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

[illegible]



HOWARD COUNTY

[illegible]

## PLATTE RIVER BASIN

06792500 LOUP RIVER POWER CANAL NEAR GENOA, NE

LOCATION.--Lat 41°25'03", long 097°47'37", in NE1/4 NE1/4 sec.32, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, at skimming weir on downstream end of settling basin on left bank, 2 mi downstream from point of diversion and 3.5 mi southwest of Genoa.

PERIOD OF RECORD.--December 1936 to current year.

GAGE.--Water-stage recorder and concrete weir. Datum of gage is 1,566.26 ft above sea level. Prior to Oct. 1, 1956, at datum 3.0 feet higher.

REMARKS.--Records good. Canal diverts from Loup River in sec. 6, T.16 N., R.4 W.; water is used in powerplants near Monroe and Columbus and is returned to Platte River 1.5 mi downstream from Loup River. Diversion began Dec. 2, 1936.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	2500	2920	757	2050	1900	1630	1140	3000	3050	1590	1920
2	43	2630	2750	276	2010	1910	1760	1040	2640	3030	1610	1920
3	e20	2550	2880	398	1650	1940	1900	1290	2820	3060	1640	1810
4	e20	2690	2790	586	728	1960	1870	1540	2790	3090	1700	1840
5	52	2880	2910	1070	933	2070	1730	2070	2840	2950	1750	1930
6	597	2940	2880	1270	755	2050	2210	2230	2840	2920	1900	2070
7	505	2790	2910	1210	527	2040	2020	2150	2620	2830	2000	2290
8	705	2730	2920	1140	895	1970	1960	1950	2380	2520	2180	2120
9	1540	2840	2870	1250	1170	1950	2130	2020	2280	2740	2250	2160
10	2070	2820	2860	1320	1430	1820	2260	2190	2370	2710	2150	2090
11	2050	2870	2920	1480	1440	2050	2290	2340	2490	2230	2260	2070
12	2130	2880	2910	1620	1460	1940	2130	2340	2280	2120	2200	2090
13	435	2880	2870	1640	899	1890	2020	2240	2250	2010	2220	2040
14	502	2820	2910	1830	1490	1910	2100	2240	2130	1850	2240	2050
15	944	2820	2900	1860	1490	1880	2420	2280	2310	1720	2140	2070
16	1040	2820	2910	1950	1720	1770	2340	2360	2620	1690	2040	1910
17	1980	2770	2870	2030	1800	1700	2360	2530	2820	1690	1960	2060
18	2440	2800	2670	2010	1740	1760	2070	2470	2730	1970	1910	2160
19	2590	2790	856	2040	1710	1730	1840	2250	3050	2440	1810	2160
20	2130	2720	58	1880	1680	1690	1830	2460	3030	2310	1790	2180
21	1070	2870	e8.0	1860	1550	1640	1910	2510	2890	2150	1680	2190
22	1820	2910	66	1060	762	1650	2150	2940	2780	2030	1560	2200
23	2270	2900	122	1860	199	1730	2260	2960	2930	2220	1520	2140
24	2270	2850	140	1990	470	1760	2200	3130	3180	2170	1540	2150
25	2260	2900	170	1970	1710	1750	2100	3430	2740	2060	1550	2130
26	2320	2900	202	1750	1550	1750	2160	3080	2240	1950	1520	2120
27	2400	2830	229	1900	1840	1780	2160	2980	2130	1910	1450	2110
28	2440	2920	452	1990	1940	1740	2270	2910	2210	1730	1500	1910
29	2470	2930	704	1990	---	1740	2090	2990	2810	1730	1510	1760
30	2530	2790	485	2040	---	1640	1610	2980	2990	1620	1650	1810
31	2600	---	752	2120	---	1690	---	2910	---	1570	1750	---
TOTAL	46284	84340	55894.0	48147	37598	56800	61780	73950	79190	70070	56570	61460
MEAN	1493	2811	1803	1553	1343	1832	2059	2385	2640	2260	1825	2049
MAX	2600	2940	2920	2120	2050	2070	2420	3430	3180	3090	2260	2290
MIN	20	2500	8.0	276	199	1640	1610	1040	2130	1570	1450	1760
AC-FT	91800	167300	110900	95500	74580	112700	122500	146700	157100	139000	112200	121900

e Estimated

# PLATTE RIVER BASIN

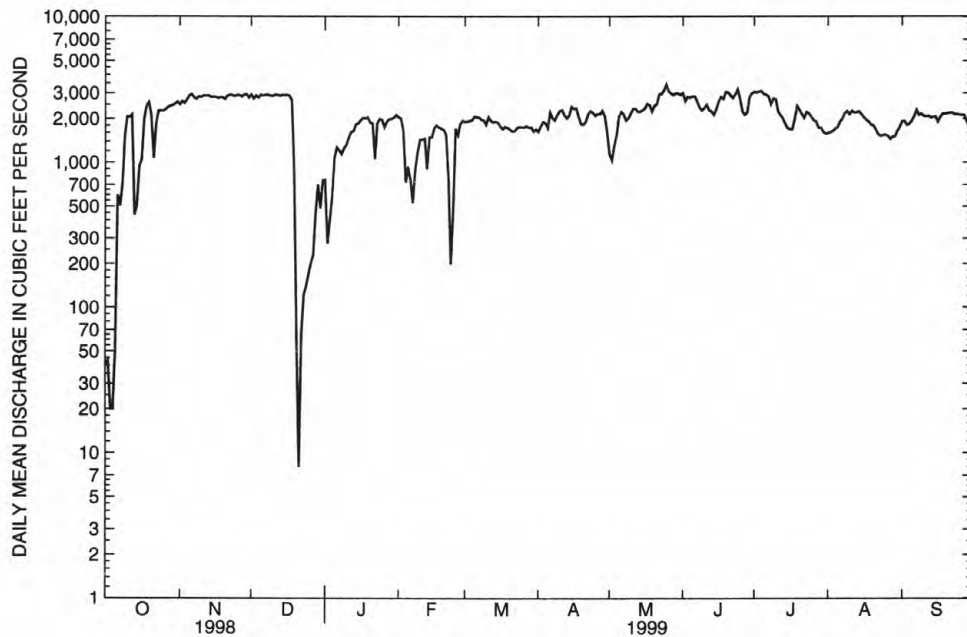
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06792500 LOUP RIVER POWER CANAL NEAR GENOA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1938	1840	989	1175	1536	1838	2139	1999	1949	1383	1253	1565
MAX	2730	2811	1886	2194	2375	2673	2778	2767	2944	2706	2382	2640
(WY)	1987	1999	1982	1983	1987	1990	1977	1957	1962	1962	1996	1951
MIN	544	508	155	129	438	506	537	378	534	309	417	526
(WY)	1938	1939	1975	1985	1958	1939	1939	1984	1938	1980	1971	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	630543.0		732083.0			
ANNUAL MEAN	1728		2006		1632	
HIGHEST ANNUAL MEAN					2006	
LOWEST ANNUAL MEAN					585	
HIGHEST DAILY MEAN	2990		Feb 20		3560	
LOWEST DAILY MEAN	8.0		Dec 21		.00	
ANNUAL SEVEN-DAY MINIMUM	41		Sep 29		11	
ANNUAL RUNOFF (AC-FT)	1251000		1452000		1182000	
10 PERCENT EXCEEDS	2870		2900		2580	
50 PERCENT EXCEEDS	1970		2050		1740	
90 PERCENT EXCEEDS	154		940		523	



LOUP RIVER POWER CANAL NEAR GENOA

## PLATTE RIVER BASIN

06793000 LOUP RIVER NEAR GENOA, NE

LOCATION.--Lat 41°25'05", long 097°43'25", in SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.25, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, on right bank 12 ft downstream from bridge on State Highway 39, 2 mi south of Genoa, 3 mi upstream from Beaver Creek, 6 mi downstream from diversion dam of Loup River Public Power District and at mile 26.8.

DRAINAGE AREA --14,320 mi<sup>2</sup>, of which about 5,620 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--August 1928 to June 1932, October 1943 to current year (October 1953 to April 1955, monthly discharge only).

REVISED RECORDS.--WDR NE-94-1: Drainage area. WDR NE-99-1: 1993 (maximum stage).

NOTE: The maximum stage for the 1993 water year had been revised in 1994 and is listed in the peak flow file, but the change was never actually shown in the 1994 water year report. The stage was changed from 11.01 ft July 24, 1993, to 12.69 ft Mar.8, 1993, affected by backwater from ice..

GAGE.--Water-stage recorder. Datum of gage is 1,540.13 ft above sea level. Aug. 17, 1928, to June 30, 1932, nonrecording gage at present site at datum 1.49 ft higher. Oct. 1, 1943, to Sept. 16, 1974, (Apr. 26 to Dec. 22, 1949, wire-weight gage only), at present site and datum. Sept. 17, 1974, to Nov. 21, 1977, at site 300 ft upstream at present datum. Data collection platform at station.

REMARKS.--Records fair except for period of estimated record, which is poor. Natural flow of stream affected by power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Records do not include flow of Loup River power canal (station 06792500), which diverts at point 6 mi upstream and returns to Platte River below mouth of Loup River; diversion began Dec. 2, 1936.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2420	357	263	e1100	e2000	1800	1740	2140	3330	2930	60	184
2	2600	378	336	e1050	e3000	1580	1940	1800	6470	2730	56	115
3	2470	772	226	e1000	e4500	1730	2240	1720	1870	1300	54	110
4	2560	1110	273	e900	e5000	1720	2030	1660	956	655	69	108
5	2600	1050	145	e800	e6000	1440	2180	3590	346	478	74	112
6	1960	554	223	e850	e5000	1400	2960	4580	712	307	81	192
7	2370	465	288	e900	e5400	1450	2910	2900	155	271	79	448
8	1740	801	287	e950	e6400	1500	2400	2530	97	233	143	608
9	917	780	269	e1000	e4000	1610	2250	1630	63	429	141	307
10	327	1630	211	e1100	3140	1550	2200	1390	157	292	213	211
11	247	1690	143	e1150	2490	1480	2040	1330	1300	163	116	173
12	182	929	128	e1200	2510	1520	1730	1040	3130	153	352	166
13	1580	670	118	e1250	2560	1630	1590	526	1720	133	321	133
14	1790	475	78	e1300	1590	1630	2170	351	1240	126	98	116
15	1570	504	78	e1340	1460	1730	4680	350	1120	154	55	114
16	1580	581	110	e1300	1320	1790	2950	486	2550	125	46	352
17	667	882	147	e1250	1400	1780	1770	840	2860	117	37	219
18	576	982	219	e1200	1380	1840	1360	584	1890	144	32	165
19	567	1110	e300	e1250	1490	1580	1200	458	1170	351	27	146
20	400	1100	e450	e1300	1620	1470	1270	600	923	178	26	161
21	1530	587	e600	e1250	1580	1660	1330	1550	566	118	24	148
22	856	446	e800	e1250	2490	1650	1960	672	454	97	30	128
23	303	376	e900	e1200	3140	1560	1420	1450	526	200	33	129
24	249	449	e1000	e1100	2980	1560	1460	2040	466	300	50	59
25	202	355	e1100	e1000	1790	1480	1300	870	2430	242	64	52
26	184	349	e1200	e1100	1730	1490	1250	534	2930	245	92	48
27	182	353	e1300	e1400	1880	1500	1230	582	8730	189	151	49
28	202	266	e1250	e1700	1870	1680	1300	391	11500	175	111	47
29	182	216	e1200	e1900	---	2040	1600	202	4320	170	112	47
30	260	308	e1100	e1800	---	2180	2210	167	3040	185	106	46
31	317	---	e1050	e1700	---	1840	---	190	---	122	134	---
TOTAL	33590	20525	15792	37590	79720	50870	58670	39153	67021	13312	2987	4893
MEAN	1084	684	509	1213	2847	1641	1956	1263	2234	429	96.4	163
MAX	2600	1690	1300	1900	6400	2180	4680	4580	11500	2930	352	608
MIN	182	216	78	800	1320	1400	1200	167	63	97	24	46
AC-FT	66630	40710	31320	74560	158100	100900	116400	77660	132900	26400	5920	9710

e Estimated

# PLATTE RIVER BASIN

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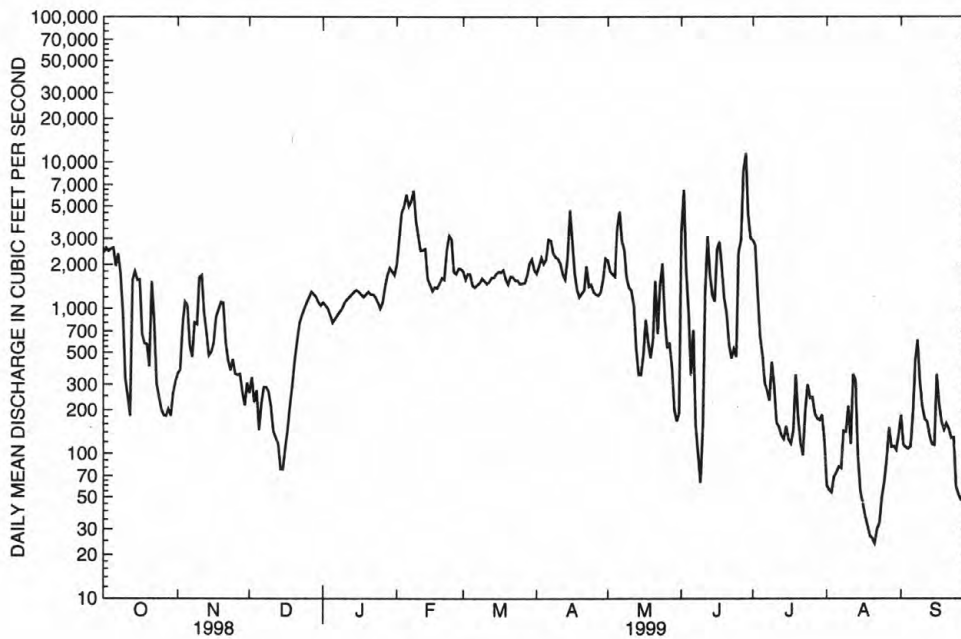
06793000 LOUP RIVER NEAR GENOA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999, BY WATER YEARS (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	150	437	1059	957	1379	1667	680	638	927	376	260	237
MAX	1084	1650	2533	2632	4762	5650	3745	4777	7365	6214	4253	2055
(WY)	1999	1992	1998	1990	1997	1978	1984	1984	1947	1993	1966	1998
MIN	3.76	41.1	177	67.5	72.4	95.0	18.5	8.18	7.54	.17	1.15	.000
(WY)	1977	1953	1956	1982	1955	1981	1981	1963	1981	1963	1970	1956

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1944 - 1999	
ANNUAL TOTAL	501809		424123			
ANNUAL MEAN	1375		1162		727	
HIGHEST ANNUAL MEAN					1993	
LOWEST ANNUAL MEAN					182	
HIGHEST DAILY MEAN	6710	Jun 18	11500	Jun 28	70800	Aug 13 1966
LOWEST DAILY MEAN	41	Aug 1	24	Aug 21	.00	Aug 20 1956
ANNUAL SEVEN-DAY MINIMUM	56	Jul 15	30	Aug 17	.00	Aug 20 1956
INSTANTANEOUS PEAK FLOW (STAGE)			16800 (8.42)	Jun 28	129000	Aug 13 1966
INSTANTANEOUS PEAK STAGE			10.05	Feb 5	*13.93	Aug 13 1966
ANNUAL RUNOFF (AC-FT)	995300		841200		527000	
10 PERCENT EXCEEDS	3150		2500		2100	
50 PERCENT EXCEEDS	940		923		120	
90 PERCENT EXCEEDS	110		111		13	

\* Based on rating curve extended above 28,000 ft<sup>3</sup>/s and velocity.



LOUP RIVER NEAR GENOA



## PLATTE RIVER BASIN

06794000 BEAVER CREEK AT GENOA, NE

LOCATION.--Lat 41°26'32", long 097°44'11", in NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.14, T.17 N., R.4 W., Nance County, Hydrologic Unit 10210009, on left bank in city park at southwest corner of Genoa, 0.2 mi downstream from Union Pacific Railroad bridge, 0.2 mi upstream from bridge on State Highway 39, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--677 mi<sup>2</sup>, of which about 429 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1310: 1942(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,542.13 ft above sea level. October 1940 to Nov. 5, 1942, nonrecording gage and Nov. 6, 1942, to Nov. 1, 1955, water-stage recorder, at site 0.4 mi upstream at datum 4.62 ft higher.

REMARKS.--Records fair except for periods of estimated record, which are poor. Natural flow affected slightly by ground-water and surface-water withdrawals for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	112	121	e100	e125	374	157	215	444	347	77	49
2	74	116	122	e94	132	376	143	208	420	286	76	44
3	81	125	118	e84	131	339	133	207	315	274	73	46
4	102	139	117	e80	137	300	126	240	439	255	66	48
5	127	172	117	e90	150	258	147	225	667	238	63	53
6	208	165	115	e86	156	228	207	220	851	215	92	54
7	152	155	113	e82	153	202	401	293	663	196	119	60
8	119	153	114	e84	153	186	459	366	339	182	198	60
9	108	167	113	e80	149	178	472	340	222	572	205	54
10	102	228	114	e90	156	170	540	314	250	230	173	52
11	97	265	113	e110	157	165	521	269	276	173	155	56
12	92	262	114	e104	150	163	395	224	267	161	138	62
13	93	243	114	e84	135	164	346	206	281	155	123	62
14	93	256	113	e110	130	166	356	192	250	145	112	62
15	92	255	115	e120	131	178	488	184	289	133	97	62
16	94	248	116	e114	132	203	620	229	375	127	89	61
17	95	224	116	e110	135	241	624	190	435	121	82	62
18	107	199	121	e96	137	225	508	167	465	219	73	66
19	102	177	113	e100	136	191	421	163	344	157	67	69
20	101	161	e90	e106	134	168	365	163	269	150	58	67
21	100	152	e80	e100	134	154	324	173	242	144	58	65
22	99	148	e70	e100	137	151	331	162	227	147	58	69
23	96	144	e100	e100	143	149	279	216	247	137	62	73
24	97	136	e120	e96	131	150	267	162	378	129	53	74
25	96	135	e125	e92	145	177	267	170	268	127	54	70
26	98	130	e130	e98	149	221	260	161	221	129	49	67
27	99	126	e130	e104	170	210	248	158	1660	118	43	67
28	114	124	e130	e106	238	182	246	152	323	104	46	67
29	127	125	e125	e140	---	165	238	146	467	101	47	67
30	122	124	e110	e120	---	167	225	139	450	96	49	70
31	123	---	e96	e114	---	162	---	135	---	87	51	---
TOTAL	3270	5166	3505	3094	4066	6363	10114	6389	12344	5655	2706	1838
MEAN	105	172	113	99.8	145	205	337	206	411	182	87.3	61.3
MAX	208	265	130	140	238	376	624	366	1660	572	205	74
MIN	60	112	70	80	125	149	126	135	221	87	43	44
AC-FT	6490	10250	6950	6140	8060	12620	20060	12670	24480	11220	5370	3650

e Estimated

# PLATTE RIVER BASIN

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06794000 BEAVER CREEK AT GENOA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	81.7	88.4	85.2	83.7	136	199	169	177	236	142	95.8	81.6
MAX	184	173	150	197	537	688	519	432	808	1248	601	216
(WY)	1987	1983	1973	1973	1971	1993	1984	1984	1967	1950	1966	1993
MIN	43.4	47.6	42.2	48.0	57.4	78.0	74.2	67.3	64.0	12.9	8.72	29.8
(WY)	1981	1941	1977	1957	1979	1981	1981	1981	1980	1980	1976	1976

## SUMMARY STATISTICS

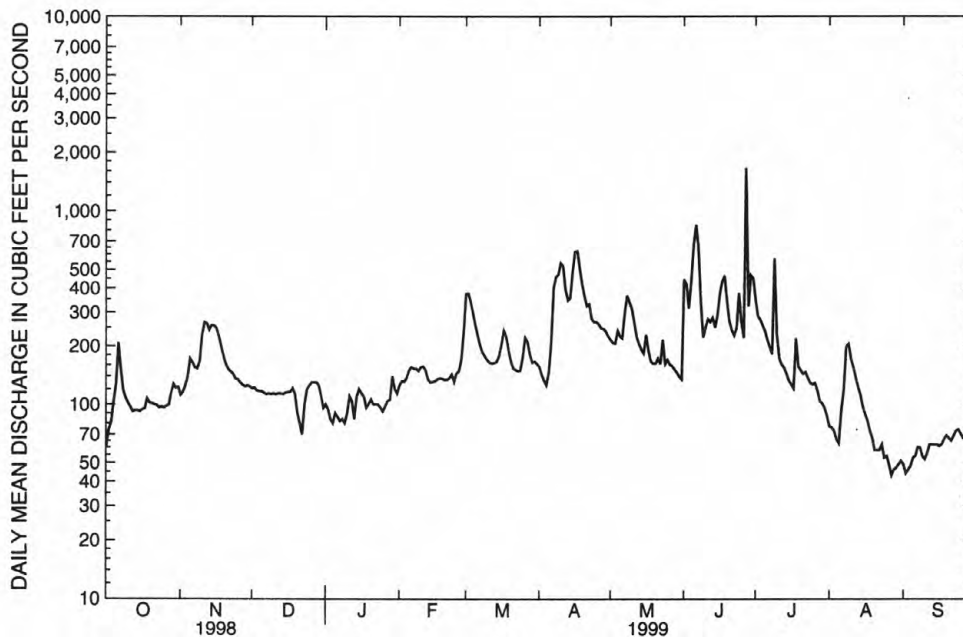
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1941 - 1999

ANNUAL TOTAL	57948	64510	
ANNUAL MEAN	159	177	131
HIGHEST ANNUAL MEAN			268
LOWEST ANNUAL MEAN			70.9
HIGHEST DAILY MEAN	1800	Jun 19	10000
LOWEST DAILY MEAN	25	Aug 19	.41
ANNUAL SEVEN-DAY MINIMUM	32	Aug 14	.90
INSTANTANEOUS PEAK FLOW			3780
INSTANTANEOUS PEAK STAGE			14.20
ANNUAL RUNOFF (AC-FT)	114900	128000	94970
10 PERCENT EXCEEDS	295	334	212
50 PERCENT EXCEEDS	120	137	90
90 PERCENT EXCEEDS	58	67	49

\* Site and datum then in use.



BEAVER CREEK AT GENOA

## PLATTE RIVER BASIN

06794650 CLEAR CREEK 1.75 MILE WEST OF POLK COUNTY LINE, NE

LOCATION.--Lat 41°21'07", long 097°24'11", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec. 14, T. 16 N., R. 1 W., Polk County, Hydrologic Unit 10200103, on right bank of the upstream side of bridge, 1.75 mi west of Polk County line. (NOTE: Refer to map on page 74.)

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to current year.

GAGE.--Water-stage recorder.

REMARKS.-- Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.0	15	23	19	23	29	37	41	532	243	19	12
2	e7.0	17	23	18	22	31	38	42	1160	172	19	11
3	e9.0	19	21	e17	23	30	38	42	788	131	18	11
4	e10	18	23	e16	24	29	38	46	564	99	18	12
5	e12	17	23	16	23	29	43	49	424	80	17	12
6	13	18	23	20	25	29	56	51	235	67	23	12
7	13	18	23	20	24	28	71	51	147	60	39	12
8	12	19	23	20	22	29	59	47	110	55	45	11
9	11	19	23	20	24	30	48	43	89	64	37	10
10	11	25	22	20	23	30	46	41	92	59	28	11
11	12	27	22	16	25	31	43	40	95	50	27	11
12	12	31	22	20	23	32	39	40	81	46	26	11
13	12	31	22	19	22	33	36	38	69	43	24	10
14	12	30	22	18	21	34	53	40	60	40	22	9.7
15	12	28	22	18	22	33	201	44	59	37	21	10
16	13	26	22	19	22	31	349	50	68	40	23	9.8
17	13	26	22	20	21	35	202	56	68	84	21	9.8
18	13	26	23	21	22	34	113	57	62	62	21	10
19	13	25	22	20	22	33	83	55	55	47	20	10
20	13	24	22	21	23	33	66	60	51	41	19	10
21	13	24	21	22	23	33	63	105	48	37	18	10
22	13	23	20	23	23	34	60	215	46	33	18	10
23	13	23	18	22	e25	37	54	221	90	30	17	10
24	13	23	18	23	e27	41	51	186	80	28	15	10
25	13	23	16	22	e28	43	48	163	80	28	14	10
26	14	21	17	22	e30	42	48	112	63	27	13	9.8
27	14	22	17	22	e31	40	47	85	419	26	12	10
28	15	23	19	22	32	39	46	73	533	24	12	10
29	15	23	19	22	---	37	44	66	471	23	12	10
30	15	23	19	22	---	36	43	77	372	21	12	10
31	15	---	20	23	---	35	---	104	---	20	11	---
TOTAL	381.0	687	652	623	675	1040	2163	2340	7011	1817	641	315.1
MEAN	12.3	22.9	21.0	20.1	24.1	33.5	72.1	75.5	234	58.6	20.7	10.5
MAX	15	31	23	23	32	43	349	221	1160	243	45	12
MIN	5.0	15	16	16	21	28	36	38	46	20	11	9.7
AC-FT	756	1360	1290	1240	1340	2060	4290	4640	13910	3600	1270	625

e Estimated

# PLATTE RIVER BASIN

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06794650 CLEAR CREEK 1.75 MILE WEST OF POLK COUNTY LINE, NE--Continued

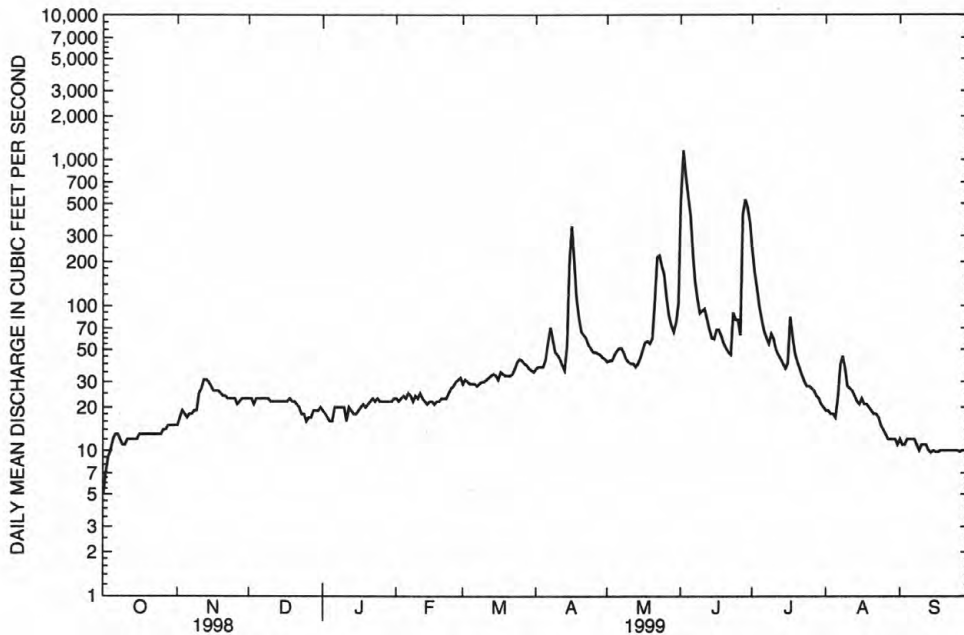
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.1	21.5	21.0	16.8	21.6	26.6	58.5	47.9	101	26.5	15.0	8.96
MAX	13.2	26.0	25.0	20.1	24.1	33.5	114	75.5	234	58.6	25.8	15.2
(WY)	1997	1997	1997	1999	1999	1999	1998	1999	1999	1999	1996	1996
MIN	7.98	15.5	17.1	12.5	19.9	21.2	18.2	29.9	30.6	10.7	2.97	4.78
(WY)	1998	1998	1998	1998	1998	1998	1996	1998	1997	1997	1997	1997

## SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1996 - 1999

ANNUAL TOTAL	11304.5	18345.1	
ANNUAL MEAN	31.0	50.3	33.4
HIGHEST ANNUAL MEAN			50.3
LOWEST ANNUAL MEAN			20.3
HIGHEST DAILY MEAN	560	1160	1160
LOWEST DAILY MEAN	4.2	5.0	2.5
ANNUAL SEVEN-DAY MINIMUM	4.6	9.9	2.7
INSTANTANEOUS PEAK FLOW		1360	1360
INSTANTANEOUS PEAK STAGE		*8.65	8.65
ANNUAL RUNOFF (AC-FT)	22420	36390	24190
10 PERCENT EXCEEDS	55	80	54
50 PERCENT EXCEEDS	19	23	20
90 PERCENT EXCEEDS	6.4	12	6.9

\* From floodmark.



CLEAR CREEK 1.75 MILE WEST OF POLK COUNTY LINE

## PLATTE RIVER BASIN

06794650 CLEAR CREEK 1.75 MILE WEST OF POLK COUNTY LINE, NE--Continued

WATER-QUALITY RECORDS  
Platte River Tributaries Study

WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

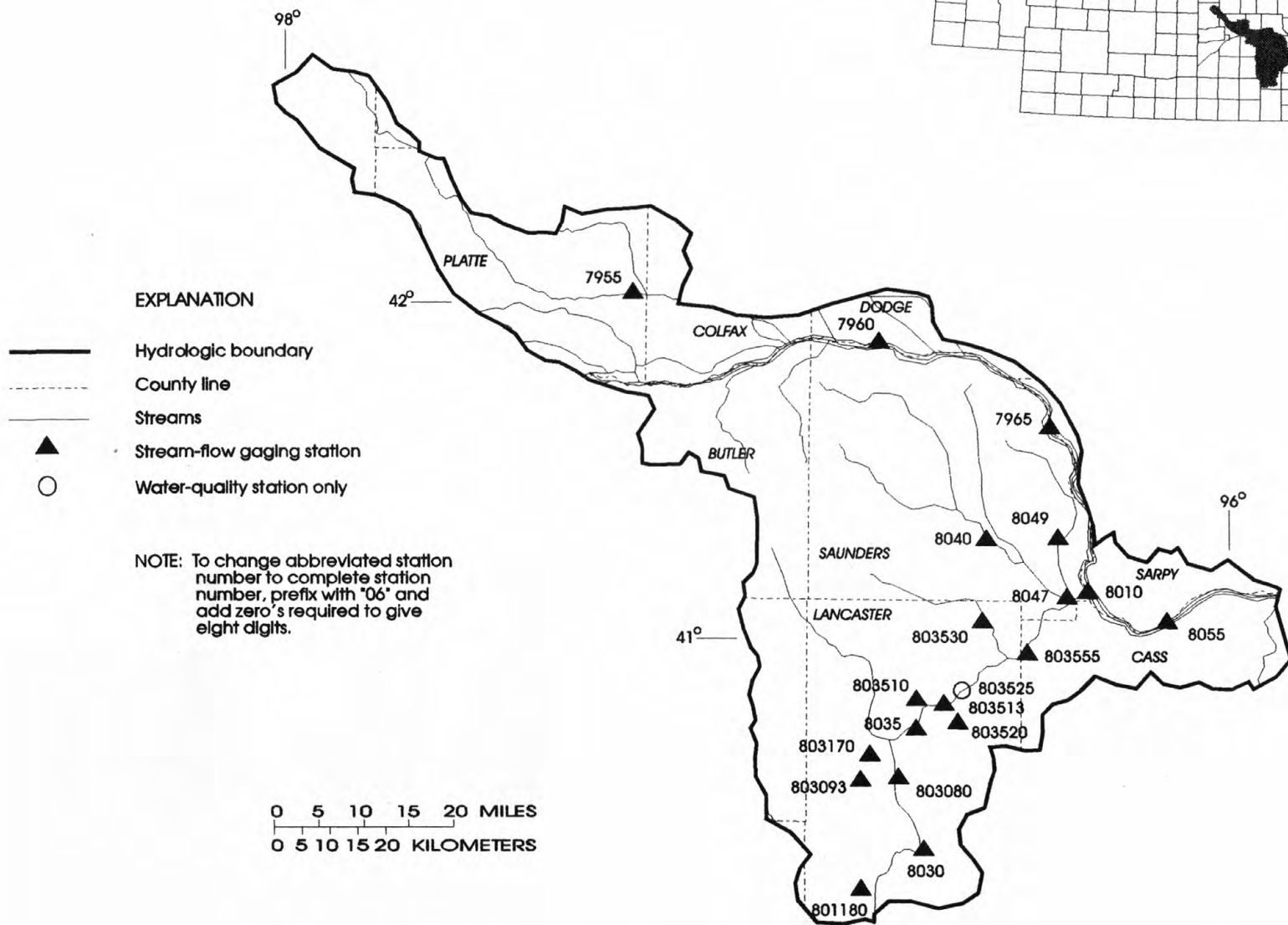
DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (μ S/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (°C)	TEMPER- ATURE WATER (°C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	
			(00061)	(00095)	(00400)	(00020)	(00010)	(00025)	(00301)	(00618)	(00613)		
NOV	24...	1200	4.38	23	645	7.8	9.0	8.0	725	9.4	84	6.57	.031
FEB	28...	1430	4.54	32	641	7.9	--	10.7	771	10.2	91	4.99	.035
APR	07...	1730	5.05	61	675	7.8	24.0	17.0	711	9.4	104	2.02	.050
MAY	12...	0900	4.71	41	657	8.0	11.0	12.5	725	8.8	87	5.57	.053
	17...	1600	5.00	57	655	8.1	18.0	17.5	724	12.7	140	4.32	.040
	21...	1400	5.66	110	455	7.0	--	20.0	--	7.7	--	2.19	.064
JUN	16...	1900	5.40	69	639	8.1	16.6	18.0	729	8.6	95	6.17	.045
JUL	15...	0900	4.66	38	627	7.7	24.0	20.0	--	7.0	--	7.37	.056
AUG	19...	0900	4.18	20	607	7.9	23.0	17.0	726	7.0	77	6.29	.062
SEP	15...	0900	3.90	9.9	565	7.6	6.0	11.5	729	7.2	69	7.31	.057

DATE	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	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)	
NOV	24...	6.60	<.020	--	--	.34	.25	6.9	6.9	.152	.150	.139
FEB	28...	5.03	.035	.68	.31	.72	.35	5.4	5.7	.135	.104	.107
APR	07...	2.07	.075	2.0	1.5	2.1	1.6	3.7	4.1	.483	.358	.267
MAY	12...	5.62	.026	.53	.33	.56	.35	6.0	6.2	.164	.135	.118
	17...	4.36	.022	.28	.56	.30	.58	4.9	4.7	.229	.192	.201
	21...	2.26	.159	2.0	1.4	2.2	1.6	3.8	4.4	.669	.406	.357
JUN	16...	6.22	.035	.75	.49	.79	.52	6.7	7.0	.276	.226	.217
JUL	15...	7.43	<.020	--	--	.67	.36	7.8	8.1	.177	.127	.117
AUG	19...	6.35	<.020	--	--	.54	.28	6.6	6.9	.227	.196	.180
SEP	15...	7.37	<.020	--	--	.48	.32	7.7	7.8	.123	.116	.099



WATER-QUALITY RECORDS  
Platte River Tributaries Study[illegible]

PLATE RIVER BASIN  
LOWER PLATE RIVER BASIN



PLATTE RIVER BASIN  
LOWER PLATTE RIVER BASIN

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*STATION NUMBER	STATION NAME	PAGE
7955	Shell Creek near Columbus .....	174
7960	Platte River at North Bend .....	176
7965	Platte River near Leshara .....	178
8010	Platte River near Ashland .....	204
801180	Olive Branch near Hallam .....	206
8030	Salt Creek at Roca .....	210
803080	Salt Creek at Pioneers Blvd at Lincoln .....	212
803093	Haines Branch at SW 56th St. at Lincoln .....	214
803170	Middle Creek at SW 40th St. at Lincoln .....	216
8035	Salt Creek at Lincoln .....	218
803510	Little Salt Creek near Lincoln .....	220
803513	Salt Creek at 70th St. at Lincoln .....	222
803520	Stevens Creek near Lincoln .....	224
803525	Salt Creek below Stevens Creek, near Waverly .....	226
803530	Rock Creek near Ceresco .....	228
803555	Salt Creek at Greenwood .....	230
8040	Wahoo Creek at Ithaca .....	232
8047	Wahoo Creek at Ashland .....	234
8049	Johnson Creek near Memphis .....	236
8055	Platte River at Louisville .....	238

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## PLATTE RIVER BASIN

06795500 SHELL CREEK NEAR COLUMBUS, NE

LOCATION.--Lat 41°31'33", long 097°16'55", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.23, T.18 N., R.1 E., Platte County, Hydrologic Unit 10200201, on right bank 80 ft upstream from county road bridge, 1 mi upstream from Loseke Creek, 7 mi northeast of Columbus, and at mile 32.2.

DRAINAGE AREA.--294 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1947 to September 1975, October 1977 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,435 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	29	32	e24	e37	75	36	57	744	117	35	15
2	21	30	30	e23	e38	73	34	54	1350	99	31	14
3	24	42	27	e20	e38	70	33	66	385	102	30	14
4	31	64	26	e18	e39	54	34	73	706	83	34	14
5	43	52	26	e20	e39	51	36	64	2350	79	35	15
6	69	42	27	e22	e40	48	129	64	3710	71	43	18
7	38	39	27	e21	e40	44	130	60	515	68	75	15
8	31	43	25	e20	40	44	75	55	245	64	58	17
9	28	48	23	e19	41	43	227	52	166	236	37	17
10	25	175	24	e20	41	42	127	50	405	222	35	17
11	25	316	24	e24	41	42	78	57	837	71	33	17
12	24	136	24	e25	37	44	65	76	677	61	33	18
13	24	103	25	e22	e27	44	57	57	229	56	32	18
14	25	81	25	e23	e30	44	74	49	130	55	32	18
15	25	67	25	e24	35	46	581	48	110	55	31	18
16	25	60	25	e26	34	46	302	84	547	53	31	18
17	26	55	24	e35	32	46	146	441	297	53	29	19
18	26	51	24	e58	33	42	104	121	134	173	28	18
19	26	48	e23	e56	35	38	89	67	105	390	28	18
20	24	44	e22	e54	35	37	77	59	97	85	25	19
21	24	43	e20	e50	36	36	74	66	93	60	25	19
22	24	42	e18	e46	34	36	128	60	90	55	23	19
23	24	39	e19	e44	e32	39	92	333	109	47	20	19
24	24	36	e21	e44	e31	44	78	123	256	44	20	19
25	26	35	e23	e42	e35	43	69	62	147	40	19	18
26	28	35	e24	e40	43	40	68	53	87	39	20	17
27	29	33	e25	e39	51	38	75	61	932	69	20	18
28	31	33	e25	e38	66	37	70	321	951	56	18	18
29	34	33	e25	e38	---	37	68	90	268	38	15	18
30	35	33	e24	e37	---	34	62	51	145	34	15	19
31	31	---	e22	e37	---	35	---	45	---	31	16	---
TOTAL	889	1887	754	1009	1060	1392	3218	2919	16817	2706	926	521
MEAN	28.7	62.9	24.3	32.5	37.9	44.9	107	94.2	561	87.3	29.9	17.4
MAX	69	316	32	58	66	75	581	441	3710	390	75	19
MIN	19	29	18	18	27	34	33	45	87	31	15	14
AC-FT	1760	3740	1500	2000	2100	2760	6380	5790	33360	5370	1840	1030

e Estimated

## PLATTE RIVER BASIN

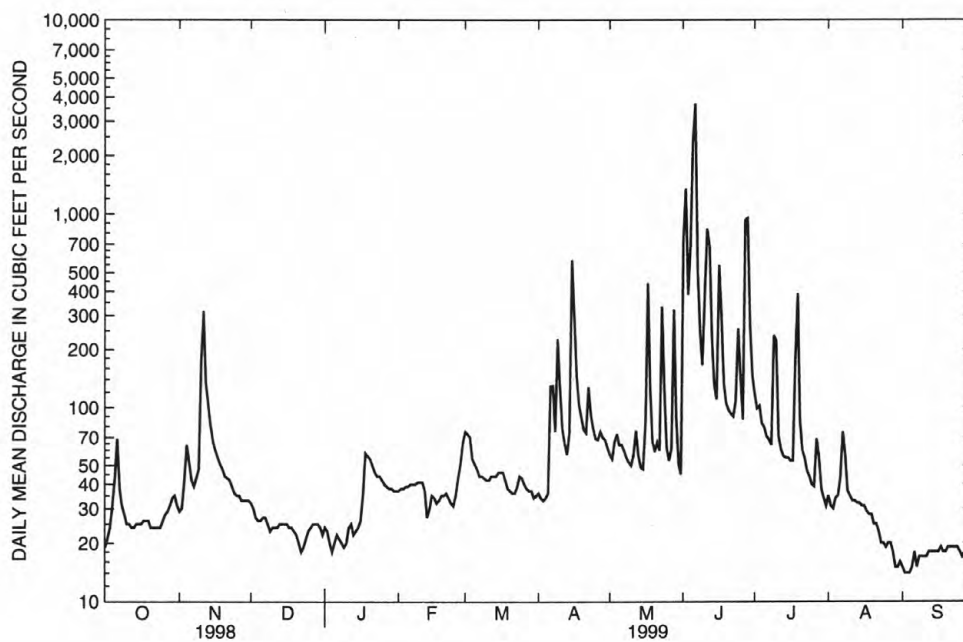
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06795500 SHELL CREEK NEAR COLUMBUS, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.9	17.5	15.3	18.7	52.3	95.8	43.1	69.3	127	65.7	39.8	24.6
MAX	74.6	62.9	42.2	84.7	322	469	210	552	702	515	202	195
(WY)	1983	1999	1994	1973	1971	1993	1984	1982	1990	1993	1951	1989
MIN	2.90	5.21	5.38	6.03	3.00	13.1	8.14	8.59	9.25	3.77	3.03	3.23
(WY)	1959	1959	1981	1957	1950	1981	1981	1981	1980	1974	1955	1980

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1948 - 1999	
ANNUAL TOTAL	24977		34098			
ANNUAL MEAN	68.4		93.4		48.9	
HIGHEST ANNUAL MEAN					136	
LOWEST ANNUAL MEAN					13.6	
HIGHEST DAILY MEAN	1430	Aug 22	3710	Jun 6	4900	Jun 17 1990
LOWEST DAILY MEAN	15	Mar 11	14	Sep 2	.40	Jul 27 1954
ANNUAL SEVEN-DAY MINIMUM	18	Jan 8	15	Aug 29	.86	Jul 22 1954
INSTANTANEOUS PEAK FLOW			5230	Jun 6	8000	Jun 17 1990
INSTANTANEOUS PEAK STAGE			18.59	Jun 6	22.76	Jun 17 1990
ANNUAL RUNOFF (AC-FT)	49540		67630		35410	
10 PERCENT EXCEEDS	127		132		69	
50 PERCENT EXCEEDS	32		39		16	
90 PERCENT EXCEEDS	21		19		6.0	



SHELL CREEK NEAR COLUMBUS



## PLATTE RIVER BASIN

## 06796000 PLATTE RIVER AT NORTH BEND, NE

LOCATION.--Lat 41°27'10", long 096°45'50", in SE<sup>1</sup>/<sub>4</sub> sec. 7., T. 17 N., R. 6 E., Douglas County, Hydrologic Unit 10200202, on left bank 80 ft upstream from bridge on State Highway 79, 1 mi south of North Bend, 5 mi downstream from Shell Creek, and at mile 73.0.

DRAINAGE AREA.--70,400 mi<sup>2</sup>, of which about 57,800 mi<sup>2</sup> contributes directly to surface runoff.

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

GAGE.--Water-stage recorder. Datum of gage is 1,262.32 ft above sea level. Prior to Sept. 12, 1951, nonrecording gage and Sept. 12, 1951, to Sept. 30, 1970, water-stage recorder, at present site at datum 2.00 ft higher. Data collection platform at station.

REMARKS.-- Records fair except for periods of estimated record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water with-drawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4300	5570	6140	e4500	e5800	6430	5670	5590	18700	22000	1730	3110
2	4540	5760	6280	e4700	e6000	6860	4700	5270	28700	20400	2300	3630
3	4910	6420	5660	e4600	e6100	6660	5600	6830	24800	18200	2220	3360
4	5170	7230	6260	e4400	e6500	7280	6200	6690	19800	18100	2250	3780
5	5800	7440	5930	e4200	e6800	7080	5940	6980	18800	14200	2260	3970
6	5690	6920	6330	e4400	e7100	6510	6570	13100	16200	12100	2890	3940
7	4980	6190	6300	e4700	e8000	6630	9470	12300	14900	9870	5860	4470
8	4570	6560	6620	e4500	8970	6740	8650	10700	9710	9250	5260	4990
9	4520	7160	6480	e4400	7790	6680	9650	9610	8230	8710	5150	5050
10	4830	7950	6500	e4200	7070	6800	9970	8920	9700	8880	6580	4750
11	4770	8650	6120	e4500	6380	6250	9510	10800	12600	7600	4180	4520
12	4870	8020	6180	e4800	6560	6610	8840	10900	16100	4980	7650	4870
13	4720	7000	6210	e5300	6370	5850	8490	11600	15600	3900	7710	4870
14	4840	6700	5860	e5000	6700	6560	7760	13700	13300	3210	6800	5660
15	5560	6740	6290	e4700	6180	7950	15000	16400	13400	3030	8460	5060
16	5100	6920	5920	e4900	6340	6160	16300	16300	13700	2310	8710	5250
17	5430	6940	5730	e5400	6090	5990	12800	15000	15300	2550	8490	5470
18	6050	7070	5320	e5700	6220	5830	11200	14200	13300	3330	7330	5160
19	5800	7270	5370	e6100	5860	6320	9620	10700	11700	3880	6960	5460
20	5660	6700	e4000	e6000	6110	4950	8750	9990	9930	5530	7870	5930
21	4550	7160	e2600	e5700	6080	5470	6440	12000	9720	3610	8060	5720
22	5470	6660	e2100	e5500	6120	6750	6900	10200	8860	3530	7370	6530
23	4810	6750	e2050	e5900	5840	6800	8840	10200	9980	2600	6790	6530
24	5270	6490	e2000	e5700	6070	6730	7150	11600	11300	3070	5780	6590
25	5090	7310	e2200	e5500	6860	6930	7880	11700	9740	3050	5220	7160
26	4930	6700	e2400	e5300	6220	6400	7160	8440	11000	3570	5150	6700
27	5230	6960	e2900	e5700	6280	4030	7170	5640	21100	3600	4270	6630
28	5450	6550	e3700	e6200	6480	5270	6830	6480	38100	2690	4210	6140
29	5560	6590	e4900	e6000	---	4550	7380	5770	27500	2410	3880	5770
30	5600	6180	e4800	e5800	---	5960	6680	5290	22900	3010	3310	5830
31	5500	---	e4900	e5700	---	5920	---	6770	---	2090	3350	---
TOTAL	159570	206560	154050	160000	182890	194950	253120	309670	474670	215260	168050	156900
MEAN	5147	6885	4969	5161	6532	6289	8437	9989	15820	6944	5421	5230
MAX	6050	8650	6620	6200	8970	7950	16300	16400	38100	22000	8710	7160
MIN	4300	5570	2000	4200	5800	4030	4700	5270	8230	2090	1730	3110
AC-FT	316500	409700	305600	317400	362800	386700	502100	614200	941500	427000	333300	311200

e Estimated

# PLATTE RIVER BASIN

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06796000 PLATTE RIVER AT NORTH BEND, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3823	4174	3611	3466	5415	7510	6141	6028	6836	3798	2576	3130
MAX	10130	9462	8581	7361	11850	16870	19400	21770	25340	17070	8021	9022
(WY)	1974	1985	1985	1984	1984	1993	1984	1984	1983	1993	1983	1986
MIN	1624	1938	1413	1206	2689	3685	2881	1952	1932	381	442	936
(WY)	1980	1956	1956	1957	1979	1957	1967	1955	1981	1974	1955	1955

## SUMMARY STATISTICS

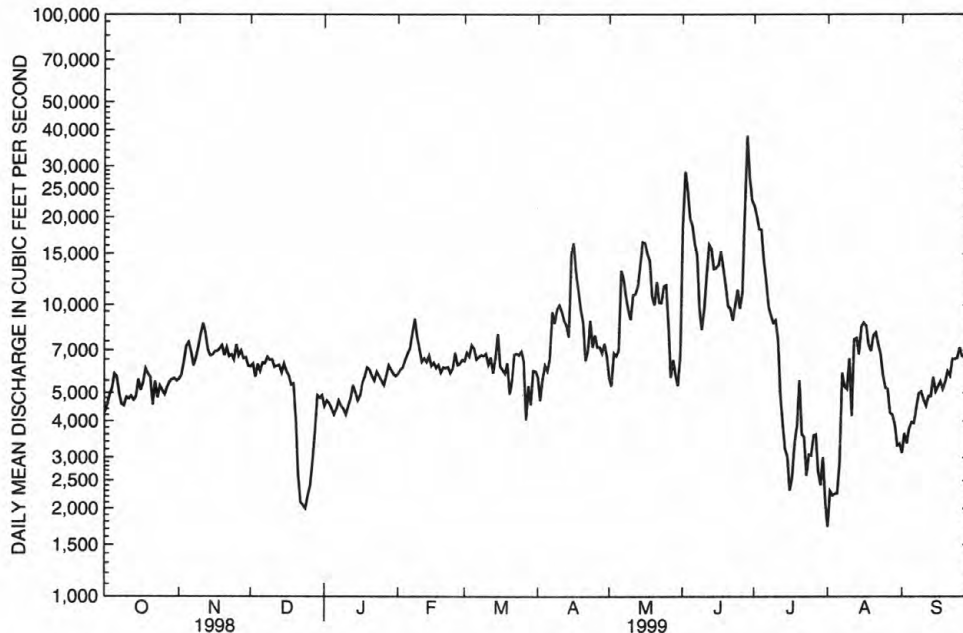
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1949 - 1999

ANNUAL TOTAL	2241840	2635690	
ANNUAL MEAN	6142	7221	4691
HIGHEST ANNUAL MEAN			10070
LOWEST ANNUAL MEAN			2168
HIGHEST DAILY MEAN	21500	Jun 19	38100
LOWEST DAILY MEAN	420	Jan 14	1730
ANNUAL SEVEN-DAY MINIMUM	957	Jan 11	2250
INSTANTANEOUS PEAK FLOW (STAGE)			44700
INSTANTANEOUS PEAK STAGE			7.91
ANNUAL RUNOFF (AC-FT)	4447000	5228000	3399000
10 PERCENT EXCEEDS	9320	11800	8530
50 PERCENT EXCEEDS	5730	6210	3800
90 PERCENT EXCEEDS	3070	3840	1440

\* Ice jam.



PLATTE RIVER AT NORTH BEND

## PLATTE RIVER BASIN

## 06796500 PLATTE RIVER NEAR LESHARA

LOCATION.--Lat 41°19'12", long 096°24'14", in NW<sup>1</sup>/<sub>4</sub> sec.34., T. 16 N., R. 9 E., Douglas County, Hydrologic Unit 10200202, on left bank 250 ft downstream from bridge on Nebraska Highway 64, 1.0 mi southeast of Leshara, NE.

PERIOD OF RECORD.--June 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,143.86 ft above sea level. Data collection platform at station.

REMARKS.-- Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4390	4960	6000	e4800	e6600	6970	6190	6690	13700	20000	2970	3670
2	4850	5130	6280	e5000	e6800	7710	5280	6190	28800	19400	2890	4110
3	4910	5870	6550	e4800	e7200	7220	5810	7500	22900	18600	e2100	3890
4	5320	6800	6010	e4600	e7400	7170	5680	7920	18800	17300	3080	4450
5	5830	7190	6340	e4500	e7800	7600	7000	7640	17600	16100	3590	4830
6	6170	7090	6270	e4600	e9000	7470	8800	11600	16200	14000	3750	4500
7	5560	6160	6280	e5200	e11000	6590	10000	11900	15100	13200	6540	4430
8	5000	6090	6590	e5000	e12000	7460	9200	11000	11800	11600	5970	4890
9	4910	6410	6640	e4600	e12500	7110	9450	9840	10700	10600	6150	5140
10	4410	8440	6550	e4400	8540	6950	9870	10100	9400	11100	6300	4920
11	4860	8210	6350	e4600	7150	7200	9380	10100	12000	10000	6320	4400
12	4750	8460	5940	e5200	7290	6770	8810	10800	12300	8020	6740	4690
13	4500	7670	6230	e5800	7230	6540	7660	11600	16000	5680	8140	4430
14	3500	6910	6220	e5400	7220	6090	8010	12200	13900	4990	7780	4870
15	5670	6710	6200	e5200	6920	7220	12100	14400	12700	4180	8580	5290
16	4240	6640	6240	e5400	6790	7340	15900	16000	12800	3970	9780	4610
17	4750	6490	5590	e5600	6750	6690	11700	14300	13200	3750	7950	5030
18	5350	6710	5750	e6200	7070	6330	10700	13800	13900	4140	8990	5340
19	4740	7040	5750	e6600	7070	6320	9520	12200	10900	5030	7270	5770
20	4870	6510	4090	e6400	6840	6500	8610	10900	9590	6170	8630	5310
21	3590	6510	e3500	e6200	6960	5330	8290	11600	8890	6180	e8600	5780
22	4130	6360	e2300	e5800	7200	6020	7120	11600	8840	5520	e7800	5800
23	4720	6050	e2500	e6400	5910	6710	7940	11400	9240	4040	7130	5950
24	5170	6220	e3000	e6200	6580	6560	8080	11200	10300	4830	e6400	6160
25	4430	5500	e3500	e5800	7090	6470	7970	13000	10500	4840	5780	6120
26	5010	6830	e4500	e5600	7820	6350	7520	11100	10600	4500	e5600	6180
27	4640	6010	e4800	e6000	7040	5730	7620	7950	13800	4800	e5200	5980
28	4870	6240	e5000	e6800	7750	4190	7800	7140	29600	4100	e4700	6370
29	4970	6420	e5200	e6600	---	5470	7490	7690	22200	3650	e4400	5280
30	4710	5930	e5000	e6400	---	5120	6280	6430	20200	3750	3640	5970
31	4730	---	e4800	e6200	---	5770	---	6940	---	3130	4410	---
TOTAL	149550	197560	165970	171900	215520	202970	255780	322730	436460	257170	187180	154160
MEAN	4824	6585	5354	5545	7697	6547	8526	10410	14550	8296	6038	5139
MAX	6170	8460	6640	6800	12500	7710	15900	16000	29600	20000	9780	6370
MIN	3500	4960	2300	4400	5910	4190	5280	6190	8840	3130	2100	3670
AC-FT	296600	391900	329200	341000	427500	402600	507300	640100	865700	510100	371300	305800

e Estimated

# PLATTE RIVER BASIN

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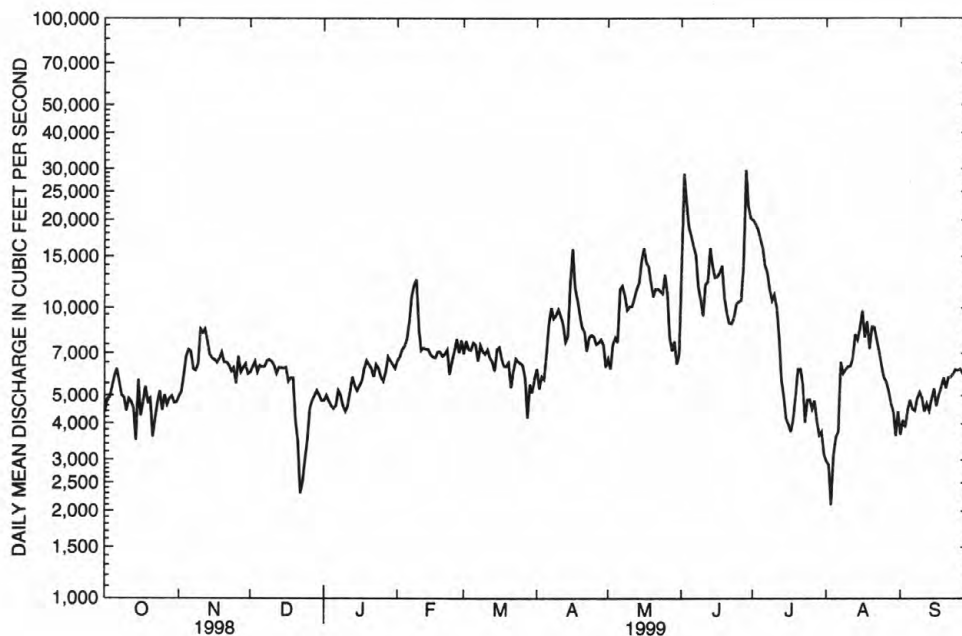
06796500 PLATTE RIVER AT LESHARA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5574	6202	5622	5297	7691	6783	8123	8305	11810	6124	4915	4662
MAX	6733	7784	6762	7552	10040	7960	11300	10650	17460	10540	7163	6793
(WY)	1998	1998	1998	1998	1997	1998	1998	1995	1995	1995	1996	1996
MIN	4022	4611	4487	3413	5648	5823	5752	5768	8077	3706	3000	3093
(WY)	1995	1995	1996	1996	1995	1996	1996	1997	1997	1997	1994	1994

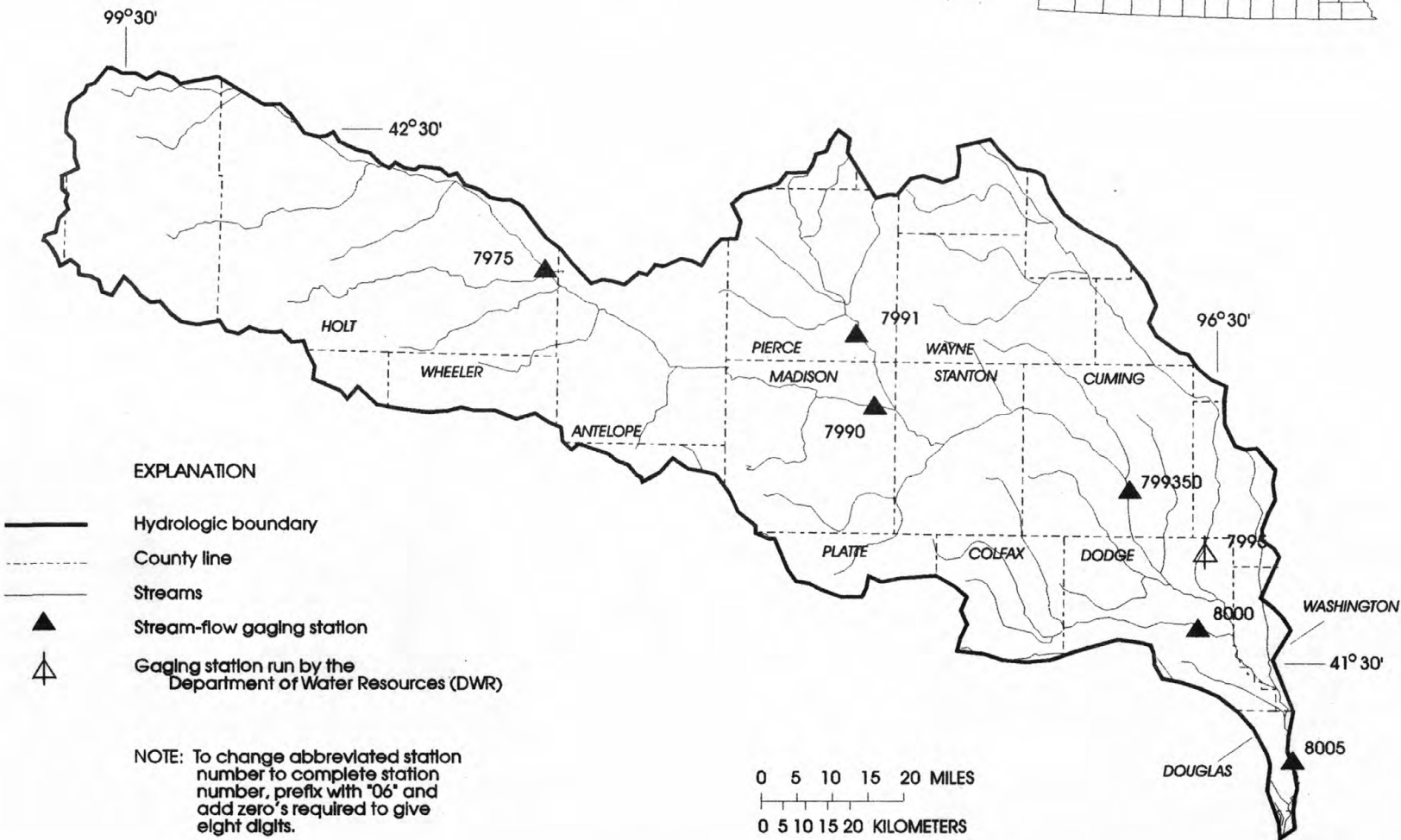
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1994 - 1999	
ANNUAL TOTAL	2479230		2716950			
ANNUAL MEAN	6792		7444		6804	
HIGHEST ANNUAL MEAN					7444	
LOWEST ANNUAL MEAN					6113	
HIGHEST DAILY MEAN	20700		29600		29600	
LOWEST DAILY MEAN	1930		2100		900	
ANNUAL SEVEN-DAY MINIMUM	2970		3070		1280	
INSTANTANEOUS PEAK FLOW (STAGE)			32600		32600	
INSTANTANEOUS PEAK STAGE			7.47		*11.84	
ANNUAL RUNOFF (AC-FT)	4918000		5389000		4929000	
10 PERCENT EXCEEDS	10000		12000		10700	
50 PERCENT EXCEEDS	6270		6400		6020	
90 PERCENT EXCEEDS	3720		4420		3300	

\* Backwater from ice.



PLATTE RIVER AT LESHARA

PLATE RIVER BASIN  
ELKHORN RIVER BASIN





PLATTE RIVER BASIN  
ELKHORN RIVER BASIN

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*STATION NUMBER	STATION NAME	PAGE
7975	Elkhorn River at Ewing .....	182
7990	Elkhorn River at Norfolk .....	184
7991	N.F. Elkhorn near Pierce .....	186
799350	Elkhorn River at West Point.....	188
7995	Logan Creek near Uehling.....	190
8000	Maple Creek near Nickerson .....	192
8005	Elkhorn River at Waterloo.....	202

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## PLATTE RIVER BASIN

06797500 ELKHORN RIVER AT EWING, NE

LOCATION.--Lat 42°16'03", long 098°20'11", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.35, T.27 N., R.9 W., Holt County, Hydrologic Unit 10220001, on right bank 800 ft downstream from bridge on State. Highway L-45B, 0.8 mi north of Ewing, 1.5 mi upstream from South Fork Elkhorn River, and at mile 199.

DRAINAGE AREA.--1,400 mi<sup>2</sup>, approximately, of which about 740 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,836.24 ft above sea level, levels by Nebraska Department of Roads. Prior to Oct. 22, 1952, at site 300 ft upstream at same datum.

REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	253	264	e160	e205	859	258	579	173	188	64	35
2	56	232	255	e150	e216	808	219	463	197	178	65	33
3	65	234	246	e145	e235	706	210	539	210	174	67	38
4	89	245	245	e155	e255	671	214	623	196	159	67	78
5	102	262	246	e170	275	644	258	1070	183	145	67	84
6	112	281	239	e160	285	584	733	2230	167	133	73	75
7	112	306	228	e160	289	515	755	5930	154	125	75	66
8	106	313	216	e150	283	479	1020	4180	141	118	74	58
9	107	349	213	e165	289	440	1280	2810	131	107	70	54
10	108	444	215	e170	290	415	1560	2200	213	101	66	52
11	105	476	211	e190	285	418	1840	1610	302	95	64	50
12	94	577	210	e170	304	408	1580	1170	288	91	63	49
13	92	702	202	e175	312	419	1510	1060	227	89	59	46
14	105	811	201	e180	315	455	1350	955	190	84	56	45
15	e120	839	196	e195	321	558	1290	847	204	81	55	44
16	e135	835	194	e190	311	640	1010	877	288	153	54	44
17	e155	769	189	e185	313	607	809	775	279	209	50	43
18	e175	673	191	e180	329	513	735	660	237	191	49	43
19	190	580	e180	e190	328	426	688	574	215	164	47	41
20	179	505	e160	e190	329	374	682	512	198	1050	45	41
21	172	454	e135	e185	317	338	675	420	188	1520	44	42
22	162	431	e145	e180	319	309	648	308	172	924	44	43
23	158	407	e150	e180	289	304	540	344	183	460	42	43
24	157	389	e155	e170	285	313	511	387	168	251	40	42
25	159	370	e170	e175	304	320	503	374	150	160	39	42
26	159	346	e175	e175	331	319	531	348	139	118	39	41
27	159	330	e185	e170	442	300	601	312	148	98	39	40
28	166	314	e195	e175	753	310	667	203	159	85	37	40
29	219	300	e180	e190	---	313	687	162	171	77	37	40
30	226	274	e175	e190	---	313	653	165	183	71	37	42
31	255	---	e170	e190	---	298	---	168	---	67	36	---
TOTAL	4245	13301	6136	5410	8809	14376	24017	32855	5854	7466	1664	1434
MEAN	137	443	198	175	315	464	801	1060	195	241	53.7	47.8
MAX	255	839	264	195	753	859	1840	5930	302	1520	75	84
MIN	46	232	135	145	205	298	210	162	131	67	36	33
AC-FT	8420	26380	12170	10730	17470	28510	47640	65170	11610	14810	3300	2840

e Estimated

# PLATTE RIVER BASIN

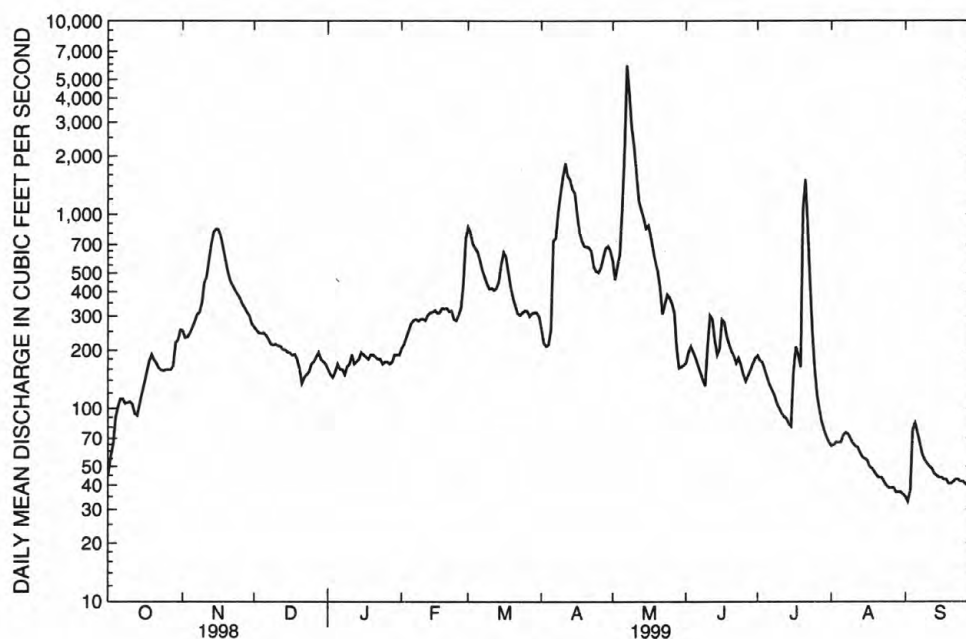
183

06797500 ELKHORN RIVER AT EWING, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1999, BY WATER YEAR (WY)

MEAN	91.0	95.8	82.1	71.5	144	361	501	419	325	169	78.4	79.4
MAX	671	443	250	226	1172	2144	2081	2243	2690	1993	444	882
(WY)	1952	1999	1952	1995	1952	1987	1987	1995	1962	1993	1993	1986
MIN	19.4	27.0	27.3	19.4	26.0	61.1	59.7	51.8	45.8	19.5	12.0	9.33
(WY)	1976	1977	1956	1977	1975	1981	1981	1981	1976	1976	1976	1975

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1947 - 1999	
ANNUAL TOTAL	115055		125567			
ANNUAL MEAN	315		344		201	
MEDIAN OF ANNUAL MEANS					140	
HIGHEST ANNUAL MEAN					543	
LOWEST ANNUAL MEAN					42.8	
HIGHEST DAILY MEAN	1580	Jun 16	5930	May 7	8480	May 30 1995
LOWEST DAILY MEAN	46	Sep 9	33	Sep 2	5.2	Sep 6 1976
ANNUAL SEVEN-DAY MINIMUM	47	Sep 8	36	Aug 28	6.5	Aug 24 1976
INSTANTANEOUS PEAK FLOW			6460	May 7	9050	May 29 1995
INSTANTANEOUS PEAK STAGE			9.24	May 7	11.09	May 29 1995
ANNUAL RUNOFF (AC-FT)	228200		249100		146000	
10 PERCENT EXCEEDS	813		717		430	
50 PERCENT EXCEEDS	172		196		80	
90 PERCENT EXCEEDS	69		49		31	



ELKHORN RIVER AT EWING

## PLATTE RIVER BASIN

06799000 ELKHORN RIVER AT NORFOLK, NE

LOCATION.--Lat 42°00'14", long 97°25'31", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.34, T.24 N., R.1 W., Madison County, Hydrologic Unit 10220001, on left bank 200 ft downstream from U.S. Highway 81 bridge, 1 mi south of intersection of U.S. Highways 81 275, and 3.6 mi upstream from North Fork Elkhorn River, and at mile 129.

DRAINAGE AREA.--2,790 mi<sup>2</sup>, approximately, of which about 1,790 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--July 1896 to November 1903 (no winter records), October 1945 to current year. Gage height records collected at site 200 ft upstream from May 10, 1941 to Sept. 26, 1945 are contained in reports of U.S. Weather Bureau. Published as "near Norfolk" from October 1957 to September 1977.

REVISED RECORDS.--WSP 1390: 1898-1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,500.95 ft above sea level. See WSP 1918 for history of changes prior to Aug. 30, 1958. Aug. 30, 1958, to July 27, 1978, water-stage recorder at site 3.2 mi upstream at datum 19.88 ft higher and July 28, 1978 to Mar. 18, 1987, present site at datum 4.00 ft (correction) higher. Mar. 19, 1987, to Mar. 31, 1995, present site at datum 2.00 ft higher. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	759	704	e500	e560	1130	796	992	1130	975	373	181
2	239	812	681	e480	e580	1160	753	1080	1280	933	330	177
3	269	883	685	e460	e600	1090	703	1140	908	894	311	171
4	345	931	682	e440	622	973	684	1160	1510	823	304	177
5	558	932	648	e470	620	879	843	1420	1500	734	294	170
6	576	927	593	e480	597	746	1170	2290	849	646	338	238
7	450	947	589	e460	603	685	1930	4910	676	590	431	253
8	409	1030	570	e460	634	629	2120	7530	543	541	423	227
9	403	1070	530	e450	664	644	2130	6790	526	495	378	215
10	395	1270	512	e470	656	590	2490	4670	1370	457	335	207
11	382	1180	531	e490	624	553	2660	3650	1100	412	315	201
12	361	1150	569	e470	553	552	2830	2850	1000	370	310	200
13	334	1240	586	e460	500	569	2520	2330	858	350	301	181
14	338	1280	557	e490	469	583	2880	1960	773	330	289	174
15	351	1320	555	e520	451	640	3500	1750	788	300	275	177
16	376	1260	544	e520	429	759	3060	1600	1320	290	259	182
17	398	1250	528	e540	396	823	2650	1390	1040	304	255	175
18	437	1150	540	e520	422	779	2090	1260	979	446	248	183
19	448	1070	536	e540	471	674	1650	1250	895	540	230	186
20	471	989	522	e540	452	600	1390	1280	779	700	222	182
21	525	945	e480	e520	478	562	1180	1220	702	703	219	180
22	536	917	e440	e520	501	583	1080	1160	666	1770	213	187
23	537	836	e460	e500	481	574	973	1090	670	1490	202	196
24	537	831	e460	e500	485	593	896	1030	797	1250	197	201
25	539	826	e500	e480	519	599	886	966	796	1020	193	207
26	574	793	e490	e500	585	609	885	896	676	859	192	207
27	613	762	e520	e500	708	666	854	816	970	733	189	199
28	641	756	e560	e500	939	693	876	752	1690	613	193	194
29	691	728	e520	e520	---	702	963	687	1330	541	189	196
30	732	712	e500	e520	---	723	1000	621	1060	463	184	193
31	756	---	e500	e540	---	764	---	579	---	415	183	---
TOTAL	14437	29556	17092	15360	15599	22126	48442	61119	29181	20987	8375	5817
MEAN	466	985	551	495	557	714	1615	1972	973	677	270	194
MAX	756	1320	704	540	939	1160	3500	7530	1690	1770	431	253
MIN	216	712	440	440	396	552	684	579	526	290	183	170
AC-FT	28640	58620	33900	30470	30940	43890	96080	121200	57880	41630	16610	11540

e Estimated

# PLATTE RIVER BASIN

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06799000 ELKHORN RIVER AT NORFOLK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	325	339	304	291	498	900	1053	899	942	493	320	278
MAX	1418	985	609	624	1862	3819	3715	4615	4673	3663	1398	1444
(WY)	1952	1999	1996	1983	1952	1987	1984	1995	1962	1993	1951	1986
MIN	125	163	151	146	129	298	254	228	201	99.1	61.9	87.3
(WY)	1981	1979	1977	1977	1978	1981	1981	1981	1989	1980	1976	1956

## SUMMARY STATISTICS

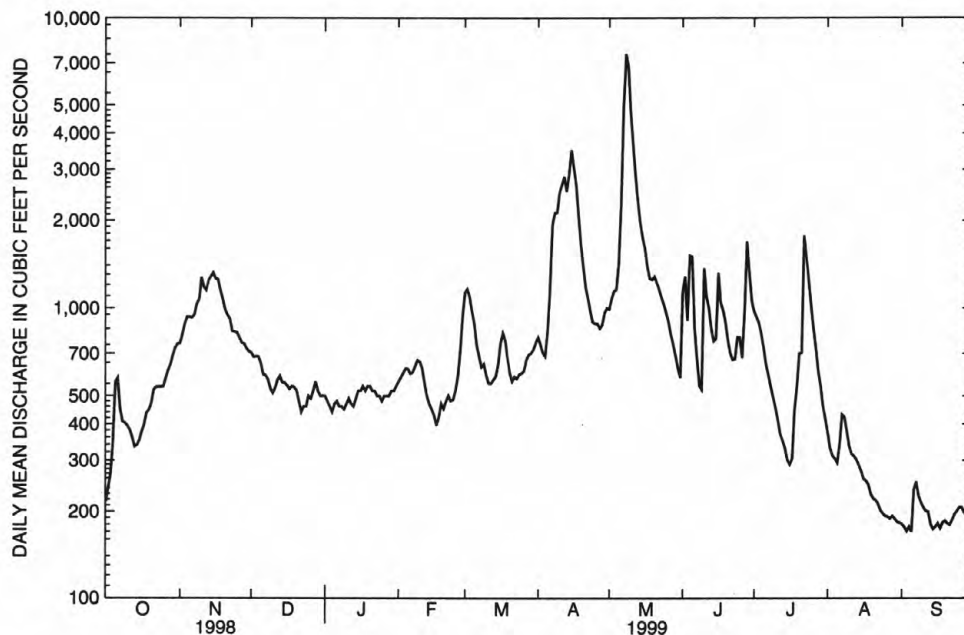
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1946 - 1999

ANNUAL TOTAL	278514	288091	
ANNUAL MEAN	763	789	553
MEDIAN OF ANNUAL MEANS			454
HIGHEST ANNUAL MEAN			1355
LOWEST ANNUAL MEAN			224
HIGHEST DAILY MEAN	6480	Jun 18	7530
LOWEST DAILY MEAN	190	Sep 21	170
ANNUAL SEVEN-DAY MINIMUM	209	Sep 11	178
INSTANTANEOUS PEAK FLOW (STAGE)			8170
INSTANTANEOUS PEAK STAGE			8.93
ANNUAL RUNOFF (AC-FT)	552400	571400	400500
10 PERCENT EXCEEDS	1640	1300	1080
50 PERCENT EXCEEDS	528	585	318
90 PERCENT EXCEEDS	280	214	165

\*\* Backwater from ice.



ELKHORN RIVER AT NORFOLK



## PLATTE RIVER BASIN

06799100 NORTH FORK ELKHORN RIVER NEAR PIERCE, NE

LOCATION--Lat 42°08'57", long 97°28'41", in NW<sup>1</sup>/<sub>4</sub> sec.18, T.25 N., R.1 W., Pierce County, Hydrologic Unit 10220002, on right bank 4 ft downstream and 25 ft from end of bridge, 4.5 mi southeast of Pierce, and at mile 20.8.

DRAINAGE AREA --701 mi<sup>2</sup>, of which 671 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD--August 1960 to current year.

REVISED RECORDS--WDR NE-94-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 1,542.88 ft above sea level (U.S. Weather Bureau levels). Aug. 19, 1960, to Oct. 7, 1997, water-stage recorder at site 2 mi upstream at datum 10.19 ft higher.

REMARKS--Record good except for periods of estimated record, which are poor..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	105	159	e100	105	318	127	216	227	641	77	32
2	44	102	155	e98	114	303	121	204	508	542	76	31
3	52	104	151	e94	125	277	119	234	411	599	73	29
4	70	117	147	e90	140	242	121	279	290	610	68	31
5	251	122	144	e94	159	227	137	280	247	407	65	31
6	240	120	143	e96	169	212	586	305	236	323	67	32
7	158	116	137	e94	168	192	679	339	212	284	80	32
8	106	118	129	e94	180	185	431	347	186	258	78	30
9	94	133	126	e92	187	176	430	289	170	231	73	29
10	89	206	129	e96	191	175	487	256	370	197	68	29
11	84	133	127	e100	194	179	416	336	587	179	63	29
12	80	217	128	e96	138	175	352	337	563	166	62	30
13	76	290	131	e92	131	171	306	282	344	167	57	29
14	76	357	132	e96	154	175	353	240	269	264	54	29
15	76	464	131	116	160	197	1210	224	276	119	51	30
16	78	541	128	107	159	243	1270	216	743	116	48	31
17	81	532	123	103	141	274	818	214	771	110	44	30
18	83	440	126	102	136	219	619	204	495	118	43	31
19	83	388	e120	103	140	189	522	188	379	121	41	30
20	82	314	e106	108	137	178	436	178	352	128	41	30
21	81	276	e96	110	133	168	374	176	329	192	41	31
22	81	258	e90	115	129	161	380	170	320	201	39	32
23	79	238	e92	116	e102	165	362	199	320	251	39	32
24	78	214	e94	116	e112	172	321	247	398	204	37	32
25	78	201	e98	106	120	168	290	205	389	137	34	31
26	78	187	e98	107	148	154	280	172	290	120	34	31
27	87	177	98	109	233	147	280	159	416	111	34	31
28	106	171	101	103	321	145	279	149	1530	104	33	32
29	140	169	e100	101	---	144	262	141	1800	97	32	33
30	153	166	e98	104	---	139	238	134	1290	89	33	33
31	122	---	e98	104	---	134	---	146	---	84	32	---
TOTAL	3026	6976	3735	3162	4326	6004	12606	7066	14718	7170	1617	923
MEAN	97.6	233	120	102	154	194	420	228	491	231	52.2	30.8
MAX	251	541	159	116	321	318	1270	347	1800	641	80	33
MIN	40	102	90	90	102	134	119	134	170	84	32	29
AC-FT	6000	13840	7410	6270	8580	11910	25000	14020	29190	14220	3210	1830

e Estimated

# PLATTE RIVER BASIN

187

06799100 NORTH FORK ELKHORN RIVER NEAR PIERCE, NE

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.8	61.4	52.5	48.8	119	208	196	164	191	102	56.6	48.1
MAX	241	233	141	111	834	1120	1004	663	799	834	226	191
(WY)	1996	1999	1996	1973	1971	1962	1984	1995	1967	1993	1996	1992
MIN	13.5	14.7	14.6	15.6	24.2	30.3	28.7	27.7	21.8	11.7	7.41	9.53
(WY)	1992	1992	1992	1992	1978	1990	1990	1981	1989	1989	1990	1990

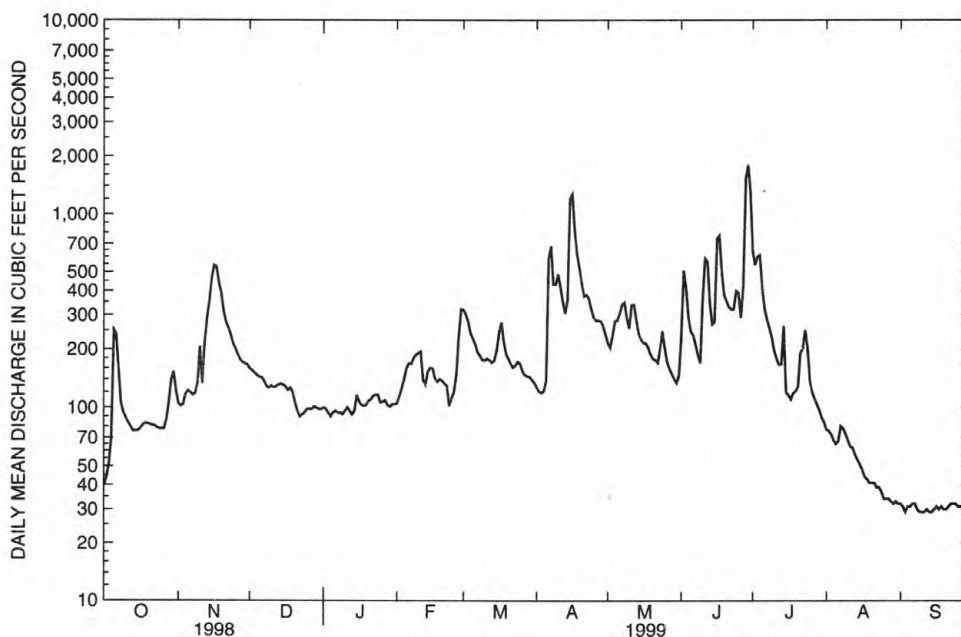
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1960 - 1999

ANNUAL TOTAL	58704	71329	
ANNUAL MEAN	161	195	108
MEDIAN OF ANNUAL MEANS			84.3
HIGHEST ANNUAL MEAN			287
LOWEST ANNUAL MEAN			21.5
HIGHEST DAILY MEAN	987	1800	10400
LOWEST DAILY MEAN	38	29	2.7
ANNUAL SEVEN-DAY MINIMUM	39	29	3.7
INSTANTANEOUS PEAK FLOW		1850	15200
INSTANTANEOUS PEAK STAGE		11.01	15.10
ANNUAL RUNOFF (AC-FT)	116400	141500	78140
10 PERCENT EXCEEDS	356	379	209
50 PERCENT EXCEEDS	112	137	48
90 PERCENT EXCEEDS	55	34	22



NORTH FORK ELKHORN RIVER NEAR PIERCE

## PLATTE RIVER BASIN

## 06799350 ELKHORN RIVER AT WEST POINT, NE

LOCATION.--Lat 41°50'22", long 96°43'38", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.34, T.22 N., R.6 E., Cuming County, Hydrologic Unit 10220003, on right bank near right downstream wingwall of bridge on State Highway 32, 1 mi west of West Point, and at mile 79.8.

DRAINAGE AREA.--5,100 mi<sup>2</sup>, approximately, of which about 4,100 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1972 to current year. March 1960 to September 1972 (no winter records 1960-68) in files of Corps of Engineers. Gage-height records collected since 1940 are in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,291.26 ft above sea level. Prior to May 18, 1976, at site on left bank 50 ft upstream from bridge at same datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Some small diversions above station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	392	1260	1500	e800	e1100	2810	1680	1830	3060	2120	938	455
2	430	1220	1520	e700	e1000	2980	1640	1860	3690	1680	879	434
3	485	1260	1520	e600	e1120	2850	1620	2120	2650	1970	824	413
4	650	1400	1540	e700	e1200	2680	1540	2280	11100	2230	767	430
5	1400	1510	1590	e760	e1300	2300	1560	2320	11600	2260	749	428
6	1700	1530	1600	e800	e1400	2140	3030	2710	3860	1900	924	421
7	1760	1500	1600	e700	e1600	1790	4210	4380	2410	1680	2060	447
8	1230	1550	1610	e640	e1800	1600	4520	6550	1990	1560	1980	529
9	981	1700	1540	e700	2010	1480	4410	7400	1570	1690	1560	492
10	872	3020	1470	e820	2080	1400	4650	5570	1830	1400	1370	460
11	809	2560	1470	e800	2080	1180	4650	4410	4070	1390	1310	449
12	750	2140	1450	e760	1950	1070	4440	3420	2680	1200	1230	440
13	730	2220	1410	e900	1650	1170	4210	2790	2360	1040	1170	427
14	731	2320	1400	e1100	1470	1170	4980	2230	2090	952	1140	406
15	738	2480	1420	e1200	1390	1280	8200	1940	1990	977	e1100	395
16	751	2420	1420	e1300	1330	1590	6300	2390	3140	1020	e1040	390
17	791	2280	1390	e1200	1260	2040	5340	2780	2770	921	e1060	382
18	787	2200	1410	e1400	1180	2020	4450	2110	2230	1270	e1240	382
19	830	2150	1360	e1200	1110	1660	3670	1600	2030	1850	e1040	364
20	872	2050	e1120	e1100	1140	1400	3020	1660	1880	4060	e1100	353
21	912	2010	e800	e1000	1140	1270	2730	1710	1960	2530	e800	351
22	953	1870	e900	e1060	1170	1390	2580	1680	2000	1790	e700	353
23	980	1680	e980	e1100	1240	1540	2110	1790	2180	3300	e600	361
24	986	1520	e980	e1080	1300	1370	1800	1920	2220	2700	e540	373
25	958	1390	e1000	e1250	1260	1390	1570	2050	2410	2350	490	379
26	914	1350	e1000	e1200	1290	1530	1590	2030	2340	1920	481	376
27	1020	1340	e1020	e1100	1500	1560	1570	1910	2880	2010	467	386
28	1200	1340	e1040	e1400	1770	1670	1560	1750	3320	2070	448	383
29	1240	1390	e1000	e1300	---	1680	1660	1660	3400	1470	441	390
30	1230	1410	e800	e1250	---	1730	1930	1630	2740	1190	450	393
31	1260	---	e860	e1200	---	1700	---	1670	---	1050	461	---
TOTAL	29342	54070	39720	31120	39840	53440	97220	82150	94450	55550	29359	12242
MEAN	947	1802	1281	1004	1423	1724	3241	2650	3148	1792	947	408
MAX	1760	3020	1610	1400	2080	2980	8200	7400	11600	4060	2060	529
MIN	392	1220	800	600	1000	1070	1540	1600	1570	921	441	351
AC-FT	58200	107200	78780	61730	79020	106000	192800	162900	187300	110200	58230	24280

e Estimated

# PLATTE RIVER BASIN

189

06799350 ELKHORN RIVER AT WEST POINT, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	567	645	590	545	1080	1869	1886	1657	1632	1031	635	498
MAX	1606	1802	1314	1106	2744	5256	6171	5618	3844	6945	1994	1646
(WY)	1987	1999	1994	1995	1983	1987	1984	1995	1995	1993	1993	1986
MIN	174	241	203	168	201	411	378	325	339	154	90.0	137
(WY)	1977	1979	1977	1977	1979	1981	1981	1981	1976	1976	1976	1976

## SUMMARY STATISTICS

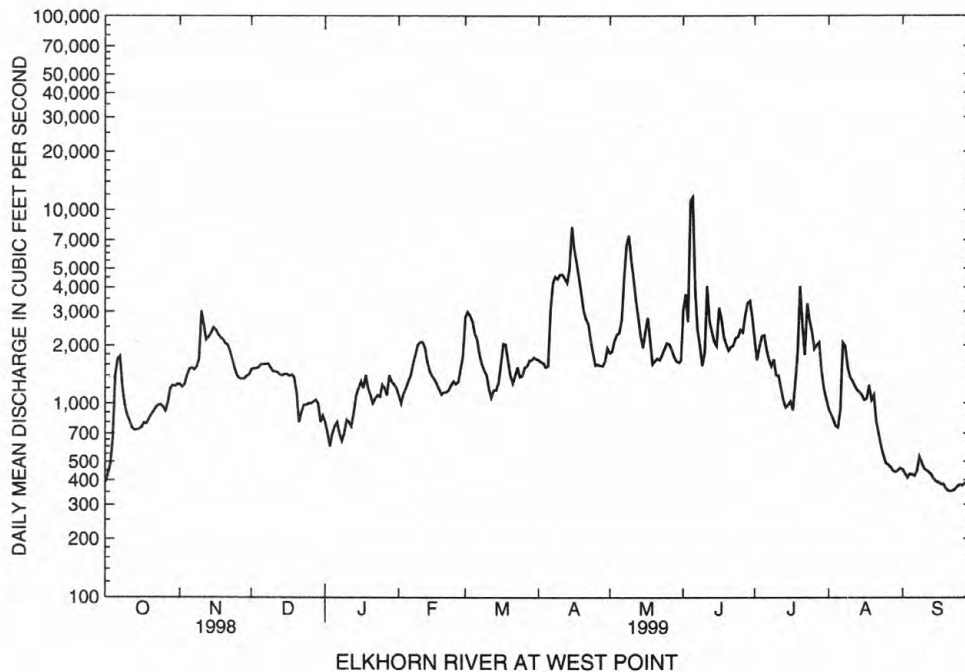
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1973 - 1999

ANNUAL TOTAL	542617	618503	
ANNUAL MEAN	1487	1695	1051
MEDIAN OF ANNUAL MEANS			899
HIGHEST ANNUAL MEAN			2253
LOWEST ANNUAL MEAN			332
HIGHEST DAILY MEAN	7000	Jun 19	11600
LOWEST DAILY MEAN	359	Sep 15	351
ANNUAL SEVEN-DAY MINIMUM	368	Sep 12	362
INSTANTANEOUS PEAK FLOW (STAGE)			18500
INSTANTANEOUS PEAK STAGE			12.54
ANNUAL RUNOFF (AC-FT)	1076000	1227000	761700
10 PERCENT EXCEEDS	3000	2830	2140
50 PERCENT EXCEEDS	1200	1410	616
90 PERCENT EXCEEDS	607	483	231

\* From floodmark; ice jam.



## PLATTE RIVER BASIN

06799500 LOGAN CREEK NEAR UEHLING, NE

LOCATION.--Lat 41°42'46", long 096°31'18", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.9, T.20 N., R.8 E., Dodge County, Hydrologic Unit 10220004, near left bank on upstream side of bridge on county road, 2 mi southwest of Uehling and 8.8 mi upstream from mouth.

DRAINAGE AREA.--1,015 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1941 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,208.73 ft above sea level. See WSP 1918 for history of changes prior to July 15, 1963. July 16, 1963 to Mar. 27, 1989, near right bank on downstream side of bridge at present site and datum. Mar. 28, 1989 to Mar. 22, 1990, 250 ft upstream on left bank at same datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

COOPERATION.--Records provided by Nebraska Department of Water Resources and reviewed by the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	314	343	e200	e330	401	332	602	2020	876	326	227
2	202	294	330	e195	e350	452	337	576	2850	849	319	218
3	220	293	332	e190	e400	475	339	561	1610	942	315	213
4	242	294	335	e190	e450	412	341	586	2430	919	304	213
5	457	294	335	e200	e493	387	358	723	2160	686	296	215
6	936	288	336	e195	431	377	426	695	1130	597	668	213
7	386	283	329	e200	414	356	661	609	1020	554	5280	212
8	287	285	324	e210	406	348	539	563	788	536	1120	214
9	268	289	322	e210	422	349	630	526	725	764	557	212
10	258	789	320	e220	413	345	860	499	728	536	423	210
11	251	1110	322	e230	408	338	647	588	2110	488	388	207
12	244	586	324	e240	382	333	594	752	1130	471	373	210
13	240	554	322	e250	334	331	535	623	839	457	352	209
14	239	548	323	e240	360	338	935	543	743	440	333	209
15	238	586	325	e250	363	358	2260	531	699	415	319	208
16	237	764	306	e250	359	406	2040	622	1270	415	313	207
17	243	719	300	e260	342	425	1510	822	1410	412	299	207
18	241	560	301	e270	336	390	1180	598	925	633	321	207
19	242	493	297	e280	335	359	1010	520	774	670	304	206
20	236	468	e270	e290	329	351	879	606	737	901	276	204
21	238	423	e250	e300	320	349	1200	679	704	624	266	203
22	236	409	e230	e310	311	348	1920	553	672	492	263	207
23	237	401	e210	e320	292	347	1160	554	922	445	262	208
24	235	397	e200	e330	302	345	919	786	752	419	256	206
25	234	379	e210	e300	312	344	818	557	655	402	248	206
26	235	372	e200	e300	329	339	808	498	611	393	241	204
27	241	360	e210	e310	346	337	797	471	2010	383	235	205
28	262	353	e220	e330	375	342	764	459	3140	368	231	205
29	503	349	e220	e320	---	337	693	438	1430	358	224	204
30	463	346	e210	e310	---	341	642	430	1000	348	224	207
31	390	---	e200	e320	---	337	---	496	---	336	240	---
TOTAL	9135	13600	8756	8020	10244	11297	26134	18066	37994	17129	15576	6276
MEAN	295	453	282	259	366	364	871	583	1266	553	502	209
MAX	936	1110	343	330	493	475	2260	822	3140	942	5280	227
MIN	194	283	200	190	292	331	332	430	611	336	224	203
AC-FT	18120	26980	17370	15910	20320	22410	51840	35830	75360	33980	30890	12450

e Estimated



# PLATTE RIVER BASIN

191

06799500 LOGAN CREEK NEAR UEHLING, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	120	113	97.7	107	268	412	290	318	504	260	169	129
MAX	499	453	337	583	2177	2388	1742	1417	2766	1843	1056	613
(WY)	1993	1999	1994	1973	1971	1962	1984	1984	1984	1993	1951	1993
MIN	32.8	38.2	31.9	34.1	38.1	57.4	42.8	39.9	56.6	17.3	15.0	31.6
(WY)	1944	1949	1944	1957	1979	1943	1957	1943	1976	1976	1976	1943

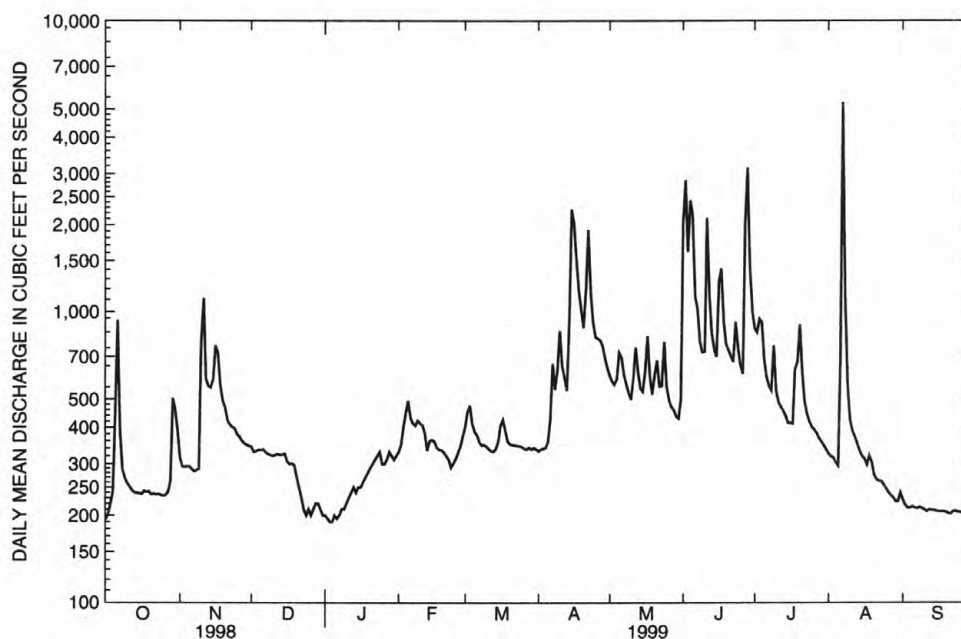
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1942-1999

ANNUAL TOTAL	150084	182227	
ANNUAL MEAN	411	499	232
MEDIAN OF ANNUAL MEANS			190
HIGHEST ANNUAL MEAN			710
LOWEST ANNUAL MEAN			66.4
HIGHEST DAILY MEAN	2750	5280	20100
LOWEST DAILY MEAN	91	190	6.1
ANNUAL SEVEN-DAY MINIMUM	103	196	8.8
INSTANTANEOUS PEAK FLOW (STAGE)		9870	25200
INSTANTANEOUS PEAK STAGE		18.05	20.86
ANNUAL RUNOFF (AC-FT)	297700	361400	167900
10 PERCENT EXCEEDS	799	866	420
50 PERCENT EXCEEDS	314	348	98
90 PERCENT EXCEEDS	190	210	44



## PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE  
(National Water-Quality Assessment, NAWQA, station)

LOCATION.--Lat 41°33'39", long 096°32'27", in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.4, T.18 N., R.8 E., Dodge County, Hydrologic Unit 10220003, on right bank 8 ft downstream from county road bridge 2 mi upstream from U.S. Highways 77 and 275, 5 mi northwest of Nickerson, and 4 mi upstream from mouth.

DRAINAGE AREA.--369 mi<sup>2</sup>, approximately.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1630: 1957-58. WDR NE-98: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,211.62 ft above sea level. Prior to July 28, 1960, nonrecording gage at highway bridge, July 28, 1960 to July 28, 1987, water-stage recorder 180 ft upstream from highway bridge and July 29, 1987 to July 23, 1991 water-stage recorder 30 ft downstream from highway bridge. All at/near U.S. Highway 77 bridge, 2 mi downstream from present gage, at datum 17.06 ft lower.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	77	113	e80	95	135	103	186	2070	301	121	93
2	50	79	111	e86	96	172	104	177	550	279	116	88
3	60	98	111	e78	107	196	104	210	228	257	120	83
4	72	139	111	e68	131	147	104	236	2320	244	126	83
5	357	108	109	e72	145	140	110	232	741	218	129	91
6	182	94	108	e76	128	137	151	238	267	201	181	92
7	105	92	108	e76	135	124	179	213	212	191	4020	83
8	89	94	107	e74	136	133	141	191	200	190	471	81
9	85	103	106	e70	134	123	608	176	197	519	227	77
10	82	709	105	e64	119	125	240	169	366	401	195	74
11	78	414	106	e76	113	124	188	227	2300	209	177	74
12	76	238	111	e82	84	114	167	275	605	199	172	78
13	75	208	111	e74	69	111	149	179	362	192	156	79
14	74	193	109	e82	96	112	281	174	308	190	140	74
15	74	187	111	e82	95	122	1650	180	279	184	141	71
16	75	166	111	e84	88	145	534	212	354	180	144	72
17	80	151	106	e86	85	166	406	583	325	190	133	70
18	75	140	104	e88	85	138	345	359	287	382	164	70
19	72	134	99	e88	88	116	306	219	262	423	129	70
20	69	124	e60	e88	91	113	275	217	256	460	124	69
21	67	122	e64	e90	85	113	257	338	251	339	119	68
22	69	124	e74	e92	85	111	832	263	244	197	116	67
23	69	125	e90	e90	57	118	337	221	793	180	115	67
24	70	120	e96	e88	74	126	270	226	354	169	111	67
25	72	119	e100	e88	124	123	250	199	272	158	106	67
26	72	118	e102	e86	115	114	245	194	252	156	106	67
27	75	115	e108	e86	120	115	259	188	1160	160	106	67
28	114	115	e110	e90	121	113	234	199	560	152	102	67
29	102	115	e108	e92	---	109	218	196	324	146	98	67
30	92	115	e104	94	---	106	202	192	293	138	96	63
31	78	---	e92	98	---	104	---	206	---	131	94	---
TOTAL	2759	4736	3165	2568	2901	3945	9249	7075	16992	7336	8355	2239
MEAN	89.0	158	102	82.8	104	127	308	228	566	237	270	74.6
MAX	357	709	113	98	145	196	1650	583	2320	519	4020	93
MIN	49	77	60	64	57	104	103	169	197	131	94	63
AC-FT	5470	9390	6280	5090	5750	7820	18350	14030	33700	14550	16570	4440

e Estimated

# PLATTE RIVER BASIN

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06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
(National Water-Quality Assessment, NAWQA, station)

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.8	28.6	22.7	23.2	72.0	135	95.7	119	224	99.8	70.747.2	
MAX	323	158	102	82.8	446	674	590	642	1252	1023	762	383
(WY)	1983	1999	1999	1999	1971	1962	1984	1984	1960	1993	1996	1965
MIN	.38	.66	.50	.42	.55	1.36	1.01	.72	3.00	1.19	.59	.26
(WY)	1982	1982	1981	1982	1979	1957	1981	1981	1956	1976	1976	1981

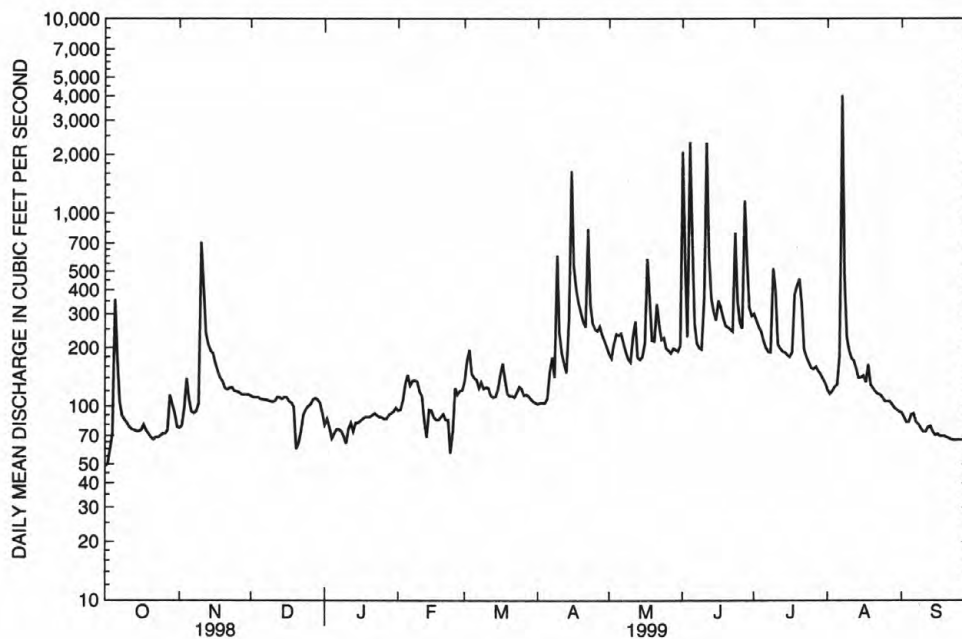
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1952 - 1999

ANNUAL TOTAL	56669	71320	
ANNUAL MEAN	155	195	81.0
MEDIAN OF ANNUAL MEANS			63.7
HIGHEST ANNUAL MEAN			264
LOWEST ANNUAL MEAN			5.19
HIGHEST DAILY MEAN	1820 Jun 9	4020 Aug 7	10400 Aug 6 1996
LOWEST DAILY MEAN	20 Jan 5	49 Oct 1	.10 Jan 15 1956
ANNUAL SEVEN-DAY MINIMUM	38 Mar 8	66 Sep 24	.19 Sep 17 1981
INSTANTANEOUS PEAK FLOW		6700 Aug 7	13700 Aug 6 1996
INSTANTANEOUS PEAK STAGE		14.43 Aug 7	17.65 Jun 17 1984
ANNUAL RUNOFF (AC-FT)	112400	141500	58680
10 PERCENT EXCEEDS	240	314	134
50 PERCENT EXCEEDS	110	119	22
90 PERCENT EXCEEDS	54	73	1.3



MAPLE CREEK NEAR NICKERSON

## PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1993 to 1995, October 1996 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL AS CaCO <sub>3</sub> (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CaCO <sub>3</sub> (MG/L) (00904)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO <sub>3</sub> (39086)	SOLIDS, RESIDUE AT 180 °C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)
OCT												
14...	1230	64	783	8.1	15.0	727	8.8	360	12	346	505	485
NOV												
16...	1100	167	846	8.4	6.0	728	12.4	380	18	365	548	510
DEC												
14...	1200	121	787	8.4	2.5	730	12.3	390	21	366	544	508
JAN												
14...	1030	281	794	7.8	.0	737	10.1	410	37	376	556	536
FEB												
17...	1100	128	888	8.0	1.0	729	12.3	400	--	402	506	531
MAR												
15...	1100	164	656	7.8	6.0	737	11.1	370	16	349	531	485
APR												
12...	1230	--	797	8.2	11.5	728	8.9	370	32	340	531	493
29...	0815	284	690	8.4	11.5	728	9.2	--	--	--	--	--
MAY												
12...	1230	304	532	7.9	17.5	728	8.7	250	22	228	374	344
26...	1100	185	794	8.2	17.5	729	9.1	--	--	--	--	--
JUN												
16...	1030	427	760	8.6	15.5	730	8.0	370	--	374	499	515
30...	1030	322	755	8.9	17.5	728	9.3	--	--	--	--	--
JUL												
12...	1100	202	768	8.9	22.0	732	8.2	360	17	342	513	490
27...	1030	157	754	8.4	26.0	729	10.0	--	--	--	--	--
AUG												
11...	1345	178	754	8.3	23.0	729	7.3	360	64	292	481	447
SEP												
01...	1130	94	712	8.2	22.0	728	7.7	330	46	287	443	430
16...	1130	--	552	7.7	15.5	730	9.8	--	--	--	--	--

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	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 AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER 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)
OCT 14...	.69	87.3	97	28	27	.6	9.3	5.7	422	0	53	9.3
NOV 16...	.75	247	110	29	30	.7	11	3.0	445	0	54	13
DEC 14...	.74	178	110	29	29	.6	6.3	3.0	447	0	57	9.5
JAN 14...	.76	422	120	29	30	.6	7.7	13	459	0	56	11
FEB 17...	.69	175	110	29	29	.6	6.4	7.3	491	0	54	8.7
MAR 15...	.72	235	100	28	29	.7	6.8	--	426	0	56	11
APR 12... 29...	.72 --	-- --	100 --	29 --	30 --	.7 --	11 --	-- --	415 --	0 --	56 --	11 --
MAY 12... 26...	.51 --	307 --	69 --	19 --	21 --	.6 --	9.3 --	-- --	278 --	0 --	36 --	16 --
JUN 16... 30...	.68 --	575 --	110 --	27 --	28 --	.6 --	8.5 --	-- --	398 --	29 --	53 --	8.6 --
JUL 12... 27...	.70 --	280 --	100 --	26 --	28 --	.7 --	11 --	-- --	371 --	23 --	55 --	9.7 --
AUG 11...	.65	231	100	26	27	.6	12	--	295	30	47	8.7
SEP 01... 16...	.60 --	112 --	88 --	28 --	30 --	.7 --	8.1 --	-- --	350 --	-- --	52 --	9.8 --



## PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA+ ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA+ ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)
OCT 14...	.43	20	7.05	.028	7.08	.038	.88	.26	.92	.30	8.0	7.4
NOV 16...	.35	21	5.97	.051	6.03	.233	1.1	.44	1.4	.67	7.4	6.7
DEC 14...	.42	19	6.75	.017	6.77	.045	.52	.28	.57	.32	7.3	7.1
JAN 14...	.36	24	7.69	.046	7.74	.178	.54	.25	.72	.43	8.5	8.2
FEB 17...	.33	19	6.75	.038	6.79	.059	.79	.29	.85	.35	7.6	7.1
MAR 15...	.33	16	6.18	.036	6.22	.030	.93	.29	.96	.32	7.2	6.5
APR 12... 29...	.40 --	17 --	7.22 --	.067 --	7.29 --	.194 --	1.2 --	.64 --	1.4 --	.84 --	8.6 --	8.1 --
MAY 12... 26...	.41 --	11 --	5.32 --	.110 --	5.43 --	.168 --	8.6 --	.75 --	8.8 --	.92 --	14 --	6.4 --
JUN 16... 30...	.39 --	19 --	9.11 --	.067 --	9.18 --	.049 --	3.1 --	.45 --	3.2 --	.50 --	12 --	9.7 --
JUL 12... 27...	.43 --	20 --	7.37 --	.027 --	7.40 --	<.020 --	-- --	-- --	2.0 --	.45 --	9.4 --	7.9 --
AUG 11...	.38	22	6.59	.035	6.62	<.020	--	--	1.6	.35	8.2	7.0
SEP 01... 16...	.38 --	19 --	5.09 --	.026 --	5.12 --	<.020 --	-- --	-- --	.67 --	.32 --	5.8 --	5.4 --

# PLATTE RIVER BASIN

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06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	ACETO- CHLOR, WATER FLTRD REC (µ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µ G/L) (46342)	ALPHA BHC DIS- SOLVED (µ G/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µ G/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (µ G/L) (82673)	BUTYL- ATE, WATER, DISS, REC (µ G/L) (04028)
OCT 14...	.472	.288	.291	<10	40	<.0020	<.002	<.0020	.042	<.0020	<.0020
NOV 16...	.533	.321	.283	<10	33	.0053	E.003	<.0020	.039	<.0020	<.0020
DEC 14...	.295	.132	.161	<10	54	<.0020	<.002	<.0020	.022	<.0020	<.0020
JAN 14...	.277	.186	.156	<10	170	<.0020	<.002	<.0020	.020	<.0020	<.0020
FEB 17...	.371	.192	.179	<10	39	<.0020	<.002	<.0020	.022	<.0020	<.0020
MAR 15...	.438	.188	.174	E6.5	33	<.0020	<.002	<.0020	.020	<.0020	<.0020
APR 12...	.493	.288	.238	<10	20	.0469	.012	<.0020	.144	<.0020	<.0020
29...	--	--	--	--	--	.0145	E.002	<.0020	.081	<.0020	<.0020
MAY 12...	2.81	.257	.205	<10	<3.0	3.30	1.18	<.0020	10.7	<.0020	<.0020
26...	--	--	--	--	--	.170	.013	<.0020	.630	<.0020	<.0020
JUN 16...	1.08	.259	.235	<10	6.1	.428	.039	<.0020	2.22	<.0020	<.0020
30...	--	--	--	--	--	.151	.017	<.0020	1.79	<.0020	<.0020
JUL 12...	.871	.364	.285	<10	5.4	.0629	.008	<.0020	.667	<.0020	<.0020
27...	--	--	--	--	--	.0181	<.002	<.0020	.255	<.0020	<.0020
AUG 11...	.701	.329	.302	<10	8.6	.0200	.005	<.0020	.250	<.0020	<.0020
SEP 01...	.271	.183	.168	<10	23	<.0020	<.002	<.0020	.100	<.0020	<.0020
16...	--	--	--	--	--	<.0020	<.002	<.0020	.079	<.0020	<.0020

## PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µ G/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 µ GF, REC (µ G/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (µ G/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µ G/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µ G/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µ G/L) (04040)	DI- AZINON, DIS- SOLVED (µ G/L) (39572)	DI- ELDRIN DIS- SOLVED (µ G/L) (39381)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 µ GF, REC (µ G/L) (82660)	DISUL- FOTON WATER FLTRD 0.7 µ GF, REC (µ G/L) (82677)	EPTC WATER FLTRD 0.7 µ GF, REC (µ G/L) (82668)
OCT 14...	<.0030	<.0030	<.0040	.0232	<.0020	E.0178	<.002	<.001	<.0030	<.0170	<.0020
NOV 16...	<.0030	<.0030	<.0040	.0304	<.0020	E.0180	<.002	<.001	<.0030	<.0170	<.0020
DEC 14...	<.0030	<.0030	<.0040	.0140	<.0020	E.0108	<.002	<.001	<.0030	<.0170	<.0020
JAN 14...	<.0030	<.0030	<.0040	.0089	<.0020	E.0074	<.002	<.001	<.0030	<.0170	<.0020
FEB 17...	<.0030	<.0030	<.0040	.0110	<.0020	E.0113	<.002	<.001	<.0030	<.0170	<.0020
MAR 15...	<.0030	<.0030	<.0040	.0103	<.0020	E.0076	<.002	<.001	<.0030	<.0170	<.0020
APR 12...	<.0030	<.0030	<.0040	.188	<.0020	E.0128	<.002	<.001	<.0030	<.0170	<.0020
29...	<.0030	<.0030	<.0040	.0689	<.0020	E.0140	<.002	<.001	<.0030	<.0170	E.0033
MAY 12...	<.0030	<.0030	<.0040	.187	<.0020	E.0694	<.002	<.001	<.0030	<.0170	<.0020
26...	<.0030	<.0030	<.0040	.0909	<.0020	E.0377	<.002	<.001	<.0030	<.0170	<.0020
JUN 16...	<.0030	<.0030	E.0113	.225	<.0020	E.116	<.002	<.001	<.0030	<.0170	<.0020
30...	<.0030	E.0798	.0087	.175	<.0020	E.156	<.002	<.001	<.0030	<.0170	<.0020
JUL 12...	<.0030	<.0030	.0043	.0850	<.0020	E.123	<.002	<.001	<.0030	<.0170	<.0020
27...	<.0030	<.0030	<.0040	.0586	<.0020	E.0343	<.002	<.001	<.0030	<.0170	<.0020
AUG 11...	<.0030	<.0030	<.0040	.0388	<.0020	E.0486	<.002	<.001	<.0030	<.0170	<.0020
SEP 01...	<.0030	<.0030	<.0040	.0262	<.0020	E.0222	<.002	<.001	<.0030	<.0170	<.0020
16...	<.0030	<.0030	<.0040	.0203	<.0020	E.0223	<.002	<.001	<.0030	<.0170	<.0020

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	ETHAL- FLUR- ALIN WAT FLT 0.7 µ GF, REC (µ G/L) (82663)	ETHO- PROP WATER FLTRD 0.7 µ GF, REC (µ G/L) (82672)	FONOFO S WATER DISS REC (µ G/L) (04095)	LINDANE DIS- SOLVED (µ G/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µ G/L) (82666)	MALA- THION, DIS- SOLVED (µ G/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µ G/L) (82686)	METHYL PARA- THION WAT FLT 0.7 µ GF, REC (µ G/L) (82667)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)	METRI- BUZIN WATER DISSOLV (µ G/L) (82630)	MOL- INATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82671)
OCT 14...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.013	<.004	<.0040
NOV 16...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.019	<.004	<.0040
DEC 14...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.008	<.004	<.0040
JAN 14...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.008	<.004	<.0040
FEB 17...	<.0040	<.0030	.0042	<.004	<.0020	<.005	<.0010	<.0060	.008	<.004	<.0040
MAR 15...	<.0040	<.0030	.0062	<.004	<.0020	<.005	<.0010	<.0060	.008	<.004	<.0040
APR 12...	<.0040	<.0030	.0060	<.004	<.0020	<.005	<.0010	<.0060	.027	<.004	<.0040
29...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.015	<.004	<.0040
MAY 12...	<.0040	<.0030	E.0018	<.004	<.0020	<.005	<.0010	<.0060	1.19	.888	<.0040
26...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.123	<.004	<.0040
JUN 16...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.512	.015	<.0040
30...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.264	.028	<.0040
JUL 12...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.142	.009	<.0040
27...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.056	<.004	<.0040
AUG 11...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.065	.006	<.0040
SEP 01...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.024	<.004	<.0040
16...	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.024	<.004	<.0040

## PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82684)	PARA- THION, DIS- SOLVED (µ G/L) (39542)	PEB- ULATE WATER FILTRD 0.7 µ GF, REC (µ G/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µ G/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 µ GF, REC (µ G/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82664)	P,P' DDE DISSOLV (µ G/L) (34653)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82676)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µ G/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82685)
OCT 14...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	E.0013	<.0180	<.0030	<.0040	<.0130
NOV 16...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
DEC 14...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
JAN 14...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	E.0005	<.0180	<.0030	<.0040	<.0130
FEB 17...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
MAR 15...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
APR 12...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0083	<.0030	<.0040	<.0130
29...	<.0030	<.004	<.0040	.0086	<.0050	<.0020	<.0060	E.0023	<.0030	<.0040	<.0130
MAY 12...	<.0030	<.004	<.0040	.141	<.0050	<.0020	<.0060	.0188	<.0030	<.0040	<.0130
26...	<.0030	<.004	<.0040	.0188	<.0050	<.0020	<.0060	E.0077	<.0030	<.0040	<.0130
JUN 16...	<.0030	<.004	<.0040	.0227	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
30...	<.0030	<.004	<.0040	.0185	<.0050	<.0020	<.0060	E.0117	<.0030	<.0040	<.0130
JUL 12...	<.0030	<.004	<.0040	.0111	<.0050	<.0020	<.0060	E.0054	<.0030	<.0040	--
27...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0172	<.0030	<.0040	<.0130
AUG 11...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
SEP 01...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130
16...	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030	<.0040	<.0130



# PLATTE RIVER BASIN

201

06800000 MAPLE CREEK NEAR NICKERSON, NE--Continued  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PROP- CHLOR, WATER, DISS, REC ( $\mu$ G/L) (04024)	SI- MAZINE, WATER, DISS, REC ( $\mu$ G/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82670)	TER- BACIL WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82665)	TER- BUFOS WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82661)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 14...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	421	73	52
NOV 16...	<.0070	E.0026	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	685	309	65
DEC 14...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	269	88	73
JAN 14...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	207	157	35
FEB 17...	<.0070	E.0034	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	349	121	65
MAR 15...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	698	309	41
APR 12...	.0097	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	.0049	1250	--	85
29...	<.0070	<.0050	<.0100	<.0400	<.0130	<.0020	<.0010	E.0023	--	--	--
MAY 12...	E.0041	.0340	<.0100	<.0070	<.0130	<.0020	<.0010	.0062	4580	3760	95
26...	<.0070	.0060	<.0100	<.0070	<.0130	<.0020	<.0010	.0044	--	--	--
JUN 16...	<.0070	.0114	<.0100	<.0070	<.0130	<.0020	<.0010	.0070	3280	3780	63
30...	<.0070	.0162	<.0100	<.0070	<.0130	<.0020	<.0010	.0110	--	--	--
JUL 12...	<.0070	.0087	<.0100	<.0070	<.0130	<.0020	<.0010	.0046	886	483	73
27...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	--	--	--
AUG 11...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	1660	798	31
SEP 01...	<.0070	<.0050	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	305	77	56
16...	<.0070	<.0050	E.0048	<.0070	<.0130	<.0020	<.0010	<.0020	--	--	--

## PLATTE RIVER BASIN

## 06800500 ELKHORN RIVER AT WATERLOO, NE

LOCATION.--Lat 41°17'37", long 096°17'00", in SW<sup>1</sup>/<sub>4</sub> sec.3, T.15 N., R.10 E., Douglas County, Hydrologic Unit 10220003, on right bank at Nebraska Highway 64 bridge at north edge of Waterloo, 3.5 mi downstream from Rawhide Creek, and at mile 13.8.

DRAINAGE AREA.--6,900 mi<sup>2</sup>, approximately, of which about 5,870 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--April 1899 to November 1903, May 1911 to September 1915, August 1928 to current year. Published as "at Arlington" 1899-1903, July 1913 to September 1915. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1914 (M), 1915, 1936, 1943(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,104.73 ft above sea level. Oct. 1, 1960, to July 27, 1978, at datum 2.00 ft higher. See WSP 1918 for history of changes prior to Oct. 1, 1960. July 28, 1978 to Nov. 17, 1993, at site 800 ft downstream at present datum. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record, which are poor. Some small diversions above station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1730	2090	e1300	2180	2590	2020	3360	8740	5340	1960	1210
2	1050	1690	2080	e1200	2120	4500	2000	3370	10800	4500	1820	1180
3	1140	1710	2040	e1100	2070	4210	2040	3400	7070	4250	1770	1140
4	1230	1820	2040	e1000	2260	3440	2020	3490	9980	4300	1690	1150
5	1420	1880	2020	e1200	2600	3220	2010	3830	19400	3880	1600	1390
6	2610	1830	2020	e1300	2980	2910	2190	4500	13600	3710	1670	1170
7	2760	1790	2000	e1200	3250	e2600	3900	5060	6650	3380	18500	1100
8	2120	1780	1980	e1200	3480	e2400	5260	6880	4910	3130	21600	1060
9	1740	1840	1950	e1000	2620	e2200	5550	8240	4310	4180	7720	1070
10	1530	3710	1920	e1100	2670	e2000	5040	8070	4310	4610	3360	1090
11	1430	5620	1840	e1400	2560	e1850	5190	7840	10100	3300	2610	1050
12	1370	3950	1810	e1300	2500	e1800	5270	5990	7870	3010	2510	1040
13	1340	3550	1810	e1200	2080	e1900	5150	4560	5470	2960	2310	1030
14	1330	3740	1810	e1500	2190	e2100	5700	4070	4520	2950	2090	1010
15	1320	3890	1790	e1700	2030	2420	13700	3850	4130	2770	1920	999
16	1320	4130	1800	e1800	1930	2720	12500	3580	4350	2550	1810	993
17	1380	4050	1790	e1900	1910	2780	9060	4780	6430	2870	1780	984
18	1370	3810	1790	e1800	1960	3010	7570	4500	5280	2790	1800	986
19	1340	3550	1780	e2100	1740	2860	6500	3230	4640	4550	2010	977
20	1320	3280	1460	e2000	e1650	2370	5500	3860	4330	6140	1890	967
21	1320	2970	e1300	e1900	e1500	2280	5030	5260	4320	5490	1920	950
22	1350	2780	e1200	e1800	e1600	2190	8660	4240	4140	3830	1640	940
23	1330	2640	e1450	e1900	e1700	2280	5750	4470	5340	3250	1580	938
24	1330	2520	e1500	e1900	1730	2220	4400	4630	5190	4210	1470	948
25	1330	2470	e1500	e1800	1980	2060	3780	4470	4320	3590	1460	948
26	1340	2360	e1550	e2200	1940	2050	3670	4090	4270	3300	1440	938
27	1350	2250	e1550	e2100	2060	2020	3420	3800	8620	2960	1370	925
28	1540	2180	e1600	e2000	2060	2040	3460	3800	10700	2830	1340	916
29	2100	2140	e1600	2430	---	2040	3500	3560	7350	2880	1240	905
30	2370	2090	e1550	2290	---	2040	3400	3360	6090	2580	1210	893
31	1920	---	e1200	2140	---	1990	---	3650	---	2170	1210	---
TOTAL	47450	83750	53820	50760	61350	77090	153240	141790	207230	112260	98300	30897
MEAN	1531	2792	1736	1637	2191	2487	5108	4574	6908	3621	3171	1030
MAX	2760	5620	2090	2430	3480	4500	13700	8240	19400	6140	21600	1390
MIN	1050	1690	1200	1000	1500	1800	2000	3230	4130	2170	1210	893
AC-FT	94120	166100	106800	100700	121700	152900	304000	281200	411000	222700	195000	61280

e Estimated

# PLATTE RIVER BASIN

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06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	725	747	646	608	1198	2281	2061	2040	2857	1421	965	735
MAX	2780	2792	1803	1650	6439	8082	10450	7565	11950	11470	4755	2705
(WY)	1987	1999	1994	1973	1971	1993	1984	1995	1984	1993	1951	1951
MIN	150	240	150	180	256	489	512	327	405	173	117	87.8
(WY)	1940	1940	1930	1977	1940	1981	1981	1934	1933	1936	1976	1939

## SUMMARY STATISTICS

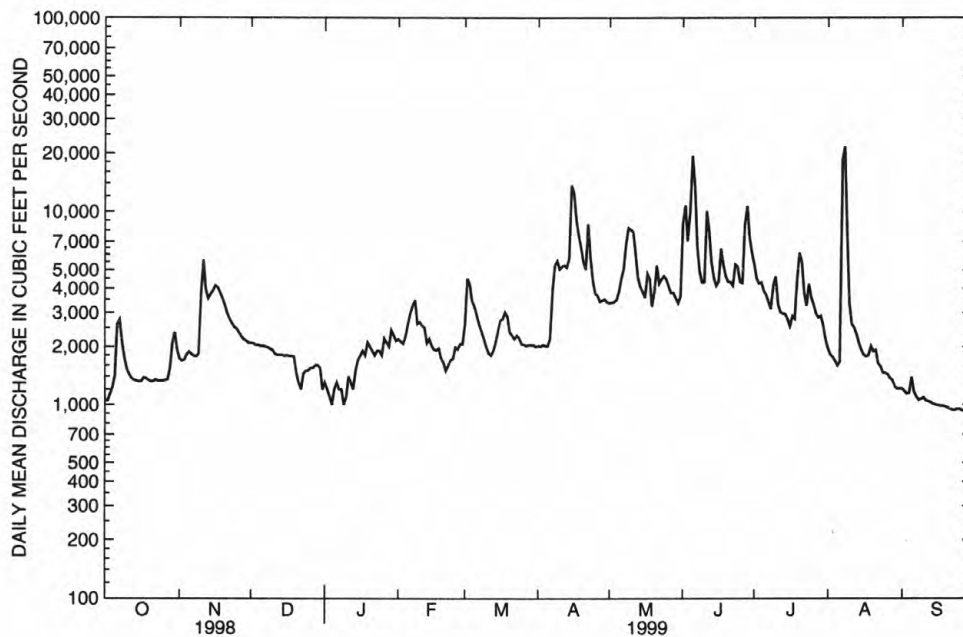
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1929 - 1999

ANNUAL TOTAL	985658	1117937	
ANNUAL MEAN	2700	3063	1355
MEDIAN OF ANNUAL MEANS			1090
HIGHEST ANNUAL MEAN			3870
LOWEST ANNUAL MEAN			417
HIGHEST DAILY MEAN	23100 Jul 6	21600 Aug 8	93800 Jun 12 1944
LOWEST DAILY MEAN	600 Mar 11	893 Sep 30	64 Sep 16 1939
ANNUAL SEVEN-DAY MINIMUM	717 Jan 7	925 Sep 24	66 Sep 15 1939
INSTANTANEOUS PEAK FLOW		27300 Aug 8	100000 Jun 12 1944
INSTANTANEOUS PEAK STAGE		13.89 Aug 8	*16.60 Jun 12 1944
ANNUAL RUNOFF (AC-FT)	1955000	2217000	982000
10 PERCENT EXCEEDS	5010	5390	2730
50 PERCENT EXCEEDS	1830	2120	720
90 PERCENT EXCEEDS	1060	1200	300

\* From floodmark, site and datum then in use.



ELKHORN RIVER AT WATERLOO

## PLATTE RIVER BASIN

06801000 PLATTE RIVER NEAR ASHLAND, NE

LOCATION.--Lat 41°03'44", long 096°19'28", in SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.29, T.13 N., R.10 E., Sarpy County, Hydrologic Unit 10200202, on left bank upstream side and 35 ft northeast of Highway 6 bridge, 3 mi northeast of Ashland, 2 mi upstream from Salt Creek, and at mile 27.9.

DRAINAGE AREA.--84,200 mi<sup>2</sup> from state base maps, scale 1:1,000,000.

PERIOD OF RECORD.--August 1928 to May 1953, July 1988 to current year.

REVISED RECORDS.--WDR NE-94-1: 1993 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,040.00 ft above sea level. Prior to Oct. 1, 1929, chain gage at former highway bridge 1/2 mi upstream at datum 15.83 ft higher. Oct. 1, 1929 to Oct. 7, 1933, staff or chain gage at former bridge datum 14.79 ft higher. Oct. 14, 1933 to Dec. 10, 1938, water-stage recorder at site 950 ft upstream from former bridge at datum 14.79 ft higher. Dec. 11, 1938 to June 16, 1948, water-stage recorder at site of former bridge 1/2 mi upstream at datum 14.79 ft higher. June 17, 1948 to May 11, 1953, 1/2 mi downstream on Highway 6 bridge at datum 12.51 ft higher. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6410	13200	8940	9470	e10800	9930	17000	10300	7940	8010	5850	4700
2	7020	11900	9850	9910	e10400	8550	15900	9960	7720	7960	6850	4160
3	6630	11600	9620	10100	e10000	8360	14500	9750	7530	7170	6460	3760
4	6280	11000	9140	9450	e10000	8190	13800	9020	7740	10400	7040	3880
5	5800	9870	8190	9430	e10000	8040	14000	9390	7550	e14000	7590	3880
6	5700	10000	7520	8070	e9800	8080	15400	8940	8020	e27000	8000	3810
7	6050	9260	7900	7660	e9600	8340	15600	8300	8030	e20000	7840	4160
8	6130	9350	7210	e7000	e9800	8740	25400	8220	8870	e15000	7940	3760
9	6720	9730	6990	e6800	e10200	e8000	30700	8780	25500	e12000	7600	3820
10	6690	9060	7400	e6000	e10600	e8000	27600	7400	21000	9930	7180	3820
11	6600	9830	7910	e5400	e11000	e7600	23400	8430	20500	9390	6620	3450
12	7270	8940	8100	e5000	e11600	e7200	20600	8030	22700	8660	6030	3690
13	8030	8580	8820	e4800	e12000	e7400	17800	8300	20100	7660	6520	3560
14	9000	8390	8430	e5400	12000	e7600	14800	8930	22600	7150	6750	3580
15	13400	8630	8730	e7000	11500	e8000	14300	9010	24900	6750	6420	3950
16	10800	7490	8780	e10000	10200	e8200	19100	9210	e24000	6700	6560	3840
17	8640	8650	8930	e10200	10800	e9000	18400	9090	e22000	6410	6920	4010
18	8280	7940	8380	e10000	10900	e10000	16300	9080	e22600	5210	6110	4380
19	8500	7700	9590	e10000	10500	e11000	14100	8950	e24000	5090	6090	4470
20	7910	8390	9880	e10000	10600	e12000	13300	8530	e26000	4840	5530	4860
21	7580	8300	9130	e10400	10400	11200	11200	9170	e19000	4450	9050	4770
22	7740	8870	8580	e10800	9980	10400	10400	9640	e16000	5090	23200	4720
23	7070	8760	9180	e10200	10300	9550	10400	10200	e14000	7430	14900	4710
24	7790	8600	9190	e10200	8980	10600	10000	11000	e16000	7370	9500	4600
25	7340	9140	9510	e10400	10100	11000	10000	13400	e18000	7060	7430	4800
26	9990	8250	9080	e10800	9750	11300	9440	13600	e13000	7590	6580	4620
27	12200	8310	9200	e11000	9970	10900	10000	11400	9310	5830	6070	4550
28	12700	8400	9460	e11000	8820	15100	10200	10500	8590	5510	5600	4520
29	10800	8510	9490	e11000	---	22200	10200	10800	8470	5630	5330	4580
30	11300	9720	9430	e11200	---	21500	10300	8910	7770	5780	4780	4170
31	11700	---	9550	e11000	---	17900	---	8140	---	6250	4870	---
TOTAL	258070	276370	272110	279690	290600	323880	464140	294380	469440	267320	233210	125580
MEAN	8325	9212	8778	9022	10380	10450	15470	9496	15650	8623	7523	4186
MAX	13400	13200	9880	11200	12000	22200	30700	13600	26000	27000	23200	4860
MIN	5700	7490	6990	4800	8820	7200	9440	7400	7530	4450	4780	3450
AC-FT	511900	548200	539700	554800	576400	642400	920600	583900	931100	530200	462600	249100

e Estimated

# PLATTE RIVER BASIN

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06801000 PLATTE RIVER NEAR ASHLAND, NE --Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5525	5850	5533	5292	7169	9938	8657	8769	11830	8546	5599	5189
MAX	8325	9212	8778	9022	11390	23190	15470	19330	23270	31980	10730	9825
(WY)	1998	1998	1998	1998	1997	1993	1998	1995	1995	1993	1996	1993
MIN	2433	3620	2879	2939	5128	5233	4618	2969	2928	2448	1288	1533
(WY)	1992	1989	1990	1991	1990	1991	1989	1989	1989	1991	1991	1991

## SUMMARY STATISTICS

### FOR 1997 CALENDAR YEAR

### FOR 1998 WATER YEAR

### WATER YEARS 1989 - 1998

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1989 - 1998	
			(SINCE STORAGE IN LAKE McCONAUGHY)			
ANNUAL TOTAL	2999390		3554790			
ANNUAL MEAN	8218		9739		<sup>a</sup> 7320	
HIGHEST ANNUAL MEAN					11820	
LOWEST ANNUAL MEAN					4612	
HIGHEST DAILY MEAN	31000 Feb 20		30700 Apr 9		110000 Mar 10 1993	
LOWEST DAILY MEAN	2030 Jul 31		3450 Sep 11		662 Sep 2 1991	
ANNUAL SEVEN-DAY MINIMUM	2330 Aug 4		3670 Sep 8		701 Aug 29 1991	
INSTANTANEOUS PEAK FLOW (STAGE)			<sup>e</sup> 41000 Jun 24		<sup>*</sup> 130000 (**19.23) Mar 10 1993	
INSTANTANEOUS PEAK STAGE			19.48 Jun 24		<sup>***</sup> 23.05 Feb 20 1997	
ANNUAL RUNOFF (AC-FT)	5949000		7051000		5303000	
10 PERCENT EXCEEDS	11700		15000		12000	
50 PERCENT EXCEEDS	7780		8940		6050	
90 PERCENT EXCEEDS	4550		5050		2670	

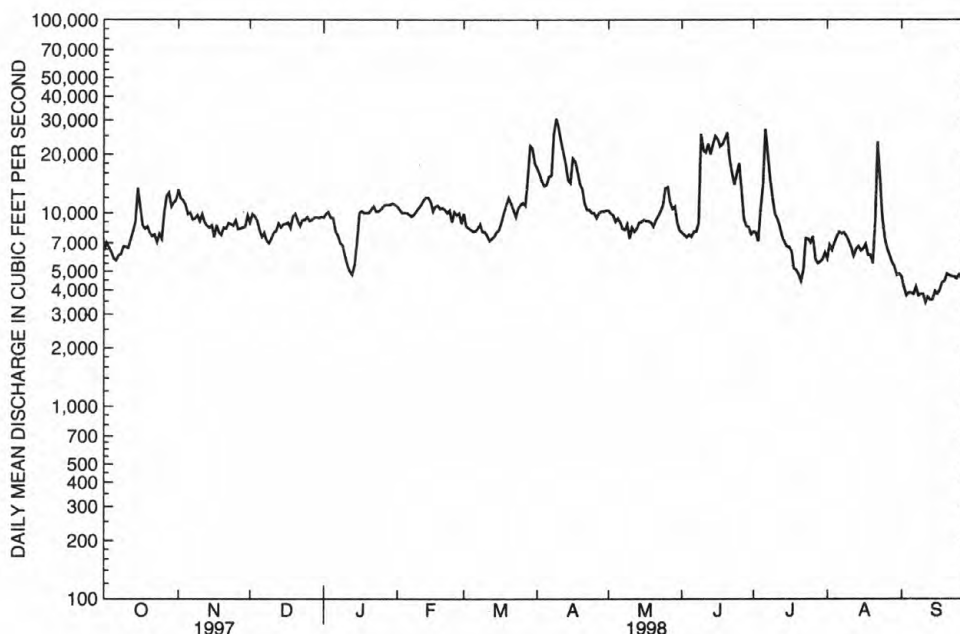
a Average discharge for water years 1942-52, 5961 ft<sup>3</sup>/s

e Estimated, indefinite stage-discharge relationship.

\* Estimated; discharge includes overbank flow.

\*\* Backwater from ice.

\*\*\* Ice jam.



PLATTE RIVER NEAR ASHLAND



## PLATTE RIVER BASIN

06801180 OLIVE BRANCH NEAR HALLAM, NE

LOCATION.--Lat 40°35'44", long 096°47'42", in NE 1/4 NW 1/4 sec.7, T.7 N., R.6 E., Lancaster County, Hydrologic Unit 10200203, on right bank, 4.75 mi west of U.S. Highway 77 on West Panama Road, south of Lincoln, and at mile 3.5.

DRAINAGE AREA.--37.8 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder, water temperature, and specific conductance sensors. Datum of gage is 1,273.75 ft above sea level. Data collection platform at station.

REMARKS.--Record good except for periods of estimated record which are poor.

COOPERATION.--Station operated in cooperation with the Nebraska Public Power District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	11	9.4	e1.4	3.6	2.6	3.0	6.0	27	12	e2.1	e.92
2	12	164	9.4	e1.5	3.8	2.4	2.8	5.5	14	10	e1.8	e.90
3	11	160	9.4	e1.0	3.9	4.5	2.9	5.9	9.6	9.7	e1.7	e.88
4	145	72	11	e.86	3.8	4.7	3.0	11	8.4	9.3	e1.6	e1.2
5	197	38	13	e.92	3.8	4.6	26	50	7.5	9.3	e1.5	e1.4
6	36	27	12	e.96	3.9	4.4	12	25	6.6	13	e1.7	e1.1
7	19	22	12	e1.1	4.2	4.0	5.6	19	5.4	8.7	e1.6	e.98
8	9.9	24	9.6	e.96	4.0	2.9	4.6	14	4.8	7.5	e1.6	e.90
9	6.6	24	9.1	e1.3	3.6	e3.0	4.3	12	4.7	7.7	e1.5	.73
10	5.9	199	9.1	e1.6	3.3	e3.0	3.7	10	4.3	7.5	e1.5	.73
11	5.3	56	8.9	e2.0	e2.9	e3.3	3.2	9.3	4.6	7.2	e1.6	.73
12	4.8	37	8.9	e1.9	e2.7	e3.5	2.8	7.8	4.5	6.5	e1.5	.73
13	4.4	26	8.9	e2.1	2.5	4.7	2.6	6.6	5.0	5.0	e1.4	.73
14	4.5	21	8.7	2.3	2.7	5.9	152	6.1	4.2	4.6	e1.3	.73
15	4.2	18	9.0	2.8	3.1	9.0	386	19	3.7	4.4	e1.4	.73
16	3.0	15	8.8	3.5	2.8	9.7	116	19	8.5	4.6	e1.3	.73
17	3.6	14	7.9	4.2	2.3	8.3	61	19	7.0	6.2	e1.2	.73
18	3.2	13	5.9	4.8	e2.0	6.8	37	18	12	5.7	e1.2	.77
19	2.9	12	4.8	3.9	e2.1	6.4	28	12	11	4.8	e1.7	.82
20	2.9	12	2.7	3.5	e2.2	6.4	22	11	11	4.5	e1.6	.82
21	3.0	11	e2.0	3.5	e2.0	6.2	18	36	11	4.0	e1.5	.82
22	3.1	11	e1.4	e3.3	e2.3	7.3	15	21	11	3.7	e1.3	.82
23	3.2	11	e1.5	e3.0	e2.4	7.5	13	31	22	4.2	e1.2	.82
24	3.4	10	e1.6	e2.8	e2.6	6.6	11	19	12	3.8	e1.2	.82
25	3.1	11	e1.7	e2.5	6.3	6.1	10	14	11	3.3	e1.1	.82
26	2.9	10	e1.8	3.1	4.9	5.8	11	11	10	3.6	e1.1	.82
27	3.4	10	e1.9	4.3	3.6	5.7	11	9.6	18	3.6	e1.0	.82
28	5.9	10	e2.0	3.6	3.2	5.9	9.8	7.8	13	2.8	e1.0	.82
29	5.6	10	e1.9	3.1	---	4.6	8.3	6.6	11	2.2	e.98	.86
30	4.1	9.9	e1.6	3.1	---	2.7	7.0	7.0	11	e2.1	e.98	.91
31	7.8	---	e1.5	3.1	---	3.0	---	22	---	3.8	e.96	---
TOTAL	532.7	1068.9	197.4	78.00	90.5	161.5	992.6	471.2	293.8	185.3	43.12	25.59
MEAN	17.2	35.6	6.37	2.52	3.23	5.21	33.1	15.2	9.79	5.98	1.39	.85
MAX	197	199	13	4.8	6.3	9.7	386	50	27	13	2.1	1.4
MIN	2.9	9.9	1.4	.86	2.0	2.4	2.6	5.5	3.7	2.1	.96	.73
AC-FT	1060	2120	392	155	180	320	1970	935	583	368	86	51

e Estimated

# PLATTE RIVER BASIN

207

06801180 OLIVE BRANCH NEAR HALLAM, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.8	23.7	6.33	3.36	10.6	16.9	31.0	12.6	14.4	6.71	3.79	3.66
MAX	17.2	35.6	6.37	4.21	18.1	28.6	33.1	15.2	26.0	7.46	7.73	8.21
(WY)	1999	1999	1999	1998	1998	1998	1999	1999	1998	1998	1998	1998
MIN	4.32	11.7	6.29	2.52	3.23	5.21	28.9	9.95	7.43	5.98	1.39	.85
(WY)	1998	1998	1998	1999	1999	1999	1998	1998	1997	1999	1999	1999

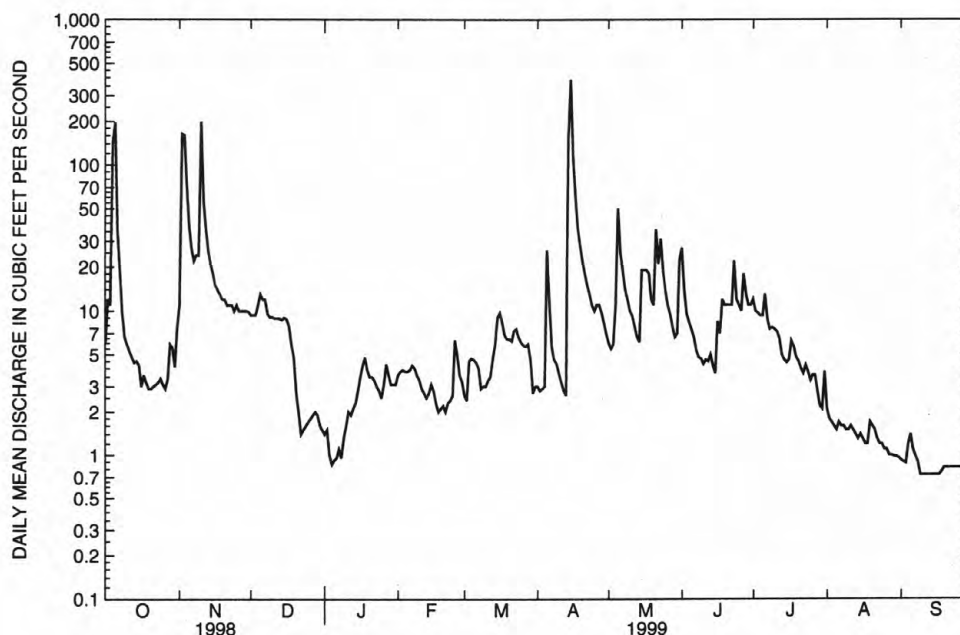
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1997 - 1999

ANNUAL TOTAL	5995.7	4140.61	
ANNUAL MEAN	16.4	11.3	12.4
HIGHEST ANNUAL MEAN			13.4
LOWEST ANNUAL MEAN			11.3
HIGHEST DAILY MEAN	248 Jun 14	386 Apr 15	386 Apr 15 1999
LOWEST DAILY MEAN	1.4 Dec 22	.73 Sep 9	.73 Sep 9 1999
ANNUAL SEVEN-DAY MINIMUM	1.7 Dec 21	.73 Sep 9	.73 Sep 9 1999
INSTANTANEOUS PEAK FLOW		917 Apr 15	917 Apr 15 1999
INSTANTANEOUS PEAK STAGE		9.98 Apr 15	9.98 Apr 15 1999
ANNUAL RUNOFF (AC-FT)	11890	8210	8950
10 PERCENT EXCEEDS	35	19	20
50 PERCENT EXCEEDS	6.6	4.5	4.6
90 PERCENT EXCEEDS	2.9	1.0	1.5



OLIVE BRANCH NEAR HALLAM

## PLATTE RIVER BASIN

06801180 OLIVE BRANCH NEAR HALLAM, NE--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1997 to current year

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1997 to current year.

WATER TEMPERATURES: May 1997 to current year.

TEMPERATURE, WATER (°C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	10.7	9.3	1.9	---	7.4	14.4	---	17.3	21.1	21.3	20.6
2	12.8	9.7	10.1	1.3	---	7.4	11.0	---	18.5	23.0	19.6	20.0
3	12.4	7.8	9.8	1.2	---	5.3	9.7	15.6	19.6	25.2	19.8	20.2
4	13.2	7.5	10.7	1.5	---	5.5	9.9	15.9	21.9	25.6	20.7	19.9
5	14.3	7.5	10.1	2.2	---	6.4	10.2	12.8	22.6	25.7	20.1	19.7
6	13.1	7.2	7.7	2.0	---	5.6	10.0	11.5	22.2	24.9	19.8	18.4
7	12.9	6.6	5.2	1.7	---	4.4	13.1	11.6	21.4	24.2	21.5	19.7
8	12.5	6.5	4.1	1.7	---	3.0	14.6	14.2	22.8	25.8	21.4	18.3
9	13.6	7.8	4.0	1.6	---	3.3	12.0	16.5	22.3	24.0	21.6	16.8
10	14.7	6.5	3.6	1.9	---	2.9	11.5	17.3	19.7	21.5	22.0	16.9
11	15.3	5.2	3.1	---	---	4.3	11.3	15.6	19.3	20.7	21.3	16.6
12	13.6	6.4	3.2	2.1	---	4.1	12.3	15.8	18.9	21.4	22.0	16.8
13	12.9	6.1	4.0	1.7	---	4.5	12.7	16.2	19.3	22.3	19.4	15.1
14	15.1	7.4	4.3	2.3	---	4.9	11.8	15.7	19.2	23.1	18.8	15.0
15	17.0	7.0	4.7	2.7	---	5.9	8.3	15.6	17.0	24.2	19.8	14.5
16	17.3	8.1	4.4	2.6	---	8.2	8.1	18.9	15.3	23.4	21.4	14.7
17	16.9	7.9	3.7	2.5	---	9.7	7.9	17.4	16.3	22.8	21.5	15.3
18	13.6	9.4	4.4	2.0	---	8.4	9.4	16.4	17.5	23.4	22.6	15.6
19	12.7	7.1	2.5	2.3	---	7.7	12.3	17.5	17.4	25.1	20.5	15.6
20	12.0	5.8	1.9	2.5	---	8.9	13.0	17.5	18.9	25.8	19.7	14.6
21	11.6	6.2	1.6	2.5	---	9.1	13.4	18.4	21.4	26.0	20.2	13.2
22	10.9	7.7	1.8	2.3	---	7.2	12.1	18.6	21.7	26.2	19.5	13.9
23	11.4	7.8	2.2	2.4	3.2	7.0	9.6	18.6	21.0	24.8	19.7	15.1
24	12.3	6.9	---	2.3	3.7	7.9	10.9	18.1	22.3	25.8	18.9	15.4
25	12.9	7.8	2.4	2.5	4.4	7.9	11.0	18.0	23.4	26.0	19.1	16.3
26	13.9	7.1	2.4	2.9	6.1	7.8	11.1	17.7	23.8	24.9	20.0	16.1
27	15.4	7.5	2.5	2.9	6.3	7.8	11.3	19.0	23.3	25.6	20.4	15.1
28	16.2	9.0	2.4	2.6	6.4	9.8	11.2	18.8	22.4	26.1	20.5	14.5
29	15.0	11.7	1.9	---	---	10.7	13.6	18.4	19.5	26.3	19.3	13.6
30	13.0	10.8	1.9	---	---	11.9	14.9	17.8	19.4	24.3	20.4	13.5
31	11.6	---	1.9	---	---	13.2	---	17.3	---	24.1	20.4	---
MEAN	13.7	7.7	---	---	---	7.0	11.4	---	20.2	24.3	20.4	16.4
MAX	17.3	11.7	---	---	---	13.2	14.9	---	23.8	26.3	22.6	20.6
MIN	10.9	5.2	---	---	---	2.9	7.9	---	15.3	20.7	18.8	13.2

## PLATTE RIVER BASIN

209

06801180 OLIVE BRANCH NEAR HALLAM, NE--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25°C) WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	668	635	572	766	840	667	619	---	528	583	611	613
2	666	532	574	763	846	666	615	---	545	619	619	614
3	663	465	575	762	842	656	617	521	593	649	622	606
4	651	461	572	761	838	639	620	528	627	652	620	608
5	515	475	552	760	822	615	605	468	656	657	619	614
6	509	494	545	758	811	602	526	394	683	600	617	613
7	525	515	544	755	804	597	530	411	692	617	600	610
8	542	527	547	753	806	588	542	435	712	620	581	614
9	562	538	549	753	807	586	563	456	718	593	574	617
10	578	497	554	---	799	591	589	483	716	605	572	619
11	590	490	556	---	806	603	610	505	712	586	567	623
12	597	495	559	751	811	601	652	525	711	605	564	629
13	602	510	563	750	814	602	693	542	715	613	570	634
14	608	523	568	755	812	606	660	558	724	612	577	639
15	615	530	572	757	807	607	406	562	744	589	581	643
16	624	538	574	754	809	597	396	549	717	586	583	646
17	630	547	612	752	809	603	388	542	724	581	585	645
18	631	555	680	744	772	584	380	542	685	577	584	644
19	633	552	685	748	---	585	481	543	674	590	583	602
20	634	550	690	747	---	597	486	549	649	581	585	611
21	636	553	696	745	---	592	497	508	606	537	588	621
22	638	560	718	744	---	583	505	484	628	570	587	625
23	640	564	737	743	676	584	508	496	576	630	590	623
24	641	566	---	740	673	587	529	508	591	592	594	623
25	643	573	773	742	668	587	548	526	617	624	598	623
26	645	577	777	745	665	586	561	538	641	645	600	622
27	647	573	779	745	657	584	577	560	637	615	600	628
28	650	568	778	741	660	589	---	582	607	613	601	631
29	646	571	775	779	---	598	497	602	594	604	605	620
30	642	573	772	831	---	612	512	613	570	593	611	606
31	642	---	769	834	---	624	---	593	---	601	614	---
MEAN	617	537	---	---	---	604	---	---	653	604	594	622
MAX	668	635	---	---	---	667	---	---	744	657	622	646
MIN	509	461	---	---	---	583	---	---	528	537	564	602

## PLATTE RIVER BASIN

06803000 SALT CREEK AT ROCA, NE

LOCATION.--Lat 40°39'29", long 096°39'55", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.17, T.8 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 15 ft downstream from highway bridge at west edge of Roca, and at mile 54.2.

DRAINAGE AREA.--167 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,192.50 ft above sea level, Kansas City supplementary adjustment of 1943. Prior to May 16, 1956, nonrecording gage at present site and datum. Data collection platform at station.

REMARKS.--Records good. Flood flow affected by several detention dams.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	33	53	e21	27	e48	51	62	87	89	29	9.2
2	62	543	53	e20	30	e46	49	57	87	69	24	9.0
3	64	697	52	e19	31	e43	40	58	67	59	23	8.3
4	164	459	50	e19	32	e41	35	52	62	52	22	15
5	912	226	54	e18	30	e40	381	142	57	45	21	19
6	187	156	54	e18	31	e38	246	146	52	94	21	12
7	104	126	51	e18	31	e37	103	112	44	101	25	8.9
8	80	149	48	e18	33	e38	69	86	40	83	23	8.1
9	63	125	48	e18	31	e45	54	73	39	79	21	8.1
10	56	664	46	e19	29	e52	45	66	38	74	20	7.9
11	49	334	44	e19	31	76	40	83	37	64	21	8.1
12	42	199	45	e20	31	81	38	68	35	57	20	8.4
13	38	137	43	e18	e29	83	37	54	38	50	19	8.0
14	34	110	42	e19	e29	85	225	48	39	42	19	8.2
15	33	95	40	e20	e28	92	2460	135	36	35	20	8.2
16	33	85	37	e22	e27	87	839	172	41	32	19	8.4
17	38	74	37	e22	e26	60	471	125	44	34	18	8.4
18	37	69	35	e24	e25	41	314	101	40	35	28	8.4
19	33	67	31	e25	e25	34	227	78	42	32	23	8.4
20	31	64	24	e26	e24	31	169	79	44	26	19	8.1
21	30	64	e22	e26	e24	30	161	371	44	24	17	8.1
22	26	64	e20	e25	e25	32	165	150	42	22	16	13
23	24	62	e18	e25	e26	55	115	249	64	22	15	69
24	22	59	e18	e24	e29	53	97	139	63	25	14	59
25	24	59	e19	e24	e34	55	84	101	46	23	12	20
26	23	57	e19	e25	e38	57	87	88	42	21	10	20
27	22	58	e20	e25	e45	56	106	79	763	20	9.6	20
28	27	59	e21	e26	e50	56	116	70	269	19	9.1	21
29	31	59	e22	e26	---	54	86	64	116	17	8.8	20
30	27	56	e21	27	---	50	71	64	77	17	8.8	20
31	27	---	e20	27	---	49	---	106	---	27	9.3	---
TOTAL	2385	5009	1107	683	851	1645	6981	3278	2495	1389	564.6	458.2
MEAN	76.9	167	35.7	22.0	30.4	53.1	233	106	83.2	44.8	18.2	15.3
MAX	912	697	54	27	50	92	2460	371	763	101	29	69
MIN	22	33	18	18	24	30	35	48	35	17	8.8	7.9
AC-FT	4730	9940	2200	1350	1690	3260	13850	6500	4950	2760	1120	909

e Estimated



# PLATTE RIVER BASIN

211

06803000 SALT CREEK AT ROCA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	41.5	21.5	16.7	19.1	38.7	87.7	70.4	93.8	91.6	82.2	31.8	23.8
MAX	617	167	108	140	180	641	356	587	666	789	496	220
(WY)	1974	1999	1987	1973	1958	1979	1987	1995	1984	1993	1954	1989
MIN	1.36	3.11	3.19	3.25	5.37	5.59	5.23	5.23	2.98	2.19	1.18	1.66
(WY)	1956	1956	1965	1954	1956	1956	1956	1955	1981	1955	1955	1991

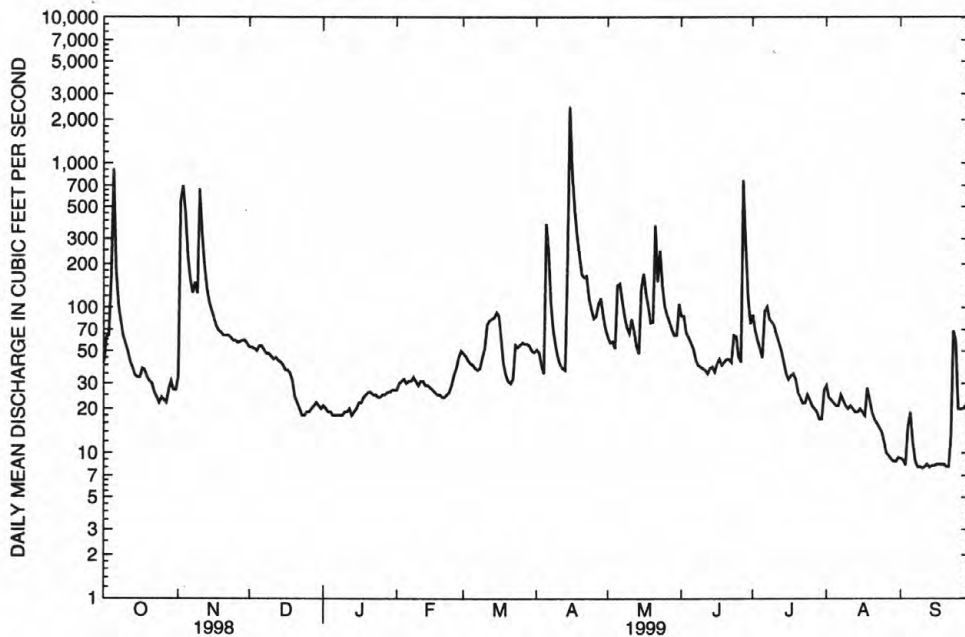
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1952 - 1999

ANNUAL TOTAL	42686	26845.8	
ANNUAL MEAN	117	73.6	51.7
MEDIAN OF ANNUAL MEANS			41.1
HIGHEST ANNUAL MEAN			200
LOWEST ANNUAL MEAN			6.15
HIGHEST DAILY MEAN	1970	Jun 14	2460
LOWEST DAILY MEAN	13	Sep 8	7.9
ANNUAL SEVEN-DAY MINIMUM	13	Sep 5	8.1
INSTANTANEOUS PEAK FLOW			3020
INSTANTANEOUS PEAK STAGE			16.60
ANNUAL RUNOFF (AC-FT)	84670	53250	37430
10 PERCENT EXCEEDS	258	125	80
50 PERCENT EXCEEDS	53	38	11
90 PERCENT EXCEEDS	20	18	4.0



SALT CREEK AT ROCA

## PLATTE RIVER BASIN

06803080 SALT CREEK AT PIONEERS BOULEVARD AT LINCOLN, NE

LOCATION.--Lat 40°46'13", long 096°43'05", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec. 2, T. 9 N., R. 6 E., Lancaster County, Hydrologic Unit 10200203, on left bank downstream from bridge.

DRAINAGE AREA.--220 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1994 to current year. Published as "above Beal Slough", August-September 1994.

GAGE.--Water-stage recorder. Elevation of gage is 1,140 ft above sea level. Data collection platform at station.

REMARKS.-- Record good except for periods of estimated record which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	44	49	e27	34	55	55	92	130	225	37	13
2	43	394	47	e28	e33	51	54	86	112	103	32	14
3	48	681	47	e26	e34	48	54	86	89	86	31	13
4	148	546	48	e25	e35	45	43	84	79	75	28	65
5	860	276	48	e27	38	46	287	107	73	156	27	31
6	313	185	49	e28	39	44	422	182	68	164	30	25
7	141	150	46	e27	38	41	149	138	62	135	32	18
8	95	157	46	e27	39	47	111	115	56	111	31	14
9	74	160	44	e25	37	60	87	99	52	137	29	13
10	63	567	45	e24	34	94	72	90	57	90	28	12
11	57	448	43	e25	e34	89	63	97	53	78	31	12
12	51	223	44	e27	e33	89	54	104	52	71	30	12
13	47	165	45	e25	34	90	51	84	55	65	28	12
14	44	130	43	e28	33	93	e240	75	58	58	26	12
15	40	111	43	e30	33	99	e1700	274	50	52	26	12
16	41	98	41	e32	32	86	e1000	426	54	47	24	13
17	42	86	40	e33	30	78	527	181	57	45	24	12
18	43	75	41	e34	e29	62	359	146	50	46	69	12
19	40	68	38	e34	e28	44	268	121	51	44	34	12
20	37	63	e28	e34	e27	40	211	120	51	39	26	12
21	36	61	e26	e34	e28	38	191	317	49	33	24	12
22	34	59	e24	e33	e29	51	247	234	49	30	24	12
23	31	56	e26	e33	31	58	155	294	65	34	23	36
24	28	54	e28	e32	39	66	127	189	69	31	22	70
25	28	53	e29	e31	38	60	113	135	51	30	20	40
26	28	52	e29	e31	56	67	118	109	44	28	18	23
27	26	51	e28	e32	68	64	134	94	606	26	15	24
28	40	50	e28	e33	62	64	167	83	451	25	14	26
29	36	51	e27	34	---	61	125	76	175	24	13	25
30	32	52	e26	34	---	58	104	220	198	22	13	25
31	28	---	e25	33	---	55	---	189	---	29	13	---
TOTAL	2597	5166	1171	926	1025	1943	7288	4647	3066	2139	822	632
MEAN	83.8	172	37.8	29.9	36.6	62.7	243	150	102	69.0	26.5	21.1
MAX	860	681	49	34	68	99	1700	426	606	225	69	70
MIN	23	44	24	24	27	38	43	75	44	22	13	12
AC-FT	5150	10250	2320	1840	2030	3850	14460	9220	6080	4240	1630	1250

e Estimated

# PLATTE RIVER BASIN

213

06803080 SALT CREEK AT PIONEERS BOULEVARD AT LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.4	89.9	46.6	34.6	71.7	81.0	141	348	171	98.7	40.2	32.8
MAX	83.8	172	97.1	49.5	194	202	272	689	276	220	90.6	55.8
(WY)	1999	1999	1998	1995	1998	1998	1998	1995	1998	1996	1996	1996
MIN	11.0	13.8	15.0	16.1	16.5	16.2	22.1	117	102	38.2	17.7	10.3
(WY)	1996	1996	1996	1996	1996	1996	1996	1998	1999	1995	1995	1995

## SUMMARY STATISTICS

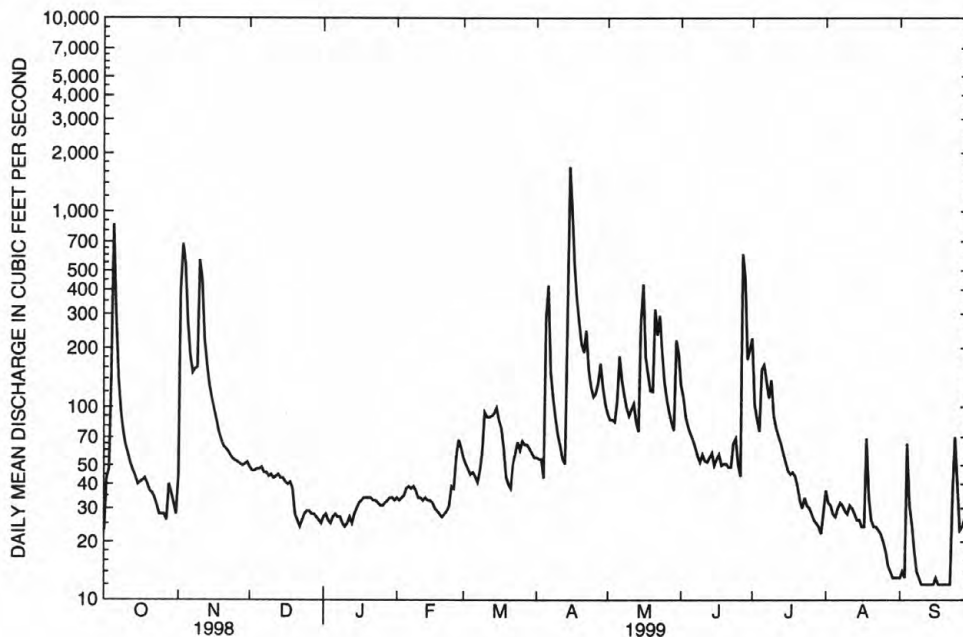
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1994 - 1999

ANNUAL TOTAL	47349	31422	
ANNUAL MEAN	130	86.1	99.2
HIGHEST ANNUAL MEAN			124
LOWEST ANNUAL MEAN			68.6
HIGHEST DAILY MEAN	2050	1700	3380
LOWEST DAILY MEAN	17	12	4.2
ANNUAL SEVEN-DAY MINIMUM	19	12	5.4
INSTANTANEOUS PEAK FLOW		2430	6360
INSTANTANEOUS PEAK STAGE		*14.35	22.92
ANNUAL RUNOFF (AC-FT)	93920	62330	71900
10 PERCENT EXCEEDS	325	170	193
50 PERCENT EXCEEDS	57	46	36
90 PERCENT EXCEEDS	27	24	14

\* From floodmark.



SALT CREEK AT PIONEERS BOULEVARD AT LINCOLN

## PLATTE RIVER BASIN

06803093 HAINES BRANCH AT SW 56th ST. AT LINCOLN, NE

LOCATION.--Lat 40°45'59", long 096°47'48", in SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>, sec. 12, T. 9 N., R. 5 E., Lancaster County, Hydrologic Unit 10200203, on right upstream bank.

DRAINAGE AREA.--60 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,170 ft above sea level. Data collection platform at station.

REMARKS.-- Records good except for periods of estimated record which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	13	12	e7.2	12	9.0	13	19	26	82	3.9	1.2
2	14	76	12	e6.4	10	8.7	11	19	24	34	3.9	1.0
3	14	73	12	e6.6	11	8.1	10	21	21	26	4.4	.91
4	21	50	12	e6.2	9.9	8.2	10	22	21	20	4.6	1.2
5	47	39	12	e6.6	10	8.6	28	61	19	17	3.9	1.5
6	19	33	11	e6.8	9.5	7.9	26	37	18	84	4.6	1.3
7	14	32	11	e7.0	9.4	e7.0	17	29	16	30	5.3	1.5
8	14	35	13	e6.6	9.6	e5.8	17	25	14	17	4.5	1.6
9	12	45	16	e6.2	8.7	e7.0	15	22	13	23	3.5	1.6
10	11	178	15	e6.8	9.2	e10	14	21	13	20	3.4	1.6
11	11	58	15	e7.0	9.2	15	13	23	14	14	3.4	1.6
12	11	44	16	e7.2	12	17	12	22	14	12	3.8	1.8
13	10	45	15	e6.6	13	18	12	20	20	11	2.8	1.8
14	7.6	42	15	e10	12	19	102	19	20	9.8	2.4	1.9
15	7.1	37	15	e11	12	20	325	40	15	8.8	2.1	1.7
16	7.5	32	15	e11	11	16	72	194	18	8.1	1.8	1.6
17	8.8	20	12	e12	11	13	39	74	17	8.4	2.4	1.6
18	8.2	18	11	e12	e10	11	29	53	14	10	6.8	1.8
19	8.0	16	e8.6	e11	e9.4	10	26	41	14	9.0	3.8	2.1
20	7.7	16	e7.4	e11	e9.0	10	24	46	14	8.5	2.3	2.7
21	7.9	16	e6.8	e12	e8.8	9.9	24	94	13	8.0	1.9	2.8
22	8.6	16	e6.4	e12	e8.8	13	23	55	13	6.6	1.8	6.8
23	8.7	15	e6.8	e11	e10	14	22	98	19	6.8	1.8	14
24	10	15	e7.2	e10	e13	12	21	51	18	6.3	1.6	13
25	11	14	e7.6	e11	9.7	14	22	40	13	5.4	1.4	12
26	10	13	e7.8	e12	11	18	24	33	11	4.6	2.4	11
27	11	13	e8.0	e13	11	19	25	28	33	4.7	1.9	8.7
28	14	13	e7.8	e14	9.6	20	24	25	22	4.4	1.4	8.7
29	13	14	e7.6	15	---	18	22	23	16	4.0	1.3	8.6
30	11	13	e7.4	12	---	16	21	23	54	3.5	1.3	6.1
31	11	---	e7.0	12	---	13	---	26	---	3.9	1.4	---
TOTAL	378.4	1044	336.4	299.2	289.8	396.2	1043	1304	557	510.8	91.8	123.71
MEAN	12.2	34.8	10.9	9.65	10.3	12.8	34.8	42.1	18.6	16.5	2.96	4.12
MAX	47	178	16	15	13	20	325	194	54	84	6.8	14
MIN	7.1	13	6.4	6.2	8.7	5.8	10	19	11	3.5	1.3	.91
AC-FT	751	2070	667	593	575	786	2070	2590	1100	1010	182	245

e Estimated

# PLATTE RIVER BASIN

215

06803093 HAINES BRANCH AT SW 56th ST. AT LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.74	12.3	6.48	6.22	12.1	13.4	21.3	61.2	34.3	13.5	7.20	4.91
MAX	12.2	34.8	10.9	9.65	25.6	31.9	37.4	139	74.0	17.2	19.2	9.46
(WY)	1999	1999	1999	1999	1998	1998	1998	1995	1998	1998	1998	1996
MIN	1.67	2.73	3.88	3.46	3.75	3.23	4.51	13.4	18.6	7.95	2.22	1.25
(WY)	1995	1995	1996	1996	1996	1996	1996	1997	1999	1995	1997	1997

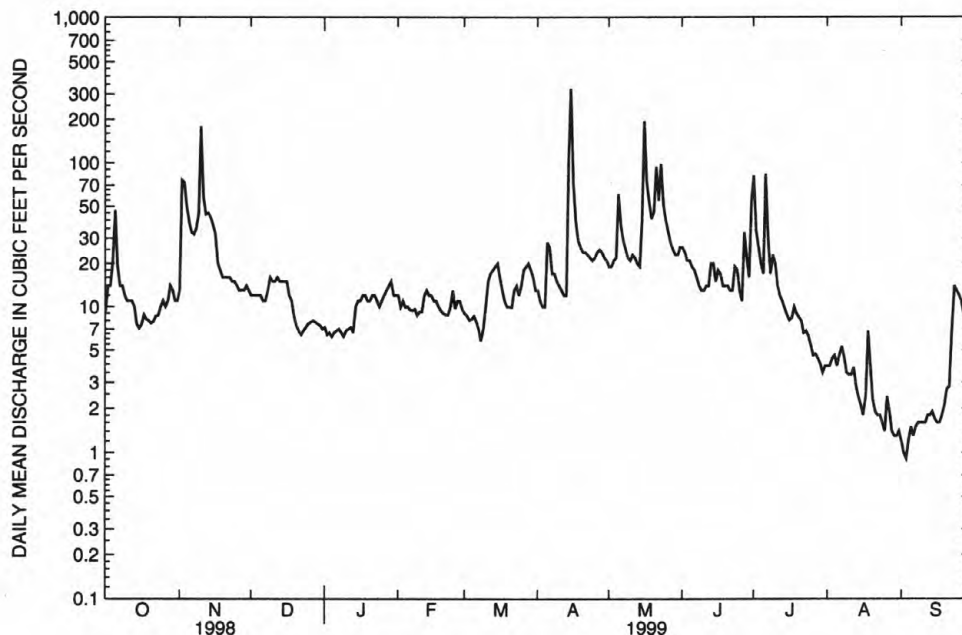
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1994 - 1999

ANNUAL TOTAL	9310.0	6374.31	
ANNUAL MEAN	25.5	17.5	16.5
HIGHEST ANNUAL MEAN			22.2
LOWEST ANNUAL MEAN			8.86
HIGHEST DAILY MEAN	784	325	786
LOWEST DAILY MEAN	2.7	.91	.58
ANNUAL SEVEN-DAY MINIMUM	3.3	1.2	.60
INSTANTANEOUS PEAK FLOW		604	1780
INSTANTANEOUS PEAK STAGE		7.42	12.06
ANNUAL RUNOFF (AC-FT)	18470	12640	11950
10 PERCENT EXCEEDS	50	33	32
50 PERCENT EXCEEDS	14	12	6.8
90 PERCENT EXCEEDS	6.3	2.8	2.0



HAINES BRANCH AT SW 56th ST AT LINCOLN



## PLATTE RIVER BASIN

06803170 MIDDLE CREEK AT SW 40th ST. AT LINCOLN, NE

LOCATION.--Lat 40°48'20", long 096°46'39", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec. 29, T. 10 N., R. 6 E., Lancaster County, Hydrologic Unit 10200203, on right downstream side of bridge.

DRAINAGE AREA.--94 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,144.45 ft (revised) above sea level. Data collection platform at station.

REMARKS.-- Records good except for periods of estimated record which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	7.6	8.8	e6.8	11	13	9.6	21	62	423	8.6	5.2
2	7.7	43	8.6	e7.4	12	13	9.6	21	79	237	14	4.7
3	9.0	32	8.7	e7.2	12	13	9.5	23	69	159	29	4.7
4	9.6	20	8.4	e7.0	12	12	9.5	23	80	112	8.2	5.3
5	12	11	8.3	e7.4	12	12	20	37	68	89	7.4	5.3
6	8.6	8.8	8.4	e7.6	12	11	29	33	62	95	8.0	4.7
7	7.0	10	8.2	e7.6	12	11	16	29	55	69	11	4.5
8	6.5	21	7.8	e7.2	12	12	15	25	52	59	8.6	4.1
9	6.5	17	7.6	e6.8	12	22	17	22	48	59	7.7	4.0
10	6.4	122	7.3	e7.8	12	38	16	21	47	51	7.4	3.6
11	6.3	31	7.1	e8.4	15	38	15	39	47	45	8.3	3.5
12	6.1	17	7.3	e9.0	13	38	13	40	33	42	12	3.6
13	6.2	14	7.3	e8.8	12	37	12	35	32	39	11	3.6
14	6.3	13	7.2	11	11	38	34	32	30	36	8.9	3.5
15	6.6	12	7.0	11	11	45	240	129	25	22	8.2	3.2
16	6.9	12	7.0	11	11	49	97	290	27	19	7.5	3.1
17	7.2	11	7.4	11	10	16	71	198	27	19	7.5	3.1
18	7.3	11	7.2	12	e9.8	12	57	122	24	19	32	3.2
19	6.8	11	e6.6	11	e9.6	10	49	87	23	18	17	3.4
20	6.4	10	e6.2	11	e10	9.8	43	73	24	17	11	3.4
21	6.5	10	e6.4	11	e10	9.3	39	109	23	15	10	3.3
22	6.4	10	e6.6	e10	11	11	36	76	22	14	9.4	6.1
23	6.4	10	e6.8	e9.6	12	16	32	157	34	13	9.0	25
24	6.5	9.7	e7.0	e9.8	13	13	29	85	29	14	8.0	26
25	7.0	9.7	e7.0	e10	14	11	28	67	23	13	7.3	26
26	7.2	9.5	e7.0	e9.8	15	9.8	30	55	21	11	6.8	27
27	7.3	9.2	7.0	e10	15	9.8	31	46	93	11	6.5	27
28	9.4	9.1	e6.8	e11	14	10	29	40	113	10	6.2	27
29	8.6	9.5	e6.8	e11	---	9.5	26	35	80	9.7	5.6	27
30	7.4	9.2	e6.6	11	---	9.3	23	40	130	8.7	5.9	22
31	7.0	---	e6.4	11	---	9.6	---	59	---	8.8	5.5	---
TOTAL	224.5	530.3	226.8	291.2	335.4	568.1	1085.2	2069	1482	1757.2	313.5	296.1
MEAN	7.24	17.7	7.32	9.39	12.0	18.3	36.2	66.7	49.4	56.7	10.1	9.87
MAX	12	122	8.8	12	15	49	240	290	130	423	32	27
MIN	5.4	7.6	6.2	6.8	9.6	9.3	9.5	21	21	8.7	5.5	3.1
AC-FT	445	1050	450	578	665	1130	2150	4100	2940	3490	622	587

e Estimated

# PLATTE RIVER BASIN

217

06803170 MIDDLE CREEK AT SW 40th ST. AT LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.00	11.0	9.03	7.44	10.9	13.5	20.6	84.6	65.6	23.6	9.38	9.86
MAX	13.0	17.7	19.8	9.39	14.3	23.1	37.4	136	151	56.7	17.0	16.4
(WY)	1997	1999	1998	1999	1998	1998	1998	1995	1998	1999	1998	1996
MIN	5.12	3.98	4.05	4.03	5.66	3.40	1.98	9.25	28.2	7.29	3.63	5.25
(WY)	1995	1996	1996	1996	1996	1996	1996	1997	1995	1995	1997	1998

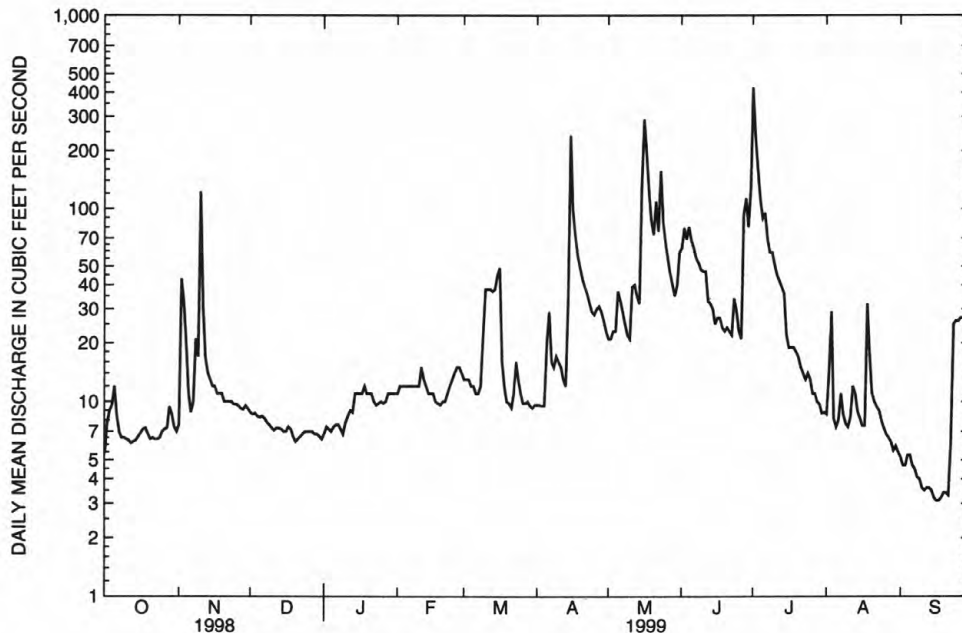
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1994 - 1999

ANNUAL TOTAL	11720.3	9179.3	
ANNUAL MEAN	32.1	25.1	22.8
HIGHEST ANNUAL MEAN			32.6 1998
LOWEST ANNUAL MEAN			13.2 1997
HIGHEST DAILY MEAN	1840 Jun 14	423 Jul 1	1840 Jun 14 1998
LOWEST DAILY MEAN	3.8 Mar 1	3.1 Sep 16	.92 Aug 29 1995
ANNUAL SEVEN-DAY MINIMUM	4.2 Feb 23	3.2 Sep 15	1.2 Apr 21 1996
INSTANTANEOUS PEAK FLOW		657 Jul 1	4030 Jun 14 1998
INSTANTANEOUS PEAK STAGE		6.68 Jul 1	16.25 Jun 14 1998
ANNUAL RUNOFF (AC-FT)	23250	18210	16550
10 PERCENT EXCEEDS	52	56	43
50 PERCENT EXCEEDS	9.5	11	8.5
90 PERCENT EXCEEDS	5.0	6.4	3.9



MIDDLE CREEK AT SW 40th ST AT LINCOLN

## PLATTE RIVER BASIN

## 06803500 SALT CREEK AT LINCOLN, NE

LOCATION.--Lat 40°50'49", long 096°40'54", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.7, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203 on right bank 135 ft downstream from bridge on North 27th Street at north edge of Lincoln, 1 mi downstream from Oak Creek and at mile 31.0.

DRAINAGE AREA.--685 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,113.90 ft above sea level. Prior to July 27, 1979, water-stage recorder for stages above 6.2 ft on downstream side of bridge pier, 135 ft upstream at same datum, and nonrecording gage read twice daily. Data collection platform at station.

REMARKS.--Records good. Flood flow affected by several detention dams.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	316	182	122	145	174	135	238	761	4580	161	102
2	319	957	157	124	145	171	147	235	1010	1410	162	e100
3	239	1150	156	125	148	163	157	235	631	1040	189	e98
4	451	873	161	122	147	157	127	276	552	830	157	354
5	954	529	151	126	142	153	522	385	495	871	147	191
6	496	407	145	e125	142	143	692	377	446	993	248	158
7	332	398	140	e120	142	136	322	327	411	692	231	131
8	281	415	140	e120	141	165	279	280	378	590	187	117
9	256	467	145	e125	138	212	229	241	353	969	170	108
10	235	1480	147	e125	135	e230	196	228	376	610	162	105
11	221	882	146	e130	181	e235	175	402	389	488	e300	105
12	207	486	146	e130	151	e230	157	359	353	441	e250	100
13	198	411	147	e130	140	e225	e150	260	347	405	e200	99
14	167	367	e145	134	138	e235	e1100	226	331	372	186	92
15	137	339	e145	e145	139	e250	e4800	1110	301	330	174	86
16	163	325	146	165	138	e260	e2000	2520	316	318	169	84
17	171	297	139	166	132	e215	941	895	306	384	165	85
18	139	281	139	169	164	z193	648	588	278	357	628	89
19	133	265	141	166	153	159	516	440	257	323	235	99
20	199	255	99	160	149	144	432	492	246	299	185	104
21	227	247	111	158	137	133	427	911	245	271	170	99
22	219	245	e110	182	135	248	491	754	248	247	161	104
23	207	248	112	163	141	198	372	1080	419	278	158	169
24	201	241	e118	154	177	e190	314	675	321	e220	154	220
25	200	238	e122	142	176	e175	293	474	272	e200	144	191
26	202	230	e125	143	186	171	320	396	241	e190	136	157
27	200	233	e130	154	201	166	354	354	4060	187	129	156
28	393	229	e135	149	188	164	349	320	2630	180	120	169
29	248	228	135	142	---	164	301	293	1030	170	114	158
30	217	230	129	148	---	150	268	774	2040	161	116	155
31	207	---	127	143	---	138	---	790	---	198	110	---
TOTAL	7973	13269	4271	4407	4251	5747	17214	16935	20043	18604	5818	3985
MEAN	257	442	138	142	152	185	574	546	668	600	188	133
MAX	954	1480	182	182	201	260	4800	2520	4060	4580	628	354
MIN	133	228	99	120	132	133	127	226	241	161	110	84
AC-FT	15810	26320	8470	8740	8430	11400	34140	33590	39760	36900	11540	7900

e Estimated

# PLATTE RIVER BASIN

219

06803500 SALT CREEK AT LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	175	117	97.5	105	174	338	287	406	509	346	188	177
MAX	1621	442	349	350	577	1972	1383	1693	3061	3205	704	1075
(WY)	1974	1999	1987	1974	1958	1987	1987	1996	1951	1993	1987	1989
MIN	35.2	36.3	30.6	33.6	39.9	45.5	52.6	49.9	58.8	48.8	44.6	47.0
(WY)	1956	1956	1957	1957	1957	1957	1956	1955	1958	1955	1955	1953

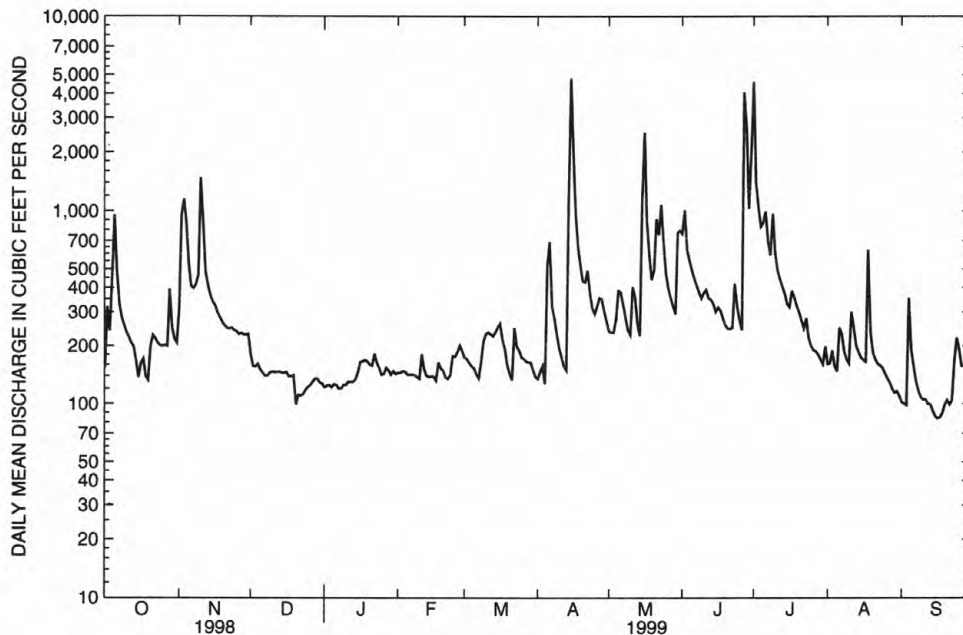
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1950 - 1999

ANNUAL TOTAL	142641		122517									
ANNUAL MEAN	391		336									
MEDIAN OF ANNUAL MEANS										244		
HIGHEST ANNUAL MEAN										211		
LOWEST ANNUAL MEAN										721		1987
HIGHEST DAILY MEAN	9740	Jun 14	4800	Apr 15						81.4		1970
LOWEST DAILY MEAN	90	Jan 10	84	Sep 16						22100	Jun 2	1951
ANNUAL SEVEN-DAY MINIMUM	110	Jan 10	91	Sep 13						21	Jul 10	1977
INSTANTANEOUS PEAK FLOW			9120	Jul 1						26	May 19	1956
INSTANTANEOUS PEAK STAGE			13.83	Jul 1						28400	Jul 24	1993
ANNUAL RUNOFF (AC-FT)	282900		243000							26.52	Jul 24	1993
10 PERCENT EXCEEDS	713		629							176400		
50 PERCENT EXCEEDS	242		198							402		
90 PERCENT EXCEEDS	132		125							98		
										51		



SALT CREEK AT LINCOLN

## PLATTE RIVER BASIN

06803510 LITTLE SALT CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°53'36", long 096°40'52", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.30, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft downstream from county road bridge, 0.4 mi north of intersection of Interstate Highway 80 and North 27th Street north of Lincoln, and at mile 1.6.

DRAINAGE AREA.--43.6 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1969 to current year.

REVISED RECORDS.--WDR NE-77-1: 1969-73 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,114.73 ft above sea level. Prior to Oct. 10, 1980, water-stage recorder at present site and datum 3.00 ft higher.

REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.4	9.9	10	e7.2	8.2	6.9	3.5	12	30	581	7.4	5.4
2	e3.6	51	9.8	e7.2	8.4	6.2	3.6	12	16	44	7.3	5.2
3	e4.8	25	9.8	e7.4	9.1	5.9	3.6	13	12	29	7.8	5.2
4	e6.6	21	9.8	e7.6	9.9	5.4	3.5	13	12	23	7.9	31
5	e10	14	9.8	e7.6	9.1	5.3	18	17	11	19	7.4	17
6	e17	12	10	e8.0	e8.8	5.1	14	15	10	21	12	7.4
7	e8.6	11	10	e7.8	e8.4	4.7	7.1	14	9.1	17	17	6.2
8	7.2	14	10	e7.8	e8.0	4.2	5.9	13	9.0	15	9.1	5.6
9	7.2	15	9.8	e7.6	e7.8	5.0	5.9	12	8.6	165	7.9	5.0
10	7.6	105	10	e7.4	7.6	6.8	10	12	8.8	26	7.3	5.6
11	7.4	20	10	e7.0	e7.4	6.4	9.3	39	9.0	17	28	6.3
12	7.6	14	10	e6.8	e7.0	5.8	4.0	16	9.5	14	20	6.2
13	8.0	12	10	e6.6	6.7	5.8	3.6	13	9.2	13	9.3	5.4
14	9.4	12	11	e6.4	6.4	6.6	64	12	8.8	12	7.8	4.7
15	9.6	11	11	e6.4	e6.4	7.1	185	79	8.3	11	7.6	4.2
16	9.5	11	11	e6.4	e6.0	8.4	37	111	9.6	11	7.2	3.9
17	11	10	10	e6.6	e5.8	7.0	25	27	9.2	12	6.7	3.6
18	10	10	e10	e6.6	e5.4	e6.2	21	19	8.6	14	20	3.3
19	9.4	10	e9.8	e6.8	e5.2	e5.2	19	15	8.2	11	9.4	3.1
20	9.4	9.8	e9.8	e6.8	e5.0	e4.8	17	16	8.2	10	7.3	3.0
21	9.3	9.8	e9.4	e7.2	e5.2	e4.6	17	34	8.2	10	6.8	2.9
22	9.3	9.9	e8.8	e7.2	e5.4	e5.0	16	22	8.0	9.2	6.5	2.8
23	9.0	10	e8.0	e7.2	e5.6	e7.0	15	39	13	8.8	6.4	2.8
24	8.6	11	e9.0	e7.4	6.6	6.4	14	17	9.4	9.6	6.0	2.6
25	8.8	12	e9.2	e7.4	7.7	4.9	14	13	8.0	8.8	5.9	2.4
26	8.8	11	e9.0	e7.6	10	4.2	16	12	7.4	8.0	5.9	2.1
27	9.0	11	e8.8	e7.8	9.7	4.0	17	11	588	8.1	5.7	1.8
28	21	11	e8.6	e8.0	8.0	3.8	16	10	53	8.3	5.4	1.8
29	20	11	e8.4	8.4	---	3.5	14	10	19	8.2	5.2	2.0
30	11	10	e9.0	8.2	---	3.6	13	35	697	8.1	5.5	2.0
31	10	---	e8.8	8.2	---	3.5	---	40	---	8.0	5.5	---
TOTAL	292.1	504.4	298.6	226.6	204.8	169.3	612.0	723	1626.1	1160.1	279.2	160.5
MEAN	9.42	16.8	9.63	7.31	7.31	5.46	20.4	23.3	54.2	37.4	9.01	5.35
MAX	21	105	11	8.4	10	8.4	185	111	697	581	28	31
MIN	3.4	9.8	8.0	6.4	5.0	3.5	3.5	10	7.4	8.0	5.2	1.8
AC-FT	579	1000	592	449	406	336	1210	1430	3230	2300	554	318

e Estimated



# PLATTE RIVER BASIN

221

06803510 LITTLE SALT CREEK NEAR LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.3	7.67	6.66	7.30	12.2	26.0	17.5	23.5	25.4	27.6	11.9	10.3
MAX	87.5	20.5	16.8	25.3	42.3	134	68.6	85.3	180	379	110	87.2
(WY)	1987	1973	1987	1973	1971	1979	1987	1996	1984	1993	1987	1989
MIN	2.13	2.32	1.69	2.28	3.10	3.57	3.86	3.54	2.42	1.60	1.74	.96
(WY)	1977	1977	1977	1977	1972	1972	1970	1989	1981	1970	1976	1971

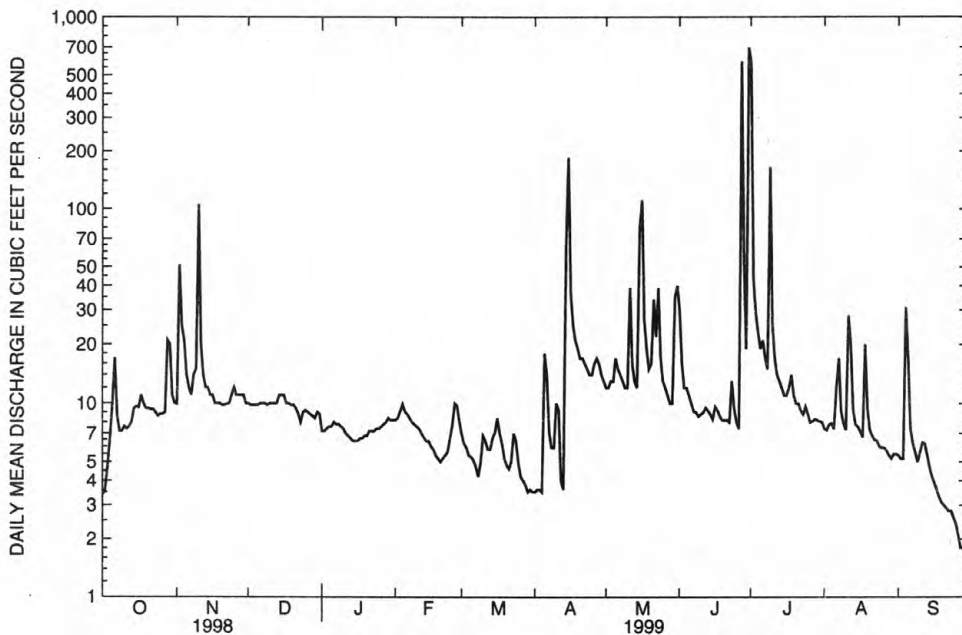
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1969 - 1999

ANNUAL TOTAL	6566.6	6256.7	
ANNUAL MEAN	18.0	17.1	15.7
MEDIAN OF ANNUAL MEANS			13.1
HIGHEST ANNUAL MEAN			51.7
LOWEST ANNUAL MEAN			3.59
HIGHEST DAILY MEAN	1090 Jun 14	697 Jun 30	5020 Jul 24 1993
LOWEST DAILY MEAN	3.4 Oct 1	1.8 Sep 27	.20 Sep 29 1969
ANNUAL SEVEN-DAY MINIMUM	3.8 Sep 26	2.1 Sep 24	.28 Sep 28 1969
INSTANTANEOUS PEAK FLOW		3300 Jun 30	8480 Jul 24 1993
INSTANTANEOUS PEAK STAGE		14.70 Jun 30	20.58 Jul 24 1993
ANNUAL RUNOFF (AC-FT)	13020	12410	11350
10 PERCENT EXCEEDS	22	19	19
50 PERCENT EXCEEDS	9.4	8.8	5.8
90 PERCENT EXCEEDS	4.2	4.9	2.3



LITTLE SALT CREEK NEAR LINCOLN

## PLATTE RIVER BASIN

06803513 SALT CREEK AT 70th STREET AT LINCOLN, NE

LOCATION.--Lat 40°53'10", long 096°37'26", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec. 27, T.11 N., R.7 W., Lancaster County, Hydrologic Unit 10200203, on left bank downstream from bridge.

DRAINAGE AREA.--753 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,095.85 ft (revised) above sea level. Data collection platform at station.

REMARKS.-- Record good except those for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	328	214	e130	165	173	169	270	729	4980	176	130
2	411	1130	187	e130	167	170	173	267	1020	1420	173	122
3	266	1200	186	e135	167	165	191	277	668	1060	198	119
4	496	920	188	e135	169	160	160	287	572	853	178	486
5	1100	563	180	e140	162	160	640	441	512	846	165	231
6	661	430	176	e135	162	154	713	397	456	1040	282	189
7	364	419	172	e135	160	152	342	359	417	700	267	157
8	303	440	170	e130	159	181	321	310	384	596	204	141
9	280	450	174	e130	155	219	261	279	359	1200	185	133
10	260	1570	174	e130	150	249	227	266	373	642	175	130
11	247	925	172	e135	186	253	203	470	385	492	354	129
12	237	519	170	e145	161	249	189	402	359	435	332	125
13	232	438	169	e155	153	245	182	302	350	397	229	125
14	213	381	168	160	150	247	1210	274	335	364	196	118
15	189	352	167	167	147	267	4940	1210	304	328	184	114
16	205	334	164	179	146	278	2070	2590	332	313	178	113
17	251	311	160	176	144	229	946	935	311	361	174	111
18	186	297	156	177	174	198	662	638	291	356	672	111
19	179	281	162	176	168	173	526	485	275	318	254	122
20	219	273	138	172	162	161	443	498	264	294	202	135
21	257	267	e135	171	151	151	428	957	266	272	185	120
22	254	266	e130	190	154	275	528	769	270	254	176	121
23	253	266	e125	178	155	222	387	1090	478	288	172	159
24	248	263	e130	173	182	207	334	720	330	245	168	213
25	241	263	132	168	183	193	314	506	293	226	159	198
26	248	253	137	169	190	192	346	430	264	214	154	161
27	246	248	142	175	196	193	380	387	4200	205	149	161
28	465	246	e140	173	185	187	366	354	2540	196	139	172
29	322	248	e140	166	---	184	325	326	1040	186	135	161
30	260	248	e135	166	---	176	292	807	2590	178	142	159
31	246	---	e135	165	---	170	---	933	---	220	140	---
TOTAL	9514	14129	4928	4866	4603	6233	18268	18236	20967	19479	6497	4666
MEAN	307	471	159	157	164	201	609	588	699	628	210	156
MAX	1100	1570	214	190	196	278	4940	2590	4200	4980	672	486
MIN	175	246	125	130	144	151	160	266	264	178	135	111
AC-FT	18870	28020	9770	9650	9130	12360	36230	36170	41590	38640	12890	9260

e Estimated

# PLATTE RIVER BASIN

223

06803513 SALT CREEK AT 70th STREET AT LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	160	259	156	148	220	248	386	961	725	386	208	171
MAX	307	471	220	162	327	455	621	1644	1199	628	367	279
(WY)	1999	1999	1998	1998	1998	1998	1998	1995	1998	1999	1996	1996
MIN	96.4	99.3	107	115	155	128	137	300	311	204	114	109
(WY)	1996	1996	1996	1996	1996	1996	1996	1997	1997	1995	1995	1995

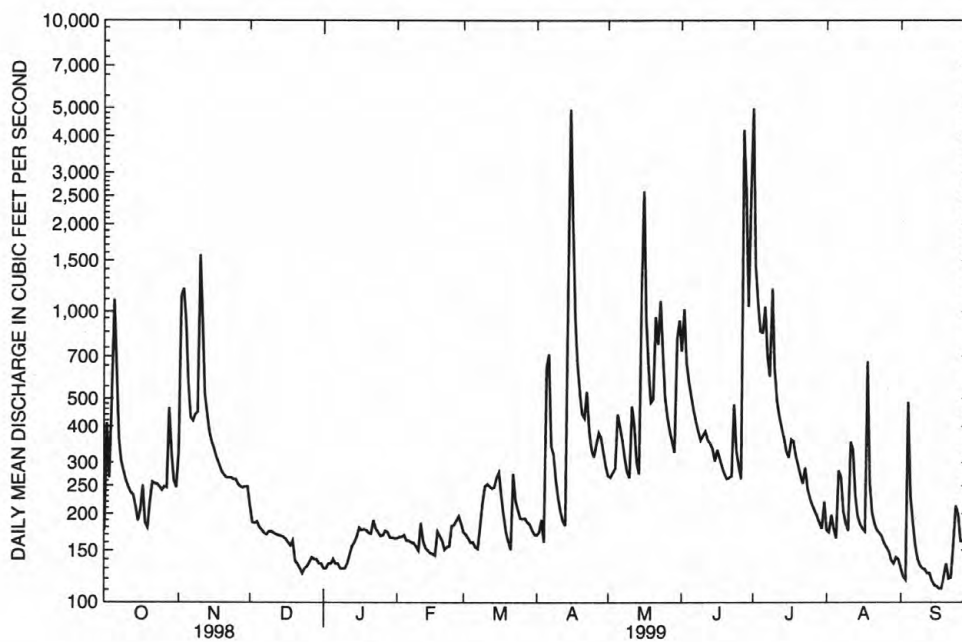
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1994 - 1999

ANNUAL TOTAL	155633	132386	
ANNUAL MEAN	426	363	336
HIGHEST ANNUAL MEAN			400
LOWEST ANNUAL MEAN			209
HIGHEST DAILY MEAN	10200	Jun 14	4980
LOWEST DAILY MEAN	120	Jan 10	111
ANNUAL SEVEN-DAY MINIMUM	128	Sep 7	116
INSTANTANEOUS PEAK FLOW			9620
INSTANTANEOUS PEAK STAGE			18.66
ANNUAL RUNOFF (AC-FT)	308700	262600	243400
10 PERCENT EXCEEDS	798	664	647
50 PERCENT EXCEEDS	248	220	174
90 PERCENT EXCEEDS	139	138	102



SALT CREEK AT 70th STREET AT LINCOLN

## PLATTE RIVER BASIN

06803520 STEVENS CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°51'25", long 096°35'42", in NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.11, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft upstream, 20 ft west from county road bridge on Havelock Avenue, 1.6 mi east of 70th Street at east edge of Lincoln, and at mile 3.2.

DRAINAGE AREA.--47.8 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,123.57 ft above sea level. Oct. 1968, to Aug. 14, 1997, at present site and datum 2.0 ft higher. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	11	10	e7.2	9.8	15	14	27	41	474	6.9	3.6
2	8.8	97	10	e6.8	10	14	13	26	28	60	6.4	3.2
3	12	92	11	e6.2	10	13	15	28	25	36	6.9	2.7
4	20	45	12	e6.0	11	13	15	25	24	23	6.9	19
5	166	19	11	e6.6	11	12	192	41	19	70	6.2	15
6	19	15	11	e7.0	11	11	97	33	17	172	7.5	5.7
7	12	15	10	e7.2	11	11	38	37	14	29	8.1	4.4
8	9.6	22	9.7	e6.6	13	11	29	28	13	18	7.9	4.1
9	8.8	24	9.6	e6.8	11	13	24	24	12	133	6.9	3.2
10	8.7	134	9.2	e7.0	11	13	22	23	26	27	6.2	3.1
11	8.6	32	9.2	e7.4	12	13	20	51	16	18	7.8	3.0
12	8.3	19	9.0	e8.0	11	14	19	34	14	15	7.6	3.0
13	8.2	16	9.0	8.9	11	14	18	23	13	14	5.9	2.9
14	8.6	15	8.8	9.0	12	15	150	21	13	12	5.5	2.7
15	8.5	14	9.6	9.7	12	23	838	207	12	11	5.2	2.6
16	8.7	14	8.8	11	11	38	102	437	14	10	4.7	2.7
17	9.6	13	8.6	11	10	23	61	75	14	11	4.4	2.6
18	9.2	13	8.8	11	e9.4	17	44	45	12	11	16	2.6
19	8.5	13	e7.6	10	e9.2	15	37	34	12	11	7.4	2.6
20	8.5	11	e6.8	9.7	e9.2	15	34	38	13	9.6	5.8	3.2
21	8.7	11	e6.6	9.7	e9.4	14	35	120	12	8.9	5.2	3.0
22	8.6	12	e6.0	e9.4	e9.6	17	362	54	12	8.0	4.8	3.1
23	8.2	11	e6.6	e9.2	11	26	53	171	92	7.7	4.6	3.1
24	8.2	10	e6.8	e8.8	13	21	39	48	24	8.5	4.2	2.8
25	8.5	11	e7.0	e8.6	14	17	36	32	15	7.9	4.0	2.5
26	8.8	10	e7.2	e8.4	18	16	39	26	12	7.3	4.0	2.1
27	9.4	10	e7.6	e8.4	21	16	61	23	814	7.1	3.9	2.0
28	10	10	e7.8	e8.6	17	16	62	21	74	7.2	3.7	2.2
29	11	11	e7.8	9.0	---	16	37	19	28	6.6	3.5	2.3
30	9.5	10	e6.8	9.3	---	15	31	145	435	5.9	3.6	2.5
31	9.0	---	e7.0	9.4	---	14	---	129	---	6.2	3.6	---
TOTAL	457.2	740	266.9	261.9	328.6	501	2537	2045	1870	1245.9	185.3	117.5
MEAN	14.7	24.7	8.61	8.45	11.7	16.2	84.6	66.0	62.3	40.2	5.98	3.92
MAX	166	134	12	11	21	38	838	437	814	474	16	19
MIN	5.7	10	6.0	6.0	9.2	11	13	19	12	5.9	3.5	2.0
AC-FT	907	1470	529	519	652	994	5030	4060	3710	2470	368	233

e Estimated

# PLATTE RIVER BASIN

225

06803520 STEVENS CREEK NEAR LINCOLN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.2	7.18	6.56	7.35	13.6	31.7	26.9	39.7	32.9	33.7	12.1	17.1
MAX	151	29.9	30.7	34.9	59.9	192	118	239	228	402	89.6	260
(WY)	1974	1997	1987	1974	1983	1979	1987	1995	1984	1993	1982	1989
MIN	.28	.57	.64	.83	1.13	1.33	1.28	1.29	.41	.27	.066	.13
(WY)	1977	1977	1977	1982	1978	1981	1981	1981	1981	1976	1976	1976

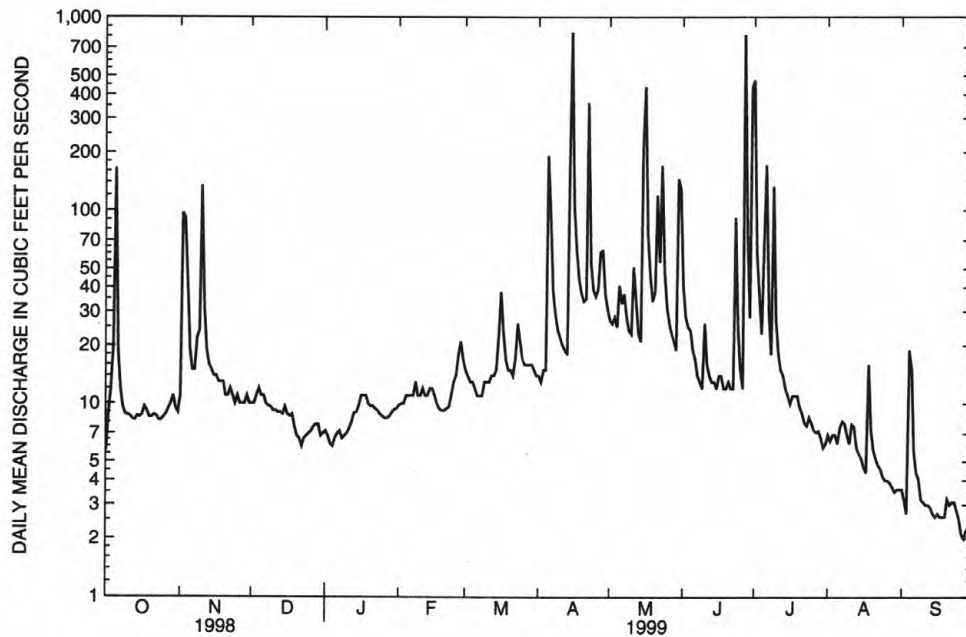
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1969 - 1999

ANNUAL TOTAL	11467.3	10556.3	
ANNUAL MEAN	31.4	28.9	20.3
MEDIAN OF ANNUAL MEANS			17.9
HIGHEST ANNUAL MEAN			69.3
LOWEST ANNUAL MEAN			1.84
HIGHEST DAILY MEAN	1600	838	4810
LOWEST DAILY MEAN	3.8	2.0	.00
ANNUAL SEVEN-DAY MINIMUM	3.9	2.3	.00
INSTANTANEOUS PEAK FLOW (STAGE)		2130	12900 (19.42)
INSTANTANEOUS PEAK STAGE		13.51	19.57
ANNUAL RUNOFF (AC-FT)	22750	20940	14700
10 PERCENT EXCEEDS	53	42	25
50 PERCENT EXCEEDS	11	11	4.3
90 PERCENT EXCEEDS	5.3	4.5	.87



STEVENS CREEK NEAR LINCOLN



## PLATTE RIVER BASIN

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE

LOCATION.--Lat 40°54'18", long 96°35'09", in NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.24, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, at bridge 0.5 mi north of Interstate Highway 80 and 3 mi southwest of Waverly.

DRAINAGE AREA.--815 mi<sup>2</sup>.

PERIOD OF RECORD.--Water years 1971-1992, January 1994 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. (FT <sup>3</sup> /S) (00061)	SPECIFIC CON-DUCT-ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (°C) (00020)	TEMPER-ATURE WATER (°C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 μ M-MF (COLS./100 ML) (31625)	STREP-TOCOCCHI, KF (COLS. PER 100 ML) (31673)	HARD-NESS AGAR (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 TOTAL (MG/L AS CaCO <sub>3</sub> ) (90410)
LANCASTER COUNTY											
OCT											
13	1130	242	3710	7.6	15.0	14.0	7.8	480	330	280	253
NOV											
23	1200	280	3150	7.7	11.5	7.5	9.0	730	360	300	268
DEC											
15	1330	180	4580	8.0	10.0	6.5	12.3	2600	780	370	313
JAN											
12	1300	175	772	7.9	-4.0	2.0	12.2	4200	1600	370	301
FEB											
11	1030	200	630	8.1	-3.0	4.5	10.7	420	130	270	251
MAR											
16	1130	320	918	7.7	18.5	8.0	12.6	6000	1800	270	260
APR											
13	1130	210	420	7.5	18.5	13.5	12.2	1200	1600	350	299
MAY											
14	1030	340	3080	7.7	14.5	16.0	10.3	3300	1100	310	276
JUN											
15	1000	335	3030	8.0	19.0	20.0	10.1	3500	4400	300	272
JUL											
13	1130	480	2480	7.9	27.5	22.5	6.9	870	480	260	245
AUG											
10	1330	210	495	8.0	33.0	28.5	5.4	1400	420	320	282
SEP											
16	1330	120	5030	7.8	25.0	20.0	8.2	3200	520	370	329

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM ADSORP-TION RATIO (00931)	SODIUM DIS-SOLVED (MG/L AS Na) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
LANCASTER COUNTY											
OCT											
13	74	23	18	691	11	190	970	.60	18	2140	2.92
NOV											
23	79	24	15	586	9.6	150	780	.50	18	1820	2.48
DEC											
15	98	29	19	840	13	230	1200	.57	23	2640	3.59
JAN											
12	100	29	22	969	13	240	1400	.61	23	2990	4.06
FEB											
11	73	22	17	638	10	170	910	.47	14	2000	2.72
MAR											
16	71	22	13	490	8.6	140	670	.44	12	1580	2.15
APR											
13	93	28	17	735	10	200	1000	.54	18	2330	3.17
MAY											
14	84	24	13	523	11	160	700	.50	17	1700	2.31
JUN											
15	81	24	13	531	9.6	150	730	.51	17	1710	2.33
JUL											
13	71	21	11	412	9.7	120	560	.48	17	1370	1.87
AUG											
10	85	26	20	831	12	200	1200	.64	17	2520	3.42
SEP											
16	98	30	27	1200	15	320	1800	.70	22	3720	5.06

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

LANCASTER COUNTY

DATE	CADMIUM	CHRO-	COPPER,	IRON,	LEAD,	MANGA-	MERCURY	SILVER,		ZINC,	CARBON,
	WATER	MIUM,	TOTAL	TOTAL	TOTAL	NESE,	TOTAL	TOTAL		TOTAL	
	UNFLTRD	RECOV-	RECOV-	RECOV-	RECOV-	RECOV-	RECOV-	RECOV-	SELE-	RECOV-	ORGANIC
	TOTAL	ERABLE	ERABLE	ERABLE	ERABLE	ERABLE	ERABLE	ERABLE	NIUM,	ERABLE	TOTAL
	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(MG/L
	AS CD)	AS CR)	AS CU)	AS FE)	AS PB)	AS MN)	AS HG)	AS AG)	AS SE)	AS ZN)	AS C)
	(01027)	(01034)	(01042)	(01045)	(01051)	(01055)	(71900)	(01077)	(01147)	(01092)	(00680)

[illegible]

## PLATTE RIVER BASIN

06803530 ROCK CREEK NEAR CERESCO, NE

LOCATION.--Lat 41°00'56", long 096°32'39", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.17, T.12 N., R.8 E., Lancaster County, Hydrologic Unit 10200203, on right bank 20 ft downstream from bridge on east-west county road, 5.7 mi southeast of Ceresco, and at mile 7.6.

DRAINAGE AREA.--120 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1970 to current year.

REVISED RECORDS.--WDR NE-76-1: 1975(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,109.18 ft above sea level. Apr. 1970, to Feb. 6, 1980, at present site and datum 6.0 ft higher; Feb 7, 1980, to July 13, 1981, at present site and datum 3.0 ft higher; July 14, 1981, to Feb. 29, 1984, on left bank 30 ft downstream from bridge at datum 3.0 ft higher; Mar. 1, 1984, to May 28, 1984, wire weight gage only, at datum 3.0 ft higher; May 28, 1984, to Apr. 4, 1997, at datum 3.0 ft higher.

REMARKS.--Record fair except for estimated periods which are poor..

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.6	12	19	e13	e21	41	27	26	142	1430	13	17
2	e8.8	34	18	e12	e22	29	20	24	118	172	13	16
3	e11	69	18	e11	e22	27	22	29	51	78	17	16
4	e14	60	17	e10	e22	25	24	28	40	54	25	374
5	e18	28	16	e11	e22	23	53	31	35	43	21	253
6	e20	18	14	e13	e22	20	64	31	31	38	24	50
7	11	16	15	e15	22	19	42	29	27	35	62	28
8	8.8	25	14	e13	e23	e19	35	27	26	33	22	20
9	9.7	29	14	e12	23	e20	34	26	24	582	18	18
10	10	148	15	e10	24	e21	29	25	43	126	17	15
11	10	122	14	e12	23	e21	26	89	94	45	44	13
12	9.6	44	14	e15	21	e23	23	67	87	36	106	12
13	10	29	15	e14	19	26	24	34	43	31	26	e12
14	12	26	15	e16	20	31	110	29	31	29	18	e11
15	12	23	15	e18	24	37	471	87	28	27	17	e10
16	13	22	14	e18	20	64	134	219	40	27	17	e10
17	15	22	13	e19	18	44	71	97	38	58	16	e10
18	14	22	14	e20	e17	29	54	66	32	35	30	e9.8
19	12	19	e12	e20	e16	26	46	40	29	29	22	e9.0
20	10	18	e11	e20	e16	31	42	35	31	25	17	e8.8
21	12	18	e13	e19	e15	24	39	84	31	25	17	e8.8
22	12	20	e14	e20	e16	24	37	54	29	22	17	e8.6
23	12	20	e15	e19	20	36	33	142	44	22	17	e8.4
24	13	18	e16	e18	21	39	30	69	38	28	15	e8.0
25	14	19	e16	e18	23	30	29	42	29	20	15	e7.8
26	13	19	e15	e20	33	27	34	34	27	18	16	e7.6
27	16	18	e15	e21	40	26	40	31	1590	18	16	e7.4
28	16	17	e14	e22	38	27	40	28	1330	18	16	e7.0
29	63	20	e14	e22	---	25	35	27	116	16	17	e7.4
30	23	19	e13	e21	---	25	29	28	435	15	17	e8.0
31	13	---	e12	e21	---	27	---	157	---	14	17	---
TOTAL	444.5	974	454	513	623	886	1697	1735	4659	3149	725	991.6
MEAN	14.3	32.5	14.6	16.5	22.2	28.6	56.6	56.0	155	102	23.4	33.1
MAX	63	148	19	22	40	64	471	219	1590	1430	106	374
MIN	8.6	12	11	10	15	19	20	24	24	14	13	7.0
AC-FT	882	1930	901	1020	1240	1760	3370	3440	9240	6250	1440	1970

e Estimated

# PLATTE RIVER BASIN

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06803530 ROCK CREEK NEAR CERESCO, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.6	17.0	14.8	15.6	33.4	58.1	43.9	66.5	72.9	57.4	48.5	24.7
MAX	191	45.5	44.8	63.3	116	260	236	237	272	648	527	128
(WY)	1987	1978	1985	1973	1983	1979	1984	1996	1998	1993	1987	1989
MIN	3.85	5.23	5.26	3.93	7.92	8.41	7.40	10.2	5.34	3.07	2.08	3.86
(WY)	1977	1977	1977	1977	1979	1972	1971	1976	1976	1976	1976	1971

## SUMMARY STATISTICS

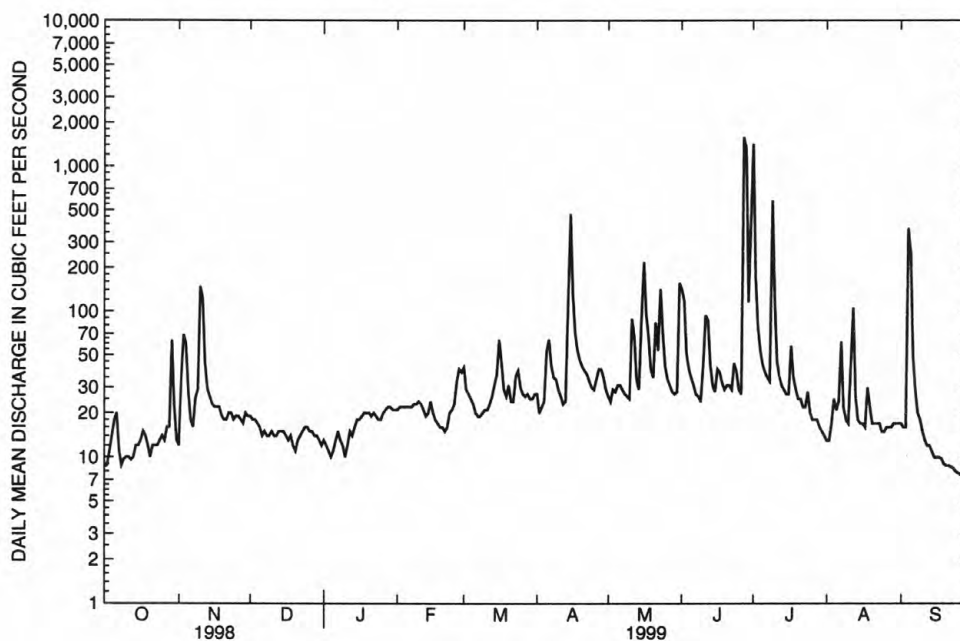
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1971 - 1999

ANNUAL TOTAL	22548.7	16851.1	
ANNUAL MEAN	61.8	46.2	39.7
MEDIAN OF ANNUAL MEANS			32.9
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			8.68
HIGHEST DAILY MEAN	4210 May 22	1590 Jun 27	11400 Aug 25 1987
LOWEST DAILY MEAN	3.5 Jan 26	7.0 Sep 28	.25 Jul 13 1976
ANNUAL SEVEN-DAY MINIMUM	4.7 Jan 22	7.6 Sep 24	1.1 Jul 11 1976
INSTANTANEOUS PEAK FLOW (STAGE)		4000 Jun 27	*23300 (19.60) Aug 25 1987
INSTANTANEOUS PEAK STAGE		17.42 Jun 27	20.50 May 22 1998
ANNUAL RUNOFF (AC-FT)	44730	33420	28790
10 PERCENT EXCEEDS	68	62	47
50 PERCENT EXCEEDS	17	22	13
90 PERCENT EXCEEDS	10	12	6.0

\* From floodmark; includes road overflow.



ROCK CREEK NEAR CERESCO

## PLATTE RIVER BASIN

06803555 SALT CREEK AT GREENWOOD, NE

LOCATION.--Lat 40°57'56", long 96°27'01", at center of sec.31, T.12 N., R.9 E., Cass County, Hydrologic Unit 10200203, on right bank just downstream from county road bridge, 0.5 mi west of Greenwood, and at mile 13.0.

DRAINAGE AREA.--1,050 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1951 to current year. Records furnished by Corps of Engineers prior to Oct. 1, 1972.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,068.14 ft above sea level. Prior to Nov. 5, 1964, nonrecording gage at same site and datum. Data collection platform at station.

REMARKS.--Records fair except for period of estimated record, which is poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	253	278	e160	202	266	203	432	1290	10400	266	172
2	250	1370	229	e170	209	249	196	404	1750	2630	244	161
3	411	1680	218	e160	214	241	228	418	1060	1690	243	154
4	271	1460	220	e150	221	226	212	402	845	1280	247	418
5	1310	828	221	e160	221	215	493	675	757	1090	236	937
6	1030	595	215	e160	217	208	1370	602	667	2370	231	389
7	454	495	215	e160	215	202	658	573	593	1260	398	250
8	350	595	211	e155	213	208	439	475	533	971	388	204
9	304	565	207	e150	213	252	454	408	485	3660	320	178
10	275	2240	206	e160	201	316	335	370	533	1700	272	167
11	260	1620	205	e170	217	318	298	823	714	912	276	163
12	249	800	206	e180	233	329	265	772	667	721	544	158
13	244	608	206	e175	207	320	249	483	490	637	491	152
14	234	523	205	e240	196	325	606	396	448	577	372	148
15	196	469	203	e300	194	345	7150	1990	403	518	297	141
16	183	440	205	e320	196	440	3710	5030	438	461	262	137
17	255	409	199	e290	192	380	1590	1830	420	527	240	137
18	203	390	190	259	192	297	1020	1180	379	557	466	136
19	186	363	190	244	229	255	776	799	344	501	616	139
20	188	346	190	240	221	230	634	649	330	447	438	148
21	257	333	e160	235	209	214	555	1660	321	407	333	153
22	259	328	e140	243	200	266	1100	1260	314	374	280	150
23	255	328	e150	250	199	366	641	2160	799	354	252	150
24	248	319	e170	235	214	306	495	1340	508	398	230	195
25	249	315	e180	223	239	274	441	856	401	354	221	263
26	252	307	e185	213	259	249	e480	684	341	319	208	253
27	251	295	e190	210	296	244	e560	595	8150	302	193	228
28	271	290	e195	215	293	241	e720	536	6510	287	184	232
29	561	291	e190	215	---	232	569	483	1760	277	174	232
30	301	293	e180	207	---	220	483	736	2540	261	168	224
31	264	---	e170	206	---	206	---	2400	---	257	172	---
TOTAL	10187	19148	6129	6455	6112	8440	26930	31421	34790	36499	9262	6569
MEAN	329	638	198	208	218	272	898	1014	1160	1177	299	219
MAX	1310	2240	278	320	296	440	7150	5030	8150	10400	616	937
MIN	166	253	140	150	192	202	196	370	314	257	168	136
AC-FT	20210	37980	12160	12800	12120	16740	53420	62320	69010	72400	18370	13030

e Estimated



# PLATTE RIVER BASIN

231

06803555 SALT CREEK AT GREENWOOD, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	257	177	147	159	269	518	423	595	725	537	321	263
MAX	2681	638	465	520	952	3481	2023	2383	4101	5461	1748	1534
(WY)	1974	1999	1987	1974	1983	1979	1984	1996	1984	1993	1987	1989
MIN	36.4	35.1	37.3	26.2	40.6	51.3	58.1	54.7	65.6	55.6	42.8	52.9
(WY)	1956	1956	1956	1957	1957	1957	1956	1955	1958	1955	1955	1953

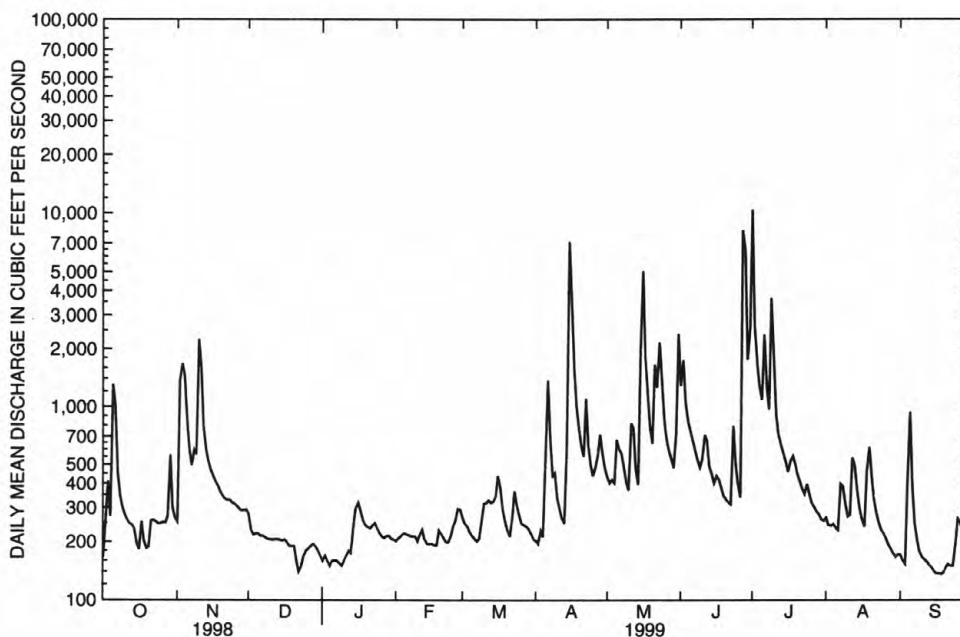
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1952 - 1999

ANNUAL TOTAL	232808	201942	
ANNUAL MEAN	638	553	364
MEDIAN OF ANNUAL MEANS			291
HIGHEST ANNUAL MEAN			1054
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	11400	10400	37100
LOWEST DAILY MEAN	134	136	14
ANNUAL SEVEN-DAY MINIMUM	138	141	17
INSTANTANEOUS PEAK FLOW (STAGE)		13900	46800
INSTANTANEOUS PEAK STAGE		15.01	26.57
ANNUAL RUNOFF (AC-FT)	461800	400600	264000
10 PERCENT EXCEEDS	1160	1040	595
50 PERCENT EXCEEDS	341	277	146
90 PERCENT EXCEEDS	166	173	71



SALT CREEK AT GREENWOOD

## PLATTE RIVER BASIN

06804000 WAHOO CREEK AT ITHACA, NE

LOCATION.--Lat 41°08'40", long 96°32'10", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.33, T.14 N., R.8 E., Saunders County, Hydrologic Unit 10200203, on right bank 16 ft downstream from bridge on State Highway 63, 0.5 mi south of Ithaca, and at mile 20.3.

DRAINAGE AREA.--273 mi<sup>2</sup>, of which 268 mi<sup>2</sup> contributes directly to surface runoff.

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

REVISED RECORDS.--WDR NE-78-1: 1977(P). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,110.48 ft above sea level. Prior to Oct. 27, 1959, nonrecording gages at same site and datum. Oct. 28, 1959, to Feb. 22, 1961, nonrecording gage at site 1.5 mi upstream at datum 8.21 ft higher. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	54	67	e47	e70	e80	71	131	1820	937	87	66
2	48	67	65	e46	e68	e84	69	127	1560	362	84	64
3	57	117	66	e43	e70	e88	68	133	394	257	86	64
4	58	107	67	e41	e68	82	70	133	314	211	88	174
5	58	75	66	e47	71	76	81	137	295	191	86	179
6	58	68	66	e56	e70	78	129	149	225	184	98	86
7	53	66	64	e58	e70	74	97	153	194	e170	523	65
8	51	80	62	e50	e70	70	88	146	173	e165	625	64
9	50	85	62	e45	e70	75	112	130	160	e400	369	63
10	50	457	62	e56	e72	81	94	124	722	e170	112	62
11	49	234	62	e68	e74	76	86	351	2350	e160	123	62
12	48	103	62	e60	e72	71	80	191	604	156	409	62
13	47	91	63	e50	e70	70	78	147	295	154	141	62
14	48	87	62	e58	e70	70	128	137	237	145	107	62
15	48	83	59	e64	e70	74	1270	183	206	140	97	62
16	49	80	60	e68	e70	114	356	219	254	194	95	62
17	58	78	60	e70	e68	114	231	183	217	223	92	62
18	59	77	60	78	e70	88	191	178	184	146	93	62
19	51	75	60	77	e72	80	171	144	170	145	83	62
20	50	73	49	74	e72	78	157	138	167	135	78	62
21	49	72	e44	73	e70	76	151	212	164	130	76	61
22	50	73	e40	72	e68	77	252	194	159	120	74	61
23	49	73	e45	71	e66	90	166	548	367	115	73	60
24	50	72	e45	70	e68	91	148	214	286	114	71	59
25	51	71	e50	65	e70	83	145	160	176	110	68	58
26	51	70	e54	68	e72	77	149	148	144	106	68	57
27	52	68	e56	70	e74	76	155	140	2170	107	68	56
28	55	68	e54	e68	e76	76	155	135	1820	103	67	56
29	89	68	e50	e64	---	75	148	129	374	100	66	56
30	65	68	e48	e68	---	73	138	139	307	96	65	56
31	57	---	e45	e70	---	71	---	651	---	91	65	---
TOTAL	1653	2860	1775	1915	1971	2488	5234	5904	16508	5837	4237	2087
MEAN	53.3	95.3	57.3	61.8	70.4	80.3	174	190	550	188	137	69.6
MAX	89	457	67	78	76	114	1270	651	2350	937	625	179
MIN	45	54	40	41	66	70	68	124	144	91	65	56
AC-FT	3280	5670	3520	3800	3910	4930	10380	11710	32740	11580	8400	4140

e Estimated

# PLATTE RIVER BASIN

233

06804000 WAHOO CREEK AT ITHACA, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	51.0	40.2	35.2	39.2	73.6	122	90.9	122	230	89.9	98.1	71.7
MAX	343	110	96.3	125	276	518	430	401	1051	728	640	663
(WY)	1987	1987	1985	1983	1983	1979	1978	1984	1963	1993	1959	1965
MIN	8.39	11.3	10.1	10.7	13.2	16.6	19.6	16.3	18.6	10.6	9.27	6.95
(WY)	1956	1956	1977	1957	1957	1957	1956	1955	1976	1956	1956	1956

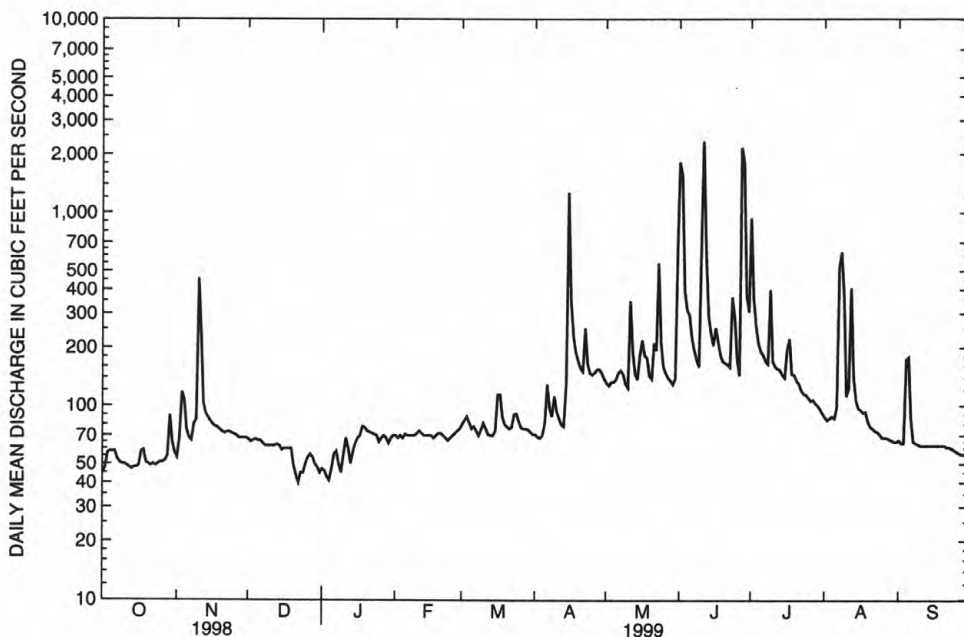
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1950 - 1999

ANNUAL TOTAL	46455	52469	
ANNUAL MEAN	127	144	88.6
MEDIAN OF ANNUAL MEANS			77.7
HIGHEST ANNUAL MEAN			207
LOWEST ANNUAL MEAN			15.3
HIGHEST DAILY MEAN	5430 Aug 22	2350 Jun 11	22100 Jun 24 1963
LOWEST DAILY MEAN	30 Jan 13	40 Dec 22	3.3 Jun 11 1955
ANNUAL SEVEN-DAY MINIMUM	35 Jan 11	45 Dec 30	4.4 Oct 12 1955
INSTANTANEOUS PEAK FLOW		4630 Jun 27	77400 Jun 24 1963
INSTANTANEOUS PEAK STAGE		20.60 Jun 27	22.93 Jun 24 1963
ANNUAL RUNOFF (AC-FT)	92140	104100	64170
10 PERCENT EXCEEDS	157	221	117
50 PERCENT EXCEEDS	67	75	36
90 PERCENT EXCEEDS	43	52	18



WAHOO CREEK AT ITHACA

## PLATTE RIVER BASIN

06804700 WAHOO CREEK AT ASHLAND, NE

LOCATION.--Lat 41°03'13", long 096°22'04", in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.35, T.13 N., R.9 E., Saunders County, Hydrologic Unit 10200203, at right upstream side of bridge near end of guard rail on State Highway 63, 1 mi' north of Ashland, and at mile 2.6.

DRAINAGE AREA.--416 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,048.77 ft (revised) above sea level.

REMARKS.--Records good except for estimated periods, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	e72	96	e72	91	117	120	182	792	1790	96	89
2	68	e84	94	e74	93	124	119	176	2130	430	102	88
3	75	e140	94	e70	96	126	118	176	428	285	102	88
4	82	e120	95	e66	100	114	118	182	287	246	100	204
5	84	e92	94	e70	106	110	135	182	284	216	99	229
6	79	e84	93	e78	102	108	175	186	232	200	105	140
7	e76	e80	92	e80	102	106	166	199	187	184	428	99
8	e74	e96	90	e74	98	108	145	194	182	179	369	90
9	e72	e120	90	e68	98	105	156	175	183	300	163	86
10	e72	e600	90	e72	97	114	159	165	424	184	135	83
11	e70	e230	89	e80	99	112	140	282	1850	163	149	83
12	e68	e140	90	e74	97	109	135	306	777	158	315	83
13	e66	e125	90	e68	90	108	131	191	302	153	183	82
14	e68	e116	90	e72	92	108	184	173	262	149	129	82
15	e68	e112	89	e80	96	111	1520	206	224	147	117	80
16	e70	e110	89	e84	92	134	547	423	241	145	113	78
17	e78	e110	88	e90	87	164	319	248	253	211	111	78
18	e80	e110	89	e96	88	139	271	245	212	148	110	78
19	e72	e108	88	e104	91	123	244	188	192	142	104	77
20	e70	e106	e84	e102	92	121	228	171	189	141	98	76
21	e68	e104	e78	e100	89	119	232	217	187	140	93	79
22	e68	e106	e72	e98	88	120	302	289	181	141	92	78
23	e70	e106	e74	e96	87	131	262	699	209	132	91	78
24	e70	102	e76	92	89	136	213	358	349	125	90	78
25	e70	100	e80	89	95	132	206	203	178	129	89	77
26	e72	99	e82	88	96	123	208	179	180	119	94	76
27	e74	97	e84	91	103	121	240	165	1660	124	86	75
28	e78	97	e82	92	111	122	226	155	2910	122	83	75
29	e110	97	e78	91	---	122	208	147	570	120	85	74
30	e90	98	e74	90	---	118	193	156	539	119	90	75
31	e76	---	e70	92	---	119	---	644	---	115	83	---
TOTAL	2301	3761	2664	2593	2665	3724	7420	7462	16594	6957	4104	2758
MEAN	74.2	125	85.9	83.6	95.2	120	247	241	553	224	132	91.9
MAX	110	600	96	104	111	164	1520	699	2910	1790	428	229
MIN	63	72	70	66	87	105	118	147	178	115	83	74
AC-FT	4560	7460	5280	5140	5290	7390	14720	14800	32910	13800	8140	5470

e Estimated

# PLATTE RIVER BASIN

235

06804700 WAHOO CREEK AT ASHLAND, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	56.8	70.1	61.1	64.5	98.6	153	133	218	420	258	120	67.0
MAX	98.2	125	85.9	91.5	199	580	247	552	1031	1032	341	150
(WY)	1994	1999	1999	1995	1997	1993	1999	1995	1991	1993	1998	1993
MIN	36.0	42.5	40.1	40.4	42.8	57.3	64.4	67.5	55.9	69.8	39.1	28.0
(WY)	1992	1991	1993	1993	1992	1992	1992	1997	1992	1997	1997	1990

## SUMMARY STATISTICS

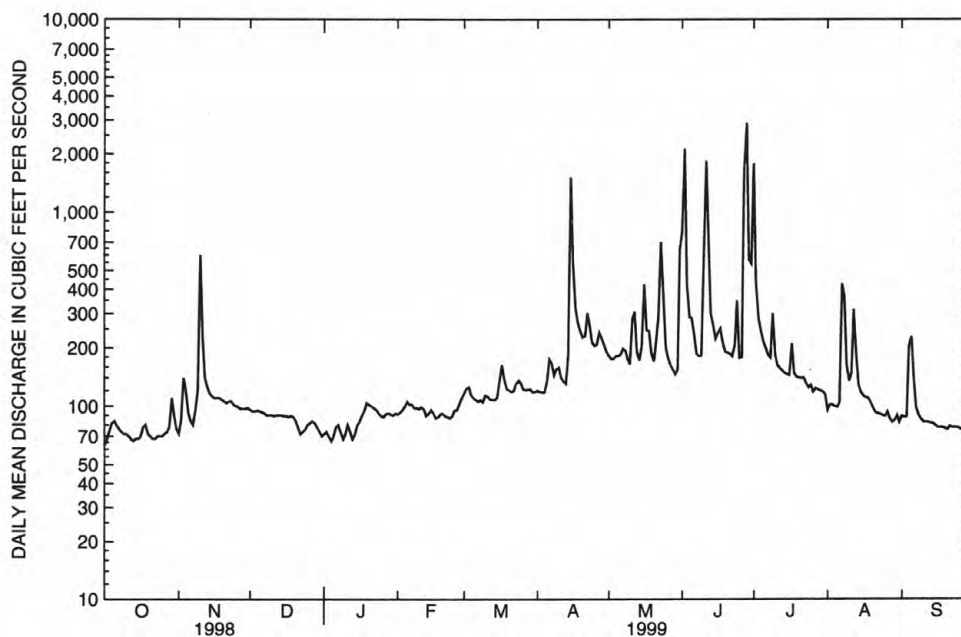
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1990 - 1999

ANNUAL TOTAL	62814	63003		
ANNUAL MEAN	172	173	144	
HIGHEST ANNUAL MEAN			223	1993
LOWEST ANNUAL MEAN			63.9	1992
HIGHEST DAILY MEAN	3650	Jun 15	7000	Jun 15 1991
LOWEST DAILY MEAN	48	Jan 13	21	Sep 16 1990
ANNUAL SEVEN-DAY MINIMUM	51	Jan 10	24	Sep 11 1990
INSTANTANEOUS PEAK FLOW			7000	Jun 15 1991
INSTANTANEOUS PEAK STAGE			20.50	Jun 15 1991
ANNUAL RUNOFF (AC-FT)	124600	125000	104200	
10 PERCENT EXCEEDS	221	257	200	
50 PERCENT EXCEEDS	90	106	73	
90 PERCENT EXCEEDS	66	74	40	

\* From floodmark.



WAHOO CREEK AT ASHLAND



## PLATTE RIVER BASIN

06804900 JOHNSON CREEK NEAR MEMPHIS, NE

LOCATION.--Lat 41°08'48", long 096°23'12", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.35, T.14 N., R. 9 E., Saunders County, Hydrologic Unit 10200203, on left downstream bank on Saunders County road No. 37, 3.5 mi north and 2 mi east of Memphis, and at mile 0.9.

DRAINAGE AREA.--21.5 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,070.00 ft above sea level.

REMARKS.--Records good except those for period Apr. 21 to May 11, which is fair, and periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.9	1.8	e1.0	e2.0	2.4	2.3	14	4.0	15	1.2	1.1
2	1.5	2.3	1.8	e.90	e2.0	2.5	2.3	14	e3.3	7.2	1.3	1.1
3	1.5	2.4	1.8	e.90	e1.9	2.4	2.4	13	e2.9	6.1	1.2	1.1
4	1.7	2.3	1.9	e.80	e2.0	2.2	2.2	13	e2.7	5.1	1.1	37
5	1.9	2.1	1.8	e.90	2.1	2.2	3.6	14	e2.4	4.5	1.1	73
6	1.5	2.0	1.8	e1.0	2.0	2.1	3.2	13	e2.2	4.3	4.6	19
7	1.5	2.0	1.7	e1.1	2.0	2.1	2.7	13	e2.0	3.7	7.6	2.7
8	1.4	2.4	1.6	e1.0	2.0	2.4	2.8	11	e2.0	3.4	2.5	.66
9	1.4	2.5	1.6	e.90	2.0	2.4	2.8	10	1.9	12	1.9	.57
10	1.4	4.0	1.5	e1.0	2.1	2.3	2.7	9.5	2.2	5.2	1.7	.55
11	1.5	2.6	1.5	e1.3	2.2	2.2	2.5	11	2.2	4.2	5.2	.58
12	1.4	2.2	1.5	e1.2	2.1	2.2	2.4	2.9	2.2	3.8	6.7	.63
13	1.4	2.2	1.5	e1.0	2.0	2.3	2.4	2.3	2.2	3.5	2.7	.61
14	1.5	2.1	1.5	e1.1	2.0	2.3	11	2.2	2.0	3.2	2.0	.61
15	1.5	2.0	1.5	e1.3	2.0	2.8	16	4.6	2.4	2.9	1.9	.63
16	1.6	2.0	1.4	e1.4	2.0	2.7	6.0	9.4	3.1	3.1	1.8	.67
17	1.9	2.1	1.4	e1.5	2.0	2.4	4.4	3.4	2.7	3.7	1.6	.70
18	1.6	2.0	1.5	e1.7	2.1	2.2	3.5	2.9	2.6	8.0	2.5	.72
19	1.5	2.0	1.7	e1.6	2.1	2.1	3.4	2.2	2.5	4.7	1.6	.76
20	1.5	1.9	e1.4	e1.6	2.1	2.1	3.3	2.4	2.7	4.1	1.2	.87
21	1.6	1.8	e1.1	e1.6	2.1	2.1	6.3	2.7	2.5	3.6	1.3	.87
22	1.5	1.9	e.90	e1.6	2.1	2.4	16	2.3	3.1	3.3	1.2	.87
23	1.5	1.9	e1.0	e1.6	2.1	2.7	16	2.5	4.6	3.2	2.2	.87
24	1.5	1.8	e1.0	e1.6	2.1	2.6	16	2.0	3.9	2.8	.76	.91
25	1.6	1.8	e1.1	e1.5	2.2	2.4	15	1.9	3.8	2.3	.76	.96
26	1.6	1.8	e1.1	e1.7	2.3	2.3	16	1.8	3.9	2.0	.86	1.0
27	1.6	1.8	e1.2	e1.8	2.5	2.2	18	1.7	37	1.7	.78	1.0
28	1.7	1.8	e1.1	e1.7	2.6	2.1	16	1.7	9.6	1.5	.79	1.1
29	1.8	1.9	e1.1	e1.6	---	2.1	15	1.7	6.3	1.4	.87	1.1
30	1.8	1.8	e1.0	e1.7	---	2.2	14	3.8	13	1.3	1.0	1.2
31	1.7	---	e.90	e1.9	---	2.2	---	8.0	---	1.3	1.1	---
TOTAL	48.2	63.3	43.70	41.50	58.7	71.6	230.2	197.9	137.9	132.1	63.02	153.44
MEAN	1.55	2.11	1.41	1.34	2.10	2.31	7.67	6.38	4.60	4.26	2.03	5.11
MAX	1.9	4.0	1.9	1.9	2.6	2.8	18	14	37	15	7.6	73
MIN	1.1	1.8	.90	.80	1.9	2.1	2.2	1.7	1.9	1.3	.76	.55
AC-FT	96	126	87	82	116	142	457	393	274	262	125	304

e Estimated

# PLATTE RIVER BASIN

237

06804900 JOHNSON CREEK NEAR MEMPHIS, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.69	1.89	1.88	1.74	2.48	4.39	3.16	3.28	11.8	5.91	3.12	2.37
MAX	2.56	3.04	3.82	2.24	5.20	17.8	7.67	6.38	26.9	26.1	11.1	5.11
(WY)	1994	1998	1998	1998	1998	1993	1999	1999	1991	1993	1998	1999
MIN	1.02	1.22	1.40	1.34	1.52	1.54	1.43	1.42	2.15	1.21	.84	.72
(WY)	1993	1991	1991	1999	1992	1992	1997	1997	1992	1991	1991	1992

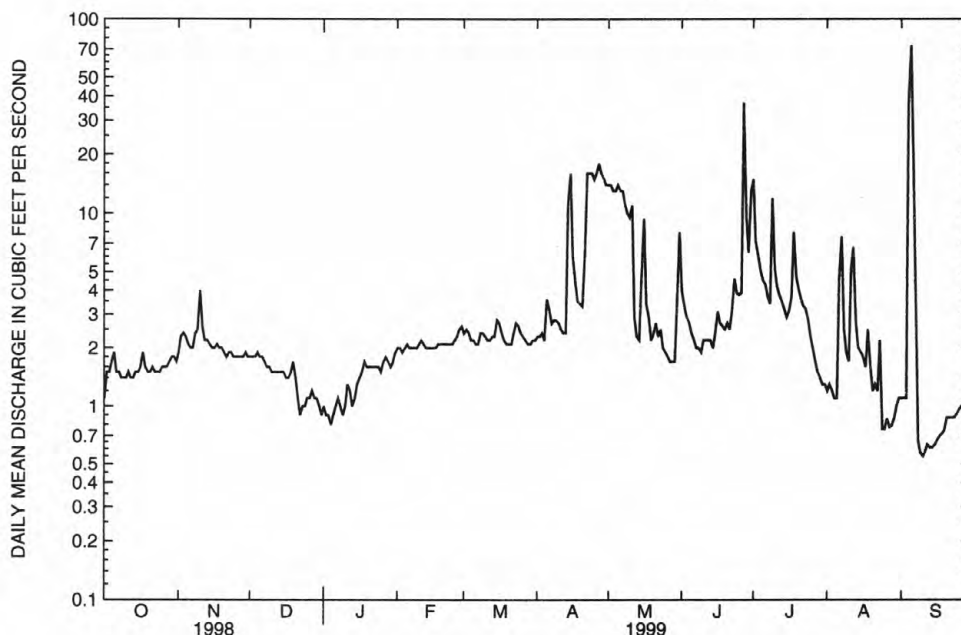
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1991 - 1999

ANNUAL TOTAL	1935.18	1241.56	
ANNUAL MEAN	5.30	3.40	3.64
HIGHEST ANNUAL MEAN			6.79
LOWEST ANNUAL MEAN			1.75
HIGHEST DAILY MEAN	187	73	240
LOWEST DAILY MEAN	.83	.55	.36
ANNUAL SEVEN-DAY MINIMUM	.86	.60	.60
INSTANTANEOUS PEAK FLOW (STAGE)		135	269 (10.25)
INSTANTANEOUS PEAK STAGE		8.56	10.49
ANNUAL RUNOFF (AC-FT)	3840	2460	2640
10 PERCENT EXCEEDS	6.7	6.5	4.0
50 PERCENT EXCEEDS	2.2	2.0	1.9
90 PERCENT EXCEEDS	1.1	1.0	1.1



JOHNSON CREEK NEAR MEMPHIS

## PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE  
(National Stream-Quality Accounting Network, NASQAN, station)  
(National Water-Quality Assessment, NAWQA, station)

LOCATION.--Lat 41°00'55", long 096°09'28", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.14, T.12 N., R.11 E., Sarpy County, Hydrologic Unit 10200202, on the left bank at the upstream side of bridge on Nebraska Highway 50, 1 mi north of Louisville, and at mile 16.5.

DRAINAGE AREA.--85,370 mi<sup>2</sup> approximately, of which about 71,000 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1953 to current year. October 1961 to September 1973 published as Platte River at South Bend.

REVISED RECORDS.--WDR NE-97-1: Drainage area; 1995.

GAGE.--Water-stage recorder. Datum of gage is 1,007.10 ft above sea level. Dec. 5, 1961, to Sept. 30, 1973, at site 7 mi upstream at datum 31.43 ft higher. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5370	8110	8290	e5600	e7600	10600	8210	12700	16100	38200	5500	5880
2	5870	9110	8470	e6000	e8000	11500	8360	11800	48800	25300	5120	5370
3	6690	9900	8560	e5600	e8200	12400	7860	11600	33800	21900	5360	5610
4	7110	10500	8220	e5200	e9000	11800	8480	12900	27100	19900	5300	6020
5	9030	10600	8100	e5000	e10000	11900	9460	13800	37100	19700	4970	8160
6	9260	10300	7970	e5800	e12000	11300	10800	15300	31100	18500	5330	6660
7	9550	9930	7870	e6400	e14000	10700	10900	24400	23300	16200	14000	6000
8	8470	9500	7670	e5800	15600	10800	15100	24400	19200	14400	24600	5950
9	7770	9600	7830	e5200	14200	10700	15600	24100	16200	17300	15200	6350
10	7370	11900	7660	e5000	12500	10300	16400	24700	15100	15800	10400	6740
11	7160	16900	7490	e5600	11500	10300	16400	23600	20300	13600	10400	6470
12	6920	14700	7290	e6200	10800	9720	15600	25000	24900	12200	9700	6280
13	6890	13100	7180	e6800	10600	9970	15300	23300	23000	10200	10300	6530
14	6660	12000	7370	e6400	10100	9070	16700	22600	20600	8970	9970	6490
15	6030	11500	7310	e6000	10300	9830	39300	26200	18800	8010	9070	6880
16	7620	11500	7520	e6400	9630	11300	41200	35500	19100	7410	9910	6880
17	6720	11600	7450	e7000	9730	9970	30200	27400	20500	7050	9920	6710
18	6970	11200	7240	e7400	9480	9740	24900	25600	21600	7090	10600	7070
19	7470	11000	7140	e7800	9870	9540	21000	21700	18500	7520	9720	7230
20	7020	10900	7070	e7400	9600	9600	18300	17500	17300	8600	8940	7450
21	7320	9940	4710	e7000	9640	8310	16700	19100	15800	12300	9670	7460
22	6230	10100	4110	e6600	9380	8460	18700	20900	15300	8940	9710	7450
23	7140	9470	e3500	e6800	9460	9430	19000	20400	15600	8100	9390	8010
24	6640	8960	e4100	e7000	8480	9340	16700	18500	17700	7290	8840	7950
25	7350	8710	e4800	e6600	9140	9000	14100	19000	16300	7970	8340	8040
26	6920	8800	e5400	e6400	10100	8860	14500	17200	15100	7430	7770	8330
27	7050	8570	e5800	e7000	9980	8350	14700	14000	27500	7500	7600	7950
28	7110	8830	e6200	e8000	10100	6980	14900	11700	50500	7180	6940	7730
29	8040	8770	e6600	e7600	---	7280	14000	12000	34500	6640	6690	7670
30	8410	8860	e6400	e7000	---	7180	13700	11300	29300	6230	6340	7270
31	8220	---	e6000	e7200	---	7950	---	14400	---	6220	5830	---
TOTAL	226380	314860	211320	199800	288990	302180	507070	602600	710000	383650	281430	208590
MEAN	7303	10500	6817	6445	10320	9748	16900	19440	23670	12380	9078	6953
MAX	9550	16900	8560	8000	15600	12400	41200	35500	50500	38200	24600	8330
MIN	5370	8110	3500	5000	7600	6980	7860	11300	15100	6220	4970	5370
AC-FT449000624500	419200	396300	573200	599400	1006000	1195000	1408000	761000	558200	413700		

e Estimated

# PLATTE RIVER BASIN

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06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued  
(National Stream-Quality Accounting Network, NASQAN, station)  
(National Water-Quality Assessment, NAWQA, station)

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5176	5512	4877	4751	7612	11270	10070	9950	11600	6429	4249	4377
MAX	15630	10580	10910	10810	17270	27010	34250	35350	39430	43440	13890	12870
(WY)	1987	1987	1985	1998	1984	1993	1984	1984	1984	1993	1993	1993
MIN	1604	2234	1456	1822	3237	4898	3701	2548	2493	978	519	975
(WY)	1957	1956	1956	1957	1955	1957	1967	1955	1981	1974	1955	1955

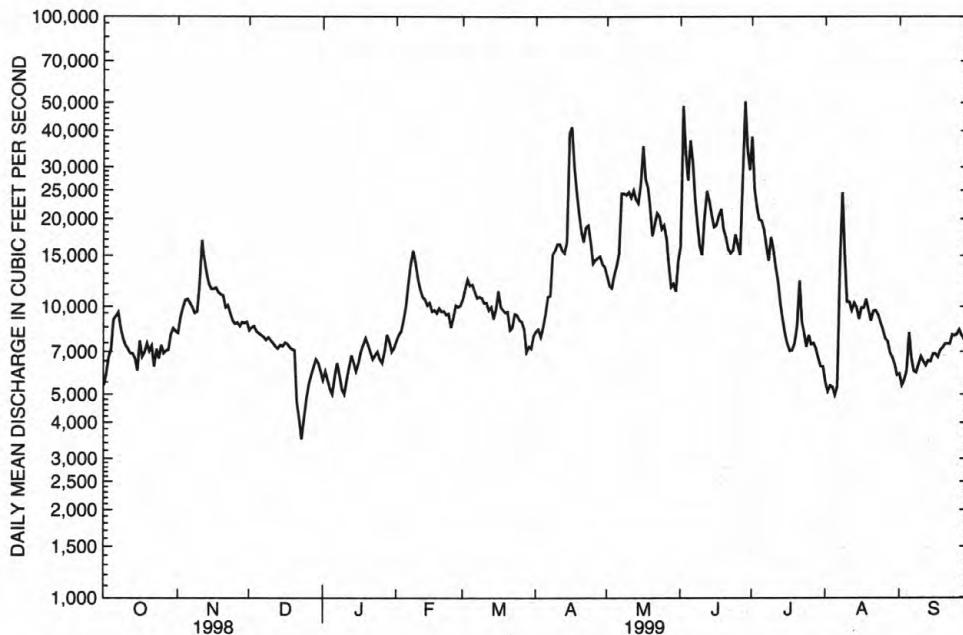
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1953 - 1999

ANNUAL TOTAL	4005550	4236870	7170	
ANNUAL MEAN	10970	11610	16210	1984
HIGHEST ANNUAL MEAN			2885	1956
LOWEST ANNUAL MEAN			138000	Jul 25 1993
HIGHEST DAILY MEAN	40800	Jun 15	50500	Jun 28
LOWEST DAILY MEAN	3370	Sep 11	3500	Dec 23
ANNUAL SEVEN-DAY MINIMUM	3600	Sep 8	4630	Dec 21
INSTANTANEOUS PEAK FLOW (STAGE)			57100	Jun 28
INSTANTANEOUS PEAK STAGE			8.77	Jun 28
ANNUAL RUNOFF (AC-FT)	7945000	8404000	5194000	12.45
10 PERCENT EXCEEDS	19600	20700	13100	
50 PERCENT EXCEEDS	9320	9140	5300	
90 PERCENT EXCEEDS	5190	6200	2000	



PLATTE RIVER AT LOUISVILLE

## PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued  
(National Stream-Quality Accounting Network, NASQAN, station)  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1974 to September 1981.

WATER TEMPERATURES: November 1974 to September 1981

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1981.

REMARKS.--Prior to July 1, 1971, sediment records were obtained by the U.S. Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,450 microsiemens Sept. 1, 1976; minimum daily, 254 microsiemens Aug. 7, 1981.

WATER TEMPERATURES: Maximum, 36.0 °C July 24, 1977, Aug. 19, 1979; minimum, 0.0 °C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 11,600 mg/L May 19, 1974; minimum daily, 60 mg/L July 19, 1976.

SEDIMENT LOADS: Maximum daily, 1,180,000 tons Mar. 21, 1978; minimum daily, 64 tons July 19, 1976.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (° C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CaCO <sub>3</sub> (MG/L) (00904)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CaCO <sub>3</sub> (39086)	SOLIDS, RESIDUE AT 180 ° C DIS- SOLVED (MG/L) (70300)
OCT												
05...	1130	8900	418	8.1	13.0	730	60	8.4	170	19	152	388
NOV												
24...	1130	10900	609	7.3	5.5	730	48	11.2	240	42	196	443
DEC												
16...	1130	9300	622	8.2	3.5	728	31	12.0	250	54	200	445
JAN												
13...	1130	13000	502	7.9	2.0	728	5.3	10.1	270	47	220	505
FEB												
10...	1130	12800	520	8.1	3.0	728	100	11.8	210	42	166	367
MAR												
17...	1130	9480	576	8.1	9.5	730	60	10.1	240	46	190	410
APR												
14...	1200	17200	496	7.4	12.8	730	170	8.8	200	29	173	371
16...	1200	42500	454	7.2	7.5	728	290	10.0	170	31	139	307
MAY												
13...	1130	20800	570	8.1	18.5	732	200	10.3	210	39	170	411
JUN												
04...	1030	27100	439	8.3	22.0	730	350	8.8	160	23	134	320
07...	1100	23900	481	8.3	23.5	734	1000	8.2	180	49	131	348
17...	1030	19900	646	8.7	18.0	742	170	9.0	240	34	203	462
JUL												
14...	1030	--	722	8.7	24.5	731	150	8.3	230	48	181	486
AUG												
09...	1230	--	360	7.8	23.6	--	200	6.4	120	22	100	255
SEP												
09...	1030	6420	596	8.6	20.5	730	28	9.4	180	44	142	414



## PLATTE RIVER BASIN

241

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued  
(National Stream-Quality Accounting Network, NASQAN, station)  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	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 AD-SORP- TION RATIO (00931)	POTAS- SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO <sub>3</sub> (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO <sub>3</sub> (00452)	SULFATE DIS-SOLVED (MG/L AS SO <sub>4</sub> ) (00945)
OCT 05...	367	.53	9320	45	14	60	2	7.9	185	0	58
NOV 24...	418	.60	13000	66	17	43	1	9.7	239	0	98
DEC 16...	426	.61	11200	71	18	42	1	8.3	244	0	97
JAN 13...	473	.69	17700	75	19	47	1	9.8	268	0	110
FEB 10...	351	.50	12700	60	14	33	1	7.2	203	0	81
MAR 17...	384	.56	10500	67	16	35	1	8.6	232	0	80
APR 14...	334	.50	17200	58	14	33	1	9.0	211	0	62
APR 16...	280	.42	35200	48	12	25	.8	10	170	0	53
MAY 13...	373	.56	23000	59	15	39	1	9.2	207	0	95
JUN 04...	283	.44	23400	44	12	28	1	9.5	164	0	60
JUN 07...	312	.47	22400	51	12	33	1	12	160	0	70
JUN 17...	436	.63	24800	66	18	47	1	9.6	204	22	110
JUL 14...	458	.66	--	63	17	61	2	9.9	194	13	120
AUG 09...	233	.35	--	34	8.7	28	1	9.9	122	0	47
SEP 09...	406	.56	7180	46	17	65	2	8.6	156	8	110
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 SiO <sub>2</sub> ) (00955)	NITRO- GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA+ ORGANIC DIS-SOLVED (MG/L AS N) (00623)
OCT 05...	60	.31	25	1.38	.019	1.40	.061	.80	.25	.86	.31
NOV 24...	24	.42	30	--	<.010	2.46	.042	.85	.31	.89	.36
DEC 16...	23	.43	33	2.68	.030	2.71	.051	.61	.18	.66	.23
JAN 13...	29	.44	35	2.97	.029	3.00	.119	.33	.23	.44	.35
FEB 10...	16	.35	29	2.23	.011	2.24	.047	1.9	.26	1.9	.31
MAR 17...	20	.39	30	--	<.010	2.58	<.020	--	--	1.3	.31
APR 14...	20	.39	25	1.91	.015	1.92	.050	2.5	.61	2.5	.66
APR 16...	13	.32	21	2.52	.048	2.57	.323	3.9	.94	4.2	1.3
MAY 13...	23	.44	22	1.78	.011	1.79	<.020	--	--	3.0	.63
JUN 04...	18	.35	19	2.41	.051	2.46	.054	3.3	.54	3.4	.60
JUN 07...	22	.41	19	2.50	.060	2.56	.056	--	.55	<.10	.60
JUN 17...	28	.46	23	2.64	.012	2.65	<.020	--	--	1.9	.46
JUL 14...	47	.46	21	1.17	.022	1.20	<.020	--	--	2.3	.40
AUG 09...	22	.32	15	1.40	.050	1.45	.096	3.8	.64	3.9	.74
SEP 09...	51	.40	25	.035	.018	.053	<.020	--	--	1.2	.27



## PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued  
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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	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)	ALUM- INUM, DIS- SOLVED (µ G/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (µ G/L AS SB) (01095)	ARSENIC DIS- SOLVED (µ G/L AS AS) (01000)	BARIUM, DIS- SOLVED (µ G/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (µ G/L AS BE) (01010)	BORON, DIS- SOLVED (µ G/L AS B) (01020)
OCT 05...	2.3	1.7	.326	.160	.136	--	--	6	--	--	71
NOV 24...	3.3	2.8	.382	.219	.184	1.3	<1.0	6	151	<1.0	67
DEC 16...	3.4	2.9	.338	.183	.205	--	--	5	--	--	71
JAN 13...	3.4	3.3	.271	.236	.250	--	--	5	--	--	72
FEB 10...	4.1	2.6	.606	.178	.175	--	--	5	--	--	52
MAR 17...	3.9	2.9	.472	.204	.194	<1.0	<1.0	6	141	<1.0	54
APR 14...	4.4	2.6	.904	.201	.189	--	--	5	--	--	53
APR 16...	6.8	3.8	1.51	.334	.333	--	--	4	--	--	46
MAY 13...	4.8	2.4	.876	.182	.169	--	--	4	--	--	71
JUN 04...	5.8	3.1	1.11	.250	.221	--	--	5	--	--	59
JUN 07...	--	3.2	<.050	.408	.308	--	--	6	--	--	67
JUN 17...	4.6	3.1	.761	.276	.373	2.7	<1.0	6	149	<1.0	81
JUL 14...	3.5	1.6	.585	.092	.087	--	--	7	--	--	91
AUG 09...	5.3	2.2	1.54	.305	.289	--	--	5	--	--	59
SEP 09...	1.3	.33	.353	.024	.002	1.6	<1.0	6	104	<1.0	100

DATE	CADMIUM DIS- SOLVED (µ G/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µ G/L AS CR) (01030)	COBALT, DIS- SOLVED (µ G/L AS CO) (01035)	COPPER, DIS- SOLVED (µ G/L AS CU) (01040)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	LEAD, DIS- SOLVED (µ G/L AS PB) (01049)	LITHIUM DIS- SOLVED (µ G/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (µ G/L AS MO) (01060)	NICKEL, DIS- SOLVED (µ G/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (µ G/L AS SE) (01145)
OCT 05...	--	--	--	--	<10	--	21	--	--	--	3
NOV 24...	<1.0	<1.0	<1.0	6.9	<10	<1.0	20	4.3	3.0	2.1	4
DEC 16...	--	--	--	--	<10	--	23	--	--	--	4
JAN 13...	--	--	--	--	<10	--	24	--	--	--	4
FEB 10...	--	--	--	--	<10	--	20	--	--	--	2
MAR 17...	<1.0	11	<1.0	2.2	<10	<1.0	20	3.0	3.1	3.0	5
APR 14...	--	--	--	--	<10	--	18	--	--	--	4
APR 16...	--	--	--	--	E7.3	--	14	--	--	--	2
MAY 13...	--	--	--	--	<10	--	18	--	--	--	2
JUN 04...	--	--	--	--	E5.2	--	13	--	--	--	2
JUN 07...	--	--	--	--	<10	--	14	--	--	--	2
JUN 17...	<1.0	<1.0	<1.0	9.4	<10	5.1	20	<1.0	3.9	2.5	3
JUL 14...	--	--	--	--	<10	--	23	--	--	--	4
AUG 09...	--	--	--	--	<10	--	11	--	--	--	2
SEP 09...	<1.0	<1.0	<1.0	6.1	<10	<1.0	25	<1.0	4.4	2.9	3

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SILVER, DIS- SOLVED ( $\mu$ G/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED ( $\mu$ G/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED ( $\mu$ G/L AS V) (01085)	ZINC, DIS- SOLVED ( $\mu$ G/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED ( $\mu$ G/L AS U) (22703)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ACETO- CHLOR, WATER FLTRD REC ( $\mu$ G/L (49260)	ALA- CHLOR, WATER, DISS, REC, ( $\mu$ G/L (46342)	ALPHA BHC DIS- SOLVED ( $\mu$ G/L (34253)	ATRA- ZINE, WATER, DISS, REC ( $\mu$ G/L (39632)
OCT 05...	--	343	E6	--	--	>5.0	3.5	.0068	<.002	<.0020	.114
NOV 24...	<1.0	437	<10	60	10	3.3	4.1	<.0020	<.002	<.0020	.072
DEC 16...	--	465	<10	--	--	2.4	2.7	<.0020	<.002	<.0020	.048
JAN 13...	--	494	<10	--	--	.30	3.0	<.0020	<.002	<.0020	.067
FEB 10...	--	382	E7	--	--	>5.0	3.3	<.0050	<.002	<.0020	<.050
MAR 17...	<1.0	425	<10	2.2	9.5	2.1	4.5	<.0020	<.002	<.0020	.040
APR 14...	--	344	11	--	--	>5.0	8.1	.0178	E.003	<.0020	.076
APR 16...	--	289	<10	--	--	--	8.6	.159	.040	<.0020	.702
MAY 13...	--	397	E9	--	--	>5.0	7.0	.288	.085	<.0020	1.26
JUN 04...	--	297	E6	--	--	>5.0	5.8	<.0020	1.17	<.0020	13.0
JUN 07...	--	314	E5	--	--	>5.0	5.8	1.76	.453	<.0020	12.0
JUN 17...	<1.0	446	E9	9.9	10	7.5	5.4	.219	.056	<.0020	3.73
JUL 14...	--	424	E9	--	--	>5.0	4.6	.0226	.016	<.0020	.555
AUG 09...	--	212	E9	--	--	>5.0	5.7	.0510	.017	<.0020	.423
SEP 09...	<1.0	410	12	9.4	8.4	>5.0	3.9	<.0020	<.002	<.0020	.149
DATE	BEN- FLUR- ALIN WAT FLD 0.7 $\mu$ GF, REC ( $\mu$ G/L (82673)	BUTYL- ATE, WATER, DISS, REC ( $\mu$ G/L) (04028)	CAR- BARYL WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED ( $\mu$ G/L) (38933)	CYANA- ZINE, WATER, DISS, REC ( $\mu$ G/L) (04041)	DCPA WATER FLTRD 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC ( $\mu$ G/L) (04040)	DI- AZINON, DIS- SOLVED ( $\mu$ G/L) (39572)	DI- ELDRIN DIS- SOLVED ( $\mu$ G/L) (39381)	2,6-DI- ETHYL ANILINE WATFLT 0.7 $\mu$ GF, REC ( $\mu$ G/L) (82660)
OCT 05...	<.0020	<.0020	<.0030	E.0340	<.0040	.0071	<.0020	E.0304	E.002	<.001	<.0030
NOV 24...	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040	<.0020	E.0299	<.002	<.001	<.0030
DEC 16...	<.0020	<.0020	<.0030	<.0030	<.0040	.0058	<.0020	E.0296	<.002	<.001	<.0030
JAN 13...	<.0020	<.0020	<.0030	<.0030	<.0040	.0041	<.0020	E.0276	<.002	<.001	<.0030
FEB 10...	<.0020	<.0020	<.0030	<.0030	<.0040	.0045	<.0020	E.0230	<.002	<.001	<.0030
MAR 17...	<.0020	<.0020	<.0030	<.0030	<.0040	E.0039	<.0020	E.0230	<.002	<.001	<.0030
APR 14...	<.0020	<.0020	<.0030	<.0030	<.0040	.0152	<.0020	E.0249	<.002	<.001	<.0030
APR 16...	<.0020	<.0020	<.0030	<.0030	<.0040	.0631	<.0020	E.0386	<.002	<.001	<.0030
MAY 13...	<.0020	<.0020	<.0030	<.0030	<.0100	.224	<.0020	E.0754	<.002	<.001	<.0030
JUN 04...	<.0020	<.0020	<.0030	<.0030	<.0040	1.73	<.0020	E.418	<.006	<.001	<.0030
JUN 07...	<.0020	<.0020	<.0030	E.0401	E.0586	1.72	<.0020	E.394	E.003	<.001	<.0030
JUN 17...	<.0020	<.0020	<.0030	E.0651	.0098	.266	<.0020	E.133	E.003	<.001	<.0030
JUL 14...	<.0020	<.0020	<.0030	<.0030	<.0040	.0888	<.0020	E.146	<.002	<.001	<.0030
AUG 09...	<.0020	<.0020	<.0030	<.0100	<.0040	.0292	<.0020	E.131	.010	<.001	<.0030
SEP 09...	<.0020	<.0020	<.0030	<.0030	<.0040	.0164	<.0020	E.0559	<.002	<.001	<.0030

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	DISUL- FOTON WATER FLTRD 0.7 µ GF, REC (µ G/L) (82677)	EPTC WATER FLTRD 0.7 µ GF, REC (µ G/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 µ GF, REC (µ G/L) (82663)	ETHO- PROP WATER FLTRD 0.7 µ GF, REC (µ G/L) (82672)	FONOFOS WATER DISS REC (µ G/L) (04095)	LINDANE DIS- SOLVED (µ G/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µ G/L) (82666)	MALA- THION, DIS- SOLVED (µ G/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µ G/L) (82686)	METHYL PARA- THION WAT FLT 0.7 µ GF, REC (µ G/L) (82667)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)
OCT 05...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.055
NOV 24...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.017
DEC 16...	<.0170	E.0022	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.008
JAN 13...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.011
FEB 10...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.015
MAR 17...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.010
APR 14...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.041
APR 16...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.376
MAY 13...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.407
JUN 04...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	5.38
JUN 07...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	4.47
JUN 17...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.879
JUL 14...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.178
AUG 09...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.417
SEP 09...	<.0170	<.0020	<.0040	<.0030	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.020
DATE	METRI- BUZIN WATER DISSOLV (µ G/L) (82630)	MOL- INATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82684)	PARA- THION, DIS- SOLVED (µ G/L) (39542)	PEB- ULATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µ G/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 µ GF, REC (µ G/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82664)	P,P' DDE DISSOLV (µ G/L) (34653)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (µ G/L) (82676)
OCT 05...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030
NOV 24...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	E.0018	<.0180	<.0030
DEC 16...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0023	<.0030
JAN 13...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0024	<.0030
FEB 10...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030
MAR 17...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	<.0180	<.0030
APR 14...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0065	<.0030
APR 16...	.007	<.0040	<.0030	<.004	<.0040	<.0100	<.0050	<.0020	<.0060	E.0147	<.0030
MAY 13...	<.004	<.0040	<.0030	<.004	<.0040	.0097	<.0050	<.0020	<.0060	E.0097	<.0030
JUN 04...	.037	<.0040	<.0030	<.004	<.0040	.0200	<.0050	<.0020	<.0060	.0199	<.0030
JUN 07...	.040	<.0040	<.0030	<.004	<.0040	.0284	<.0050	<.0020	<.0100	.0199	<.0030
JUN 17...	<.004	<.0040	<.0030	<.004	<.0040	.0069	<.0050	<.0020	<.0060	.0186	<.0030
JUL 14...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	.0257	<.0030
AUG 09...	.008	<.0040	<.0030	<.004	<.0040	<.0080	<.0050	<.0020	<.0060	E.0044	<.0030
SEP 09...	<.004	<.0040	<.0030	<.004	<.0040	<.0040	<.0050	<.0020	<.0060	E.0130	<.0030

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PRO-PANIL WATER FLTRD 0.7 µ GF, REC (µ G/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82685)	PROP-CHLOR, WATER, DISS, REC (µ G/L) (04024)	SI-MAZINE, WATER, DISS, REC (µ G/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 µ GF, REC (µ G/L) (82670)	TER-BACIL WATER FLTRD 0.7 µ GF, REC (µ G/L) (82665)	TER-BUFOS WATER FLTRD 0.7 µ GF, REC (µ G/L) (82675)
OCT 05...	<.0040	<.0130	<.0070	.0150	<.0100	<.0070	<.0130
NOV 24...	<.0040	<.0130	<.0070	<.0050	<.0100	<.0070	<.0130
DEC 16...	<.0040	<.0130	<.0070	E.0026	<.0100	<.0070	<.0130
JAN 13...	<.0040	<.0130	<.0070	.0052	E.0017	<.0070	<.0130
FEB 10...	<.0040	<.0130	<.0070	E.0040	<.0100	<.0200	<.0130
MAR 17...	<.0040	<.0130	<.0070	<.0050	<.0100	<.0070	<.0130
APR 14...	<.0040	<.0130	<.0070	E.0045	<.0100	<.0070	<.0130
APR 16...	<.0040	<.0130	<.0070	.0068	<.0100	<.0070	<.0130
MAY 13...	<.0040	<.0130	<.0070	.0185	.0112	<.0070	<.0130
JUN 04...	<.0040	<.0130	E.0040	.0486	<.0100	<.0070	<.0130
JUN 07...	<.0040	<.0130	E.0065	.0824	E.0071	<.0070	<.0130
JUN 17...	<.0040	<.0130	<.0070	.0232	<.0100	<.0070	<.0130
JUL 14...	<.0040	<.0130	<.0070	.0097	<.0100	<.0070	<.0130
AUG 09...	<.0040	<.0130	<.0070	.0062	<.0100	<.0070	<.0130
SEP 09...	<.0040	<.0130	<.0070	.0204	<.0100	<.0070	<.0130
DATE	THIO-BENCARB WATER FLTRD 0.7 µ GF, REC (µ G/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 µ GF, REC (µ G/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 µ GF, REC (µ G/L) (82661)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	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 05...	<.0020	<.0010	<.0020	--	1520	36500	72
NOV 24...	<.0020	<.0010	<.0020	--	517	15200	47
DEC 16...	<.0020	<.0010	E.0012	--	947	23800	17
JAN 13...	<.0020	<.0010	<.0020	--	86	3020	47
FEB 10...	<.0020	<.0010	<.0020	--	898	31000	56
MAR 17...	<.0020	<.0010	<.0020	.093	552	14100	59
APR 14...	<.0020	<.0010	E.0028	.238	1210	56200	71
APR 16...	<.0020	<.0010	.0043	.216	4170	479000	68
MAY 13...	<.0020	<.0010	E.0025	.196	1760	98600	46
JUN 04...	<.0020	<.0010	.0146	.181	2430	178000	61
JUN 07...	<.0020	<.0010	.0400	.217	3470	224000	89
JUN 17...	<.0020	<.0010	E.0034	.161	1330	71500	52
JUL 14...	<.0020	<.0010	<.0020	.125	798	20600	45
AUG 09...	<.0020	<.0010	E.0025	.182	E1800	--	E80
SEP 09...	<.0020	<.0010	<.0020	.088	629	10900	39

## PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued  
(National Stream-Quality Accounting Network, NASQAN, station)  
(National Water-Quality Assessment, NAWQA, station)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible][illegible]

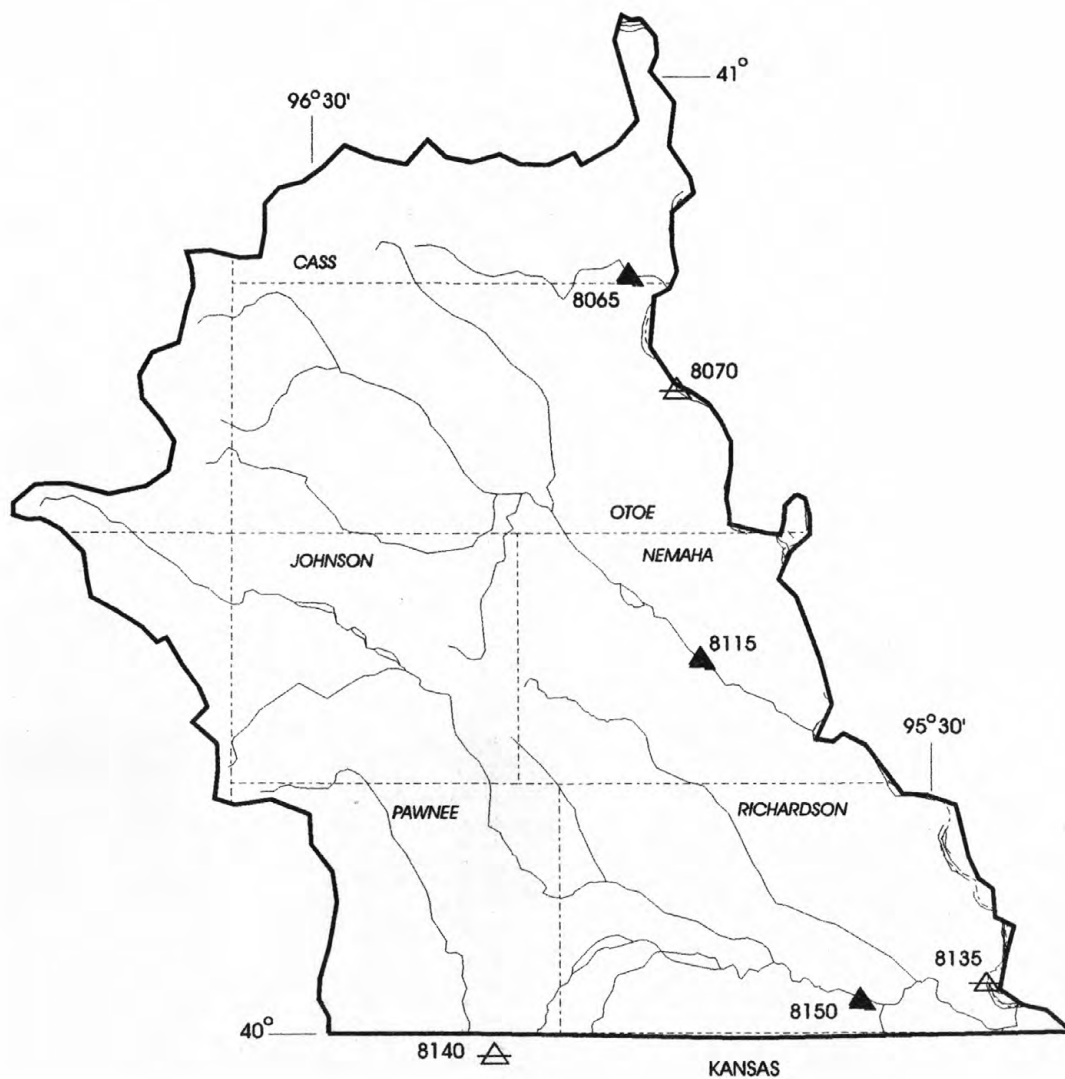


## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]



KANSAS RIVER BASIN  
NEMAHA RIVER BASIN



KANSAS RIVER BASIN  
NEMAHA RIVER BASIN

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*STATION NUMBER	STATION NAME	PAGE
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WEeping WATER CREEK BASIN

8065	Weeping Water Creek at Union .....	250
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MISSOURI RIVER MAIN STEM

8070	Missouri River at Nebraska City, NE .....	252
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LITTLE NEMAHA RIVER BASIN

8115	Little Nemaha River at Auburn.....	254
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MISSOURI RIVER MAIN STEM

8135	Missouri River at Rulo, NE .....	256
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BIG NEMAHA RIVER BASIN

8140	Turkey Creek near Seneca, KS .....	258
8150	Big Nemaha River at Falls City .....	260

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## WEeping WATER CREEK BASIN

06806500 WEeping WATER CREEK AT UNION, NE

LOCATION.--Lat 40°47'35", long 95°54'40", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.36, T.10 N., R.13 E., Cass County, Hydrologic unit 10240001, on left bank near downstream side of bridge on U.S. Highways 73 and 75, 1.5 mi southeast of Union, 2.8 mi downstream from South Branch Weeping Water Creek, and at mile 6.2.

DRAINAGE AREA.--241 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 2118: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 926.72 ft above sea level. Prior to May 14, 1951, nonrecording gage at site 2 mi upstream at different datum. May 15, 1951, to Aug. 22, 1968, water-stage recorder for stages above 7.9 ft and nonrecording gage, Aug. 23, 1968 to Aug. 22, 1980, water-stage recorder on downstream side of bridge pier, Aug. 23, 1980 to Nov. 4, 1980 at present site, all at datum 3.00 ft higher. Nov. 5, 1980 to Aug. 23, 1984 at present site and datum. Aug. 24, 1984, to Mar. 5, 1986, on left bank 200 ft upstream at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	76	83	e60	84	122	100	280	449	5730	192	91
2	68	210	82	e60	87	113	100	269	334	974	167	92
3	98	272	83	e58	89	106	101	266	266	301	171	86
4	100	198	83	e54	91	100	116	266	247	284	171	85
5	529	133	84	e56	92	98	224	598	233	280	164	93
6	185	111	85	e56	89	96	424	386	225	274	160	92
7	104	104	81	e54	93	93	180	310	207	264	185	86
8	84	136	79	e54	93	100	155	285	197	271	179	80
9	77	131	79	e52	89	108	150	254	193	382	161	76
10	74	217	79	e56	86	102	141	243	196	379	154	72
11	73	209	79	e58	88	99	130	285	237	274	154	71
12	70	130	79	e60	90	98	122	383	212	265	186	71
13	69	115	79	e56	e80	100	119	250	213	250	159	69
14	71	110	79	e64	83	101	139	230	207	239	142	66
15	70	106	81	e68	85	105	1100	732	190	238	138	64
16	74	102	82	e72	85	113	480	1780	193	232	133	63
17	147	98	79	e76	81	116	286	817	198	232	127	62
18	107	106	79	e80	82	103	231	447	187	232	162	61
19	82	101	78	e82	87	98	207	319	180	228	165	60
20	77	91	69	e84	86	99	195	489	182	222	133	62
21	77	89	e62	e84	84	97	321	1300	182	213	124	60
22	75	90	e58	e86	81	100	4830	393	182	206	117	60
23	74	90	e52	e86	e80	110	409	414	308	198	114	59
24	73	86	e56	e88	e84	110	311	347	257	213	109	e56
25	74	86	e68	90	90	107	278	281	190	e210	107	e54
26	74	87	e76	88	95	102	271	260	176	e200	105	e54
27	75	84	e86	90	120	98	804	246	8390	e195	101	e52
28	78	85	e90	89	133	101	514	235	1760	e190	98	e52
29	82	86	e84	84	---	102	354	227	642	e190	96	e50
30	80	86	e68	e80	---	99	305	234	1650	e200	95	e50
31	76	---	e62	e80	---	99	---	772	---	214	93	---
TOTAL	3053	3625	2364	2205	2507	3195	13097	13598	18283	13780	4362	2049
MEAN	98.5	121	76.3	71.1	89.5	103	437	439	609	445	141	68.3
MAX	529	272	90	90	133	122	4830	1780	8390	5730	192	93
MIN	56	76	52	52	80	93	100	227	176	190	93	50
AC-FT	6060	7190	4690	4370	4970	6340	25980	26970	36260	27330	8650	4060

e Estimated

# WEeping WATER CREEK BASIN

251

06806500 WEeping WATER CREEK AT UNION, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.2	46.3	40.4	41.9	84.2	130	117	180	207	192	92.5	71.4
MAX	579	148	136	177	301	1049	437	678	1603	2688	507	470
(WY)	1987	1974	1987	1974	1971	1979	1999	1987	1984	1993	1987	1989
MIN	.55	1.26	2.09	2.01	4.16	7.57	4.60	3.15	2.39	1.49	.70	2.21
(WY)	1957	1957	1957	1957	1957	1956	1956	1956	1956	1954	1955	1976

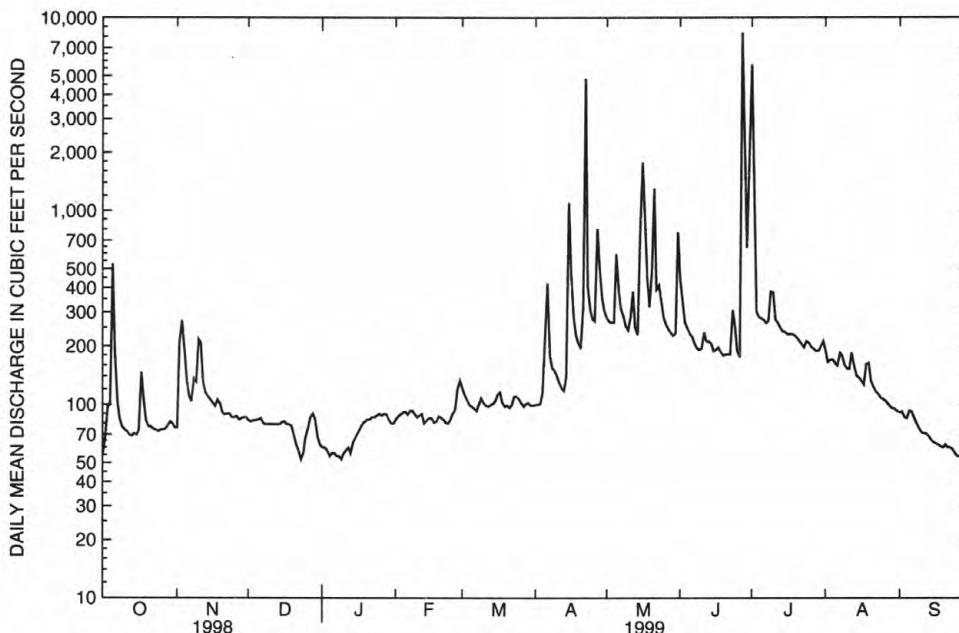
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1951 - 1999

ANNUAL TOTAL	67579	82118	
ANNUAL MEAN	185	225	105
MEDIAN OF ANNUAL MEANS			75.9
HIGHEST ANNUAL MEAN			433
LOWEST ANNUAL MEAN			19.9
HIGHEST DAILY MEAN	7380 Jun 14	8390 Jun 27	34000 Jul 23 1993
LOWEST DAILY MEAN	42 Jan 9	50 Sep 29	.10 Sep 10 1955
ANNUAL SEVEN-DAY MINIMUM	47 Jan 9	53 Sep 24	.13 Sep 9 1955
INSTANTANEOUS PEAK FLOW		20600 Jun 27	65100 Jul 23 1993
INSTANTANEOUS PEAK STAGE		27.44 Jun 27	30.97 Jul 23 1993
ANNUAL RUNOFF (AC-FT)	134000	162900	76420
10 PERCENT EXCEEDS	270	309	174
50 PERCENT EXCEEDS	106	101	40
90 PERCENT EXCEEDS	59	65	9.2



WEeping WATER CREEK AT UNION

## MISSOURI RIVER MAIN STEM

06807000 MISSOURI RIVER AT NEBRASKA CITY, NE

LOCATION.--Lat 40°40'55", long 95°50'48", in NW $\frac{1}{4}$  NE $\frac{1}{4}$  sec.9, T.8 N., R.14 E., Otoe County, Hydrologic Unit 10240001, on right bank 2.0 mi upstream from Highway 2 Bridge at Nebraska City, and at mile 562.6.

DRAINAGE AREA.--410,000 mi<sup>2</sup>, approximately. The 3,959 mi<sup>2</sup> in Great Divide basin are not included.

PERIOD OF RECORD.--August 1929 to current year. Gage-height records collected in this vicinity from August 1878 to December 1899 are contained in reports of Missouri River Commission.

REVISED RECORDS.--WSP 761: Drainage area.

GAGE.--Water-stage encoder. Datum of gage is 905.36 ft above sea level, supplementary adjustment of 1954. See WSP 1918 or 1919 for history of changes prior to Apr. 1, 1963.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers rain-gage and satellite data collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414,000 ft<sup>3</sup>/s Apr. 19, 1952; maximum gage height, 27.66 ft Apr. 18, 1952; minimum discharge, 1,600 ft<sup>3</sup>/s Dec. 31, 1946 (discharge measurement); minimum gage height observed, -0.28 ft Dec. 24, 1960, result of freezeup.

COOPERATION.--Records provided by Geological Survey, Iowa District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40000	52200	58500	34600	37000	43400	46400	52400	64600	92200	52900	56000
2	40600	53600	58100	34800	37300	43700	47000	51900	75100	79900	51500	55100
3	41900	55300	57400	34400	38200	45200	48400	52900	85700	79200	50900	54600
4	41800	54900	56900	33600	40300	45300	47500	53500	74700	78800	50800	54400
5	44800	54400	55400	31900	42200	45900	49200	55000	76000	75600	49700	56900
6	44700	53600	53400	32600	44300	46500	52300	55600	84400	74200	49300	57200
7	44000	53500	52200	33100	46200	45900	52700	58600	77700	71400	69800	55500
8	41300	54400	50600	34400	46600	45200	54000	58700	71200	68900	85700	55300
9	39800	54600	49300	33600	46800	45400	58600	58100	67500	68600	71700	55200
10	39700	56000	48700	33100	45600	44700	59700	58600	66700	70500	60200	55400
11	39800	61700	48000	33000	45100	44600	61400	58900	68300	65900	57000	55500
12	40800	61400	47800	33300	44700	44400	59700	59100	76100	62000	58800	54900
13	40900	58500	47500	33800	44200	43800	58800	58100	73600	59100	59100	54400
14	41000	58000	47400	34400	42900	43300	60700	57600	67700	56800	58200	54100
15	40800	58600	47000	34200	42900	42600	77900	59500	64000	55800	56500	54000
16	41200	59800	46800	33900	43600	43300	88100	65400	66400	54600	56100	53800
17	42100	61000	46900	35400	43100	44000	79700	67900	67700	54500	56400	53000
18	42600	61000	46600	37400	43000	44100	67300	67900	67500	54800	56800	53200
19	42700	61300	46400	38300	43100	45000	60200	66600	68000	55800	56800	53400
20	43100	61400	45800	37400	42800	45800	57300	62900	66000	57300	55200	53700
21	42800	61300	43600	36800	42300	44900	56600	64800	63500	58800	55000	53200
22	43100	61100	39200	36700	41900	44500	63000	65700	63200	60600	55000	53600
23	43900	61400	34900	36800	41800	46600	67100	68600	65300	62700	54800	53600
24	44500	60500	31700	37000	40400	46900	61200	67800	64900	62400	54200	53600
25	44700	60000	30500	37200	40800	46200	54500	66400	64300	60000	54100	53600
26	44900	59500	30600	38100	41700	45400	52700	65900	63000	59000	53100	53900
27	45800	59500	31500	38000	42500	45500	56300	63100	70800	58400	52100	54000
28	46500	58900	33000	37900	42900	45700	58600	61400	95500	57700	52900	53700
29	48100	59000	33900	37600	---	45300	57700	60300	102000	56000	53600	53600
30	49900	59100	34100	37200	---	46100	55000	60500	88200	54700	54500	52700
31	51800	---	33700	37000	---	45500	---	63600	---	53900	55800	---
TOTAL	1339600	1745500	1387400	1097500	1194200	1394700	1769600	1887300	2169600	1980100	1758500	1631100
MEAN	43210	58180	44750	35400	42650	44990	58990	60880	72320	63870	56730	54370
MAX	51800	61700	58500	38300	46800	46900	88100	68600	102000	92200	85700	57200
MIN	39700	52200	30500	31900	37000	42600	46400	51900	63000	53900	49300	52700
AC-FT	2657000	3462000	2752000	2177000	2369000	2766000	3510000	3743000	4303000	3928000	3488000	3235000



# MISSOURI RIVER MAIN STEM

253

06807000 MISSOURI RIVER AT NEBRASKA CITY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	42850	38790	25490	21310	26700	38250	48050	47790	52850	46900	43160	43010
MAX	76760	79410	52410	39970	48630	66730	98960	90280	117500	116700	71540	73410
(WY)	1998	1998	1987	1987	1983	1983	1997	1997	1984	1993	1996	1997
MIN	22420	14380	10510	10160	12780	15310	21850	32470	33530	32760	29870	32560
(WY)	1962	1962	1956	1957	1957	1957	1957	1955	1958	1961	1955	1958

## SUMMARY STATISTICS

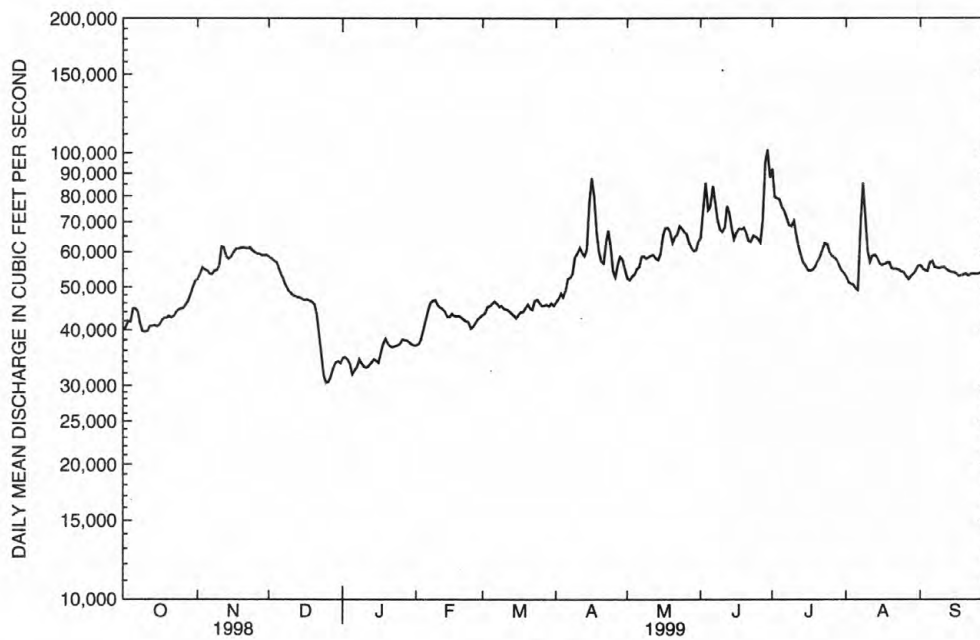
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### <sup>a</sup>WATER YEARS 1953 - 1999

ANNUAL TOTAL	17163900	19355100	
ANNUAL MEAN	47020	53030	39630
HIGHEST ANNUAL MEAN			66450
LOWEST ANNUAL MEAN			25370
HIGHEST DAILY MEAN	93900	Jun 15	102000
LOWEST DAILY MEAN	25900	Jan 16	30500
ANNUAL SEVEN-DAY MINIMUM	27100	Jan 14	32200
INSTANTANEOUS PEAK FLOW			104000
INSTANTANEOUS PEAK STAGE			20.73
ANNUAL RUNOFF (AC-FT)	34040000	38390000	28710000
10 PERCENT EXCEEDS	60300	67700	62300
50 PERCENT EXCEEDS	44700	53600	37300
90 PERCENT EXCEEDS	37000	37400	17500

\* Post-regulation, revised.



## LITTLE NEMAHA RIVER BASIN

06811500 LITTLE NEMAHA RIVER AT AUBURN, NE

LOCATION.--Lat 40°23'33", long 095°48'46", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.23, T.5 N., R.14 E., Nemaha County, Hydrologic Unit 10240006, on left bank at downstream side of bridge on U.S. Highway 136, 1 mi downstream from Longs Creek and Willow Creek, 1 mi east of Auburn, and at mile 10.4.

DRAINAGE AREA.--792 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 889.87 ft above sea level. See WSP 2119 for history of changes prior to July 24, 1967. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	145	183	e92	e190	332	201	603	925	2100	459	93
2	110	973	177	e84	e185	285	193	475	743	1060	232	97
3	146	1920	176	e78	192	258	203	448	697	796	193	91
4	182	1480	174	e72	189	241	222	415	642	631	182	90
5	2370	617	172	e80	184	233	1430	1250	589	488	168	132
6	790	406	172	e84	176	220	3070	1060	558	411	157	142
7	370	419	169	e86	178	212	1120	630	509	382	154	112
8	241	726	162	e82	174	225	607	551	467	354	160	96
9	199	597	160	e74	166	246	472	459	446	385	150	88
10	179	1500	159	e80	159	254	399	425	718	453	138	86
11	162	1290	158	e88	155	244	336	410	622	353	137	85
12	154	559	159	e90	e150	235	284	718	508	317	171	84
13	146	396	163	e88	e140	242	264	510	1700	292	160	83
14	144	329	161	e120	e140	236	296	448	692	272	130	81
15	142	288	160	e150	e135	246	7860	1440	515	253	e120	80
16	145	266	158	e200	e135	255	3150	2250	506	234	e116	80
17	209	249	153	e230	133	262	1680	4030	501	271	117	80
18	347	241	159	e250	134	246	1020	1560	449	250	125	81
19	194	226	152	e260	e135	219	797	650	419	231	170	81
20	162	213	e74	e250	e135	216	723	2330	409	215	145	83
21	149	206	e74	e240	e135	215	717	15200	397	201	123	86
22	142	207	e80	e230	139	212	2940	4400	431	186	115	87
23	137	204	e82	e200	208	242	1550	4150	670	178	115	87
24	134	196	e90	e190	262	259	937	2720	588	206	107	84
25	135	192	e100	e190	260	235	766	1680	444	192	102	81
26	136	190	e112	e186	273	216	694	1130	384	171	100	78
27	136	187	e116	e185	391	214	3410	876	6500	175	95	99
28	141	183	e114	e185	385	212	2480	710	6420	176	92	101
29	145	186	e100	e185	---	205	1150	654	2220	163	89	92
30	146	190	e90	186	---	202	781	631	1050	152	92	87
31	134	---	e82	188	---	198	---	1300	---	310	93	---
TOTAL	8014	14781	4241	4703	5238	7317	39752	54113	31719	11858	4507	2727
MEAN	259	493	137	152	187	236	1325	1746	1057	383	145	90.9
MAX	2370	1920	183	260	391	332	7860	15200	6500	2100	459	142
MIN	87	145	74	72	133	198	193	410	384	152	89	78
AC-FT	15900	29320	8410	9330	10390	14510	78850	107300	62910	23520	8940	5410

e Estimated

# LITTLE NEMAHA RIVER BASIN

255

06811500 LITTLE NEMAHA RIVER AT AUBURN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	225	137	115	119	232	452	378	577	542	606	229	245
MAX	2003	493	509	562	747	2870	1589	2949	3524	9419	1256	1546
(WY)	1974	1999	1987	1974	1993	1979	1984	1996	1951	1993	1982	1977
MIN	25.4	25.7	23.4	19.7	28.4	49.1	30.6	29.9	14.9	16.2	14.0	26.6
(WY)	1992	1956	1957	1957	1956	1957	1956	1956	1977	1977	1955	1991

## SUMMARY STATISTICS

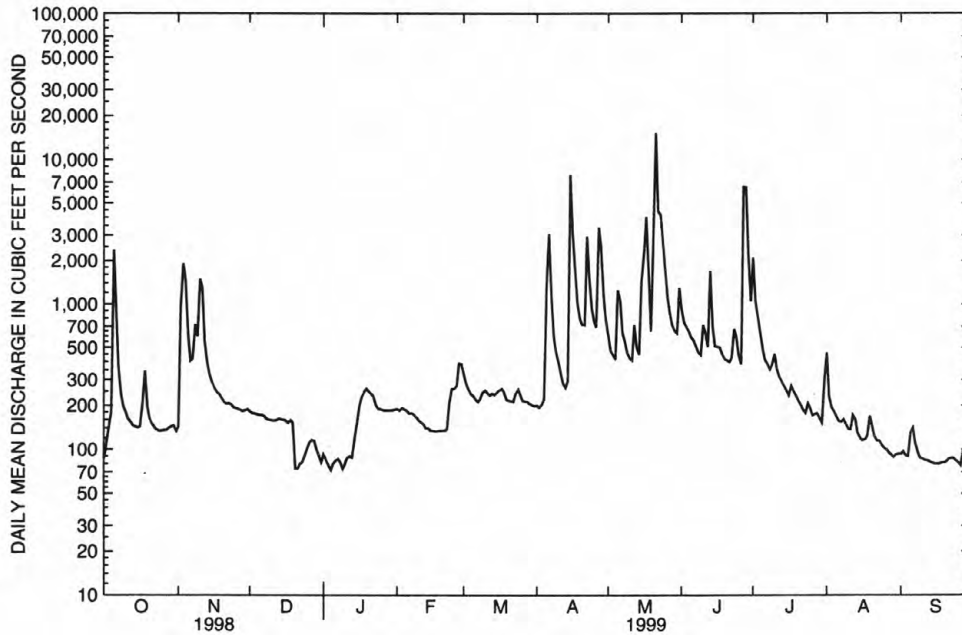
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1950 - 1999

ANNUAL TOTAL	198444	188970	
ANNUAL MEAN	544	518	322
MEDIAN OF ANNUAL MEANS			279
HIGHEST ANNUAL MEAN			1389
LOWEST ANNUAL MEAN			64.4
HIGHEST DAILY MEAN	15500 Jun 14	15200 May 21	70400 Jul 24 1993
LOWEST DAILY MEAN	66 Mar 9	72 Jan 4	.87 Jul 6 1977
ANNUAL SEVEN-DAY MINIMUM	77 Sep 11	79 Jan 3	1.1 Jul 3 1977
INSTANTANEOUS PEAK FLOW		27400 May 21	164000 May 9 1950
INSTANTANEOUS PEAK STAGE		23.66 May 21	*27.65 May 9 1950
ANNUAL RUNOFF (AC-FT)	393600	374800	233400
10 PERCENT EXCEEDS	1000	1050	476
50 PERCENT EXCEEDS	226	202	102
90 PERCENT EXCEEDS	107	89	35

\* From floodmark.



LITTLE NEMAHA RIVER AT AUBURN

## MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on right bank at downstream side of bridge on U.S. Highway 159 at Rulo, 3.2 mi upstream from Big Nemaha River, and at mile 498.0.

DRAINAGE AREA.--414,900 mi<sup>2</sup>, approximately. The 3,959 mi<sup>2</sup> in Great Divide basin are not included.

PERIOD OF RECORD.--October 1949 to current year in reports of U.S. Geological Survey. Gage-height record collected at site 80 ft upstream January 1886 to December 1899 published in reports of Missouri River Commission; September 1929 to September 1950 in files of Kansas City office of U.S. Army Corps of Engineers.

GAGE.--Water-stage encoder. Datum of gage is 837.23 ft above sea level. Oct. 1949 to Sept. 12, 1950, nonrecording gage at site 80 ft upstream and Sept. 13, 1950 to Apr. 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite data collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft<sup>3</sup>/s Apr. 22, 1952, gage height, 25.60 ft; minimum daily discharge, 4,420 ft<sup>3</sup>/s Jan. 13, 1957; minimum gage height, -0.19 ft Dec. 25, 1990, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft, from floodmark, discharge not determined.

COOPERATION.--Records provided by Geological Survey, Iowa District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43200	51200	60200	38000	38700	44900	47600	61800	82000	114000	60200	58100
2	43900	63600	60200	38500	38300	45300	48000	59200	79500	111000	58500	57900
3	45500	63200	61000	37700	38700	46500	49200	59500	96500	99500	58400	57000
4	47200	59000	60500	37500	40900	48400	49300	60600	94500	99300	58400	56800
5	50800	e57000	60000	35900	42900	48400	52800	63800	84500	95100	57300	58000
6	52700	e56000	58300	35300	45000	49600	68600	65400	91900	89900	54300	62300
7	50100	e55000	57300	36200	47700	49400	62600	65900	93600	91100	63300	60500
8	47600	57800	55500	36700	47300	48900	60000	69200	83800	86000	104000	59100
9	44500	57100	53600	36900	47400	49600	63300	67800	77200	82800	102000	60100
10	43900	60300	51900	35700	47100	49500	66400	67400	76800	89400	79400	60200
11	43600	65100	51200	35500	46500	49300	67300	68300	80800	86600	66300	60400
12	43600	67000	50200	35300	46500	49400	65300	69700	85800	76800	64900	60900
13	44000	61900	50000	35700	46300	48800	62500	68600	95900	71500	65200	60200
14	43600	60000	49300	36100	45300	48500	60800	65500	91500	67000	65000	60100
15	43500	61200	49300	36200	44700	47800	100000	67700	79200	64300	61900	59500
16	43000	62800	48900	35500	45300	48200	111000	74800	76200	62700	59400	59000
17	45200	65600	48800	36200	45000	49500	99800	94800	79000	63200	59100	57800
18	46400	66200	48900	37900	45200	49500	84800	101000	78400	63400	58900	57000
19	45100	66100	48300	39300	45100	50400	74300	86900	78200	64500	60100	57300
20	44900	66200	47800	38600	45000	51500	68200	77800	76700	65800	58700	57400
21	44600	65600	46700	37600	44200	51900	65400	110000	73500	67900	57500	57300
22	44700	64900	43600	38000	43700	49600	70400	102000	72700	69400	57200	56600
23	44600	64500	39700	38800	43400	52200	81100	90600	78000	69400	56200	56200
24	45600	63900	36800	38800	43100	52400	76900	86400	81400	70500	55700	56100
25	45500	62600	34900	38700	42000	51300	65600	81000	78000	67000	55400	55600
26	46000	62500	34400	39200	43100	50800	58800	78100	74800	64700	55200	55700
27	45900	61600	35000	39300	44100	49800	88600	74700	81100	63200	54100	56600
28	46400	61300	36300	39300	44600	49700	88600	71200	113000	62000	53500	56400
29	46800	60600	37500	39000	---	49000	74200	69100	122000	60400	54500	55800
30	48100	60400	38200	38700	---	48300	66800	68000	119000	59200	55300	55300
31	49800	---	37700	38600	---	47600	---	79900	---	59700	56600	---
TOTAL	1420300	1850200	1492000	1160700	1237100	1526000	2098200	2326700	2575500	2357300	1926500	1741200
MEAN	45820	61670	48130	37440	44180	49230	69940	75050	85850	76040	62150	58040
MAX	52700	67000	61000	39300	47700	52400	111000	110000	122000	114000	104000	62300
MIN	43000	51200	34400	35300	38300	44900	47600	59200	72700	59200	53500	55300
AC-FT	2817000	3670000	2959000	2302000	2454000	3027000	4162000	4615000	5109000	4676000	3821000	3454000

e Estimated

# MISSOURI RIVER MAIN STEM

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06813500 MISSOURI RIVER AT RULO, NE-Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44820	40860	27190	22620	28720	41550	51740	52090	57390	51520	45490	45640
MAX	80050	83880	57380	42280	53140	79590	106100	97280	130600	164800	78730	76410
(WY)	1998	1998	1998	1973	1997	1979	1997	1997	1984	1993	1996	1997
MIN	25580	17000	9953	10800	13220	15380	21820	33790	33710	33860	29820	34140
(WY)	1962	1962	1956	1957	1957	1957	1957	1956	1956	1963	1955	1991

## SUMMARY STATISTICS

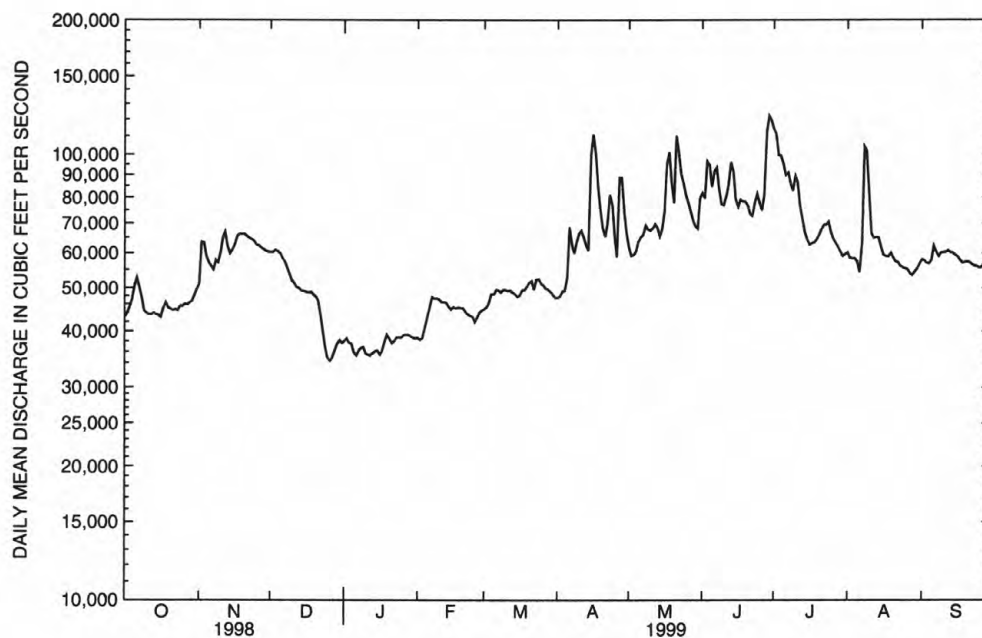
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### \*WATER YEARS 1953 - 1999

ANNUAL TOTAL	19695500	21711700	
ANNUAL MEAN	53960	59480	42500
HIGHEST ANNUAL MEAN			71880
LOWEST ANNUAL MEAN			26340
HIGHEST DAILY MEAN	129000	Jun 15	122000
LOWEST DAILY MEAN	29800	Jan 16	34400
ANNUAL SEVEN-DAY MINIMUM	30800	Jan 14	35700
INSTANTANEOUS PEAK FLOW			125000
INSTANTANEOUS PEAK STAGE			21.63
ANNUAL RUNOFF (AC-FT)	39070000	43070000	30790000
10 PERCENT EXCEEDS	69500	84100	67400
50 PERCENT EXCEEDS	50200	57400	38900
90 PERCENT EXCEEDS	40600	38800	18500

\* Post-regulation period



MISSOURI RIVER AT RULO



## MISSOURI RIVER BASIN

## BIG NEMAHA RIVER BASIN

## 06814000 TURKEY CREEK NEAR SENECA, KS

LOCATION.--Lat 39°56'52", long 096°06'30", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.20, T.12 S., R.12 E., Nemaha County, Hydrologic Unit 10240007, on left bank at downstream side of county highway bridge, 2.0 mi downstream from Clear Creek, 5.0 mi upstream from Big Nemaha River, and 8.0 mi northwest of Seneca.

DRAINAGE AREA.--276 mi<sup>2</sup>

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 1,037.53 ft above sea level. Prior to Oct. 19, 1956, water-stage recorder (occasional operation only) and nonrecording gage on former channel 400 ft south of present site at present datum. Oct. 19, 1956, to June 15, 1957, nonrecording gage at highway bridge 1.2 mi upstream at different datum. June 16, 1957, to Mar. 27, 1958, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite telemeter at station.

COOPERATION.--Records provided by Geological Survey, Kansas District.

PEAK DISCHARGES GREATER THAN BASE FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft<sup>3</sup>/sec and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /sec)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /sec)	Gage height (ft)
Nov. 2	1015	4,800	18.80	May 17	1315	6,370	21.77
Apr. 6	0115	5,690	20.54	May 21	1415	7,340	22.27
Apr. 15	1115	9,380	22.75	May 31	1315	*10,900	*23.07
Apr. 27	1415	10,700	23.02				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	201	75	e36	62	45	32	327	932	287	27	8.1
2	14	3800	72	e36	60	42	31	280	508	170	24	7.4
3	26	1190	72	e37	59	38	33	252	373	127	27	6.7
4	36	598	71	e37	53	38	46	232	321	100	27	9.8
5	416	297	70	e37	50	37	2180	259	281	e95	22	19
6	120	203	69	e38	48	35	1940	243	248	83	19	11
7	45	716	70	e38	50	33	412	188	220	70	20	8.5
8	29	1170	66	e38	48	40	306	168	199	67	19	e7.0
9	22	415	65	e38	45	50	260	158	403	111	17	e6.5
10	19	1270	63	e38	42	75	223	150	640	94	16	6.8
11	16	463	60	e39	42	73	198	302	293	e65	22	7.1
12	14	255	61	e40	39	58	179	326	187	e56	21	7.6
13	12	205	62	e42	39	60	173	193	517	e50	16	7.1
14	14	180	59	e85	41	52	1260	163	422	e48	16	6.7
15	13	155	58	94	38	50	6330	394	214	e46	16	6.6
16	12	141	57	102	35	46	1000	393	673	44	15	6.4
17	115	127	55	112	33	43	506	4390	343	e45	14	6.5
18	98	118	55	118	34	37	353	876	210	e44	15	6.5
19	33	110	52	110	35	35	281	412	191	e43	14	6.8
20	21	99	e50	100	34	36	239	398	185	e40	13	7.2
21	17	96	e38	96	32	36	214	4580	158	37	12	7.5
22	15	95	e37	99	30	38	247	e660	176	32	12	7.2
23	14	91	e36	93	27	42	263	e465	1080	30	12	6.7
24	13	87	e36	82	46	39	194	e360	357	31	11	6.2
25	13	86	e36	73	57	36	186	e290	193	29	10	5.7
26	13	82	e36	72	76	34	305	241	144	26	10	5.9
27	13	80	e36	73	77	34	6850	207	162	27	11	23
28	13	79	e36	66	56	35	1360	183	405	26	9.5	18
29	13	80	e36	60	---	34	601	136	335	23	8.7	11
30	13	80	e36	58	---	33	413	147	192	20	8.7	9.0
31	13	---	e36	66	---	32	---	5790	---	23	8.7	---
MEAN	39.7	419	53.6	66.2	46.0	42.5	887	747	352	64.2	15.9	8.65
MAX	416	3800	75	118	77	75	6850	5790	1080	287	27	23
MIN	6.9	79	36	36	27	32	31	136	144	20	8.7	5.7
AC-FT	2440	24930	3290	4070	2550	2610	52790	45940	20950	3950	979	515

e Estimated



# MISSOURI RIVER BASIN

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## BIG NEMAHA RIVER BASIN

06814000 TURKEY CREEK NEAR SENECA, KS--Continued

### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	86.7	50.9	34.7	42.0	92.7	210	184	231	243	207	84.1	132
MAX	1050	419	206	310	372	1297	1079	1354	2067	3193	914	1057
(WY)	1974	1999	1974	1962	1982	1979	1984	1995	1951	1993	1954	1958
MIN	.000	.000	.000	.000	.018	.065	.28	2.43	2.75	.92	1.48	.000
(WY)	1957	1957	1957	1957	1957	1957	1956	1989	1977	1989	1988	1956

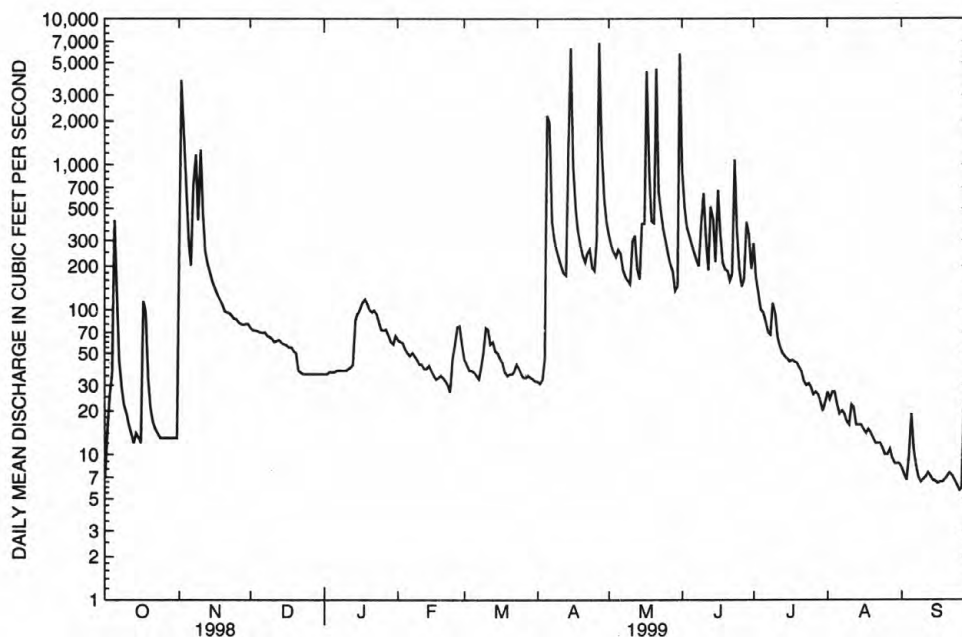
### SUMMARY STATISTICS

#### FOR 1998 CALENDAR YEAR

#### FOR 1999 WATER YEAR

#### WATER YEARS 1949 - 1999

ANNUAL MEAN	195	228	132
HIGHEST ANNUAL MEAN			547
LOWEST ANNUAL MEAN			3.24
HIGHEST DAILY MEAN	8080 Mar 30	6850 Apr 27	16700 Oct 11 1973
LOWEST DAILY MEAN	5.0 Sep 19	5.7 Sep 25	.00 Jul 28 1956
ANNUAL SEVEN-DAY MINIMUM	5.4 Sep 8	6.6 Sep 20	.00 Aug 21 1956
INSTANTANEOUS PEAK FLOW		10900 May 31	21400 Oct 11 1973
INSTANTANEOUS PEAK STAGE		23.07 May 31	24.77 Oct 11 1973
ANNUAL RUNOFF (AC-FT)	141200	165000	95310
10 PERCENT EXCEEDS	388	400	216
50 PERCENT EXCEEDS	61	52	23
90 PERCENT EXCEEDS	12	12	2.1



TURKEY CREEK NEAR SENECA, KS

## BIG NEMAHA RIVER BASIN

06815000 BIG NEMAHA RIVER AT FALLS CITY, NE

LOCATION.--Lat 40°02'08", long 95°35'45", in NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.22, T.1 N., R.16 E., Richardson County, Hydrologic Unit 10240008, on right bank near upstream side of bridge on U.S. Highway 73, 1 mi south of Falls City and 14.5 mi upstream from mouth.

DRAINAGE AREA.--1,339 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1944 to current year. Prior to October 1967, published as Nemaha River at Falls City.

REVISED RECORDS.--WSP 1086: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 858.24 ft above sea level. Prior to Oct. 16, 1952, nonrecording gage and Oct. 17, 1952 to Aug. 24, 1982, water-stage recorder for stages above 6.1 ft at site 150 ft downstream at same datum. On Oct. 1, 1997, datum lowered 3.0 ft. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	289	391	e240	322	333	191	1530	4580	1880	238	103
2	171	15200	388	e230	319	293	186	1250	2330	1310	259	97
3	211	6960	402	e220	319	269	194	1080	1500	895	253	87
4	316	3930	384	e200	332	248	210	1090	1170	718	242	89
5	347	1860	356	e180	e360	239	4780	1240	1000	604	235	157
6	315	1050	346	e200	e360	227	8620	1610	867	534	198	247
7	299	1010	350	e220	e370	214	2210	1080	893	480	249	171
8	301	4690	352	e225	370	235	1250	850	732	449	246	109
9	276	2020	341	e200	334	294	897	751	597	548	301	94
10	222	4500	354	e185	302	437	672	686	2060	782	185	75
11	192	3380	377	e200	287	424	534	697	1660	534	166	76
12	167	1380	350	e220	269	354	451	1650	900	413	205	81
13	153	922	308	e210	245	321	403	1220	1710	370	227	75
14	146	809	334	e215	240	310	1100	793	2680	342	171	94
15	215	689	325	e240	249	292	25200	1120	1180	313	150	77
16	163	606	317	e270	235	290	8380	2180	1050	308	143	69
17	1230	556	315	e280	220	279	3030	10400	1710	487	147	66
18	2420	521	310	e310	226	255	1830	6020	852	500	141	68
19	609	484	301	e320	241	234	1310	2170	664	384	140	71
20	339	452	271	e330	236	230	1010	1710	611	344	140	74
21	271	434	e250	e340	230	226	843	20700	561	302	132	100
22	219	429	e180	e350	210	226	1160	7330	903	262	127	101
23	190	431	e200	e360	207	240	2390	3990	1650	253	127	100
24	177	413	e230	e350	272	232	1090	3280	2090	256	126	97
25	166	400	e250	e330	302	218	823	2180	886	244	127	95
26	159	404	e270	e310	397	204	947	1550	636	241	122	93
27	155	392	e290	e310	464	197	29900	1110	712	265	117	171
28	157	399	e290	e320	409	208	11300	935	10400	247	110	161
29	155	463	e280	e320	---	203	3400	839	4350	229	109	166
30	147	447	e270	325	---	195	2110	839	1800	209	109	128
31	141	---	e260	325	---	188	---	10400	---	218	104	---
TOTAL	10213	55520	9642	8335	8327	8115	116421	92280	52734	14921	5346	3192
MEAN	329	1851	311	269	297	262	3881	2977	1758	481	172	106
MAX	2420	15200	402	360	464	437	29900	20700	10400	1880	301	247
MIN	141	289	180	180	207	188	186	686	561	209	104	66
AC-FT	20260	110100	19120	16530	16520	16100	230900	183000	104600	29600	10600	6330

e Estimated

# BIG NEMAHA RIVER BASIN

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06815000 BIG NEMAHA RIVER AT FALLS CITY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	428	279	190	233	442	896	832	1080	1156	995	482	641
MAX	5229	1851	1036	1446	2998	5819	4462	6166	7816	15690	3898	3408
(WY)	1974	1999	1974	1974	1949	1979	1984	1995	1951	1993	1954	1958
MIN	21.0	28.1	24.1	19.9	42.2	42.5	32.3	44.5	46.4	20.7	29.8	16.6
(WY)	1957	1957	1957	1957	1957	1956	1956	1989	1981	1977	1991	1956

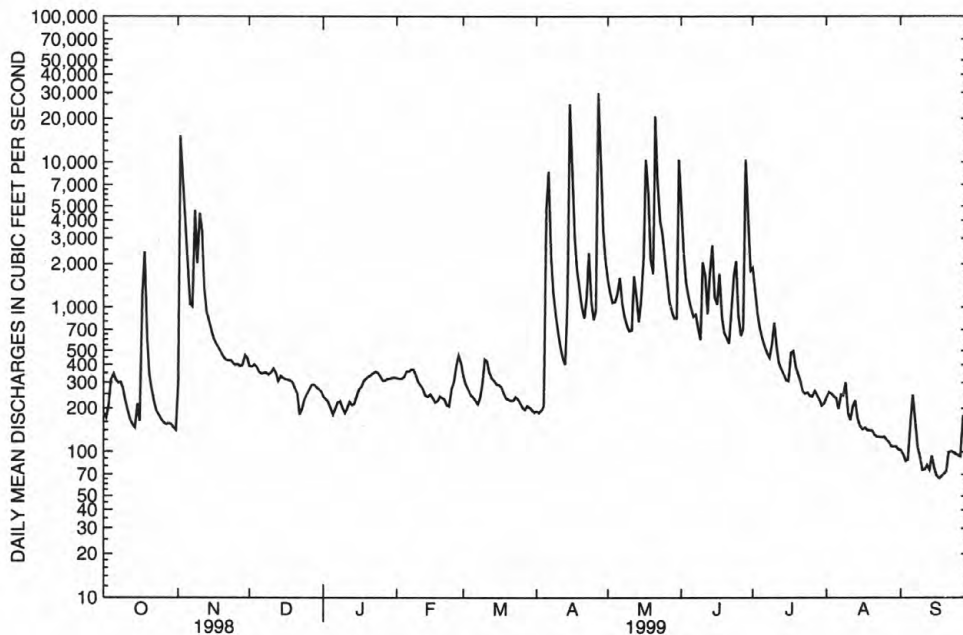
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

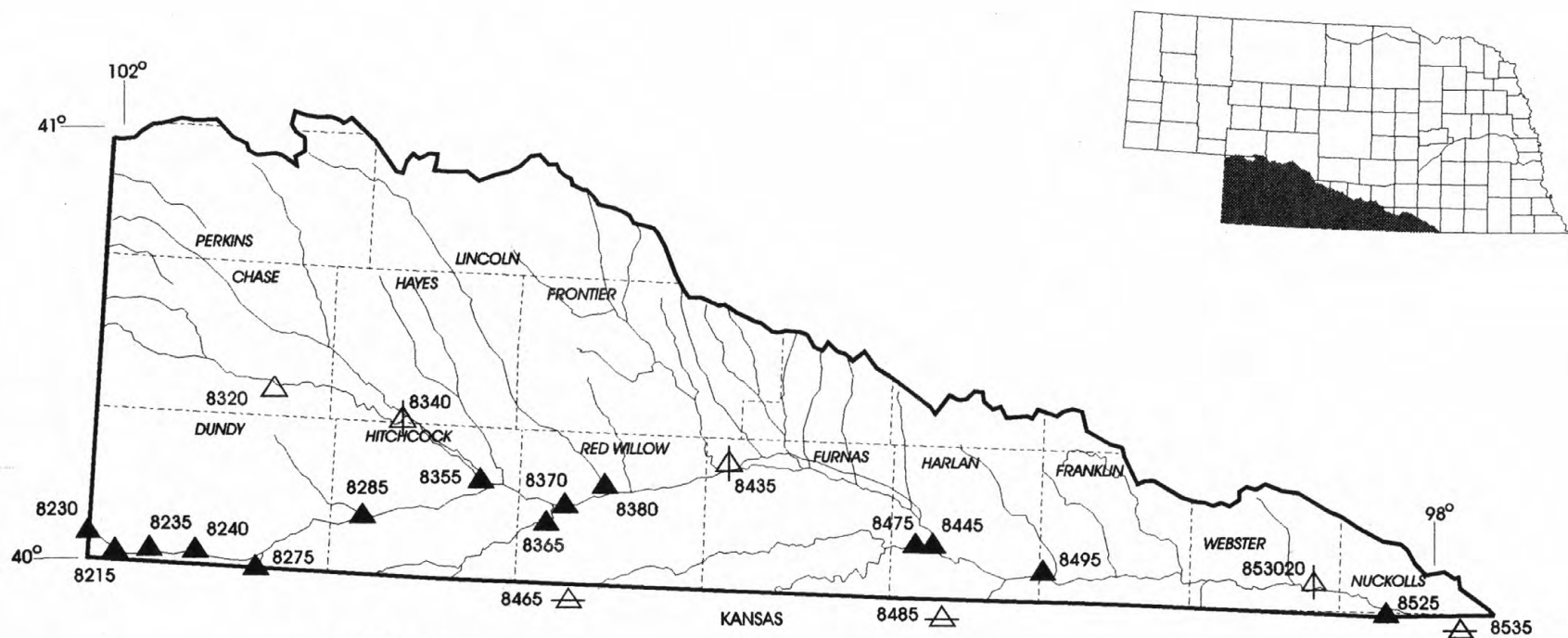
### WATER YEARS 1944-1999

ANNUAL TOTAL	289508	385046	
ANNUAL MEAN	793	1055	635
MEDIAN OF ANNUAL MEANS			530
HIGHEST ANNUAL MEAN			2559
LOWEST ANNUAL MEAN			86.7
HIGHEST DAILY MEAN	15200	Nov 2	29900
LOWEST DAILY MEAN	76	Mar 9	66
ANNUAL SEVEN-DAY MINIMUM	85	Sep 10	74
INSTANTANEOUS PEAK FLOW			40600
INSTANTANEOUS PEAK STAGE			28.13
ANNUAL RUNOFF (AC-FT)	574200	763700	460300
10 PERCENT EXCEEDS	1820	1940	1090
50 PERCENT EXCEEDS	334	316	166
90 PERCENT EXCEEDS	154	140	45



BIG NEMAHA RIVER AT FALLS CITY

KANSAS RIVER BASIN  
REPUBLICAN RIVER BASIN



## EXPLANATION

- Hydrologic boundary
- County line
- Streams
- Stream-flow gaging station
- Reservoir station
- Gaging station run by neighboring state
- Gaging station run by the Department of Water Resources (DWR)

0 5 10 15 20 MILES  
0 10 20 KILOMETERS

NOTE: To change abbreviated station number to complete station number, prefix with '06' and add zero's required to give eight digits.

KANSAS RIVER BASIN  
REPUBLICAN RIVER BASIN

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*STATION NUMBER	STATION NAME	PAGE
8215	Arikaree River at Haigler .....	264
8230	N.F. Republican River at Colorado-Nebraska State Line .....	266
8235	Buffalo Creek near Haigler .....	268
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8275	S.F. Republican River near Benkelman.....	272
8285	Republicam River at Stratton.....	274
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8355	Frenchman Creek at Culbertson .....	279
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8370	Republican River at McCook .....	283
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8465	Beaver Creek at Cedar Bluffs, KS.....	292
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\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.



## KANSAS RIVER BASIN

06821500 ARIKAREE RIVER AT HAIGLER, NE

LOCATION.--Lat 40°01'45", long 101°58'10", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.29, T.1 N., R.41 W., Dundy County, Hydrologic Unit 10250001, on right bank at downstream side of bridge on U.S. Highway 34, 1.3 mi upstream from Burlington Northern Inc. bridge, 1.9 mi upstream from confluence with North Fork Republican River, 2 mi northwest of Haigler, and 3.2 mi downstream from Kansas-Nebraska State line.

DRAINAGE AREA.--1,700 mi<sup>2</sup>, of which about 1,020 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1919: 1951, 1954, 1956, 1960. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3,250.98 ft above sea level. See WSP 1919 for history of changes prior to Sept. 29, 1964. Sept. 29, 1964 to Apr. 25, 1982 on left bank 57 ft downstream from bridge at present datum. Data collection platform at station.

REMARKS.--Record fair except for estimated period, which is poor. Natural flow affected by ground-water withdrawals and diversions for irrigation of about 1,500 acres in Colorado and by return flow from Haigler Canal.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	16	.52	e.32	.47	.43	15	14	17	1.1	.17	2.2
2	5.2	10	.52	e.30	.50	.41	13	20	13	.73	1.6	1.7
3	8.3	3.8	.41	e.28	.62	.44	9.7	12	6.8	.82	2.6	1.2
4	11	1.7	.27	e.28	.43	.44	7.2	4.2	6.5	1.1	2.7	.98
5	9.6	1.2	.26	e.30	.40	.39	9.1	6.6	3.7	1.3	7.5	.94
6	5.8	.89	.23	e.30	.37	.34	8.1	8.5	2.4	.65	53	1.9
7	3.2	.95	.23	e.31	.41	.39	7.3	8.8	2.8	.23	70	4.5
8	2.7	.88	e.23	e.31	.43	.45	13	7.2	2.9	.09	337	3.5
9	2.7	.85	e.23	e.37	.41	.43	18	5.9	1.9	.14	286	3.8
10	2.7	.74	e.24	e.40	.42	.38	20	5.0	1.5	.20	166	1.8
11	2.4	.71	e.24	e.42	.40	.30	23	5.4	6.6	.09	143	3.5
12	2.8	.66	e.24	e.41	.64	.37	20	7.6	229	.48	80	6.3
13	3.3	.66	e.25	e.39	.67	.53	15	11	132	.47	36	3.8
14	3.2	.63	e.28	e.41	.57	.59	15	8.2	103	.56	21	2.9
15	3.4	.72	e.29	e.41	.45	.53	16	11	77	.00	14	4.7
16	3.3	.63	e.30	e.40	.45	.68	18	11	39	.00	14	5.1
17	3.6	.61	e.32	e.40	.47	.73	17	13	23	.00	22	5.0
18	4.1	.58	e.32	e.43	.44	2.4	16	15	25	.00	63	5.6
19	3.9	.48	e.29	e.43	.42	4.8	12	9.3	22	.12	26	4.2
20	4.2	.50	e.28	e.40	.38	6.8	8.0	7.8	8.8	.33	14	3.1
21	4.0	.56	e.29	e.39	.40	8.1	6.1	8.0	6.5	.23	9.8	3.4
22	4.4	.57	e.30	e.39	.49	9.4	8.2	7.7	3.7	.00	8.7	3.2
23	11	.43	e.30	e.39	.52	10	9.6	3.6	3.3	.00	4.0	1.8
24	12	.54	e.31	e.40	.45	11	13	3.3	2.9	.00	5.5	3.6
25	11	.47	e.35	e.46	.42	12	10	11	4.5	.00	6.3	4.1
26	13	.47	e.36	e.50	.43	14	9.1	10	2.1	.00	4.1	4.5
27	13	.51	e.36	.53	.39	15	8.3	9.6	.55	.44	3.3	4.3
28	8.5	.53	e.34	.56	.40	26	9.2	8.2	.91	.40	9.5	11
29	4.8	.56	e.34	.54	---	12	7.3	9.4	.39	.00	25	12
30	14	.49	e.33	.48	---	12	8.6	9.0	1.9	.00	5.1	11
31	17	---	e.33	.48	---	15	---	11	---	.00	2.7	---
TOTAL	201.1	48.32	9.56	12.39	12.85	166.33	369.8	282.3	750.65	9.48	1443.57	125.62
MEAN	6.49	1.61	.31	.40	.46	5.37	12.3	9.11	25.0	.31	46.6	4.19
MAX	17	16	.52	.56	.67	26	23	20	229	1.3	337	12
MIN	2.4	.43	.23	.28	.37	.30	6.1	3.3	.39	.00	.17	.94
AC-FT	399	96	19	25	25	330	733	560	1490	19	2860	249

e Estimated

# KANSAS RIVER BASIN

265

06821500 ARIKAREE RIVER AT HAIGLER, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9.84	8.13	6.55	7.72	15.8	28.2	23.3	41.0	40.4	20.0	18.8	15.4
MAX	39.8	31.8	28.3	24.0	67.0	400	78.0	709	599	193	111	140
(WY)	1943	1947	1939	1934	1937	1960	1944	1935	1935	1962	1938	1938
MIN	1.41	.61	.31	.40	.46	2.17	2.72	3.61	3.34	.044	.000	.58
(WY)	1984	1983	1999	1999	1999	1995	1978	1986	1956	1997	1952	1953

## SUMMARY STATISTICS

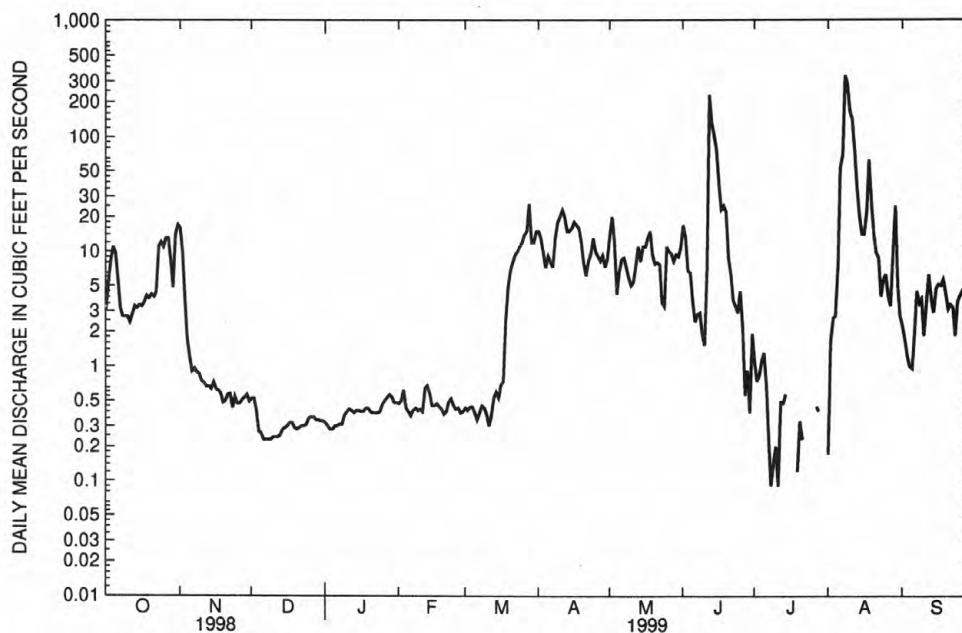
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1932 - 1999

ANNUAL TOTAL	1361.01	3431.97	
ANNUAL MEAN	3.73	9.40	19.6
MEDIAN OF ANNUAL MEANS			15.3
HIGHEST ANNUAL MEAN			127
LOWEST ANNUAL MEAN			3.69
HIGHEST DAILY MEAN	29 May 10	337 Aug 8	17000 May 31 1935
LOWEST DAILY MEAN	.00 Jun 26	.00 Jul 15	.00 Jul 21 1932
ANNUAL SEVEN-DAY MINIMUM	.00 Aug 28	.08 Jul 20	.00 Jul 30 1934
INSTANTANEOUS PEAK FLOW		567 Aug 8	50000 May 31 1935
INSTANTANEOUS PEAK STAGE		9.09 Aug 8	*11.20 May 31 1935
ANNUAL RUNOFF (AC-FT)	2700	6810	14180
10 PERCENT EXCEEDS	11	15	31
50 PERCENT EXCEEDS	1.5	2.4	8.8
90 PERCENT EXCEEDS	.22	.29	.70

\* Site and datum then in use.



ARIKAREE RIVER AT HAIGLER

## KANSAS RIVER BASIN

## 06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 10, T. 1 N., R. 42 W., Dundy County, Nebraska, Hydrologic Unit 10250002, on right bank 100 ft east of Colorado-Nebraska State line, 9.5 mi upstream from confluence with Arikaree River, and at mile 448.

DRAINAGE AREA.--2,370 mi<sup>2</sup>, of which about 174 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Steel piling control since January 1965. Datum of gage is 3,336.09 ft above sea level. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated discharges, which are poor. Natural flow affected by diversion in Haigler Canal for irrigation of about 2,700 acres in Colorado and Nebraska.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	23	49	e36	52	40	55	17	11	12	5.9	18
2	13	42	48	e35	53	40	54	24	19	10	6.0	17
3	14	47	48	e32	53	39	48	34	23	9.8	5.5	16
4	21	41	48	31	52	41	40	39	24	8.6	4.8	16
5	24	36	48	60	51	43	38	24	22	7.4	8.0	15
6	33	33	49	55	53	44	44	22	22	6.9	29	14
7	37	40	50	53	54	47	38	20	22	6.9	25	11
8	38	48	50	53	54	51	25	20	23	6.6	13	7.6
9	38	48	50	56	55	56	21	18	22	6.3	6.7	4.1
10	38	52	49	57	55	57	22	16	27	6.6	5.8	2.7
11	38	51	50	58	56	59	16	11	52	7.7	7.9	1.8
12	37	51	50	59	51	61	12	9.5	51	7.8	11	1.5
13	38	50	51	60	50	64	11	9.1	40	6.5	14	2.6
14	40	50	51	61	51	68	9.7	9.2	35	5.1	15	2.9
15	38	50	51	60	50	65	8.3	9.0	34	4.5	15	2.5
16	37	50	52	60	48	63	7.2	8.6	34	5.2	12	3.1
17	38	50	e50	57	45	60	6.4	9.8	33	5.4	7.8	4.1
18	39	51	e45	56	45	59	6.9	11	28	4.7	6.3	4.4
19	39	50	e43	58	47	59	7.3	17	21	4.4	6.6	5.0
20	34	49	e40	58	42	58	8.1	18	17	4.8	7.2	5.9
21	30	48	e35	56	50	58	7.8	18	14	4.7	8.0	8.9
22	28	48	e30	52	46	57	8.8	18	12	5.2	9.7	19
23	21	48	e25	51	44	57	11	20	9.9	7.1	14	22
24	18	47	e23	51	42	56	14	19	9.2	8.1	13	19
25	23	46	e25	51	43	56	29	14	8.8	7.8	8.9	18
26	27	46	e30	51	43	56	30	12	8.4	7.1	6.9	18
27	27	47	e35	52	41	54	18	12	8.7	7.1	5.2	15
28	38	48	e40	50	39	52	15	12	10	6.2	4.3	14
29	27	48	e43	50	---	55	14	12	11	5.1	7.0	27
30	17	49	e40	50	---	57	13	12	13	4.9	15	29
31	20	---	e37	51	---	56	---	11	---	4.3	18	---
TOTAL	921	1387	1335	1620	1365	1688	638.5	506.2	665.0	204.8	322.5	345.1
MEAN	29.7	46.2	43.1	52.3	48.8	54.5	21.3	16.3	22.2	6.61	10.4	11.5
MAX	40	52	52	61	56	68	55	39	52	12	29	29
MIN	11	23	23	31	39	39	6.4	8.6	8.4	4.3	4.3	1.5
AC-FT	1830	2750	2650	3210	2710	3350	1270	1000	1320	406	640	685

e Estimated

# KANSAS RIVER BASIN

267

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.8	56.6	60.4	60.0	62.0	64.5	57.2	41.5	34.7	18.6	18.7	26.0
MAX	67.1	83.5	74.7	73.4	76.8	85.8	85.7	104	113	93.8	72.4	128
(WY)	1963	1957	1954	1953	1960	1960	1980	1951	1962	1962	1950	1951
MIN	11.1	27.0	39.7	39.4	42.3	43.6	21.3	11.0	12.2	5.36	4.12	5.78
(WY)	1979	1989	1998	1979	1998	1998	1999	1992	1952	1978	1940	1978

## SUMMARY STATISTICS

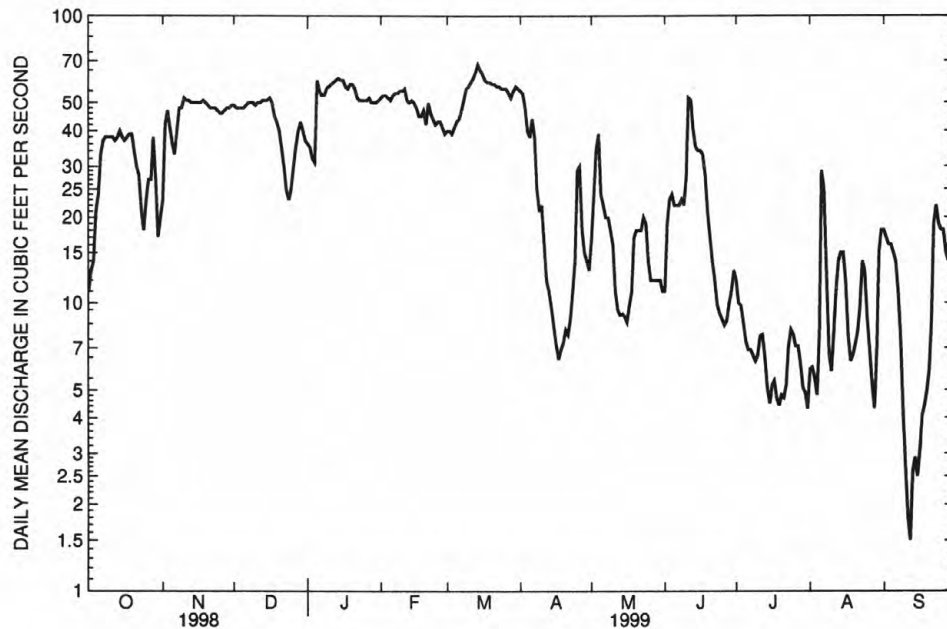
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1935 - 1999

ANNUAL TOTAL	10459.6	10998.1	
ANNUAL MEAN	28.7	30.1	44.6
HIGHEST ANNUAL MEAN			65.3
LOWEST ANNUAL MEAN			27.4
HIGHEST DAILY MEAN	64 Apr 3	68 Mar 14	761 May 15 1951
LOWEST DAILY MEAN	3.1 Apr 30	1.5 Sep 12	1.5 Sep 12 1999
ANNUAL SEVEN-DAY MINIMUM	3.6 Apr 26	2.4 Sep 10	2.3 Aug 5 1940
INSTANTANEOUS PEAK FLOW (STAGE)		71 (1.10) Mar 14	2110 Apr 28 1947
INSTANTANEOUS PEAK STAGE		*1.62 Dec 24	5.92 Apr 28 1947
ANNUAL RUNOFF (AC-FT)	20750	21810	32280
10 PERCENT EXCEEDS	50	55	72
50 PERCENT EXCEEDS	34	29	50
90 PERCENT EXCEEDS	6.2	6.6	8.9

\* Backwater from ice.



NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

## KANSAS RIVER BASIN

06823500 BUFFALO CREEK NEAR HAIGLER, NE

LOCATION.--Lat 40°02'22", long 101°51'57", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.20, T.1 N., R.40 W., Dundy County, Hydrologic Unit 10250002, on upstream side of bridge, 0.4 mi upstream from mouth, and 4 mi northeast of Haigler.

DRAINAGE AREA.--172 mi<sup>2</sup>, of which about 8.6 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 2119: 1948-50(M), 1957(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,189.00 ft above sea level. Prior to Sept. 19, 1980, at site 0.5 mi upstream at datum 15.57 ft higher. Sept. 18, 1980, to June 4, 1996, on left bank 15 ft upstream from county highway bridge at datum 0.10 ft lower. June 4, 1996, to Nov. 7, 1996, 135 ft downstream from county highway bridge, at datum 0.10 ft lower.

REMARKS.--Records fair except for estimated period, which is poor. Natural flow affected by diversion about 1 mi upstream for irrigation of 880 acres.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	5.6	4.7	e2.7	5.4	4.7	3.8	7.9	9.5	.18	.00	8.2
2	3.9	7.6	4.8	e2.5	5.2	4.5	3.9	11	8.1	.28	.00	8.0
3	4.2	8.9	4.6	e2.2	4.8	4.8	4.3	9.2	7.9	.19	.00	8.7
4	5.0	8.6	4.5	e2.0	4.5	4.8	4.3	7.2	3.9	.07	.00	7.7
5	6.1	7.6	4.4	e1.9	4.6	4.8	5.8	5.9	.68	.02	.00	8.0
6	5.9	7.3	e4.3	e2.0	4.8	4.6	6.1	5.2	.34	.02	.00	8.3
7	4.2	7.4	e4.0	e2.2	4.8	4.8	5.1	5.5	.38	.01	.00	9.0
8	3.4	7.8	e3.5	e2.5	4.7	5.1	4.9	6.2	.46	.04	.79	8.9
9	3.8	7.8	e3.1	e2.6	4.8	5.6	4.5	6.9	.32	.00	1.5	8.9
10	4.1	5.8	e2.8	e2.8	4.6	4.9	4.7	7.0	.16	.00	1.8	8.8
11	3.5	6.6	e2.9	e2.9	3.3	4.6	4.5	8.2	2.6	.01	4.7	8.6
12	3.4	7.0	e2.8	e3.0	4.7	4.6	4.4	7.9	7.8	.02	9.3	9.0
13	3.9	5.7	e2.9	e3.0	5.5	4.9	4.4	7.5	6.5	.01	7.3	7.8
14	4.4	.96	e3.3	e3.0	4.9	5.0	4.3	7.1	5.7	.03	6.8	6.8
15	4.6	2.8	e3.4	e3.2	4.5	5.0	4.3	7.8	5.6	.01	6.4	6.1
16	4.5	2.3	e3.6	e3.5	4.4	5.0	4.3	8.1	6.4	.00	6.3	7.4
17	4.1	2.6	e3.8	e3.7	4.6	4.4	4.3	9.6	7.5	.00	8.9	7.8
18	4.1	2.5	e3.7	e3.9	4.4	4.3	4.3	8.3	7.7	.00	15	7.6
19	4.3	2.3	e3.4	e4.0	4.5	4.5	4.2	7.1	8.2	.00	9.8	7.0
20	4.3	2.5	e3.0	4.2	4.1	4.6	4.2	6.8	9.3	.00	8.4	6.4
21	4.4	2.5	e2.4	4.4	4.0	5.2	4.1	6.6	9.8	.00	8.3	5.9
22	5.3	2.5	e2.1	4.2	4.3	5.2	4.7	5.9	9.6	.00	8.5	5.2
23	6.7	2.3	e1.8	4.4	4.2	5.4	6.9	5.4	4.8	.00	5.1	4.9
24	6.2	2.2	e1.6	4.5	4.5	5.2	6.9	5.0	.23	.00	6.5	4.4
25	4.4	2.0	e1.6	4.6	4.3	5.0	9.1	4.9	.18	.00	6.4	4.5
26	4.5	2.0	e1.6	6.0	4.4	5.1	8.7	5.0	.21	.00	6.5	4.0
27	4.6	2.2	e2.3	4.7	4.2	5.0	6.8	4.8	.10	.00	6.7	4.2
28	5.1	2.2	e2.7	5.2	4.3	3.2	5.7	5.1	.03	.00	4.8	6.5
29	4.4	2.1	e2.7	5.7	---	3.1	5.5	5.2	.17	.00	8.7	8.7
30	4.3	3.4	e2.7	4.7	---	3.2	5.9	5.8	.27	.00	9.2	7.4
31	4.7	---	e2.7	5.1	---	3.8	---	6.8	---	.00	8.2	---
TOTAL	138.4	133.06	97.7	111.3	127.3	144.9	154.9	210.9	124.43	0.89	165.89	214.7
MEAN	4.46	4.44	3.15	3.59	4.55	4.67	5.16	6.80	4.15	.029	5.35	7.16
MAX	6.7	8.9	4.8	6.0	5.5	5.6	9.1	11	9.8	.28	15	9.0
MIN	2.1	.96	1.6	1.9	3.3	3.1	3.8	4.8	.03	.00	.00	4.0
AC-FT	275	264	194	221	252	287	307	418	247	1.8	329	426

e Estimated

## KANSAS RIVER BASIN

269

06823500 BUFFALO CREEK NEAR HAIGLER, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.80	7.99	8.12	8.35	8.97	9.26	9.13	7.82	5.66	2.72	2.51	4.29
MAX	12.6	12.1	13.7	12.7	12.9	14.3	14.2	12.5	13.2	11.0	19.7	15.2
(WY)	1943	1947	1946	1942	1960	1952	1944	1944	1962	1948	1950	1951
MIN	2.84	3.41	3.15	2.68	.89	2.72	3.92	2.11	.000	.000	.001	.23
(WY)	1965	1998	1999	1998	1998	1998	1989	1965	1994	1997	1976	1998

## SUMMARY STATISTICS

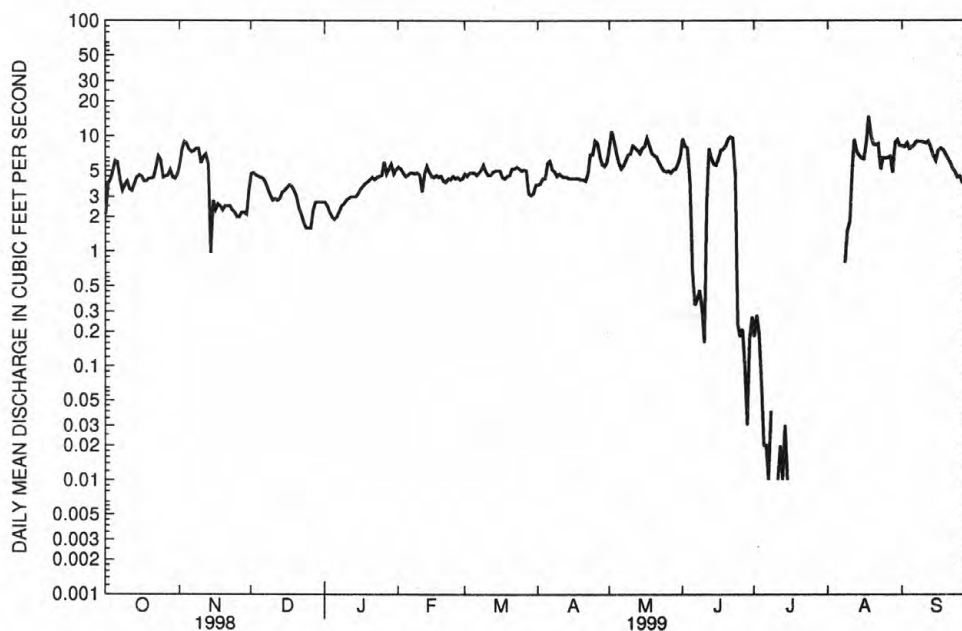
## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1941 - 1999

ANNUAL TOTAL	962.55	1624.37	
ANNUAL MEAN	2.64	4.45	6.79
HIGHEST ANNUAL MEAN			10.9
LOWEST ANNUAL MEAN			2.51
HIGHEST DAILY MEAN	12	15	90
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW (STAGE)		22	140
INSTANTANEOUS PEAK STAGE		*1.87	*5.93
ANNUAL RUNOFF (AC-FT)	1910	3220	4920
10 PERCENT EXCEEDS	6.9	8.0	11
50 PERCENT EXCEEDS	2.2	4.5	7.4
90 PERCENT EXCEEDS	.00	.09	.26

\* Backwater from ice.



BUFFALO CREEK NEAR HAIGLER



## KANSAS RIVER BASIN

06824000 ROCK CREEK AT PARKS, NE

LOCATION.--Lat 40°02'30", long 101°43'40", in SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.21, T.1 N., R.39 W., Dundy County, Hydrologic Unit 10250002, on right bank at west edge of Parks, 100 ft downstream from county road bridge and 0.6 mi upstream from mouth.

DRAINAGE AREA.--23.6 mi<sup>2</sup>, of which about 20 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1630: 1951(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,093.35 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor. One diversion about 2 mi above station for irrigation of 215 acres; flow regulated at times by reservoir at State fish hatchery 7 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	8.8	8.5	e7.0	8.2	8.1	6.3	9.9	16	13	6.3	12
2	9.1	9.6	8.5	e6.6	8.4	8.2	6.2	11	22	11	7.0	9.7
3	9.1	11	8.6	e6.2	8.1	8.4	6.3	10	15	8.8	6.3	9.5
4	9.1	10	8.4	e6.6	7.6	5.4	6.4	15	7.7	7.2	6.1	8.5
5	9.1	9.5	8.3	e7.0	7.0	6.6	9.1	15	5.0	6.7	7.5	8.0
6	9.1	8.9	8.4	e8.0	7.2	8.4	8.5	14	4.5	6.7	8.0	7.7
7	9.1	8.9	8.5	8.1	7.3	8.0	7.6	13	5.1	6.3	6.2	7.1
8	9.1	9.0	8.5	8.2	7.1	8.5	7.4	12	6.2	5.7	6.0	6.9
9	8.9	8.9	8.7	8.1	6.9	8.6	7.0	12	6.6	5.5	5.8	9.6
10	8.9	9.1	8.7	8.4	7.2	8.1	7.8	12	8.0	5.5	6.2	9.4
11	8.7	9.3	8.9	8.9	8.6	7.9	7.7	12	12	5.3	8.7	9.3
12	8.7	9.1	9.0	8.9	9.6	8.5	7.8	12	11	5.2	8.0	9.1
13	8.6	9.5	9.0	8.9	6.7	9.7	8.0	11	9.7	5.2	6.9	8.9
14	8.3	9.5	9.1	8.7	6.3	9.7	8.6	12	9.3	5.1	6.2	8.7
15	8.3	9.5	9.1	8.6	6.8	8.7	8.6	12	9.0	4.9	6.3	8.6
16	8.5	9.3	9.2	8.7	7.2	7.9	8.6	12	9.9	5.3	8.2	9.0
17	8.6	9.3	9.5	8.7	7.5	7.2	8.6	14	9.8	5.8	37	9.0
18	8.7	9.5	9.5	8.6	7.4	7.6	8.7	12	9.0	5.5	48	8.8
19	8.5	9.5	e7.4	8.6	7.5	7.3	8.9	11	8.5	5.2	12	8.7
20	8.5	9.1	e6.4	8.6	7.6	7.2	8.9	11	8.0	5.3	9.6	8.9
21	8.5	9.1	e5.4	8.6	7.6	6.9	8.4	11	7.5	5.2	8.9	8.8
22	8.3	9.1	e4.6	8.7	7.9	6.9	8.1	11	7.4	4.9	8.6	8.6
23	8.4	9.5	e4.7	8.7	8.4	7.0	8.6	9.6	7.3	4.9	8.3	8.1
24	8.6	9.3	e4.9	8.5	8.3	7.0	8.5	9.4	6.7	4.9	8.4	7.9
25	8.7	9.0	e5.2	8.4	8.2	6.8	11	9.5	6.2	5.0	8.0	8.0
26	8.7	8.6	e7.0	8.7	8.1	6.7	11	9.8	6.2	4.9	7.9	7.9
27	9.0	8.9	e9.0	9.5	8.1	6.1	9.9	9.8	7.6	4.9	7.8	8.0
28	9.4	8.9	e10	8.3	8.2	6.0	9.2	9.8	9.3	4.9	17	10
29	8.9	8.7	e8.2	8.1	---	6.0	8.9	9.9	9.8	4.8	77	11
30	8.5	8.9	e7.6	8.3	---	6.4	8.8	10	13	4.7	32	9.9
31	8.6	---	e7.0	8.3	---	6.5	---	13	---	4.7	15	---
TOTAL	271.2	277.3	245.8	255.5	215.0	232.3	249.4	355.7	273.3	183.0	415.2	265.6
MEAN	8.75	9.24	7.93	8.24	7.68	7.49	8.31	11.5	9.11	5.90	13.4	8.85
MAX	9.4	11	10	9.5	9.6	9.7	11	15	22	13	77	12
MIN	8.3	8.6	4.6	6.2	6.3	5.4	6.2	9.4	4.5	4.7	5.8	6.9
AC-FT	538	550	488	507	426	461	495	706	542	363	824	527

e Estimated

# KANSAS RIVER BASIN

271

06824000 ROCK CREEK AT PARKS, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.5	13.4	13.3	13.4	13.6	13.7	13.7	13.7	13.1	11.9	11.5	11.8
MAX	16.2	19.7	17.1	17.9	17.5	18.1	18.1	19.0	30.3	17.7	18.8	
(WY)	1966	1943	1941	1942	1949	1949	1949	1969	1965	1965	1950	1951
MIN	7.56	8.79	7.93	8.24	7.68	7.49	8.02	7.73	8.31	5.90	7.93	7.72
(WY)	1993	1997	1999	1999	1999	1999	1998	1998	1997	1999	1997	1997

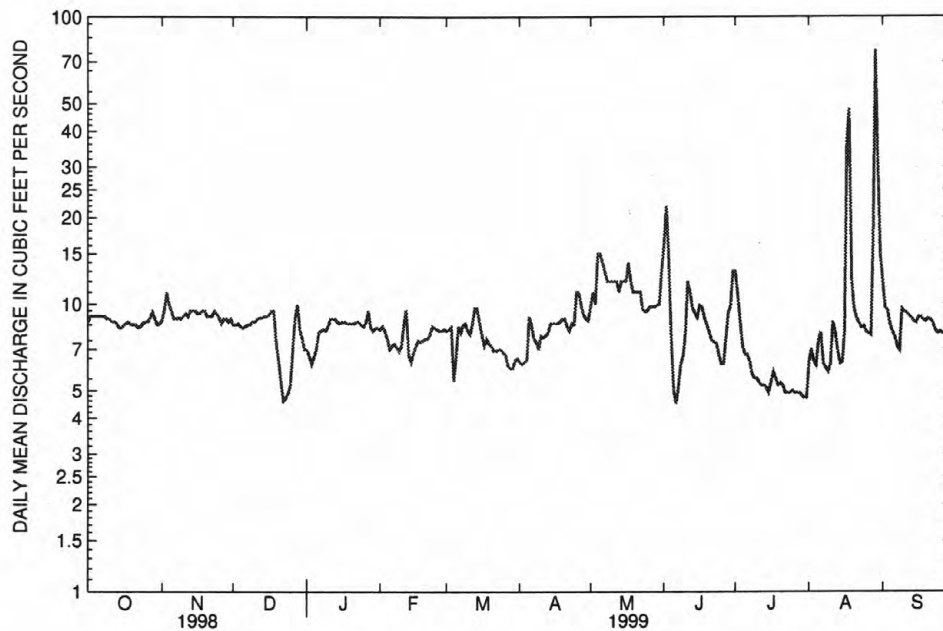
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1941 - 1999

ANNUAL TOTAL	3194.4	3239.3	
ANNUAL MEAN	8.75	8.87	13.0
HIGHEST ANNUAL MEAN			15.8
LOWEST ANNUAL MEAN			8.87
HIGHEST DAILY MEAN	20 Jul 30	77 Aug 29	111 Jul 6 1965
LOWEST DAILY MEAN	4.3 Mar 25	4.5 Jun 6	2.6 Nov 19 1975
ANNUAL SEVEN-DAY MINIMUM	5.5 Dec 20	4.8 Jul 25	3.1 Feb 17 1943
INSTANTANEOUS PEAK FLOW		101 Aug 29	493 Jul 5 1965
INSTANTANEOUS PEAK STAGE		3.27 Aug 29	6.00 Jul 5 1965
ANNUAL RUNOFF (AC-FT)	6340	6430	9390
10 PERCENT EXCEEDS	11	11	16
50 PERCENT EXCEEDS	8.7	8.5	13
90 PERCENT EXCEEDS	7.0	6.0	9.3



ROCK CREEK AT PARKS

## KANSAS RIVER BASIN

06827500 SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN, NE

LOCATION.--Lat 40°00'34", long 101°32'32", in NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.31, T.1 N., R.37 W., Dundy County, Hydrologic Unit 10250003, on right bank 200 ft downstream from bridge on State Highway 61, 1 mi downstream from Kansas-Nebraska State line, 2.5 mi southwest of Benkelman, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--2,740 mi<sup>2</sup>, approximately, of which about 2,190 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1894 to September 1895, October 1902 to November 1906, October 1930 to September 1932, August 1937 to current year. Published as South Fork of Republican River at Benkelman prior to 1906 and as Republican River at Benkelman 1931-32. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1904-6, 1931. WSP 1390: 1940, 1945, 1947. WSP 1919: 1951-52, 1954-56. WSP 2119: Drainage area. WDR NE-97: 1995 (M).

GAGE.--Water-stage recorder. Datum of gage is 2,989.91 ft (REVISED) above sea level. Prior to Dec. 10, 1947, nonrecording gages at several sites within 3.5 mi of present site at various datums. Dec. 10, 1947, to Sept. 28, 1966, water-stage recorder 170 ft upstream at datum 3.00 ft higher and Sept. 29, 1966, to Mar. 7, 1968, at site 300 ft upstream at datum 3.00 ft higher. Mar. 8, 1968, to May 29, 1991, at site 300 ft upstream at datum 1.0 ft higher. May 30, 1991 to Sept. 30, 1998, at present site at datum 1.0 ft higher. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station, and since July 6, 1950, by storage in Bonny Reservoir.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.6	13	e9.6	21	17	23	22	19	28	.00	.00
2	.00	10	e13	e8.6	21	17	23	23	18	63	.01	.00
3	.00	13	e14	e7.6	21	17	23	24	17	33	.02	.00
4	.00	13	e14	e6.0	21	17	23	23	15	21	.00	.00
5	.31	13	e14	e5.2	21	17	26	22	13	15	.00	.00
6	.92	13	e14	e7.0	20	16	29	20	11	12	.00	.00
7	1.0	13	e14	e8.0	21	17	29	19	10	10	.00	.00
8	1.2	13	e14	e9.0	21	17	30	19	9.3	8.6	.00	.00
9	1.4	13	e12	e10	20	17	28	19	8.4	6.9	.00	.00
10	1.3	14	e10	e15	20	17	27	18	7.9	5.6	.00	.00
11	1.3	12	e9.0	19	18	17	26	18	17	4.8	.00	.00
12	1.3	12	e8.0	23	21	17	26	18	18	4.0	.00	.00
13	1.5	12	e9.0	26	20	17	24	18	63	3.0	.00	.00
14	1.9	12	e9.0	26	19	18	21	17	137	2.1	.00	.00
15	2.2	12	e9.0	27	19	20	21	16	87	1.6	.00	.00
16	2.5	12	e9.4	25	18	19	20	16	65	1.2	.00	.00
17	2.3	12	e10	23	18	20	19	19	51	1.3	.00	.00
18	2.7	12	e10	22	18	20	19	18	43	1.0	.00	.00
19	3.0	12	e10	22	18	20	19	17	37	.68	.00	.00
20	3.2	12	e6.0	22	18	20	19	18	31	.47	.00	.00
21	3.6	12	e4.0	22	18	20	19	19	27	.31	.00	.00
22	4.0	13	e3.5	21	18	20	19	18	23	.22	.00	.00
23	4.5	12	2.7	22	18	20	21	16	22	.18	.00	.00
24	4.9	13	3.7	21	18	20	22	15	19	.14	.00	.00
25	5.3	12	e4.0	21	18	20	25	15	17	.11	.00	.00
26	5.8	12	e5.0	21	17	20	29	14	16	.10	.00	.00
27	5.9	13	e6.0	21	17	21	28	15	15	.07	.00	.00
28	7.3	13	e7.0	22	17	22	26	15	15	.03	.00	.00
29	7.3	13	e7.4	22	---	22	25	15	13	.00	.00	.00
30	7.3	13	e7.8	21	---	23	23	16	14	.00	.00	.00
31	8.2	---	e8.8	21	---	23	---	16	---	.00	.00	---
TOTAL	92.13	369.6	281.3	556.0	535	588	712	558	858.6	224.41	0.03	0.00
MEAN	2.97	12.3	9.07	17.9	19.1	19.0	23.7	18.0	28.6	7.24	.001	.000
MAX	8.2	14	14	27	21	23	30	24	137	63	.02	.00
MIN	.00	8.6	2.7	5.2	17	16	19	14	7.9	.00	.00	.00
AC-FT	183	733	558	1100	1060	1170	1410	1110	1700	445	.06	.00

e Estimated

# KANSAS RIVER BASIN

273

06827500 SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.8	21.8	20.9	23.5	39.8	52.2	57.6	72.5	73.8	58.3	34.9	24.6
MAX	160	113	77.0	77.5	121	227	158	396	455	616	383	335
(WY)	1966	1970	1943	1943	1949	1942	1958	1957	1948	1946	1958	1951
MIN	.000	.000	.000	.000	6.62	18.1	12.1	6.57	.077	.000	.000	.000
(WY)	1940	1953	1953	1977	1978	1995	1956	1979	1956	1943	1940	1939

## SUMMARY STATISTICS

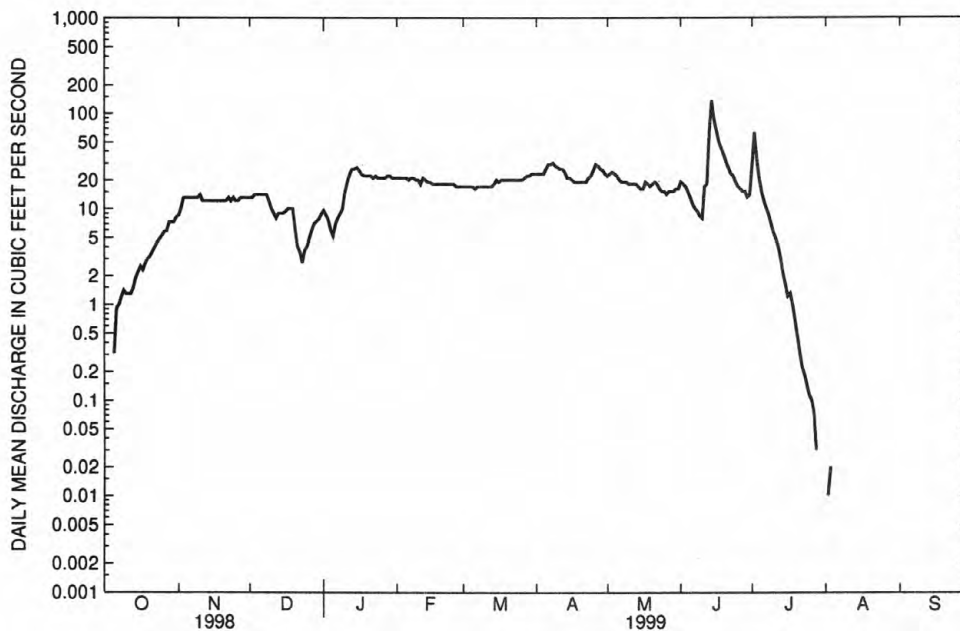
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1938 - 1999

ANNUAL TOTAL	5024.20	4775.07	
ANNUAL MEAN	13.8	13.1	41.4
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			9.79
HIGHEST DAILY MEAN	88	Aug 3	137
LOWEST DAILY MEAN	.00	Jul 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 4	.00
INSTANTANEOUS PEAK FLOW			178
INSTANTANEOUS PEAK STAGE			4.32
ANNUAL RUNOFF (AC-FT)	9970	9470	29970
10 PERCENT EXCEEDS	28	23	87
50 PERCENT EXCEEDS	12	13	20
90 PERCENT EXCEEDS	.04	.00	.00

\* May have been higher during flood of June 24, 1945, site and datum then in use.



SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN

## KANSAS RIVER BASIN

## 06828500 REPUBLICAN RIVER AT STRATTON, NE

LOCATION.--Lat 40°08'28", long 101°13'42", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.13, T.2 N., R.35 W., Hitchcock County, Hydrologic Unit 10250004, on right bank at downstream side of county bridge, 0.5 mi south of Stratton, 0.2 mi downstream from Muddy Creek, 10 mi upstream from Trenton Dam, 19 mi downstream from South Fork Republican River, and at mile 387.

DRAINAGE AREA.--8,200 mi<sup>2</sup>, approximately, of which about 3,690 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WDR NE-73: 1968-71(M), 1972. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,775.49 ft above sea level. Prior to Aug. 1, 1967, at site 0.3 mi downstream at present datum. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated records, which are poor. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir (station 06826000).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	36	61	e54	83	78	67	e94	60	66	.00	40
2	.00	50	62	e50	83	77	61	e90	53	51	.00	19
3	.00	70	63	e45	82	76	63	e88	48	64	.00	14
4	.00	74	62	e43	80	78	65	88	45	36	.00	14
5	.00	75	61	e52	81	74	87	87	39	19	.00	12
6	.00	75	60	e60	76	70	116	71	34	13	.00	11
7	.00	76	59	e60	78	73	111	64	26	8.7	.00	9.5
8	.00	79	56	e56	79	79	101	59	19	5.7	.00	7.6
9	.00	77	e54	e56	76	84	90	e58	16	3.7	.00	6.8
10	.00	78	e50	e60	77	83	84	e56	205	2.8	.00	5.2
11	.00	75	e48	e66	75	80	78	e56	172	2.1	.00	4.0
12	.00	72	e48	e65	72	86	69	e54	91	1.4	.00	3.2
13	.00	71	e47	e65	69	97	63	e54	72	.67	.00	3.1
14	.00	71	e47	e65	75	94	80	53	96	.19	.00	3.1
15	.04	68	e47	e70	80	100	86	48	218	.10	.00	3.1
16	1.3	67	e48	e79	79	98	73	48	157	1.2	.00	3.8
17	2.4	68	e48	e79	79	87	64	62	131	2.4	.00	5.2
18	3.6	68	e45	e79	79	78	59	58	107	1.3	1.5	6.3
19	5.7	66	e42	e79	75	76	54	49	88	.50	85	7.0
20	8.2	66	e36	e79	77	75	51	49	78	.33	69	9.1
21	11	67	e32	e82	75	72	47	48	68	.24	23	11
22	13	68	e32	e81	80	73	47	45	59	.14	9.4	10
23	15	66	e35	e82	82	72	60	41	59	.12	6.0	8.9
24	17	65	e38	81	82	71	66	38	40	.10	5.5	7.7
25	18	63	e43	79	81	68	96	35	27	.06	4.5	7.7
26	18	63	e47	87	81	68	112	34	19	.00	3.4	6.8
27	19	62	e55	81	78	73	e110	32	37	.00	2.3	6.9
28	28	62	e56	82	78	82	e100	30	46	.00	3.5	14
29	31	63	e55	81	---	67	e99	35	40	.00	89	25
30	29	63	e54	79	---	63	e97	33	35	.00	110	27
31	33	---	e55	81	---	67	---	32	---	.00	118	---
TOTAL	253.24	2024	1546	2158	2192	2419	2356	1689	2185	280.75	530.10	312.0
MEAN	8.17	67.5	49.9	69.6	78.3	78.0	78.5	54.5	72.8	9.06	17.1	10.4
MAX	33	79	63	87	83	100	116	94	218	66	118	40
MIN	.00	36	32	43	69	63	47	30	16	.00	.00	3.1
AC-FT	502	4010	3070	4280	4350	4800	4670	3350	4330	557	1050	619

e Estimated

## KANSAS RIVER BASIN

275

06828500 REPUBLICAN RIVER AT STRATTON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.8	90.9	91.3	102	144	180	171	177	146	89.3	66.5	53.4
MAX	285	218	157	159	225	788	388	766	572	759	479	1005
(WY)	1966	1970	1966	1974	1963	1960	1980	1957	1951	1962	1950	1951
MIN	.000	9.52	27.6	22.8	51.6	78.0	75.6	37.9	14.8	.000	.000	.000
(WY)	1977	1979	1979	1979	1995	1999	1972	1992	1998	1954	1952	1952

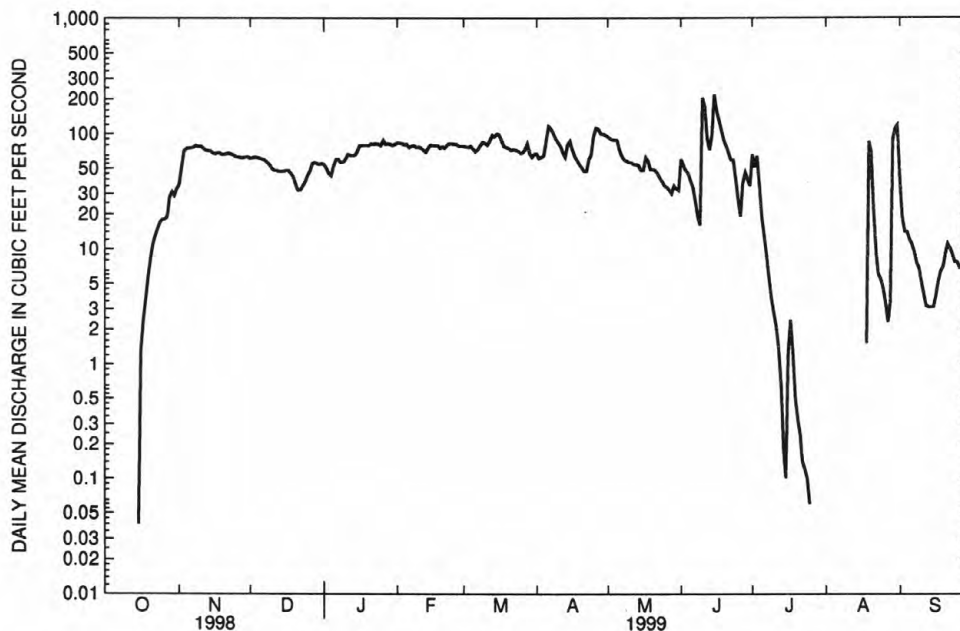
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1950 - 1999

ANNUAL TOTAL	17483.99	17945.09	
ANNUAL MEAN	47.9	49.2	112
MEDIAN OF ANNUAL MEANS			101
HIGHEST ANNUAL MEAN			304
LOWEST ANNUAL MEAN			49.2
HIGHEST DAILY MEAN	993 May 23	218 Jun 15	8180 Aug 1 1962
LOWEST DAILY MEAN	.00 Jun 27	.00 Oct 1	.00 Jun 18 1952
ANNUAL SEVEN-DAY MINIMUM	.00 Jun 27	.00 Oct 1	.00 Jun 18 1952
INSTANTANEOUS PEAK FLOW		474 Jun 10	26800 Jul 31 1962
INSTANTANEOUS PEAK STAGE		8.02 Jun 10	9.34 Jul 31 1962
ANNUAL RUNOFF (AC-FT)	34680	35590	81290
10 PERCENT EXCEEDS	90	85	219
50 PERCENT EXCEEDS	49	56	85
90 PERCENT EXCEEDS	.00	.00	.00



REPUBLICAN RIVER AT STRATTON



## KANSAS RIVER BASIN

## 06832000 ENDERS RESERVOIR NEAR ENDERS, NE

LOCATION.--Lat 40°25'05", long 101°30'55", in NE 1/4 sec.9, T.5 N., R.37 W., Chase County, Hydrologic Unit 10250005, near right bank in control house at outlet tube of Enders Dam on Frenchman Creek, 2.2 mi southeast of Enders.

DRAINAGE AREA.--950 mi<sup>2</sup>, approximately, of which about 790 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorders: Graphic recorder and Sutron 8400 data-logger, installed Dec. 15, 1997 Datum of gage is sea level. Prior to Sept. 3, 1960, mercury-column pressure gage at same datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 23, 1950. Capacity, 36,010 acre-ft between elevations 3,080.0 ft, sill of outlet gates, and 3,112.3 ft, top of storage pool. Top of flood-control pool at elevation 3,127.0 ft, capacity, 74,520 acre-ft. Top of superstorage flood-control pool at elevation 3,129.5 ft, capacity, 80,730 acre-ft. Dead storage, 8,470 acre-ft. Figures given herein represent total contents. Water used for irrigation in Frenchman-Cambridge irrigation project.

COOPERATION.--Capacity table furnished by Bureau of Reclamation (Effective Jan. 1, 1999).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,330 acre-ft Mar. 25, 1960, elevation, 3,118.20 ft; minimum since operation of reservoir began, 8,870 acre-ft Aug. 28, 1978, elevation, 3,080.67 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,250 acre-ft June 28, elevation, 3,099.38 ft; minimum, 14,220 acre-ft Aug. 17, elevation, 3,089.65 ft.

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

3,085	10,670	3,100	25,000
3,090	14,510	3,110	39,090

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16690	17810	19110	18670	19810	20710	21650	22680	23500	24090	16610	15320
2	16730	17930	19150	18680	19870	20720	21660	22730	23510	24140	16500	15390
3	16770	17970	19200	18710	19870	20810	21690	22790	23570	24100	16420	15400
4	16840	18020	19240	18770	19920	20790	21740	22780	23680	23970	16310	15430
5	16860	18060	19250	18810	19940	20790	21840	22800	23710	23730	16220	15480
6	16860	18110	19260	18840	19960	20800	21900	22760	23710	23470	16140	15530
7	16890	18190	19300	18900	20030	20830	21900	22800	23720	23160	16000	15540
8	16940	18210	19330	18920	20050	20880	21940	22820	23720	22800	15830	15570
9	16980	18290	19370	18970	20080	20890	22010	22850	23720	22450	15650	15580
10	17010	18290	19390	19000	20080	20960	22010	22860	23800	22110	15630	15620
11	17010	18340	19390	19050	20100	20980	22020	22890	23920	21780	15510	15640
12	17030	18400	19440	19090	20140	21060	22060	22900	23930	21490	15380	15650
13	17090	18430	19490	19130	20190	21110	22080	22930	23960	21180	15250	15670
14	17120	18450	19550	19170	20260	21160	22050	23040	23980	20870	15100	15680
15	17150	18530	19560	19200	20250	21220	22210	23050	23950	20580	14810	15700
16	17190	18550	19600	19250	20290	21250	22040	23090	23960	20310	14480	15740
17	17200	18590	19650	19290	20330	21240	22070	23130	23960	20100	14280	15800
18	17240	18630	19650	19340	20340	21270	22110	23170	23980	19930	14320	15870
19	17260	18650	19660	19370	20390	21290	22170	23250	24020	19710	14420	15860
20	17300	18690	19690	19400	20420	21340	22210	23250	24030	19520	14480	15900
21	17370	18740	19720	19420	20420	21350	22230	23290	24040	19300	14570	15950
22	17400	18780	19750	19460	20480	21360	22240	23340	24050	19040	14630	16010
23	17460	18800	19780	19510	20520	21420	22290	23350	24050	18780	14680	16050
24	17510	18850	19820	19520	20570	21450	22350	23380	24080	18520	14720	16100
25	17530	18880	19880	19550	20610	21460	22490	23380	24050	18180	14770	16110
26	17570	18910	19910	19610	20640	21490	22510	23380	23950	17910	14790	16080
27	17590	18960	19960	19620	20630	21560	22570	23410	24090	17640	14810	16100
28	17670	19010	20010	19670	20680	21560	22570	23420	24210	17370	14910	16190
29	17710	19050	20040	19700	---	21590	22600	23470	24210	17140	15030	16250
30	17720	19070	20070	19740	---	21620	22620	23480	24110	16940	15170	16270
31	17770	---	20110	19770	---	21670	---	23460	---	16730	15270	---
MAX	17770	19070	20110	19770	20680	21670	22620	23480	24210	24140	16610	16270
MIN	16690	17810	19110	18670	19810	20710	21650	22680	23500	16730	14280	15320
(*)	3092.07	3093.38	3094.39	3095.48	3096.31	3097.19	3098.01	3098.72	3099.27	3092.48	3090.88	3091.99
(**)	+1130	+1300	+1040	[+1150]	+910	+990	+950	+840	+650	-7380	-1460	+1000
CAL YR	1998	MAX	29530	MIN	15650	(**)	-4300					
WTR YR	1999	MAX	24210	MIN	14280	(**)	[+989]					

(\*) Elevation, in feet, at end of month.

(\*\*) Change in contents, in acre-feet.

[ ] True change in contents using new rating table (effective Jan. 1, 1999).

## KANSAS RIVER BASIN

277

## 06834000 FRENCHMAN CREEK AT PALISADE, NE

LOCATION.--Lat 40°21'07", long 101°07'24", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 36, T.5 N., R. 34 W., Hayes County, Hydrologic Unit 10250005, on right bank at upstream side of bridge on U.S. Highway 6, 0.7 mi west of Palisade, 1.5 mi upstream from Stinking Water Creek, and at mile 30.2.

DRAINAGE AREA.--1,300 mi<sup>2</sup>, approximately, of which about 1,110 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1894 to October 1896, June 1950 to current year. Published as Frenchman River at Palisade, October 1894 to October 1896 and October 1965 to September 1972.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,743.49 ft above sea level. October 1894 to October 1896, nonrecording gage at railroad bridge 0.4 mi downstream at different datum; June 1950 to Feb. 7, 1977, recording gage at site 2,000 ft upstream at datum 4.0 ft higher.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and, since Oct. 23, 1950, by storage in Enders Reservoir (station 06832000).

COOPERATION.--Records provided by Nebraska Department of Water Resources and reviewed by the Geological Survey.

CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	22	28	27	27	26	26	27	23	55	105	37
2	19	24	27	26	27	26	24	28	22	74	119	34
3	20	27	27	24	28	26	25	29	21	43	112	33
4	20	26	28	23	28	27	25	28	21	31	96	37
5	20	24	28	23	28	26	28	27	20	51	92	32
6	20	24	27	25	27	25	28	25	19	77	104	31
7	19	25	26	26	27	25	27	25	18	104	99	30
8	19	25	26	25	28	24	28	25	17	133	95	28
9	19	25	27	26	27	24	29	25	17	145	101	27
10	19	26	27	27	28	25	30	26	26	148	107	27
11	18	27	27	28	27	26	29	25	45	146	247	26
12	18	27	26	28	27	26	28	25	42	148	416	26
13	18	27	27	27	26	25	28	25	28	148	145	26
14	19	27	28	28	26	25	30	25	24	147	121	25
15	19	27	30	27	28	27	28	25	23	146	114	25
16	20	27	29	26	26	28	28	27	22	144	158	25
17	19	26	30	25	26	27	28	28	22	129	178	25
18	19	26	30	26	27	26	28	26	20	127	324	25
19	19	26	29	27	26	26	27	25	20	122	159	24
20	19	25	28	27	26	26	28	25	20	118	82	24
21	19	26	27	27	26	26	28	25	20	116	67	24
22	19	27	26	26	25	26	28	25	21	120	59	24
23	20	26	27	27	25	26	29	23	25	125	54	23
24	20	26	27	26	25	26	29	23	22	125	49	22
25	19	27	25	27	26	26	31	22	20	128	45	22
26	20	27	24	26	26	26	32	22	18	215	43	21
27	20	27	23	27	26	26	30	22	21	141	40	20
28	21	27	25	27	26	26	28	21	40	138	39	22
29	21	27	25	28	---	26	28	21	125	134	76	24
30	21	27	24	26	---	25	27	21	65	135	59	24
31	21	---	26	26	---	25	---	20	---	109	41	---
TOTAL	600	780	834	814	745	800	842	766	847	3722	3546	793
MEAN	19.4	26.0	26.9	26.3	26.6	25.8	28.1	24.7	28.2	120	114	26.4
MAX	21	27	30	28	28	28	32	29	125	215	416	37
MIN	16	22	23	23	25	24	24	20	17	31	39	20
AC-FT	1190	1550	1650	1610	1480	1590	1670	1520	1680	7380	7030	1570

## KANSAS RIVER BASIN

06834000 FRENCHMAN CREEK AT PALISADE, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	39.9	35.6	35.6	37.5	42.8	47.9	47.4	53.3	71.7	184	173	69.5
MAX	120	88.9	97.4	102	147	247	198	151	270	340	367	232
(WY)	1963	1959	1959	1953	1952	1960	1960	1957	1967	1968	1962	1962
MIN	16.5	23.1	21.6	19.3	23.9	25.8	21.6	20.4	19.5	67.0	38.5	8.32
(WY)	1991	1990	1990	1979	1993	1999	1972	1992	1992	1951	1990	1990

## SUMMARY STATISTICS

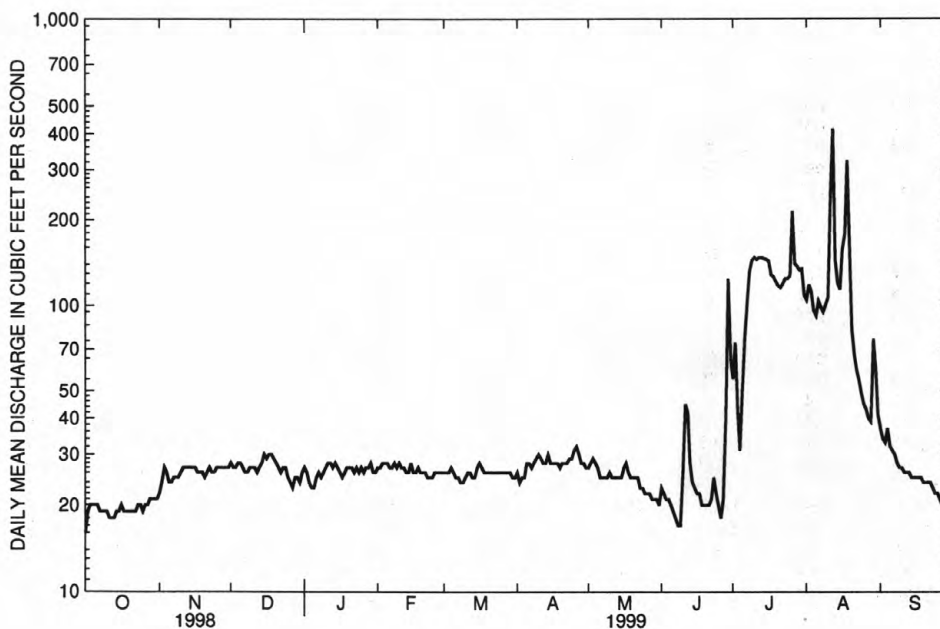
## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

WATER YEARS 1950 - 1999  
(SINCE STORAGE IN ENDERS RESERVOIR)

ANNUAL TOTAL	15541		15089		70.5	
ANNUAL MEAN	42.6		41.3		115	1960
HIGHEST ANNUAL MEAN					37.9	1991
LOWEST ANNUAL MEAN					2090	Jun 17 1956
HIGHEST DAILY MEAN	351	Aug 12	416	Aug 12	5.4	Sep 14 1990
LOWEST DAILY MEAN	13	Jun 19	16	Oct 1	5.8	Sep 4 1990
ANNUAL SEVEN-DAY MINIMUM	15	Jun 14	19	Oct 7		Jun 17 1956
INSTANTANEOUS PEAK FLOW			637	Aug 12	5560	Jun 17 1956
INSTANTANEOUS PEAK STAGE			7.80	Aug 12	*8.79	Jun 17 1956
ANNUAL RUNOFF (AC-FT)	30830		29930		51070	
10 PERCENT EXCEEDS	133		108		164	
50 PERCENT EXCEEDS	26		26		38	
90 PERCENT EXCEEDS	18		20		23	

\* Site and datum then in use.



FRENCHMAN CREEK AT PALISADE

## KANSAS RIVER BASIN

279

## 06835500 FRENCHMAN CREEK AT CULBERTSON, NE

LOCATION.--Lat 40°14'05", long 100°52'40", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 12, T. 3 N., R. 32 W., Hitchcock County, Hydrologic Unit 10250005, on right bank 8 ft upstream from bridge on U.S. Highways 6 and 34, 2 mi west of Culbertson, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--2,990 mi<sup>2</sup>, of which about 1,590 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--June 1913 to September 1915 (gage heights and discharge measurements only), October 1930 to current year. Published as Frenchman River at Culbertson October 1965 to September 1972. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1931, 1933, 1934(M), 1938(M). WDR NE-84-1: 1979, 1982(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,583.44 ft above sea level. See WSP 1919 for history of changes prior to Nov. 2, 1950. Data collection platform at station.

REMARKS.--Records good except for estimated periods, which are poor. Natural flow affected by irrigation development above station and, since Oct. 23, 1950, by storage in Enders Reservoir (station 06832000). Principal diversion is by Culbertson Canal, 20,800 acres.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	45	56	e44	59	59	29	27	23	46	3.4	152
2	26	47	56	e40	59	59	27	26	19	44	3.6	209
3	34	51	56	e35	59	59	26	26	18	46	5.9	125
4	32	51	56	e41	58	59	25	27	18	29	6.2	80
5	33	51	56	e32	58	59	26	28	17	17	5.0	71
6	27	52	55	e33	58	58	34	26	17	15	4.5	65
7	29	52	54	e34	58	58	37	23	17	16	6.0	59
8	30	52	52	e40	58	59	38	21	17	16	5.5	48
9	30	53	51	e46	58	60	37	21	16	16	4.3	57
10	35	53	e51	e52	59	60	37	21	20	15	6.0	52
11	33	52	e51	e54	58	60	37	21	32	14	33	47
12	28	52	e51	e56	56	60	36	20	36	13	83	46
13	39	52	e52	e58	56	61	36	20	35	11	215	43
14	34	52	e51	59	58	61	36	20	23	11	98	42
15	35	53	e51	60	58	62	31	21	17	9.5	92	35
16	36	53	e50	61	59	63	25	20	14	8.4	74	39
17	38	53	e49	61	59	63	23	21	12	8.2	40	44
18	37	53	e48	60	59	62	23	21	14	7.4	70	48
19	37	53	e43	60	59	60	23	20	14	7.0	119	48
20	38	53	e33	60	58	60	23	20	15	6.7	29	48
21	38	53	e28	60	58	59	22	20	20	6.8	16	46
22	39	54	e26	59	58	59	23	20	16	5.7	26	47
23	39	54	e29	59	59	59	22	20	16	4.7	20	47
24	41	54	e33	58	59	58	22	19	15	4.4	16	46
25	41	54	e40	57	59	58	25	19	14	4.0	14	45
26	41	54	e45	58	60	59	28	18	12	4.8	29	46
27	42	55	e47	58	59	59	29	18	13	28	65	44
28	44	55	e48	57	59	60	30	18	14	18	51	44
29	43	55	e45	57	---	53	29	18	17	5.5	106	46
30	43	56	e45	58	---	39	27	18	43	3.9	119	49
31	44	---	e45	58	---	32	---	17	---	3.5	182	---
TOTAL	1107	1577	1453	1625	1635	1797	866	655	574	445.5	1547.4	1818
MEAN	35.7	52.6	46.9	52.4	58.4	58.0	28.9	21.1	19.1	14.4	49.9	60.6
MAX	44	56	56	61	60	63	38	28	43	46	215	209
MIN	21	45	26	32	56	32	22	17	12	3.5	3.4	35
AC-FT	2200	3130	2880	3220	3240	3560	1720	1300	1140	884	3070	3610

e Estimated

## KANSAS RIVER BASIN

06835500 FRENCHMAN CREEK AT CULBERTSON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	72.0	82.7	81.4	81.9	100	113	79.9	66.5	79.1	49.9	39.1	58.2
MAX	172	146	162	182	210	543	290	222	351	269	258	245
(WY)	1963	1963	1959	1953	1952	1960	1960	1952	1967	1962	1962	1951
MIN	27.7	46.8	46.9	42.9	57.1	58.0	28.9	18.0	13.7	2.90	2.25	1.70
(WY)	1991	1991	1999	1996	1996	1999	1999	1986	1998	1990	1986	1990

## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

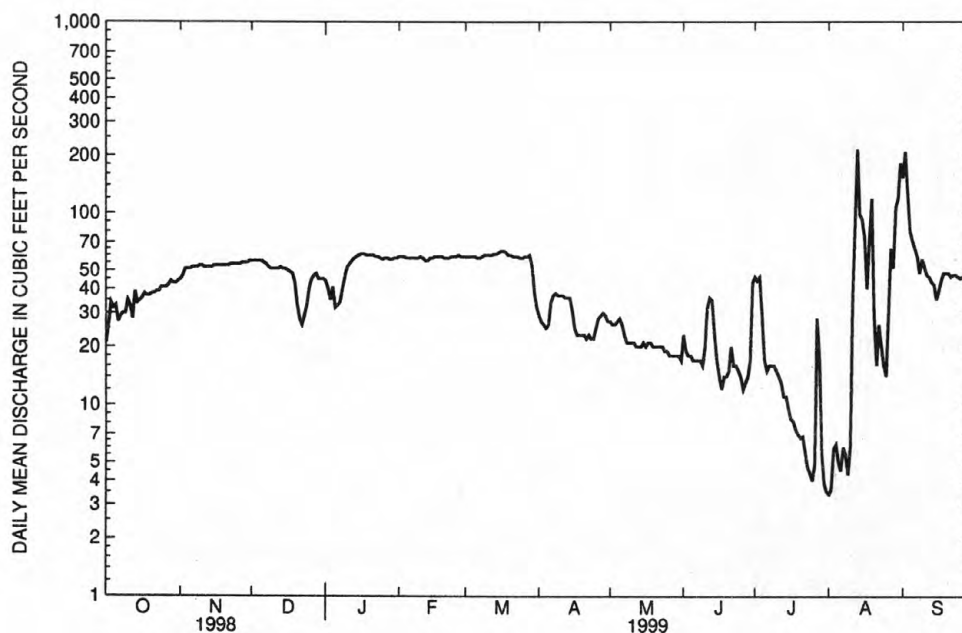
## FOR 1999 WATER YEAR

## WATER YEARS 1951 - 1999

(SINCE STORAGE IN ENDERS RESERVOIR)

ANNUAL TOTAL	13673.8	15099.9	75.1
ANNUAL MEAN	37.5	41.4	165
HIGHEST ANNUAL MEAN			35.7
LOWEST ANNUAL MEAN			3060
HIGHEST DAILY MEAN	132 Aug 13	215 Aug 13	3060 Jun 18 1956
LOWEST DAILY MEAN	2.3 Jul 20	3.4 Aug 1	.00 Aug 7 1980
ANNUAL SEVEN-DAY MINIMUM	3.1 Jul 15	4.5 Jul 30	.26 Aug 3 1980
INSTANTANEOUS PEAK FLOW		246 Aug 13	15000 May 31 1935
INSTANTANEOUS PEAK STAGE		5.50 Aug 13	*14.80 May 31 1935
ANNUAL RUNOFF (AC-FT)	27120	29950	54420
10 PERCENT EXCEEDS	68	60	130
50 PERCENT EXCEEDS	35	43	65
90 PERCENT EXCEEDS	7.4	14	18

\* From floodmark.



FRENCHMAN CREEK AT CULBERTSON



## KANSAS RIVER BASIN

281

06836500 DRIFTWOOD CREEK NEAR MCCOOK, NE

LOCATION.--Lat 40°08'45", long 100°40'22", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.11, T.2 N., R.30 W., Red Willow County, Hydrologic Unit 10250004, on right bank downstream from county road bridge, 5.8 mi upstream from mouth, and 3.5 mi southwest of McCook.

DRAINAGE AREA.--361 mi<sup>2</sup>, of which about 351 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--March 1946 to current year.

REVISED RECORDS.--WSP 1210: 1950. WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,502.78 ft above sea level. Prior to Oct. 12, 1962, at site 1.5 mi downstream in old channel at datum 9.00 ft lower, Oct. 12, 1962, to Apr. 11, 1963, at site 1.8 mi downstream at datum 12.75 ft lower, Apr. 12, 1963 to Apr. 22, 1982 at site 1.3 mi downstream at datum 9.00 ft lower, and Apr. 22, 1982 to May 29, 1992, at site 3.2 mi downstream at datum 17.55 ft lower.

REMARKS.--Records fair. Natural flow affected by waste from Meeker-Driftwood Canal and by irrigation development above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.8	4.3	4.6	4.4	4.5	4.5	4.2	18	7.6	4.8	13
2	4.3	5.9	4.3	e3.5	4.4	4.4	4.4	4.2	13	6.2	6.2	7.6
3	3.9	6.5	4.4	e3.6	4.4	4.4	4.4	4.5	13	3.6	8.7	7.2
4	3.7	5.3	4.4	3.6	4.4	4.4	4.4	4.2	13	3.2	6.7	12
5	3.7	4.8	4.4	e4.5	4.4	4.4	4.8	3.8	9.6	4.3	6.5	6.4
6	3.6	4.8	4.3	4.9	4.4	4.3	5.6	3.4	9.8	5.1	8.9	3.0
7	3.6	5.1	4.3	4.7	4.4	4.3	4.9	3.4	11	4.7	5.8	2.9
8	3.6	5.2	4.2	4.6	4.5	4.4	4.8	3.4	12	4.6	4.2	3.9
9	3.6	5.1	4.3	4.7	4.4	4.7	4.5	3.5	13	8.7	2.8	3.2
10	3.6	5.5	4.3	4.6	4.4	4.7	4.6	3.5	15	7.0	3.9	2.1
11	3.6	5.1	4.3	4.6	4.4	4.6	4.5	3.4	43	6.1	30	2.0
12	3.6	5.1	4.4	4.7	4.3	4.5	4.3	3.3	5.3	9.0	37	2.0
13	3.8	5.1	4.4	4.6	4.4	4.7	4.2	3.1	4.2	10	14	2.0
14	4.0	5.1	4.4	4.6	4.7	4.7	4.5	3.1	2.4	14	11	2.1
15	4.1	4.9	4.4	4.6	4.8	4.8	4.4	3.2	2.3	20	11	2.0
16	4.3	4.9	4.4	4.6	4.6	4.8	4.3	3.2	2.2	34	6.7	1.9
17	4.4	4.9	4.4	4.6	4.6	4.7	4.1	3.2	2.4	108	8.6	2.4
18	4.4	4.8	4.4	4.6	4.7	4.4	4.1	2.9	2.6	65	102	2.5
19	4.3	4.6	4.3	4.6	4.6	4.3	4.1	2.7	2.9	11	42	2.4
20	4.2	4.6	4.3	4.6	4.5	4.3	4.1	2.7	3.1	8.2	16	2.7
21	4.3	4.6	4.2	4.6	4.5	4.3	4.0	2.8	3.4	9.2	8.5	2.9
22	4.3	4.7	e1.4	4.6	4.6	4.2	4.0	34	2.6	8.4	8.0	2.7
23	4.4	4.6	e1.6	4.5	4.7	4.2	4.2	147	13	7.8	7.3	2.7
24	4.6	4.6	e2.1	4.5	4.7	4.2	4.2	13	4.6	7.1	7.2	3.4
25	4.6	4.6	e3.0	4.5	4.6	4.2	4.6	7.5	9.2	7.8	7.4	5.4
26	4.5	4.5	e4.5	4.5	4.6	4.2	5.4	5.6	7.9	9.1	9.7	5.6
27	4.5	4.5	4.9	4.6	4.5	4.2	5.8	5.2	8.8	9.0	9.8	5.8
28	4.9	4.5	4.8	4.4	4.5	4.6	4.9	5.8	7.9	9.0	7.9	6.4
29	5.0	4.5	4.7	4.4	---	4.6	4.5	6.6	7.8	7.0	21	7.2
30	4.7	4.4	4.6	4.4	---	4.3	4.4	7.9	5.0	7.0	22	7.2
31	4.7	---	4.5	4.4	---	4.5	---	8.5	---	5.8	18	---
TOTAL	128.1	147.6	127.2	138.8	126.4	137.8	135.5	312.8	268.0	427.5	463.6	132.6
MEAN	4.13	4.92	4.10	4.48	4.51	4.45	4.52	10.1	8.93	13.8	15.0	4.42
MAX	5.0	6.5	4.9	4.9	4.8	4.8	5.8	147	43	108	102	13
MIN	3.3	4.4	1.4	3.5	4.3	4.2	4.0	2.7	2.2	3.2	2.8	1.9
AC-FT	254	293	252	275	251	273	269	620	532	848	920	263

e Estimated



## KANSAS RIVER BASIN

06836500 DRIFTWOOD CREEK NEAR MCCOOK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.21	3.70	3.59	3.56	5.77	7.93	4.28	9.84	18.0	20.3	16.9	13.6
MAX	137	7.71	7.44	7.96	31.4	209	13.3	112	85.8	100	156	302
(WY)	1947	1998	1974	1974	1960	1960	1977	1957	1947	1956	1950	1951
MIN	.071	.083	.077	.052	.048	.039	.20	.19	.23	.052	.055	.040
(WY)	1956	1956	1955	1955	1956	1956	1948	1956	1954	1955	1946	1953

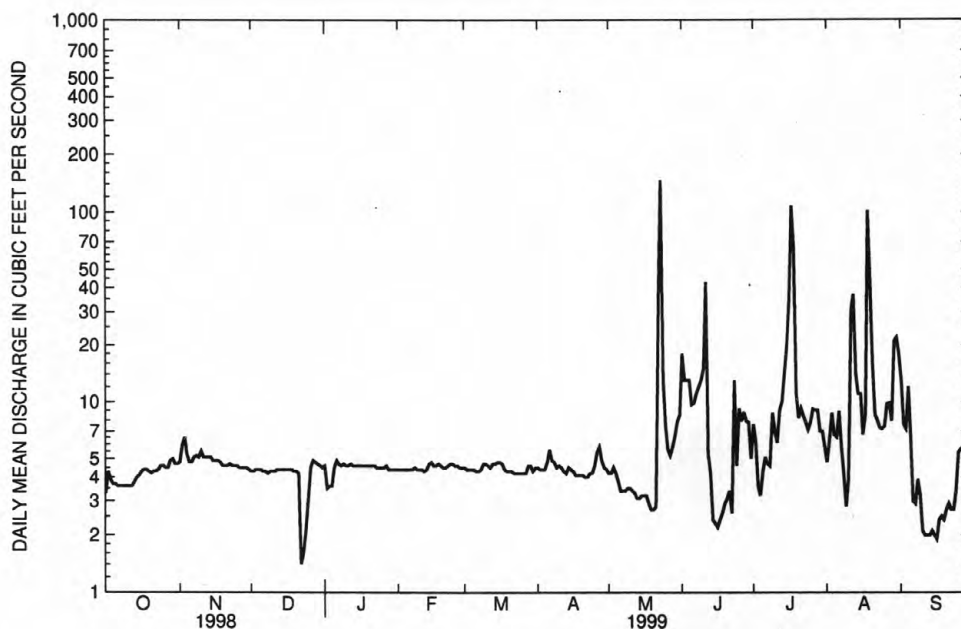
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1946 - 1999

ANNUAL TOTAL	2092.2	2545.9	
ANNUAL MEAN	5.73	6.98	9.60
MEDIAN OF ANNUAL MEANS			7.60
HIGHEST ANNUAL MEAN			35.0
LOWEST ANNUAL MEAN			1.12
HIGHEST DAILY MEAN	29 Jul 10	147 May 23	3950 Aug 7 1950
LOWEST DAILY MEAN	1.4 Dec 22	1.4 Dec 22	.00 Apr 25 1946
ANNUAL SEVEN-DAY MINIMUM	3.0 Dec 19	2.0 Sep 10	.00 Jun 12 1946
INSTANTANEOUS PEAK FLOW		422 May 23	4740 Aug 7 1950
INSTANTANEOUS PEAK STAGE		11.30 May 23	25.43 Aug 7 1950
ANNUAL RUNOFF (AC-FT)	4150	5050	6950
10 PERCENT EXCEEDS	8.4	9.6	11
50 PERCENT EXCEEDS	5.1	4.5	4.8
90 PERCENT EXCEEDS	3.9	3.2	.20



DRIFTWOOD CREEK NEAR MCCOOK

## KANSAS RIVER BASIN

283

## 06837000 REPUBLICAN RIVER AT MCCOOK, NE

LOCATION.--Lat 40°11'15", long 100°37'05", in SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.32, T.3 N., R.29 W., Red Willow County, Hydrologic Unit 10250004, on left bank at downstream side of bridge on U.S. Highway 83 at south edge of McCook, 2.5 mi downstream from Driftwood Creek, 10.5 mi upstream from Red Willow Creek, and at mile 348.

DRAINAGE AREA.--12,240 mi<sup>2</sup>, of which about 6,220 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to June 1932, October 1954 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,456.37 ft above sea level. October 1930 to June 1932, nonrecording gage on former highway bridge 300 ft upstream at different datum, and October 1954 to Mar. 13, 1959, on highway bridge 25 ft upstream at present datum. Mar. 13, 1959 to Mar. 29, 1988 at present site and datum. Mar. 29, 1988 to Oct. 31, 1989, 200 ft downstream at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are fair. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir, Enders Reservoir (station 06832000), and Swanson Lake (station 06829000).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	52	77	e44	75	87	64	60	79	140	98	196
2	26	60	74	e40	74	84	55	62	63	120	110	197
3	27	63	78	e39	79	73	53	63	55	108	105	205
4	30	57	79	e37	79	79	47	63	53	107	88	138
5	30	56	78	e39	86	82	54	58	49	109	82	111
6	31	57	69	e41	81	76	60	56	44	108	85	89
7	30	60	66	e43	79	72	64	56	43	107	70	78
8	32	60	64	e47	85	73	65	54	43	104	56	64
9	33	62	63	e49	82	79	63	56	43	101	51	61
10	33	63	65	e53	87	80	63	56	62	105	51	64
11	37	62	65	e59	78	79	61	52	155	105	169	58
12	34	62	69	e60	74	80	61	50	117	107	149	54
13	35	65	72	e64	76	83	62	52	87	108	153	50
14	42	68	71	e70	84	83	63	53	78	104	167	49
15	42	70	72	e75	85	92	63	56	69	122	104	45
16	43	71	69	e80	80	101	56	56	63	161	104	43
17	41	68	73	e85	82	100	54	56	58	143	113	46
18	43	71	74	e87	83	94	53	52	56	232	252	50
19	44	66	71	e90	74	90	53	52	56	107	247	51
20	42	64	e64	e90	74	89	55	54	56	96	129	50
21	44	63	e57	89	72	87	55	55	56	93	67	50
22	48	70	e47	84	71	85	55	61	56	92	70	49
23	51	70	e37	80	75	83	53	455	52	91	80	50
24	53	68	e34	76	84	83	52	100	63	90	76	50
25	54	72	e36	71	89	80	59	70	51	110	73	50
26	56	73	e37	74	89	79	80	62	78	119	76	48
27	55	72	e40	75	86	83	73	57	127	133	125	47
28	59	70	e40	74	85	90	66	53	121	144	138	47
29	59	70	e40	73	---	88	62	51	118	132	145	47
30	54	72	e44	76	---	81	61	50	130	110	170	50
31	53	---	e45	75	---	70	---	51	---	103	169	---
TOTAL	1285	1957	1870	2039	2248	2585	1785	2182	2181	3611	3572	2187
MEAN	41.5	65.2	60.3	65.8	80.3	83.4	59.5	70.4	72.7	116	115	72.9
MAX	59	73	79	90	89	101	80	455	155	232	252	205
MIN	24	52	34	37	71	70	47	50	43	90	51	43
AC-FT	2550	3880	3710	4040	4460	5130	3540	4330	4330	7160	7090	4340

e Estimated

## KANSAS RIVER BASIN

06837000 REPUBLICAN RIVER AT MCCOOK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	99.7	112	109	112	151	180	163	176	191	217	176	101
MAX	466	341	321	269	398	901	577	1022	1070	1142	970	286
(WY)	1966	1966	1959	1959	1958	1960	1958	1957	1962	1962	1962	1962
MIN	30.0	62.4	51.7	59.7	75.2	77.3	57.1	22.6	39.8	104	66.1	6.03
(WY)	1992	1991	1996	1979	1995	1996	1998	1956	1992	1980	1978	1991

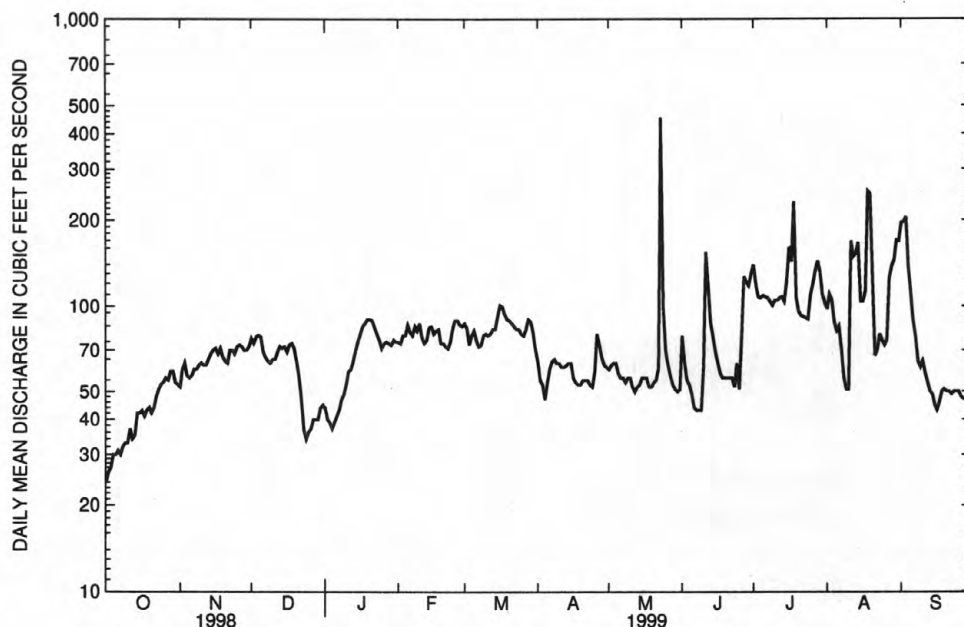
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1955 - 1999

ANNUAL TOTAL	27601	27502	
ANNUAL MEAN	75.6	75.3	149
HIGHEST ANNUAL MEAN			383
LOWEST ANNUAL MEAN			70.1
HIGHEST DAILY MEAN	236	455	5020
LOWEST DAILY MEAN	13	24	.99
ANNUAL SEVEN-DAY MINIMUM	15	28	1.3
INSTANTANEOUS PEAK FLOW		922	5890
INSTANTANEOUS PEAK STAGE		6.05	9.14
ANNUAL RUNOFF (AC-FT)	54750	54550	107900
10 PERCENT EXCEEDS	116	110	264
50 PERCENT EXCEEDS	71	69	109
90 PERCENT EXCEEDS	30	44	57



REPUBLICAN RIVER AT MCCOOK

## KANSAS RIVER BASIN

285

## 06838000 RED WILLOW CREEK NEAR RED WILLOW, NE

LOCATION.--Lat 40°14'10", long 100°30'00", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.17, T.3 N., R.28 W., Red Willow County, Hydrologic Unit 10250007, on left bank near downstream side of bridge on U.S. Highways 6 and 34, 0.8 mi north of Red Willow and 2.1 mi upstream from mouth.

DRAINAGE AREA.--820 mi<sup>2</sup>, of which about 405 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--September 1939 to current year.

REVISED RECORDS.--WSP 1510: 1945(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,398.64 ft above sea level. Prior to May 26, 1945, nonrecording gage at bridge 1.2 mi upstream at datum 11.16 ft higher; May 26, 1945, to Aug. 2, 1974, water-stage recorder at left downstream side of bridge, present datum; Aug. 3, 1974, to June 27, 1980, on right bank at downstream side of bridge, present datum; and June 28, 1980 to May 19, 1992, at left downstream side of bridge, present datum. Data collection platform at station.

REMARKS.--Records poor. Natural flow affected by irrigation development above station, since Sept. 5, 1961, by storage in Hugh Butler Lake (station 06837390), and since June 1963 by Red Willow Canal which diverts 4.5 mi above station for irrigation of about 4,150 acres.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	e8.0	8.8	e.20	6.5	8.7	e9.0	8.6	9.8	.57	.09	6.1
2	7.7	e8.0	8.8	.12	6.5	8.8	e9.0	8.9	7.4	2.0	7.1	4.1
3	6.2	e8.0	8.9	.18	7.2	8.8	e9.0	9.7	7.1	4.5	15	9.7
4	6.1	e8.2	8.9	e.25	7.6	9.1	e9.0	8.4	7.4	4.2	8.8	7.6
5	5.8	e8.2	8.6	e.40	8.2	9.6	e9.0	8.6	7.0	6.3	5.5	6.8
6	5.8	e8.2	8.7	e.50	8.2	9.0	e9.0	8.2	6.7	4.3	4.6	6.5
7	5.6	8.4	8.6	e.60	8.1	8.4	e8.8	8.4	6.7	.59	2.3	6.3
8	5.6	8.5	e8.0	.47	8.3	9.0	e8.8	8.0	6.7	e.70	.74	5.9
9	5.3	8.4	e7.4	e.40	8.4	9.2	e8.8	8.1	6.4	e1.0	.34	6.4
10	5.4	8.5	e8.0	e.30	8.7	8.9	e8.8	7.8	10	e1.6	1.5	6.2
11	5.0	11	e8.4	e.80	8.8	8.8	e8.8	8.0	16	e1.0	206	6.0
12	4.5	7.9	e8.4	e3.0	9.9	e9.0	e8.8	8.1	8.6	e2.0	95	5.8
13	4.9	7.9	8.3	e5.0	8.7	e9.0	8.7	8.4	7.0	e2.5	8.2	6.0
14	5.1	8.0	8.3	e3.0	9.2	e9.0	9.6	8.4	6.9	e1.2	9.0	5.9
15	4.8	8.0	8.3	e3.5	9.3	e9.0	9.5	9.1	6.9	e3.0	9.3	5.9
16	4.9	8.2	8.5	e4.5	9.3	e9.0	8.8	8.3	7.3	18	8.9	6.1
17	4.9	8.4	8.4	e8.0	9.2	e9.0	8.8	8.6	8.2	14	8.5	6.2
18	4.7	8.3	8.3	e11	9.0	e9.0	8.8	8.0	e8.0	17	49	6.1
19	4.7	8.3	8.4	e9.5	9.1	e9.0	9.0	7.7	e8.0	25	18	6.1
20	4.6	8.4	e6.0	e6.5	9.3	e9.0	9.1	7.9	e8.0	e13	13	5.8
21	4.5	8.4	e3.5	6.4	9.3	e9.0	8.9	8.4	e8.0	e7.0	13	5.8
22	4.8	8.7	e2.5	6.3	9.6	e9.0	8.5	8.1	e8.0	3.0	13	5.9
23	5.5	8.8	e2.0	6.4	9.5	e9.0	9.1	8.2	e8.0	1.4	11	6.1
24	6.1	8.7	e1.5	6.1	9.0	e9.0	8.9	7.3	e7.8	9.5	7.3	5.9
25	6.1	8.8	e1.3	e6.0	9.3	e9.0	9.9	7.0	e7.6	18	7.6	5.8
26	6.5	8.8	e1.4	6.2	8.5	e9.0	11	7.0	e8.0	16	24	5.8
27	7.6	8.9	e1.4	6.3	8.6	e9.0	9.6	7.0	e20	7.0	25	6.0
28	e7.6	9.4	e1.4	6.7	8.9	e9.0	9.0	7.0	46	7.1	12	6.5
29	e7.8	9.0	e1.3	7.3	---	e9.0	8.8	7.0	17	4.8	25	6.2
30	e7.8	8.8	e1.2	6.2	---	e9.0	8.8	6.8	.83	3.4	32	6.4
31	e7.8	---	e.40	6.5	---	e9.0	---	6.8	---	.69	20	---
TOTAL	180.6	255.1	183.90	128.62	242.2	278.3	271.6	247.8	291.33	200.35	660.77	185.9
MEAN	5.83	8.50	5.93	4.15	8.65	8.98	9.05	7.99	9.71	6.46	21.3	6.20
MAX	7.8	11	8.9	11	9.9	9.6	11	9.7	46	25	206	9.7
MIN	4.5	7.9	.40	.12	6.5	8.4	8.5	6.8	.83	.57	.09	4.1
AC-FT	358	506	365	255	480	552	539	492	578	397	1310	369

e Estimated

## KANSAS RIVER BASIN

06838000 RED WILLOW CREEK NEAR RED WILLOW, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.63	8.60	8.81	9.66	11.1	11.7	11.5	12.1	21.2	20.7	21.5	10.8
MAX	18.8	13.6	12.1	21.1	32.9	35.5	41.5	36.6	124	59.9	92.4	29.0
(WY)	1970	1997	1966	1962	1968	1994	1970	1973	1967	1967	1978	1978
MIN	3.84	4.98	5.93	4.15	7.15	7.28	4.98	2.87	4.56	6.46	4.02	3.22
(WY)	1978	1978	1999	1999	1962	1996	1978	1978	1992	1999	1963	1991

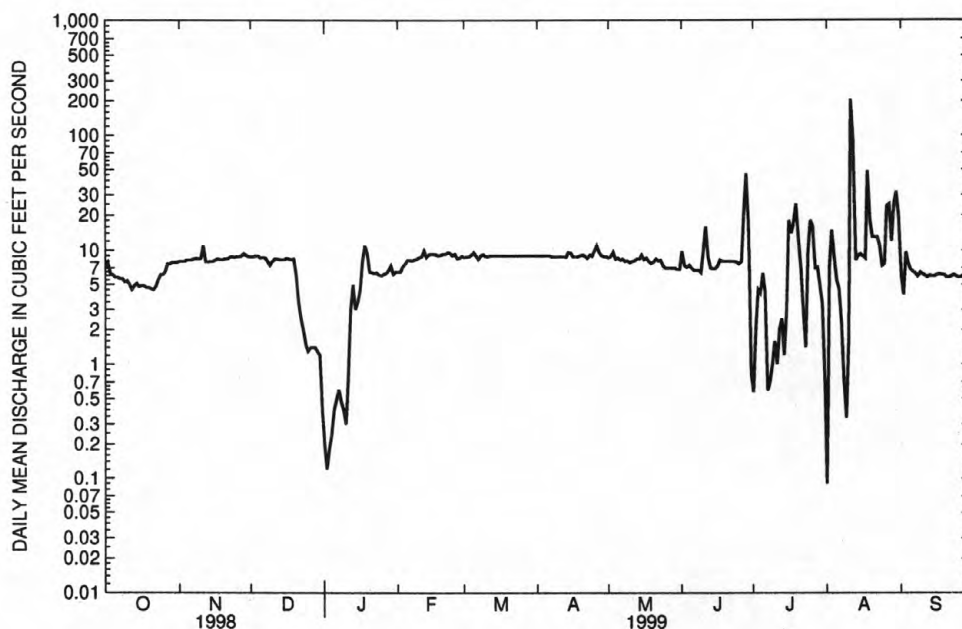
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

WATER YEARS 1962 - 1999  
(SINCE STORAGE IN HUGH BUTLER LAKE)

ANNUAL TOTAL	3027.73	3126.47		
ANNUAL MEAN	8.30	8.57		13.0
HIGHEST ANNUAL MEAN				25.5
LOWEST ANNUAL MEAN				7.90
HIGHEST DAILY MEAN	31	Aug 12	206	Aug 11
LOWEST DAILY MEAN	.11	Jun 21	.09	Aug 1
ANNUAL SEVEN-DAY MINIMUM	.40	Jun 16	.29	Dec 31
INSTANTANEOUS PEAK FLOW			470	Aug 11
INSTANTANEOUS PEAK STAGE			11.76	Aug 11
ANNUAL RUNOFF (AC-FT)	6010	6200		9450
10 PERCENT EXCEEDS	10	9.6		20
50 PERCENT EXCEEDS	8.7	8.0		9.3
90 PERCENT EXCEEDS	4.1	2.2		5.8



RED WILLOW CREEK NEAR RED WILLOW

## KANSAS RIVER BASIN

287

## 06843500 REPUBLICAN RIVER AT CAMBRIDGE, NE

LOCATION.--Lat 40°17'05", long 100°08'35", in NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 28, T. 4 N., R. 25 W., Furnas County, Hydrologic Unit 10250004, on left bank 400 ft south of U.S. Highways 6 and 34, 0.5 mi downstream from Medicine Creek, 1 mi east of Cambridge, 1.3 mi upstream from Cambridge diversion dam, and at mile 315.

DRAINAGE AREA.--14,460 mi<sup>2</sup>, of which about 7,780 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--September 1945 to current year.

REVISED RECORDS.--WDR NE-84-1: 1983(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,239.07 ft above sea level. Prior to July 13, 1948, nonrecording gage at site 150 ft upstream at same datum and July 13, 1948, to Sept. 25, 1950, at present site and datum.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and since 1949 by regulation from upstream reservoirs.

COOPERATION.--Records provided by Nebraska Department of Water Resources and reviewed by the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	66	94	e58	114	113	93	98	132	232	254	279
2	54	85	97	e56	116	116	90	108	132	233	255	281
3	58	96	98	e54	116	116	90	110	108	196	187	214
4	64	95	97	e54	115	116	88	109	93	175	145	226
5	68	90	95	e54	114	114	97	110	87	234	130	180
6	82	91	97	e56	113	112	106	101	83	266	142	152
7	88	94	100	e62	113	112	99	97	79	291	115	136
8	90	96	102	e68	112	117	96	98	77	307	99	126
9	81	97	104	e74	110	124	96	97	75	319	86	117
10	78	99	105	e80	108	125	95	98	119	334	98	108
11	76	100	108	e88	107	122	94	98	319	330	167	106
12	76	99	106	e84	106	120	92	97	378	317	331	102
13	75	98	103	e82	105	122	92	94	234	302	245	97
14	76	98	104	e82	104	124	106	91	185	306	193	92
15	79	98	101	e88	104	127	113	96	165	307	204	84
16	75	96	100	e94	103	128	108	96	153	320	185	78
17	61	95	97	e96	104	123	99	100	131	326	220	74
18	60	96	96	e96	103	115	92	99	126	318	289	71
19	59	97	97	e98	103	110	89	96	126	369	345	71
20	59	95	e86	e100	105	110	88	106	135	297	332	75
21	57	95	e78	e102	106	107	124	113	202	284	257	78
22	57	95	e62	e102	108	105	101	111	165	303	208	78
23	57	94	e48	e102	110	103	101	118	167	306	195	75
24	57	93	e46	e100	111	103	99	317	140	306	250	73
25	59	92	e48	e102	111	106	107	174	139	300	328	71
26	59	90	e52	e104	112	103	118	136	133	335	352	67
27	61	92	e56	e106	111	101	125	121	165	331	359	66
28	64	92	e56	e108	111	109	117	113	321	306	354	69
29	64	92	e56	e110	---	110	110	105	273	313	399	70
30	63	91	e58	111	---	103	106	100	221	284	348	67
31	64	---	e58	113	---	99	---	99	---	248	339	---
TOTAL	2059	2807	2605	2684	3055	3515	3031	3506	4863	9095	7411	3383
MEAN	66.4	93.6	84.0	86.6	109	113	101	113	162	293	239	113
MAX	90	100	108	113	116	128	125	317	378	369	399	281
MIN	38	66	46	54	103	99	88	91	75	175	86	66
AC-FT	4080	5570	5170	5320	6060	6970	6010	6950	9650	18040	14700	6710

e Estimated



## KANSAS RIVER BASIN

06843500 REPUBLICAN RIVER AT CAMBRIDGE, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	123	155	151	157	241	298	263	309	351	370	299	160
MAX	515	425	389	384	579	1684	756	1624	1743	1613	1202	1935
(WY)	1966	1966	1966	1959	1966	1960	1958	1957	1962	1962	1962	1951
MIN	11.4	64.3	71.1	44.4	103	111	91.3	48.0	60.7	160	98.9	5.59
(WY)	1992	1991	1996	1979	1996	1991	1992	1992	1992	1952	1952	1990

## SUMMARY STATISTICS

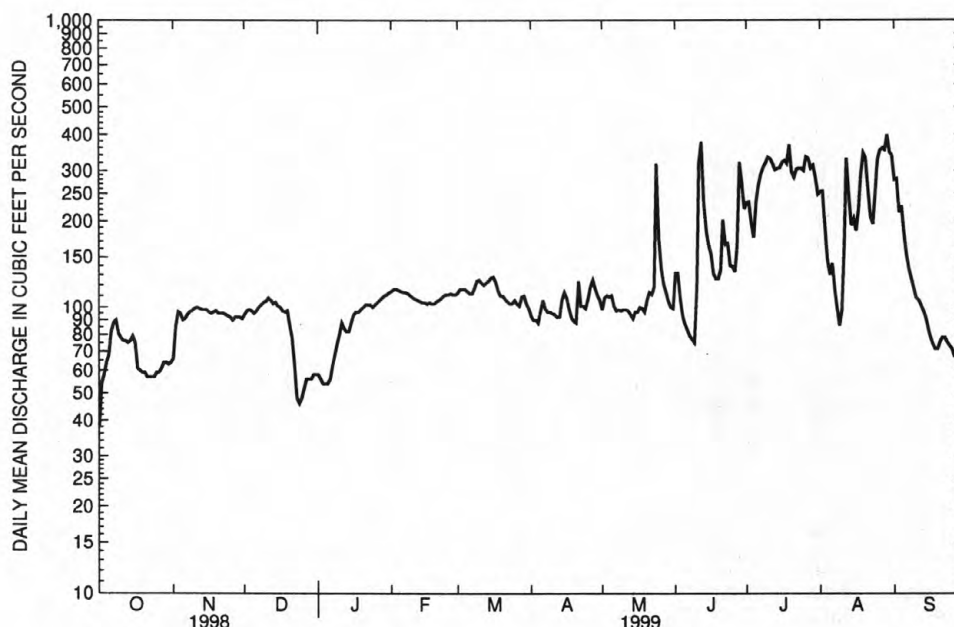
## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

WATER YEARS 1950 - 1999  
(SINCE STORAGE IN HARRY STRUNK LAKE)

ANNUAL TOTAL	47771	48014	
ANNUAL MEAN	131	132	240
HIGHEST ANNUAL MEAN			686
LOWEST ANNUAL MEAN			110
HIGHEST DAILY MEAN	369	Jul 21	399
LOWEST DAILY MEAN	10	Sep 8	38
ANNUAL SEVEN-DAY MINIMUM	10	Sep 8	52
INSTANTANEOUS PEAK FLOW			568
INSTANTANEOUS PEAK STAGE			4.93
ANNUAL RUNOFF (AC-FT)	94750	95240	173700
10 PERCENT EXCEEDS	248	290	414
50 PERCENT EXCEEDS	125	103	168
90 PERCENT EXCEEDS	57	65	76

\* From floodmark.



REPUBLICAN RIVER AT CAMBRIDGE

## KANSAS RIVER BASIN

289

## 06844500 REPUBLICAN RIVER NEAR ORLEANS, NE

LOCATION.--Lat 40°07'53", long 099°30'08", in NE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.19, T.2 N., R.19 W., Harlan County, Hydrologic Unit 10250009, on right bank 18 ft downstream from bridge on State Highway 89, 200 ft downstream from Burlington Northern Inc. bridge, 2 mi west of Orleans, 2.8 mi upstream from Sappa Creek, 23 mi upstream from Harlan County Dam, and at mile 262.

DRAINAGE AREA.--15,580 mi<sup>2</sup>, approximately, of which about 8,880 mi<sup>2</sup> contributes directly to surface runoff.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,972.57 ft above sea level. Prior to June 2, 1948, nonrecording gage at present site and datum. Data collection platform at station.

REMARKS.--Records good except for period of estimated discharge, which is poor. Natural flow affected by irrigation development above station and regulation by upstream reservoirs.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	86	124	e82	e165	147	156	145	155	337	36	124
2	38	102	122	e82	e170	147	140	149	344	228	62	119
3	44	109	123	e80	e170	145	133	157	213	183	76	100
4	57	117	124	e78	e165	146	130	166	175	134	102	118
5	59	118	125	e78	e160	145	142	192	152	93	101	174
6	61	111	124	e84	163	140	148	196	132	70	110	181
7	63	112	123	e90	159	142	156	171	119	71	186	143
8	71	114	118	e96	158	149	155	149	109	66	178	121
9	79	117	118	e98	151	160	144	141	102	63	119	109
10	80	118	116	e106	153	159	136	139	108	63	100	103
11	74	116	118	e112	150	159	133	135	233	57	147	101
12	72	123	123	e116	145	156	130	130	1070	59	1180	97
13	75	115	130	e116	142	159	127	126	836	56	729	121
14	78	116	129	e116	148	160	139	122	449	49	521	95
15	80	115	129	e124	149	164	160	128	313	40	308	84
16	83	115	130	e134	146	167	165	130	259	45	241	82
17	86	114	133	e138	147	191	152	143	230	39	191	82
18	86	115	136	e140	147	165	140	138	198	65	149	81
19	75	113	126	e140	146	160	132	128	178	84	376	79
20	72	112	93	e146	145	158	129	123	155	89	288	81
21	74	112	e80	e150	144	157	125	124	154	86	285	80
22	74	116	64	e150	144	156	124	130	159	61	214	82
23	74	115	e56	e150	147	155	194	158	172	45	162	81
24	74	115	e52	e144	149	153	158	155	159	43	123	78
25	76	115	e56	e150	151	151	146	156	156	51	99	76
26	77	116	e62	e150	152	149	154	252	136	44	84	72
27	78	118	e70	e150	148	150	160	170	141	38	78	69
28	79	119	e74	e150	146	152	161	143	155	40	73	71
29	80	123	e72	e150	---	157	162	130	480	42	88	71
30	79	126	e76	e155	---	159	152	121	683	33	115	73
31	83	---	e80	e160	---	159	---	117	---	30	135	---
TOTAL	2212	3433	3206	3815	4260	4817	4383	4564	7925	2404	6656	2948
MEAN	71.4	114	103	123	152	155	146	147	264	77.5	215	98.3
MAX	86	126	136	160	170	191	194	252	1070	337	1180	181
MIN	31	86	52	78	142	140	124	117	102	30	36	69
AC-FT	4390	6810	6360	7570	8450	9550	8690	9050	15720	4770	13200	5850

e Estimated

## KANSAS RIVER BASIN

06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	131	172	171	170	294	381	330	394	477	264	183	152
MAX	840	519	438	392	772	1720	915	1528	2732	1602	1396	2026
(WY)	1966	1966	1966	1953	1949	1960	1949	1951	1948	1962	1962	1951
MIN	.000	38.5	50.4	24.2	112	144	124	54.8	56.6	10.8	3.51	.007
(WY)	1992	1979	1979	1979	1996	1991	1991	1956	1988	1991	1955	1991

## SUMMARY STATISTICS

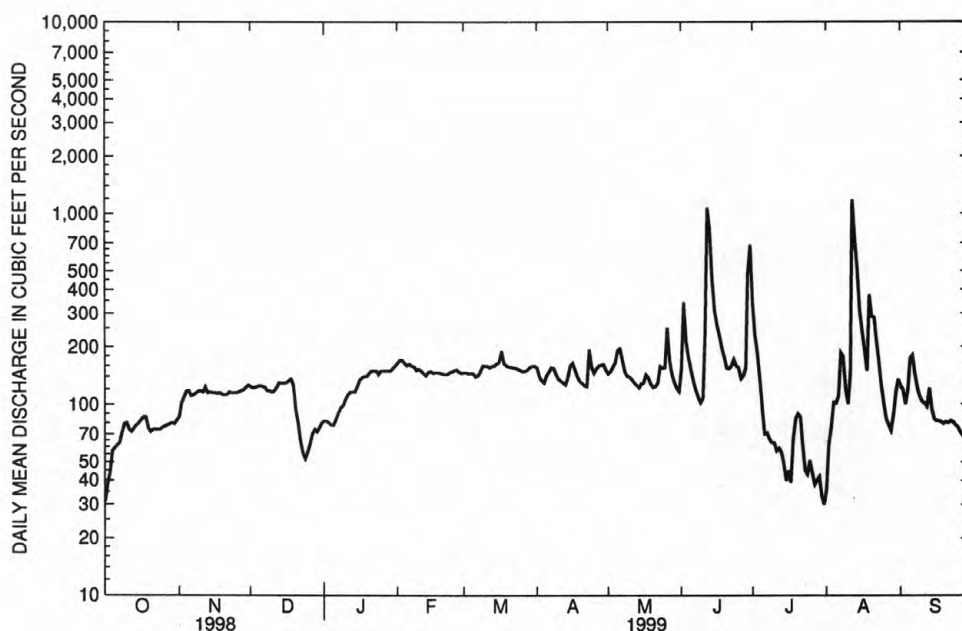
## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1948 - 1999

ANNUAL TOTAL	43079	50623	
ANNUAL MEAN	118	139	259
HIGHEST ANNUAL MEAN			746
LOWEST ANNUAL MEAN			78.4
HIGHEST DAILY MEAN	312	Apr 7	1180
LOWEST DAILY MEAN	27	Jul 1	30
ANNUAL SEVEN-DAY MINIMUM	30	Jun 30	38
INSTANTANEOUS PEAK FLOW (STAGE)			1440
INSTANTANEOUS PEAK STAGE			6.37
ANNUAL RUNOFF (AC-FT)	85450	100400	187900
10 PERCENT EXCEEDS	202	173	483
50 PERCENT EXCEEDS	117	127	162
90 PERCENT EXCEEDS	39	70	47

\* Backwater from ice.



REPUBLICAN RIVER NEAR ORLEANS

## PLATTE RIVER BASIN

291

06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

## WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-94, October 1995 to current year.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPECIFIC CONDUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR ( $^{\circ}$ C) (00020)	TEMPER- ATURE WATER ( $^{\circ}$ C) (00010)	BARO METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DIS- SOLVED (MG/L) (00300)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	SODIUM DIS- SOLVED (MG/L AS NA) (00930)
------	------	--	--	---	---	---	---	--	--

## HARLAN COUNTY

JAN	20	1200	7	7.7	10.0	.0	--	12.7	247	38
MAR	10	1030	739	8.3	-1.5	3.0	711	13.5	274	42
JUN	16	1130	1000	7.9	17.5	18.0	715	8.8	251	41
JUL	28	1830	523	8.6	34.5	34.5	705	8.1	188	33
AUG	17	1630	492	8.0	33.0	30.0	710	7.8	209	31

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

DATE	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (μ G/L AS B) (01020)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
JAN											
20	74	.71	2.62	.015	2.63	.052	.104	.100	117	<10	3.5
MAR											
10	84	.68	2.53	.012	2.54	.020	.073	.101	131	<10	5.5
JUN											
16	80	.55	1.46	.011	1.47	.022	.317	.304	124	E5.1	<3.0
JUL											
28	66	.61	--	<.010	<.050	<.020	<.050	.027	123	<10	7.9
AUG											
17	54	.64	--	<.010	1.14	<.020	.221	.235	119	<10	E1.6

## KANSAS RIVER BASIN

06846500 BEAVER CREEK AT CEDAR BLUFFS, KS

LOCATION.--Lat 39°59'06", long 100°33'35", in NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.10, T.1 S., R.29 W., Decatur County, Hydrologic Unit 10250014, on right bank atdownstream side of bridge on U.S. Highway 83, 0.2 mi north of Cedar Bluffs, 1.0 mi south of Kansas-Nebraska State line, and at mile 107.4.

DRAINAGE AREA.--1,618 mi<sup>2</sup>, of which 1,324 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1510: 1947, 1950-51.

GAGE.--Water-stage recorder. Datum of gage is 2,520.33 ft above sea level. Prior to Aug. 19, 1971, at site 0.1 mi upstream at same datum. Aug. 19, 1971, to July 12, 1972, at site 0.8 mi downstream at datum 5.00 ft lower.

REMARKS.--Records poor. Satellite telemeter station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1944 reached a stage of 18.16 ft, from floodmark.

COOPERATION.--Records provided by Geological Survey, Kansas District.

PEAK DISCHARGES GREATER THAN BASE FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/sec and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /sec)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /sec)	Gage height (ft)
July 17	2200	*150	*6.25	No peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.00	e.05	e.04	.24	1.5	.48	38	1.8	.00
2	.00	.01	.00	e.00	e.05	e.04	.21	1.7	1.5	17	2.1	.00
3	.00	.00	.00	e.00	e.04	e.04	.25	1.8	9.4	18	1.9	.00
4	.00	.00	.01	e.00	e.04	e.04	.23	1.9	2.6	18	1.5	.00
5	.00	.00	.01	e.00	e.04	e.04	.31	2.1	1.1	8.8	1.6	.00
6	.00	.00	.01	e.00	e.03	e.05	.54	1.8	.55	5.0	2.3	.00
7	.00	.00	.01	e.00	e.03	e.05	.48	1.6	.28	3.7	2.4	.00
8	.00	.00	e.01	e.00	e.03	e.05	.48	1.7	.18	3.8	3.2	.00
9	.00	.00	e.01	e.00	e.02	e.05	.78	1.8	.11	2.5	2.9	.00
10	.00	.00	e.01	e.00	e.02	e.05	.83	1.6	.07	2.3	3.4	.00
11	.00	.00	e.01	e.00	.07	.07	.85	1.6	.45	1.7	3.1	.00
12	.00	.00	e.01	e.00	.06	.06	.67	1.5	.32	1.1	2.6	.00
13	.00	.00	e.01	e.00	e.05	.07	.56	1.5	.67	.69	3.0	.00
14	.00	.00	e.01	.08	e.05	.08	.57	1.8	.74	.37	3.2	.00
15	.00	.00	.01	.08	e.04	.09	.73	1.6	2.2	3.1	2.1	.00
16	.00	.00	.00	.09	e.04	.11	.73	1.5	7.6	.86	1.3	.00
17	.00	.00	e.00	.09	e.03	.10	.72	1.3	8.7	86	.65	.00
18	.00	.00	e.00	.09	e.03	.07	.67	1.1	44	65	.53	.00
19	.00	.00	e.00	.09	e.03	.06	.65	.99	28	49	.38	.00
20	.00	.00	e.00	.09	e.02	.15	.61	1.1	22	83	.81	.00
21	.00	.00	e.00	.09	e.02	.20	.70	1.1	51	36	.45	.00
22	.00	.00	e.00	.10	e.02	.19	.71	1.1	42	18	.20	.00
23	.00	.00	e.00	.09	e.03	.27	.79	1.2	32	12	.03	.00
24	.00	.00	e.00	.08	e.03	.24	.75	1.6	20	9.5	.01	.00
25	.00	.00	e.00	.08	e.03	.20	.95	1.1	11	6.8	.00	.00
26	.00	.00	e.00	.08	e.03	.22	1.1	.77	7.5	5.9	.03	.00
27	.00	.00	e.00	.07	e.03	.24	1.2	.69	16	5.1	.07	.00
28	.00	.00	e.00	.07	e.03	.30	1.4	.75	14	4.3	.11	.00
29	.00	.00	e.00	.07	---	.27	1.3	.65	7.6	3.7	.23	.00
30	.00	.01	e.00	.06	---	.21	1.3	.59	24	3.3	.15	.00
31	.00	---	e.00	.06	---	.26	---	.46	---	2.2	.02	---
MEAN	.000	.001	.004	.047	.035	.13	.71	1.34	11.9	16.6	1.36	.000
MAX	.00	.01	.01	.10	.07	.30	1.4	2.1	51	86	3.4	.00
MIN	.00	.00	.00	.00	.02	.04	.21	.46	.07	.37	.00	.00
AC-FT	.00	.04	.2	2.9	2.0	7.8	42	82	706	1020	83	.00

e Estimated

# KANSAS RIVER BASIN

293

06846500 BEAVER CREEK AT CEDAR BLUFFS, KS--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.99	2.97	2.55	2.22	3.89	11.9	7.29	23.8	39.4	30.2	15.8	16.3
MAX	231	39.6	30.4	28.4	28.1	369	61.7	432	278	391	146	421
(WY)	1947	1966	1966	1966	1966	1960	1960	1957	1960	1951	1962	1951
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1954	1955	1955	1955	1956	1955	1955	1955	1979	1980	1955	1953

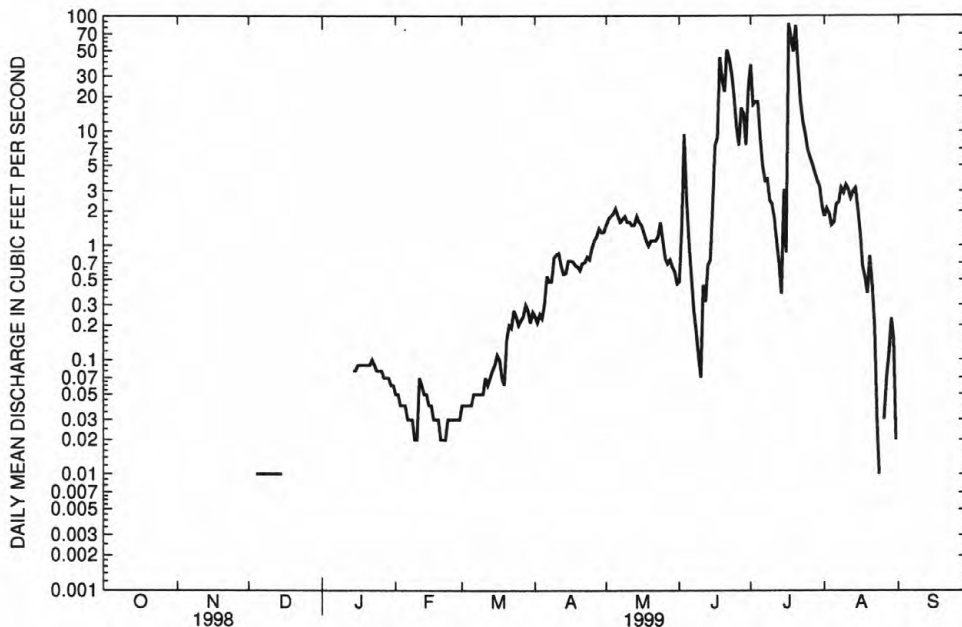
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1946 - 1999

ANNUAL MEAN	3.96	2.69	13.8
HIGHEST ANNUAL MEAN			106
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	152	Aug 1	86
LOWEST DAILY MEAN	.00	Aug 28	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 28	.00
INSTANTANEOUS PEAK FLOW			150
INSTANTANEOUS PEAK STAGE			6.25
ANNUAL RUNOFF (AC-FT)	2860	1950	10030
10 PERCENT EXCEEDS	8.4	3.7	23
50 PERCENT EXCEEDS	1.6	.07	.04
90 PERCENT EXCEEDS	.00	.00	.00



BEAVER CREEK AT CEDAR BLUFFS, KS



## KANSAS RIVER BASIN

06847500 SAPPA CREEK NEAR STAMFORD, NE

LOCATION.--Lat 40°07'53", long 099°33'15", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 23, T.2 N., R.20 W., Harlan County, Hydrologic Unit 10250011, on left bank 40 ft south of Burlington Northern Inc. track, 500 ft downstream from bridge on county highway, 2 mi east of Stamford, and 6.5 mi upstream from mouth.

DRAINAGE AREA.--3,840 mi<sup>2</sup>, of which about 3,370 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--October 1945 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1919: 1960. WDR NE-71-1: Calendar year totals. WRD NE-82-1: 1979(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,981.31 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	7.9	15	e16	21	21	27	26	38	99	12	4.9
2	4.5	11	15	e15	27	21	27	27	42	103	26	4.0
3	4.8	12	15	e14	27	21	27	27	48	77	23	3.9
4	5.4	11	15	e16	30	21	27	28	52	67	34	4.1
5	5.3	12	15	e17	25	21	28	30	44	55	49	5.0
6	4.8	13	15	e17	22	20	28	30	33	44	76	5.3
7	4.9	15	15	e15	22	20	28	29	31	43	63	5.0
8	4.8	14	15	e14	22	21	28	28	31	45	72	3.5
9	4.5	14	16	e16	24	22	27	32	32	39	59	2.5
10	4.4	15	15	e18	22	22	27	34	32	30	55	1.8
11	5.2	15	16	e18	23	22	27	29	34	26	64	1.5
12	5.2	15	20	e19	21	22	26	27	36	25	61	1.7
13	5.1	15	18	e17	20	23	26	26	34	21	53	1.3
14	4.9	14	17	e18	20	23	27	26	34	27	34	1.8
15	4.5	14	17	e19	21	25	28	27	33	17	27	1.7
16	4.2	14	16	e20	21	24	27	31	34	17	18	1.5
17	3.9	15	19	e20	20	23	27	66	35	19	13	1.4
18	3.5	14	17	e20	21	21	27	56	41	17	17	1.3
19	4.1	14	18	e20	21	22	27	46	52	29	12	1.1
20	4.2	14	13	e20	21	23	26	38	55	59	8.6	1.4
21	4.4	14	e10	e20	21	23	26	38	51	35	8.5	1.4
22	4.5	14	e11	e19	21	23	26	37	47	33	9.8	1.4
23	5.4	14	e12	e21	21	23	26	57	55	25	8.0	1.7
24	5.0	14	e12	e21	21	22	26	46	49	18	5.5	1.5
25	4.9	14	e13	e21	21	22	26	53	41	27	3.1	1.5
26	5.1	14	e14	e20	21	23	27	50	37	34	3.3	1.8
27	6.9	14	e15	e19	21	23	26	40	41	37	3.8	1.8
28	7.5	15	e15	e18	21	24	26	36	62	35	3.7	1.7
29	7.5	15	e17	e19	---	23	26	33	63	23	5.3	1.7
30	7.5	15	e17	e19	---	24	26	32	69	14	5.7	2.5
31	7.0	---	e17	19	---	27	---	32	---	9.9	5.3	---
TOTAL	157.4	411.9	475	565	619	695	803	1117	1286	1149.9	838.6	71.7
MEAN	5.08	13.7	15.3	18.2	22.1	22.4	26.8	36.0	42.9	37.1	27.1	2.39
MAX	7.5	15	20	21	30	27	28	66	69	103	76	5.3
MIN	3.5	7.9	10	14	20	20	26	26	31	9.9	3.1	1.1
AC-FT	312	817	942	1120	1230	1380	1590	2220	2550	2280	1660	142

e Estimated

# KANSAS RIVER BASIN

295

06847500 SAPPA CREEK NEAR STAMFORD, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	40.6	13.1	10.8	9.28	19.4	34.9	24.8	57.7	150	91.1	58.9	41.6
MAX	965	145	96.2	71.5	182	486	164	522	878	891	544	708
(WY)	1947	1947	1966	1966	1966	1960	1960	1949	1947	1951	1950	1951
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1954	1955	1955	1955	1956	1956	1956	1956	1981	1977	1955	1959

## SUMMARY STATISTICS

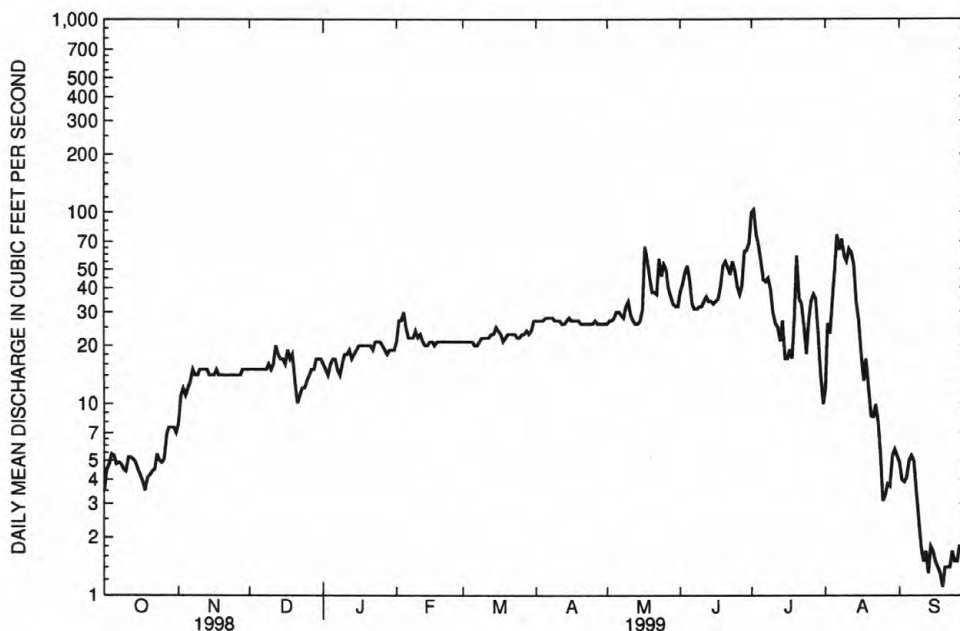
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1946 - 1999

ANNUAL TOTAL	8987.92	8189.5	
ANNUAL MEAN	24.6	22.4	46.2
MEDIAN OF ANNUAL MEANS			22.4
HIGHEST ANNUAL MEAN			229
LOWEST ANNUAL MEAN			.59
HIGHEST DAILY MEAN	187 Aug 3	103 Jul 2	16600 Jun 24 1966
LOWEST DAILY MEAN	.72 Jul 21	1.1 Sep 19	.00 Sep 12 1953
ANNUAL SEVEN-DAY MINIMUM	2.5 Jun 28	1.4 Sep 16	.00 Sep 12 1953
INSTANTANEOUS PEAK FLOW		112 Jul 1	43400 Jun 24 1966
INSTANTANEOUS PEAK STAGE		5.81 Jul 1	*22.13 Jun 24 1966
ANNUAL RUNOFF (AC-FT)	17830	16240	33490
10 PERCENT EXCEEDS	42	43	83
50 PERCENT EXCEEDS	21	21	6.9
90 PERCENT EXCEEDS	4.1	4.3	.00

\* From floodmark.



SAPPA CREEK NEAR STAMFORD

## KANSAS RIVER BASIN

06848500 PRAIRIE DOG CREEK NEAR WOODRUFF, KS

LOCATION.--Lat 39°59'09", long 099°28'39", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.9, T.1 S., R.19 W., Phillips County, Hydrologic Unit 10250015, on left bank at downstream side of bridge on U.S. Highway 383, 1.0 mi south of Kansas-Nebraska State line, 2.5 mi west of Woodruff, and at mile 26.5.

DRAINAGE AREA.--1,007 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1928 to September 1932, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 2,016.20 ft above sea level. See WSP 1919 for history of changes prior to Oct. 7, 1955.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated to some extent since 1964 by Keith Sebelius Lake (station 06847950), 48.4 mi upstream, and by irrigation development upstream from station. Satellite telemeter at station. Satellite telemeter station.

COOPERATION.--Records provided by Geological Survey, Kansas District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	12	12	e13	e13	12	13	11	54	16	19	8.4
2	7.9	13	12	e12	e13	11	13	16	106	14	26	7.2
3	13	14	12	e11	e12	9.5	13	16	64	15	35	6.6
4	11	15	12	e13	e12	9.0	12	14	43	12	52	7.0
5	8.7	16	12	e15	e12	8.9	13	13	26	10	27	6.8
6	9.1	15	13	e14	e12	8.8	13	13	17	9.7	22	7.3
7	8.6	13	12	e13	12	8.9	13	12	16	12	16	7.1
8	8.1	9.4	12	e12	12	9.4	13	12	14	13	14	6.6
9	8.0	9.2	12	e13	12	9.4	16	11	13	26	14	6.4
10	8.0	13	12	e16	12	9.6	14	10	18	20	13	6.5
11	8.3	15	15	e18	12	9.6	13	12	16	15	52	6.7
12	8.6	14	15	e17	12	9.7	11	13	15	20	13	8.3
13	8.6	14	12	e14	12	9.8	10	13	17	22	9.4	14
14	8.9	14	13	e13	12	12	11	12	15	26	12	8.6
15	9.1	14	12	e14	12	12	11	31	14	30	8.7	7.2
16	9.5	14	12	e16	12	13	12	89	13	57	8.7	6.9
17	9.5	14	12	e16	13	12	12	71	13	156	8.7	6.9
18	9.7	14	12	e16	13	12	12	39	14	166	9.7	6.2
19	10	13	13	e16	13	12	12	22	14	41	14	5.2
20	9.9	13	e13	e16	13	12	12	50	14	21	12	4.9
21	10	13	e13	e16	12	12	12	91	14	14	11	4.8
22	10	14	e12	e16	12	12	12	49	15	20	11	6.1
23	10	14	e11	e15	12	12	11	224	15	16	9.9	7.0
24	11	13	e11	e15	12	12	11	80	14	15	8.3	7.2
25	11	13	e12	e15	12	12	11	37	14	15	7.9	7.0
26	12	13	e13	e15	13	12	13	20	14	19	7.4	6.7
27	11	13	e14	e15	13	12	14	16	15	19	6.0	6.5
28	12	12	e14	e14	13	12	13	15	32	21	5.1	6.6
29	12	13	e13	e14	---	11	13	14	55	19	6.0	6.6
30	11	13	e14	e14	---	10	12	14	29	18	7.7	7.5
31	11	---	e14	e13	---	13	---	13	---	16	9.1	---
MEAN	9.76	13.3	12.6	14.5	12.3	11.0	12.4	34.0	24.4	28.8	15.3	7.03
MAX	13	16	15	18	13	13	16	224	106	166	52	14
MIN	7.0	9.2	11	11	12	8.8	10	10	13	9.7	5.1	4.8
AC-FT	600	793	776	893	684	676	736	2090	1450	1770	943	418

e Estimated

## KANSAS RIVER BASIN

297

06848500 PRAIRIE DOG CREEK NEAR WOODRUFF, KS--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.8	6.57	5.36	5.32	16.1	17.6	10.2	44.2	89.4	63.1	35.7	23.8
MAX	429	56.5	26.0	22.5	230	240	36.6	422	1041	1070	430	402
(WY)	1947	1931	1947	1931	1932	1960	1952	1949	1947	1951	1950	1951
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1956	1956	1956	1957	1957	1985	1992	1984	1984	1959	1960

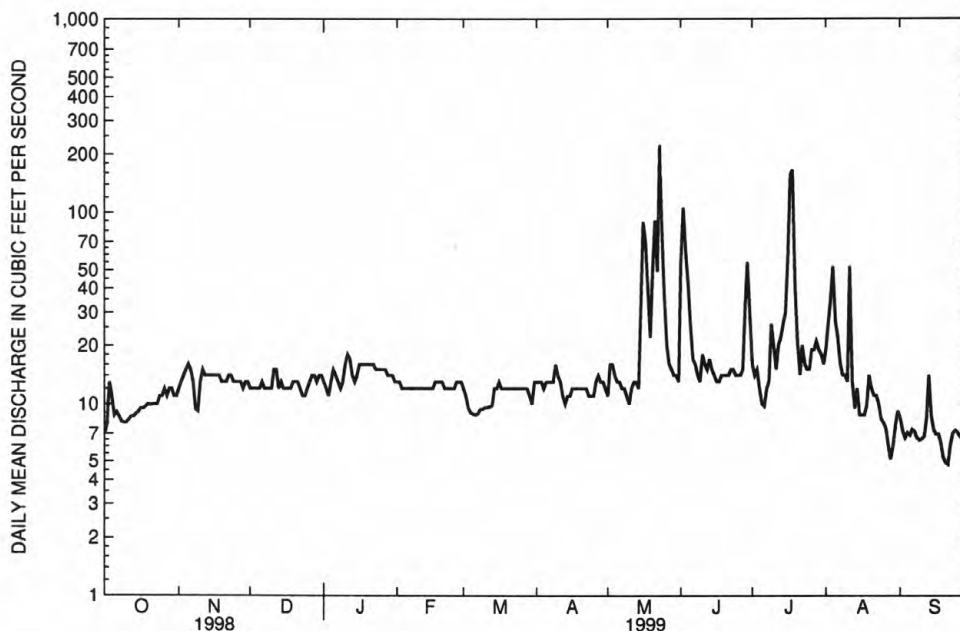
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1929 - 1999

ANNUAL MEAN	17.0	16.3	27.4
HIGHEST ANNUAL MEAN			208
LOWEST ANNUAL MEAN			.051
HIGHEST DAILY MEAN	371	Jul 27	224
LOWEST DAILY MEAN	4.7	Sep 9	4.8
ANNUAL SEVEN-DAY MINIMUM	4.7	Sep 8	5.9
INSTANTANEOUS PEAK FLOW			339
INSTANTANEOUS PEAK STAGE			9.73
ANNUAL RUNOFF (AC-FT)	12310	11830	19860
10 PERCENT EXCEEDS	21	20	29
50 PERCENT EXCEEDS	14	13	4.2
90 PERCENT EXCEEDS	6.5	8.1	.00



PRAIRIE DOG CREEK NEAR WOODRUFF, KS

## KANSAS RIVER BASIN

06849500 REPUBLICAN RIVER BELOW HARLAN COUNTY DAM, NE

LOCATION.--Lat 40°04'45", long 099°10'05", in SW<sup>1</sup>/<sub>4</sub> sec.6, T.1 N., R.16 W., Franklin County, Hydrologic Unit 10250016, on left bank 1.4 mi west of Naponee, 1.4 mi upstream from Turkey Creek, 2.8 mi downstream from Harlan County Dam, and at mile 234.

DRAINAGE AREA.--20,820 mi<sup>2</sup>, of which about 13,590 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--December 1952 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,863.38 ft above sea level (Corps of Engineers bench mark). Data collection platform at station.

REMARKS.--Records good except for estimated discharges and discharges less than 5.0 ft<sup>3</sup>/s, which are poor. Flow completely regulated by Harlan County Lake (station 06849000) and partially regulated by six upstream reservoirs.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.3	5.2	e5.8	11	17	4.6	10	72	365	517	229
2	7.4	9.2	4.8	e4.8	9.7	17	9.7	15	41	424	336	229
3	7.1	7.3	7.4	e4.5	11	19	11	10	17	558	199	231
4	5.8	6.3	15	e5.0	12	17	11	15	12	633	195	192
5	5.9	5.5	16	e5.6	13	14	14	22	8.6	680	273	162
6	5.4	5.4	11	e5.8	11	7.0	9.4	19	12	703	342	161
7	5.8	5.4	11	e5.6	10	8.9	5.3	16	44	697	344	120
8	6.3	5.0	11	e6.0	12	10	4.6	15	91	736	384	50
9	6.8	4.6	10	e6.4	12	11	12	13	92	763	428	9.4
10	7.2	4.2	9.5	e7.0	12	9.8	9.1	8.7	113	762	503	7.5
11	8.4	5.1	8.0	e7.8	15	10	10	16	102	726	440	13
12	7.5	5.4	8.0	e8.0	15	10	8.0	17	99	694	287	13
13	7.3	5.4	7.8	e8.0	12	11	5.8	13	100	693	241	7.5
14	6.9	5.4	8.2	e8.0	15	11	15	11	122	662	250	7.5
15	7.5	4.8	8.6	e8.4	14	9.6	18	128	158	640	314	7.5
16	8.2	5.4	8.9	e9.0	15	9.5	15	29	158	620	372	7.5
17	8.9	5.4	9.9	e9.4	16	6.1	12	13	183	588	411	7.5
18	8.9	5.4	8.8	10	17	9.0	8.7	7.1	212	584	438	8.2
19	8.9	4.9	8.7	11	17	9.5	4.7	5.1	240	575	423	10
20	8.9	4.9	7.5	11	18	8.6	5.0	91	258	575	399	12
21	8.1	4.7	e6.0	9.4	18	7.6	6.3	116	298	575	352	9.0
22	6.8	4.7	e5.0	10	18	7.4	12	24	402	611	330	8.9
23	7.5	4.7	e4.3	11	18	10	18	67	449	633	330	10
24	7.5	4.7	e4.4	11	18	9.2	18	29	461	600	304	12
25	7.5	4.7	e4.8	9.7	18	9.6	15	12	486	572	256	15
26	7.5	4.7	e5.4	9.4	16	8.8	18	13	508	592	235	17
27	6.8	5.0	e5.8	11	16	4.7	15	12	544	610	234	16
28	7.6	5.0	e6.0	11	17	5.1	13	14	453	623	232	16
29	5.0	4.7	e6.0	11	---	6.0	15	15	365	630	255	16
30	5.0	5.0	e5.6	12	---	4.8	11	15	365	631	262	17
31	4.7	---	e5.4	13	---	5.3	---	15	---	595	240	---
TOTAL	219.2	159.2	244.0	265.6	406.7	303.5	334.2	805.9	6465.6	19350	10126	1621.5
MEAN	7.07	5.31	7.87	8.57	14.5	9.79	11.1	26.0	216	624	327	54.0
MAX	8.9	9.2	16	13	18	19	18	128	544	763	517	231
MIN	4.7	4.2	4.3	4.5	9.7	4.7	4.6	5.1	8.6	365	195	7.5
AC-FT	435	316	484	527	807	602	663	1600	12820	38380	20080	3220

e Estimated

# KANSAS RIVER BASIN

299

06849500 REPUBLICAN RIVER BELOW HARLAN COUNTY DAM, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	126	76.5	62.0	55.8	119	129	204	210	381	728	429	134
MAX	2044	985	571	535	680	941	2400	2069	1763	2761	1726	1260
(WY)	1966	1994	1994	1966	1966	1963	1960	1960	1962	1962	1962	1996
MIN	3.79	2.50	2.40	2.30	2.15	2.88	2.63	2.70	14.4	70.3	91.0	2.95
(WY)	1990	1992	1977	1991	1977	1991	1992	1992	1993	1993	1981	1991

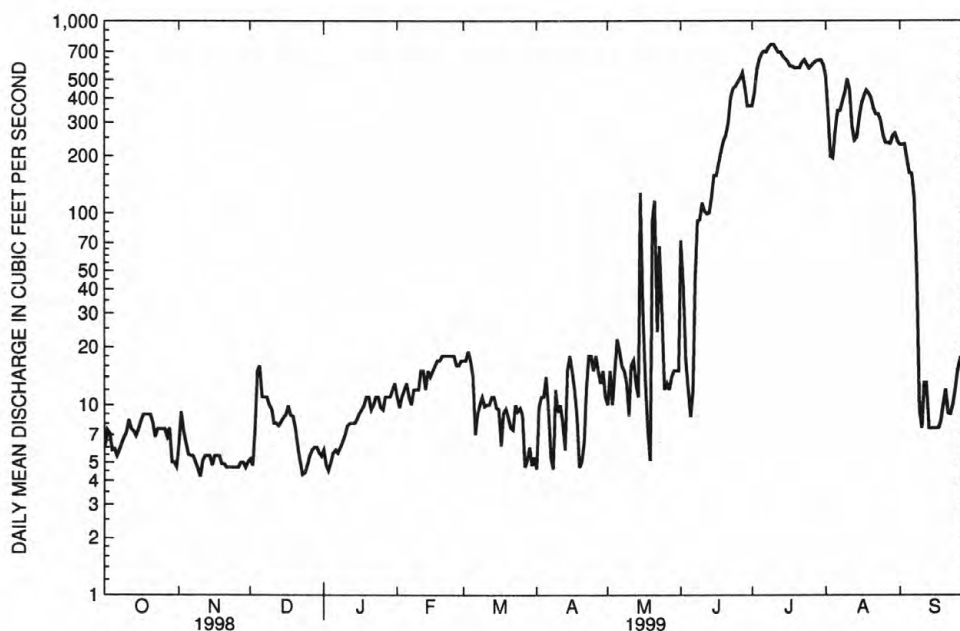
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1953 - 1999

ANNUAL TOTAL	51756.8	40301.4	224
ANNUAL MEAN	142	110	37.4
HIGHEST ANNUAL MEAN			690
LOWEST ANNUAL MEAN			1966
HIGHEST DAILY MEAN	703 Jul 6	763 Jul 9	4210 Nov 2 1965
LOWEST DAILY MEAN	3.1 Aug 31	4.2 Nov 10	.29 Jun 3 1996
ANNUAL SEVEN-DAY MINIMUM	3.5 Aug 31	4.7 Nov 20	.38 Jun 1 1996
INSTANTANEOUS PEAK FLOW		768 Jul 8	4320 Jun 25 1957
INSTANTANEOUS PEAK STAGE		2.73 Jul 8	8.65 Jun 25 1957
ANNUAL RUNOFF (AC-FT)	102700	79940	162400
10 PERCENT EXCEEDS	457	451	651
50 PERCENT EXCEEDS	12	11	15
90 PERCENT EXCEEDS	4.7	5.2	4.5



REPUBLICAN RIVER BELOW HARLAN COUNTY DAM



## KANSAS RIVER BASIN

## 06852500 COURTLAND CANAL AT NEBRASKA-KANSAS STATE LINE

LOCATION.--Lat 40°00'15", long 098°07'55", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.32, T.1 N., R.7 W., Nuckolls County, Nebraska, Hydrologic Unit 10250016, on left bank 0.2 mi upstream from Nebraska-Kansas State line and 3.5 mi southwest of Superior, NE.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder and concrete Parshall flume. Datum of gage is 1,612.46 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Canal diverts from Republican River at Courtland diversion dam in sec.7, T.1 N., R.9 W. Water is used for irrigation in Nebraska and Kansas; figures published herein represent that portion which flows into Kansas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	28	273	409	188
2	.00	.00	.00	.00	.00	.00	.00	.00	29	272	423	195
3	.00	.00	.00	.00	.00	.00	.00	.00	32	262	331	197
4	.00	.00	.00	.00	.00	.00	.00	.00	46	306	268	200
5	.00	.00	.00	.00	.00	.00	.00	.00	50	375	256	205
6	.00	.00	.00	.00	.00	.00	.00	.00	50	415	260	201
7	.00	.00	.00	.00	.00	.00	.00	.00	51	377	268	197
8	.00	.00	.00	.00	.00	.00	.00	.00	72	414	266	195
9	.00	.00	.00	.00	.00	.00	.00	.00	97	419	269	188
10	.00	.00	.00	.00	.00	.00	.00	.00	120	429	286	153
11	.00	.00	.00	.00	.00	.00	.00	.00	121	433	265	132
12	.00	.00	.00	.00	.00	.00	.00	.00	122	414	176	128
13	.00	.00	.00	.00	.00	.00	.00	.00	122	365	113	96
14	.00	.00	.00	.00	.00	.00	.00	.00	123	353	113	103
15	.00	.00	.00	.00	.00	.00	.00	.00	122	351	113	117
16	.00	.00	.00	.00	.00	.00	.00	.00	124	349	138	116
17	.00	.00	.00	.00	.00	.00	.00	.00	140	366	167	106
18	.00	.00	.00	.00	.00	.00	.00	.00	149	374	214	91
19	.00	.00	.00	.00	.00	.00	.00	.00	149	372	262	81
20	.00	.00	.00	.00	.00	.00	.00	.00	148	360	275	82
21	.00	.00	.00	.00	.00	.00	.00	.00	172	347	262	85
22	.00	.00	.00	.00	.00	.00	.00	.00	186	342	250	86
23	.00	.00	.00	.00	.00	.00	.00	.00	221	322	247	86
24	.00	.00	.00	.00	.00	.00	.00	.00	273	315	234	80
25	.00	.00	.00	.00	.00	.00	.00	.00	304	322	201	75
26	.00	.00	.00	.00	.00	.00	.00	9.6	322	330	180	71
27	.00	.00	.00	.00	.00	.00	.00	52	331	332	173	67
28	.00	.00	.00	.00	.00	.00	.00	60	306	351	169	71
29	.00	.00	.00	.00	---	.00	.00	21	271	362	164	70
30	.00	.00	.00	.00	---	.00	.00	26	266	372	170	64
31	.00	---	.00	.00	---	.00	---	22	---	404	185	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.60	4547	11078	7107	3726
MEAN	.000	.000	.000	.000	.000	.000	.000	6.15	152	357	229	124
MAX	.00	.00	.00	.00	.00	.00	.00	60	331	433	423	205
MIN	.00	.00	.00	.00	.00	.00	.00	.00	28	262	113	64
AC-FT	.00	.00	.00	.00	.00	.00	.00	378	9020	21970	14100	7390

# KANSAS RIVER BASIN

301

06852500 COURTLAND CANAL AT NEBRASKA-KANSAS STATE LINE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.6	9.67	2.69	3.31	3.44	6.21	11.2	51.8	112	349	279	64.6
MAX	464	212	73.6	84.4	82.9	87.1	97.8	237	362	627	570	205
(WY)	1958	1967	1992	1992	1992	1992	1991	1958	1988	1976	1976	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	21.2	44.4	80.3	.000
(WY)	1955	1955	1955	1955	1955	1955	1955	1957	1957	1955	1992	1977

## SUMMARY STATISTICS

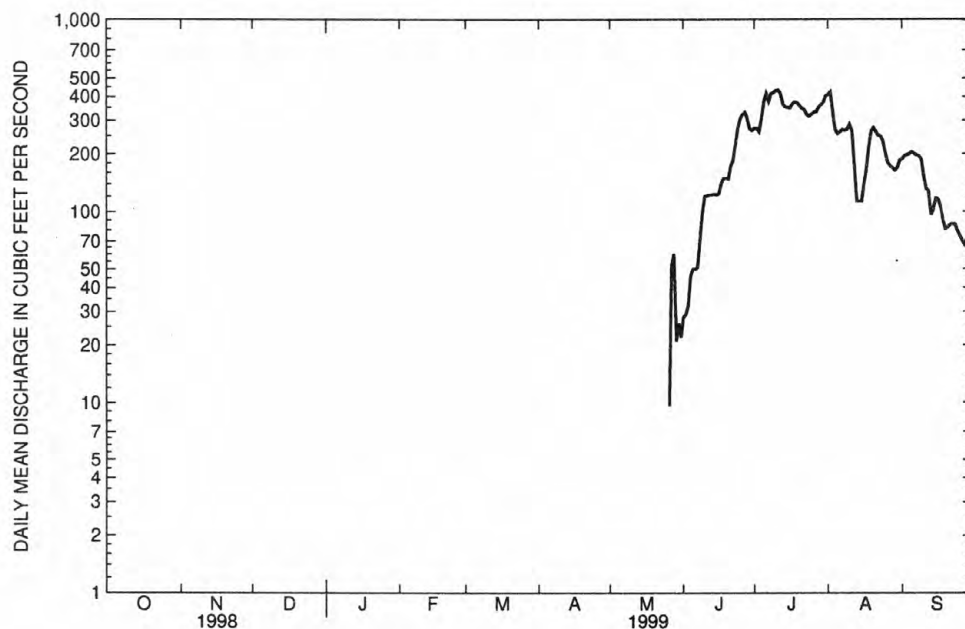
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1955 - 1999

ANNUAL TOTAL	28141.10	26648.60	
ANNUAL MEAN	77.1	73.0	77.6
HIGHEST ANNUAL MEAN			138
LOWEST ANNUAL MEAN			19.5
HIGHEST DAILY MEAN	425 Jul 6	433 Jul 11	731 Oct 22 1957
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1954
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1954
INSTANTANEOUS PEAK FLOW			781 Sep 2 1973
INSTANTANEOUS PEAK STAGE			5.05 Sep 2 1973
ANNUAL RUNOFF (AC-FT)	55820	52860	56230
10 PERCENT EXCEEDS	313	279	287
50 PERCENT EXCEEDS	.60	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

\* No flow for many days each year.



COURTLAND CANAL AT NEBRASKA-KANSAS STATE LINE

## KANSAS RIVER BASIN

## 06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE

LOCATION.--Lat 40°03'49", long 98°19'53", in NE $\frac{1}{4}$  SE $\frac{1}{4}$  sec.9, T.1 N., R.9 W., Webster County, Hydrologic Unit 10250016, on left downstream bank at Nebraska State Highway 78 bridge, 0.2 mi downstream from Minnie Creek and 0.5 mi south of Guide Rock. Station is 3.1 river miles downstream from station 06853000, Republican River near Guide Rock, previous site, and at mile 176.

DRAINAGE AREA --22,100 mi<sup>2</sup>, approximately, of which about 14,610 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--August 1950 to current year. August 1950 to September 1984 published as Republican River near Guide Rock (06853000).

REVISED RECORDS.--WDR NE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,616.15 ft above sea level, levels by U.S. Corps of Engineers. Prior to Oct. 1, 1959, at datum 12.98 ft higher, and Oct. 1, 1959 to Nov. 28, 1984, at datum 7.98 ft higher, both at site 3.1 miles upstream. Data collection platform at station

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station, by regulation of upstream reservoirs, and since Nov. 14, 1952, by storage in Harlan County Lake (station 06849000).

COOPERATION.--Records provided by Nebraska Department of Water Resources and reviewed by the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	187	129	140	145	132	131	174	614	115	58	31
2	109	159	127	140	142	131	125	186	1340	84	127	18
3	117	165	128	130	141	128	133	204	598	50	270	9.6
4	120	155	129	125	139	129	136	222	345	64	140	26
5	121	146	129	135	139	132	173	467	260	59	94	65
6	108	141	129	140	139	130	247	436	207	65	81	50
7	100	142	131	135	140	130	211	287	189	88	130	34
8	100	146	130	130	139	125	181	243	163	44	82	27
9	101	147	130	120	136	125	163	219	126	32	64	9.8
10	102	152	132	130	137	130	157	206	123	64	33	7.3
11	100	147	130	145	135	135	154	192	136	81	45	7.1
12	99	145	130	150	130	135	152	181	134	98	301	3.7
13	100	142	131	140	129	130	151	180	132	81	173	2.9
14	105	139	129	145	132	140	235	174	152	79	116	2.7
15	106	138	128	150	133	142	323	651	133	68	95	2.6
16	116	137	127	155	131	140	350	1190	104	78	75	3.2
17	125	135	126	160	130	137	290	652	81	209	56	4.6
18	112	135	127	170	130	134	240	429	64	161	24	4.2
19	106	134	118	180	131	133	225	319	72	115	31	3.2
20	107	134	92	185	130	136	210	761	80	94	26	3.4
21	109	132	80	224	125	137	200	3610	76	61	42	3.1
22	110	132	72	183	130	134	175	1410	49	40	55	3.1
23	110	131	70	164	130	136	155	1370	133	34	39	2.9
24	108	131	88	152	136	136	140	1110	141	66	36	2.8
25	109	132	114	142	133	136	145	561	79	59	33	2.8
26	111	131	130	143	133	136	200	349	60	35	30	2.6
27	113	131	135	142	131	137	210	317	79	33	13	2.6
28	118	131	140	143	130	138	202	277	161	31	13	2.7
29	116	130	140	139	---	134	189	271	203	14	23	1.8
30	112	130	140	140	---	134	184	258	134	9.9	41	2.3
31	111	---	140	144	---	132	---	253	---	28	47	---
TOTAL	3379	4237	3781	4621	3756	4144	5787	17159	6168	2139.9	2393	342.0
MEAN	109	141	122	149	134	134	193	554	206	69.0	77.2	11.4
MAX	125	187	140	224	145	142	350	3610	1340	209	301	65
MIN	98	130	70	120	125	125	125	174	49	9.9	13	1.8
AC-FT	6700	8400	7500	9170	7450	8220	11480	34030	12230	4240	4750	678

# KANSAS RIVER BASIN

303

06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	211	189	163	157	255	317	372	420	487	523	248	288
MAX	2073	1245	819	588	948	1077	2484	2511	3619	4298	1712	3602
(WY)	1966	1994	1994	1952	1952	1952	1960	1960	1951	1951	1962	1951
MIN	1.19	2.41	3.13	4.11	3.86	22.5	6.86	7.04	11.5	23.3	33.8	1.97
(WY)	1992	1992	1992	1992	1992	1992	1992	1989	1992	1970	1971	1991

## SUMMARY STATISTICS

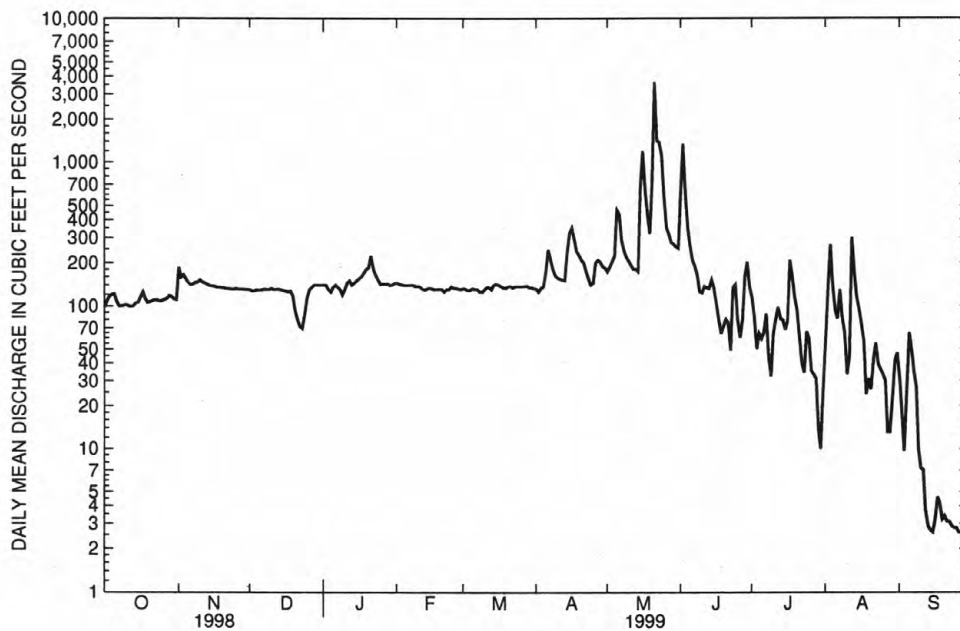
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1950 - 1999

ANNUAL TOTAL	72991	57906.9	301
ANNUAL MEAN	200	159	1495
HIGHEST ANNUAL MEAN			52.1
LOWEST ANNUAL MEAN			20900
HIGHEST DAILY MEAN	1260	Apr 8	3610
LOWEST DAILY MEAN	18	Sep 22	1.8
ANNUAL SEVEN-DAY MINIMUM	20	Sep 16	2.5
INSTANTANEOUS PEAK FLOW			4250
INSTANTANEOUS PEAK STAGE			11.22
ANNUAL RUNOFF (AC-FT)	144800	114900	218400
10 PERCENT EXCEEDS	446	223	692
50 PERCENT EXCEEDS	145	131	120
90 PERCENT EXCEEDS	54	31	24

\* Site and datum then in use.



REPUBLICAN RIVER AT GUIDE ROCK

## KANSAS RIVER BASIN

06853500 REPUBLICAN RIVER NEAR HARDY, NE

LOCATION.--Lat 39°59'33", long 097°55'53", in NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.1, T.1 S., R.6 W., in Kansas, Republic County, Hydrologic Unit 10250016, on right bank at upstream side of county highway bridge, 1.2 mi southwest of Hardy, NE, and at mile 141.2.

DRAINAGE AREA.--22,401 mi<sup>2</sup>, of which about 14,901 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--June 1904 to September 1915 (no winter records), April 1931 to current year. Prior to May 1932, published as "at Bostwick." Records for June 1896 to November 1903 published as "near Superior" in 18th to 22nd Ann. Repts., inclusive, Pt. 4, and WSP 75, 84, and 99, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 806: Drainage area. WSP 1006: 1941. WSP 1340: 1905(M), 1907-09, 1912, 1914-15, 1931. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,501.46 ft above sea level. Prior to May 19, 1932, nonrecording gage at site at Bostwick, 20 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Natural flow affected by irrigation development upstream from station and by storage in reservoirs in Colorado, Kansas, and Nebraska. Considerable regulation since 1952 by Harlan County Lake (station 06849000). Satellite telemeter station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, that of June 2, 1935, and 17.00 ft June 24, 1947, discharge, 100,000 ft<sup>3</sup>/sec, based on records for upstream stations.

COOPERATION.--Records provided by Geological Survey, Kansas District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	159	188	e250	273	176	170	248	453	253	276	122
2	154	225	188	e250	261	175	168	268	1130	210	209	107
3	157	248	189	e250	245	172	168	299	1060	167	226	90
4	165	236	190	e250	228	170	176	309	675	134	353	83
5	166	216	191	e250	218	171	202	372	480	133	241	86
6	157	197	188	e260	216	171	260	627	391	221	192	110
7	148	194	190	e270	213	170	324	520	334	153	155	111
8	142	199	188	e280	207	186	278	401	288	177	186	93
9	139	209	188	e280	201	194	236	359	259	154	164	77
10	138	220	189	e280	196	198	208	343	218	115	143	60
11	137	215	191	e280	197	196	194	318	218	139	140	51
12	136	208	192	e280	189	193	188	295	237	161	146	57
13	134	205	194	e280	182	190	186	281	265	158	400	47
14	135	196	196	e280	184	188	234	275	258	134	296	43
15	138	192	e200	e280	187	187	443	487	253	126	229	41
16	144	191	e210	e280	186	186	487	1280	241	129	184	40
17	153	191	e210	e270	183	182	363	1170	224	133	150	39
18	158	190	205	e260	181	176	296	763	192	302	141	39
19	147	184	196	e250	181	172	262	512	173	281	110	38
20	143	181	179	e240	180	173	244	477	175	208	106	38
21	143	182	162	e230	179	173	245	2870	184	160	106	38
22	142	184	e180	e220	181	178	247	2980	168	119	117	37
23	143	186	e200	e220	185	177	244	1210	153	100	153	37
24	143	187	e210	e210	187	177	243	1490	207	97	126	35
25	144	185	e220	e200	191	178	258	1030	227	116	114	35
26	146	189	e220	e210	187	177	273	642	187	125	111	33
27	148	187	e220	e230	184	175	282	491	182	100	101	33
28	148	187	e220	260	178	178	280	426	235	89	91	35
29	149	189	e230	258	---	177	274	407	324	86	84	35
30	146	189	e230	256	---	172	256	479	356	73	95	34
31	144	---	e240	265	---	170	---	609	---	350	112	---
MEAN	146	197	200	254	199	179	256	717	325	158	170	57.5
MAX	166	248	240	280	273	198	487	2980	1130	350	400	122
MIN	134	159	162	200	178	170	168	248	153	73	84	33
AC-FT	8970	11740	12290	15630	11070	11020	15250	44110	19330	9730	10430	3420

e Estimated

## KANSAS RIVER BASIN

305

06853500 REPUBLICAN RIVER NEAR HARDY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	289	236	205	194	308	426	456	494	506	526	325	329
MAX	1970	1308	928	636	968	1584	2415	2523	2031	3210	1800	1455
(WY)	1966	1994	1994	1966	1966	1993	1960	1960	1960	1993	1962	1973
MIN	17.2	22.3	26.2	33.7	27.0	66.5	39.1	29.6	46.5	54.3	58.7	15.3
(WY)	1992	1992	1992	1992	1992	1991	1991	1992	1992	1991	1991	1991

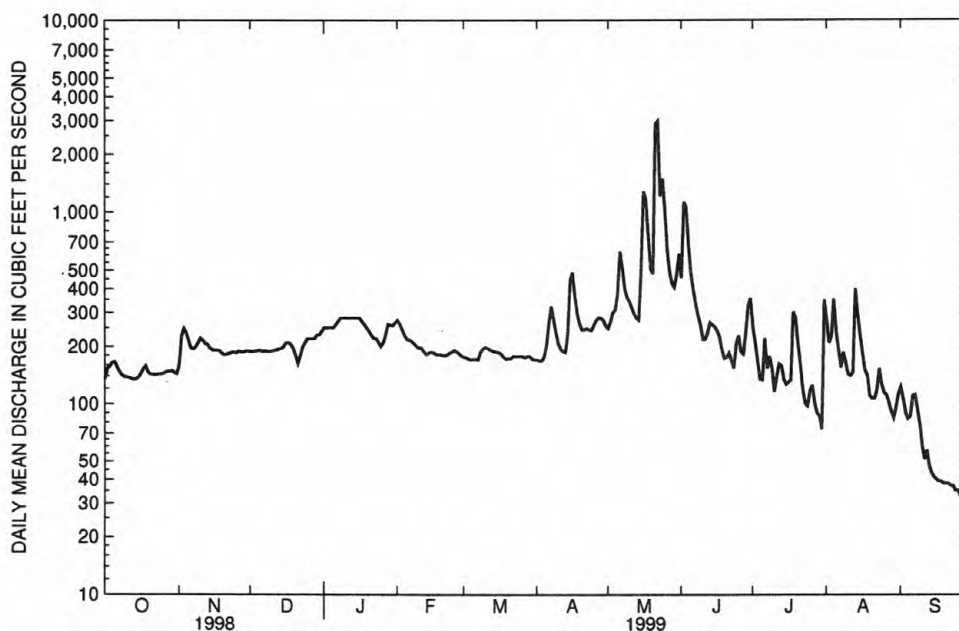
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATERYEARS 1958 - 1999

ANNUAL MEAN	274	239	358
HIGHEST ANNUAL MEAN			800
LOWEST ANNUAL MEAN			72.5
HIGHEST DAILY MEAN	1580 Apr 7	2980 May 22	15000 Oct 1 1983
LOWEST DAILY MEAN	39 Sep 19	33 Sep 26	4.8 Aug 3 1991
ANNUAL SEVEN-DAY MINIMUM	45 Sep 18	34 Sep 24	9.0 Jun 26 1992
INSTANTANEOUS PEAK FLOW		3860 May 21	225000 Jun 2 1935
INSTANTANEOUS PEAK STAGE		8.80 May 21	19.40 Jun 2 1935
ANNUAL RUNOFF (AC-FT)	198200	173000	259400
10 PERCENT EXCEEDS	547	338	800
50 PERCENT EXCEEDS	210	189	174
90 PERCENT EXCEEDS	97	104	67







REPUBLICAN RIVER NEAR HARDY

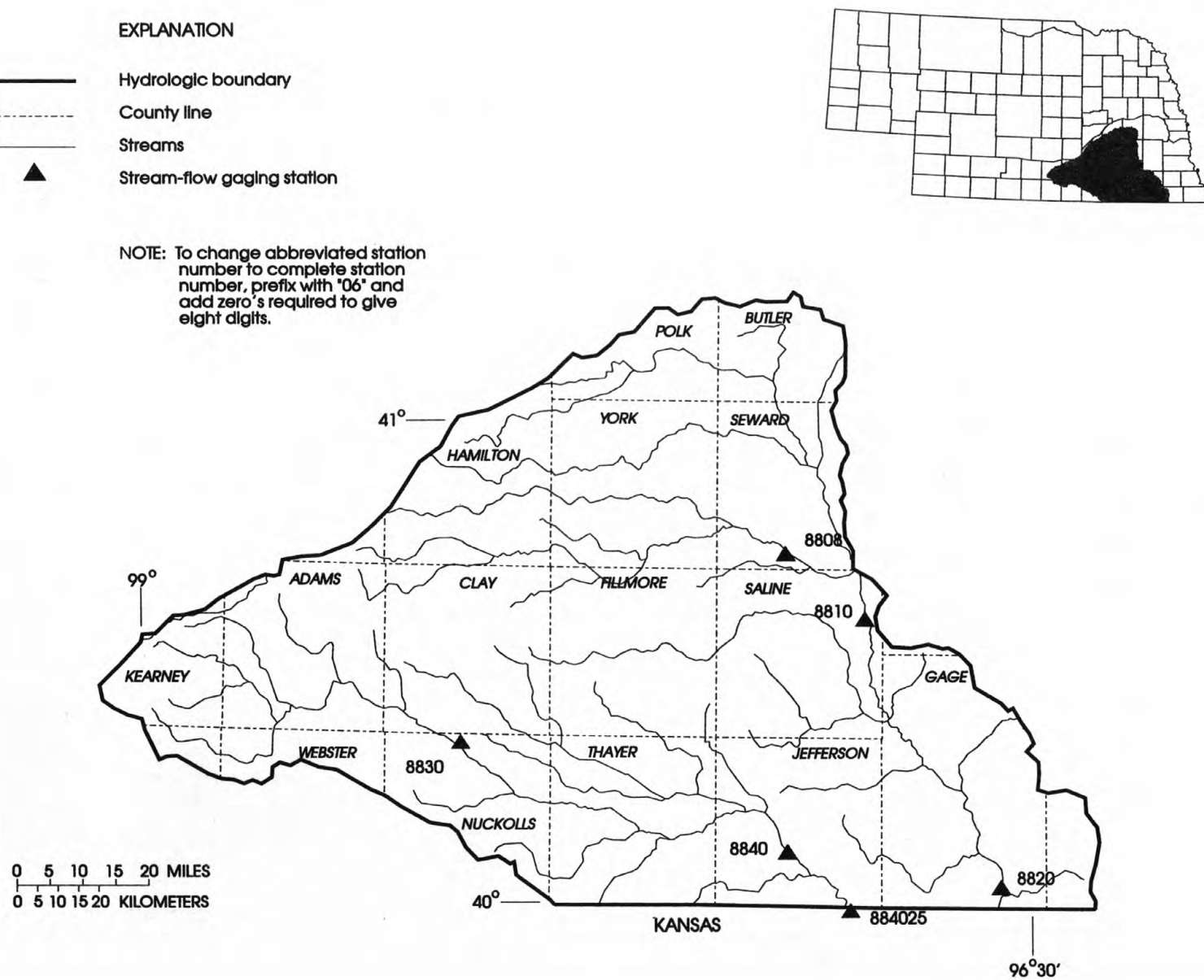


# KANSAS RIVER BASIN BLUE RIVER BASIN

## EXPLANATION

-  Hydrologic boundary
-  County line
-  Streams
-  Stream-flow gaging station

NOTE: To change abbreviated station number to complete station number, prefix with '06' and add zero's required to give eight digits.



## KANSAS RIVER BASIN

307

*STATION NUMBER	STATION NAME	PAGE
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### BIG BLUE RIVER BASIN

8808	W.F. Big Blue River near Dorchester.....	308
8810	Big Blue River near Crete.....	310
8820	Big Blue River at Barneston .....	312

### LITTLE BLUE RIVER BASIN

8830	Little Blue River near Deweese .....	314
8840	Little Blue River near Fairbury .....	316
884025	Little Blue River at Hollenberg, KS .....	318

\* NOTE: To change abbreviated station number to complete station number, prefix with "06" and add zero's required to give eight digits.

## KANSAS RIVER BASIN

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE

LOCATION.--Lat 40°43'52", long 097°10'38", in SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.23, T.9 N., R.2 E., Seward County, Hydrologic Unit 10270203, on right bank 60 ft downstream from bridge on county road, 6.2 mi northwest of Dorchester, and 22.8 mi upstream from mouth.

DRAINAGE AREA.--1,192 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1958 to current year.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,403.48 ft above sea level. Prior to Apr. 14, 1970, on bridge pier 60 ft upstream at same datum. Data collection platform at station.

REMARKS.--Records fair except for periods of estimated record, which are poor. Some diversion by pumping for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	89	108	e96	117	127	126	138	1000	2210	244	151
2	91	103	109	e90	117	128	124	134	1040	2190	246	155
3	95	113	110	e82	118	127	124	140	747	2010	244	163
4	95	125	110	e76	117	124	125	143	746	1170	230	145
5	96	160	110	e82	117	125	132	147	674	696	220	141
6	95	175	111	e88	118	124	133	155	558	514	231	133
7	94	166	112	e88	118	124	135	166	353	397	348	128
8	98	147	113	e86	118	131	137	180	246	356	429	122
9	126	133	116	e76	119	134	138	158	214	478	469	118
10	116	139	117	e80	117	133	141	146	1140	358	417	117
11	100	147	118	e88	117	133	142	249	3760	283	338	117
12	92	186	118	e90	122	132	134	168	3610	257	517	115
13	88	212	119	e86	122	131	129	146	1330	245	562	111
14	87	190	120	e90	121	132	138	137	740	237	495	e110
15	86	158	121	e110	122	132	185	332	578	232	401	e108
16	86	141	121	e125	120	130	209	446	495	240	308	e108
17	87	128	122	e130	118	129	274	402	416	294	222	e110
18	87	120	118	e135	122	128	286	454	362	302	713	e112
19	87	114	113	e140	123	128	250	379	337	285	754	e110
20	88	110	110	132	124	128	205	297	295	257	356	e108
21	87	108	e106	127	126	124	179	412	272	246	271	e110
22	87	106	e90	125	126	128	165	399	260	234	323	e110
23	88	106	e98	124	127	130	157	431	625	246	344	e108
24	87	106	e104	124	128	131	151	323	1180	270	244	e108
25	86	107	e108	121	128	131	148	230	1210	275	195	e110
26	86	108	e114	118	128	130	147	215	1180	273	177	e110
27	87	108	e112	118	129	130	147	189	1550	257	168	e108
28	87	109	e102	118	128	129	147	172	2030	243	161	e108
29	89	109	e98	117	---	127	144	164	2170	234	160	e106
30	89	108	e94	116	---	126	140	169	1900	236	161	e106
31	88	---	e90	117	---	127	---	428	---	236	156	---
TOTAL	2841	3931	3412	3295	3407	3993	4792	7649	31018	15761	10104	3566
MEAN	91.6	131	110	106	122	129	160	247	1034	508	326	119
MAX	126	212	122	140	129	134	286	454	3760	2210	754	163
MIN	86	89	90	76	117	124	124	134	214	232	156	106
AC-FT	5640	7800	6770	6540	6760	7920	9500	15170	61520	31260	20040	7070

e Estimated

## KANSAS RIVER BASIN

309

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	119	80.9	68.4	73.3	144	310	177	269	365	331	194	155
MAX	812	224	202	377	671	1762	887	1147	1749	1395	480	855
(WY)	1974	1997	1998	1973	1984	1993	1984	1984	1967	1986	1993	1989
MIN	35.7	33.6	26.4	25.4	40.1	41.6	50.0	60.4	43.1	46.7	34.8	33.1
(WY)	1982	1981	1977	1977	1979	1981	1981	1989	1981	1980	1976	1976

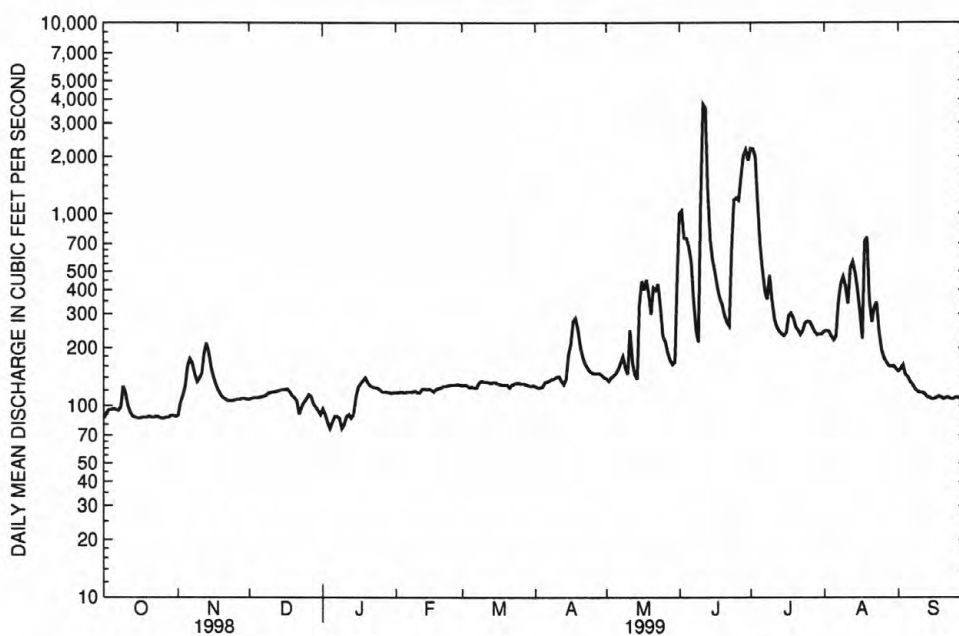
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1958 - 1999

ANNUAL TOTAL	71024	93769	
ANNUAL MEAN	195	257	191
HIGHEST ANNUAL MEAN			441
LOWEST ANNUAL MEAN			54.4
HIGHEST DAILY MEAN	2790	3760	11100
LOWEST DAILY MEAN	66	76	12
ANNUAL SEVEN-DAY MINIMUM	75	82	17
INSTANTANEOUS PEAK FLOW (STAGE)		4620	12400
INSTANTANEOUS PEAK STAGE		17.71	22.62
ANNUAL RUNOFF (AC-FT)	140900	186000	138000
10 PERCENT EXCEEDS	344	437	322
50 PERCENT EXCEEDS	117	130	83
90 PERCENT EXCEEDS	87	91	46



WEST FORK BIG BLUE RIVER NEAR DORCHESTER

## KANSAS RIVER BASIN

06881000 BIG BLUE RIVER NEAR CRETE, NE

LOCATION.--Lat 40°35'47", long 096°57'33", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.3, T.7 N., R.4 E., Saline County, Hydrologic Unit 10270202, on right bank near downstream side of county road bridge, 1.8 mi south of Missouri Pacific Railroad station in Crete, 3.3 mi downstream from Walnut Creek, 3.6 mi upstream from Squaw Creek, and at mile 167.

DRAINAGE AREA.--2,710 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1945 to current year. Prior to Oct. 1, 1953, discharge published only for stages above 12.0 ft because of variable backwater from dam downstream until 1952 and diurnal fluctuation from powerplant upstream in 1952-53.

REVISED RECORDS.--WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,311.7 ft above sea level. Prior to Jan. 20, 1954, nonrecording gage and Jan. 21, 1954 to Mar. 27, 1986, recording gage on right bank at downstream side of county road bridge at present datum. Mar. 28, 1986 to May 11, 1988 at temporary location, on right bank 250 ft downstream from bridge at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water and surface-water withdrawals for irrigation and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	199	194	203	e160	268	271	225	341	1800	4810	376	232
2	214	285	206	e165	260	273	223	333	4020	6490	377	232
3	217	329	208	e160	261	263	220	332	4060	5110	371	232
4	237	307	207	e150	259	254	218	341	3100	2610	365	242
5	295	284	205	e140	266	248	250	385	2830	1630	349	239
6	237	309	203	e150	268	243	252	365	2630	1240	342	221
7	229	311	202	e160	272	238	259	374	1680	992	402	218
8	219	312	202	e165	277	249	265	389	812	827	526	206
9	208	293	202	e155	272	250	255	405	631	760	590	197
10	247	522	205	e160	271	247	256	385	724	808	601	190
11	241	423	206	e170	268	247	253	381	2920	662	544	185
12	217	397	206	e190	261	248	256	1060	3570	601	709	182
13	206	383	205	e200	256	248	248	564	3440	571	1020	179
14	207	395	207	218	245	250	300	419	1530	531	837	178
15	203	351	208	222	242	253	678	440	1080	495	732	175
16	198	308	210	224	241	262	815	2190	873	473	607	176
17	196	279	211	236	242	278	765	1560	779	586	463	177
18	194	257	214	254	243	272	706	1080	718	758	476	177
19	186	238	213	260	244	255	626	878	652	605	1130	179
20	182	225	202	263	243	247	547	719	604	569	782	178
21	187	219	e190	261	240	237	484	889	558	524	476	177
22	186	211	e165	265	239	237	434	1360	529	458	385	178
23	192	206	e170	265	242	239	399	1140	598	428	429	178
24	188	202	e180	266	239	251	378	1210	2140	441	415	177
25	186	200	e190	260	237	258	364	805	2130	463	338	175
26	186	204	196	255	246	256	360	678	1830	448	298	175
27	187	202	190	258	255	249	360	599	1740	442	272	171
28	191	203	195	259	264	245	357	523	4360	419	252	172
29	190	204	e190	260	---	242	352	484	4600	391	234	171
30	190	203	e170	262	---	236	347	451	3340	374	240	170
31	191	---	e155	262	---	228	---	978	---	374	237	---
TOTAL	6406	8456	6116	6675	7121	7774	11452	22058	60278	35890	15175	5739
MEAN	207	282	197	215	254	251	382	712	2009	1158	490	191
MAX	295	522	214	266	277	278	815	2190	4600	6490	1130	242
MIN	182	194	155	140	237	228	218	332	529	374	234	170
AC-FT	12710	16770	12130	13240	14120	15420	22720	43750	119600	71190	30100	11380

e Estimated

# KANSAS RIVER BASIN

311

06881000 BIG BLUE RIVER NEAR CRETE, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	240	157	132	141	311	702	412	570	945	684	350	321
MAX	1864	439	390	865	1576	3968	2257	2339	5808	4739	1048	2065
(WY)	1974	1974	1998	1973	1984	1993	1984	1984	1967	1986	1987	1989
MIN	46.5	41.1	60.3	52.2	66.8	86.3	92.2	84.5	70.7	48.6	28.4	51.2
(WY)	1957	1957	1977	1978	1977	1977	1967	1967	1981	1970	1955	1976

## SUMMARY STATISTICS

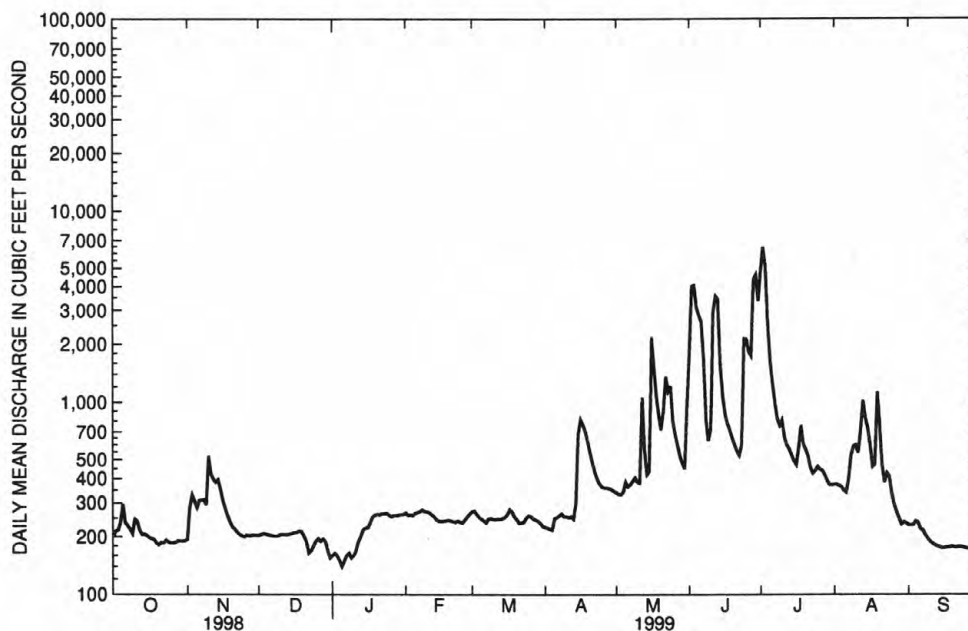
### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1954 - 1999

ANNUAL TOTAL	193843	193140	414
ANNUAL MEAN	531	529	96.6
HIGHEST ANNUAL MEAN			1030
LOWEST ANNUAL MEAN			1984
HIGHEST DAILY MEAN	6980 Jun 16	6490 Jul 2	21400 Jun 19 1957
LOWEST DAILY MEAN	120 Mar 12	140 Jan 5	6.0 Aug 1 1980
ANNUAL SEVEN-DAY MINIMUM	143 Mar 8	154 Dec 31	11 Jul 12 1976
INSTANTANEOUS PEAK FLOW (STAGE)		6820 Jul 2	27600 (28.74) Jul 10 1950
INSTANTANEOUS PEAK STAGE		22.87 Jul 2	*29.86 Jul 3 1986
ANNUAL RUNOFF (AC-FT)	384500	383100	299900
10 PERCENT EXCEEDS	858	925	761
50 PERCENT EXCEEDS	268	259	158
90 PERCENT EXCEEDS	187	184	78

\* From floodmark.



BIG BLUE RIVER NEAR CRETE



## KANSAS RIVER BASIN

06882000 BIG BLUE RIVER AT BARNESTON, NE

LOCATION.--Lat 40°02'40", long 096°35'12", in NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.24, T.1 N., R.7 E., Gage County, Hydrologic Unit 10270202, on right bank at right downstream end of bridge on State Highway 8, 0.6 mi southwest of Barneston, 1.3 mi upstream from Plum Creek, and 4.3 mi upstream from Nebraska-Kansas State line.

DRAINAGE AREA.--4,447 mi<sup>2</sup>, of which about 4,370 mi<sup>2</sup> contributes directly to surface runoff.

PERIOD OF RECORD.--May 1932 to current year.

REVISED RECORDS.--WSP 896: 1932, 1935. WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,162.2 ft above sea level. Prior to June 9, 1941, water-stage recorder at site 0.3 mi downstream at datum 1.56 ft higher. June 9 to Nov. 17, 1941, nonrecording gage and Nov. 18, 1941, to Sept. 30, 1979, water-stage recorder at site 0.7 mi upstream at datum 2.0 ft higher. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Low flow regulated by dam at unused powerplant 0.7 mi upstream. No large tributaries between station and Nebraska-Kansas State line. Some pump diversions for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	439	480	e310	483	453	391	827	6410	4540	1740	370
2	378	3690	474	e320	479	451	372	749	4780	4290	1050	358
3	388	4520	471	e310	484	436	383	712	4710	5260	730	349
4	775	4210	469	e290	460	430	392	687	5320	5660	645	476
5	3020	2850	461	e300	472	419	1490	1080	4380	3970	589	522
6	2660	1830	446	e310	461	401	2310	1140	3680	2920	559	459
7	1450	1410	440	e350	488	389	1250	1030	3380	4050	547	426
8	889	1540	428	e310	496	416	910	873	2740	2340	529	401
9	656	1330	421	e290	485	439	742	854	1660	1860	618	372
10	545	3350	415	e300	478	455	636	805	1240	1700	730	352
11	482	4230	406	e340	473	474	552	3330	1100	1490	896	344
12	461	2770	406	e360	453	472	508	1800	2350	1270	1280	339
13	432	1770	410	e350	430	482	486	1350	4070	1090	1100	323
14	393	1370	409	e360	431	465	1310	1390	5170	985	1350	314
15	371	1160	408	e400	422	468	10700	1320	3210	894	1340	311
16	369	1030	400	e420	403	477	7720	1410	2560	800	1230	310
17	458	900	394	e440	393	481	4160	2860	2320	1110	1030	310
18	546	788	404	e450	398	467	2550	3790	1620	1190	894	310
19	436	703	392	e450	398	465	1820	3090	1400	1140	823	316
20	382	638	374	e460	400	452	1450	2830	1260	971	1080	319
21	362	606	e350	e460	395	421	1240	14800	1120	851	1370	315
22	338	580	e280	e470	394	417	1100	8210	1020	781	1010	313
23	327	556	e300	e470	400	411	990	5480	2290	704	763	317
24	323	523	e320	e460	408	404	903	4090	3450	670	631	313
25	320	511	e340	e470	419	401	824	3230	2650	630	662	308
26	321	500	e350	e480	430	409	848	2270	3100	644	604	311
27	320	494	e360	511	455	418	1890	1700	2660	618	502	323
28	318	494	e360	512	456	428	1570	1410	2810	593	449	322
29	326	498	e350	512	---	409	1190	1180	4510	562	423	307
30	322	494	e330	487	---	400	979	1260	5030	522	390	299
31	321	---	e290	475	---	403	---	13200	---	926	373	---
TOTAL	19044	45784	12138	12427	12344	13513	51666	88757	92000	55031	25937	10409
MEAN	614	1526	392	401	441	436	1722	2863	3067	1775	837	347
MAX	3020	4520	480	512	496	482	10700	14800	6410	5660	1740	522
MIN	318	439	280	290	393	389	372	687	1020	522	373	299
AC-FT	37770	90810	24080	24650	24480	26800	102500	176000	182500	109200	51450	20650

e Estimated

# KANSAS RIVER BASIN

313

06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	557	313	240	291	653	1384	881	1278	2090	1366	720	714
MAX	7451	1526	851	1596	2876	10560	5280	5207	10460	12270	5227	3420
(WY)	1974	1999	1998	1973	1984	1979	1984	1995	1951	1993	1954	1989
MIN	61.5	77.5	87.4	67.6	116	137	132	96.0	69.3	30.7	21.1	50.6
(WY)	1941	1937	1977	1937	1940	1968	1934	1934	1934	1934	1934	1939

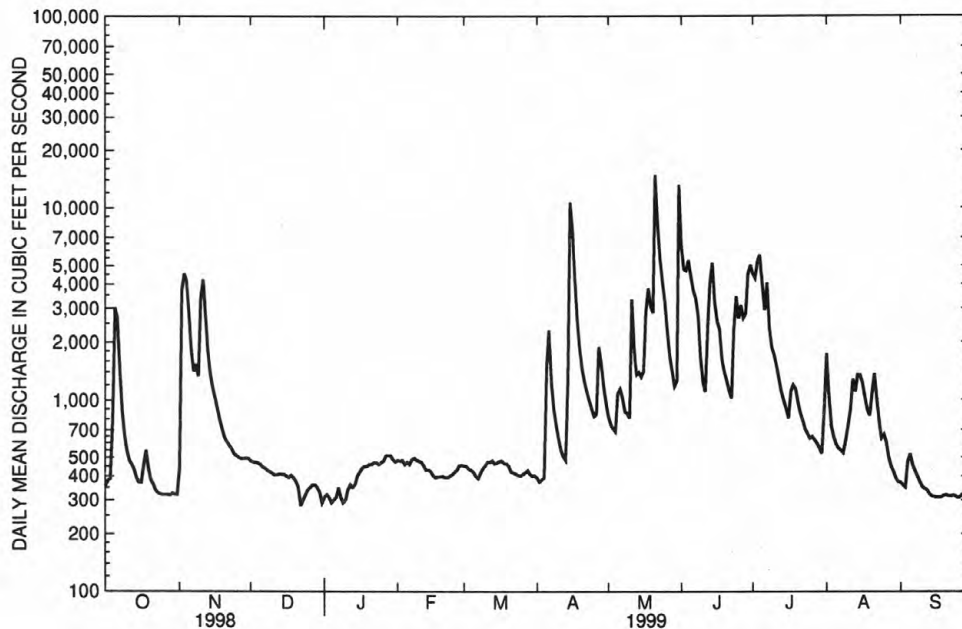
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1933 - 1999

ANNUAL TOTAL	450760	439050	
ANNUAL MEAN	1235	1203	874
HIGHEST ANNUAL MEAN			2781
LOWEST ANNUAL MEAN			115
HIGHEST DAILY MEAN	12800	May 21	50000
LOWEST DAILY MEAN	256	Dec 22	1.0
ANNUAL SEVEN-DAY MINIMUM	266	Dec 31	15
INSTANTANEOUS PEAK FLOW		16500	57700
INSTANTANEOUS PEAK STAGE		20.37	34.30
ANNUAL RUNOFF (AC-FT)	894100	870900	633300
10 PERCENT EXCEEDS	3060	3090	1810
50 PERCENT EXCEEDS	638	496	278
90 PERCENT EXCEEDS	336	323	103



BIG BLUE RIVER AT BARNESTON

## KANSAS RIVER BASIN

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE

LOCATION.--Lat 40°19'58", long 98°04'00", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.12, T.4 N., R.7 W., Nuckolls County, Hydrologic Unit 10270206, on right bank 10 ft downstream from bridge on State Highway 14, 1 mi upstream from Walnut Creek, 3.2 mi southeast of Deweese, 6 mi northwest of Angus, and at mile 122.57.

DRAINAGE AREA.--984 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1953 to September 1972, October 1974 to current year.

REVISED RECORDS.--WDR NE-97-1: Drainage area.

GAGE.--Water-stage recorder and peak-stage indicator gage. Datum of gage is 1,632.67 ft above sea level. Prior to May 16, 1957, non-recording gage and Oct. 1, 1974, to Mar. 24, 1981, recording gage at present site and datum; May 16, 1957, to Sept. 30, 1972, and Mar. 25, 1981 to Mar. 24, 1982, at site 1,500 ft upstream from bridge at present datum. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	82	e84	e48	98	97	90	93	847	237	30	57
2	85	104	e86	e44	98	96	84	104	1040	173	38	53
3	81	105	e84	e46	101	93	87	110	882	155	44	47
4	82	89	e82	e48	99	94	85	116	496	133	49	49
5	89	80	81	e46	102	97	102	177	308	116	42	47
6	78	76	80	e44	103	94	135	183	223	104	34	43
7	74	77	77	e44	102	90	133	275	189	93	41	45
8	73	78	75	e42	102	97	112	179	174	88	290	44
9	76	80	75	e42	102	97	97	144	164	80	361	40
10	78	93	74	e44	103	95	94	130	160	75	165	42
11	79	85	75	e42	102	92	91	123	174	69	162	44
12	75	79	75	e48	96	90	91	115	298	66	276	45
13	76	75	77	e58	94	89	93	113	285	61	405	44
14	83	74	77	e48	98	89	117	112	201	62	246	43
15	87	72	77	e78	102	91	167	180	160	63	140	42
16	91	74	76	90	100	93	157	497	147	76	96	45
17	91	73	76	90	99	94	120	311	137	76	74	44
18	82	74	78	91	100	89	106	237	132	67	128	42
19	80	71	75	93	97	89	105	219	129	57	381	42
20	77	69	e70	96	97	90	106	184	126	55	451	43
21	74	71	e64	97	95	e90	107	291	126	53	281	39
22	73	73	e62	100	96	e92	104	238	124	62	154	39
23	75	72	e56	96	97	e94	97	521	122	57	108	41
24	77	70	e58	97	98	e92	95	290	120	66	88	44
25	79	71	e60	93	99	e86	e94	184	123	63	78	46
26	81	71	e62	96	101	e83	e98	157	115	48	68	47
27	82	71	e68	98	98	e89	e100	145	140	40	63	46
28	84	73	e66	95	94	e89	e98	137	138	41	58	50
29	82	74	e64	94	---	e89	e96	134	172	42	55	47
30	77	e78	e60	96	---	e88	e96	134	288	42	60	48
31	77	---	e52	98	---	86	---	246	---	35	61	---
TOTAL	2477	2334	2226	2242	2773	2834	3157	6079	7740	2455	4527	1348
MEAN	79.9	77.8	71.8	72.3	99.0	91.4	105	196	258	79.2	146	44.9
MAX	91	105	86	100	103	97	167	521	1040	237	451	57
MIN	73	69	52	42	94	83	84	93	115	35	30	39
AC-FT	4910	4630	4420	4450	5500	5620	6260	12060	15350	4870	8980	2670

e Estimated

# KANSAS RIVER BASIN

315

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	82.3	68.6	64.8	68.5	95.1	191	131	253	263	255	155	133
MAX	347	193	115	207	245	1140	762	1348	1145	2655	883	911
(WY)	1966	1997	1998	1984	1982	1993	1984	1965	1957	1993	1985	1969
MIN	29.1	39.3	41.7	44.6	46.7	56.5	59.3	50.5	36.0	15.6	14.0	10.7
(WY)	1992	1992	1981	1978	1981	1981	1972	1992	1988	1970	1991	1991

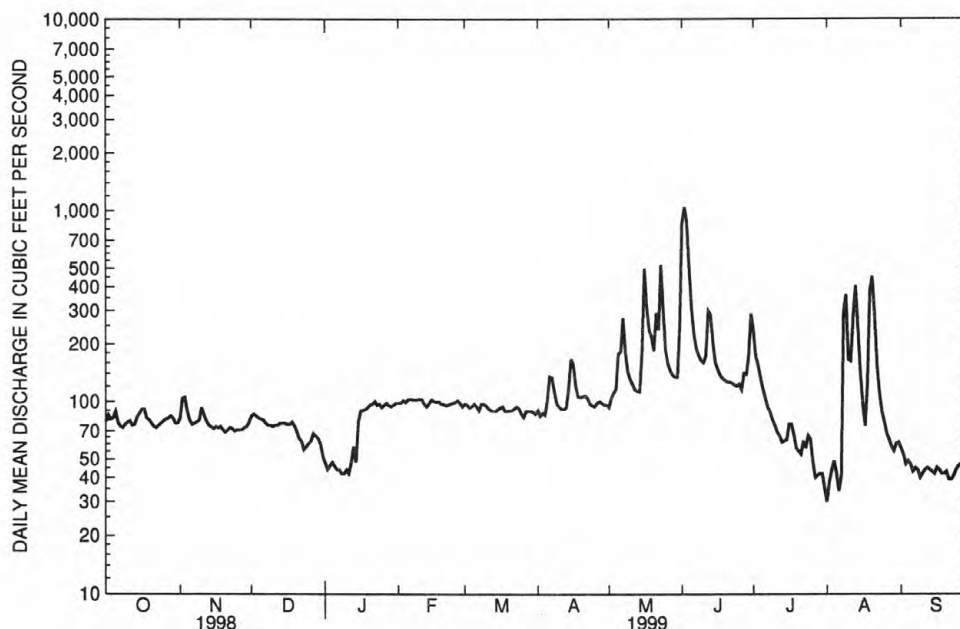
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1954 - 1999

ANNUAL TOTAL	46651	40192	
ANNUAL MEAN	128	110	147
MEDIAN OF ANNUAL MEANS			124
HIGHEST ANNUAL MEAN			464
LOWEST ANNUAL MEAN			64.0
HIGHEST DAILY MEAN	4450 Jul 30	1040 Jun 2	14300 Sep 1 1969
LOWEST DAILY MEAN	52 Dec 31	30 Aug 1	3.2 Aug 11 1988
ANNUAL SEVEN-DAY MINIMUM	61 Dec 21	38 Jul 27	4.2 Aug 31 1988
INSTANTANEOUS PEAK FLOW		1500 Jun 1	25100 Aug 31 1969
INSTANTANEOUS PEAK STAGE		4.78 Jun 1	18.57 Aug 31 1969
ANNUAL RUNOFF (AC-FT)	92530	79720	106600
10 PERCENT EXCEEDS	145	175	194
50 PERCENT EXCEEDS	88	89	70
90 PERCENT EXCEEDS	68	45	44



LITTLE BLUE RIVER NEAR DEWEESE

## KANSAS RIVER BASIN

06884000 LITTLE BLUE RIVER NEAR FAIRBURY, NE

LOCATION.--Lat 40°06'54", long 097°10'13", in NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.26, T.2 N., R.2 E., Jefferson County, Hydrologic Unit 10270207, at right downstream wingwall of bridge on State Highway 15, 0.8 mi south of Fairbury, 5.2 mi upstream from Rose Creek, and at mile 62.0.

DRAINAGE AREA.--2,350 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1908 to September 1915, October 1928 to September 1956 (published as "near Endicott"), October 1956 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1086: 1941(M). WSP 1390: 1908(M), 1912, 1915, 1935, 1939, 1945(M). WSP 1510: 1947 (calendar year figures only). WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,277.19 ft above sea level. May 23, 1908, to Sept. 30, 1915, nonrecording gage at present site at different datum. Apr. 26, 1929 to Sept. 24, 1957, nonrecording gage or water-stage recorder at site 3.5 mi downstream at various datums. Sept. 25, 1957 to Aug. 20, 1991, water-stage recorder at present site at datum 5.0 ft higher. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Some regulation at low stage by thermoelectric plant above station. Natural flow of stream affected by irrigation development above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	165	186	e150	190	174	175	243	1580	265	604	146
2	147	544	186	e150	192	171	173	244	1460	324	321	138
3	149	690	187	e145	189	166	176	252	1510	309	266	126
4	221	617	188	e145	184	164	176	262	1290	262	236	133
5	615	401	188	e140	180	164	220	306	967	245	225	230
6	253	296	186	e145	178	163	227	345	768	477	219	141
7	191	252	182	e155	182	160	203	381	590	335	227	131
8	169	234	181	e160	183	179	220	383	479	294	219	124
9	156	228	179	e150	178	192	225	420	411	257	208	117
10	150	1240	180	e155	176	189	212	364	368	275	259	118
11	144	895	182	e160	178	187	198	344	341	280	584	114
12	142	508	186	e170	174	184	188	325	328	247	782	113
13	140	356	192	e170	170	180	185	316	375	223	501	110
14	141	289	196	e180	169	177	244	305	515	211	467	108
15	141	253	198	e190	169	176	737	412	413	205	494	106
16	144	233	202	e210	162	175	508	428	382	204	386	103
17	148	217	203	239	164	174	413	872	336	235	314	103
18	146	210	208	228	167	170	339	1260	305	303	283	100
19	147	202	208	219	167	169	282	751	291	272	241	100
20	145	195	160	224	167	172	258	1160	280	234	247	100
21	143	190	150	212	167	173	246	5980	272	210	379	101
22	141	187	e140	213	166	176	238	2890	263	198	464	101
23	139	181	e135	197	172	178	231	2070	297	194	359	104
24	140	174	e145	205	171	177	229	1690	301	206	280	103
25	140	171	e155	205	175	175	230	1010	287	204	240	102
26	141	171	e155	189	174	172	239	756	258	202	212	100
27	143	175	e160	200	176	171	258	593	268	208	196	100
28	144	179	e160	196	174	169	251	500	302	204	183	100
29	143	184	e150	187	---	169	247	454	295	194	173	100
30	141	184	e150	188	---	172	246	446	269	197	171	100
31	143	---	e145	191	---	173	---	2840	---	319	159	---
TOTAL	5176	9821	5423	5668	4894	5391	7774	28602	15801	7793	9899	3472
MEAN	167	327	175	183	175	174	259	923	527	251	319	116
MAX	615	1240	208	239	192	192	737	5980	1580	477	782	230
MIN	129	165	135	140	162	160	173	243	258	194	159	100
AC-FT	10270	19480	10760	11240	9710	10690	15420	56730	31340	15460	19630	6890

e Estimated

# KANSAS RIVER BASIN

317

06884000 LITTLE BLUE RIVER NEAR FAIRBURY, NE--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	278	177	142	158	270	498	334	558	873	589	359	356
MAX	4406	886	282	594	1004	2821	2019	2419	4735	6413	2142	2189
(WY)	1974	1997	1914	1973	1948	1987	1987	1945	1951	1993	1985	1973
MIN	44.3	68.7	74.7	75.0	93.3	103	99.8	96.6	78.1	55.4	48.3	28.7
(WY)	1992	1992	1981	1930	1981	1981	1981	1992	1934	1934	1936	1991

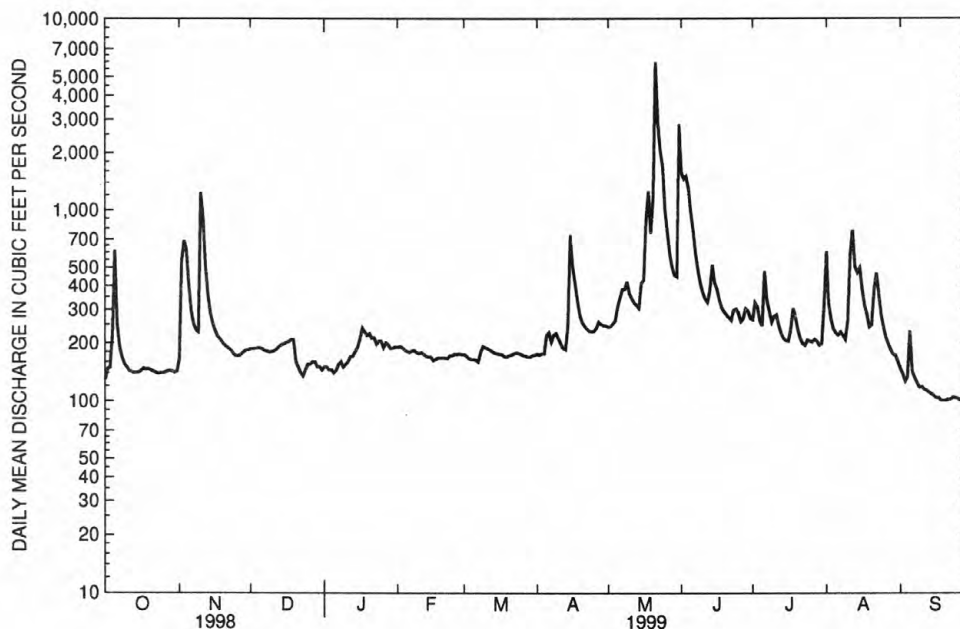
## SUMMARY STATISTICS

### FOR 1998 CALENDAR YEAR

### FOR 1999 WATER YEAR

### WATER YEARS 1910 - 1999

ANNUAL TOTAL	121447	109714	
ANNUAL MEAN	333	301	386
MEDIAN OF ANNUAL MEANS			342
HIGHEST ANNUAL MEAN			1239
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	3750 Apr 8	5980 May 21	36400 Jul 26 1992
LOWEST DAILY MEAN	92 Mar 12	100 Sep 18	14 Nov 22 1929
ANNUAL SEVEN-DAY MINIMUM	117 Jan 10	101 Sep 24	24 Sep 14 1991
INSTANTANEOUS PEAK FLOW		8110 May 21	54000 Jul 25 1992
INSTANTANEOUS PEAK STAGE		15.48 May 21	24.33 Jul 25 1992
ANNUAL RUNOFF (AC-FT)	240900	217600	279800
10 PERCENT EXCEEDS	643	478	584
50 PERCENT EXCEEDS	211	194	160
90 PERCENT EXCEEDS	136	141	92



LITTLE BLUE RIVER NEAR FAIRBURY



## KANSAS RIVER BASIN

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS

LOCATION.--Lat 39°58'48", long 097°00'16", NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.8, T.1 S., R.4 E., Washington County, Hydrologic Unit 10270207, on right bank 2 ft downstream from bridge on county road, 0.6 mi west of Hollenberg, 1.75 mi downstream from Nebraska-Kansas State line, and at mile 43.1.

DRAINAGE AREA.--2,752 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1973 to February 1974 (discharge measurements only), March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,216.10 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for periods of estimated record, which are poor. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	273	249	e205	e400	271	272	370	2530	444	668	146
2	194	1340	247	e200	338	268	273	353	2000	445	546	136
3	209	1470	251	e195	330	259	282	362	1930	460	394	130
4	324	1180	253	e180	324	255	281	364	1640	383	343	140
5	1220	688	255	e190	320	250	515	557	1250	364	313	209
6	695	438	254	e205	313	246	505	520	935	724	290	203
7	338	345	251	e195	322	247	369	587	718	445	321	163
8	248	321	247	e190	324	274	349	542	558	412	288	145
9	217	330	244	e180	311	315	355	544	479	352	272	128
10	198	1420	241	e195	309	315	336	488	444	326	257	123
11	185	1980	239	e205	320	307	317	480	420	370	607	115
12	174	1060	241	e210	303	301	298	422	405	340	1050	114
13	166	573	242	e200	287	299	289	402	2030	303	771	112
14	165	424	240	e210	281	297	559	387	821	282	658	111
15	161	359	240	e230	278	293	2140	604	607	269	627	110
16	167	325	237	e250	276	291	1130	688	665	266	523	110
17	196	305	232	e260	275	288	748	903	575	281	411	109
18	178	288	234	e290	277	276	595	1730	469	374	356	107
19	176	276	228	e300	279	275	499	1050	430	364	305	105
20	176	260	206	e310	276	277	430	802	411	318	277	111
21	175	250	e180	e300	274	277	408	5110	388	276	327	114
22	171	249	e190	e290	278	281	398	4670	368	255	508	113
23	169	246	e200	e290	287	286	374	2490	401	243	459	113
24	171	248	e220	e280	281	280	348	2740	427	258	347	113
25	176	249	e230	e290	285	277	344	1480	411	262	283	110
26	180	248	e230	e280	283	273	367	947	371	267	237	108
27	186	248	e230	e280	281	272	482	722	387	269	207	117
28	190	250	e225	e290	275	275	446	604	552	268	188	121
29	191	253	e215	e300	---	270	505	514	547	253	175	118
30	185	255	e200	e350	---	268	418	483	489	248	170	118
31	187	---	e190	e480	---	269	---	3290	---	276	162	---
TOTAL	7531	16151	7141	7830	8387	8632	14632	35205	23658	10397	12340	3772
MEAN	243	538	230	253	300	278	488	1136	789	335	398	126
MAX	1220	1980	255	480	400	315	2140	5110	2530	724	1050	209
MIN	161	246	180	180	274	246	272	353	368	243	162	105
AC-FT	14940	32040	14160	15530	16640	17120	29020	69830	46930	20620	24480	7480

e Estimated

## KANSAS RIVER BASIN

319

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	330	258	190	182	350	825	585	799	965	1080	564	389
MAX	2163	1113	424	576	1059	3816	2379	2302	4373	9014	2572	1320
(WY)	1987	1997	1993	1984	1993	1993	1987	1995	1984	1993	1985	1977
MIN	45.3	81.1	102	98.5	115	118	125	108	151	111	72.5	32.0
(WY)	1992	1992	1977	1977	1992	1981	1981	1992	1981	1991	1991	1991

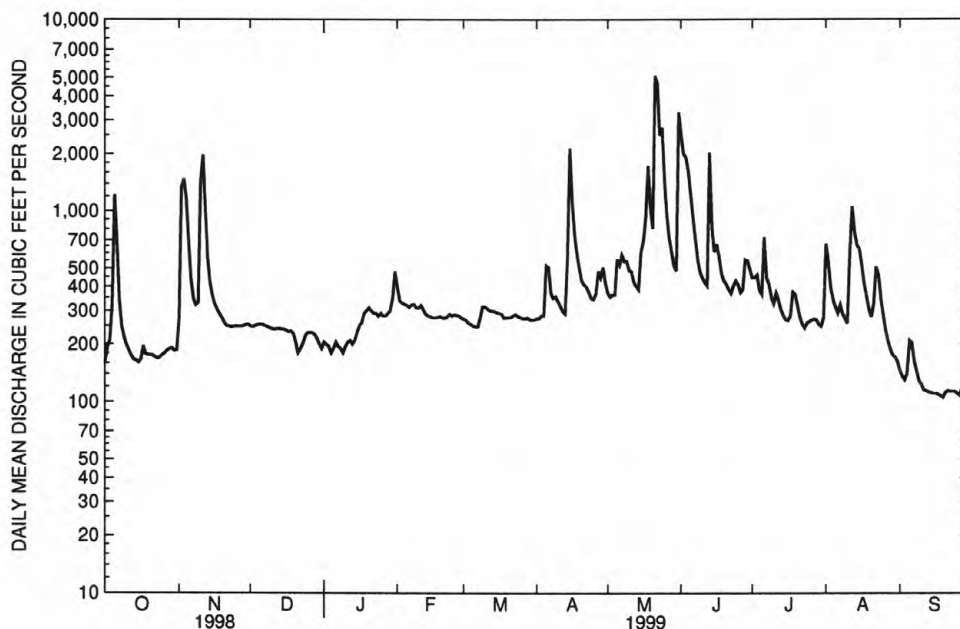
## SUMMARY STATISTICS

## FOR 1998 CALENDAR YEAR

## FOR 1999 WATER YEAR

## WATER YEARS 1975 - 1999

ANNUAL TOTAL	173150	155676	
ANNUAL MEAN	474	427	544
MEDIAN OF ANNUAL MEANS			461
HIGHEST ANNUAL MEAN			1891
LOWEST ANNUAL MEAN			195
HIGHEST DAILY MEAN	5120 Apr 8	5110 May 21	39300 Jul 26 1992
LOWEST DAILY MEAN	120 Jan 13	105 Sep 19	26 Oct 1 1991
ANNUAL SEVEN-DAY MINIMUM	132 Jan 10	109 Sep 14	27 Sep 27 1991
INSTANTANEOUS PEAK FLOW		9740 May 21	47800 Jul 26 1992
INSTANTANEOUS PEAK STAGE		11.51 May 21	21.21 Jul 26 1992
ANNUAL RUNOFF (AC-FT)	343400	308800	394400
10 PERCENT EXCEEDS	986	688	911
50 PERCENT EXCEEDS	325	283	217
90 PERCENT EXCEEDS	168	171	109



LITTLE BLUE RIVER AT HOLLENBERG, KS

## DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations are given in the following table. Some measurements were made during periods of base flow when streamflow is primarily from ground-water storage and may be correlated with the simultaneous discharge of a nearby stream where continuous records are available to give a picture of the low-flow potentiality of the stream.

Discharge measurements made at miscellaneous sites during water year 1999

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Dis-charge (ft <sup>3</sup> /s)
Platte River Basin						
Interstate Canal (06656630)	North Platte River	Lat 42°03'26", long 103°57'06", in NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec.16, T.24 N., R.57 W., Sioux County, at county road bridge, 6 mi northwest of Morrill.	---	1996	08-23-99	1,060
Horse Creek (06677100)	North Platte River	Lat 41°55'12", long 104°02'40", in NW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> sec.34, T.23 N., R.58 W., Scotts Bluff County, at State Spur Hwy 79 bridge, at Lyman.	---	---	06-25-99 08-24-99	95 30
Horse Creek (06677500)	North Platte River	Lat 41°56'21", long 103°59'13", in SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec.25, T.23 N., R.58 W., Scotts Bluff County, at county road bridge, 3.2 mi northeast of Lyman.	1,707	**1931-94, 1998	06-25-99 08-24-99	156 93
Sheep Creek (06677995)	North Platte River	Lat 41°58'14", long 103°57'14", in SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>2</sub> sec.8, T.23 N., R.57 W., Scotts Bluff County, at county road bridge, 1.5 mi northweat of Morrill.	---	1996-98	06-25-99 08-24-99	57 4.0
North Platte (06678500)	Platte River	Lat 41°56'12", long 103°55'44", in SW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> sec.25, T.27 N., R.57 W., Scotts Bluff County, at highway bridge, 2 mi south of Morrill.	24,100	1917-23 1996-98	06-25-99 08-24-99	3,860 220
*Dane Creek (06788495)	North Loup River	Lat 41°36'31", long 98°56'36", in NE <sup>1</sup> / <sub>4</sub> NE 1/4 sec. 20, T.19 N., R.14 W., Valley County, at bridge on State Hwy 11 at northwest edge of Ord.	---	1962 1977-98	11-04-98 05-27-99	2.1 1.9
*Mira Creek (06788990)	North Loup River	Lat 41°29'54", long 98°46'46", in SE <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> sec.26, T.18 N., R.13 W., Valley County, at bridge on State Highway 11 at west edge of North Loup.	---	1977-98	11-04-98 05-27-99	3.9 14
Big Nemaha River Basin						
North Fork Big Nemaha River (06814300)	Big Nemaha River	Lat 40°21'19", long 96°10'49", in NE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> sec.33, T.5 N., R.11 E., Johnson County, at Nebraska Highway 50 bridge, 0.5 mi south of Tecumseh. (Revised)	318	1995	08-02-99 09-22-99 09-30-99	51 27 29

\* Also published with additional data elsewhere in this report.

The following table contains annual maximum discharges 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 1999

Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Annual maximum	
						Gage height (feet)	Dis-charge (ft <sup>3</sup> /s)
Kansas River basin							
06814500	North Fork Big Nemaha R, at Humboldt, NE	Lat 40° 09' 25", long 095° 56' 40", in NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec. 10, T. 2N., R. 13 E., Richardson County, on right bank on bridge on State Highway 105 at south edge of Humboldt.	548	*1952-96 1997-99	05-17-99	12.3	8,500
06838200	Coon Creek at Indianola, NE	Lat 40° 14' 03", long 100 ° 25' 37", in NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec.13, T.3 N., R.28 W., Red Willow County, at bridge on U.S. Highways 6 and 34, 0.5 mile west of Indianola.	69	1961-99		below gage	<50
06838550	Dry Creek at Bartley, NE	Lat 40° 15' 02", long 100° 19' 02", in SW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> sec.1, T.3 N., R.27 W., Red Willow County, at bridge on U.S. Highway 6 and 34, 0.5 mile west of Bartley.	42	1961-99		below gage	0
06850000	Turkey Creek at Naponee, NE	Lat 40° 04' 34", long 099° 08' 17", in SW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> sec.4, T.1 N., R.16 W., Franklin County, on downstream side of county bridge at east side of Naponee.	129	*1948-53 <sup>a</sup> 1954-61 <sup>b</sup> 1962-77 <sup>a</sup> 1978-89 1991-99		below gage	<100
06881450	Indian Creek at Beatrice, NE	Lat 40° 17' 08", long 096° 44' 47", in SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> sec. 28, T.4 N., R.6 E., Gage County, at bridge on U.S. Higway 77 at north edge of Beatrice.	74.7	1960-89, 1991-99	05-21-99	15.17	3.700

\* Operated as a continuous-record gaging station.

<sup>a</sup> Discharge measurements published in table for miscellaneous sites.

<sup>b</sup> Discharge measurements published in table for low flow partial record sites.

## LOW-FLOW INVESTIGATIONS

## PLATTE RIVER BASIN

## WAHOO CREEK BASIN

Discharge measurements were made during water year 1999 at numerous locations within the Wahoo Creek basin in Saunders County, Nebraska near the Nebraska Ordnance Plant (NOP) to determine ground-water/surface-water relationships.

<i>Location</i>	<i>Discharge in cubic feet per second on indicated dates</i>	
	<i>08-26-99</i>	<i>09-27-99</i>
Wahoo Creek at SW corner of NOP NW1/4 NW1/4 sec. 2, T.13 N., R.8 E.	66.6	54.2
Wahoo Cr below confluence with Silver Creek NE1/4 NW1/4 sec. 20, T.13 N., R.9 E.	89.4	71.9
Wahoo Creek at Ashland (Gage site 06804700) SE1/4 NE1/4 sec. 35, T.13 N., R.9 E.	96.4	75.3
Silver Creek near Ithaca SW 1/4 NW 1/2 sec. 35, T.14 N, R. 8 E.	12.6	10.8
Silver Creek near Ashland NW1/4 NE1/4 sec. 35, T.13 N., R.9 E.	0.84	0.58
Johnson Creek north of NOP SW1/4 SW1/4 sec. 5, T.14 N., R.9 E.	.64	.41
Johnson Creek below dam outlet SW1/4 SE1/4 sec. 16, T.14 N., R.9 E.	.09	<.1
Johnson Creek near Memphis (1 mi above Clear Creek) (Gage site 06804900) NW1/4 NW1/4 4 sec. 35, T.14 N., R.9 E.	.83	1.05
Clear Creek near Memphis NW1/4 NW1/4 sec. 14, T.13 N., R.9 E.	10.4	11.1
Clear Creek near Ashland NE 1/2 NE 1/4 sec. 35, T.13 N., R. 9 E.	12.2	12.1



Low-flow investigations were made along the Republican River and tributaries during October 25-29, 1998 to obtain data on ground-water/surface-water interaction. These data may be used to help calibrate models of the hydrologic system. Flow was visually observed to be zero, measured, or estimated at 372 sites, including estimates of average wastewater discharge during the period when the flow measurements were made, based upon data obtained from towns having measureable wastewater discharge. The measurements were made on the main stem of the Republican River and all significant tributaries that enter the Republican River between Swanson and Harlan County Reservoirs in the Nebraska part of the Republican River basin. Tributaries were followed upstream until the first road crossing with zero flow was encountered. For selected streams, points of zero flow upstream of the first zero flow site were also checked.

The data obtained were generally of good quality for estimating streamflow gains and losses for stream reaches between measurement points. However, due to fluctuations in streamflow on the main stem of the Republican River and the North Fork Republican River above Swanson Reservoir during the measurement period, flow measurements on these streams in this area could not be used for calculating reach gains and losses. Flows measured on tributaries to the Republican and North Fork Republican Rivers above Swanson Reservoir were of suitable quality to use for streamflow gain/loss calculations. Flows on Sappa Creek did not reflect low-flow conditions and thus were not suitable for investigating ground-water/ surface-water interaction.

<b>Site</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</b>
<i>October 25-29, 1998</i>			
North Fork Republican River (gage 06823000)	400407	1020256	37
Republican River tributary	400351	1020205	0.10
Sullivan Draw	400101	1015645	No flow
Porter Canyon	400105	1015407	No flow
Sand Canyon	400120	1015251	No flow
Buffalo Creek	400939	1015826	No flow
Buffalo Creek	400615	1015504	5.0
Buffalo Creek (gage 06823500)	400228	1015153	3.5
Trail Canyon	400134	1015125	No flow
Colfer Canyon	400146	1014937	No flow
North Fork Republican River	400202	1014503	36
Hay Canyon	400157	1014452	No flow
Rock Creek	400636	1014637	5.6
Rock Creek	400558	1014557	7.7
Rock Creek	400459	1014539	9.7
Rock Creek (gage 06824000)	400235	1014329	9.8
Nesbit Canyon	400149	1014058	No flow
Horse Creek	400453	1014203	No flow
Horse Creek	400237	1014102	No flow
Spring Creek	400713	1013541	No flow
Spring Creek	400623	1013520	No flow
Spring Creek	400441	1013415	No flow
Spring Creek	400231	1013227	No flow
Johns Canyon	400341	1012920	No flow
Republican River tributary	400455	1012902	0.20
Vogely Canyon	400422	1012819	No flow
Cheyenne Canyon	400512	1012808	No flow
Blackwater Canyon	400537	1012714	No flow
Hickman Canyon	400607	1012548	No flow
Boxton Canyon	400615	1012327	No flow
Indian Creek	401011	1013151	0.01
Indian Creek	400946	1013036	0.06
Indian Creek	400856	1012634	2.8
Rock Canyon	400906	1012638	No flow
Indian Creek tributary	400858	1012609	No flow
Kelly Gulch	400834	1012403	No flow
Indian Creek	400819	1012349	1.6
Indian Creek	400745	1012139	1.1
Burntwood Creek	400312	1011915	No flow
7-Mile Canyon	400621	1011619	No flow
Muddy Creek	401314	1012403	No flow
Muddy Creek	401204	1012247	0.25
Muddy Creek	400953	1012038	0.09
Muddy Creek tributary	401401	1011843	No flow
Muddy Creek tributary	401312	1011724	No flow



## LOW-FLOW INVESTIGATIONS

REPUBLICAN RIVER BASIN--Continued

<i>Site</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</i>
<i>October 25-29, 1998</i>			
Muddy Creek tributary	401029	1011626	0.06
Muddy Creek	400845	1011416	No flow
Republican River (gage 06828500)	400830	1011340	29
Upper Meeker Canal (diversion)	400915	1010242	No flow
Republican River (gage 06829500)	401000	1010252	0.82
Elm Creek	401218	1010538	No flow
Elm Creek	401035	1010314	0.50
Black Canyon	400943	1010209	No flow
Republican River	400956	1010039	2.6
Bush Creek	401049	1010119	No flow
Big Canyon	400948	1005920	No flow
Massacre Canyon	401203	1005819	0.05
Thompson Canyon	401033	1005728	No flow
Republican River	401318	1005013	7.6
Frenchman Creek	403237	1020256	No flow
Frenchman Creek tributary	403311	1020259	No flow
Frenchman Creek	403231	1020133	No flow
Frenchman Creek	403219	1015949	No flow
Frenchman Creek	403148	1015905	No flow
Frenchman Creek	403132	1015808	No flow
Frenchman Creek	403014	1015656	No flow
Frenchman Creek	402931	1015529	No flow
Maranville Canal (diversion)	402920	1015519	No flow
Frenchman Creek	402919	1015400	No flow
Waln Slough	402927	1015334	No flow
Frenchman Creek	402837	1015150	0.11
McGuire's Slough	402808	1015157	0.25
Frenchman Creek	402830	1015110	0.52
Champion Canal (diversion)	402807	1014951	No flow
Frenchman Creek	402809	1014947	0.09
Frenchman Creek	402820	1014749	1.6
Davidson Branch	402843	1014619	No flow
Frenchman Creek	402831	1014525	4.9
Sand Creek	403354	1014749	No flow
Sand Creek	403315	1014644	No flow
Sand Creek	403224	1014543	No flow
Sand Creek	403143	1014536	No flow
Sand Creek	402947	1014434	No flow
Sand Creek	402814	1014329	No flow
Frenchman Creek	402807	1014311	5.9
Foerster Branch	402732	1014311	No flow
Frenchman Creek	402743	1014138	9.5
Frenchman Creek	402657	1014015	10
Frenchman Creek	402611	1013954	12
Frenchman Creek (gage 06831500)	402556	1013740	17
Frenchman Creek (gage 06832500)	402508	1013050	0.86
Frenchman Creek tributary	402459	1013039	No flow
Frenchman Creek tributary	402459	1013025	No flow
Frenchman Creek	401623	1000954	6.8
Frenchman Creek tributary	402546	1012905	No flow
Frenchman Creek	402528	1012808	8.6
Frenchman Creek	402520	1012602	11
Frenchman Creek	402529	1012421	13
Frenchman Creek tributary	402540	1012334	No flow
Frenchman Creek tributary	402522	1012302	No flow
Frenchman Creek	402513	1012212	16
Frenchman Creek	402442	1012041	18
Frenchman Creek	402427	1011828	19
Horse Canyon	402407	1011850	No flow
Frenchman Creek	402333	1011640	19

# LOW-FLOW INVESTIGATIONS

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## REPUBLICAN RIVER BASIN--Continued

<b>Site</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</b>
<i>October 25-29, 1998</i>			
Frenchman Creek	402305	1011507	21
Frenchman Creek	402240	1011239	20
Frenchman Creek	402153	1011022	21
Frenchman Creek	402122	1010849	20
Frenchman Creek (gage 06834000)	402105	1010722	21
Stinking Water Creek	405103	1013144	0.03
Stinking Water Creek	404652	1012819	No flow
Stinking Water Creek	404431	1012739	No flow
Stinking Water Creek	404251	1012700	No flow
Stinking Water Creek	404152	1012652	No flow
Stinking Water Creek tributary	404201	1012631	No flow
Stinking Water Creek	404117	1012616	No flow
Stinking Water Creek	403938	1012501	0.01
Stinking Water Creek	403752	1012352	0.54
Stinking Water Creek	403556	1012251	1.5
Cliff Dwellers Canyon	403546	1012157	No flow
Stinking Water Creek	403313	1012139	1.7
Stinking Water Creek	403044	1012114	1.8
Spring Creek	403553	1013740	No flow
Spring Creek	403421	1013520	No flow
Spring Creek	403209	1012822	0.88
Spring Creek	403132	1012504	2.0
Spring Creek	403019	1012139	2.8
Stinking Water Creek	402954	1012013	7.2
Stinking Water Creek	402750	1011705	9.3
Stinking Water Creek	402617	1011355	13
Stinking Water Creek	402349	1010943	16
Stinking Water Creek (gage 06835000)	402220	1010653	16
Frenchman Creek	402151	1010621	39
Frenchman Creek	402125	1010603	41
Frenchman Creek	402056	1010437	37
Bobtail Creek	401848	1010643	0.34
Bobtail Creek	402037	1010610	0.24
Frenchman Creek	401919	1010220	38
Rogers Canyon	401833	1010213	No flow
Boveau Canyon	401749	1010115	No flow
Fish Canyon	401821	1010039	No flow
Frenchman Creek	401810	1010032	38
Frenchman Creek	401709	1005757	38
Frenchman Creek	401517	1005454	44
Frenchman Creek (gage 06835500)	401359	1005237	41
Frenchman Creek	401335	1005013	38
Frenchman Creek tributary	401359	1005027	No flow
Blackwood Creek	401407	1004825	No flow
Republican River tributary	402527	1012934	No flow
Republican River	401148	1004311	44
Republican River tributary	401310	1004420	No flow
Republican River tributary	401235	1004304	0.13
Republican River tributary	401450	1004203	No flow
Republican River tributary	401202	1004113	0.14
Driftwood Creek	400536	1004734	No flow
Elm Creek	400453	1004720	No flow
Driftwood Creek tributary	400355	1004630	No flow
Driftwood Creek	400655	1004550	0.09
Driftwood Creek	400820	1004156	2.5
Driftwood Creek (gage 06836500)	400854	1003950	4.1
Driftwood Creek	401037	1003935	6.5
Republican River (gage 06837000)	401112	1003701	52
McCook Wastewater Discharge (estimated)	401118	1003618	1.7
Dry Creek	400952	1003744	No flow

## LOW-FLOW INVESTIGATIONS

REPUBLICAN RIVER BASIN--Continued

<i>Site</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</i>
<i>October 25-29, 1998</i>			
Brushy Creek	401036	1003455	No flow
Kelly Creek	401151	1003607	No flow
Kelly Creek	401159	1003346	0.33
River Canyon	401321	1003126	No flow
Republican River tributary	401111	1003603	No flow
Republican River	401255	1002934	52
Ash Creek	401223	1002920	0.02
Red Willow Creek	405125	1011156	No flow
Red Willow Creek	404941	1010802	No flow
Dry Creek	404732	1010852	No flow
Red Willow Creek	404844	1010650	No flow
Red Willow Creek	404617	1010404	0.43
Red Willow Creek	404315	1010133	1.8
Sutters Canyon	403855	1005754	No flow
Red Willow Creek	403847	1005728	3.9
Red Willow Creek	403718	1005616	6.0
Red Willow Creek tributary	403428	1005515	0.19
Red Willow Creek tributary	403332	1005425	0.01
Red Willow Creek	403322	1005403	8.7
Red Willow Creek	403007	1005041	12
Burger Canyon	402732	1004940	No flow
Red Willow Creek	402646	1004843	12
Kucera Canyon	402622	1004915	No flow
Red Willow Creek (gage 06837300)	402355	1004644	14
Red Willow Creek (gage 06837500)	402035	1003834	4.6
Bee Canyon	402026	1003704	No flow
Red Willow Creek tributary	402001	1003610	No flow
Red Willow Creek	401829	1003447	7.6
Red Willow Creek	401646	1003216	7.6
Red Willow Creek tributary	401549	1003043	No flow
Red Willow Creek (gage 06838000)	401404	1002956	7.6
Republican River tributary	401407	1002623	No flow
Buffalo Creek	401302	1002504	No flow
Coon Creek	401545	1002602	No flow
Coon Creek	401404	1002529	0.002
Republican River	401320	1002454	61
Republican River tributary	401323	1002302	No flow
School Creek	401335	1002157	No flow
Dry Creek	401503	1001853	No flow
Sleepy Hollow Creek	401343	1001850	No flow
Republican River	401409	1001814	55
Republican River tributary	401505	1001745	No flow
Republican River tributary	401521	1001554	No flow
Silver Creek	401500	1001333	No flow
Bogus Canyon	401458	1001156	No flow
Republican River tributary	401456	1001106	No flow
Republican River	401214	1003101	70
Cambridge Wastewater Discharge (estimated)	401637	1000925	0.22
Medicine Creek	404954	1005201	0.16
Medicine Creek	404747	1004901	2.4
Medicine Creek	404540	1004517	10
Medicine Creek	404419	1004127	15
Hay Canyon	404559	1004004	No flow
Medicine Creek	403749	1003357	24
Brushy Creek	403746	1003747	0.06
Brushy Creek	403727	1003426	1.1
Well Canyon	403732	1003133	No flow
Medicine Creek	403732	1003054	26
Fox Creek	404833	1003108	No flow
Fox Creek	404438	1003148	1.4

# LOW-FLOW INVESTIGATIONS

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## REPUBLICAN RIVER BASIN--Continued

<i>Site</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</i>
<i>October 25-29, 1998</i>			
Cut Canyon	404335	1003202	0.52
Fox Creek	404101	1003119	3.7
Fox Creek	403801	1002923	4.2
Curtis Creek	403706	1002714	0.06
Medicine Creek	403621	1002707	35
Dry Creek	403619	1002634	No flow
Medicine Creek	403202	1002219	41
Spring Creek	403132	1002247	0.02
Cedar Creek	403047	1002233	0.05
Medicine Creek (gage 06841000)	403004	1001911	40
Medicine Creek (gage 06842500)	402218	1001311	0.45
Medicine Creek	402002	1001141	1.0
Little Medicine Creek	401912	1001055	No flow
Medicine Creek	401827	1001040	0.93
Medicine Creek	401753	1001029	0.84
Medicine Creek	401647	1000907	1.1
Republican River (gage 06843500)	401655	1000900	63
Republican River tributary	401554	1000903	No flow
Republican River tributary	401614	1000809	No flow
Republican River tributary	401616	1000719	No flow
Republican River above Cambridge Canal Diversion	401708	1000704	74
Cambridge canal diversion	401708	1000704	No flow
Republican River tributary	401616	1000603	No flow
Smith Canyon	401745	1000447	No flow
Republican River tributary	401643	1000307	No flow
Republican River	401755	1000014	61
Deer Creek	402710	1001149	No flow
Deer Creek	402543	1001008	0.13
Deer Creek	402303	1000610	0.68
Deer Creek	402017	1000231	1.3
Deer Creek	401826	1000021	2.2
Timmons Creek	401643	1000036	No flow
Republican River tributary	401840	995800	0.17
Republican River	401700	995345	53
Crum Creek	401637	995307	No flow
Muddy Creek	403409	1000559	No flow
Horseshoe Canyon	403502	1000502	No flow
Muddy Creek	403204	1000433	No flow
Muddy Creek tributary	403318	1000343	No flow
Muddy Creek	403043	1000346	0.26
German Creek	403222	1000249	No flow
Muddy Creek	402951	1000350	0.34
Muddy Creek	402720	1000249	0.87
West Muddy Creek	402922	1000719	No flow
West Muddy Creek	402654	1000321	0.11
Muddy Creek	402445	1000054	2.3
Muddy Creek	402300	995843	3.8
Elder Creek	402433	995752	No flow
Elder Creek	402311	995744	0.05
East BRiver Muddy Creek	402155	995657	No flow
Muddy Creek	402059	995716	4.2
Muddy Creek (gage 06844000)	401820	995434	6.5
Elk Creek	402521	995237	No flow
Elk Creek	402235	995345	0.10
Elk Creek	402102	995343	0.06
Elk Creek tributary	402051	995400	No flow
Elk Creek	402009	995338	0.27
Elk Creek	401818	995243	1.1
Little Antelope Creek	401808	995118	No flow
Antelope Creek	401731	994930	No flow

## LOW-FLOW INVESTIGATIONS

REPUBLICAN RIVER BASIN--Continued

<i>Site</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</i>
<i>October 25-29, 1998</i>			
Dry Creek	401916	994841	No flow
Dry Creek	401636	994816	0.36
Republican River tributary	401724	994658	0.01
Republican River	401608	994629	61
East Branch Turkey Creek	403057	994445	0.01
East Branch Turkey Creek	402851	994451	8.5
East Branch Turkey Creek	402638	994517	8.4
West Branch Turkey Creek	402708	994737	No flow
West Branch Turkey Creek	402600	994624	0.01
Turkey Creek	402001	994534	12
Turkey Creek (gage 06844210)	401544	994237	11
Swartz Creek	401544	994208	No flow
Republican River tributary	401544	994140	0.41
Republican River tributary	401639	994133	0.02
Republican River tributary	401545	994100	No flow
Republican River tributary	401548	993940	No flow
Republican River tributary	401446	994000	0.37
Republican River	401415	993759	77
Republican River tributary	401501	993743	No flow
Oxford Wastewater Discharge (estimated)	401435	993715	0.08
Spring Creek	402445	993559	No flow
Spring Creek	402246	993527	2.7
Spring Creek	402100	993457	3.5
Elm Creek	402152	993342	No flow
Elm Creek	401948	993417	0.17
Spring Creek	401822	993451	3.8
Spring Creek	401638	993437	4.8
Spring Creek	401456	993347	3.2
Spring Creek	401319	993407	3.7
Deep Creek	401456	993306	No flow
Deep Creek	401302	993342	0.24
Foster Creek	401313	993203	No flow
Foster Creek	401208	993223	0.48
Republican River	401127	993233	74
School Creek	401112	993117	No flow
Republican River (gage 06844500)	400753	993007	74
Milrose Creek	401219	992840	No flow
Milrose Creek	400905	992851	0.30
Milrose Creek	400804	992858	No flow
Sappa Creek	400107	995750	3.4
Sappa Creek tributary	400105	995612	No flow
Sappa Creek	400250	995324	4.1
Dry Creek	400248	995109	No flow
Sappa Creek	400249	994804	4.2
Sappa Creek tributary	400235	994745	No flow
Sappa Creek	400341	994728	4.1
Sappa Creek	400249	994555	4.4
Sappa Creek tributary	400230	994541	No flow
Maple Creek	400402	994358	No flow
Sappa Creek	400414	994349	3.3
Sappa Creek	400408	994234	3.8
Sappa Creek	400342	994152	4.5
Jack Creek	400342	994132	0.21
Jack Creek	400245	994134	0.21
Jack Creek	400157	994152	No flow
Sappa Creek	400525	994110	4.4
Sappa Creek	400513	993851	5.1
Sappa Creek	400642	993854	4.8
Beaver Creek	400108	1002909	No flow
Beaver Creek	400308	1001644	0.03

LOW-FLOW INVESTIGATIONS  
REPUBLICAN RIVER BASIN--Continued

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<i>Site</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Observation of zero flow or measured discharge in ft<sup>3</sup>/s</i>
<i>October 25-29, 1998</i>			
Beaver Creek	400539	1000946	0.05
Beaver Creek tributary	400545	1000625	No flow
Beaver Creek	400609	1000621	0.23
Beaver Creek tributary	400642	1000415	No flow
Beaver Creek	400713	995754	0.04
Beaver Creek tributary	400757	995613	No flow
Beaver Creek	400719	995545	0.20
Beaver Creek	400714	995332	1.3
Beaver Creek tributary	400739	995338	No flow
Beaver Creek tributary	400800	995231	No flow
Beaver Creek (gage 06847000)	400804	995043	0.68
Beaver Creek tributary	400855	994721	No flow
Beaver Creek	400851	994429	0.58
Beaver Creek tributary	400946	994250	No flow
Beaver Creek	400919	994115	0.02
Beaver Creek tributary	400852	993918	No flow
Beaver Creek	400722	993858	No flow
Sappa Creek	400724	993532	4.7
Twin Creek	400706	993458	No flow
Sappa Creek (gage 06847500)	400748	993310	5.2
Sappa Creek	400749	993207	4.9
Sappa Creek	400712	993059	4.9
Sappa Creek	400714	993013	5.1
Republican River	400608	992707	81
Flag Creek	401037	992632	No flow
Flag Creek	400949	992635	0.19
Flag Creek	400802	992745	0.54



## LOW-FLOW INVESTIGATIONS

## KANSAS RIVER BASIN

Low-flow investigations made in the Big Blue and Little Blue River basins in Nebraska during water year 1999 to obtain data on ground-water/surface-water relationships.

## BIG BLUE RIVER BASIN

<i>Location</i>	<i>Observation of zero flow or measured discharge in cubic feet per second December 8, 1998</i>
Big Blue River 1.5 miles north of DeWitt in SW1/4 NE1/4 sec. 12, T.5 N., R.4 E. -----	248
Clatonia Creek 1 mile northeast of DeWitt in NW1/4 NW1/4 sec. 17, T.5 N., R.5 E. -----	3.4
Turkey Creek 1.5 miles west of DeWitt in SE1/4 NW1/4 sec. 15, T.5 N., R.4 E. -----	75.6
Turkey Creek 0.5 miles south of DeWitt in SE1/4 NW1/4 sec. 24, T.5 N., R.4 E. -----	78.6
Turkey Creek 1.5 miles southeast of DeWitt in NW1/4 SW1/4 sec. 29, T.5 N., R.5 E. -----	80.5
Big Blue River 2.5 miles southeast of DeWitt in NW1/4 NE1/4 sec. 33, T.5 N., R.5 E. -----	337
Soap Creek 3.5 miles southeast of DeWitt in SE1/4 SW1/4 sec. 27, T.5 N., R.5 E. -----	0.71
Unnamed tributary to Big Blue River 1 mile north of Hoag in NW1/4 NE1/4 sec. 10, T.4 N., R.5 E. -----	.10
Snake Creek 2 miles northeast of Hoag in NW1/4 NW1/4 sec. 1, T.4 N., R.5 E. -----	.95
Big Blue River 1 mile east of Hoag in NE1/4 NW1/4 sec. 13, T.4 N., R.5 E. -----	356
Cub Creek 2 miles south of Hoag in SW1/4 SW1/4 sec. 24, T.4 N., R.5 E. -----	6.4
Bottle Creek 1.5 miles northwest of Beatrice in NW1/4 SW1/4 sec. 30, T.4 N., R.6 E. -----	.46
Unnamed tributary to Big Blue River 0.5 miles northwest of Beatrice in SW1/4 SW1/4 sec. 29, T.4 N., R.6 E. -----	.28
Indian Creek at Beatrice in SE1/4 SE1/4 sec. 28, T.4 N., R.6 E. -----	5.2
Big Blue River at Beatrice in SW1/4 NW1/4 sec. 3, T.3 N., R.6 E. (Gage) -----	367

## LITTLE BLUE RIVER BASIN

December 9, 1998

Little Blue River 2.7 miles south of Alexandria in SE1/4 SE1/4 sec. 23, T.3 N., R.1 W. -----	122
Big Sandy Creek 0.8 miles south of Alexandria in SE1/4 SE1/4 sec. 11, T.3 N., R.1 W. -----	24.2
Big Sandy Creek 1.2 miles west of Powell in SE1/4 SE1/4 sec. 16, T.3 N., R.1 E. -----	31.1
Little Blue River 1.2 miles southwest of Powell in SE1/4 SE1/4 sec. 22, T.3 N., R.1 E. -----	161
Little Sandy Creek 2.0 miles east of Powell in NW1/4 NE1/4 sec. 19, T.3 N., R.2 E. -----	4.9
Whiskey Creek 2.1 miles northwest of Fairbury in SW1/4 SE1/4 sec. 33, T.3 N., R.2 E. -----	.83
Little Blue River 1.3 miles northwest of Fairbury in NW1/4 NE1/4 sec. 9, T.2 N., R.2 E. -----	162
Trib. to Little Blue River 0.8 miles southwest of Fairbury in NE1/4 SW1/4 sec. 22, T.2 N., R.2 E. -----	.09
Little Blue River 0.8 miles south of Fairbury in NW1/4 NE1/4 sec. 26, T.2 N., R.2 E. (Gage) -----	180
Brawner Creek 0.4 miles southeast of Fairbury in SE1/4 NE1/4 sec. 23, T.2 N., R.2 E. -----	.04
Rose Creek 4.0 miles southwest of Endicott in NW1/4 NW1/4 sec. 12, T.1 N., R.2 E. -----	28.0
Smith Creek 0.2 miles northwest of Endicott in NW1/4 SE1/4 sec. 5, T.1 N., R.3 E. -----	.32
Little Blue River 0.3 miles south of Endicott in SE1/4 SW1/4 sec. 4, T.1 N., R.3 E. -----	220
Rock Creek 0.3 miles southeast of Endicott in SE1/4 SE1/4 sec. 4, T.1 N., R.3 E. -----	.90
Coon Creek 2.6 miles northwest of Steele City in NW1/4 NE1/4 sec. 15, T.1 N., R.3 E. -----	1.02
Little Blue River 0.5 miles south of Steele City in NW1/4 NW1/4 sec. 30, T.1 N., R.4 E. -----	245
Little Blue River 0.6 miles west of Hollenberg in NE1/4 SW1/4 sec. 8, T.1 S., R.4 E. (Gage) -----	249

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS 331

WATER DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE INST. (FT <sup>3</sup> /S) (00061)	SPECIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (°C) (00020)	TEMPER- ATURE WATER (°C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	*ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)
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## VALLEY COUNTY

06788495 DANE C AT ORD, NEBR. (LAT 41 36 31N LONG 098 56 36W)

NOV	04...0830	2.1	986	8.0	-.5	5.0	--	390	368
MAY	27...0740	1.9	843	7.8	18.0	16.0	55	370	304

06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)

NOV	04...1025	3.9	890	8.2	.5	4.0	25	390	375
MAY	27...0950	14	606	7.8	22.5	17.5	40	250	238

\*ACID NEUTRALIZING CAPACITY, formerly ALKALINITY

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
------	---	--	--	---	---	---	--	---	--	---

06788495 DANE C AT ORD, NEBR. (LAT 41 36 31N LONG 098 56 36W)

NOV	04	601	3.34	.82	110	25	26	49	84	25	.30
MAY	27	549	2.85	.75	110	23	21	34	110	14	.28

06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)

NOV	04	556	5.82	.76	110	25	30	18	84	15	.28
MAY	27	380	13.9	.52	70	18	20	22	58	11	.28

DATE	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (μ G/L AS B) (01020)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
------	---	--	--	---	--	--	--	--	--	--

06788495 DANE C AT ORD, NEBR. (LAT 41 36 31N LONG 098 56 36W)

NOV	04	39	1.95	.084	2.03	3.67	1.68	1.57	80	86	613
MAY	27	35	2.99	.620	3.61	2.32	1.07	.949	82	22	617

06788990 MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54N LONG 098 46 46W)

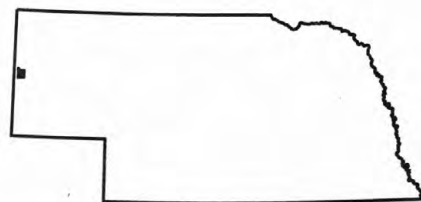
NOV	04	38	.916	.017	.933	.301	.638	.646	93	11	615
MAY	27	22	2.32	.410	2.73	1.21	.622	.568	72	68	301

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

**DUTCH FLATS GROUND-WATER/SURFACE-WATER  
INTERACTION STUDY  
(Surface-water Sites)**

COUNTIES: Scotts Bluff, Sioux



The following data was collected during water year 1998.

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	TEMPER- ATURE WATER (°C) (00010)
<b>SCOTTS BLUFF COUNTY</b>							
06674500	N PLATTE R AT WYO-NEBR STATE LINE	41 59 25 N	104 02 57 W	03-18-98	1030	4020	5.0
				08-18-98	1300	4020	23.5
06675100	TRI-STATE CANAL 2 MI W OF MORRILL, NE	41 58 08 N	103 58 04 W	05-13-98	1230	--	16.0
				05-25-98	1230	--	17.5
				06-23-98	1300	--	25.5
				07-23-98	1100	--	20.5
				08-04-98	1400	--	--
				08-19-98	0900	--	21.0
				08-25-98	1015	--	21.0
				09-16-98	1200	--	19.0
06677500	HORSE CREEK NEAR LYMAN, NE	41 56 21 N	103 59 13 W	07-23-98	1300	3993	21.5
				08-18-98	1400	3993	22.5
06677995	SHEEP CR, N OF TRI-STATE CANAL	41 58 14 N	103 57 14 W	03-16-98	1400	4008	13.0
				08-19-98	1100	4008	16.5
06678500	NORTH PLATTE RIVER AT MORRILL, NE	41 56 12 N	103 55 44 W	10-20-97	1430	--	10.0
				11-24-97	1100	--	--
				12-15-97	1330	--	7.0
				01-20-98	1500	--	5.0
				02-17-98	1430	--	8.0
				03-18-98	1330	--	5.2
				04-15-98	1100	--	5.0
				04-30-98	1350	--	18.3
				05-13-98	1100	--	14.0
				05-25-98	1130	--	18.5
				06-09-98	1300	--	16.0
				06-23-98	1120	--	20.5
				07-07-98	1400	--	25.0
				07-23-98	1230	--	21.5
				08-04-98	1300	--	18.0
				08-18-98	1530	--	24.5
06678610	AKERS DRAW NEAR MORRILL, NE	41 58 33 N	103 53 29 W	03-16-98	1530	--	14.5
				08-19-98	1600	--	--
415830103551701	WETLAND 0.75 MI NORTH OF MORRILL, NE	41 58 30 N	103 55 17 W	03-16-98	1630	3980	11.5
				03-18-98	1500	3980	4.4
				08-20-98	1000	3980	21.5
				09-02-98	0900	3980	17.6

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Surface-water Sites)

DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE ( $\mu$ S/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (MG/L AS N) (00631)	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-SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
SCOTTS BLUFF COUNTY											
03-18-98	--	732	--	8.4	8.2	.194	--	.022	--	--	--
08-18-98	1070	667	--	8.0	8.0	.629	--	<.010	--	--	--
05-13-98	--	721	--	8.3	--	.839	--	.011	--	--	--
05-25-98	--	729	--	8.4	--	.736	--	.024	--	--	--
06-23-98	--	683	--	8.3	8.1	.665	--	.015	--	--	--
07-23-98	--	635	--	7.9	--	.405	--	.010	--	--	--
08-04-98	--	645	--	--	--	.428	--	<.010	--	--	--
08-19-98	--	657	--	8.2	8.0	.639	--	<.010	--	--	--
08-25-98	--	651	7.1	7.4	8.1	.621	.078	.014	.29	4.2	1.8
09-16-98	--	770	--	8.4	--	1.25	--	.016	--	--	--
07-23-98	--	1050	--	8.2	--	--	--	--	--	--	--
08-18-98	--	1080	--	8.2	8.2	2.22	--	.015	--	--	--
03-16-98	--	841	--	8.2	8.2	4.77	--	.025	--	--	--
08-19-98	--	891	--	8.0	--	6.16	--	.064	--	--	--
10-20-97	--	980	--	8.3	8.2	2.49	.075	.025	<.20	--	--
11-24-97	--	985	--	8.0	--	2.78	--	.023	--	--	--
12-15-97	389	985	--	8.3	8.2	2.90	--	.038	--	--	--
01-20-98	373	803	--	8.4	--	2.89	--	.017	--	--	--
02-17-98	414	946	--	7.8	8.2	2.50	--	.017	--	--	--
03-18-98	--	745	--	8.3	8.1	.352	--	.022	--	--	--
04-15-98	4000	710	--	8.4	--	.260	--	.018	--	--	--
04-30-98	--	828	7.9	8.5	--	1.15	--	.018	--	--	--
05-13-98	292	752	--	--	--	.562	--	<.010	--	--	--
05-25-98	--	--	--	8.2	--	.629	--	.022	--	--	--
06-09-98	--	784	--	8.8	--	1.13	--	.022	--	--	--
06-23-98	--	780	--	8.3	8.2	.697	--	.013	--	--	--
07-07-98	--	890	8.2	8.3	--	1.46	--	.016	--	--	--
07-23-98	--	836	--	8.1	--	1.15	--	.015	--	--	--
08-04-98	32	852	--	7.9	--	1.20	--	.013	--	--	--
08-18-98	--	1010	--	8.2	8.2	1.83	--	.015	--	--	--
08-25-98	--	888	7.5	8.1	8.1	1.66	.085	.021	.37	5.0	3.5
09-01-98	--	974	--	8.3	--	--	--	--	--	--	--
09-16-98	--	929	--	8.3	--	1.79	--	.018	--	--	--
03-16-98	--	980	--	8.0	7.9	10.8	--	.018	--	--	--
08-19-98	--	--	--	--	7.9	9.08	--	.034	--	--	--
03-16-98	--	951	--	8.2	8.0	1.29	--	.086	--	--	--
03-18-98	--	832	--	8.4	--	--	--	--	--	--	--
08-20-98	--	858	--	8.5	8.0	<.050	--	<.010	--	--	--
09-02-98	--	--	3.2	--	7.8	<.050	.370	<.010	.72	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Surface-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
<b>SCOTTS BLUFF COUNTY</b>										
03-18-98	65	22	58	--	14	210	--	--	--	<80
08-18-98	58	18	52	--	11	150	--	--	--	57
05-13-98	--	--	--	--	--	--	--	--	--	--
05-25-98	--	--	--	--	--	--	--	--	--	--
06-23-98	58	18	57	--	13	160	--	--	--	39
07-23-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-19-98	57	18	51	--	11	150	--	--	--	71
08-25-98	61	18	52	4.9	12	150	.41	-112.5	-14.02	44
09-16-98	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--
08-18-98	52	16	156	--	19	210	--	--	--	91
03-16-98	84	21	59	--	15	200	--	--	--	<80
08-19-98	--	--	--	--	--	--	--	--	--	--
10-20-97	77	20	102	--	20	230	--	--	--	<80
11-24-97	--	--	--	--	--	--	--	--	--	--
12-15-97	84	21	103	--	19	230	--	--	--	<80
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	74	19	104	--	20	200	--	--	--	<80
03-18-98	66	22	61	--	14	210	--	--	--	<80
04-15-98	--	--	--	--	--	--	--	--	--	44
04-30-98	--	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-25-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-23-98	58	18	84	--	14	180	--	--	--	46
07-07-98	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-18-98	59	18	127	--	18	210	--	--	--	94
08-25-98	62	18	106	7.4	16	200	.54	-111.4	-13.72	81
09-01-98	--	--	--	--	--	--	--	--	--	--
09-16-98	--	--	--	--	--	--	--	--	--	--
03-16-98	100	24	59	--	18	220	--	--	--	286
08-19-98	85	26	63	--	15	200	--	--	--	250
03-16-98	90	27	79	--	18	210	--	--	--	<80
03-18-98	--	--	--	--	--	--	--	--	--	--
08-20-98	40	23	106	--	16	210	--	--	--	131
09-02-98	47	31	100	15	20	220	.62	-108.1	-12.97	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued

(Surface-water Sites)

DATE	RN-222 2SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO <sub>3</sub> (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO <sub>3</sub> (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO <sub>3</sub> (00452)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	SODIUM AD- SORP- TION RATIO (00931)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)
<b>SCOTTS BLUFF COUNTY</b>										
03-18-98	20	--	--	--	--	--	--	--	2	250
08-18-98	16	--	--	--	--	--	--	--	2	220
05-13-98	--	--	--	--	--	--	--	--	--	--
05-25-98	--	--	--	--	--	--	--	--	--	--
06-23-98	16	--	--	--	--	--	--	--	2	220
07-23-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-19-98	18	--	--	--	--	--	--	--	2	220
08-25-98	16	14	<10	<4.0	174	212	--	171	2	220
09-16-98	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--
08-18-98	16	--	--	--	--	--	--	--	5	200
03-16-98	17	--	--	--	--	--	--	--	1	300
08-19-98	--	--	--	--	--	--	--	--	--	--
10-20-97	15	--	--	--	--	--	--	--	3	280
11-24-97	--	--	--	--	--	--	--	--	--	--
12-15-97	16	--	--	--	--	--	--	--	3	290
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	16	--	--	--	--	--	--	--	3	260
03-18-98	19	--	--	--	--	--	--	--	2	250
04-15-98	18	--	--	--	--	--	--	--	--	--
04-30-98	--	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-25-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-23-98	16	--	--	--	--	--	--	--	2	220
07-07-98	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-18-98	16	--	--	--	--	--	--	--	4	220
08-25-98	17	24	<10	7.6	206	251	--	244	3	230
09-01-98	--	--	--	--	--	--	--	--	--	--
09-16-98	--	--	--	--	--	--	--	--	--	--
03-16-98	21	--	--	--	--	--	--	--	1	350
08-19-98	21	--	--	--	--	--	--	--	2	320
03-16-98	16	--	--	--	--	--	--	--	2	340
03-18-98	--	--	--	--	--	--	--	--	--	--
08-20-98	20	--	--	--	--	--	--	--	3	200
09-02-98	--	47	17	78	--	--	--	227	3	250



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Surface-water Sites)

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	TEMPER- ATURE WATER (°C) (00010)
<b>SIoux COUNTY</b>							
06656630	INTERSTATE C 6 MI NW OF MORRILL, NE	42 03 26 N	103 57 06 W	06-23-98 08-19-98 08-25-98	1400 1430 0830	-- -- --	20.0 24.0 21.7
06677985	DRY SHEEP CR NR MORRILL, NE	42 00 58 N	103 58 23 W	03-16-98 08-19-98	1100 1200	4060 4060	13.0 20.5

DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
------	---	---	--	--	--	---	--	--	--	---	--

**SIoux COUNTY**

06-23-98	--	568	--	8.6	8.4	--	--	--	--	--	--
08-19-98	--	553	--	8.4	8.2	<.050	--	<.010	--	--	--
08-25-98	--	538	7.2	8.1	8.1	<.050	.084	.012	.32	4.9	1.3
03-16-98	--	877	--	7.9	8.2	3.73	--	.036	--	--	--
08-19-98	--	845	--	8.1	8.2	2.62	--	.016	--	--	--

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
------	---	---	---	--	--	---	---	---	---	---

**SIoux COUNTY**

06-23-98	53	18	41	--	9.3	140	--	--	--	35
08-19-98	50	16	38	--	8.7	130	--	--	--	36
08-25-98	52	16	38	3.6	9.2	130	.38	-115.0	-14.28	28
03-16-98	86	20	51	--	15	200	--	--	--	133
08-19-98	81	21	54	--	14	190	--	--	--	109

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Surface-water Sites)

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## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

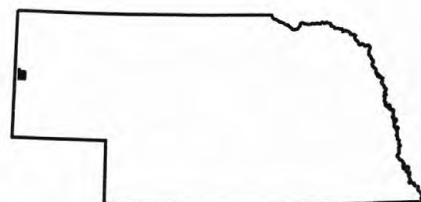
WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued

(Surface-water Sites)

**DUTCH FLATS GROUND-WATER/SURFACE-WATER  
INTERACTION STUDY  
(Surface-water Sites)**

COUNTIES: Scotts Bluff, Sioux



The following data was collected during water year 1999.

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	TEMPER- ATURE WATER (°C) (00010)
SCOTTS BLUFF COUNTY							
06674500	N PLATTE R AT WYO-NEBR STATE LINE	41 59 25 N	104 02 57 W	06-25-99	0830	4020	19.5
				08-24-99	1030	4020	20.5
06675100	TRI-STATE CANAL 2 MI W OF MORRILL, NE	41 58 08 N	103 58 04 W	06-25-99	1115	--	22.0
				08-24-99	1300	--	21.5
06677500	HORSE CREEK NEAR LYMAN, NE	41 56 21 N	103 59 13 W	06-25-99	1015	3993	19.5
06677995	SHEEP CR, N OF TRI-STATE CANAL	41 58 14 N	103 57 14 W	06-25-99	1045	4008	19.0
				08-24-99	1230	4008	19.0
06678500	NORTH PLATTE RIVER AT MORRILL, NE	41 56 12 N	103 55 44 W	11-12-98	1045	--	5.2
				06-25-99	1215	--	21.5
				08-24-99	1700	--	24.0

**SIOUX COUNTY**

06656630	INTERSTATE C 6 MI NW OF MORRILL, NE	42 03 26 N	103 57 06 W	08-23-99	1700	--	23.0
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## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued

(Surface-water Sites)

DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE ( $\mu$ S/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (MG/L AS N) (00631)	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-SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
------	---	--	--	--	--	---	--	--	--	---	--

## SCOTTS BLUFF COUNTY

06-25-99	4630	607	7.1	8.3	--	--	--	--	--	--	--
08-24-99	1220	648	7.9	8.3	--	--	--	--	--	--	--
06-25-99	886	610	7.8	8.2	--	--	--	--	--	--	--
08-24-99	1130	652	8.5	8.3	--	--	--	--	--	--	--
06-25-99	156	838	7.5	8.2	--	--	--	--	--	--	--
06-25-99	57	842	9.1	8.1	--	--	--	--	--	--	--
08-24-99	4.0	847	15.4	8.3	--	--	--	--	--	--	--
11-12-98	400	1000	13.9	8.4	8.2	2.65	.062	.023	.52	3.8	1.2
06-25-99	3860	635	7.9	8.3	--	--	--	--	--	--	--
08-24-99	220	907	8.4	8.2	--	--	--	--	--	--	--

## SIOUX COUNTY

08-23-99	1060	548	8.3	8.3	--	--	--	--	--	--	--
----------	------	-----	-----	-----	----	----	----	----	----	----	----

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Surface-water Sites)

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**Dutch Flats Ground-water/Surface-water Interaction Study--Continued**  
**(Surface-water Sites)**

[illegible]

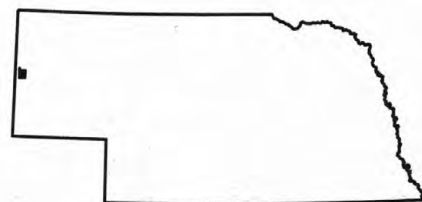


## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

**DUTCH FLATS GROUND-WATER/SURFACE-WATER  
INTERACTION STUDY  
(Ground-water Sites)**

COUNTIES: Scotts Bluff, Sioux



The following data was collected during water year 1998.

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTTS BLUFF COUNTY</b>							
415402104015501	22N 58W 3DCCD1	41 54 02 N	104 01 55 W	08-26-98	0830	4054	30
415525103484601	23N 56W 34BCCB1	41 55 25 N	103 48 46 W	04-16-98 08-13-98	0910 0915	3941 3941	212 212
415525103484602	23N 56W 34BCCB2			04-16-98 08-13-98	0935 0855	3941 3941	30 30
415525104023801	23N 58W 34BCCB1	41 55 25 N	104 02 38 W	04-20-98 08-20-98	1045 1140	4053 4053	115 115
415525104023802	23N 58W 34BCCB2			04-20-98 08-20-98	1110 1200	4053 4053	30 30
415535103554501	23N 57W 28DDDD1	41 55 35 N	103 55 45 W	07-22-98 09-01-98	1110 1130	-- --	18 18
415544104003701	23N 58W 35AABA1	41 55 44 N	104 00 37 W	04-16-98 08-20-98	1505 1045	4025 4025	38 38
415545103575801	23N 57W 32BBBB1	41 55 45 N	103 57 58 W	04-20-98 08-19-98	0945 1555	4002 4002	40 40
415546103532201	23N 57W 36BBBB1	41 55 46 N	103 53 22 W	04-16-98	1025	3978	50
415546103532202	23N 57W 36BBBB2			04-16-98 08-13-98	1045 1430	3978 3978	15 15
415547103561701	23N 57W 28DCCB1	41 55 47 N	103 56 17 W	10-23-97 04-16-98 07-22-98 08-25-98	0755 1110 1215 1530	3986 3986 3986 3986	28 28 28 28
415547103561702	23N 57W28 DCCB2			10-23-97 04-16-98 07-22-98	0815 1130 1225	3987 3987 3987	14 14 14
415553103504101	23N 56W29 CDBD1	41 55 53 N	103 50 41 W	04-16-98 08-13-98	1000 1325	3949 3949	35 35
415607103484801	23N 56W28 DAAA1	41 56 07 N	103 48 48 W	04-15-98 08-13-98	1330 0935	3940 3940	200 200
415607103484802	23N 56W28 DAAA2			04-15-98 08-13-98	1345 0955	3940 3940	30 30
415625103480201	23N 56W27 ABDC1	41 53 25 N	103 48 02 W	04-15-98 08-12-98	1415 1440	3948 3948	115 115
415625103480202	23N 56W27 ABDC2	41 56 25 N	103 48 02 W	04-15-98 08-12-98	1430 1500	3948 3948	30 30
415628103554901	23N 57W28 AAAA1	41 56 28 N	103 55 49 W	10-22-97 11-24-97 01-20-98 02-17-98 03-17-98	0855 1135 0940 1020 1120	3980 3980 3980 3980 3980	106 106 106 106 106

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
08-26-98	12.0	1770	1.4	8.5	8.4	7.03	<.020	<.010	.47	5.3	--
04-16-98	11.5	1040	.4	7.8	--	--	--	--	--	--	--
08-13-98	22.0	720	.1	7.3	7.3	.061	--	--	--	--	--
04-16-98	10.5	1420	.2	7.5	7.5	23.8	--	--	--	--	--
08-13-98	12.5	1320	.3	7.7	7.6	14.1	--	--	--	--	--
04-20-98	12.0	1360	1.9	7.9	--	--	--	--	--	--	--
08-20-98	12.5	1340	2.1	7.6	7.6	2.96	--	--	--	--	--
04-20-98	11.0	1450	4.1	7.7	7.3	--	--	--	--	--	--
08-20-98	13.0	1290	5.2	7.3	7.4	4.46	--	--	--	--	--
07-22-98	11.0	1470	.1	7.6	--	--	--	--	--	--	--
09-01-98	13.0	1510	.1	7.5	7.8	<.050	.922	<.010	1.5	7.9	--
04-16-98	11.5	1510	6.3	7.8	--	--	--	--	--	--	--
08-20-98	12.0	1570	8.8	7.5	7.5	15.7	--	--	--	--	--
04-20-98	15.0	781	.4	8.0	--	--	--	--	--	--	--
08-19-98	18.0	890	5.0	7.4	7.5	2.04	--	--	--	--	--
04-16-98	11.0	1630	.6	8.6	--	--	--	--	--	--	--
04-16-98	9.5	1580	3.2	7.8	--	--	--	--	--	--	--
08-13-98	13.0	1450	3.8	7.6	7.5	8.44	--	--	--	--	--
10-23-97	12.8	759	5.0	7.5	--	.648	.037	.078	.22	--	--
04-16-98	--	1070	3.0	8.6	--	--	--	--	--	--	--
07-22-98	15.0	1210	2.7	8.0	--	--	--	--	--	--	--
08-25-98	18.0	930	.3	7.9	8.0	.210	.205	.014	.82	2.4	--
10-23-97	15.2	1140	1.6	7.2	--	2.81	<.015	<.010	.37	--	--
04-16-98	9.0	1720	.9	7.8	--	--	--	--	--	--	--
07-22-98	12.5	1590	.1	7.6	--	--	--	--	--	--	--
04-16-98	11.5	1190	.2	7.6	7.5	--	--	--	--	--	--
08-13-98	13.5	1190	.5	7.5	7.5	4.05	--	--	--	--	--
04-15-98	14.0	828	2.1	--	--	4.66	--	--	--	--	--
08-13-98	14.0	830	2.6	7.7	7.7	4.77	--	--	--	--	--
04-15-98	11.0	1220	.1	--	7.4	5.18	--	--	--	--	--
08-13-98	13.0	1230	.1	7.5	7.6	4.77	--	--	--	--	--
04-15-98	13.5	1020	6.1	--	--	9.12	--	--	--	--	--
08-12-98	14.5	930	6.3	7.6	7.5	8.58	--	--	--	--	--
04-15-98	12.0	1050	5.9	--	--	11.3	--	--	--	--	--
08-12-98	16.5	980	5.4	7.4	7.4	8.94	--	--	--	--	--
10-22-97	11.8	768	--	7.4	7.6	2.35	<.015	<.010	<.20	--	--
11-24-97	11.8	767	--	7.5	--	2.20	--	--	--	--	--
01-20-98	11.5	852	--	7.7	--	1.95	--	--	--	--	--
02-17-98	--	849	--	7.9	7.6	2.05	.020	<.010	<.10	--	--
03-17-98	11.5	832	.6	7.6	7.6	1.92	--	--	--	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
<b>SCOTTS BLUFF COUNTY</b>										
08-26-98,	5.2	3.0	397	9.4	28	330	1.1	-107.0	-13.07	1026
04-16-98	--	--	--	--	--	--	--	--	--	579
08-13-98	68	19	61	--	12	160	--	--	--	618
04-16-98	140	40	118	--	42	290	--	--	--	655
08-13-98	120	25	108	--	40	270	--	--	--	487
04-20-98	--	--	--	--	--	--	--	--	--	654
08-20-98	68	27	198	--	25	230	--	--	--	720
04-20-98	110	45	163	--	28	310	--	--	--	704
08-20-98	94	36	140	--	25	270	--	--	--	710
07-22-98	--	--	--	--	--	--	--	--	--	--
09-01-98	55	20	265	17	29	250	.72	-100.7	-12.09	452
04-16-98	--	--	--	--	--	--	--	--	--	742
08-20-98	99	39	191	--	32	340	--	--	--	794
04-20-98	--	--	--	--	--	--	--	--	--	463
08-19-98	67	22	91	--	15	190	--	--	--	505
04-16-98	--	--	--	--	--	--	--	--	--	2474
04-16-98	--	--	--	--	--	--	--	--	--	1315
08-13-98	70	16	220	--	26	320	--	--	--	1440
10-23-97	--	--	--	--	--	--	--	--	--	--
04-16-98	--	--	--	--	--	--	--	--	--	126
07-22-98	--	--	--	--	--	--	--	--	--	--
08-25-98	13	3.1	200	6.8	34	52	.67	-106.9	-13.61	4190
10-23-97	--	--	--	--	--	--	--	--	--	--
04-16-98	--	--	--	--	--	--	--	--	--	727
07-22-98	--	--	--	--	--	--	--	--	--	--
04-16-98	92	23	153	--	20	270	--	--	--	592
08-13-98	77	17	157	--	19	260	--	--	--	743
04-15-98	--	--	--	--	--	--	--	--	--	594
08-13-98	78	23	57	--	14	180	--	--	--	672
04-15-98	110	37	108	--	28	290	--	--	--	773
08-13-98	93	31	120	--	27	280	--	--	--	801
04-15-98--	--	--	--	--	--	--	--	--	1425	--
08-12-98	92	24	60	--	15	210	--	--	--	338
04-15-98	--	--	--	--	--	--	--	--	--	381
08-12-98	98	26	65	--	17	220	--	--	--	609
10-22-97	86	19	70	--	14	190	--	--	--	483
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	89	19	70	--	15	190	--	--	--	418
03-17-98	84	19	70	--	15	180	--	--	--	407

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[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV.	DEPTH
						OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	OF WELL, TOTAL (FEET) (72008)
SCOTTS BLUFF COUNTY							
415628103554901	23N 57W 28AAAA1	41 56 28 N	103 55 49 W	04-27-98	1035	3980	106
				05-13-98	1310	3980	106
				05-26-98	1055	3980	106
				06-09-98	1005	3980	106
				06-25-98	1530	3980	106
				07-06-98	1110	3980	106
				07-22-98	1025	3980	106
				08-03-98	1020	3980	106
				08-25-98	1230	3980	106
				09-16-98	0945	3980	106
415628103554902	23N 57W 28AAAA2			10-22-97	0910	3980	68
				11-24-97	1115	3980	68
				01-20-98	1000	3980	68
				02-17-98	1040	3980	68
				03-17-98	1149	3980	68
				04-27-98	1015	3980	68
				05-13-98	1250	3980	68
				05-26-98	1040	3980	68
				06-09-98	0950	3980	68
				06-25-98	1510	3980	68
415628103554903	23N 57W 28AAAA3			07-06-98	1055	3980	68
				07-22-98	1005	3980	68
				08-03-98	1005	3980	68
				08-25-98	1330	3980	68
				09-16-98	1000	3980	68
				10-22-97	0930	3980	30
				11-24-97	1100	3980	30
				01-20-98	1015	3980	30
				02-17-98	1100	3980	30
				03-17-98	1220	3980	30
415628103562401	23N 57W 28BAAA1	41 56 28 N	103 56 24 W	04-27-98	1000	3980	30
				05-13-98	1235	3980	30
				05-26-98	1020	3980	30
				06-09-98	0930	3980	30
				06-25-98	1450	3980	30
				07-06-98	1040	3980	30
				07-22-98	0945	3980	30
				08-03-98	0950	3980	30
				08-25-98	1400	3980	30
				09-16-98	1015	3980	30
415628103562402	23N 57W 28BAAA2			10-22-97	0755	3982	86
				02-17-98	0910	3982	86
				04-23-98	1310	3982	86
				07-01-98	1200	3982	86
				09-02-98	1230	3982	86
415628103562403	23N 57W 28BAAA3			10-22-97	0810	3982	58
				10-22-97	0825	3982	58
				02-17-98	0935	3982	58
				04-23-98	1325	3982	58
				07-01-98	1220	3982	58
415628103562404	23N 57W 28BAAA4			09-02-98	1250	3982	58
				10-22-97	0825	3982	--
				02-17-98	0950	3982	--
				04-23-98	1340	3982	--
				07-01-98	1240	3982	--
415628103562405	23N 57W 28BAAA5			09-02-98	1320	3982	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SCOTTS BLUFF COUNTY											
04-27-98	11.6	845	.1	7.8	7.6	--	.022	<.010	.10	--	--
05-13-98	12.0	847	.1	7.9	--	--	--	--	--	--	--
05-26-98	11.9	846	.1	7.9	--	2.19	--	--	--	--	--
06-09-98	11.5	614	.1	8.1	--	2.20	--	--	--	--	--
06-25-98	12.0	850	--	7.6	7.7	2.23	.048	<.010	<.10	--	--
07-06-98	12.0	840	.2	7.7	--	2.24	--	--	--	--	--
07-22-98	12.0	840	.0	7.6	--	2.19	--	--	--	--	--
08-03-98	12.0	700	.1	7.7	--	2.22	--	--	--	--	--
08-25-98	12.0	840	.1	7.6	8.0	2.40	.150	.019	.13	1.6	--
09-16-98	12.0	840	1.2	7.8	--	2.22	--	--	--	--	--
10-22-97	11.5	900	.1	7.3	7.5	4.85	<.015	<.010	<.20	--	--
11-24-97	11.6	913	.4	7.4	--	5.21	--	--	--	--	--
01-20-98	11.1	1030	.2	7.7	--	4.84	--	--	--	--	--
02-17-98	--	1030	--	7.7	7.5	5.09	.045	<.010	.15	--	--
03-17-98	11.5	1020	.4	7.5	7.5	4.82	--	--	--	--	--
04-27-98	11.4	992	.1	7.6	--	--	.020	<.010	.19	--	--
05-13-98	11.7	997	.1	7.8	--	4.60	--	--	--	--	--
05-26-98	11.7	1000	.1	7.8	--	4.63	--	--	--	--	--
06-09-98	11.5	729	.1	8.1	--	4.66	--	--	--	--	--
06-25-98	12.0	1000	.0	7.5	7.5	4.37	.060	<.010	.21	--	--
07-06-98	11.5	1010	.2	7.4	--	4.48	--	--	--	--	--
07-22-98	11.5	1000	.1	7.5	--	4.70	--	--	--	--	--
08-03-98	12.0	770	.1	7.5	--	4.49	--	--	--	--	--
08-25-98	12.0	1000	.1	7.4	7.8	--	.087	.013	.22	1.9	--
09-16-98	12.0	1000	.4	7.6	--	4.28	--	--	--	--	--
10-22-97	13.1	1230	.1	7.0	7.2	17.7	<.015	.053	.51	--	--
11-24-97	12.6	1230	.5	7.1	--	16.1	--	--	--	--	--
01-20-98	10.3	1340	.1	7.4	--	14.4	--	--	--	--	--
02-17-98	--	1330	--	7.4	7.2	15.2	.020	.032	.47	--	--
03-17-98	10.5	1300	.2	7.2	7.2	14.2	--	--	--	--	--
04-27-98	9.9	1300	.2	7.3	--	--	<.020	<.010	.55	--	--
05-13-98	10.0	1340	.1	7.4	--	16.0	--	--	--	--	--
05-26-98	10.3	1340	.6	7.4	--	15.3	--	--	--	--	--
06-09-98	10.0	943	.1	8.1	--	15.7	--	--	--	--	--
06-25-98	11.0	1380	.1	7.2	7.2	17.5	.059	.033	.54	--	--
07-06-98	11.0	1400	.2	7.1	--	17.8	--	--	--	--	--
07-22-98	11.0	1410	.1	7.2	--	17.9	--	--	--	--	--
08-03-98	12.0	830	.1	7.3	--	17.7	--	--	--	--	--
08-25-98	12.5	1380	.0	7.1	7.7	--	.085	.042	.68	4.4	--
09-16-98	13.0	1360	.2	.2	--	15.1	--	--	--	--	--
10-22-97	11.6	815	--	7.2	--	1.90	<.015	<.010	<.20	--	--
02-17-98	--	895	--	7.8	--	1.59	<.020	<.010	<.10	--	--
04-23-98	12.1	891	.1	7.7	7.6	1.52	.029	<.010	<.10	--	--
07-01-98	12.0	900	1.0	7.7	--	1.71	<.020	<.010	.12	--	--
09-02-98	12.5	890	.1	7.5	7.7	1.48	.020	<.010	.12	1.9	--
10-22-97	11.6	907	--	7.1	--	5.91	<.015	<.010	<.20	--	--
10-22-97	12.6	1070	--	7.0	--	--	--	--	--	--	--
02-17-98	--	958	--	7.7	--	4.39	<.020	<.010	.14	--	--
04-23-98	12.0	956	.2	7.6	7.6	4.00	.035	<.010	.16	--	--
07-01-98	12.0	980	.3	7.5	--	4.91	<.020	<.010	.16	--	--
09-02-98	12.0	1010	.0	7.3	7.6	5.82	.026	<.010	.16	2.0	--
10-22-97	15.0	465	--	7.6	--	11.5	<.015	<.010	.28	--	--
02-17-98	--	1200	--	7.5	--	11.9	.024	<.010	.29	--	--
04-23-98	10.8	1170	.1	7.3	7.4	11.5	.026	<.010	.31	--	--
07-01-98	11.0	1210	.4	7.3	--	12.1	.035	<.010	.37	--	--
09-02-98	13.0	1250	.1	7.2	7.4	13.2	.034	<.010	.43	--	--



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
<b>SCOTTS BLUFF COUNTY</b>										
04-27-98	81	18	68	--	14	180	--	--	--	538
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	88	19	70	--	15	180	--	--	--	494
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	84	19	72	5.0	14	180	.28	-114.5	-14.14	493
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	110	22	78	--	17	250	--	--	--	437
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	120	23	81	--	19	250	--	--	--	343
03-17-98	110	23	81	--	18	250	--	--	--	363
04-27-98	--	--	--	--	--	--	--	--	--	454
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	110	22	78	--	18	240	--	--	--	431
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	110	21	74	5.5	16	230	.24	-113.6	-14.06	409
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	120	44	108	--	42	310	--	--	--	494
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	120	43	107	--	39	300	--	--	--	466
03-17-98	120	41	106	--	36	300	--	--	--	499
04-27-98	--	--	--	--	--	--	--	--	--	476
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	120	45	109	--	41	300	--	--	--	518
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	120	46	115	14	40	310	.70	-112.1	-13.80	499
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	93	18	67	--	17	210	--	--	--	479
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	93	19	75	5.2	17	210	.26	-114.6	-14.28	488
10-22-97	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	120	21	76	--	18	230	--	--	--	571
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	110	22	76	5.5	19	240	.19	-115.4	-14.17	597
10-22-97--	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	120	33	92	--	26	270	--	--	--	510
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	130	35	95	--	30	290	--	-111.2	-13.77	525

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO <sub>3</sub> (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO <sub>3</sub> (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO <sub>3</sub> (00452)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	SODIUM AD- SORP- TION RATIO (00931)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)
SCOTTS BLUFF COUNTY										
04-27-98	26	--	--	--	--	--	--	--	2	280
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	24	--	--	--	--	--	--	--	2	300
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	25	24	<10	7.0	213	260	--	238	2	290
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	24	--	--	--	--	--	--	--	2	360
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	23	--	--	--	--	--	--	--	2	390
03-17-98	22	--	--	--	--	--	--	--	2	380
04-27-98	24	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	22	--	--	--	--	--	--	--	2	370
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	24	24	<10	5.9	233	284	--	264	2	370
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	25	--	--	--	--	--	--	--	2	480
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	25	--	--	--	--	--	--	--	2	490
03-17-98	25	--	--	--	--	--	--	--	2	470
04-27-98	25	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	24	--	--	--	--	--	--	--	2	490
07-06-98	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-25-98	25	28	<10	38	288	--	--	333	2	500
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	24	--	--	--	--	--	--	--	2	310
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	25	25	<10	<4.0	226	276	--	240	2	310
10-22-97	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	25	--	--	--	--	--	--	--	2	380
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	26	24	<10	22	250	305	--	255	2	370
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
04-23-98	24	--	--	--	--	--	--	--	2	440
07-01-98	--	--	--	--	--	--	--	--	--	--
09-02-98	25	--	--	--	--	--	--	--	2	460

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	ELEV.	DEPTH
							OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	OF WELL, TOTAL (FEET) (72008)
SCOTTS BLUFF COUNTY								
415640103591201	23N	57W 19CCCC1	41 56 40 N	103 59 12 W	04-16-98	1420	4000	190
					08-19-98	1505	4000	190
415640103591202	23N	57W 19CCCC2			04-16-98	1435	4000	30
					08-19-98	1520	4000	30
415643103505201	23N	56W 20CCAA1	41 56 43 N	103 50 52 W	04-02-98	0855	3960	190
					08-13-98	1210	3960	190
415643103505202	23N	56W 20CCAA2			04-02-98	0925	3960	30
					08-13-98	1240	3960	30
415719103583601	23N	57W 19ABBA1	41 57 19 N	103 58 36 W	03-24-98	0950	4003	45
					08-19-98	1400	4003	45
415721103561501	23N	57W 21ABBA1	41 57 21 N	103 56 15 W	10-22-97	1415	3995	183
					01-20-98	1045	3995	183
					02-17-98	1130	3995	183
					03-18-98	0940	3995	183
					04-27-98	1110	3995	183
					06-23-98	1435	3995	183
					07-20-98	1415	3995	183
					08-31-98	1215	3995	183
415721103561502	23N	57W 21ABBA2			10-22-97	1430	3995	116
					01-20-98	1100	3995	116
					02-17-98	1145	3995	116
					03-18-98	1010	3995	116
					04-27-98	1125	3995	116
					06-23-98	1450	3995	116
					07-20-98	1430	3995	116
					08-31-98	1300	3995	116
415721103561503	23N	57W 21ABBA3			10-22-97	1445	3995	40
					01-20-98	1115	3995	40
					02-17-98	1200	3995	40
					03-18-98	1035	3995	40
					04-27-98	1140	3995	40
					06-23-98	1505	3995	40
					07-20-98	1445	3995	40
					08-31-98	1345	3995	40
415722103532401	23N	57W 24BBBB1	41 57 22 N	103 53 24 W	04-02-98	1330	3965	190
					08-20-98	0940	3965	190
415722103532402	23N	57W 24BBBB2			04-02-98	1345	3965	30
					08-20-98	1000	3965	30
415730104002301	23N	58W 13CCCC1	41 57 30 N	104 00 23 W	04-16-98	1335	4011	193
					08-20-98	1325	4011	193
415730104002302	23N	58W 13CCCC2			04-16-98	1350	4011	30
					08-20-98	1340	4011	30
415738103551601	23N	57W 22ABAB1	41 57 38 N	103 55 16 W	10-22-97	1500	3895	191
					02-17-98	1335	3895	191
					03-17-98	1315	3895	191
					04-28-98	0935	3895	191
					07-01-98	1050	3895	191

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
04-16-98	12.0	1670	.2	7.7	7.6	--	--	--	--	--	--
08-19-98	12.5	1690	.3	7.3	7.4	5.03	--	--	--	--	--
04-16-98	10.5	1280	.1	7.8	7.6	--	--	--	--	--	--
08-19-98	12.0	1320	.1	7.4	7.5	4.95	--	--	--	--	--
04-02-98	12.5	1260	.1	7.5	7.4	7.13	--	--	--	--	--
08-13-98	13.5	1270	.3	7.4	7.4	7.32	--	--	--	--	--
04-02-98	12.5	1200	.1	7.3	7.2	.059	--	--	--	--	--
08-13-98	14.5	1300	.3	7.1	7.0	<.050	--	--	--	--	--
03-24-98	20.0	901	.0	7.9	7.7	--	--	--	--	--	--
08-19-98	14.5	800	.3	7.7	7.7	.057	--	--	--	--	--
10-22-97	13.5	720	.2	8.2	--	4.08	<.015	.372	<.20	--	--
01-20-98	12.8	801	.1	8.5	--	--	--	--	--	--	--
02-17-98	--	816	--	8.3	--	3.99	.065	.303	.22	--	--
03-18-98	12.0	809	.1	8.0	7.9	3.80	--	--	--	--	--
04-27-98	13.4	827	.1	8.2	--	3.80	<.020	.360	.16	--	--
06-23-98	14.0	840	.1	8.0	--	3.61	<.020	.342	.21	--	--
07-20-98	14.0	840	.2	7.8	--	--	--	--	--	--	--
08-31-98	14.0	850	.1	7.8	8.1	4.08	.035	.125	<.10	2.2	--
10-22-97	13.3	830	.5	7.6	--	8.05	<.015	.027	<.20	--	--
01-20-98	12.5	941	.3	7.9	--	--	--	--	--	--	--
02-17-98	--	950	--	7.8	--	8.28	.027	.012	.22	--	--
03-18-98	12.5	942	.6	7.6	7.6	4.49	--	--	--	--	--
04-27-98	13.4	965	1.3	7.8	--	4.78	.022	<.010	.25	--	--
06-23-98	13.5	980	1.2	7.6	--	8.40	<.020	.025	.21	--	--
07-20-98	14.0	980	1.2	7.5	--	--	--	--	--	--	--
08-31-98	13.5	990	1.0	7.4	8.0	10.2	.198	<.010	.26	2.0	--
10-22-97	13.7	1020	5.7	7.3	--	21.3	<.015	<.010	.48	--	--
01-20-98	13.5	1110	5.2	7.7	--	--	--	--	--	--	--
02-17-98	--	1100	--	7.6	--	16.0	.021	<.010	.53	--	--
03-18-98	13.0	1100	3.3	7.5	7.4	15.5	--	--	--	--	--
04-27-98	13.3	1130	4.7	7.5	--	8.65	<.020	<.010	.61	--	--
06-23-98	13.0	1130	5.3	7.5	--	14.5	<.020	.015	.61	--	--
07-20-98	13.5	1130	4.7	7.3	--	--	--	--	--	--	--
08-31-98	13.5	1180	4.6	7.3	7.7	15.8	.021	<.010	.58	5.0	--
04-02-98	14.0	876	.1	7.9	7.6	2.63	--	--	--	--	--
08-20-98	14.5	880	.1	7.6	7.6	2.89	--	--	--	--	--
04-02-98	10.5	1130	.0	7.9	7.6	5.37	--	--	--	--	--
08-20-98	12.5	1110	.1	7.4	7.4	4.46	--	--	--	--	--
04-16-98	12.0	1150	.1	7.8	7.6	--	--	--	--	--	--
08-20-98	13.0	1140	.2	7.5	7.6	5.55	--	--	--	--	--
04-16-98	12.0	1070	.2	7.7	7.5	--	--	--	--	--	--
08-20-98	23.0	760	5.8	7.4	7.5	3.35	--	--	--	--	--
10-22-97	13.4	722	.9	7.6	--	3.43	<.015	<.010	<.20	--	--
02-17-98	--	811	--	7.8	--	2.81	.029	<.010	.19	--	--
03-17-98	13.5	818	1.1	7.6	7.6	2.95	--	--	--	--	--
04-28-98	13.6	819	1.4	7.6	--	2.84	.025	<.010	<.10	--	--
07-01-98	14.0	820	1.5	7.7	--	2.94	<.020	<.010	<.10	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

**Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)**

[illegible]

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTTS BLUFF COUNTY</b>							
415738103551601	23N 57W 22ABAB1	41 57 38 N	103 55 16 W	07-20-98	1305	3895	191
				09-09-98	0930	3895	191
415738103551602	23N 57W 22ABAB2			10-22-97	1515	3895	117
				02-17-98	1350	3895	117
				03-17-98	1345	3895	117
				04-28-98	0950	3895	117
				07-01-98	1110	3895	117
				07-20-98	1325	3895	117
				09-09-98	0950	3895	117
415738103551603	23N 57W 22ABAB3			10-22-97	1530	3895	35
				02-17-98	1405	3895	35
				03-17-98	1415	3895	35
				04-28-98	1005	3895	35
				07-01-98	1125	3895	35
				07-20-98	1340	3895	35
				09-09-98	1010	3895	35
415738103554701	23N 57W 15CBCB1	41 57 38 N	103 55 47 W	10-22-97	1010	3992	195
				11-24-97	1005	3992	195
				01-20-98	1135	3992	195
				02-17-98	1430	3992	195
				03-17-98	1500	3992	195
				04-27-98	1405	3992	195
				05-13-98	1140	3992	195
				05-26-98	1125	3992	195
				06-09-98	1030	3992	195
				06-25-98	1335	3992	195
				07-06-98	1155	3992	195
				07-20-98	1200	3992	195
				08-03-98	1045	3992	195
				09-01-98	0820	3992	195
				09-16-98	1040	3992	195
415738103554702	23N 57W 15CBCB2			10-22-97	1025	3992	108
				11-24-97	1020	3992	108
				01-20-98	1150	3992	108
				02-17-98	1450	3992	108
				03-17-98	1525	3992	108
				04-27-98	1425	3992	108
				05-13-98	1210	3992	108
				05-26-98	1150	3992	108
				06-09-98	1045	3992	108
				06-25-98	1350	3992	108
				07-06-98	1210	3992	108
				07-20-98	1215	3992	108
				08-03-98	1105	3992	108
				09-01-98	0930	3992	108
				09-16-98	1055	3992	108
415738103554703	23N 57W 15CBCB3			10-22-97	1045	3992	30
				11-24-97	1035	3992	30
				01-20-98	1205	3992	30
				02-17-98	1510	3992	30
				03-17-98	1600	3992	30
				04-27-98	1445	3992	30
				05-13-98	1155	3992	30
				05-26-98	1245	3992	30
				06-09-98	1105	3992	30
				06-25-98	1410	3992	30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
07-20-98	14.5	820	1.3	7.6	--	2.76	--	--	--	--	--
09-09-98	14.0	830	1.3	7.5	7.7	2.85	.020	<.010	.17	--	--
10-22-97	13.2	878	.2	7.4	--	6.15	<.015	<.010	<.20	--	--
02-17-98	--	957	--	7.7	--	5.14	.039	<.010	.14	--	--
03-17-98	13.5	960	.3	7.4	7.5	5.00	--	--	--	--	--
04-28-98	13.4	962	.4	7.5	--	2.54	.026	<.010	<.10	--	--
07-01-98	14.0	980	2.8	7.5	--	5.88	<.020	.011	.17	--	--
07-20-98	14.5	980	.2	7.4	--	5.49	--	--	--	--	--
09-09-98	14.0	950	.2	7.4	7.6	4.31	.021	<.010	.13	--	--
10-22-97	13.7	1170	4.9	7.3	--	9.89	<.015	.033	.53	--	--
02-17-98	--	1310	--	7.6	--	10.4	.023	.028	.54	--	--
03-17-98	13.0	1350	.6	7.3	7.3	11.2	--	--	--	--	--
04-28-98	12.4	1320	3.1	7.3	--	11.9	.022	.032	.54	--	--
07-01-98	13.0	1400	.5	7.3	--	5.95	.027	<.010	.19	--	--
07-20-98	13.5	1410	.7	7.3	--	11.9	--	--	--	--	--
09-09-98	13.0	1540	1.3	7.3	7.4	12.5	.028	<.010	.79	--	--
10-22-97	14.8	730	.9	7.5	7.6	2.43	<.015	<.010	<.20	--	--
11-24-97	15.2	733	1.0	7.4	--	2.14	--	--	--	--	--
01-20-98	13.6	824	.9	7.9	--	2.08	--	--	--	--	--
02-17-98	--	825	--	7.9	7.6	2.16	<.020	<.010	<.10	--	--
03-17-98	14.5	825	1.0	7.6	7.6	2.29	--	--	--	--	--
04-27-98	14.8	820	1.2	7.8	--	--	--	--	--	--	--
05-13-98	14.8	819	1.3	7.8	--	2.45	--	--	--	--	--
05-26-98	15.4	819	1.3	7.9	--	2.38	--	--	--	--	--
06-09-98	15.0	644	1.4	--	--	2.44	--	--	--	--	--
06-25-98	15.0	820	--	7.5	7.6	2.59	.059	<.010	<.10	--	--
07-06-98	15.0	820	6.9	7.6	--	2.47	--	--	--	--	--
07-20-98	15.0	820	1.2	7.6	--	2.34	--	--	--	--	--
08-03-98	14.5	720	1.3	7.7	--	2.34	--	--	--	--	--
09-01-98	15.5	830	1.1	7.6	7.7	2.31	.029	<.010	<.10	1.3	--
09-16-98	15.0	830	1.5	7.6	--	2.68	--	--	--	--	--
10-22-97	14.6	866	.1	7.2	7.4	6.47	<.015	.094	<.20	--	--
11-24-97	15.0	870	.1	7.2	--	6.27	--	--	--	--	--
01-20-98	13.8	976	.1	7.7	--	6.23	--	--	--	--	--
02-17-98	--	983	--	7.6	7.4	6.50	.045	.091	.23	--	--
03-17-98	14.5	987	.3	7.3	7.4	6.61	--	--	--	--	--
04-27-98	14.6	984	.1	7.4	--	--	<.020	<.010	.21	--	--
05-13-98	14.7	982	.1	7.6	--	6.13	--	--	--	--	--
05-26-98	14.8	983	.1	7.6	--	5.78	--	--	--	--	--
06-09-98	15.0	772	.1	--	--	--	--	--	--	--	--
06-25-98	15.0	990	.0	7.3	7.4	6.12	.035	.082	.21	--	--
07-06-98	14.5	990	--	7.3	--	6.16	--	--	--	--	--
07-20-98	15.0	990	.1	7.4	--	6.25	--	--	--	--	--
08-03-98	14.5	750	.1	7.4	--	6.35	--	--	--	--	--
09-01-98	15.0	1010	.1	7.3	7.5	7.14	.022	.066	.27	2.1	--
09-16-98	15.0	1000	.3	7.4	--	6.75	--	--	--	--	--
10-22-97	13.7	953	2.7	7.2	7.3	9.77	<.015	<.010	.48	--	--
11-24-97	14.5	947	2.2	7.1	--	8.08	--	--	--	--	--
01-20-98	13.8	1040	1.1	7.7	--	6.85	--	--	--	--	--
02-17-98	--	1030	--	7.5	7.3	7.14	.022	<.010	.45	--	--
03-17-98	14.0	1030	1.1	7.4	7.3	8.00	--	--	--	--	--
04-27-98	13.5	1040	1.0	7.4	--	--	.023	<.010	.56	--	--
05-13-98	13.6	1060	1.4	7.5	--	10.8	--	--	--	--	--
05-26-98	13.8	1050	1.6	7.6	--	10.7	--	--	--	--	--
06-09-98	13.0	797	1.8	--	--	10.8	--	--	--	--	--
06-25-98	13.5	1060	1.9	7.3	7.3	11.8	.061	<.010	.60	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
<b>SCOTTS BLUFF COUNTY</b>										
07-20-98	--	--	--	--	--	--	--	--	--	--
09-09-98	78	23	65	--	14	200	--	--	--	853
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
03-17-98	88	28	72	--	17	210	--	--	--	269
04-28-98	--	--	--	--	--	--	--	--	--	--
07-01-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
09-09-98	98	29	70	--	15	210	--	--	--	357
10-22-97	--	--	--	--	--	--	--	--	--	--
02-17-98	--	--	--	--	--	--	--	--	--	--
03-17-98	100	43	108	--	22	290	--	--	--	482
04-28-98	--	--	--	--	--	--	--	--	--	--
07-01-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
09-09-98	140	52	123	--	32	340	--	--	--	531
10-22-97	73	22	64	--	15	210	--	--	--	173
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	74	22	64	--	15	210	--	--	--	115
03-17-98	76	22	64	--	15	210	--	--	--	110
04-27-98	--	--	--	--	--	--	--	--	--	211
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	74	22	64	--	15	190	--	--	--	165
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	73	22	64	12	15	200	.43	-112.8	-13.84	435
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	91	29	67	--	17	230	--	--	--	415
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	91	29	68	--	18	230	--	--	--	365
03-17-98	97	30	69	--	17	230	--	--	--	271
04-27-98	--	--	--	--	--	--	--	--	--	442
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	96	31	68	--	18	230	--	--	--	403
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	96	31	69	15	18	230	.41	-108.0	-13.25	418
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	110	27	76	--	16	250	--	--	--	302
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-17-98	120	27	74	--	14	240	--	--	--	328
03-17-98	110	26	74	--	14	240	--	--	--	328
04-27-98	--	--	--	--	--	--	--	--	--	344
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	110	28	73	--	17	230	--	--	--	321

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

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## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTTS BLUFF COUNTY</b>							
415738103554703	23N 57W 15CBCB3	41 57 38 N	103 55 47 W	07-06-98	1230	3992	30
				07-20-98	1235	3992	30
				08-03-98	1125	3992	30
				09-01-98	1015	3992	30
				09-16-98	1115	3992	30
415739104021101	23N 58W 15CDAD1	41 57 39 N	104 02 11 W	04-16-98	1255	4021	175
				08-20-98	1235	4021	175
415739104021102	23N 58W 15CDAD2			04-16-98	1310	4021	30
				08-20-98	1250	4021	30
415742103482001	23N 56W 16DADA1	41 57 42 N	103 48 20 W	08-17-98	1200	3972	80
415742103482002	23N 56W 16DADA2			04-15-98	1110	3972	35
				08-17-98	1220	3972	35
415756103555401	23N 57W 16ADAC1	41 57 56 N	103 55 54 W	10-20-97	1225	3990	195
				11-24-97	0755	3990	195
				01-20-98	1300	3990	195
				02-18-98	0900	3990	195
				03-18-98	1125	3990	195
				04-28-98	1040	3990	195
				05-12-98	1250	3990	195
				05-26-98	1320	3990	195
				06-09-98	1200	3990	195
				06-25-98	1225	3990	195
				07-06-98	1255	3990	195
				07-20-98	1050	3990	195
				08-03-98	1230	3990	195
				09-01-98	1230	3990	195
				09-16-98	1140	3990	195
415756103555402	23N 57W 16ADAC2			10-20-97	1245	3990	112
				11-24-97	0815	3990	112
				01-20-98	1320	3990	112
				02-18-98	0920	3990	112
				03-18-98	1205	3990	112
				04-28-98	1055	3990	112
				05-12-98	1305	3990	112
				05-26-98	1335	3990	112
				06-09-98	1215	3990	112
				06-25-98	1240	3990	112
				07-06-98	1315	3990	112
				07-20-98	1105	3990	112
				08-03-98	1250	3990	112
				09-01-98	1315	3990	112
				09-16-98	1155	3990	112
415756103555403	23N 57W 16ADAC3			10-20-97	1300	3990	30
				11-24-97	0830	3990	30
				01-20-98	1335	3990	30
				02-18-98	0935	3990	30
				03-18-98	1230	3990	30
				04-28-98	1110	3990	30
				05-12-98	1320	3990	30
				05-26-98	1350	3990	30
				06-09-98	1235	3990	30
				06-25-98	1300	3990	30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
07-06-98	13.0	1060	4.1	7.3	--	11.5	--	--	--	--	--
07-20-98	13.5	1050	1.8	7.3	--	11.6	--	--	--	--	--
08-03-98	13.0	730	2.3	7.3	--	7.85	--	--	--	--	--
09-01-98	14.0	1070	3.0	7.2	7.6	17.4	.027	<.010	.58	4.0	--
09-16-98	14.0	1070	3.9	7.3	--	7.16	--	--	--	--	--
04-16-98	13.0	1080	.1	7.9	--	--	--	--	--	--	--
08-20-98	13.0	1330	.6	7.3	7.4	9.27	--	--	--	--	--
04-16-98	10.5	1440	.1	7.5	--	--	--	--	--	--	--
08-20-98	15.0	940	1.3	7.3	7.4	3.89	--	--	--	--	--
08-17-98	14.5	940	4.6	7.7	7.5	7.15	--	--	--	--	--
04-15-98	13.5	920	3.3	7.5	--	6.02	--	--	--	--	--
08-17-98	14.0	930	3.4	7.6	7.5	6.74	--	--	--	--	--
10-20-97	13.9	691	--	7.3	--	3.76	.057	.010	<.20	--	--
11-24-97	14.3	678	4.8	7.3	--	3.19	--	--	--	--	--
01-20-98	13.6	747	.7	8.2	--	1.79	--	--	--	--	--
02-18-98	--	848	--	7.3	--	5.14	<.020	<.010	.28	--	--
03-18-98	14.0	785	1.0	7.8	7.7	--	--	--	--	--	--
04-28-98	14.0	872	1.7	7.7	--	6.18	.023	<.010	.27	--	--
05-12-98	14.2	924	3.6	7.9	--	6.79	--	--	--	--	--
05-26-98	14.5	900	4.2	7.9	--	6.44	--	--	--	--	--
06-09-98	14.0	634	1.7	--	--	3.52	--	--	--	--	--
06-25-98	14.5	770	1.0	7.8	--	2.52	.061	<.010	.19	--	--
07-06-98	14.0	750	.8	7.8	--	6.60	--	--	--	--	--
07-20-98	14.5	740	.3	7.8	--	1.42	--	--	--	--	--
08-03-98	14.5	670	.3	7.9	--	1.57	--	--	--	--	--
09-01-98	15.0	740	.3	7.7	7.9	1.78	.029	<.010	.11	1.4	--
09-16-98	14.5	740	1.1	7.8	--	1.53	--	--	--	--	--
10-20-97	13.9	772	--	7.1	--	2.75	.051	<.010	<.20	--	--
11-24-97	14.2	774	2.4	7.2	--	2.80	--	--	--	--	--
01-20-98	13.6	852	2.8	7.9	--	2.80	--	--	--	--	--
02-18-98	--	856	--	7.4	--	2.96	<.020	<.010	.16	--	--
03-18-98	14.0	850	1.7	7.6	7.6	2.94	--	--	--	--	--
04-28-98	14.1	872	6.3	7.6	--	3.08	<.020	<.010	<.10	--	--
05-12-98	14.2	869	7.0	7.8	--	3.28	--	--	--	--	--
05-26-98	14.4	905	3.3	7.8	--	4.50	--	--	--	--	--
06-09-98	14.0	681	3.0	7.6	--	3.56	--	--	--	--	--
06-25-98	14.5	860	8.2	7.6	--	3.12	.062	<.010	.15	--	--
07-06-98	14.5	870	3.6	7.5	--	3.29	--	--	--	--	--
07-20-98	14.5	860	2.5	7.6	--	8.17	--	--	--	--	--
08-03-98	14.0	740	3.0	7.6	--	7.94	--	--	--	--	--
09-01-98	14.5	870	6.6	7.5	7.7	4.01	.031	<.010	.21	1.9	--
09-16-98	14.5	860	3.1	7.5	--	2.95	--	--	--	--	--
10-20-97	14.7	886	--	7.1	--	20.1	.084	<.010	.62	--	--
11-24-97	15.3	878	6.0	7.2	--	14.7	--	--	--	--	--
01-20-98	14.4	1060	6.0	7.8	--	12.0	--	--	--	--	--
02-18-98	--	1080	--	7.4	--	12.8	<.020	<.010	.64	--	--
03-18-98	14.0	1040	4.2	7.6	7.5	12.1	--	--	--	--	--
04-28-98	13.3	1070	6.1	7.5	--	12.7	.031	<.010	.65	--	--
05-12-98	13.3	1080	6.9	7.8	--	12.7	--	--	--	--	--
05-26-98	13.3	1070	6.3	7.8	--	10.8	--	--	--	--	--
06-09-98	13.0	821	6.3	7.7	--	9.98	--	--	--	--	--
06-25-98	13.0	1080	6.7	7.5	--	10.6	.064	<.010	.71	--	--



Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	SILICA, DIS- SOLVED (MG/L AS SIO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO <sub>3</sub> (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO <sub>3</sub> (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO <sub>3</sub> (00452)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO <sub>3</sub> ) (90410)	SODIUM AD- SORP- TION RATIO  (00931)	HARD- NESS TOTAL (MG/L AS CACO <sub>3</sub> ) (00900)
SCOTTS BLUFF COUNTY										
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	24	49	<10	<4.0	254	310	--	258	2	410
09-16-98	--	--	--	--	--	--	--	--	--	--
04-16-98	26	--	--	--	--	--	--	--	--	--
08-20-98	26	--	--	--	--	--	--	--	3	430
04-16-98	26	--	--	--	--	--	--	--	--	--
08-20-98	26	--	--	--	--	--	--	--	2	310
08-17-98	25	--	--	--	--	--	--	--	1	340
04-15-98	26	--	--	--	--	--	--	--	--	--
08-17-98	25	--	--	--	--	--	--	--	1	340
10-20-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	21	--	--	--	--	--	--	--	2	220
04-28-98	--	--	--	--	--	--	--	--	--	--
05-12-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	22	39	<10	4.9	228	278	--	226	3	180
09-16-98	--	--	--	--	--	--	--	--	--	--
10-20-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	22	--	--	--	--	--	--	--	2	280
04-28-98	--	--	--	--	--	--	--	--	--	--
05-12-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	23	51	<10	<4.0	212	259	--	214	2	290
09-16-98	--	--	--	--	--	--	--	--	--	--
10-20-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	26	--	--	--	--	--	--	--	2	370
04-28-98	--	--	--	--	--	--	--	--	--	--
05-12-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTT'S BLUFF COUNTY</b>							
415756103555403	23N 57W 16ADAC3	41 57 56 N	103 55 54 W	07-06-98	1330	3990	30
				07-20-98	1125	3990	30
				08-03-98	1305	3990	30
				09-01-98	1325	3990	30
				09-16-98	1210	3990	30
415811103555801	23N 57W 16AAAC1	41 58 11 N	103 55 58 W	10-22-97	1320	3991	77
				11-24-97	0855	3991	77
				01-20-98	1400	3991	77
				02-18-98	1000	3991	77
				03-18-98	1315	3991	77
				04-28-98	1350	3991	77
				05-13-98	0935	3991	77
				05-26-98	1420	3991	77
				06-09-98	1325	3991	77
				06-25-98	1105	3991	77
				07-06-98	1400	3991	77
				07-21-98	1310	3991	77
				08-03-98	1330	3991	77
				08-28-98	1100	3991	77
				09-16-98	1250	3991	77
415811103555802	23N 57W 16AAAC2			10-22-97	1335	3991	53
				11-24-97	0920	3991	53
				01-20-98	1415	3991	53
				02-18-98	1015	3991	53
				03-18-98	1345	3991	53
				04-28-98	1405	3991	53
				05-13-98	0950	3991	53
				05-26-98	1440	3991	53
				06-09-98	1345	3991	53
				06-25-98	1120	3991	53
				07-06-98	1420	3991	53
				07-21-98	1345	3991	53
				08-03-98	1345	3991	53
				08-28-98	1210	3991	53
				09-16-98	1305	3991	53
415811103555803	23N 57W 16AAAC3			10-22-97	1350	3991	30
				11-24-97	0935	3991	30
				01-20-98	1430	3991	30
				02-18-98	1030	3991	30
				03-18-98	1410	3991	30
				04-28-98	1420	3991	30
				05-13-98	1005	3991	30
				05-26-98	1455	3991	30
				06-09-98	1405	3991	30
				06-25-98	1135	3991	30
				07-06-98	1435	3991	30
				07-21-98	1405	3991	30
				08-03-98	1410	3991	30
				08-28-98	1145	3991	30
				09-16-98	1320	3991	30
415814103581201	23N 57W 7DDDD1	41 58 14 N	103 58 12 W	03-24-98	1025	4016	152
				08-19-98	1205	4016	152
415814103581202	23N 57W 7DDDD2			03-24-98	1040	4016	30
				08-19-98	1220	4016	30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
07-06-98	13.0	1100	8.2	7.5	--	9.95	--	--	--	--	--
07-20-98	13.0	1090	5.5	7.5	--	9.80	--	--	--	--	--
08-03-98	13.5	810	5.6	7.5	--	9.35	--	--	--	--	--
09-01-98	14.0	1010	4.8	7.4	7.6	7.36	.031	<.010	.60	--	--
09-16-98	14.0	960	6.9	7.5	--	7.02	--	--	--	--	--
10-22-97	12.0	887	1.8	7.4	--	4.84	<.015	<.010	<.20	--	--
11-24-97	12.2	900	1.9	7.3	--	5.06	--	--	--	--	--
01-20-98	11.5	1040	1.9	7.8	--	5.18	--	--	--	--	--
02-18-98	--	1060	--	7.4	--	5.41	<.020	<.010	.27	--	--
03-18-98	11.5	1040	1.2	7.6	7.5	5.41	--	--	--	--	--
04-28-98	12.1	1030	2.0	7.5	--	5.18	.020	<.010	.22	--	--
05-13-98	12.2	1030	2.0	7.6	--	5.38	--	--	--	--	--
05-26-98	12.3	1030	2.2	7.9	--	5.24	--	--	--	--	--
06-09-98	12.0	750	2.3	7.6	--	5.38	--	--	--	--	--
06-25-98	12.0	1020	2.4	7.5	--	5.58	.058	<.010	.16	--	--
07-06-98	12.0	1020	3.5	7.4	--	5.56	--	--	--	--	--
07-21-98	12.0	1010	2.1	7.5	--	5.99	--	--	--	--	--
08-03-98	12.0	790	2.3	7.5	--	5.93	--	--	--	--	--
08-28-98	12.5	1010	2.3	7.4	7.6	6.52	.216	<.010	.28	3.5	--
09-16-98	12.0	1010	8.8	7.5	--	6.76	--	--	--	--	--
10-22-97	11.6	910	2.8	7.4	--	7.67	<.015	<.010	<.20	--	--
11-24-97	12.0	897	3.1	7.3	--	7.56	--	--	--	--	--
01-20-98	11.5	980	2.9	7.9	--	7.20	--	--	--	--	--
02-18-98	--	978	--	7.4	--	2.68	<.020	<.010	.26	--	--
03-18-98	12.0	964	2.0	7.5	7.5	7.13	--	--	--	--	--
04-28-98	12.1	1020	3.1	7.5	--	--	.049	<.010	<.10	--	--
05-13-98	12.3	1030	3.1	7.6	--	7.72	--	--	--	--	--
05-26-98	12.3	1030	5.4	7.8	--	7.67	--	--	--	--	--
06-09-98	12.0	756	3.5	--	--	7.64	--	--	--	--	--
06-25-98	12.0	1020	3.7	7.5	--	8.27	.068	<.010	.27	--	--
07-06-98	12.0	1020	5.0	7.4	--	8.08	--	--	--	--	--
07-21-98	12.0	1020	3.4	7.5	--	7.97	--	--	--	--	--
08-03-98	12.0	750	3.6	7.5	--	8.20	--	--	--	--	--
08-28-98	12.0	1010	3.6	7.4	7.7	8.93	.026	<.010	.17	--	--
09-16-98	12.0	990	7.7	7.5	--	8.66	--	--	--	--	--
10-22-97	11.5	1050	1.8	7.4	--	7.99	<.015	<.010	.26	--	--
11-24-97	12.4	1020	1.8	7.2	--	7.30	--	--	--	--	--
01-20-98	11.5	1130	1.4	7.8	--	7.06	--	--	--	--	--
02-18-98	--	1240	--	7.3	--	5.43	<.020	<.010	.28	--	--
03-18-98	12.0	1280	.2	7.4	7.4	4.95	--	--	--	--	--
04-28-98	11.9	1270	.9	7.4	--	4.95	.022	<.010	.20	--	--
05-13-98	11.8	1220	1.5	7.5	--	5.72	--	--	--	--	--
05-26-98	11.8	1210	3.9	7.8	--	5.89	--	--	--	--	--
06-09-98	11.5	868	1.7	--	--	5.98	--	--	--	--	--
06-25-98	11.5	1220	1.4	7.4	--	6.09	.036	<.010	.32	--	--
07-06-98	11.5	1230	1.5	7.4	--	5.53	--	--	--	--	--
07-21-98	11.5	1210	.8	7.4	--	5.72	--	--	--	--	--
08-03-98	11.0	720	1.0	7.4	--	6.20	--	--	--	--	--
08-28-98	11.5	1170	1.4	7.4	7.6	6.66	.171	<.010	.26	3.9	--
09-16-98	11.5	1140	6.1	7.4	--	7.41	--	--	--	--	--
03-24-98	12.0	903	3.4	7.7	7.5	--	--	--	--	--	--
08-19-98	12.0	900	8.9	7.6	7.5	5.49	--	--	--	--	--
03-24-98	11.0	1070	.3	7.7	7.4	--	--	--	--	--	--
08-19-98	12.0	1000	6.5	7.4	7.5	5.49	--	--	--	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
<b>SCOTTS BLUFF COUNTY</b>										
07-06-98	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
09-01-98	91	32	78	--	13	180	--	--	--	469
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	98	31	80	--	19	260	--	--	--	507
04-28-98	--	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-28-98	92	29	78	11	17	240	.48	-112.2	-13.79	520
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	91	29	75	--	16	240	--	--	--	279
04-28-98	--	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-28-98	97	30	79	--	16	230	--	--	--	290
09-16-98	--	--	--	--	--	--	--	--	--	--
10-22-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-20-98	--	--	--	--	--	--	--	--	--	--
02-18-98	--	--	--	--	--	--	--	--	--	--
03-18-98	120	50	88	--	23	350	--	--	--	444
04-28-98	--	--	--	--	--	--	--	--	--	--
05-13-98	--	--	--	--	--	--	--	--	--	--
05-26-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--
08-28-98	100	44	90	13	20	300	.51	-112.4	-13.90	460
09-16-98	--	--	--	--	--	--	--	--	--	--
03-24-98	100	25	55	--	13	190	--	--	--	630
08-19-98	96	25	57	--	13	190	--	--	--	712
03-24-98	120	31	72	--	17	250	--	--	--	494
08-19-98	110	29	62	--	16	220	--	--	--	627





## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER			LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
SCOTTS BLUFF COUNTY									
415816103513201	23N	56W	17BBBA1	41 58 16 N	103 51 32 W	08-31-98	1530	4050	300
415823103561601	23N	57W	9DCC1	41 58 23 N	103 56 16 W	10-21-97	1115	4010	45
						11-24-97	1545	4010	45
						01-20-98	1455	4010	45
						02-18-98	1055	4010	45
						04-23-98	1140	4010	45
						05-12-98	1115	4010	45
						05-27-98	0915	4010	45
						06-10-98	1125	4010	45
						06-23-98	1335	4010	45
						07-07-98	1255	4010	45
						07-21-98	1220	4010	45
						08-04-98	1230	4010	45
						09-01-98	1420	4010	45
						09-16-98	1350	4010	45
						415823103561602	23N	57W	9DCC2
11-24-97	1600	4010	30						
01-20-98	1510	4010	30						
02-18-98	1130	4010	30						
04-23-98	1155	4010	30						
05-12-98	1135	4010	30						
05-27-98	0935	4010	30						
06-10-98	1140	4010	30						
06-23-98	1350	4010	30						
07-07-98	1315	4010	30						
07-21-98	1240	4010	30						
08-04-98	1250	4010	30						
09-01-98	1440	4010	30						
09-16-98	1405	4010	30						
415829103511001	23N	56W	7DDDD1	41 58 29 N	103 51 10 W				
						08-17-98	1300	4050	50
415837104000601	23N	58W	12CDCB1	41 58 37 N	104 00 06 W	03-24-98	0905	4092	95
						08-18-98	0955	4092	95
415837104000602	23N	58W	12CDCB2			03-24-98	0920	4092	30
						08-18-98	1020	4092	30
415840103533101	23N	57W	11DAAA1	41 58 40 N	103 53 31 W	04-06-98	1125	4030	37
						08-17-98	1500	4030	37
415845103555201	23N	57W	9ADDA1	41 58 45 N	103 55 52 W	10-21-97	1005	4016	71
						11-24-97	1450	4016	71
						01-21-98	1130	4016	71
						03-18-98	1525	4016	71
						04-27-98	1245	4016	71
						05-13-98	1035	4016	71
						05-27-98	1035	4016	71
						06-10-98	1030	4016	71
						06-23-98	1215	4016	71
						07-07-98	1145	4016	71
						07-21-98	1105	4016	71
						08-04-98	1125	4016	71
						08-27-98	1515	4016	71
						09-17-98	1255	4016	71

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
08-31-98	17.5	940	.0	8.4	8.5	<.050	.037	<.010	<.10	.50	--
10-21-97	14.2	831	7.0	7.8	7.5	9.17	.057	<.010	.29	--	--
11-24-97	14.3	829	8.9	7.3	--	8.17	--	--	--	--	--
01-20-98	13.6	939	6.5	7.8	--	6.66	--	--	--	--	--
02-18-98	--	945	--	7.3	7.4	6.92	<.020	<.010	.34	--	--
04-23-98	14.3	969	6.4	7.5	--	7.72	.030	<.010	.29	--	--
05-12-98	14.2	964	6.0	7.6	--	6.65	--	--	--	--	--
05-27-98	14.3	960	6.2	7.8	--	6.76	--	--	--	--	--
06-10-98	14.0	965	6.6	7.6	--	6.69	--	--	--	--	--
06-23-98	14.5	970	6.8	7.5	7.4	6.87	.074	<.010	.25	--	--
07-07-98	14.5	960	9.1	7.3	--	--	--	--	--	--	--
07-21-98	14.5	960	5.9	7.4	--	6.44	--	--	--	--	--
08-04-98	14.0	960	6.2	7.4	--	6.64	--	--	--	--	--
09-01-98	14.5	960	5.9	7.3	7.6	8.12	.027	<.010	.35	2.6	--
09-16-98	14.5	920	9.5	7.4	--	8.56	--	--	--	--	--
10-21-97	13.8	925	5.5	7.8	7.4	8.03	.027	<.010	.21	--	--
11-24-97	13.9	918	7.6	7.3	--	8.44	--	--	--	--	--
01-20-98	12.7	1010	5.5	7.7	--	8.31	--	--	--	--	--
02-18-98	--	994	--	7.3	7.3	8.39	<.020	<.010	.29	--	--
04-23-98	12.7	997	5.5	7.5	7.7	8.33	.032	<.010	.28	--	--
05-12-98	12.4	993	5.9	7.6	--	7.48	--	--	--	--	--
05-27-98	12.4	984	5.7	7.9	--	7.49	--	--	--	--	--
06-10-98	12.0	986	5.9	7.6	--	7.19	--	--	--	--	--
06-23-98	12.5	980	6.0	7.5	7.4	6.98	.072	<.010	.30	--	--
07-07-98	13.0	1000	8.0	7.3	--	7.34	--	--	--	--	--
07-21-98	13.0	980	5.6	7.4	--	7.57	--	--	--	--	--
08-04-98	13.0	960	6.1	7.4	--	5.02	--	--	--	--	--
09-01-98	14.0	970	5.4	7.3	7.5	8.14	<.020	<.010	.30	2.7	--
09-16-98	14.0	970	8.6	7.4	--	8.17	--	--	--	--	--
04-02-98	12.5	1120	8.7	7.7	7.5	18.2	--	--	--	--	--
08-17-98	15.0	1150	6.6	7.5	7.5	10.8	--	--	--	--	--
03-24-98	14.5	798	7.2	7.9	7.7	--	--	--	--	--	--
08-18-98	15.0	790	6.0	7.9	7.7	7.66	--	--	--	--	--
03-24-98	13.5	1030	5.5	7.5	7.4	14.0	--	--	--	--	--
08-18-98	18.0	820	7.2	7.6	7.5	11.4	--	--	--	--	--
04-06-98	12.0	1070	4.3	7.4	7.3	12.2	--	--	--	--	--
08-17-98	13.0	1080	8.0	7.4	7.3	12.5	--	--	--	--	--
10-21-97	13.5	902	6.8	7.7	7.4	9.44	.071	<.010	.37	--	--
11-24-97	14.0	907	8.6	7.3	--	10.7	--	--	--	--	--
01-21-98	13.4	1010	6.6	7.8	--	10.7	--	--	--	--	--
03-18-98	13.0	990	4.8	7.5	7.4	9.86	--	--	--	--	--
04-27-98	13.7	1010	6.5	7.5	--	--	<.020	<.010	.38	--	--
05-13-98	13.8	1010	7.0	7.6	--	9.32	--	--	--	--	--
05-27-98	13.9	1000	7.0	7.9	--	9.16	--	--	--	--	--
06-10-98	13.7	1000	7.1	7.7	--	9.13	--	--	--	--	--
06-23-98	14.0	1000	7.5	7.5	7.5	9.25	.065	<.010	.43	--	--
07-07-98	14.0	1000	10.2	7.4	--	8.74	--	--	--	--	--
07-21-98	13.5	990	6.9	7.4	--	3.12	--	--	--	--	--
08-04-98	14.0	980	7.3	7.4	--	12.0	--	--	--	--	--
08-27-98	14.0	980	7.3	7.3	7.6	8.00	<.020	<.010	.30	3.4	--
09-17-98	14.0	950	8.6	7.4	--	7.34	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER			LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)						
SCOTTS BLUFF COUNTY															
415845103555202	23N	57W	9ADDA2	41 58 45 N	103 55 52 W	10-21-97	1025	4016	51						
						11-24-97	1505	4016	51						
						01-21-98	1145	4016	51						
						02-18-98	1500	4016	51						
						03-18-98	1555	4016	51						
						04-27-98	1305	4016	51						
						05-13-98	1050	4016	51						
						05-27-98	1055	4016	51						
						06-10-98	1045	4016	51						
						06-23-98	1235	4016	51						
						07-07-98	1205	4016	51						
						07-21-98	1140	4016	51						
						08-04-98	1145	4016	51						
						08-27-98	1620	4016	51						
						09-17-98	1310	4016	51						
						415845103555203	23N	57W	9ADDA3			10-21-97	1045	4016	30
												11-24-97	1510	4016	30
01-21-98	1205	4016	30												
02-18-98	1410	4016	30												
03-18-98	1615	4016	30												
04-27-98	1320	4016	30												
05-13-98	1110	4016	30												
05-27-98	1110	4016	30												
06-10-98	1100	4016	30												
06-23-98	1255	4016	30												
07-07-98	1220	4016	30												
07-21-98	1125	4016	30												
08-04-98	1200	4016	30												
08-27-98	1600	4016	30												
09-17-98	1330	4016	30												
415852104024801	23N	58W	9ADDA1	41 58 52 N	104 02 48 W							04-20-98	1150	4027	180
												08-20-98	1420	4027	180
415852104024802	23N	58W	9ADDA2			04-20-98	1210	4027	30						
						08-20-98	1435	4027	30						
415854103561101	23N	57W	9ACAA1	41 58 54 N	103 56 11 W	10-22-97	1115	4075	55						
						11-24-97	1425	4075	55						
						01-21-98	1105	4075	55						
						02-18-98	1255	4075	55						
						04-22-98	1535	4075	55						
						05-12-98	1045	4075	55						
						05-27-98	1005	4075	55						
						06-09-98	1455	4075	55						
						06-23-98	1140	4075	55						
						07-07-98	1115	4075	55						
						07-21-98	1040	4075	55						
						08-04-98	1100	4075	55						
						09-09-98	1050	4075	55						
						09-16-98	1435	4075	55						
						415907103555301	23N	57W	9AAAA1	41 59 07 N	103 55 53 W	10-21-97	0935	4080	35
												11-24-97	1355	4080	35
												01-21-98	1040	4080	35
02-18-98	1445	4080	35												
04-23-98	1115	4080	35												
05-12-98	1015	4080	35												
05-27-98	1130	4080	35												
06-10-98	1005	4080	35												
06-23-98	1100	4080	35												
07-07-98	1025	4080	35												

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
10-21-97	13.4	919	5.9	7.8	7.4	8.43	.047	<.010	<.20	--	--
11-24-97	13.9	914	3.8	7.3	--	8.19	--	--	--	--	--
01-21-98	12.4	1020	6.1	7.9	--	8.72	--	--	--	--	--
02-18-98	--	1010	--	7.4	7.4	9.21	<.020	<.010	.35	--	--
03-18-98	12.5	997	4.4	7.5	7.5	9.17	--	--	--	--	--
04-27-98	13.6	1010	5.9	7.5	--	--	<.020	<.010	.34	--	--
05-13-98	13.7	1010	6.3	7.6	--	9.20	--	--	--	--	--
05-27-98	13.8	1010	8.1	8.0	--	9.14	--	--	--	--	--
06-10-98	13.5	1010	6.5	7.7	--	9.34	--	--	--	--	--
06-23-98	14.0	1020	7.0	7.5	7.4	10.0	.079	<.010	.39	--	--
07-07-98	14.0	1020	11.8	7.4	--	9.73	--	--	--	--	--
07-21-98	14.0	1020	6.6	7.4	--	9.76	--	--	--	--	--
08-04-98	13.5	1020	6.4	7.5	--	10.0	--	--	--	--	--
08-27-98	14.0	1020	5.7	7.3	7.6	10.6	<.020	<.010	.33	--	--
09-17-98	14.0	1010	7.3	7.4	--	10.3	--	--	--	--	--
10-21-97	12.8	916	6.8	7.8	7.5	8.91	.030	<.010	<.20	--	--
11-24-97	13.2	922	6.8	7.3	--	9.90	--	--	--	--	--
01-21-98	12.2	1030	4.2	7.8	--	9.14	--	--	--	--	--
02-18-98	--	1030	--	7.4	7.4	9.44	<.020	<.010	.31	--	--
03-18-98	11.0	1020	2.5	7.5	7.5	8.94	--	--	--	--	--
04-27-98	11.0	1030	3.1	7.6	--	--	.026	<.010	.31	--	--
05-13-98	11.3	1030	4.5	7.6	--	6.13	--	--	--	--	--
05-27-98	11.5	1030	8.1	8.0	--	8.28	--	--	--	--	--
06-10-98	11.0	1030	4.3	7.7	--	8.53	--	--	--	--	--
06-23-98	11.5	1030	5.2	7.6	7.4	8.57	.048	<.010	.52	--	--
07-07-98	12.0	1020	8.2	7.4	--	8.22	--	--	--	--	--
07-21-98	12.0	1020	8.2	7.4	--	8.07	--	--	--	--	--
08-04-98	12.0	1020	5.7	7.5	--	8.41	--	--	--	--	--
08-27-98	12.5	1020	5.6	7.3	7.6	8.84	.028	<.010	.30	2.9	--
09-17-98	13.0	1020	6.0	7.4	--	9.31	--	--	--	--	--
04-20-98	11.5	831	.2	8.1	--	--	--	--	--	--	--
08-20-98	13.0	830	.2	7.8	7.8	.330	--	--	--	--	--
04-20-98	11.0	963	.3	7.9	--	--	--	--	--	--	--
08-20-98	13.0	980	.5	7.4	7.5	4.33	--	--	--	--	--
10-22-97	16.9	883	2.7	7.0	7.1	1.53	<.015	<.010	<.20	--	--
11-24-97	16.6	841	3.8	7.1	--	3.21	--	--	--	--	--
01-21-98	14.8	899	2.4	7.6	--	4.31	--	--	--	--	--
02-18-98	--	911	--	7.2	7.2	4.38	<.020	<.010	.28	--	--
04-22-98	14.2	892	3.4	7.4	7.4	6.05	.032	<.010	.28	--	--
05-12-98	13.9	899	6.1	7.5	--	5.90	--	--	--	--	--
05-27-98	13.7	888	4.2	7.6	--	6.04	--	--	--	--	--
06-09-98	13.5	675	4.7	--	--	6.17	--	--	--	--	--
06-23-98	13.5	890	5.1	7.4	7.3	6.59	.076	<.010	.42	--	--
07-07-98	13.5	860	8.3	7.3	--	5.98	--	--	--	--	--
07-21-98	13.5	860	6.6	7.3	--	3.90	--	--	--	--	--
08-04-98	14.5	860	6.4	7.3	--	1.76	--	--	--	--	--
09-09-98	18.5	770	3.1	7.2	7.3	.520	.030	<.010	.31	--	--
09-16-98	20.0	750	3.0	7.2	--	.444	--	--	--	--	--
10-21-97	13.4	997	8.4	7.9	7.6	28.3	.054	<.010	.49	--	--
11-24-97	14.2	938	9.0	7.5	--	22.6	--	--	--	--	--
01-21-98	12.8	978	5.5	8.0	--	16.6	--	--	--	--	--
02-18-98	--	973	--	7.6	7.5	15.7	<.020	<.010	.42	--	--
04-23-98	13.8	943	5.6	7.8	--	14.3	.034	.029	.55	--	--
05-12-98	13.4	936	6.9	7.8	--	13.5	--	--	--	--	--
05-27-98	13.4	900	7.6	8.3	--	12.4	--	--	--	--	--
06-10-98	13.2	839	6.7	7.8	--	9.35	--	--	--	--	--
06-23-98	16.0	850	6.9	7.8	7.5	9.44	.062	<.010	.48	--	--
07-07-98	13.0	940	13.0	7.4	--	4.96	--	--	--	--	--



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

**Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)**

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SCOTTS BLUFF COUNTY										
10-21-97	110	32	65	--	17	230	--	--	--	506
11-24-97	--	--	--	--	--	--	--	--	--	--
01-21-98	--	--	--	--	--	--	--	--	--	--
02-18-98	110	32	66	--	15	220	--	--	--	439
03-18-98	100	31	63	--	15	230	--	--	--	360
04-27-98	--	--	--	--	--	--	--	--	--	563
05-13-98	--	--	--	--	--	--	--	--	--	--
05-27-98	--	--	--	--	--	--	--	--	--	--
06-10-98	--	--	--	--	--	--	--	--	--	--
06-23-98	99	32	66	--	15	220	--	--	--	559
07-07-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-27-98	100	32	67	--	15	220	--	--	--	504
09-17-98	--	--	--	--	--	--	--	--	--	--
10-21-97	120	29	62	--	16	230	--	--	--	704
11-24-97	--	--	--	--	--	--	--	--	--	--
01-21-98	--	--	--	--	--	--	--	--	--	--
02-18-98	120	31	63	--	16	230	--	--	--	748
03-18-98	110	29	60	--	16	240	--	--	--	718
04-27-98	--	--	--	--	--	--	--	--	--	723
05-13-98	--	--	--	--	--	--	--	--	--	--
05-27-98	--	--	--	--	--	--	--	--	--	--
06-10-98	--	--	--	--	--	--	--	--	--	--
06-23-98	100	31	64	--	15	220	--	--	--	714
07-07-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-27-98	100	30	63	16	15	220	.53	-113.8	-14.01	713
09-17-98	--	--	--	--	--	--	--	--	--	--
04-20-98	--	--	--	--	--	--	--	--	--	473
08-20-98	70	19	72	--	16	200	--	--	--	515
04-20-98	--	--	--	--	--	--	--	--	--	691
08-20-98	85	25	85	--	19	230	--	--	--	704
10-22-97	110	25	69	--	12	190	--	--	--	363
11-24-97	--	--	--	--	--	--	--	--	--	--
01-21-98	--	--	--	--	--	--	--	--	--	--
02-18-98	110	23	61	--	11	170	--	--	--	573
04-22-98	100	22	61	--	12	180	--	--	--	643
05-12-98	--	--	--	--	--	--	--	--	--	--
05-27-98	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--
06-23-98	93	22	60	--	13	190	--	--	--	608
07-07-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
09-09-98	54	18	40	--	10	150	--	--	--	335
09-16-98	--	--	--	--	--	--	--	--	--	--
10-21-97	110	30	69	--	17	240	--	--	--	264
11-24-97	--	--	--	--	--	--	--	--	--	--
01-21-98	--	--	--	--	--	--	--	--	--	--
02-18-98	89	30	74	--	14	200	--	--	--	249
04-23-98	--	--	--	--	--	--	--	--	--	203
05-12-98	--	--	--	--	--	--	--	--	--	--
05-27-98	--	--	--	--	--	--	--	--	--	--
06-10-98	--	--	--	--	--	--	--	--	--	--
06-23-98	71	25	63	--	13	180	--	--	--	135
07-07-98	--	--	--	--	--	--	--	--	--	--

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER			LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)						
SCOTTS BLUFF COUNTY															
415907103555301	23N	57W	9AAAA1	41 59 07 N	103 55 53 W	07-21-98	1015	4080	35						
						08-04-98	1035	4080	35						
						09-01-98	1600	4080	35						
						09-17-98	1355	4080	35						
415944103532901	23N	57W	1ACBC1	41 59 44 N	103 53 29 W	04-06-98	1155	4079	60						
						08-17-98	1430	4079	60						
420002103511101	23N	56W	6AAAA1	42 00 02 N	103 51 11 W	04-02-98	1030	4098	160						
						08-17-98	1335	4098	160						
420002103511102	23N	56W	6AAAA2			04-02-98	1045	4098	65						
						08-17-98	1355	4098	65						
420003103410301	23N	56W	4AABA1	42 00 03 N	103 41 03 W	04-15-98	1250	4125	120						
						08-17-98	1115	4125	120						
420003104023801	23N	58W	3BBAC1	42 00 03 N	104 02 38 W	03-18-98	1455	4070	50						
						09-10-98	0915	4070	50						
420004103581401	23N	57W	6AAAA1	42 00 04 N	103 58 14 W	03-23-98	1455	4082	80						
						08-19-98	1130	4082	80						
420006104004401	23N	58W	2AABB1	42 00 06 N	104 00 44 W	03-23-98	1347	4124	90						
						08-18-98	1115	4124	90						
420006104004402	23N	58W	2AABB2			03-23-98	1420	4124	36						
						08-18-98	1140	4124	36						
SIOUX COUNTY															
420004103555301	24N	57W	33DDDD1	42 00 04 N	103 55 53 W	10-21-97	0820	4094	118						
						11-24-97	1250	4094	118						
						01-21-98	0935	4094	118						
						02-19-98	0910	4094	118						
						04-23-98	0920	4094	118						
						05-12-98	0920	4094	118						
						05-27-98	1250	4094	118						
						06-10-98	0910	4094	118						
						06-25-98	0900	4094	118						
						07-07-98	0925	4094	118						
						07-21-98	0910	4094	118						
						08-04-98	0920	4094	118						
						08-24-98	1000	4094	118						
						09-17-98	1450	4094	118						
						420004103555302	24N	57W	33DDDD2			10-21-97	0840	4094	73
												11-24-97	1305	4094	73
01-21-98	0955	4094	73												
02-19-98	0930	4094	73												
04-23-98	0945	4094	73												
05-12-98	0935	4094	73												
05-27-98	1310	4094	73												
06-10-98	0930	4094	73												
06-25-98	0915	4094	73												
07-07-98	0940	4094	73												

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
07-21-98	13.5	840	8.0	7.4	--	4.31	--	--	--	--	--
08-04-98	14.5	830	8.5	7.4	--	3.27	--	--	--	--	--
09-01-98	15.0	840	7.3	7.3	7.6	8.25	.027	<.010	.53	6.1	--
09-17-98	18.0	760	9.0	7.3	--	3.88	--	--	--	--	--
04-06-98	13.0	982	4.6	7.6	7.5	7.84	--	--	--	--	--
08-17-98	12.5	800	9.1	7.7	7.5	3.44	--	--	--	--	--
04-02-98	14.2	784	7.6	7.9	7.7	3.07	--	--	--	--	--
08-17-98	15.0	780	6.2	7.8	7.6	2.96	--	--	--	--	--
04-02-98	13.9	999	7.6	7.8	7.5	8.07	--	--	--	--	--
08-17-98	14.5	980	7.8	7.6	7.5	7.06	--	--	--	--	--
04-15-98	12.7	681	7.7	7.1	--	6.88	--	--	--	--	--
08-17-98	17.0	660	8.1	8.1	7.8	7.51	--	--	--	--	--
03-18-98	10.0	795	5.4	--	7.8	4.79	--	--	--	--	--
09-10-98	17.0	790	8.5	7.6	7.6	5.26	--	--	--	--	--
03-23-98	13.5	567	7.2	8.9	8.6	--	--	--	--	--	--
08-19-98	13.8	570	7.6	8.9	8.7	5.69	--	--	--	--	--
03-23-98	16.5	818	6.1	7.9	7.8	--	--	--	--	--	--
08-18-98	17.5	770	4.1	8.0	7.9	5.90	--	--	--	--	--
03-23-98	17.0	731	6.2	7.6	7.6	--	--	--	--	--	--
08-18-98	18.0	640	7.6	7.7	7.6	.395	--	--	--	--	--
<b>SIOUX COUNTY</b>											
10-21-97	13.6	649	3.9	7.6	7.7	2.33	.070	<.010	<.20	--	--
11-24-97	13.9	649	4.8	7.6	--	2.26	--	--	--	--	--
01-21-98	12.7	727	4.1	7.8	--	2.33	--	--	--	--	--
02-19-98	--	726	--	7.9	--	2.18	--	--	--	--	--
04-23-98	13.8	727	4.2	7.8	7.8	2.30	.032	<.010	<.10	--	--
05-12-98	14.0	726	7.1	7.9	--	2.30	--	--	--	--	--
05-27-98	14.4	726	4.4	8.0	--	2.22	--	--	--	--	--
06-10-98	14.0	725	4.3	7.9	--	2.24	--	--	--	--	--
06-25-98	14.0	730	5.1	7.7	7.7	2.31	.056	<.010	.10	--	--
07-07-98	14.0	730	6.5	7.6	--	2.23	--	--	--	--	--
07-21-98	14.0	720	4.2	7.7	--	2.22	--	--	--	--	--
08-04-98	14.0	730	4.6	7.8	--	2.25	--	--	--	--	--
08-24-98	14.0	730	6.1	7.8	7.8	2.52	.080	.010	<.10	1.3	--
09-17-98	14.0	720	5.5	7.7	--	2.44	--	--	--	--	--
10-21-97	13.3	832	4.1	7.7	7.5	9.23	.025	<.010	<.20	--	--
11-24-97	13.7	835	4.9	7.4	--	9.79	--	--	--	--	--
01-21-98	12.4	906	4.2	7.8	--	8.72	--	--	--	--	--
02-19-98	--	899	--	7.8	--	7.97	--	--	--	--	--
04-23-98	13.7	903	4.5	7.6	7.7	8.97	.030	<.010	.15	--	--
05-12-98	13.8	906	4.5	7.7	--	8.42	--	--	--	--	--
05-27-98	14.1	909	6.0	7.8	--	8.45	--	--	--	--	--
06-10-98	14.0	912	4.9	7.8	--	8.32	--	--	--	--	--
06-25-98	14.0	820	5.4	7.5	7.6	9.04	.047	<.010	.18	--	--
07-07-98	14.0	920	7.1	7.5	--	9.01	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIOUX COUNTY</b>							
420004103555302	24N 57W 33DDDD2	42 00 04 N	103 55 53 W	07-21-98	0930	4094	73
				08-04-98	0940	4094	73
				08-24-98	1100	4094	73
				09-01-98	1600	4094	73
				09-17-98	1435	4094	73
420004103555303	24N 57W 33DDDD3			10-21-97	0900	4094	35
				11-24-97	1100	4094	35
				11-24-97	1325	4094	35
				01-21-98	1010	4094	35
				02-19-98	0950	4094	35
				04-23-98	0955	4094	35
				05-12-98	0950	4094	35
				05-27-98	1330	4094	35
				06-10-98	0945	4094	35
				06-25-98	0935	4094	35
				07-07-98	1000	4094	35
				07-21-98	0945	4094	35
				08-04-98	0955	4094	35
				08-24-98	1215	4094	35
				09-17-98	1420	4094	35
420005103562801	24N 57W 33DCCC1	42 00 05 N	103 56 28 W	10-23-97	1050	4100	100
				02-19-98	1015	4100	100
				03-19-98	0940	4100	100
				04-29-98	0950	4100	100
				06-24-98	1500	4100	100
				09-09-98	1120	4100	100
420005103562802	24N 57W 33DCCC2			10-23-97	1105	4100	70
				02-19-98	1030	4100	70
				03-19-98	1000	4100	70
				04-29-98	1005	4100	70
				06-24-98	1515	4100	70
				09-09-98	1135	4100	70
420005103562803	24N 57W 33DCCC3			10-23-97	1125	4100	45
				02-19-98	1050	4100	45
				03-19-98	1025	4100	45
				04-29-98	1025	4100	45
				06-24-98	1535	4100	45
				09-09-98	1150	4100	45
420005103570301	24N 57W 32DDDD1	42 00 05 N	103 57 03 W	10-23-97	0950	4100	68
				02-19-98	1120	4100	68
				04-23-98	1020	4100	68
				06-25-98	1005	4100	68
				09-09-98	1340	4100	68
420005103570302	24N 57W 32DDDD2			10-23-97	1010	4100	54
				02-19-98	1135	4100	54
				04-23-98	1035	4100	54
				06-25-98	1020	4100	54
				09-09-98	1355	4100	54
420005103570303	24N 57W 32DDDD3			10-23-97	1025	4100	40
				02-19-98	1150	4100	40
				04-23-98	1055	4100	40
				06-25-98	1035	4100	40
				09-09-98	1410	4100	40

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
07-21-98	14.0	930	4.8	7.5	--	8.77	--	--	--	--	--
08-04-98	14.0	930	5.0	7.6	--	9.39	--	--	--	--	--
08-24-98	14.0	940	7.1	7.5	7.7	10.8	.089	.012	.21	1.6	--
09-01-98	14.3	945	7.1	7.4	--	--	--	--	--	--	--
09-17-98	14.0	940	5.8	7.4	--	10.1	--	--	--	--	--
10-21-97	13.1	888	5.2	7.7	7.4	11.9	.059	<.010	.34	--	--
11-24-97	13.6	882	--	7.3	--	--	--	--	--	--	--
11-24-97	13.6	882	6.5	7.3	--	11.9	--	--	--	--	--
01-21-98	12.6	981	8.0	7.7	--	9.71	--	--	--	--	--
02-19-98	--	951	--	7.6	8.0	8.73	--	--	--	--	--
04-23-98	13.7	915	5.6	7.4	--	12.6	.030	<.010	.35	--	--
05-12-98	13.6	914	7.8	7.6	--	11.9	--	--	--	--	--
05-27-98	13.9	917	4.7	7.8	--	11.7	--	--	--	--	--
06-10-98	13.5	923	5.3	7.7	--	11.8	--	--	--	--	--
06-25-98	13.5	940	5.7	7.4	7.4	12.6	.044	<.010	.31	--	--
07-07-98	13.5	940	7.2	7.3	--	12.5	--	--	--	--	--
07-21-98	13.5	950	4.9	7.4	--	12.8	--	--	--	--	--
08-04-98	13.0	960	5.0	7.5	--	14.0	--	--	--	--	--
08-24-98	13.5	980	7.0	7.4	7.6	15.8	.088	.011	.54	3.2	--
09-17-98	14.0	730	5.2	7.7	--	--	--	--	--	--	--
10-23-97	13.9	489	7.0	7.5	--	2.51	<.015	<.010	<.20	--	--
02-19-98	--	948	--	7.7	--	2.76	.022	<.010	<.10	--	--
03-19-98	13.5	705	4.0	7.5	7.8	2.56	--	--	--	--	--
04-29-98	13.9	721	4.0	7.9	--	4.76	.025	<.010	.13	--	--
06-24-98	14.0	730	4.7	7.8	--	2.63	.027	<.010	.11	--	--
09-09-98	14.5	730	4.0	7.7	7.9	2.71	<.020	<.010	<.10	--	--
10-23-97	13.8	672	3.9	7.3	--	13.7	<.015	<.010	.24	--	--
02-19-98	--	933	--	7.8	--	18.7	.020	<.010	.21	--	--
03-19-98	14.0	1040	3.0	7.4	7.6	21.5	--	--	--	--	--
04-29-98	13.9	1060	2.2	7.7	--	18.7	<.020	<.010	.21	--	--
06-24-98	14.0	1030	2.0	7.5	--	17.4	.054	<.010	.23	--	--
09-09-98	14.5	1090	3.6	7.5	7.6	22.9	<.020	<.010	.30	--	--
10-23-97	14.9	623	6.0	7.3	--	16.1	<.015	<.010	.33	--	--
02-19-98	--	894	--	7.8	--	19.5	.025	<.010	.40	--	--
03-19-98	14.5	881	5.0	7.4	7.6	15.6	--	--	--	--	--
04-29-98	14.6	882	4.7	7.7	--	14.8	.021	<.010	.31	--	--
06-24-98	14.5	890	5.1	7.5	--	13.8	.043	<.010	.34	--	--
09-09-98	15.5	800	6.7	7.6	7.6	23.7	<.020	<.010	.44	--	--
10-23-97	13.0	607	5.8	7.2	--	9.06	<.015	<.010	<.20	--	--
02-19-98	--	1030	--	7.8	--	16.2	.026	<.010	.24	--	--
04-23-98	12.9	1020	5.3	7.6	7.8	13.9	.030	<.010	.23	--	--
06-25-98	13.0	1020	6.1	7.5	--	8.10	.067	<.010	.28	--	--
09-09-98	14.0	1020	5.7	7.5	7.6	12.2	.027	<.010	.29	--	--
10-23-97	13.1	468	8.1	7.4	--	3.24	<.015	<.010	<.20	--	--
02-19-98	--	960	--	7.8	--	11.6	.026	<.010	.18	--	--
04-23-98	12.9	999	5.3	7.6	--	12.3	.030	<.010	.21	--	--
06-25-98	13.0	1010	6.1	7.5	--	11.5	.030	<.010	.24	--	--
09-09-98	15.0	660	5.9	7.6	7.7	--	<.020	<.010	.14	--	--
10-23-97	13.2	412	8.0	7.7	--	--	.018	<.010	<.20	--	--
02-19-98	--	883	--	8.1	--	7.40	.027	<.010	.22	--	--
04-23-98	13.1	1010	8.1	7.8	7.7	9.74	.032	<.010	.29	--	--
06-25-98	13.0	1050	8.2	7.7	--	9.50	<.020	<.010	.31	--	--
09-09-98	16.0	620	6.3	7.8	7.8	.802	<.020	<.010	.13	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
07-21-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-24-98	100	27	58	15	18	220	.38	-116.7	-14.36	369
09-01-98	--	--	--	--	--	--	--	--	--	--
09-17-98	--	--	--	--	--	--	--	--	--	--
10-21-97	120	22	63	--	17	230	--	--	--	460
11-24-97	--	--	--	--	--	--	--	--	--	--
11-24-97	--	--	--	--	--	--	--	--	--	--
01-21-98	--	--	--	--	--	--	--	--	--	--
02-19-98	110	21	63	--	14	200	--	--	--	--
04-23-98	--	--	--	--	--	--	--	--	--	524
05-12-98	--	--	--	--	--	--	--	--	--	--
05-27-98	--	--	--	--	--	--	--	--	--	--
06-10-98	--	--	--	--	--	--	--	--	--	--
06-25-98	100	21	60	--	16	190	--	--	--	524
07-07-98	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--
08-04-98	--	--	--	--	--	--	--	--	--	--
08-24-98	110	23	63	13	16	200	.40	-113.3	-14.10	389
09-17-98	--	--	--	--	--	--	--	--	--	--
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
03-19-98	61	17	57	--	12	150	--	--	--	210
04-29-98	--	--	--	--	--	--	--	--	--	--
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	67	17	60	--	13	150	--	--	--	297
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
03-19-98	120	32	63	--	18	250	--	--	--	253
04-29-98	--	--	--	--	--	--	--	--	--	--
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	120	32	61	--	22	240	--	--	--	408
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
03-19-98	90	21	54	--	22	190	--	--	--	387
04-29-98	--	--	--	--	--	--	--	--	--	--
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	90	17	53	--	11	140	--	--	--	514
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-23-98	110	26	68	--	16	220	--	--	--	468
06-25-98	--	--	--	--	--	--	--	--	--	--
09-09-98	120	27	65	--	15	210	--	--	--	461
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-23-98	--	--	--	--	--	--	--	--	--	421
06-25-98	--	--	--	--	--	--	--	--	--	--
09-09-98	67	16	44	--	9.9	140	--	--	--	423
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-23-98	100	31	59	--	19	260	--	--	--	497
06-25-98	--	--	--	--	--	--	--	--	--	--
09-09-98	55	16	42	--	9.5	140	--	--	--	456

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIOUX COUNTY</b>							
420049103555501	24N 57W 33AAAD1	42 00 49 N	103 55 55 W	10-23-97	1230	4100	67
				02-19-98	1410	4100	67
				04-22-98	1425	4100	67
				06-24-98	1355	4100	67
				09-02-98	1015	4100	67
420049103555502	24N 57W 33AAAD2			10-23-97	1250	4100	50
				02-19-98	1425	4100	50
				04-22-98	1445	4100	50
				06-24-98	1410	4100	50
				09-02-98	1100	4100	50
420049103555503	24N 57W 33AAAD3			10-23-97	1305	4100	35
				02-19-98	1440	4100	35
				04-22-98	1505	4100	35
				06-24-98	1430	4100	35
				09-02-98	1130	4100	35
420053103512701	24N 56W 31ABAA1	42 00 53 N	103 51 27 W	04-02-98	1120	4158	163
				09-17-98	0910	4158	163
420053103512702	24N 56W 31ABAA2			04-02-98	1135	4158	125
				09-17-98	0925	4158	125
420053103512703	24N 56W 31ABAA3			04-02-98	1150	4158	98
				09-17-98	0945	4158	98
420056103570301	24N 57W 28CCCC1	42 00 56 N	103 57 03 W	10-23-97	1330	4110	89
				02-19-98	1315	4110	89
				04-22-98	1310	4110	89
				06-24-98	1155	4110	89
				09-09-98	1440	4110	89
420056103570302	24N 57W 28CCCC2			10-23-97	1345	4110	67
				02-19-98	1330	4110	67
				04-22-98	1335	4110	67
				06-24-98	1215	4110	67
				09-09-98	1455	4110	67
420056103570303	24N 57W 28CCCC3			10-23-97	1400	4110	45
				02-19-98	1345	4110	45
				04-22-98	1355	4110	45
				06-24-98	1230	4110	45
				09-09-98	1515	4110	45
420121103560501	24N 57W 28DABA1	42 01 21 N	103 56 05 W	10-20-97	1330	4110	200
				02-19-98	1505	4110	200
				04-22-98	1055	4110	200
				07-01-98	0940	4110	200
				08-31-98	0830	4110	200
420121103560502	24N 57W 28DABA2			10-20-97	1350	4110	99
				02-19-98	1520	4110	99
				04-22-98	1110	4110	99
				07-01-98	0955	4110	99
				08-31-98	1000	4110	99
420121103560503	24N 57W 28DABA3			10-20-97	1405	4110	40
				02-19-98	1535	4110	40
				04-22-98	1130	4110	40
				07-01-98	1015	4110	40
				08-31-98	1040	4110	40



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
10-23-97	14.3	469	4.5	7.6	--	1.22	<.015	<.010	<.20	--	--
02-19-98	--	676	--	8.1	--	1.32	<.020	<.010	<.10	--	--
04-22-98	14.3	677	4.7	7.9	7.8	1.22	.033	<.010	<.10	--	--
06-24-98	14.0	677	5.6	7.8	--	1.28	.055	<.010	<.10	--	--
09-02-98	14.5	680	4.8	7.7	7.8	1.21	.024	<.010	<.10	.80	--
10-23-97	14.7	490	5.5	7.5	--	1.25	<.015	<.010	<.20	--	--
02-19-98	--	692	--	8.1	--	.984	.025	<.010	<.10	--	--
04-22-98	14.1	692	7.6	7.9	7.7	.927	.027	.010	<.10	--	--
06-24-98	14.0	690	5.5	7.7	--	.904	.042	<.010	<.10	--	--
09-02-98	16.0	790	5.0	7.5	7.8	3.52	.021	<.010	.12	1.7	--
10-23-97	18.6	475	--	7.4	--	1.07	<.015	<.010	<.20	--	--
02-19-98	--	989	--	7.7	--	9.85	.020	<.010	.22	--	--
04-22-98	12.9	970	6.7	7.5	7.4	9.06	.027	<.010	.22	--	--
06-24-98	13.0	980	5.4	7.4	--	8.62	.050	<.010	.25	--	--
09-02-98	21.5	640	.9	7.4	7.7	.339	.021	<.010	.19	--	--
04-02-98	16.5	655	6.8	8.0	7.7	.871	--	--	--	--	--
09-17-98	17.0	650	6.1	7.6	7.8	.897	--	--	--	--	--
04-02-98	17.0	693	6.1	8.2	7.9	1.14	--	--	--	--	--
09-17-98	17.0	700	5.5	7.8	7.8	.560	--	--	--	--	--
04-02-98	16.5	735	6.0	7.9	7.7	.525	--	--	--	--	--
09-17-98	17.0	700	9.1	7.6	7.8	1.26	--	--	--	--	--
10-23-97	13.9	562	4.1	7.5	--	3.69	<.015	<.010	<.20	--	--
02-19-98	--	796	--	8.0	--	3.81	.026	<.010	<.10	--	--
04-22-98	14.2	788	4.2	7.8	7.7	3.44	.031	<.010	<.10	--	--
06-24-98	14.5	800	5.1	7.7	--	3.60	.041	<.010	.13	--	--
09-09-98	14.5	800	4.4	7.6	7.6	3.61	.020	<.010	<.10	--	--
10-23-97	13.9	666	5.4	7.3	--	7.45	.032	<.010	<.20	--	--
02-19-98	--	987	--	7.7	--	7.94	.026	<.010	.19	--	--
04-22-98	14.4	974	5.3	7.5	7.5	8.10	.028	<.010	.18	--	--
06-24-98	14.5	960	6.4	7.5	--	7.54	.058	<.010	.24	--	--
09-09-98	14.0	1030	5.3	7.4	7.5	9.28	<.020	<.010	.22	--	--
10-23-97	13.8	606	7.4	7.4	--	10.4	<.015	<.010	<.20	--	--
02-19-98	--	990	--	7.8	--	8.50	.021	<.010	.19	--	--
04-22-98	14.5	1020	6.1	7.6	7.5	9.81	.036	--	--	--	--
06-24-98	14.5	970	7.3	7.5	--	8.45	.061	<.010	.26	--	--
09-09-98	14.0	860	6.3	7.5	7.5	5.84	.044	<.010	.22	--	--
10-20-97	13.8	605	--	7.4	--	2.36	.053	<.010	<.20	--	--
02-19-98	--	698	--	8.1	--	2.31	.025	<.010	<.10	--	--
04-22-98	13.8	715	4.5	7.8	7.7	2.39	.027	<.010	<.10	--	--
07-01-98	14.0	750	5.4	7.7	--	2.76	<.020	<.010	.12	--	--
08-31-98	14.0	730	4.8	7.6	7.9	2.46	.162	<.010	<.10	1.3	--
10-20-97	13.3	1050	--	7.1	--	12.8	.055	<.010	.29	--	--
02-19-98	--	1120	--	7.7	--	13.3	.028	<.010	.25	--	--
04-22-98	13.6	1120	6.5	7.5	7.4	11.8	--	--	--	--	--
07-01-98	13.5	1130	8.2	7.5	--	11.6	.021	<.010	.34	--	--
08-31-98	14.0	1120	7.3	7.3	7.5	10.8	<.020	<.010	.33	5.3	--
10-20-97	12.9	1040	--	7.1	--	8.48	.078	<.010	.36	--	--
02-19-98	--	1140	--	7.7	--	12.7	<.020	<.010	.40	--	--
04-22-98	13.4	1150	8.0	7.4	7.4	11.3	.028	<.010	.41	--	--
07-01-98	13.0	1130	6.5	7.4	--	10.4	<.020	<.010	.39	--	--
08-31-98	13.5	1230	4.5	7.3	7.5	9.24	<.020	<.010	.39	3.9	--



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	63	17	53	--	12	160	--	--	--	244
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	58	17	52	10	12	160	.45	-118.4	-14.83	206
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	69	19	48	--	12	170	--	--	--	279
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	79	22	52	11	13	180	.36	-117.8	-14.47	312
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	110	25	63	--	17	220	--	--	--	437
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	68	16	42	--	9.1	130	--	-113.4	-13.95	422
04-02-98	64	18	41	--	12	170	--	--	--	343
09-17-98	64	18	43	--	12	160	--	--	--	319
04-02-98	64	16	54	--	13	200	--	--	--	294
09-17-98	65	17	54	--	13	190	--	--	--	293
04-02-98	69	18	56	--	12	200	--	--	--	226
09-17-98	67	18	55	--	12	180	--	--	--	231
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	79	21	54	--	12	180	--	--	--	450
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	82	22	56	--	13	180	--	--	--	428
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	110	22	58	--	17	230	--	--	--	347
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	120	24	61	--	17	240	--	--	--	355
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	120	25	59	--	18	230	--	--	--	403
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	95	21	55	--	14	190	--	--	--	453
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	72	20	50	--	13	170	--	--	--	65
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	71	20	50	8.6	13	170	.37	-118.2	-14.57	201
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	140	25	65	--	18	260	--	--	--	319
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	140	26	64	19	19	260	.43	-111.5	-13.67	296
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	140	26	66	--	20	260	--	--	--	403
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	150	31	77	23	15	250	.56	-112.7	-13.84	353

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO <sub>3</sub> (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO <sub>3</sub> (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO <sub>3</sub> (00452)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	SODIUM AD- SORP- TION RATIO (00931)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)
SIOUX COUNTY										
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	20	--	--	--	--	--	--	--	2	230
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	20	53	<10	<4.0	156	190	--	161	2	220
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	22	--	--	--	--	--	--	--	1	250
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	23	58	<10	<4.0	192	234	--	196	1	290
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	25	--	--	--	--	--	--	--	1	370
06-24-98	--	--	--	--	--	--	--	--	--	--
09-02-98	25	--	--	--	--	--	--	--	1	230
04-02-98	23	--	--	--	--	--	--	--	1	230
09-17-98	22	--	--	--	--	--	--	--	1	230
04-02-98	22	--	--	--	--	--	--	--	2	230
09-17-98	22	--	--	--	--	--	--	--	2	230
04-02-98	20	--	--	--	--	--	--	--	2	250
09-17-98	20	--	--	--	--	--	--	--	2	240
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	25	--	--	--	--	--	--	--	1	280
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	23	--	--	--	--	--	--	--	1	290
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	22	--	--	--	--	--	--	--	1	380
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	24	--	--	--	--	--	--	--	1	400
10-23-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	23	--	--	--	--	--	--	--	1	390
06-24-98	--	--	--	--	--	--	--	--	--	--
09-09-98	23	--	--	--	--	--	--	--	1	320
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	18	--	--	--	--	--	--	--	1	260
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	20	59	<10	<4.0	171	209	--	180	1	260
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	22	--	--	--	--	--	--	--	1	440
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	22	48	<10	<4.0	270	329	--	277	1	450
10-20-97	--	--	--	--	--	--	--	--	--	--
02-19-98	--	--	--	--	--	--	--	--	--	--
04-22-98	22	--	--	--	--	--	--	--	1	450
07-01-98	--	--	--	--	--	--	--	--	--	--
08-31-98	23	51	<10	<4.0	368	--	--	373	1	510

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
SIOUX COUNTY								
420145104025001	24N	58W 27BBBC1	42 01 45 N	104 02 50 W	03-23-98 08-18-98	0940 1530	4153 4153	65 65
420148103555201	24N	57W 22CCCC1	42 01 48 N	103 55 52 W	10-06-97 04-20-98 06-24-98	1410 1500 0935	4139 4139 4139	110 110 110
420148103555202	24N	57W 22CCCC2			10-06-97 04-20-98 06-24-98 08-27-98	1425 1520 0950 1100	4139 4139 4139 4139	82 82 82 82
420148103555203	24N	57W 22CCCC3			10-06-97 04-20-98 06-24-98 08-24-98	1440 1535 1005 1500	4139 4139 4139 4139	55 55 55 55
420148103555204	24N	57W 22CCCC4			10-06-97 04-20-98 06-24-98 09-10-98	1505 1555 1025 1330	4140 4140 4140 4140	70 70 70 70
420148103563101	24N	57W 21CDDD1	42 01 48 N	103 56 31 W	04-22-98 06-24-98 08-27-98	0925 1050 1215	4137 4137 4137	181 181 181
420148103563102	24N	57W 21CDDD2			10-23-97 04-22-98 06-24-98 08-27-98	1445 0945 1105 1300	4137 4137 4137 4137	120 120 120 120
420148103563103	24N	57W 21CDDD3			10-23-97 04-22-98 06-24-98 08-27-98	1500 1005 1125 1400	4137 4137 4137 4137	59 59 59 59
420148103583101	24N	57W 30AABB1	42 01 48 N	103 58 31 W	03-23-98 08-19-98	1535 1100	4100 4100	30 30
420153104002401	24N	58W 24CCCC1	42 01 53 N	104 00 24 W	03-23-98 08-18-98	1250 1230	4135 4135	155 155
420153104002402	24N	58W 24CCCC2			03-23-98 08-18-98	1310 1250	4135 4135	80 80
420234103555501	24N	57W 22BBCC1	42 02 34 N	103 55 55 W	10-06-97 04-06-98 04-29-98 06-22-98 09-02-98	1340 1410 1100 1055 0905	4162 4162 4162 4162 4162	63 63 63 63 63
420234103555502	22N	57W 22BBCC2			04-06-98	1429	4163	70
420234103564001	24N	57W 16CDDA1	42 02 34 N	103 56 40 W	10-06-97 04-13-98 04-30-98 06-22-98 09-17-98	1045 1130 1035 1415 1030	4192 4192 4192 4192 4192	100 100 100 100 100

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
03-23-98	15.0	826	6.2	7.7	7.5	--	--	--	--	--	--
08-18-98	16.0	800	7.0	7.6	7.5	8.61	--	--	--	--	--
10-06-97	14.3	596	6.8	7.5	7.6	2.61	--	--	--	--	--
04-20-98	14.0	681	6.1	7.7	--	--	--	--	--	--	--
06-24-98	14.5	680	7.3	7.8	--	2.41	.059	<.010	<.10	--	--
10-06-97	14.2	668	6.6	7.4	7.6	3.02	--	--	--	--	--
04-20-98	14.0	735	6.4	7.7	--	--	--	--	--	--	--
06-24-98	14.5	740	7.4	7.7	--	2.55	.044	<.010	<.10	--	--
08-27-98	15.0	730	6.0	7.5	7.8	2.45	<.020	.011	<.10	1.4	--
10-06-97	13.7	853	7.6	7.2	7.4	7.63	--	--	--	--	--
04-20-98	14.0	734	5.2	7.7	7.5	11.8	.060	<.010	.42	--	--
06-24-98	14.0	960	8.7	7.5	--	13.2	.057	<.010	.25	--	--
08-24-98	14.0	980	12.8	7.5	7.7	9.27	.084	.011	.27	2.3	--
10-06-97	15.4	852	7.3	7.2	7.4	7.27	--	--	--	--	--
04-20-98	14.0	973	7.2	7.5	--	9.34	.055	<.010	.30	--	--
06-24-98	14.5	970	8.2	7.5	--	7.85	.022	<.010	.27	--	--
09-10-98	16.0	840	8.6	7.3	7.5	4.81	.020	<.010	.22	--	--
04-22-98	14.7	654	4.5	7.8	7.7	1.41	.030	<.010	<.10	--	--
06-24-98	15.0	650	5.5	7.8	--	1.35	.056	<.010	1.4	--	--
08-27-98	15.5	660	5.1	7.6	7.8	1.36	<.020	<.010	<.10	.80	--
10-23-97	14.6	586	4.9	7.5	--	4.62	<.015	<.010	<.20	--	--
04-22-98	14.7	872	7.4	7.7	7.6	5.03	.031	<.010	<.10	--	--
06-24-98	15.0	880	5.5	7.6	--	4.84	.044	<.010	.15	--	--
08-27-98	15.5	880	4.7	7.5	7.8	5.07	<.020	<.010	.13	1.4	--
10-23-97	13.7	707	6.8	7.3	--	8.27	<.015	<.010	.22	--	--
04-22-98	13.9	1040	6.6	7.5	7.4	8.99	.027	<.010	.23	--	--
06-24-98	14.0	1040	7.7	7.4	--	8.71	.028	<.010	.28	--	--
08-27-98	14.5	1060	6.8	7.3	7.7	8.25	<.020	<.010	.29	3.3	--
03-23-98	13.5	833	5.4	7.6	7.6	--	--	--	--	--	--
08-19-98	15.5	830	6.8	7.5	7.6	5.07	--	--	--	--	--
03-23-98	14.0	733	6.2	7.7	7.6	--	--	--	--	--	--
08-18-98	14.5	730	6.8	7.8	7.6	3.69	--	--	--	--	--
03-23-98	13.5	737	7.5	7.6	7.6	--	--	--	--	--	--
08-18-98	14.0	730	7.4	7.7	7.6	3.35	--	--	--	--	--
10-06-97	14.0	615	8.0	7.2	7.5	.519	--	--	--	--	--
04-06-98	13.5	1170	7.8	7.6	7.4	8.61	--	--	--	--	--
04-29-98	13.8	1150	7.7	7.5	--	8.11	<.020	<.010	.45	--	--
06-22-98	14.0	1020	8.4	7.5	--	5.41	<.020	.014	.26	--	--
09-02-98	14.0	700	7.9	7.4	7.6	.391	.021	<.010	.16	2.3	--
04-06-98	13.5	1140	7.1	7.7	7.4	8.25	--	--	--	--	--
10-06-97	16.7	637	8.3	7.3	7.6	3.83	--	--	--	--	--
04-13-98	16.4	583	6.5	7.7	7.8	1.55	--	--	--	--	--
04-30-98	16.9	584	9.4	7.8	--	1.13	.022	<.010	<.10	--	--
06-22-98	17.0	560	6.8	7.8	--	.875	.020	.013	.12	--	--
09-17-98	17.0	580	10.0	7.6	7.8	2.67	.047	.012	<.10	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
03-23-98	84	21	54	--	13	170	--	--	--	341
08-18-98	81	20	53	--	12	160	--	--	--	399
10-06-97	72	16	48	--	13	160	--	--	--	--
04-20-98	--	--	--	--	--	--	--	--	--	261
06-24-98	--	--	--	--	--	--	--	--	--	--
10-06-97	91	15	50	--	14	190	--	--	--	--
04-20-98	--	--	--	--	--	--	--	--	--	294
06-24-98	--	--	--	--	--	--	--	--	--	--
08-27-98	84	14	51	8.6	13	180	.36	-113.5	-14.01	329
10-06-97	120	20	60	--	17	220	--	--	--	--
04-20-98	120	21	65	--	19	240	--	--	--	317
06-24-98	--	--	--	--	--	--	--	--	--	--
08-24-98	120	21	63	13	17	230	.38	-111.2	-13.68	299
10-06-97	120	22	60	--	17	220	--	--	--	--
04-20-98	--	--	--	--	--	--	--	--	--	339
06-24-98	--	--	--	--	--	--	--	--	--	--
09-10-98	99	19	53	--	14	190	--	--	--	279
04-22-98	67	17	46	--	11	150	--	--	--	82
06-24-98	--	--	--	--	--	--	--	--	--	--
08-27-98	63	18	47	8.5	11	160	.34	-117.4	-14.82	230
10-23-97	--	--	--	--	--	--	--	--	--	--
04-22-98	92	25	58	--	17	200	--	--	--	319
06-24-98	--	--	--	--	--	--	--	--	--	--
08-27-98	92	26	57	9.6	17	210	.29	-117.4	-14.28	265
10-23-97	--	--	--	--	--	--	--	--	--	--
04-22-98	130	20	65	--	21	250	--	--	--	301
06-24-98	--	--	--	--	--	--	--	--	--	--
08-27-98	130	22	67	12	20	250	.48	-113.3	-14.02	288
03-23-98	93	20	54	--	14	190	--	--	--	899
08-19-98	93	19	52	--	13	190	--	--	--	1132
03-23-98	79	17	49	--	12	160	--	--	--	332
08-18-98	78	16	47	--	12	160	--	--	--	453
03-23-98	78	19	51	--	12	170	--	--	--	431
08-18-98	75	18	48	--	11	160	--	--	--	451
10-06-97	81	16	48	--	9.1	130	--	--	--	--
04-06-98	140	28	73	--	19	310	--	--	--	293
04-29-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-02-98	79	16	46	6.9	9.6	140	.40	-118.6	-14.70	292
04-06-98	140	29	74	--	20	300	--	--	--	346
10-06-97	73	18	51	--	11	130	--	--	--	--
04-13-98	56	14	43	--	9.3	120	--	--	--	325
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	56	14	44	--	8.4	97	--	--	--	346

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

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## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIoux COUNTY</b>							
420234103564002	24N 57W 16CDDA2	42 02 34 N	103 56 40 W	10-06-97	1105	4192	90
				04-13-98	1145	4192	90
				04-30-98	1050	4192	90
				06-22-98	1435	4192	90
				09-17-98	1045	4192	90
420234103564003	24N 57W 16CDDA3			10-06-97	1125	4192	80
				04-13-98	1205	4192	80
				04-30-98	1105	4192	80
				06-22-98	1455	4192	80
				09-17-98	1105	4192	80
420243103570701	24N 57W 16CCCB1	42 02 43 N	103 57 07 W	04-13-98	1515	4177	147
				04-29-98	1135	4177	147
				06-22-98	1520	4177	147
				09-17-98	1135	4177	147
420243103570702	24N 57W 16CCCB2			04-13-98	1530	4177	119
				04-29-98	1150	4177	119
				06-22-98	1540	4177	119
				09-17-98	1150	4177	119
420243103570703	24N 57W 16CCCB3			04-13-98	1550	4177	90
				04-29-98	1210	4177	90
				06-22-98	1600	4177	90
				09-17-98	1210	4177	90
420244103561401	24N 57W 16DCDD1	42 02 44 N	103 56 14 W	04-20-98	1425	4185	88
				06-23-98	1030	4185	88
				09-10-98	1400	4185	88
420259103481601	24N 56W 10CDCA1	42 02 59 N	103 48 16 W	04-15-98	0935	4190	100
				08-17-98	1015	4190	100
420259103481602	24N 56W 10CDCA2			08-17-98	1040	4190	55
420301103554801	24N 57W 15CBBD1	42 03 01 N	103 55 48 W	10-06-97	1235	4205	127
				04-06-98	1307	4205	127
				04-30-98	1120	4205	127
				06-22-98	0945	4205	127
				08-24-98	0830	4205	127
				08-27-98	0830	4205	127
420301103554802	24N 57W 15CBBD2			08-28-98	0930	4205	127
				10-06-97	1255	4205	113.50
				04-06-98	1325	4205	113.50
				04-30-98	1200	4205	113.50
				06-22-98	1005	4205	113.50
420301103554803	24N 57W 15CBBD3			08-27-98	0900	4205	113.50
				10-06-97	1315	4205	95
				04-06-98	1340	4205	95
				04-30-98	1140	4205	95
				06-22-98	1025	4205	95
420307103574001	24N 57W 17ACCC1	42 03 07 N	103 57 40 W	08-27-98	0945	4205	95
				04-20-98	1315	4192	157
				09-10-98	1120	4192	157

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
10-06-97	16.8	638	6.9	7.2	7.6	2.75	--	--	--	--	--
04-13-98	16.4	593	--	7.7	7.8	1.03	--	--	--	--	--
04-30-98	16.9	593	9.2	7.8	--	.897	.062	.044	<.10	--	--
06-22-98	17.0	560	7.1	7.8	--	.895	<.020	.014	<.10	--	--
09-17-98	17.5	620	9.0	7.6	7.6	.749	.050	.012	.10	--	--
10-06-97	16.9	589	7.4	7.2	7.6	2.95	--	--	--	--	--
04-13-98	16.8	678	6.9	7.6	7.7	3.94	--	--	--	--	--
04-30-98	16.8	674	8.9	7.7	--	3.52	.023	<.010	.12	--	--
06-22-98	16.5	650	7.4	7.7	--	3.91	.073	<.010	<.10	--	--
09-17-98	17.5	600	8.6	7.6	7.6	.277	.038	.011	.10	--	--
04-13-98	15.9	708	7.1	7.9	--	1.46	--	--	--	--	--
04-29-98	16.5	709	5.1	7.9	--	1.37	<.020	<.010	<.10	--	--
06-22-98	16.5	710	5.4	7.8	--	1.14	<.020	.013	.11	--	--
09-17-98	16.5	710	6.3	7.7	7.7	1.15	.039	.011	<.10	--	--
04-13-98	16.2	725	7.8	7.7	--	1.03	--	--	--	--	--
04-29-98	16.5	725	5.0	7.8	--	.945	.020	<.010	<.10	--	--
06-22-98	17.0	720	5.5	7.7	--	.823	.023	.014	<.10	--	--
09-17-98	17.0	710	6.4	7.6	7.8	.914	.038	.012	<.10	--	--
04-13-98	16.7	719	6.2	7.6	--	1.89	--	--	--	--	--
04-29-98	17.0	707	6.2	7.7	--	1.57	.025	<.010	.12	--	--
06-22-98	17.0	670	6.8	7.6	--	1.05	.021	.014	<.10	--	--
09-17-98	17.0	710	--	7.4	7.6	.924	.044	.012	.10	--	--
04-20-98	15.5	625	6.9	8.0	--	--	--	--	--	--	--
06-23-98	17.0	600	6.5	7.8	--	2.40	<.020	.013	<.10	--	--
09-10-98	16.0	530	8.7	7.6	7.7	4.25	<.020	<.010	.11	--	--
04-15-98	15.0	569	6.5	--	7.7	3.04	--	--	--	--	--
08-17-98	16.0	580	6.1	8.0	7.7	3.22	--	--	--	--	--
08-17-98	21.0	560	2.8	7.8	7.7	.225	--	--	--	--	--
10-06-97	18.7	517	5.6	7.5	7.7	.329	--	--	--	--	--
04-06-98	17.5	540	4.7	8.0	7.7	.480	--	--	--	--	--
04-30-98	18.0	585	8.9	7.9	--	.445	.072	.062	.11	--	--
06-22-98	19.5	590	4.9	7.9	--	.546	<.020	.014	<.10	--	--
08-24-98	--	633	--	7.4	7.7	--	--	--	--	--	--
08-27-98	--	599	--	7.7	--	.239	.024	<.010	.15	2.4	--
08-28-98	20.5	600	6.2	7.7	--	--	--	--	--	--	--
10-06-97	17.4	449	6.2	7.5	7.8	.156	--	--	--	--	--
04-06-98	18.0	524	4.5	8.0	7.7	.200	--	--	--	--	--
04-30-98	20.0	527	8.7	7.9	--	.162	.077	.031	<.10	--	--
06-22-98	19.5	540	3.4	7.9	--	.236	<.020	.013	<.10	--	--
08-27-98	19.0	576	7.2	7.6	7.7	.254	.024	<.010	.12	--	--
10-06-97	18.0	490	7.5	7.5	7.8	.165	--	--	--	--	--
04-06-98	18.5	545	5.9	8.0	7.7	.238	--	--	--	--	--
04-30-98	19.2	557	8.2	7.8	--	.348	<.020	<.010	<.10	--	--
06-22-98	19.0	600	6.8	7.8	--	.480	<.020	.168	<.10	--	--
08-27-98	18.0	590	7.5	7.7	7.8	.222	<.020	<.010	<.10	2.1	--
04-20-98	17.5	729	4.6	8.0	--	--	--	--	--	--	--
09-10-98	18.0	710	7.2	7.6	7.7	.591	--	--	--	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
10-06-97	74	18	53	--	10	130	--	--	--	--
04-13-98	59	14	46	--	9.2	130	--	--	--	365
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	63	16	43	--	8.7	130	--	--	--	385
10-06-97	68	15	52	--	11	140	--	--	--	--
04-13-98	71	16	51	--	11	150	--	--	--	368
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	63	14	39	--	8.9	130	--	--	--	335
04-13-98	--	--	--	--	--	--	--	--	--	224
04-29-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	67	18	50	--	13	180	--	--	--	245
04-13-98	--	--	--	--	--	--	--	--	--	333
04-29-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	68	17	50	--	13	180	--	--	--	408
04-13-98	--	--	--	--	--	--	--	--	--	317
04-29-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
09-17-98	77	19	47	--	10	140	--	--	--	294
04-20-98	--	--	--	--	--	--	--	--	--	310
06-23-98	--	--	--	--	--	--	--	--	--	--
09-10-98	57	13	41	--	8.1	86	--	--	--	327
04-15-98	53	14	43	--	11	120	--	--	--	927
08-17-98	51	15	44	--	10	120	--	--	--	889
08-17-98	48	16	40	--	8.7	130	--	--	--	551
10-06-97	52	16	42	--	7.7	110	--	--	--	--
04-06-98	47	15	42	--	7.5	110	--	--	--	57
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-24-98	59	18	46	5.7	10	140	.49	--	--	--
08-27-98	--	--	--	--	--	--	--	--	--	176
08-28-98	--	--	--	--	--	--	--	-119.2	-14.60	--
10-06-97	44	15	40	--	7.8	110	--	--	--	--
04-06-98	47	17	41	--	7.4	120	--	--	--	438
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-27-98	55	19	37	--	9.2	130	--	--	--	452
10-06-97	50	15	45	--	8.2	120	--	--	--	--
04-06-98	50	15	43	--	7.5	120	--	--	--	347
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-27-98	56	18	42	4.6	9.5	140	.40	-117.4	-14.74	345
04-20-98	--	--	--	--	--	--	--	--	--	225
09-10-98	79	17	52	--	13	190	--	--	--	241

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIOUX COUNTY</b>							
420307103574002	24N 57W 17ACCC2	42 03 07 N	103 57 40 W	04-20-98	1335	4192	130
				09-10-98	1140	4192	130
420307103574003	24N 57W 17ACCC3			04-20-98	1355	4192	95
				09-10-98	1155	4192	95
420313103563101	24N 57W 16BDAD1	42 03 13 N	103 56 31 W	10-06-97	0945	4202	110
				10-20-97	1515	4202	110
				04-13-98	1020	4202	110
				04-30-98	0930	4202	110
				06-22-98	1310	4202	110
				08-26-98	1400	4202	110
420313103563102	24N 57W 16BDAD2			10-06-97	1005	4202	92.50
				10-20-97	1535	4202	92.50
				04-13-98	1035	4202	92.50
				04-30-98	0950	4202	92.50
				06-22-98	1330	4202	92.50
				08-26-98	1430	4202	92.50
420313103563103	24N 57W 16BDAD3			10-06-97	1020	4202	85.50
				10-20-97	1555	4202	85.50
				04-13-98	1055	4202	85.50
				04-30-98	1005	4202	85.50
				06-22-98	1350	4202	85.50
				08-26-98	1545	4202	85.50
420316103563201	24N 57W 16BDAA1	42 03 16 N	103 56 32 W	10-06-97	0835	4225	103
				10-20-97	1440	4225	103
				04-13-98	0915	4225	103
				04-28-98	1505	4225	103
				06-22-98	1200	4225	103
				08-26-98	1230	4225	103
420325103570901	24N 57W 17AAAD1	42 03 25 N	103 57 09 W	10-06-97	0900	4200	90
				04-13-98	0950	4200	90
				04-29-98	1315	4200	90
				06-23-98	0950	4200	90
				09-10-98	1030	4200	90
420325103570902	24N 57W 17AAAD2			10-06-97	0920	4200	80.50
				09-10-98	1050	4200	80.50
420333103574001	24N 57W 8DCCC1	42 03 33 N	103 57 40 W	04-13-98	1350	4210	97.50
				09-10-98	1005	4210	97.50
420333103583401	24N 57W 18AAAA1	42 03 33 N	103 58 34 W	04-13-98	1420	4165	125
				08-19-98	0950	4165	125
420333103583402	24N 57W 18AAAA2			04-13-98	1445	4165	52.50
				08-19-98	1015	4165	52.50
420334104003201	24N 58W 13BBBB1	42 03 34 N	104 00 32 W	03-23-98	1125	4173	190
				08-18-98	1335	4173	190
420334104003202	24N 58W 13BBBB2			03-23-98	1145	4173	80
				08-18-98	1355	4173	80

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
04-20-98	17.5	753	6.4	7.9	--	--	--	--	--	--	--
09-10-98	18.0	700	7.5	7.5	7.7	1.62	--	--	--	--	--
04-20-98	19.0	538	6.1	8.0	--	--	--	--	--	--	--
09-10-98	19.5	570	7.8	7.6	7.7	.121	--	--	--	--	--
10-06-97	15.9	393	7.4	7.4	7.8	2.88	--	--	--	--	--
10-20-97	16.2	357	7.6	7.5	--	4.35	.041	<.010	<.20	--	--
04-13-98	14.0	361	8.1	8.0	7.8	5.61	--	--	--	--	--
04-30-98	14.1	361	9.9	8.0	--	5.87	.020	<.010	<.10	--	--
06-22-98	15.0	360	8.8	8.0	--	5.59	<.020	.014	<.10	--	--
08-26-98	15.0	440	8.1	7.7	8.1	4.25	.020	<.010	.14	1.0	--
10-06-97	19.4	456	6.4	7.7	7.8	.271	--	--	--	--	--
10-20-97	19.9	466	5.6	7.4	--	.443	.043	<.010	<.20	--	--
04-13-98	14.5	396	8.2	7.9	7.9	7.47	--	--	--	--	--
04-30-98	14.7	396	10.1	7.9	--	5.71	.065	.017	<.10	--	--
06-22-98	17.5	600	8.2	7.8	--	.189	<.020	.013	<.10	--	--
08-26-98	17.0	570	6.6	7.7	7.9	.293	<.020	<.010	.11	2.1	--
10-06-97	20.1	468	6.3	7.4	7.7	.164	--	--	--	--	--
10-20-97	20.0	468	5.8	7.4	--	.189	.049	<.010	<.20	--	--
04-13-98	15.2	499	8.0	7.8	7.7	--	--	--	--	--	--
04-30-98	15.3	497	10.1	7.8	--	8.61	.030	<.010	.11	--	--
06-22-98	18.0	600	7.9	7.8	--	.508	.021	.014	.11	--	--
08-26-98	18.0	570	6.9	7.7	7.9	.132	<.020	<.010	.11	2.3	--
10-06-97	14.0	373	8.6	7.2	7.7	6.40	--	--	--	--	--
10-20-97	13.3	345	8.0	7.5	--	5.99	.028	<.010	<.20	--	--
04-13-98	13.4	397	8.2	8.3	7.8	7.28	--	--	--	--	--
04-28-98	13.5	404	8.8	7.9	--	6.59	.023	<.010	<.10	--	--
06-22-98	14.0	390	9.1	7.9	--	5.93	.022	.020	<.10	--	--
08-26-98	14.0	540	8.4	7.7	7.9	4.48	<.020	<.010	.16	1.6	--
10-06-97	17.7	561	7.3	7.3	7.7	.681	--	--	--	--	--
04-13-98	18.7	601	6.1	7.6	7.8	.935	--	--	--	--	--
04-29-98	19.7	601	5.6	7.9	--	.813	<.020	<.010	.13	--	--
06-23-98	19.0	620	6.7	7.9	--	1.44	.073	<.010	.11	--	--
09-10-98	17.5	620	8.3	7.7	7.9	.925	.025	<.010	<.10	--	--
10-06-97	20.3	464	8.1	7.3	7.7	.156	--	--	--	--	--
09-10-98	18.5	560	8.6	7.7	8.0	.202	.022	<.010	<.10	--	--
04-13-98	15.2	670	7.9	7.8	--	.552	--	--	--	--	--
09-10-98	16.5	626	9.3	7.7	7.7	.455	--	--	--	--	--
04-13-98	15.8	747	4.6	7.8	--	1.94	--	--	--	--	--
08-19-98	16.5	750	5.4	7.7	7.7	1.98	--	--	--	--	--
04-13-98	15.2	793	7.9	7.6	--	4.18	--	--	--	--	--
08-19-98	16.0	790	8.4	7.4	7.5	4.01	--	--	--	--	--
03-23-98	15.0	867	4.2	7.8	7.5	--	--	--	--	--	--
08-18-98	15.5	875	7.0	7.5	7.5	5.82	--	--	--	--	--
03-23-98	14.5	913	6.4	7.7	7.5	10.9	--	--	--	--	--
08-18-98	15.5	950	6.5	7.5	7.4	11.9	--	--	--	--	--



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
04-20-98	--	--	--	--	--	--	--	--	--	295
09-10-98	75	18	51	--	12	170	--	--	--	324
04-20-98	--	--	--	--	--	--	--	--	--	329
09-10-98	58	17	40	--	9.4	130	--	--	--	317
10-06-97	44	11	33	--	6.4	62	--	--	--	422
10-20-97	--	--	--	--	--	--	--	--	--	--
04-13-98	34	8.9	26	--	4.9	15	--	--	--	446
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-26-98	43	11	31	6.1	6.5	52	.41	-107.1	-13.50	428
10-06-97	47	14	43	--	8.3	110	--	--	--	350
10-20-97	--	--	--	--	--	--	--	--	--	--
04-13-98	35	11	30	--	6.6	21	--	--	--	349
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-26-98	54	18	39	5.1	9.4	130	.40	-117.8	-14.61	299
10-06-97	48	16	41	--	8.4	120	--	--	--	377
10-20-97	--	--	--	--	--	--	--	--	--	--
04-13-98	45	16	34	--	12	46	--	--	--	521
04-30-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-26-98	53	17	41	4.0	8.9	130	.44	-117.4	-14.53	365
10-06-97	41	9.9	31	--	9.3	26	--	--	--	399
10-20-97	--	--	--	--	--	--	--	--	--	--
04-13-98	37	9.3	31	--	6.3	20	--	--	--	405
04-28-98	--	--	--	--	--	--	--	--	--	--
06-22-98	--	--	--	--	--	--	--	--	--	--
08-26-98	54	13	37	7.4	12	79	.39	-108.5	-13.89	430
10-06-97	61	14	49	--	11	140	--	--	--	--
04-13-98	56	13	46	--	11	140	--	--	--	755
04-29-98	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--
09-10-98	64	14	48	--	11	140	--	--	--	810
10-06-97	50	16	39	--	8.0	120	--	--	--	--
09-10-98	94	20	50	--	9.6	130	--	--	--	332
04-13-98	--	--	--	--	--	--	--	--	--	358
09-10-98	72	18	43	--	12	170	--	--	--	383
04-13-98	--	--	--	--	--	--	--	--	--	314
08-19-98	73	19	54	--	12	190	--	--	--	323
04-13-98	--	--	--	--	--	--	--	--	--	267
08-19-98	83	18	55	--	9.6	170	--	--	--	334
03-23-98	93	25	54	--	12	190	--	--	--	274
08-18-98	85	22	50	--	12	190	--	--	--	312
03-23-98	98	21	57	--	12	180	--	--	--	308
08-18-98	98	21	57	--	12	180	--	--	--	367

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

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## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIOUX COUNTY</b>							
420338104014401	24N 58W 10DDDD1	42 03 38 N	104 01 44 W	03-23-98 08-18-98	1030 1430	4125 4125	200 200
420338104014402	24N 58W 10DDDD2			03-23-98 08-18-98	1050 1450	4125 4125	30 30
420514104015101	25N 57W 31CCCC1	42 05 14 N	104 01 51 W	03-18-98 08-12-98	1415 1255	4163 4163	85 85
420516103562501	25N 57W 35DCDD1	42 05 16 N	103 56 25 W	04-13-98 06-22-98 08-26-98	1315 1125 1100	4248 4248 4248	80 80 80
420524104003901	25N 57W 32CCBB1	42 05 24 N	104 00 39 W	03-18-98 08-12-98	1345 1335	4175 4175	60 60
420628104021001	25N 58W 25DABB1	42 06 28 N	104 02 10 W	03-18-98 08-12-98	1145 1215	4170 4170	60 60
420657104010301	25N 57W 19DCDD1	42 06 57 N	104 01 03 W	03-18-98 08-12-98	1100 1105	4192 4192	95 95
420657104010302	25N 57W 19DCDD2			03-18-98 08-12-98	1115 1125	4192 4192	30 30
420757104024701	25N 58W 13CDBC1	42 07 57 N	104 02 47 W	03-18-98 08-12-98	1020 1025	4206 4206	30 30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
03-23-98	14.5	707	4.9	7.9	7.7	--	--	--	--	--	--
08-18-98	15.5	710	5.0	7.8	7.7	1.36	--	--	--	--	--
03-23-98	13.5	1120	4.8	7.7	7.4	18.8	--	--	--	--	--
08-18-98	14.0	1090	6.4	7.5	7.4	19.4	--	--	--	--	--
03-18-98	14.0	794	6.0	--	--	--	--	--	--	--	--
08-12-98	15.0	800	6.5	8.1	7.9	4.14	--	--	--	--	--
04-13-98	12.8	397	8.0	8.2	7.9	5.03	--	--	--	--	--
06-22-98	13.0	390	8.8	8.2	--	4.74	<.020	.017	.20	--	--
08-26-98	13.5	450	7.3	7.9	8.0	4.83	<.020	<.010	.11	.70	--
03-18-98	14.0	728	5.6	--	--	--	--	--	--	--	--
08-12-98	15.0	850	7.4	7.8	7.7	9.65	--	--	--	--	--
03-18-98	13.0	679	5.0	--	--	--	--	--	--	--	--
08-12-98	14.5	670	6.2	7.8	7.7	2.91	--	--	--	--	--
03-18-98	14.5	622	4.8	--	--	--	--	--	--	--	--
08-12-98	15.0	610	5.3	8.0	7.9	1.81	--	--	--	--	--
03-18-98	14.0	726	8.2	--	--	--	--	--	--	--	--
08-12-98	13.5	830	7.9	7.7	7.6	5.70	--	--	--	--	--
03-18-98	14.0	744	5.6	--	--	--	--	--	--	--	--
08-12-98	14.0	770	8.4	7.7	7.6	7.42	--	--	--	--	--

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADON 222 TOTAL (PCI/L) (82303)
SIOUX COUNTY										
03-23-98	64	18	55	--	11	170	--	--	--	328
08-18-98	63	18	57	--	11	160	--	--	--	386
03-23-98	120	31	61	--	19	270	--	--	--	529
08-18-98	120	30	60	--	18	260	--	--	--	601
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	33	17	106	--	14	180	--	--	--	1308
04-13-98	24	8.7	46	--	7.5	24	--	--	--	500
06-22-98	--	--	--	--	--	--	--	--	--	--
08-26-98	24	10	60	4.9	9.7	40	.74	-110.7	-14.61	886
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	54	30	72	--	15	190	--	--	--	1269
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	64	12	50	--	10	130	--	--	--	1711
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	32	7.3	80	--	12	130	--	--	--	939
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	69	13	82	--	15	190	--	--	--	1699
03-18-98	--	--	--	--	--	--	--	--	--	--
08-12-98	83	13	54	--	10	160	--	--	--	1907

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Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

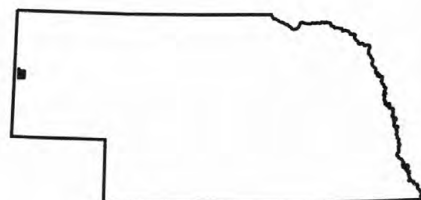


## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

**DUTCH FLATS GROUND-WATER/SURFACE-WATER  
INTERACTION STUDY  
(Ground-water Sites)**

COUNTIES: Scotts Bluff, Sioux



The following data was collected during water year 1999.

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTTS BLUFF COUNTY</b>							
415402104015501	22N 58W 3DCCD1	41 54 02 N	104 01 55 W	06-30-99	0945	4054	30
415525103484601	23N 56W 34BCCB1	41 55 25 N	103 48 46 W	07-01-99	1525	3941	212
415525103484602	23N 56W 34BCCB2			07-01-99	1545	3941	30
415525104023801	23N 58W 34BCCB1	41 55 25 N	104 02 38 W	06-30-99	1030	4053	115
415525104023802	23N 58W 34BCCB2			06-30-99	1053	4053	30
415544104003701	23N 58W 35AABA1	41 55 44 N	104 00 37 W	07-01-99	0945	4025	38
415545103575801	23N 57W 32BBBB1	41 55 45 N	103 57 58 W	07-01-99	1250	4002	40
415546103532201	23N 57W 36BBBB1	41 55 46 N	103 53 22 W	07-01-99	1345	3978	50
415546103532202	23N 57W 36BBBB2			07-01-99	1415	3978	15
415547103561704	23N 57W 28DCCC4	41 55 47 N	103 56 17 W	07-13-99 08-23-99	0930 1520	-- --	13 13
415553103504101	23N 56W 29CDBD1	41 55 53 N	103 50 41 W	07-01-99	1455	3949	35
415607103484801	23N 56W 28DAAA1	41 56 07 N	103 48 48 W	07-06-99	1125	3940	200
415607103484802	23N 56W 28DAAA2			07-06-99	1150	3940	30
415625103480201	23N 56W 27ABDC1	41 53 25 N	103 48 02 W	07-06-99	1555	3948	115
415625103480202	23N 56W 27ABDC2	41 56 25 N	103 48 02 W	07-06-99	1615	3948	30
415628103554903	23N 57W 28AAAA3	41 56 28 N	103 55 49 W	07-15-99	1020	3980	106
415628103562403	23N 57W 28BAAA3	41 56 28 N	103 56 24 W	07-14-99 07-14-99	1510 1603	3982 3982	-- --
415640103591201	23N 57W 19CCCC1	41 56 40 N	103 59 12 W	07-01-99	1025	4000	190
415640103591202	23N 57W 19CCCC2			07-01-99	1050	4000	30
415643103505201	23N 56W 20CCAA1	41 56 43 N	103 50 52 W	07-07-99	1310	3960	190
415643103505202	23N 56W 20CCAA2			07-07-99	1335	3960	30
415719103583601	23N 57W 19ABBA1	41 57 19 N	103 58 36 W	06-30-99	1600	4003	45
415722103532401	23N 57W 24BBBB1	41 57 22 N	103 53 24 W	07-07-99	1420	3965	190
415722103532402	23N 57W 24BBBB2			07-07-99	1445	3965	30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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- SOLVED (MG/L AS N) (00623)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
06-30-99	11.7	1840	1.0	8.2	--	--	--	--	--	--	--
07-01-99	12.3	1050	.1	7.1	--	--	--	--	--	--	--
07-01-99	11.6	1210	.1	7.0	--	--	--	--	--	--	--
06-30-99	12.2	1270	.1	7.5	--	--	--	--	--	--	--
06-30-99	11.8	1440	2.8	7.0	--	--	--	--	--	--	--
07-01-99	11.6	1520	6.9	7.2	--	--	--	--	--	--	--
07-01-99	15.3	865	--	7.1	--	--	--	--	--	--	--
07-01-99	13.0	1620	.5	7.8	--	--	--	--	--	--	--
07-01-99	11.7	1520	3.6	7.2	--	--	--	--	--	--	--
07-13-99	14.0	1350	.2	8.0	8.1	4.99	.066	.122	.40	--	--
08-23-99	13.2	1540	.1	8.0	--	--	--	--	--	2.6	--
07-01-99	12.4	1110	.1	7.1	--	--	--	--	--	--	--
07-06-99	14.3	845	2.3	7.3	--	--	--	--	--	--	--
07-06-99	12.6	1100	.1	7.2	--	--	--	--	--	--	--
07-06-99	13.0	945	6.2	7.2	--	--	--	--	--	--	--
07-06-99	13.5	937	5.2	7.1	--	--	--	--	--	--	--
07-15-99	11.6	1340	.4	7.1	--	--	--	--	--	--	--
07-14-99	13.0	1140	2.8	7.0	--	--	--	--	--	--	--
07-14-99	10.9	1200	.1	7.0	--	--	--	--	--	--	--
07-01-99	12.2	1700	.1	7.1	--	--	--	--	--	--	--
07-01-99	11.4	1270	.1	7.1	--	--	--	--	--	--	--
07-07-99	13.7	1260	.1	7.0	--	--	--	--	--	--	--
07-07-99	14.4	1310	.1	6.7	--	--	--	--	--	--	--
06-30-99	9.6	849	.1	7.4	--	--	--	--	--	--	--
07-07-99	14.8	924	.1	7.1	--	--	--	--	--	--	--
07-07-99	12.4	1120	.1	7.1	--	--	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## 405

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
SCOTTS BLUFF COUNTY							
415730104002301	23N 58W13CCCC1	41 57 30 N	104 00 23 W	07-01-99	1125	4011	193
415730104002302	23N 58W13CCCC2			07-01-99	1155	4011	30
415738103554701	23N 57W 15CBCB1	41 57 38 N	103 55 47 W	11-12-98	1245	3992	195
415738103554702	23N 57W 15CBCB2			11-12-98	1315	3992	108
415738103554703	23N 57W 15CBCB3			11-12-98 07-14-99	1345 1443	3992 3992	30 30
415739104021101	23N 58W15CDAD1	41 57 39 N	104 02 11 W	06-30-99	1130	4021	175
415739104021102	23N 58W15CDAD2			06-30-99	1150	4021	30
415742103482001	23N 56W 16DADA1	41 57 42 N	103 48 20 W	07-06-99	1300	3972	80
415742103482002	23N 56W 16DADA2			07-06-99	1323	3972	35
415814103581201	23N 57W 7DDDD1	41 58 14 N	103 58 12 W	07-08-99	0940	4016	152
415814103581202	23N 57W 7DDDD2			07-08-99	1005	4016	30
415817103492401	23N 56W 16BAAA1	41 58 17 N	103 49 24 W	07-13-99 08-23-99	1230 1425	4036 4036	96.5 96.5
415823103561602	23N 57W 9DCC2	41 58 24 N	103 56 16 W	07-14-99	1415	4010	30
415829103511001	23N 56W 7DDDD1	41 58 29 N	103 51 10 W	07-07-99	1117	4050	50
415837104000601	23N 58W12CDCB1	41 58 37 N	104 00 06 W	06-30-99	1503	4092	95
415837104000602	23N 58W12CDCB2			06-30-99	1525	4092	30
415840103533101	23N 57W 11DAAA1	41 58 40 N	103 53 31 W	07-07-99	1555	4030	37
415845103555203	23N 57W 9ADDA3	41 58 45 N	103 55 52 W	07-14-99	1345	4016	30
415852104024801	23N 58W 9ADDA1	41 58 52 N	104 02 48 W	06-30-99	1240	4027	180
415852104024802	23N 58W 9ADDA2			06-30-99	1305	4027	30
415944103532901	23N 57W 1ACBC1	41 59 44 N	103 53 29 W	07-07-99	1525	4079	60
420002103511101	23N 56W 6AAAA1	42 00 02 N	103 51 11 W	07-07-99	1025	4098	160
420002103511102	23N 56W 6AAAA2			07-07-99	1050	4098	65
420003103410301	23N 56W 4AABA1	42 00 03 N	103 41 03 W	07-07-99	0942	4125	120

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
07-01-99	12.4	1180	.1	7.1	--	--	--	--	--	--	--
07-01-99	12.9	1040	.4	7.1	--	--	--	--	--	--	--
11-12-98	15.0	830	1.3	7.7	7.7	2.14	.050	.013	.13	1.5	--
11-12-98	14.0	1000	.1	7.4	7.4	6.93	.049	.063	.23	2.1	--
11-12-98	13.5	1070	4.4	7.3	7.3	18.6	.049	.011	.56	4.0	--
07-14-99	13.3	1140	3.4	6.9	--	--	--	--	--	--	--
06-30-99	13.3	1100	.1	7.2	--	--	--	--	--	--	--
06-30-99	12.1	821	2.4	7.1	--	--	--	--	--	--	--
07-06-99	14.3	930	4.4	7.1	--	--	--	--	--	--	--
07-06-99	13.8	958	4.3	7.1	--	--	--	--	--	--	--
07-08-99	12.3	913	3.3	7.2	--	--	--	--	--	--	--
07-08-99	11.7	1050	.3	7.2	--	--	--	--	--	--	--
07-13-99	20.0	640	7.7	7.6	8.1	7.51	<.020	<.010	.39	--	--
08-23-99	17.2	600	6.0	7.5	--	--	--	--	--	1.6	--
07-14-99	12.7	941	4.8	7.0	--	--	--	--	--	--	--
07-07-99	14.5	1060	5.1	7.0	--	--	--	--	--	--	--
06-30-99	14.7	784	6.1	7.2	--	--	--	--	--	--	--
06-30-99	12.5	995	5.7	7.1	--	--	--	--	--	--	--
07-07-99	13.0	1070	4.7	7.0	--	--	--	--	--	--	--
07-14-99	11.9	981	5.1	7.0	--	--	--	--	--	--	--
06-30-99	11.9	784	.1	7.3	--	--	--	--	--	--	--
06-30-99	11.4	1020	.7	7.1	--	--	--	--	--	--	--
07-07-99	13.5	1010	4.8	7.0	--	--	--	--	--	--	--
07-07-99	15.0	773	5.4	7.3	--	--	--	--	--	--	--
07-07-99	14.9	944	7.0	7.2	--	--	--	--	--	--	--
07-07-99	17.5	722	8.6	9.6	--	--	--	--	--	--	--



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

**Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)**

[illegible]

## 409

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SCOTTS BLUFF COUNTY</b>							
420003104023801	23N 58W 3BBAC1	42 00 03 N	104 02 38 W	06-30-99	1425	4070	50
420004103581401	23N 57W 6AAAA1	42 00 04 N	103 58 14 W	07-08-99	1050	4082	80
420006104004401	23N 58W 2AABB1	42 00 06 N	104 00 44 W	06-29-99	1555	4124	90
420006104004402	23N 58W 2AABB2			06-29-99	1625	4124	36
<b>SIOUX COUNTY</b>							
420004103555303	24N 57W33DDDD3	42 00 04 N	103 55 53 W	07-14-99	1315	4094	35
420005103562803	24N 57W33DCCC3	42 00 05 N	103 56 28 W	07-14-99	1245	4100	45
420005103570301	24N 57W32DDDD1	42 00 05 N	103 57 03 W	07-08-99	1128	4100	68
420005103570302	24N 57W32DDDD2			07-08-99	1155	4100	54
420005103570303	24N 57W32DDDD3			07-08-99	1215	4100	40
420056103570301	24N 57W28CCCC1	42 00 56 N	103 57 03 W	07-08-99	1335	4110	89
420056103570302	24N 57W28CCCC2			07-08-99	1400	4110	67
420056103570303	24N 57W28CCCC3			07-08-99	1425	4110	45
420145104025001	24N 58W 27BBBC1	42 01 45 N	104 02 50 W	06-28-99	1613	4153	65
420148103555204	24N 57W22CCCC4	42 01 48 N	103 55 52 W	07-14-99	1207	4140	70
420148103563103	24N 57W21CDDD3	42 01 48 N	103 56 31 W	07-14-99	1140	4137	59
420148103583101	24N 57W 30AABB1	42 01 48 N	103 58 31 W	06-29-99	1355	4100	30
420153104002401	24N 58W24CCCC1	42 01 53 N	104 00 24 W	06-29-99	1435	4135	155
420153104002402	24N 58W24CCCC2			06-29-99	151	4135	80
420243103570701	24N 57W16CCCB1	42 02 43 N	103 57 07 W	07-12-99	0955	4177	147
420243103570702	24N 57W16CCCB2			07-12-99	1015	4177	119
420243103570703	24N 57W16CCCB3			07-12-99	1035	4177	90
420259103481601	24N 56W10CDCA1	42 02 59 N	103 48 16 W	07-06-99	1415	4190	100
420259103481602	24N 56W10CDCA2			07-06-99	1444	4190	55

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
<b>SCOTTS BLUFF COUNTY</b>											
06-30-99	12.7	899	5.6	7.2	--	--	--	--	--	--	--
07-08-99	14.2	561	6.7	8.3	--	--	--	--	--	--	--
06-29-99	17.6	746	4.9	7.5	--	--	--	--	--	--	--
06-29-99	17.0	759	5.8	7.1	--	--	--	--	--	--	--
<b>SIOUX COUNTY</b>											
07-14-99	13.5	938	4.6	7.0	--	--	--	--	--	--	--
07-14-99	14.9	866	4.6	7.1	--	--	--	--	--	--	--
07-08-99	13.7	954	5.3	7.2	--	--	--	--	--	--	--
07-08-99	14.0	711	5.2	7.2	--	--	--	--	--	--	--
07-08-99	16.3	699	3.7	7.2	--	--	--	--	--	--	--
07-08-99	14.3	805	4.4	7.2	--	--	--	--	--	--	--
07-08-99	14.3	957	5.2	7.1	--	--	--	--	--	--	--
07-08-99	14.3	907	6.4	7.1	--	--	--	--	--	--	--
06-28-99	15.6	928	8.1	7.1	--	--	--	--	--	--	--
07-14-99	14.5	986	7.1	7.1	--	--	--	--	--	--	--
07-14-99	14.2	1050	6.3	7.1	--	--	--	--	--	--	--
06-29-99	15.0	820	5.3	7.1	--	--	--	--	--	--	--
06-29-99	14.7	736	6.6	7.2	--	--	--	--	--	--	--
06-29-99	14.6	738	6.8	7.2	--	--	--	--	--	--	--
07-12-99	16.4	703	5.1	7.3	--	--	--	--	--	--	--
07-12-99	16.5	701	5.1	7.3	--	--	--	--	--	--	--
07-12-99	17.3	706	6.4	7.2	--	--	--	--	--	--	--
07-06-99	15.7	580	6.5	7.3	--	--	--	--	--	--	--
07-06-99	16.7	583	6.3	7.3	--	--	--	--	--	--	--

## WATER-QUALITY DATA. WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

**Dutch Flats Ground-water/Surface-water Interaction Study--Continued**  
**(Ground-water Sites)**

[illegible]

## 413

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]



## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>SIOUX COUNTY</b>							
420301103554803	24N 57W 15CBBD3	42 03 01 N	103 55 48 W	07-14-99	1105	4205	95
420307103574001	24N 57W 17ACCC1	42 03 07 N	103 57 40 W	07-12-99	1125	4192	157
420307103574002	24N 57W 17ACCC2			07-12-99	1145	4192	130
420307103574003	24N 57W 17ACCC3			07-12-99	1205	4192	95
420313103563103	24N 57W 16BDAD3	42 03 13 N	103 56 31 W	07-14-99	1030	4202	85.5
420316103563201	24N 57W 16BDAA1	42 03 16 N	103 56 32 W	07-14-99	0955	4225	103
420325103570901	24N 57W 17AAAD1	42 03 25 N	103 57 09 W	07-08-99	1537	4200	90
420325103570902	24N 57W 17AAAD2			07-08-99	1600	4200	80.5
420333103574001	24N 57W 8DCCC1	42 03 33 N	103 57 40 W	07-08-99	1503	4210	97.5
420333103583401	24N 57W 18AAAA1	42 03 33 N	103 58 34 W	06-29-99	1255	4165	125
420333103583402	24N 57W 18AAAA2			06-29-99	1315	4165	52.5
420334104003201	24N 58W 13BBBB1	42 03 34 N	104 00 32 W	06-29-99	1115	4173	190
420334104003202	24N 58W 13BBBB2			06-29-99	1142	4173	80
420338104014401	24N 58W 10DDDD1	42 03 38 N	104 01 44 W	06-29-99	1015	4125	200
420338104014402	24N 58W 10DDDD2			06-29-99	1037	4125	30
420514104015101	25N 57W 31CCCC1	42 05 14 N	104 01 51 W	06-28-99	1452	4163	85
420524104003901	25N 57W 32CCBB1	42 05 24 N	104 00 39 W	06-28-99	1530	4175	60
420628104021001	25N 58W 25DABB1	42 06 28 N	104 02 10 W	06-28-99	1405	4170	60
420657104010301	25N 57W 19DCDD1	42 06 57 N	104 01 03 W	06-28-99 08-23-99	1255 1015	4192 4192	95 95
420657104010302	25N 57W 19DCDD2			06-28-99	1315	4192	30
420757104024701	25N 58W 13CDBC1	42 07 57 N	104 02 47 W	06-28-99	1145	4206	30

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

DATE	TEMPER- ATURE WATER (°C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µ S/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	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)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
SIOUX COUNTY											
07-14-99	20.1	561	5.9	7.2	--	--	--	--	--	--	--
07-12-99	17.9	720	6.6	7.2	--	--	--	--	--	--	--
07-12-99	18.5	653	6.6	7.2	--	--	--	--	--	--	--
07-12-99	20.7	638	6.3	7.1	--	--	--	--	--	--	--
07-14-99	17.3	628	7.2	7.3	--	--	--	--	--	--	--
07-14-99	14.3	383	8.4	7.3	--	--	--	--	--	--	--
07-08-99	19.1	633	6.9	7.2	--	--	--	--	--	--	--
07-08-99	19.3	633	7.3	7.2	--	--	--	--	--	--	--
07-08-99	15.9	661	7.7	7.2	--	--	--	--	--	--	--
06-29-99	16.2	739	4.7	7.2	--	--	--	--	--	--	--
06-29-99	15.7	789	6.2	7.1	--	--	--	--	--	--	--
06-29-99	15.5	863	4.3	7.2	--	--	--	--	--	--	--
06-29-99	15.4	1040	6.2	7.1	--	--	--	--	--	--	--
06-29-99	15.1	721	4.8	7.4	--	--	--	--	--	--	--
06-29-99	13.4	1060	5.6	7.2	--	--	--	--	--	--	--
06-28-99	14.4	804	8.5	7.5	--	--	--	--	--	--	--
06-28-99	15.1	715	8.4	7.4	--	--	--	--	--	--	--
06-28-99	14.1	671	7.9	7.2	--	--	--	--	--	--	--
06-28-99	14.7	614	6.8	7.5	--	--	--	--	--	--	--
08-23-99	14.8	600	5.5	7.5	7.7	1.80	<.020	<.010	<.10	1.5	--
06-28-99	13.3	754	9.4	7.3	--	--	--	--	--	--	--
06-28-99	13.8	746	10.4	7.3	--	--	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

Dutch Flats Ground-water/Surface-water Interaction Study--Continued  
(Ground-water Sites)

[illegible]

## GROUND-WATER LEVELS

## ADAMS COUNTY

403403098244001. Local number 7N 10W 23AB.

LOCATION.--Lat 40°34'03", long 098°24'40", NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.23, T.7 N., R.10 W., Hydrologic Unit 10270206, 0.5 mi west of the west junction of Routes 281 and 6, in the south part of Hastings. Owner: Henry Fricke.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused irrigation water-table well, diameter 8 in, depth 155 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,927 ft. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Large amounts of ground water are pumped from municipal and industrial wells located east and northeast of the well and from irrigation wells in other directions.

PERIOD OF RECORD.--August 1934 to October 1938; August 1948 to December 1950; January 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 99.95 ft below land-surface datum, Jan. 22, Mar.14, 1935; lowest, 128.82 ft below land-surface datum, July 10, 1981.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	112.30	DEC 07	111.64	FEB 03	110.85	APR 09	110.37	JUN 07	109.90		
NOV 05	111.96	JAN 06	111.10	MAR 15	110.37	MAY 04	109.92				

## BLAINE COUNTY

414958100061501. Local number 22N 24W 33CA.

LOCATION.--Lat 41°49'58", long 100°06'15", NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec. 33, T. 22 N., R. 24 W., Hydrologic Unit 10210001, approximately 500 ft west of junction of State Highways 91 and 2 north of Dunning. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 13 ft, screened 11 to 13 ft.

DATUM.--Altitude of land-surface datum is 2,618 ft. Measuring point: Top of casing 1.40 ft above land-surface datum.

PERIOD OF RECORD.--December 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.04 ft below land-surface datum, Mar. 8, 1950; lowest, 6.97 ft below land-surface datum, Aug. 8, 1951.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	4.38	JUN 01	3.60								
NOV 30	3.49										

## 419

[illegible]



## GROUND-WATER LEVELS

**BUFFALO COUNTY**

404618098504401. Local number 9N 14W 1DC.

LOCATION.--Lat 40°46'18", long 098°50'44", SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.1, T.9 N., R.14 W., Hydrologic Unit 10200102, 1.3 mi north of the intersection of Route 30 and the North-South range-line road on the east side of Gibbon, then 0.5 mi west on section-line road. Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 8 in, depth 38 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,060.43 ft. Measuring point: Top of casing 0.80 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumpage from nearby irrigation wells.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.17 ft below land-surface datum, July 13, 1999; lowest, 29.22 ft below land-surface datum, Aug. 10, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	14.90	14.75	14.42	14.24	14.20	14.19	14.25	13.90	12.56	11.71	14.51	14.77
10	14.86	14.74	14.59	14.36	14.16	14.21	14.29	13.73	12.46	11.26	15.11	14.85
15	14.73	14.64	14.47	14.21	14.21	14.14	14.30	13.47	12.31	11.65	14.42	14.90
20	14.95	14.66	14.49	14.23	14.35	14.23	14.19	13.19	12.10	12.58	14.28	14.91
25	14.75	14.55	14.37	14.39	14.15	14.29	14.24	13.04	12.00	13.78	14.31	14.67
EOM	14.83	14.58	14.42	14.28	14.15	14.06	14.25	13.04	11.80	15.59	14.35	14.75

WATER YEAR 1999:	HIGHEST	11.17	JUL 13, 1999
	LOWEST	15.59	JUL 31. 1999

**BUFFALO COUNTY**

404345098560001. Local number 9N 14W 19DD.

LOCATION.--Lat 40°43'45", long 098°56'00", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 19, T.9 N., R.14 W., Hydrologic Unit 10200102, 4.7 mi west-southwest of Gibbon on U.S. Highway 30. Owner: Robert D. Lewis.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled irrigation water-table well, diameter 24 in, depth 54 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,102.16 ft. Measuring point: Hole in pump base 0.70 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumping of well and of nearby wells for irrigation supplies.

PERIOD OF RECORD.--October 1930 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.55 ft below land-surface datum, June 9, 1931; lowest, 35.20 ft below land-surface datum, Aug. 30, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

**BUTLER COUNTY**

411420097173002. Local number 15N 1E 27DD2.

LOCATION.--Lat 41°14'20", long 097°17'30", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.27, T.15 N., R.1 E., Hydrologic Unit 10270201, 2 mi north of the northeast corner of Rising City. Owner: U.S. Geological Survey.

**AQUIFER.--**Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 5 in, depth 210.0 ft, perforated 199 to 210 ft.

DATUM.--Altitude of land-surface datum is 1,618 ft. Measuring point: Top of platform, at land-surface datum.

REMARKS.--Replacement for 411420097173001, local number 15N-1E-27DD, period of record June 1958 to January 1977. Water levels in well affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 95.62 ft below land-surface datum, June 6, 1995; lowest, 174.50 ft below land-surface datum, Aug. 3, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05			99.10	98.64	98.13	97.97	97.67	97.20	97.31	96.67	144.40	111.52
10			99.19	98.57	98.12	97.95	97.54	97.38	97.38	96.70	---	106.83
15			99.08	98.46	98.15	97.96	97.57	97.42	97.34	98.97	113.96	104.37
20		99.57	98.87	98.30	98.11	97.98	97.62	97.40	97.13	98.44	113.52	102.44
25		99.42	98.92	98.38	98.08	97.92	97.66	97.38	96.87	111.83	---	101.30
EOM		99.16	98.62	98.37	97.96	97.82	97.62	97.81	96.75	134.39	121.05	100.64

WATER YEAR 1999:	HIGHEST	96.63	JUL.	9, 1999
	LOWEST	144.70	AUG	5, 1999

## CHASE COUNTY

403220101384001. Local number 7N 38W 28CC.

LOCATION.--Lat 40°32'20", long 101°38'40", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.28, T.7 N., R.38 W., Hydrologic Unit 10250005, about 0.5 mi north of Imperial. Owner: Roy Hust.

**AQUIFER.--**Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused observation water-table well, diameter 18 in, depth 143 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,284.6 ft. Measuring point: Top of casing 0.30 ft above land-surface datum.

REMARKS.--Recording gage was installed on this well from December 1948 to December 1963. Water levels in well are affected by irrigation pumpage in area.

PERIOD OF RECORD.--December 1944; December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.82 ft below land-surface datum, June 29, 1964; lowest measured, 110.26 ft below land-surface datum, Oct. 15, 1991.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## CHASE COUNTY

403235101395501. Local number 7N 38W 29CBB.

LOCATION.--Lat 40°32'35", long 101°39'55", NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.29, T.7 N., R.38 W., Hydrologic Unit 10250005, 0.5 mi north and 1 mi west of Imperial on U.S. Highway 6, then 0.5 mi north on gravel road. Owner: U.S. Geological Survey.

AQUIFER.--Ogallala Formation of Pliocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 5.50 in, depth 230 ft, perforated 190 to 230 ft.

DATUM.--Altitude of land-surface datum is 3,290.30 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels in well are affected by irrigation pumpage in area.

PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.87 ft below land-surface datum, July 4, 1964; lowest, 98.30 ft below land-surface datum, July 31, Aug. 1, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	96.21	95.83	95.42	95.05	94.79	94.51	94.14	93.86	93.77	96.16	96.78	96.87
10	96.12	95.75	95.48	95.08	94.68	94.46	94.18	95.04	94.00	96.66	98.16	96.74
15	96.00	95.65	95.34	94.93	94.67	94.34	94.09	94.02	93.74	97.07	96.62	96.65
20	96.05	95.66	95.37	94.95	94.75	94.33	93.91	94.25	93.91	97.49	96.86	96.69
25	95.91	95.53	95.19	94.99	94.60	94.29	93.91	93.79	95.19	97.32	98.07	96.50
EOM	95.93	95.54	95.20	94.91	94.60	94.01	93.93	94.70	94.10	98.30	96.90	96.45

WATER YEAR 1999:	HIGHEST	93.66	MAY	3-4, 1999
	LOWEST	98.30	JUL 31, AUG 1,	1999

## CHERRY COUNTY

423205100321501. Local number 30N 28W 36AAA.

LOCATION.--Lat 42°32'05", long 100°32'15", NE 1/4 NE 1/4 NE 1/4 sec. 36, T.30 N., R.28 W., Hydrologic Unit 10150004, 8 mi south of the intersection of U.S. Highway 83 and State Highway 483, south of Valentine. Owner: U.S. Geological Survey.

**AQUIFER.--**Sand deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Bored observation water-table well, diameter 1.25 in, depth 12 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,897.26 ft. Measuring point: Top of casing 3.00 ft above land-surface datum.

REMARKS.--Water levels affected by evapotranspiration.

PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.30 ft above land-surface datum, Feb. 6, 1985. Lowest, 1.99 ft below land-surface datum, Oct. 4, 1976.

## WATER LEVEL IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## 423

LOCATION.--Lat 41°28'10", long 097°05'45", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec. 4, T.17 N., R.3 E., Hydrologic Unit 10200201, 2 mi west and 1 mi north of intersection of U.S. Highway 30 and State Highway 15 in Schuyler. Owner: U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.70 ft below land-surface datum, May. 9, 1995; lowest, 10.68 ft below land-surface datum, Oct. 29, 1980.

[illegible]

LOCATION.--Lat 42°41'00", long 103°24'35", SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.3, T.31 N., R.52 W., Hydrologic Unit 10140201, behind house at 312 Annin Street in Crawford. Owner: T. P. Moody.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.87 ft below land-surface datum, May 30, 1948; lowest, 22.60 ft below land-surface datum, Nov. 5, 1989.

[illegible]

## GROUND-WATER LEVELS

## DAWSON COUNTY

404949099445701. Local number 10N 21W 18DDD.

LOCATION.--Lat 40°49'49", long 099°44'57", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec. 18, T. 10 N., R. 21 W., Hydrologic Unit 10200101, 3.5 mi north of the intersection of Route 21 and U.S. Highway 30 in Lexington. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 120 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,420.58 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumpage from nearby irrigation wells and by seepage from irrigation canals.

PERIOD OF RECORD.--July 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.20 ft below land-surface datum, July 24-25, 1993; lowest, 21.50 ft below land-surface datum, July 16, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	10.59	11.08	11.32	11.50	11.75	11.92	12.08	11.78	10.46	---	---	8.14
10	10.62	11.14	11.36	11.56	11.78	11.96	12.09	11.47	10.31	9.07	8.44	8.25
15	10.75	11.13	11.38	11.58	11.81	11.95	12.07	11.25	---	11.68	7.66	8.44
20	10.83	11.20	11.40	11.62	11.89	12.00	12.02	11.10	---	12.66	7.57	8.67
25	10.89	11.23	11.45	11.70	11.88	12.05	11.99	11.02	---	12.40	9.12	8.87
EOM	11.06	11.29	11.49	11.73	11.88	12.02	11.94	10.80	---	11.62	10.98	9.13

WATER YEAR 1999:      HIGHEST      7.53      AUG 12-13, 1999  
                             LOWEST      12.66      JUL      20, 1999



## GROUND-WATER LEVELS

425

## DUNDY COUNTY

400155101521302. Local number 1N 40W 29BB2.

LOCATION.--Lat 40°01'55", long 101°52'13", NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.29, T.1 N., R.40 W., Hydrologic Unit 10250002, 3.5 mi east of Haigler on U.S. Highway 34 and 0.5 mi north. Well is within 0.5 mi of Republican River. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 48.8 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,205 ft. Measuring point: South side of casing 1.6 ft above land-surface datum.

REMARKS.--Replacement for well 400155101521301, local number 1N 40W 29BB1 with period of record from May 1946 to June 1975. Water levels in well are affected by pumping from nearby irrigation wells, evapotranspiration, and changes in stage of Republican River.

PERIOD OF RECORD.--October 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.41 ft below land-surface datum, June 21, 1984; lowest, 28.73 ft below land-surface datum, Aug. 5, 1999.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	---	21.34	21.56	19.92	19.42	19.11	18.80	18.57	19.38	26.00	28.37	20.99
10	21.79	21.08	20.84	19.84	19.39	19.04	18.78	18.55	24.88	22.89	22.70	20.68
15	21.44	20.91	20.51	19.73	19.30	18.96	18.73	18.49	19.75	26.91	21.86	20.49
20	28.21	20.75	20.33	19.64	19.27	18.92	18.66	18.46	24.08	25.99	21.47	20.31
25	22.30	20.61	20.19	19.59	19.17	18.89	18.63	22.09	20.93	22.91	25.94	20.14
EOM	21.72	24.56	20.08	19.49	19.15	18.80	18.61	19.91	20.53	23.35	21.63	20.04

WATER YEAR 1999:      HIGHEST      18.41      MAY 22, 1999  
                             LOWEST      28.73      AUG 05, 1999

## FILLMORE COUNTY

402504097432201. Local number 5N 4W 12BDC.

LOCATION.--Lat 40°25'04", long 097°43'22", SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.12, T. 5 N., R. 4 W., Hydrologic Unit 10270206, one-half block south of fire station on principal north-south street in Shickley. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 260.0 ft, perforated 100 to 260 ft.

DATUM.--Altitude of land-surface datum is 1651 ft. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Replacement for 402450097434001, local number 5N 4W 12BC, period of record October 1956 to September 1977. Water levels in well affected by pumping from nearby municipal and irrigation wells.

PERIOD OF RECORD.--June 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 90.53 ft below land-surface datum, May 4, 1999; lowest, 101.45 ft (corrected) below land-surface datum, Sept. 15, 1991 (corrected).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	94.65	DEC 02	93.53	FEB 03	93.18	APR 12	91.55	JUN 02	90.83		
NOV 05	94.22	JAN 14	92.71	MAR 15	91.48	MAY 04	90.53				



## GROUND-WATER LEVELS

## FILLMORE COUNTY

403800097300701. Local number 8N 2W 26AD.

LOCATION.--Lat 40°38'00", long 097°30'07", SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.26, T.8 N., R.2 W., Hydrologic Unit 10270203, 2.5 mi west on Route 6 from the principal street of Exeter, then 0.4 mi south. Owner: U.S. Geological Survey.

AQUIFER.--Loess of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 40 ft, perforated 25 to 40 ft.

DATUM.--Altitude of land-surface datum is 1,610 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Perched aquifer, water levels affected by infiltration and deep percolation of applied irrigation water pumped from deeper aquifer.

PERIOD OF RECORD.--October 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.03 ft below land-surface datum, Mar. 24, 1987; lowest, 24.16 ft below land-surface datum, July 10, 1958.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.22	DEC 02	3.24	FEB 05	4.60	APR 09	4.49	JUN 07	2.63		
NOV 05	1.96	JAN 11	4.63	MAR 15	4.63	MAY 04	3.12				

## GARFIELD COUNTY

414718099083201. Local number 21N 16W 14CB.

LOCATION.--Lat 41°47'18", long 099°08'32", NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.14, T.21 N., R.16 W., Hydrologic Unit 10210007, 5 mi east and 1 mi north of Burwell. Owner: Frank Smolik.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 18 in, depth 154 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,174 ft. Measuring point: Hole in turbine base 2.00 ft above land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--October 1950 to current year

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.07 ft below land-surface datum, Oct. 13, 1983; lowest, 24.92 ft below land-surface datum, Oct. 28, 1959.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	23.42	MAY 10	23.26								

## GROUND-WATER LEVELS

427

## GOSPER COUNTY

403626099451401. Local number 7N 21W 6BC.

LOCATION.--Lat 40°36'26", long 099°45'14", SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 2, T.7 N., R.21 W., Hydrologic Unit 10200101, 1 mi west and 2 mi north of Smithfield. Owner: Andy Larson Estate.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in, depth 132 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,466.95 ft. Measuring point: Top of casing 0.40 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby irrigation wells and by infiltration and deep percolation from nearby irrigation canal.

PERIOD OF RECORD.--September 1934 to July 1940; January 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.68 ft below land-surface datum, May 28, 1999; lowest, 117.80 ft below land-surface datum, Sept. 26, 1935.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 28	31.68										

## HALL COUNTY

405315098304302. Local number 11N 11W 25CC2.

LOCATION.--Lat 40°53'15", long 098°30'43", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.25, T.11 N., R.11 W., Hydrologic Unit 10200103, 1.0 mi north and 2.0 mi west of Alda. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 65 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,924.0 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Replacement for 405315098304301, local number 11N 11W 25CC, period of record October 1946 to November 1977. Water levels in wells affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.-- April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.12 ft below land-surface datum, June 27, 29, 1999; lowest, 25.98 ft below land-surface datum, Aug. 31, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	---	12.50	12.51	12.57	12.68	12.69	12.74	---	---	10.96	11.34	11.72
10	12.41	12.50	12.60	12.65	12.66	12.71	12.75	---	---	10.89	11.45	11.81
15	12.36	12.49	12.57	12.58	12.66	12.70	12.75	---	---	10.76	11.37	11.87
20	12.49	12.53	12.60	12.63	12.73	12.74	---	---	11.37	10.86	11.40	11.90
25	12.43	12.51	12.60	12.70	12.67	12.77	---	---	11.24	10.90	11.40	11.81
EOM	12.51	12.54	12.62	12.70	12.66	12.65	---	---	11.09	11.11	11.56	11.87

WATER YEAR 1999:	HIGHEST	11.12	JUN 27, 29, 1999
	LOWEST	13.96	MAR 11, 1999

## HAMILTON COUNTY

404836097584101 Local number 10N 6W 27ACAA.

LOCATION.--Lat 40°48'36", long 097°58'41", SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.27, T.10 N., R.6 W., Hydrologic Unit 10270203, 4.0 mi south of junction of Route 14 and U.S. Highway 34 in Aurora, then 1.0 mi east and 0.3 mi south. Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel deposits of the Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 170 ft, casing perforated below water-table.

DATUM.--Altitude of land surface datum is 1791.3 ft. Measuring point: Top of casing 1.5 ft above land surface datum.

REMARKS.--Replacement for well 404825097583301. Local number 10N-6W-26BC with period of record March 1956 to March 1982 located across the county road to the east.

PERIOD OF RECORD.--October 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 83.49 ft below land-surface datum, July 8, 1999; lowest, 107.40 ft below land-surface datum, Aug. 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	88.72	87.69	86.84	86.08	85.55	85.12	84.68	84.24	83.89	83.65	86.91	86.87
10	88.51	87.68	86.85	86.10	85.40	85.01	84.60	84.20	83.89	83.66	---	86.63
15	88.30	87.39	86.69	85.95	85.38	84.82	84.47	84.01	83.84	84.02	86.46	86.54
20	88.22	87.27	86.60	85.74	85.34	84.81	84.32	84.05	83.77	84.25	86.26	86.42
25	88.03	87.17	86.36	85.80	85.13	84.79	84.33	84.00	83.70	84.78	86.13	86.23
EOM	87.82	87.11	86.41	85.56	85.11	84.54	84.34	83.94	83.66	86.17	87.01	---

WATER YEAR 1999:	HIGHEST	83.49	JUL. 8, 1999
	LOWEST	88.80	OCT 2, 1998

## HAMILTON COUNTY

405514097573901. Local number 11N 6W 13CB.

LOCATION.--Lat 40°55'14", long 097°57'39", NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.13, T.11 N., R.6 W., Hydrologic Unit 10270201, 2 mi east and 3.5 mi north of Aurora. Owner: O. S. Swedberg.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled irrigation water-table well, diameter 24 in, depth 194 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,812.2 ft. Measuring point: Hole in south side turbine base at land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--September 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 89.30 ft below land-surface datum, May 15, 1995; lowest, 117.18 ft below land-surface datum, Nov. 15, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## GROUND-WATER LEVELS

429

## HARLAN COUNTY

400920099215501. Local number 2N 18W 9BCC.

LOCATION.--Lat 40°09'20", long 099°21'55", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 9, T.2 N., R.18 W., Hydrologic Unit 10250009, 3.5 mi north of the junction of Route 3 and U.S. Highway 183 in Alma. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5.50 in, depth 170 ft, perforated from 140 to 170 ft.

DATUM.--Altitude of land-surface datum is 2,120 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

REMARKS.--Water levels affected by pumping from nearby wells during irrigation season.

PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.39 ft below land-surface datum, May 11, 1966; lowest, 109.96 ft below land-surface datum, Sept. 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	89.98	89.70	89.37	89.05	88.91	88.78	88.60	88.53	88.29	94.89	96.42	---
10	89.85	89.69	89.48	89.04	88.87	88.72	88.61	88.48	88.46	100.84	90.17	91.04
15	89.72	89.60	89.35	88.95	88.86	88.66	88.64	88.62	88.31	104.97	94.99	90.96
20	89.90	89.64	89.38	89.16	88.95	88.72	88.53	88.41	88.24	94.85	93.52	89.92
25	89.72	89.49	89.15	89.16	88.76	88.73	88.61	88.41	88.82	105.39	102.91	89.67
EOM	89.78	89.56	89.20	88.95	88.79	88.47	88.58	88.40	89.77	105.61	103.19	89.65

WATER YEAR 1999:      HIGHEST      88.15      JUN 22-23, 1999  
                              LOWEST      106.61      JUL      24, 1999

## HOLT COUNTY

421605098203001. Local number 27N 9W 34DA.

LOCATION.--Lat 42°16'05", long 098°20'30", NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.34, T.27 N., R.9 W., Hydrologic Unit 10220001, 0.5 mi north of Ewing. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 17 ft, screened 15 to 17 ft.

DATUM.--Altitude of land-surface datum is 1,841 ft. Measuring point: Top of casing 1.10 ft above land-surface datum.

PERIOD OF RECORD.--December 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.34 ft below land-surface datum, Apr. 9, 1984; lowest, 9.90 ft below land-surface datum, Sept. 1, 1948.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08	8.35	DEC 07	7.68								
NOV 06	7.79	MAY 07	4.18								

**HOLT COUNTY**

423148098300601. Local number 30N 10W 32DAA.

LOCATION.--Lat 42°31'48", long 98°30'06", NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.32, T.30 N., R.10 W., Hydrologic Unit 10150007, 2 mi east on paved road from O'Neill, then 2 mi north, 4 mi east, 2 mi north, 2 mi east, and 0.5 mi north. Owner: William J. Murphy.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in. depth 85 ft. perforated 25.5 to 85 ft.

DATUM.--Altitude of land-surface datum is 1,952 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water levels in this well affected by withdrawals by nearby irrigation wells completed in this aquifer and withdrawals from a deeper aquifer which has resulted in water movement from the upper aquifer to the deeper aquifer.

PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.41 ft below land-surface datum, Oct. 21, 1966; lowest, 53.72 ft below land-surface datum, Sept. 15, 20, 25, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	43.53	43.27	42.99	42.67	42.40	42.20	41.96	41.73	41.51	41.25	41.22	41.92
10	43.48	43.22	43.02	42.67	42.33	42.15	41.93	41.72	41.51	41.23	41.29	41.96
15	43.43	43.21	42.95	42.57	42.33	42.09	41.91	41.67	41.50	41.20	41.37	42.00
20	43.46	43.17	42.95	42.52	42.33	42.11	41.82	41.66	41.43	41.24	41.49	41.96
25	43.36	43.10	42.81	42.54	42.22	42.08	41.85	41.65	41.34	41.16	41.60	41.78
EOM	43.36	43.08	42.80	42.48	42.20	41.93	41.84	41.60	41.29	41.18	41.76	41.76

WATER YEAR 1999:	HIGHEST	40.90	OCT 29, 1998
	LOWEST	43.69	SEP 22, 1999

**HOLT COUNTY**

423730098560001. Local number 31 N 14W 27DDD.

LOCATION.--Lat 42°37'30", long 098°56'00", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.27, T.31 N., R.14 W., Hydrologic Unit 10150007, 6 mi north from Atkinson on Route 11, then 2 mi east. Owner: Elmer Goldfuss.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 8 in, depth 72 ft, perforated 32 to 72 ft.

DATUM.--Altitude of land-surface datum is 2,080 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season.

PERIOD OF RECORD.--July 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.72 ft below land-surface datum, July 3, 1995; lowest, 43.30 ft below land-surface datum, Sept. 10, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	32.34	31.66	30.66	29.99	29.69	29.54	29.45	29.30	28.82	28.38	30.07	32.17
10	32.25	31.47	30.54	29.95	29.64	29.53	29.43	29.29	28.70	28.62	30.38	32.12
15	32.16	31.33	30.39	29.86	29.62	29.50	29.45	29.23	28.62	29.02	30.73	32.21
20	32.10	31.18	30.29	29.79	29.61	29.54	29.41	29.16	28.55	29.16	31.16	32.25
25	31.99	31.00	30.18	29.78	29.56	29.51	29.43	29.08	28.47	29.22	31.58	32.04
EOM	31.82	30.82	30.12	29.74	29.55	29.44	29.40	28.97	28.41	29.69	31.98	31.86

WATER YEAR 1999:	HIGHEST	28.36	JUL 3-4, 1999
	LOWEST	32.44	OCT 1, 1998



**KEARNEY COUNTY**

402625098594501. Local number 6N 15W 34DC.

LOCATION.--Lat 40°26'25", long 098°59'45", SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.34, T.6 N., R.15 W., Hydrologic Unit 10270206, 4.5 mi south and 2.5 mi west of the junction of Route 10 and U.S. Highway 34 near Minden. Owner: Conservation and Survey Division, University of Nebraska-Lincoln.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 210 ft, cased with steel, perforated 190 to 210 ft.

DATUM.--Altitude of land-surface datum is 2,210 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Replacement for 402615099000001, local number 5N 15W 3BA1, period of record August 1947 to September 1967.  
Water levels in well affected by seepage losses from nearby canals and by pumping of nearby wells during irrigation season.

PERIOD OF RECORD.--October 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.82 ft below land-surface datum, June 2, 1999; lowest, 119.05 ft below land-surface datum, July 25, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## KIMBALL COUNTY

411416103361101. Local number 15N 55W 26CCC.

LOCATION.--Lat 41°14'18", long 103°36'15", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.26, T.15 N., R.55 W., Hydrologic Unit 10190016, east of intersection of U.S. Highway 30 and State Highway 71 in Kimball. Owner: Henry Meier.

**AQUIFER.--**Ogallala Formation of Pliocene age.

**WELL CHARACTERISTICS.**--Drilled irrigation water-table well, diameter 24 in, depth 124 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 4,652.3 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Local well number formerly listed as 15N 55W 26CC. Replacement for 411600103393501, local number 15N 55W 17CC1, period of record January 1935 to November 1942; June 1950 to October 1975.

PERIOD OF RECORD.--January 1936 to October 1937; January 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.82 ft below land-surface datum, Jan. 2, 1936; lowest, 54.86 ft below land-surface datum, Nov. 4, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 15	53.43	MAR 23	51.23								



**LANCASTER COUNTY**

403929096401001. Local number 8N 7E 18DDB.

LOCATION.--Lat 40°39'29", long 096°40'10", NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.18, T.8 N., R.7 E., Hydrologic Unit 10200203, 0.6 mi west of Roca. Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel deposits, undifferentiated, of Quaternary age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 8 in. depth 41 ft. perforated 36 to 41 ft.

DATUM.--Altitude of land-surface datum is 1,215 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Water level not measured during 1984 water year.

PERIOD OF RECORD.--June 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.63 ft below land-surface datum, Aug. 25, 1954; lowest, 14.87 ft below land-surface datum, Oct. 18, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]**LANCASTER COUNTY**

403833096385501. Local number 8N 7E 20DDA.

LOCATION.--Lat 40°38'33", long 096°08'55", NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.20, T.8 N., R.7 E., Hydrologic Unit 10200203, 0.5 mi east and 1.1 mi south of Roca. Owner: U.S. Geological Survey.

**AQUIFER.--**Sand and gravel deposits, undifferentiated, of Quaternary age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 8 in, depth 33 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,243 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water level not measured during 1984 water year.

PERIOD OF RECORD.--June 1954 to current year.

REVISED RECORDS.--WDR NE-97: Highest water level above land-surface datum.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +.16 ft above land-surface datum, Mar. 27, 1960; lowest, 12.28 ft below land-surface datum, Oct. 17, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## 433

404706096413001. Local number 10N 6E 36CDD.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.07 ft below land-surface datum, Oct. 26, 1987; lowest 71.19 ft below land-surface datum, Sept. 5, 1956.

WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 26	46.67	MAY 11	46.23								

400240098111301. Local number 1N 8W 23AB.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.02 ft below land-surface datum, July 29, 1951; lowest, 7.91 ft below land-surface datum, July 8-9, 1950.

[illegible]

**PHELPS COUNTY**

403123099261501. Local number 6N 19W 2AA.

LOCATION.--Lat 40°31'23", long 099°02'15", NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.2, T.6 N., R.19 W., Hydrologic Unit 10200101, 10 mi east of Bertrand.  
Owner: Central Nebraska Public Power and Irrigation District.

**AQUIFER.--**Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 1 in, depth 151 ft, screened 149 to 151 ft.

DATUM.--Altitude of land-surface datum is 2,360.81 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by seepage losses from nearby irrigation canal.

PERIOD OF RECORD.--March 1945 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.59 ft below land-surface datum, Oct. 15, 1996; lowest, 123.70 ft below land-surface datum, Mar. 9, 1945.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 27	34.00	JAN 12	35.00	MAR 11	36.00	JUN 01	33.24				

**PLATTE COUNTY**

412955097192001. Local number 18N 1E 28CD.

LOCATION.--Lat 41°29'55", long 097°19'20", SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.28, T.18 N., R.1 E., Hydrologic Unit 10200201, 3 mi south and 8.5 mi east of Platte Center. Owner: Loup River Public Power District.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 2 in, depth 99 ft, screened 97 to 99 ft.

DATUM.--Altitude of land-surface datum is 1,511.8 ft. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--November 1935 to August 1940; March 1942 to November 1953; November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.30 ft (corrected) below land-surface datum, Mar. 27, Apr. 24, 1940; lowest, 69.81 ft (corrected) below land-surface datum, Oct. 9, 1958.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## 435

403855097072501. Local number 8N 3E 19ADA.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 5 in, depth 151 ft, perforated 142 to 151 ft.

DATUM.--Altitude of land-surface datum is 1,496 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season.

PERIOD OF RECORD.--October 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 93.26 ft below land-surface datum, May 4, 1999; lowest, 107.15 ft below land-surface datum, Aug. 05, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 26	96.85	DEC 02	96.14	FEB 05	95.02	APR 09	94.04	JUN 02	93.57		
NOV 05	96.94	JAN 11	95.11	MAR 15	94.38	MAY 04	93.26				

## SARPY COUNTY

410308096190701. Local number 13N 10E 32DBBA.

**LOCATION.**--Lat 41°03'08", long 096°19'07", NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.32, T.13N., R.10 E., Hydrologic Unit 10200202, 0.5 mi south of northern end of Platte River Island 2.5 mi northeast of Ashland and approximately 1 mi south of U.S. Highway 6 and Linoma Beach Road. Owner: City of Lincoln, NE.

**AQUIFER.**--Alluvial sand and gravel deposits of Quaternary age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 6 in., depth 83 ft, screened 43 to 83 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1056.4 ft. Measuring point: Top of casing 4.40 ft above land-surface datum.

REMARKS.--Water levels in well affected by Platte River stages. GOES system installed 1992.

PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, +2.13 ft above land-surface datum, July 25, 1993; lowest, 7.70 ft below land-surface datum, Nov. 4-5, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	3.68	3.22	3.39	1.85	2.09	3.04	3.35	2.81	0.79	1.94	4.30	3.85
10	3.90	3.07	3.37	1.95	3.01	3.23	2.47	2.00	2.61	2.61	3.43	3.83
15	4.05	2.90	3.47	1.72	3.40	3.28	2.12	2.13	2.29	3.82	3.40	3.78
20	3.69	3.03	3.97	1.34	3.40	3.24	2.54	2.55	2.46	3.53	3.50	3.79
25	3.75	3.44	5.02	1.15	3.32	3.32	2.79	2.34	2.48	3.71	3.55	3.56
EOM	3.46	3.38	3.20	1.56	3.23	3.43	3.04	3.23	1.16	4.06	3.94	3.66

WATER YEAR 1999:	HIGHEST	.71	JUN 28, 1999
	LOWEST	5.02	DEC 25, 1998

## GROUND-WATER LEVELS

## SAUNDERS COUNTY

410558096210601. Local number 13N 9E 13ADBA.

LOCATION.--Lat 41°05'58", long 096°21'06", NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.13, T.13 N., R.9E., Hydrologic Unit 10200202, approximately 3.75 mi north and .85 mi east of Ashland. Owner: City of Lincoln.

AQUIFER.--Alluvial sand and gravel deposits of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 91 ft., screened 80 to 91 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,075 ft. Measuring point: Top of casing 4.40 ft above land-surface datum.

REMARKS.--Well drilled June 1990. Starting in April 1991, recorder instrument set to read depth below measuring point.

PERIOD OF RECORD.--August 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.77 ft below land-surface datum, Mar 13, 1993; lowest, 14.39 ft below land-surface datum, Oct. 1, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	11.75	11.57	11.64	12.05	11.81	11.74	11.46	11.46	11.30	11.01	12.03	12.10
10	11.54	11.49	11.74	12.07	11.76	11.75	11.14	11.40	11.34	11.08	11.83	12.04
15	11.65	11.42	11.84	12.05	11.73	11.75	10.93	11.18	11.39	11.26	11.77	12.13
20	11.67	11.42	11.92	11.98	11.74	11.69	10.26	10.72	11.42	11.41	11.82	12.18
25	11.69	11.55	11.99	11.91	11.73	11.64	10.58	10.92	11.42	11.66	11.89	12.23
EOM	11.69	11.64	12.06	11.87	11.72	11.51	10.95	11.43	11.12	11.95	11.98	12.20

WATER YEAR 1999:      HIGHEST      10.23      APR      22, 1999  
                                 LOWEST      12.23      SEP      24-28, 1998

**GROUND-WATER LEVELS**  
**SAUNDERS COUNTY**

437

410428096211001. Local number 13N 9E 24DDCC.

LOCATION.--Lat 41°04'28", long 096°21'10", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.24, T.13 N., R.9E., Hydrologic Unit 10200202, 2 mi north on Highway 63 and .8 mi east of Ashland. Owner: City of Lincoln.

AQUIFER.--Alluvial sand and gravel deposits of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 55 ft., screened 45 to 55 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,064 ft. Measuring point: Top of casing 4.5 ft above land-surface datum.

REMARKS.--Water levels affected by nearby pumping of municipal wells. Starting in April 1991, recorder instrument set to read depth below measuring point.

PERIOD OF RECORD.--August 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +4.20 ft above land-surface datum, Mar 12, 1993; lowest, 18.61 ft below land-surface datum, Oct. 15, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	3.34	3.58	3.51	3.37	2.55	2.72	3.03	1.49	2.19	2.83	4.18	3.82
10	3.41	3.50	3.49	3.19	2.46	2.82	2.72	2.28	2.81	2.95	3.96	3.91
15	3.76	3.42	3.51	3.03	2.45	2.79	1.97	2.27	3.12	3.26	3.75	3.97
20	3.90	3.47	3.52	2.90	2.44	2.97	2.07	2.27	3.08	3.43	3.88	3.99
25	3.71	3.68	3.60	2.80	2.36	2.90	0.74	1.26	3.31	3.64	3.88	4.26
EOM	3.62	3.74	3.55	2.66	2.47	3.12	1.20	1.17	2.93	3.97	4.08	4.16

WATER YEAR 1999:	HIGHEST	0.70	APR 24, 1999
	LOWEST	4.88	JAN 10, 1999



LOCATION.--Lat 41°03'34", long 096°21'16", NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.36, T.13 N., R.9E., Hydrologic Unit 10200202, 1 mi north and .65 mi east of Ashland. Owner: City of Lincoln.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 56 ft., screened 45 to 56 ft., casing perforated below water table.

REMARKS.--Water levels affected by passage of trains on nearby railroad track. Starting in April 1991, recorder instrument set to read depth below measuring point.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +2.55 ft. above land-surface datum, Jul 23, 1993; lowest, 21.40 ft below land-surface datum, Oct. 30, 1991.

WATER YEAR 1999:	HIGHEST	1.79	JUN	1, 1999
	LOWEST	12.98	OCT	1, 1998

## 439

WATER YEAR 1999:	HIGHEST	3.68	JUN 3, 1999
	LOWEST	7.27	JUL 31, 1999

## GROUND-WATER LEVELS

## SAUNDERS COUNTY

410427096202501. Local number 13N 10E 19CDDD.

LOCATION.--Lat 41°04'27", long 096°20'25", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.19, T.13 N., R.10E., Hydrologic Unit 10200202, 2 mi north and 1.4 mi east of Ashland. Located on Nebraska National Guard camp approximately 400 ft from right bank of Platte River. Owner: City of Lincoln.

AQUIFER.--Alluvial sand and gravel deposits of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 56 ft., screened 45 to 56 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,065 ft. Measuring point: Top of casing 4.0 ft above land-surface datum.

REMARKS.--Water levels affected by Platte River stage. Starting in April 1991, recorder instrument set to read depth below measuring point. GOES system installed in September 1992.

PERIOD OF RECORD.--August 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.18 ft above land-surface datum, July 10, 1993; lowest, 17.38 ft below land-surface datum, Oct. 27, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	9.38	9.22	8.60	7.49	6.53	7.04	7.60	6.69	5.09	7.28	9.43	9.14
10	9.75	8.75	8.47	7.22	6.77	7.18	6.87	6.54	6.81	7.52	8.88	9.24
15	9.98	8.61	8.40	6.91	7.13	7.14	6.27	6.71	7.03	8.39	8.51	8.87
20	9.45	8.63	8.50	6.60	7.16	---	6.75	6.76	7.11	8.30	8.37	8.97
25	9.76	8.78	9.04	6.38	7.10	7.30	6.63	6.31	7.31	8.72	8.30	8.91
EOM	9.49	8.71	8.50	6.37	6.99	7.51	6.59	6.19	5.76	9.21	9.02	9.17

WATER YEAR 1999:      HIGHEST      4.79      JUN      3, 1999  
                             LOWEST      9.98      OCT      15, 1998

## 441

410340096202201. Local number 13N 10E 30CDDA.

LOCATION.--Lat 41°03'40", long 096°20'22", NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.30, T.13 N., R.10E., Hydrologic Unit 10200202, 1.1 mi north and 1.5 mi east of Ashland on Lincoln north well field by Nebraska National Guard Camp. Owner: City of Lincoln.

**AQUIFER.**--Alluvial sand and gravel deposits of Quaternary age.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 4 in, depth 70 ft., screened 55 to 70 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,059 ft. Measuring point: Top of casing 6.6 ft above land-surface datum (changed from 4.10 ft on 04-25-94).

REMARKS.--Water levels in area affected by nearby pumping of municipal wells. Starting in April 1991, recorder instrument set to read depth below measuring point. GOES system installed in August 1994.

PERIOD OF RECORD.--August 1990 to current year.

REVISED RECORDS.--WDR NE-96: Water levels for 1995 water year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +4.13 ft above land-surface datum, July 24, 1993; lowest, 26.00 ft below land-surface datum, Oct. 11, 1991.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	18.10	13.59	13.12	9.11	6.33	4.85	5.67	7.65	4.71	7.62	14.06	15.39
10	16.65	14.40	11.88	8.52	6.05	4.78	5.78	7.68	6.75	9.14	13.58	14.85
15	14.95	14.15	11.10	8.02	6.22	4.67	6.20	8.78	7.66	10.24	11.53	15.91
20	14.41	13.45	10.50	7.65	6.25	5.07	5.91	6.65	6.64	11.37	11.73	15.54
25	14.38	13.29	9.82	7.12	6.05	4.74	6.11	4.50	7.69	13.22	11.38	16.35
EOM	14.15	13.81	9.40	6.84	5.54	5.59	6.12	3.89	7.97	15.11	14.31	15.75

WATER YEAR 1999:	HIGHEST	3.88	JUN	2, 1999
	LOWEST	19.45	OCT	1, 1998

**LOCATION.**--Lat 41°04'01", long 096°19'52", NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.30, T.13 N., R.10E., Hydrologic Unit 10200202, 1.5 mi north and 1.9 mi east of Ashland. Near Administration building for Nebraska National Guard camp, approximately 75 ft from right bank of Platte River. Owner: City of Lincoln.

**WELL CHARACTERISTICS.**--Drilled observation water-table well, diameter 4 in, depth 71 ft., screened 60 to 71 ft., casing perforated below water table.

REMARKS.--Water levels affected by Platte River stage. Starting in April 1991, recorder instrument set to read depth below measuring point.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +.29 ft above land-surface datum, Feb. 22, 1997; lowest, 11.92 ft below land-surface datum, Sep. 6, 1991.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	9.01	8.25	8.64	6.76	6.75	7.59	7.88	7.82	5.10	6.87	9.81	9.21
10	8.87	8.22	8.60	6.69	7.47	7.77	7.05	6.93	7.67	7.62	8.74	8.95
15	8.92	8.05	8.60	6.43	7.90	7.85	6.86	7.09	7.26	9.16	8.43	8.92
20	8.71	8.32	8.80	6.16	7.98	7.74	7.46	7.22	7.39	8.78	8.44	9.00
25	8.95	8.73	9.76	5.82	7.99	7.83	7.63	6.80	7.55	9.18	8.51	8.81
EOM	8.51	8.75	8.40	6.31	7.91	7.93	7.82	7.43	6.10	9.62	9.15	8.81

WATER YEAR 1999:	HIGHEST	5.10	JUN	5, 1999
	LOWEST	9.95	AUG	5, 1999

## 443

410314096201101. Local number 13N 10E 31ACDB.

**AQUIFER.**--Alluvial sand and gravel deposits of Quaternary age.

DATUM.--Altitude of land-surface datum is 1,060 ft. Measuring point: Top of casing 5.9 ft (April 1994) above land-surface datum.

REMARKS.--Starting in April 1991, recorder instrument set to read depth below measuring point.

PERIOD OF RECORD.--November 1990 to current year.

REVISED RECORDS.--WDR NE-96: Water levels for 1995 water year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.86 ft above land-surface datum, Mar 12, 1993; lowest, 20.37 ft below land-surface datum, Oct 10, 1991.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	16.42	13.10	12.81	11.81	9.86	10.06	10.02	9.21	9.55	9.06	15.17	13.59
10	16.01	12.72	13.01	11.34	9.80	9.83	10.05	9.08	9.58	10.19	14.92	13.55
15	16.03	12.58	12.86	10.84	10.28	9.69	9.39	8.83	9.98	11.41	14.65	13.64
20	15.93	12.58	12.72	10.51	10.47	9.69	8.75	9.02	10.43	12.52	14.44	13.72
25	15.25	12.77	12.62	10.08	10.51	9.76	9.15	9.28	11.17	13.56	13.87	13.43
EOM	14.02	12.49	12.57	9.78	10.37	9.76	9.42	10.13	9.99	14.66	13.48	13.59

WATER YEAR 1999:	HIGHEST	7.71	JUL 2, 1999
	LOWEST	16.75	OCT 1, 1998



**SAUNDERS COUNTY**

410303096192901. Local number 13N 10E 32CABC.

**LOCATION.**--Lat 41°03'03", long 096°19'29", SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.32, T.13 N., R.10E., Hydrologic Unit 10200202, 2.0 mi north and 0.6 mi south of Ashland. One-sixth mile south of highway 6 gate for Willow Point Community Housing. Northern end of Willow Point lake, approximately 400 feet from right bank of Platte River. Owner: City of Lincoln.

**AQUIFER.**--Alluvial sand and gravel deposits of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 86 ft., screened 51 to 86 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,056 ft. Measuring point: Top of casing 3.60 ft above land-surface datum.

REMARKS.--Water levels affected by nearby pumping of municipal wells and Platte River stage. Starting in April 1991, recorder instrument set to read depth below measuring point. GOES unit installed in September 1992.

PERIOD OF RECORD.--December 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.18 ft below land-surface datum, July 25, 1993; lowest, 11.81 ft below land-surface datum, Oct 23, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	6.93	6.60	6.51	5.47	4.87	5.69	6.54	5.17	4.05	5.70	7.70	6.59
10	6.84	6.74	6.41	5.29	5.46	5.72	6.37	4.61	6.17	6.27	6.75	6.69
15	7.10	6.08	6.49	5.52	6.41	5.88	5.71	4.68	6.04	7.34	7.57	6.74
20	6.89	6.14	6.82	5.41	6.57	5.86	5.22	5.85	6.28	7.58	6.82	6.74
25	6.72	6.69	7.71	5.20	6.68	6.01	5.25	5.32	5.79	8.02	6.56	6.49
EOM	7.06	6.77	7.65	5.16	6.68	6.58	5.31	5.83	4.46	7.49	6.70	7.07

WATER YEAR 1999:	HIGHEST	4.05	JUN 5, 1999
	LOWEST	8.21	JUL 29, 1999

## 445

410307096193801. Local number 13N 10E 32CBAB.

LOCATION.--Lat 41°03'07", long 096°19'38", NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.32, T.13 N., R.10E., Hydrologic Unit 10200202, 2.0 mi northeast of Ashland on highway 6 and 0.5 mi south of highway 6 entrance to City of Lincoln southern well field. Southern end of well field. Owner: City of Lincoln.

**AQUIFER.**--Alluvial sand and gravel deposits of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth 46 ft., screened 11 to 46 ft., casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,060 ft. Measuring point: Top of casing 3.8 ft above land-surface datum.

REMARKS.--Water levels affected by nearby pumping of municipal wells and Platte River stage. Starting in April 1991, recorder instrument set to read depth below measuring point.

PERIOD OF RECORD.--November 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +2.83 ft above land-surface datum, July 24, 25, 1993; lowest, 13.97 ft below land-surface datum, Sep 7, 1991.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	7.28	4.85	5.99	3.71	2.65	---	6.27	3.30	1.85	5.30	8.66	4.91
10	6.18	5.05	5.26	3.49	3.62	---	5.04	2.46	5.03	6.20	6.57	4.89
15	6.62	4.93	5.65	3.13	4.13	---	5.47	2.71	5.11	7.70	8.50	---
20	6.51	5.34	6.04	2.86	4.52	---	4.00	5.34	5.81	9.00	7.20	---
25	5.62	5.34	6.81	2.58	4.50	4.53	3.86	6.17	5.76	9.63	5.36	---
EOM	5.40	5.02	6.74	2.45	4.37	4.69	4.13	7.17	2.71	8.63	5.00	6.50

WATER YEAR 1999:	HIGHEST	1.85	JUN 5, 1999
	LOWEST	9.78	JUL 29, 1999

**GROUND-WATER LEVELS**  
**SAUNDERS COUNTY**

411005096281502. Local number 14N 8E 24ACD2.

LOCATION.--Lat 41°10'05", long 096°28'15", SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.24, T.14 N., R.8 E., Hydrologic Unit 10200203, 4 mi south from the intersection of Routes 92 and 692 near Mead, then 0.65 mi east and 0.4 mi south to the south end of load line 2 of the Mead Field Station. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 80 ft, screened 60 to 80 ft.

DATUM.--Altitude of land-surface datum is 1,171 ft. Measuring point: Top of casing 0.5 ft above land-surface datum.

REMARKS.--Replacement for well 411005096281501, local number 14N-8E-24ACD1, with period of record July 1964 to November 1970. Water levels in well affected by pumping of nearby wells during irrigation season.

PERIOD OF RECORD.--April 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.22 ft below land-surface datum, Mar. 31, 1988; lowest, 46.98 ft below land-surface datum, Sept. 25, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
 LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	41.84	41.70	41.58	---	41.49	---	41.57	41.57	41.56	41.44	41.45	41.50
10	41.80	41.78	41.64	41.49	---	---	41.57	41.60	41.56	41.42	41.49	41.40
15	41.78	41.71	41.57	---	---	41.49	41.59	41.66	41.56	41.35	41.56	41.39
20	41.80	41.69	---	---	---	41.58	41.64	41.61	41.52	41.35	41.53	41.37
25	41.72	41.63	---	---	---	41.62	41.62	41.61	41.48	41.33	41.48	41.27
EOM	41.74	41.65	---	---	---	41.53	41.67	41.58	41.46	41.42	41.49	41.27

WATER YEAR 1999:	HIGHEST	41.24	SEP	30, 1999
	LOWEST	43.03	JAN	3, 1999

## 447

LOCATION.--Lat 41°53'25", long 103°39'28", SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.11, T.22 N., R.55 W., Hydrologic Unit 10180009, 0.5 mi north of the west intersection of Routes 71 and 26 in Scottsbluff, then 0.8 mi east. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in. depth 32 ft, casing perforated below water table.

REMARKS.--Recorder removed in January 1984. Well measured monthly until recorder reinstalled January 1985.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.27 ft below land-surface datum, Sept. 9, 1986; lowest, 28.08 ft below land-surface datum, May 31, 1994.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	---	25.67	25.66	25.76	25.85	25.94	26.14	26.33	26.54	26.75	26.54	NA
10	---	25.64	25.69	25.78	25.88	25.94	26.17	26.38	26.58	26.58	25.95	NA
15	---	25.62	25.72	25.80	25.88	25.97	26.21	26.44	26.63	26.54	26.02	NA
20	---	25.61	25.72	25.80	25.92	26.00	26.25	26.50	26.66	26.45	25.95	NA
25	25.72	25.60	25.72	25.81	25.90	26.07	26.27	26.53	26.68	26.40	25.83	NA
EOM	25.70	25.64	25.73	25.83	25.91	26.11	26.31	26.58	26.73	26.58	25.85	NA

WATER YEAR 1999:	HIGHEST.	25.59	NOV	21-25,	1998
	LOWEST	26.75	JUL	5,,	1999

**SEWARD COUNTY**

405406097115001. Local number 11N 2E 21DD.

LOCATION.--Lat 40°54'06", long 097°11'50", SE<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.21, T.11 N., R.2 E., Hydrologic Unit 10270201, 4.5 mi west of Seward.  
Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in. depth 123 ft. perforated 112 to 123 ft.

DATUM.--Altitude of land-surface datum is 1,550 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by withdrawals from nearby irrigation wells.

PERIOD OF RECORD.--May 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.12 ft below land-surface datum, July 1, 1999; lowest, 90.17 ft below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	77.03	75.81	75.30	74.96	74.49	74.24	73.87	73.52	72.79	72.81	78.95	77.17
10	76.84	75.76	75.49	74.94	74.42	74.30	73.78	73.55	73.29	73.10	78.90	76.94
15	76.67	75.69	75.41	74.76	74.52	74.29	73.93	73.61	73.55	73.91	---	76.55
20	76.51	75.66	75.21	74.61	74.44	74.22	73.92	73.54	73.57	75.06	77.63	76.09
25	76.50	75.55	75.30	74.70	74.42	74.17	73.91	73.13	73.50	76.29	76.94	75.61
EOM	76.96	75.34	74.95	74.71	74.27	74.04	73.87	73.11	72.98	77.05	77.15	75.39

WATER YEAR 1999:	HIGHEST	72.12	JUL 1, 1999
	LOWEST	78.95	AUG 5-7, 1999

**VALLEY COUNTY**

412955099123201. Local number 18N 16W 30CC.

LOCATION.--Lat 41°29'55", long 099°12'32", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, sec.30, T.18 N., R.16 W., Hydrologic Unit 10210003, 4 mi west and 5 mi north of Arcadia. Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 0.75 in, depth 15 ft, screened from 13 to 15 ft.

DATUM.--Altitude of land-surface datum is 2,217.61 ft. Measuring point: Top of casing 2.00 ft above land-surface datum.

REMARKS.--Water levels in well affected by evapotranspiration.

PERIOD OF RECORD.--August 1949 to June 1956; June 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.25 ft below land-surface datum, May 3, 1983; lowest, 5.90 ft below land-surface datum, Mar. 1, 1973.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

## GROUND-WATER LEVELS

449

## WEBSTER COUNTY

400423098314001. Local number 1N 11W 11AB.

LOCATION.--Lat 40°04'23", long 098°31'40", NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec.11, T.1 N., R.11 W., Hydrologic Unit 10250016, 1 mi south and 0.25 mi west of intersection of U.S. Highways 136 and 281 in Red Cloud. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 16.9 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,686 ft. Measuring point: Top of casing 1.1 ft above land-surface datum.

PERIOD OF RECORD.--May 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.74 ft (corrected) below land-surface datum, July 11-12, 1951; lowest, 9.96 ft (corrected) below land-surface datum, Apr. 5, 1957.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 18	3.12										

## YORK COUNTY

404618097482201. Local number 9N 4W 5CCC.

LOCATION.--Lat 40°46'18", long 097°48'22", SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub> sec.5, T.9 N., R.4 W., Hydrologic Unit 10270203, 0.5 mi south of Henderson. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5 in, depth 170 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,708 ft. Measuring point: Top of casing 1.50 ft above land-surface datum.

REMARKS.--Replacement for well 404620097482501, local number 9N 4W 6DD with period of record May 1959 to September 1981 located on east side of highway across from old well.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 69.81 ft below land-surface datum, May 4, 1999; lowest, 87.52 ft below land-surface datum, Aug. 20, 1982.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	72.88	DEC 07	71.89	FEB 03	70.75	APR 07	70.39	JUN 07	69.96		
NOV 05	72.34	JAN 05	71.21	MAR 01	70.54	MAY 04	69.81				



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## GROUND-WATER LEVELS

### YORK COUNTY

405305097351503. Local number 11N 2W 31BA3.

LOCATION.--Lat 40°53'05", long 097°35'15", NE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.31, T.11 N., R.2 W., Hydrologic Unit 10270203, south edge of York County Fairgrounds on the north side of York. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 165 ft, perforated below water table.

DATUM.--Altitude of land-surface datum is 1,659 ft. Measuring point: Top of casing 1.6 ft above land-surface datum.

REMARKS.--Replacement for well 405305097351501, local number 11N 2W 31BA1, with period of record October 1957 to January 1969. Water levels in well affected by withdrawals from nearby municipal well and by withdrawals from nearby irrigation wells.

PERIOD OF RECORD.--May 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 78.96 ft below land-surface datum, Mar. 1, 1999; lowest, 120.81 ft below land-surface datum, July 15, 1974.

#### WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	80.87	DEC 01	79.90	FEB 02	79.30	APR 07	79.17	JUN 08	79.11		
NOV 12	79.86	JAN 11	79.63	MAR 01	78.96	MAY 11	79.27				

# CHEMICAL ANALYSES OF GROUND WATER

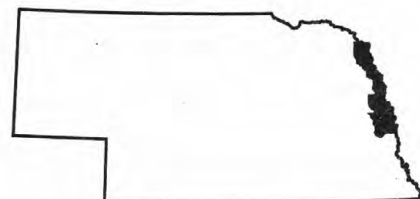
451

(Local identifier: indicates location by township, range, and section. Geologic unit: 110 SDGV, Quaternary sand and gravel deposits, undifferentiated; 111 ALVM, Holocene alluvium; 112 SDGV, Pleistocene sand and gravel deposits; 121 OGLL, Pliocene Ogallala Formation; 122 ARKR, Miocene Arikaree Group; 123 BRUL, Oligocene Brule Formation; 123 CDRN, Oligocene Chadron Formation; 123 CDRNB, Oligocene Chadron Formation, basal sand and gravel; 211 FXHL, Upper Cretaceous Fox Hills Formation; 211 LNCE, Upper Cretaceous Lance Formation.)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

## PAPIO-MISSOURI STUDY WATER-QUALITY MONITORING

COUNTIES: Douglas, Sarpy



WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	GEOLOGIC UNIT	DATE	TIME
<b>DOUGLAS COUNTY</b>						
411258096205801	14N 9E 1AADD2	41 12 58 N	095 20 58 W	112SDGV	07-23-99	1345
411413096194401	15N 10E 29CCBA1	41 14 13 N	096 19 44 W	110QRNR	07-29-99	1805
411443096194201	15N 10E 29BBCC1	41 14 43 N	096 19 42 W	112SDGV	07-29-99	1325
411507096154801	15N 10E 23CADD1	41 15 07 N	096 15 48 W	112SDGV	07-26-99	1055
411620096164001	15N 10E 15ACAD1	41 16 20 N	096 16 40 W	112SDGV	07-28-99	1235
411723096211601	15N 9E 12ABAC1	41 17 23 N	096 21 16 W	112SDGV	08-06-99	1130
411741096173301	15N 10E 4DDAA1	41 17 41 N	096 17 33 W	112SDGV	07-27-99	1510
411755096162801	16N 10E 34DDDC1	41 17 55 N	096 16 28 W	112SDGV	07-27-99	1655
411937096213701	16N 9E 25CAAC1	41 19 37 N	096 21 37 W	112SDGV	07-16-99	1025
411945096200701	16N 10E 30DABB1	41 19 45 N	096 20 07 W	110QRNR	07-22-99	1105
412230096214501	16N 9E 12B1	41 22 30 N	096 21 45 W	112SDGV	07-29-99	1530
412312096261601	16N 9E 5BDCA1	41 23 12 N	096 26 16 W	112SDGV	07-16-99	1215
412333096264801	16N 9E 6AABA1	41 23 33 N	096 26 48 W	112SDGV	07-16-99	1255
<b>SARPY COUNTY</b>						
410326095525901	13N 14E 31BACD1	41 03 26 N	095 52 59 W	110SDGV	07-15-99	1230
410332095594701	13N 13E 31BAAC1	41 03 32 N	095 59 47 W	112SDGV	07-20-99	1130
410334095595701	13N 13E 31BABB1	41 03 34 N	095 59 57 W	112SDGV	07-20-99	1220
410337095593701	13N 13E 30DCCC1	41 03 37 N	095 59 40 W	112SDGV	07-20-99	1045
410343095580801	13N 13E 29DDCB1	41 03 40 N	095 58 17 W	112SDGV	07-20-99	1300
410405096182101	13N 10E 28BCDD1	41 04 05 N	096 18 21 W	112SDGV	08-05-99	1730
410407096032701	13N 12E 27BCDA1	41 04 07 N	096 03 27 W	112SDGV	07-15-99	1015
410535096174501	13N 10E 16DACC1	41 05 35 N	096 17 45 W	112SDGV	07-27-99	1045
410656096173901	13N 10E 9AAAC1	41 06 56 N	096 17 39 W	112SDGV	07-26-99	1325

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water-quality Monitoring--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPECIFIC CONDUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER ( $^{\circ}$ C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L) AS N (00631)	ACETO- CHLOR, WATER FLTRD REC ( $\mu$ G/L) (49260)	ALA- CHLOR, WATER, DISS, REC, ( $\mu$ G/L) (46342)	AMETRYN WATER, DISS, REC, ( $\mu$ G/L) (38401)	ATRAZINE, WATER, DISS, REC ( $\mu$ G/L) (39632)
<b>DOUGLAS COUNTY</b>										
07-23-99	65.00	568	7.6	--	--	.512	<.0500	<.050	<.050	.291
07-29-99	--	708	7.2	--	--	13.9	--	--	--	--
07-29-99	61.00	1140	7.4	--	--	5.82	--	--	--	--
07-26-99	50.00	672	7.2	13.8	.4	<.050	--	--	--	--
07-28-99	87.00	679	7.2	13.0	1.8	<.050	--	--	--	--
08-06-99	58.00	--	--	--	--	.068	--	--	--	--
07-27-99	70.00	707	7.5	13.2	7.8	<.050	--	--	--	--
07-27-99	55.00	573	7.9	26.8	4.4	.082	--	--	--	--
07-16-99	82.00	516	7.1	19.0	4.8	3.04	--	--	--	--
07-22-99	90.00	572	7.1	11.6	.1	8.06	--	--	--	--
07-29-99	39.00	563	7.8	--	--	1.28	--	--	--	--
07-16-99	91.00	559	7.5	12.0	.3	.247	<.0500	<.050	<.050	.221
07-16-99	91.00	559	7.6	12.0	.1	.840	<.0500	<.050	<.050	.266

**SARPY COUNTY**

07-15-99	125.60	692	7.7	12.3	.9	.129	<.0500	<.050	<.050	.272
07-20-99	62.00	671	7.6	22.8	.1	1.08	--	--	--	--
07-20-99	52.00	829	7.5	20.9	.2	1.75	--	--	--	--
07-20-99	46.00	603	7.2	11.9	.6	2.29	--	--	--	--
07-20-99	45.00	620	7.6	18.6	.1	1.36	<.0500	<.050	<.050	1.55
08-05-99	52.00	--	--	--	--	<.050	<.0020	.006	--	.012
07-15-99	74.00	668	7.2	13.0	.2	1.38	.162	E.034	<.050	1.35
07-27-99	84.00	605	7.2	13.6	.5	<.050	--	--	--	--
07-26-99	65.00	887	7.4	15.2	3.3	<.050	--	--	--	--

## Papio-Missouri Study

## DATE \_\_\_\_\_

DOUGLAS COUNTY**SARPY COUNTY**[illegible]

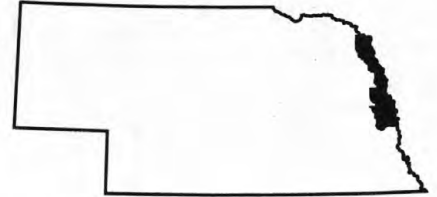
## CHEMICAL ANALYSES OF GROUND WATER

(Local identifier: indicates location by township, range, and section. Geologic unit: 110 SDGV, Quaternary sand and gravel deposits, undifferentiated; 111 ALVM, Holocene alluvium; 112 SDGV, Pleistocene sand and gravel deposits; 121 OGLL, Pliocene Ogallala Formation; 122 ARKR, Miocene Arikaree Group; 123 BRUL, Oligocene Brule Formation; 123 CDRN, Oligocene Chadron Formation; 123 CDRNB, Oligocene Chadron Formation, basal sand and gravel; 211 FXHL, Upper Cretaceous Fox Hills Formation; 211 LNCE, Upper Cretaceous Lance Formation.)

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

**PAPIO-MISSOURI STUDY**  
**WATER QUALITY FROM WELL NESTS**

COUNTIES: Burt, Dakota, Douglas, Sarpy,  
 Thurston, Washington



WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
BURT COUNTY							
414700096134901	21N 11E 19BBBC1	41 47 00 N	096 13 49 W	05-19-99	1620	171	1135
				06-21-99	1430	171	1135
				07-21-99	1450	171	1135
				08-25-99	1215	171	1135
				09-14-99	1650	171	1135
414700096134902	21N 11E 19BBBC2			05-19-99	1700	139	1135
				06-21-99	1510	139	1135
				07-21-99	1530	139	1135
				08-25-99	1255	139	1135
				09-14-99	1730	139	1135
414700096134903	21N 11E 19BBBC3			05-19-99	1730	80	1135
				06-21-99	1530	80	1135
				07-21-99	1550	80	1135
				08-25-99	1315	80	1135
DAKOTA COUNTY							
422035096281901	27N 8E 1ACCC1	42 20 35 N	096 28 19 W	04-21-99	1350	129	1092
				05-19-99	1300	129	1092
				06-21-99	1110	129	1092
				07-21-99	1110	129	1092
				08-25-99	1950	129	1092
				09-14-99	1400	129	1092
422035096281902	27N 8E 1ACCC2			04-21-99	1410	93	1092
				06-21-99	1140	93	1092
				07-21-99	1140	93	1092
				08-25-99	2020	93	1092
				09-14-99	1430	93	1092
422035096281903	27N 8E 1ACCC3			04-21-99	1430	53	1092
				05-19-99	1340	53	1092
				06-21-99	1200	53	1092
				07-21-99	1200	53	1092
				08-25-99	2040	53	1092
				09-14-99	1450	53	1092

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS $\text{CaCO}_3$ ) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)
<b>BURT COUNTY</b>											
05-19-99	1020	6.3	12.2	.4	--	--	--	--	--	--	--
06-21-99	1050	7.1	12.5	.3	--	--	--	--	--	--	--
07-21-99	1080	7.2	12.7	.4	--	--	--	--	--	--	--
08-25-99	1040	7.1	12.0	3.5	460	130	34	46	18	.9	7.4
09-14-99	1090	7.1	12.5	.4	--	--	--	--	--	--	--
05-19-99	1030	6.8	12.1	.2	--	--	--	--	--	--	--
06-21-99	1030	7.2	12.0	.2	--	--	--	--	--	--	--
07-21-99	1050	7.2	12.5	.1	--	--	--	--	--	--	--
08-25-99	1020	7.0	12.0	1.0	440	120	32	51	20	1	7.6
09-14-99	1050	7.1	12.5	.2	--	--	--	--	--	--	--
05-19-99	918	7.1	12.4	.7	--	--	--	--	--	--	--
06-21-99	898	7.3	12.5	.5	--	--	--	--	--	--	--
07-21-99	896	7.4	12.6	.8	--	--	--	--	--	--	--
08-25-99	965	7.2	12.0	1.1	410	110	34	26	12	.6	2.5
<b>DAKOTA COUNTY</b>											
04-21-99	1240	7.1	11.5	.1	--	--	--	--	--	--	--
05-19-99	1230	6.5	11.9	.1	--	--	--	--	--	--	--
06-21-99	1210	7.2	12.0	.0	--	--	--	--	--	--	--
07-21-99	1220	7.3	12.0	.1	--	--	--	--	--	--	--
08-25-99	1200	7.1	12.0	.2	510	140	35	55	19	1	9.9
09-14-99	1220	7.2	12.0	.2	--	--	--	--	--	--	--
04-21-99	1030	7.2	11.5	.3	--	--	--	--	--	--	--
06-21-99	900	7.2	11.5	.1	--	--	--	--	--	--	--
07-21-99	909	7.2	11.8	.1	--	--	--	--	--	--	--
08-25-99	910	7.1	11.5	--	410	110	32	28	13	.6	9.0
09-14-99	896	7.2	11.5	.2	--	--	--	--	--	--	--
04-21-99	915	7.2	11.5	.1	--	--	--	--	--	--	--
05-19-99	1010	7.0	11.5	.2	--	--	--	--	--	--	--
06-21-99	1010	7.2	11.5	.2	--	--	--	--	--	--	--
07-21-99	982	7.2	11.7	.2	--	--	--	--	--	--	--
08-25-99	960	7.1	11.0	--	480	140	31	17	7	.3	6.5
09-14-99	956	7.1	11.5	.3	--	--	--	--	--	--	--



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> - DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> ) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
------	---	---	---	--	---	---	---	--	---	---	--

## BURT COUNTY

05-19-99	--	--	--	--	--	--	--	--	15.7	--	--
06-21-99	--	--	--	--	--	--	--	--	2.14	--	--
07-21-99	--	--	--	--	--	--	--	--	1.40	--	--
08-25-99	320	50	170	28	.79	21	682	.93	12.3	.22	.012
09-14-99	--	--	--	--	--	--	--	--	7.13	--	--
05-19-99	--	--	--	--	--	--	--	--	4.62	--	--
06-21-99	--	--	--	--	--	--	--	--	5.67	--	--
07-21-99	--	--	--	--	--	--	--	--	2.72	--	--
08-25-99	313	55	210	26	.70	21	670	.91	2.17	.21	.027
09-14-99	--	--	--	--	--	--	--	--	1.70	--	--
05-19-99	--	--	--	--	--	--	--	--	18.3	--	--
06-21-99	--	--	--	--	--	--	--	--	16.2	--	--
07-21-99	--	--	--	--	--	--	--	--	16.4	--	--
08-25-99	370	47	32	16	.41	22	529	.72	15.0	--	.283

## DAKOTA COUNTY

04-21-99	--	--	--	--	--	--	--	--	<.050	--	--
05-19-99	--	--	--	--	--	--	--	--	6.32	--	--
06-21-99	--	--	--	--	--	--	--	--	<.050	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-25-99	332	57	270	36	.76	32	792	1.08	<.050	.66	<.010
09-14-99	--	--	--	--	--	--	--	--	<.050	--	--
04-21-99	--	--	--	--	--	--	--	--	<.050	--	--
06-21-99	--	--	--	--	--	--	--	--	<.050	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-25-99	421	63	75	5.6	.47	33	555	.75	<.050	.55	.013
09-14-99	--	--	--	--	--	--	--	--	<.050	--	--
04-21-99	--	--	--	--	--	--	--	--	<.050	--	--
05-19-99	--	--	--	--	--	--	--	--	<.050	--	--
06-21-99	--	--	--	--	--	--	--	--	<.050	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-25-99	474	70	55	4.8	.39	33	579	.79	.109	.19	.012
09-14-99	--	--	--	--	--	--	--	--	7.13	--	--

## Papio-Missouri Study

[illegible]

05-19-99	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--
08-25-99	.04	<10	207	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--

05-19-99	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--
08-25-99	.08	<10	236	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--

05-19-99	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--
08-25-99	.87	E7.5	<3.0	<.0500	<.050	80.7	<.050	<.050	81.6

[illegible][illegible][illegible]

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

### Papio-Missouri Study

## Water Quality from Well Nests--Continued

DATE	PROP-AZINE	BUTA-CHLOR	BUTYL-ATE,	CYANA-ZINE,	DEETHYL	DEISO-PROPYL	METRI-BUZIN	PRO-METON,	PRO-METRYN,	PROP-CHLOR,
	WATER	WATER,	WATER,	WATER,	WATER,	WATER,	SENCOR	WATER,	WATER,	WATER,
	DISS	DISS,	DISS,	DISS,	DISS,	DISS,	WATER	DISS,	DISS,	DISS,
	REC	REC	REC	REC	REC	REC	DISSOLV	REC	REC	REC
	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)
	(38535)	(04026)	(04028)	(04041)	(04040)	(04038)	(82630)	(04037)	(04036)	(04024)

**BURT COUNTY**

05-19-99	--	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--
08-25-99	--	--	--	--	--	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--
08-25-99	--	--	--	--	--	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--
08-25-99	--	--	--	--	--	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--
08-25-99	<.050	<.05	<.0500	<.200	E.0110	<.0500	<.050	.0802	<.0500	<.0500

**DAKOTA COUNTY**[illegible]

### Papio-Missouri Study

[illegible]

05-19-99	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--
08-25-99	--	--	--	--	--	--	--	--
09-14-99	--	--	--	--	--	--	--	--

[illegible]

05-19-99	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--
08-25-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05

04-21-99	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--
08-25-99	--	--	--	--	--	--	--	--

[illegible][illegible]

04-21-99	--	--	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--	--	--
06-21-99	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--
08-25-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

09-14-99        ..        ..        ..        ..        ..        ..        ..        ..        ..

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
DOUGLAS COUNTY							
411231096193201	14N 10E 5CBDD1	41 12 31 N	096 19 32 W	04-20-99	1520	98	1107
				05-18-99	1615	98	1107
				06-22-99	1400	98	1107
				07-19-99	1450	98	1107
				08-18-99	1540	98	1107
				09-13-99	1320	98	1107
411231096193202	14N 10E 5CBDD2			04-20-99	1540	58	1107
				05-18-99	1645	58	1107
				06-22-99	1425	58	1107
				07-19-99	1520	58	1107
				08-18-99	1605	58	1107
				09-13-99	1345	58	1107
411231096193203	14N 10E 5CBDB3	41 12 31 N	096 19 32 W	04-20-99	1600	22	1107
				05-18-99	1710	22	1107
				06-22-99	1445	22	1107
				07-19-99	1540	22	1107
				08-18-99	1620	22	1107
				09-13-99	1400	22	1107
412151096180801	16N 10E 16BAAA1	41 21 51 N	096 18 08 W	04-22-99	1350	33	1136
				05-20-99	1500	33	1136
				06-23-99	1300	33	1136
				07-20-99	1310	33	1136
				08-19-99	1920	33	1136
				09-15-99	1420	33	1136
412151096180802	16N10E16 BAAA2			04-22-99	1410	25	1136
				05-20-99	1520	25	1136
				06-23-99	1320	25	1136
				07-20-99	1330	25	1136
				08-19-99	1935	25	1136
				09-15-99	1440	25	1136
SARPY COUNTY							
410243096082001	12N 11E 1BBBB1	41 02 43 N	096 08 20 W	04-20-99	1310	83	1020
				05-18-99	1330	83	1020
				06-22-99	1050	83	1020
				07-19-99	1010	83	1020
				08-16-99	1550	83	1020
				09-13-99	1050	83	1020
410243096082002	12N 11E 1BBBB2			04-20-99	1340	70	1020
				05-18-99	1400	70	1020
				06-22-99	1120	70	1020
				07-19-99	1040	70	1020
				08-16-99	1620	70	1020
				09-13-99	1120	70	1020

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS $\text{CaCO}_3$ ) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)
<b>DOUGLAS COUNTY</b>											
04-20-99	518	6.9	12.0	.1	--	--	--	--	--	--	--
05-18-99	516	6.4	12.1	.1	--	--	--	--	--	--	--
06-22-99	515	7.6	12.0	.0	--	--	--	--	--	--	--
07-19-99	516	7.6	12.4	.1	--	--	--	--	--	--	--
08-18-99	515	7.6	12.5	.2	200	62	11	27	22	.8	6.7
09-13-99	524	7.6	12.5	.2	--	--	--	--	--	--	--
04-20-99	600	7.2	12.0	.0	--	--	--	--	--	--	--
05-18-99	615	7.1	12.0	.1	--	--	--	--	--	--	--
06-22-99	614	7.4	12.0	.0	--	--	--	--	--	--	--
07-19-99	636	7.4	12.5	.0	--	--	--	--	--	--	--
08-18-99	546	7.3	12.5	.2	260	82	14	28	18	.7	9.3
09-13-99	644	7.4	12.5	.1	--	--	--	--	--	--	--
04-20-99	624	6.7	11.5	.1	--	--	--	--	--	--	--
05-18-99	602	6.8	11.3	.1	--	--	--	--	--	--	--
06-22-99	502	7.1	11.5	.1	--	--	--	--	--	--	--
07-19-99	494	7.1	12.4	.1	--	--	--	--	--	--	--
08-18-99	500	7.0	13.0	.7	210	66	10	14	12	.4	12
09-13-99	486	7.0	12.5	.2	--	--	--	--	--	--	--
04-22-99	596	7.1	12.0	.1	--	--	--	--	--	--	--
05-20-99	596	6.9	11.9	.1	--	--	--	--	--	--	--
06-23-99	550	7.5	11.5	.1	--	--	--	--	--	--	--
07-20-99	590	7.3	12.0	.1	--	--	--	--	--	--	--
08-19-99	587	4.4	12.0	.2	260	78	16	18	13	.5	4.7
09-15-99	592	7.3	12.0	.3	--	--	--	--	--	--	--
04-22-99	548	7.4	11.5	.1	--	--	--	--	--	--	--
05-20-99	544	7.3	11.6	.2	--	--	--	--	--	--	--
06-23-99	594	7.4	12.0	.1	--	--	--	--	--	--	--
07-20-99	550	7.3	11.7	.1	--	--	--	--	--	--	--
08-19-99	551	7.2	12.0	1.0	240	70	15	19	14	.5	4.3
09-15-99	553	7.4	12.0	.3	--	--	--	--	--	--	--
<b>SARPY COUNTY</b>											
04-20-99	521	6.8	12.5	.6	--	--	--	--	--	--	--
05-18-99	506	6.6	12.7	.4	--	--	--	--	--	--	--
06-22-99	500	7.3	12.5	.3	--	--	--	--	--	--	--
07-19-99	520	7.3	12.7	.4	--	--	--	--	--	--	--
08-16-99	510	7.2	12.5	7.5	220	62	17	19	15	.5	3.5
09-13-99	515	7.3	12.5	.4	--	--	--	--	--	--	--
04-20-99	522	6.8	12.5	.5	--	--	--	--	--	--	--
05-18-99	518	6.9	12.5	.3	--	--	--	--	--	--	--
06-22-99	516	7.3	12.5	.5	--	--	--	--	--	--	--
07-19-99	516	7.3	12.6	.4	--	--	--	--	--	--	--
08-16-99	511	7.3	12.5	6.2	220	61	17	19	15	.5	3.6
09-13-99	523	7.3	12.5	.4	--	--	--	--	--	--	--



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

## Papio-Missouri Study

## Water Quality from Well Nests--Continued

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> - DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> ) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
<b>DOUGLAS COUNTY</b>											
04-20-99	--	--	--	--	--	--	--	--	.149	--	--
05-18-99	--	--	--	--	--	--	--	--	.197	--	--
06-22-99	--	--	--	--	--	--	--	--	.287	--	--
07-19-99	--	--	--	--	--	--	--	--	.308	--	--
08-18-99	169	9.0	71	12	.34	35	328	.45	.415	--	.097
09-13-99	--	--	--	--	--	--	--	--	.456	--	--
04-20-99	--	--	--	--	--	--	--	--	1.41	--	--
05-18-99	--	--	--	--	--	--	--	--	1.95	--	--
06-22-99	--	--	--	--	--	--	--	--	2.12	--	--
07-19-99	--	--	--	--	--	--	--	--	2.67	--	--
08-18-99	223	21	77	14	.34	35	407	.55	2.94	--	.075
09-13-99	--	--	--	--	--	--	--	--	2.94	--	--
04-20-99	--	--	--	--	--	--	--	--	.913	--	--
05-18-99	--	--	--	--	--	--	--	--	.900	--	--
06-22-99	--	--	--	--	--	--	--	--	.762	--	--
07-19-99	--	--	--	--	--	--	--	--	1.14	--	--
08-18-99	139	28	76	13	.28	24	309	.42	2.08	--	.021
09-13-99	--	--	--	--	--	--	--	--	3.13	--	--
04-22-99	--	--	--	--	--	--	--	--	<.050	--	--
05-20-99	--	--	--	--	--	--	--	--	<.050	--	--
06-23-99	--	--	--	--	--	--	--	--	<.050	--	--
07-20-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	240	--	64	4.6	.41	29	365	.50	<.050	.45	.231
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
04-22-99	--	--	--	--	--	--	--	--	<.050	--	--
05-20-99	--	--	--	--	--	--	--	--	<.050	--	--
06-23-99	--	--	--	--	--	--	--	--	<.050	--	--
07-20-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	235	26	50	3.9	.53	28	335	.46	<.050	.36	.073
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
<b>SARPY COUNTY</b>											
04-20-99	--	--	--	--	--	--	--	--	5.84	--	--
05-18-99	--	--	--	--	--	--	--	--	<.050	--	--
06-22-99	--	--	--	--	--	--	--	--	2.61	--	--
07-19-99	--	--	--	--	--	--	--	--	6.11	--	--
08-16-99	225	26	18	3.9	.30	32	318	.43	6.18	--	.136
09-13-99	--	--	--	--	--	--	--	--	2.41	--	--
04-20-99	--	--	--	--	--	--	--	--	5.07	--	--
05-18-99	--	--	--	--	--	--	--	--	5.32	--	--
06-22-99	--	--	--	--	--	--	--	--	<.050	--	--
07-19-99	--	--	--	--	--	--	--	--	5.22	--	--
08-16-99	226	24	17	3.9	.31	33	315	.43	5.30	--	.162
09-13-99	--	--	--	--	--	--	--	--	5.33	--	--

## Water Quality from Well Nests--Continued

[illegible]

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

## Papio-Missouri Study

## Water Quality from Well Nests--Continued

[illegible]**DOUGLAS COUNTY**

04-20-99	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--
08-18-99	--	--	--	--	--	--	--	--

[illegible]

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-18-99	<.050	<.05	<.0500	<.200	.0959	<.0500	<.050	<.0500	<.0500	<.0500

[illegible]

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-18-99	<.050	<.05	<.0500	<.200	E.0146	<.0500	<.050	<.0500	<.0500	<.0500

[illegible]

04-22-99	--	--	--	--	--	--	--	--	--	--
05-20-99	--	--	--	--	--	--	--	--	--	--
06-23-99	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--
08-19-99	<.050	<.05	<.0500	<.200	<.0500	<.0500	<.050	<.0500	<.0500	<.0500

[illegible]

04-22-99	--	--	--	--	--	--	--	--	--	--
05-20-99	--	--	--	--	--	--	--	--	--	--
06-23-99	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--
08-19-99	<.050	<.05	<.0500	<.200	E.0191	<.0500	<.050	<.0500	<.0500	<.0500

[illegible]**SARPY COUNTY**

04-20-99	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--
08-16-99	--	--	--	--	--	--	--	--

[illegible]

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-16-99	<.050	<.05	<.0500	<.200	<.0500	<.0500	<.050	<.0500	<.0500	<.0500

09-13-99        \*\*        \*\*        \*\*        \*\*        \*\*        \*\*        \*\*        \*\*        \*\*

### Papio-Missouri Study

	SIMA- TRYN, WATER, DISS, REC (µ G/L) (04030)	SI- MAZINE, WATER, DISS, REC (µ G/L) (04035)	TRI- FLUR- ALIN, WATER, DISS, REC (µ G/L) (04023)	BRO- MACIL, WATER, DISS, REC (µ G/L) (04029)	CAR- BOXIN, WATER, DISS, REC (µ G/L) (04027)	DIPHEN- AMID, WATER, DISS, REC (µ G/L) (04033)	HEXA- ZINONE, WATER, DISS, REC (µ G/L) (04025)	SI- CLOATE, WATER, DISS, REC (µ G/L) (04031)	TER- BACIL, WATER, DISS, REC (µ G/L) (04032)	VERNO- LATE, WATER, DISS, REC (µ G/L) (04034)
--	--	--	--	--	--	--	--	--	--	---

04-20-99	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--
08-18-99	--	--	--	--	--	--	--	--
09-13-99	--	--	--	--	--	--	--	--

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-18-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

09-13-99	--	--	--	--	--	--	--	--
----------	----	----	----	----	----	----	----	----

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-18-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

[illegible]

04-22-99	--	--	--	--	--	--	--	--	--	--
05-20-99	--	--	--	--	--	--	--	--	--	--
06-23-99	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--
08-19-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

09-15-99	--	--	--	--	--	--	--	--
----------	----	----	----	----	----	----	----	----

04-22-99	--	--	--	--	--	--	--	--	--	--
05-20-99	--	--	--	--	--	--	--	--	--	--
06-23-99	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--
08-19-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

[illegible]

04-20-99	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--
08-16-99	--	--	--	--	--	--	--	--

09-13-99      ..          ..            ..                ..                ..                ..                ..                ..

04-20-99	--	--	--	--	--	--	--	--	--	--
05-18-99	--	--	--	--	--	--	--	--	--	--
06-22-99	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--
08-16-99	<.05	<.0500	<.05	<.0500	<.05	<.05	<.05	<.05	<.05	<.05

[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>SARPY COUNTY</b>							
410243096082003	12N 11E 1BBBB3			04-20-99	1400	55	1020
				05-18-99	1420	55	1020
				06-22-99	1140	55	1020
				07-19-99	1100	55	1020
				08-25-99	0950	55	1020
				09-13-99	1140	55	1020
410334096182801	13N 10E 33BBAB1	41 03 34 N	096 18 28 W	04-20-99	1100	55	1055
				05-18-99	1100	55	1055
				06-22-99	0840	55	1055
				07-19-99	1200	55	1055
				08-18-99	1200	55	1055
				09-13-99	0840	55	1055
410334096182802	13N10E33BBAB2			04-20-99	1120	37.5	1055
				05-18-99	1120	37.5	1055
				06-22-99	0900	37.5	1055
				07-19-99	1220	37.5	1055
				08-18-99	1230	37.5	1055
410334096182802	13N 10E 33BBAB2	41 03 34 N	096 18 28 W	09-13-99	0900	37.5	1055
410334096182803	13N 10E 33BBAB3			04-20-99	1140	21	1055
				05-18-99	1140	21	1055
				06-22-99	0915	21	1055
				07-19-99	1240	21	1055
				08-18-99	1255	21	1055
				08-18-99	1300	21	1055
				09-13-99	0915	21	1055
<b>THURSTON COUNTY</b>							
420840096290901	25N 8E 14ADBA1	42 08 40 N	096 29 09 W	08-25-99	1625	162	1212
				09-14-99	1050	162	1212
420840096290902	25N 8E 14ADBA2			08-25-99	1720	133	1212
				09-14-99	1140	133	1212
420840096290903	25N 8E 14ADBA3			08-25-99	1805	104.5	1212
				09-14-99	1220	104.5	1212

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	SPECIFIC CONDUCTANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	SODIUM AD-SORPTION RATIO (00932)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	
SARPY COUNTY											
04-20-99	500	7.0	12.5	.3	--	--	--	--	--	--	
05-18-99	498	7.1	12.5	.2	--	--	--	--	--	--	
06-22-99	517	7.3	12.5	.5	--	--	--	--	--	--	
07-19-99	498	7.3	12.7	.2	--	--	--	--	--	--	
08-25-99	496	7.1	12.5	4.5	210	59	16	18	15	3.9	
09-13-99	494	7.3	12.5	.3	--	--	--	--	--	--	
04-20-99	484	6.9	12.5	.1	--	--	--	--	--	--	
05-18-99	485	6.8	12.5	.1	--	--	--	--	--	--	
06-22-99	488	7.7	12.5	.0	--	--	--	--	--	--	
07-19-99	499	7.8	13.0	.0	--	--	--	--	--	--	
08-18-99	485	7.6	12.5	.3	190	53	13	27	23	7.6	
09-13-99	506	7.7	13.0	.2	--	--	--	--	--	--	
04-20-99	447	7.0	12.5	.0	--	--	--	--	--	--	
05-18-99	445	7.1	12.5	.1	--	--	--	--	--	--	
06-22-99	448	7.7	12.5	.0	--	--	--	--	--	--	
07-19-99	462	7.6	12.8	.0	--	--	--	--	--	--	
08-18-99	451	7.2	12.5	.7	170	47	12	29	26	8.0	
09-13-99	466	7.5	13.0	.2	--	--	--	--	--	--	
04-20-99	694	6.9	12.0	.0	--	--	--	--	--	--	
05-18-99	700	7.0	11.4	.1	--	--	--	--	--	--	
06-22-99	712	7.3	11.5	.0	--	--	--	--	--	--	
07-19-99	724	7.4	12.4	.0	--	--	--	--	--	--	
08-18-99	716	7.2	13.0	.5	260	77	17	50	28	9.3	
08-18-99	716	7.2	13.0	.5	260	77	17	50	28	9.5	
09-13-99	725	7.4	12.5	.3	--	--	--	--	--	--	
THURSTON COUNTY											
08-25-99	1100	7.1	11.0	.4	400	120	24	48	20	14	
09-14-99	1010	7.1	11.5	.4	--	--	--	--	--	--	
08-25-99	998	7.1	11.0	.4	360	110	21	41	19	10	
09-14-99	978	7.0	11.0	.2	--	--	--	--	--	--	
08-25-99	912	7.1	11.0	.8	350	110	21	29	15	9.7	
09-14-99	902	6.9	11.0	.6	--	--	--	--	--	--	



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> - DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> ) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
------	---	---	---	--	---	---	---	--	---	---	--

## SARPY COUNTY

04-20-99	--	--	--	--	--	--	--	--	2.25	--	--
05-18-99	--	--	--	--	--	--	--	--	.075	--	--
06-22-99	--	--	--	--	--	--	--	--	6.65	--	--
07-19-99	--	--	--	--	--	--	--	--	2.39	--	--
08-25-99	224	33	25	4.8	.37	38	312	.42	2.44	.11	.620
09-13-99	--	--	--	--	--	--	--	--	<.050	--	--
04-20-99	--	--	--	--	--	--	--	--	<.050	--	--
05-18-99	--	--	--	--	--	--	--	--	<.050	--	--
06-22-99	--	--	--	--	--	--	--	--	<.050	--	--
07-19-99	--	--	--	--	--	--	--	--	<.050	--	--
08-18-99	214	11	17	13	.33	33	294	.40	<.050	.65	.147
09-13-99	--	--	--	--	--	--	--	--	<.050	--	--
04-20-99	--	--	--	--	--	--	--	--	<.050	--	--
05-18-99	--	--	--	--	--	--	--	--	<.050	--	--
06-22-99	--	--	--	--	--	--	--	--	<.050	--	--
07-19-99	--	--	--	--	--	--	--	--	<.050	--	--
08-18-99	197	23	19	12	.35	29	277	.38	<.050	.41	.095
09-13-99	--	--	--	--	--	--	--	--	<.050	--	--
04-20-99	--	--	--	--	--	--	--	--	<.050	--	--
05-18-99	--	--	--	--	--	--	--	--	<.050	--	--
06-22-99	--	--	--	--	--	--	--	--	<.050	--	--
07-19-99	--	--	--	--	--	--	--	--	<.050	--	--
08-18-99	336	41	34	8.3	.42	33	437	.59	<.050	.53	.117
08-18-99	337	41	34	8.5	.41	34	438	.60	<.050	.33	.054
09-13-99	--	--	--	--	--	--	--	--	<.050	--	--

## THURSTON COUNTY

08-25-99	303	49	190	32	1.0	14	624	.85	<.050	.59	.015
09-14-99	--	--	--	--	--	--	--	--	6.20	--	--
08-25-99	317	53	130	22	.87	15	542	.74	.153	.56	.027
09-14-99	--	--	--	--	--	--	--	--	.098	--	--
08-25-99	294	50	91	15	.86	15	466	.63	<.050	.45	.026
09-14-99	--	--	--	--	--	--	--	--	<.050	--	--

## Water Quality from Well Nests--Continued

[illegible]

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

### Papio-Missouri Study

## Water Quality from Well Nests--Continued

DATE	PROP- AZINE WATER DISS REC	BUTA- CHLOR, WATER, DISS, REC	BUTYL- ATE, WATER, DISS, REC	CYANA- ZINE, WATER, DISS, REC	DEETHYL ATRA- ZINE, WATER, DISS, REC	DEISO- PROPYL ATRAZIN WATER, DISS, REC	METRI- BUZIN SENCOR WATER DISSOLV	PRO- METON, WATER, DISS, REC	PRO- METRYN, WATER, DISS, REC	PROP- CHLOR, WATER, DISS, REC
	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)	(µ G/L)
	(38535)	(04026)	(04028)	(04041)	(04040)	(04038)	(82630)	(04037)	(04036)	(04024)

**SARPY COUNTY**[illegible]

**THURSTON COUNTY**

[illegible]

### Water Quality from Well Nests--Continued

[illegible]**SARPY COUNTY**[illegible]**THURSTON COUNTY**[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>WASHINGTON COUNTY</b>							
412527096081201	17N 11E 24CCBC1	41 25 27 N	096 08 12 W	04-22-99	1240	225	1210
				05-20-99	1300	225	1210
				06-23-99	1040	225	1210
				07-20-99	1100	225	1210
				08-19-99	1720	225	1210
				09-15-99	1240	225	1210
412527096081203	17N 11E24CCBC3			05-20-99	1420	168	1206
				06-23-99	1120	168	1206
				07-20-99	1140	168	1206
				08-19-99	1810	168	1206
				09-15-99	1320	168	1206
412637095565901	17N 13E 16BDAA1	41 26 37 N	095 56 59 W	04-22-99	0930	100	995
				05-19-99	1925	100	995
				06-21-99	1725	100	995
				07-21-99	1900	100	995
				08-19-99	1235	100	995
				09-15-99	1000	100	995
412637095565902	17N 13E 16DBAA2			04-22-99	0950	60	995
				05-19-99	1950	60	995
				06-21-99	1750	60	995
				07-21-99	1930	60	995
				08-19-99	1300	60	995
				09-15-99	1030	60	995
412637095565903	17N 13E 16DBAA3			04-22-99	1010	25	995
				05-19-99	2010	25	995
				06-21-99	1810	25	995
				07-21-99	1945	25	995
				08-19-99	1315	25	995
412637095565903	17N 13E 16DBAA3	41 26 37 N	095 56 59 W	08-19-99	1320	25	995
				09-15-99	1045	25	995

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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)
WASHINGTON COUNTY											
04-22-99	768	7.2	13.0	.4	--	--	--	--	--	--	--
05-20-99	760	6.8	13.5	.6	--	--	--	--	--	--	--
06-23-99	760	7.4	14.0	.4	--	--	--	--	--	--	--
07-20-99	764	7.5	14.0	.4	--	--	--	--	--	--	--
08-19-99	749	7.5	14.0	3.8	340	92	26	33	17	.8	5.0
09-15-99	760	7.4	13.5	--	--	--	--	--	--	--	--
05-20-99	588	8.4	13.1	.6	--	--	--	--	--	--	--
06-23-99	573	7.7	13.5	.3	--	--	--	--	--	--	--
07-20-99	568	7.7	13.7	.3	--	--	--	--	--	--	--
08-19-99	571	7.6	13.0	3.6	220	57	18	36	26	1	5.0
09-15-99	576	7.7	13.5	.8	--	--	--	--	--	--	--
04-22-99	1110	7.2	12.5	.1	--	--	--	--	--	--	--
05-19-99	1110	6.8	12.5	.1	--	--	--	--	--	--	--
06-21-99	1110	7.2	12.5	.0	--	--	--	--	--	--	--
07-21-99	1120	7.3	12.6	.2	--	--	--	--	--	--	--
08-19-99	541	7.1	13.5	1.2	320	71	34	13	8	.3	3.1
09-15-99	1110	7.2	12.5	.3	--	--	--	--	--	--	--
04-22-99	1230	7.3	12.0	.1	--	--	--	--	--	--	--
05-19-99	1230	6.7	12.3	.1	--	--	--	--	--	--	--
06-21-99	1220	7.2	12.5	.0	--	--	--	--	--	--	--
07-21-99	1210	7.3	12.5	.0	--	--	--	--	--	--	--
08-19-99	1190	7.2	12.5	.2	560	140	47	47	15	.9	7.0
09-15-99	1210	7.2	12.5	.1	--	--	--	--	--	--	--
04-22-99	724	7.7	12.0	.1	--	--	--	--	--	--	--
05-19-99	777	6.6	11.8	.2	--	--	--	--	--	--	--
06-21-99	756	7.2	12.0	.1	--	--	--	--	--	--	--
07-21-99	628	7.4	12.6	.1	--	--	--	--	--	--	--
08-19-99	1110	7.4	12.5	.2	510	130	45	41	15	.8	6.9
08-19-99	1110	7.4	12.5	.2	510	130	45	41	15	.8	7.0
09-15-99	633	7.3	12.5	.2	--	--	--	--	--	--	--



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Papio-Missouri Study

Water Quality from Well Nests--Continued

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> ) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
WASHINGTON COUNTY											
04-22-99	--	--	--	--	--	--	--	--	<.050	--	--
05-20-99	--	--	--	--	--	--	--	--	<.050	--	--
06-23-99	--	--	--	--	--	--	--	--	<.050	--	--
07-20-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	419	28	32	2.7	.24	25	468	.64	<.050	.66	.023
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
05-20-99	--	--	--	--	--	--	--	--	2.46	--	--
06-23-99	--	--	--	--	--	--	--	--	5.26	--	--
07-20-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	290	13	17	2.7	.28	25	336	.46	<.050	.71	.069
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
04-22-99	--	--	--	--	--	--	--	--	<.050	--	--
05-19-99	--	--	--	--	--	--	--	--	<.050	--	--
06-21-99	--	--	--	--	--	--	--	--	<.050	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	334	58	39	4.4	.22	19	385	.52	<.050	.05	<.010
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
04-22-99	--	--	--	--	--	--	--	--	<.050	--	--
05-19-99	--	--	--	--	--	--	--	--	<.050	--	--
06-21-99	--	--	--	--	--	--	--	--	.071	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	652	71	39	4.4	.28	33	726	.99	<.050	1.8	.136
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--
04-22-99	--	--	--	--	--	--	--	--	--	--	--
05-19-99	--	--	--	--	--	--	--	--	<.050	--	--
06-21-99	--	--	--	--	--	--	--	--	<.050	--	--
07-21-99	--	--	--	--	--	--	--	--	<.050	--	--
08-19-99	586	44	35	5.7	.31	32	655	.89	<.050	1.6	.053
08-19-99	587	44	36	5.5	.31	32	655	.89	<.050	1.6	.057
09-15-99	--	--	--	--	--	--	--	--	<.050	--	--

## Papio-Missouri Study

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## Papio-Missouri Study

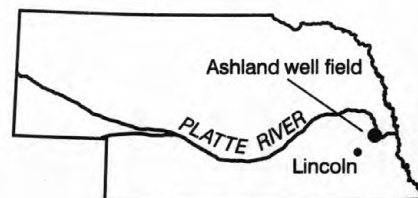
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## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

## ASHLAND WELL FIELD STUDY

COUNTIES: Sarpy, Saunders



WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
SARPY COUNTY								
410159096181001	12N 10E 4CDAA1	41 01 59 N	096 18 10 W	09-07-99	1230	112SDGV	1052	--
410324096191801	13N 10E 32BADC1	41 03 24 N	096 19 18 W	09-07-99	1340	112SDGV	1060	--
410312096183901	13N 10E 32ADDD1	41 03 12 N	096 18 39 W	09-07-99	1450	112SDGV	1056	46
410233096181801	12N 10E 4BADB1	41 02 33 N	096 18 18 W	09-08-99	1400	--	1052	--

## SAUNDERS COUNTY

410612096220601	13N 9E 14AAAA1	41 06 12 N	096 22 06 W	09-07-99	0900	110QRNR	1071	98
410707096220601	13N 9E 2DDDD1	41 07 07 N	096 22 06 W	09-07-99	1000	110QRNR	1077	130
410703096205301	13N 10E 7BBBB1	41 07 03 N	096 20 53 W	09-07-99	1100	110QRNR	1075	96
410427096202501	13N 10E 19CDDD1	41 04 27 N	096 20 25 W	09-08-99	1450	112SDGV	1065	56
410303096192901	13N 10E 32CABC1	41 03 03 N	096 19 29 W	09-08-99	1600	112SDGV	1056	86

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Ashland Well Field Study--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (° C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
------	---	--	---	--	---	---	---	---	--	---	--	---

## SARPY COUNTY

09-07-99	542	7.6	12.9	.4	204	67	16	39	9.3	100	17	.37
09-07-99	516	8.2	11.0	.3	194	70	14	37	7.0	100	17	.31
09-07-99	476	8.2	10.5	.2	175	43	15	29	8.0	50	16	.26
09-08-99	592	7.9	11.0	.4	206	67	14	34	8.0	80	15	.34

## SAUNDERS COUNTY

09-07-99	928	7.2	12.0	.3	--	--	--	--	--	--	--	--
09-07-99	905	7.4	12.5	.2	--	--	--	--	--	--	--	--
09-07-99	434	7.4	12.5	.4	--	--	--	--	--	--	--	--
09-08-99	699	7.7	11.0	.6	192	66	18	45	10	120	20	.32
09-08-99	554	7.6	12.0	.4	152	50	14	37	11	94	16	.47

DATE	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	ARSENIC DIS- SOLVED (μ G/L AS AS) (01000)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (μ G/L AS BE) (01010)	BORON, DIS- SOLVED (μ G/L AS B) (01020)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
------	---	--	--	--	--	--	---	--	--	--	--	--

## SARPY COUNTY

09-07-99	34	8	183	<1.6	77	<8.0	<14	<13	E6.4	<100	24	503
09-07-99	32	4	188	<1.6	71	<8.0	<14	<13	E6.4	<100	20	69
09-07-99	13	2	197	<1.6	58	<8.0	<14	<13	<10	<100	15	579
09-08-99	30	8	209	<1.6	93	<8.0	<14	<13	<10	<100	20	1110

## SAUNDERS COUNTY

09-07-99	--	--	--	--	--	--	--	--	--	--	--	--
09-07-99	--	--	--	--	--	--	--	--	--	--	--	--
09-07-99	--	--	--	--	--	--	--	--	--	--	--	--
09-08-99	30	5	120	<1.6	80	<8.0	<14	<13	E5.6	<100	19	238
09-08-99	37	8	90	<1.6	98	<8.0	<14	<13	<10	<100	23	32



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

### Ashland Well Field Study--Continued

[illegible]**SARPY COUNTY**

09-07-99	<.1	<34	<40	5	<7.0	446	E5	<20	<.0500	<.05	<.0500	<.05
09-07-99	<.1	<34	<40	<1	<7.0	415	<10	<20	<.0500	<.05	<.0500	<.05
09-07-99	<.1	<34	<40	<1	<7.0	319	<10	<20	<.0500	<.05	<.0500	<.05
09-08-99	<.1	<34	<40	5	<7.0	387	<10	E19	--	--	--	--

**SAUNDERS COUNTY**

09-07-99	--	--	--	--	--	--	--	--	--	--
09-07-99	--	--	--	--	--	--	--	--	--	--
09-07-99	--	--	--	--	--	--	--	--	--	--
09-08-99	<.1	<34	<40	2	<7.0	493	E5	E18	--	--
09-08-99	<.1	<34	E17	2	<7.0	389	10	<20	--	--

	CYANA- ZINE, WATER, DISS, REC (μ G/L (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (μ G/L (04040)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (μ G/L (04038)	DIPHEN- AMID, WATER, DISS, REC (μ G/L (04033)	HEXA- ZINONE, WATER, DISS, REC (μ G/L (04025)	PRO- METON, WATER, DISS, REC (μ G/L (04037)	PRO- METRYN, WATER, DISS, REC (μ G/L (04036)	PROP- CHLOR, WATER, DISS, REC (μ G/L (04024)	SICLOATE, WATER, DISS, REC (μ G/L (04031)	SIMATRYN, WATER, DISS, REC (μ G/L (04030)	SIMAZINE, WATER, DISS, REC (μ G/L (04035)	TERR-BACIL, WATER, DISS, REC (μ G/L (04032)
--	--	--	--	---	---	---	--	--	--	--	--	--

**SARPY COUNTY**

[illegible]**SAUNDERS COUNTY**[illegible]

## 481

Ashland Well Field Study--Continued

	TRI- FLUR- ALIN, WATER, DISS, REC	VERNO- LATE, WATER, DISS, REC	ACETO- CHLOR, WATER FLTDR REC	ALA- CHLOR, WATER, DISS, REC,	AMETRYN WATER, DISS, REC,	ATRA- ZINE, WATER, DISS, REC	BENZENE N-BUTYL WATER UNFLTRD	BENZENE N-PROPY WATER UNFLTRD	BENZENE O-DI- CHLORO- WATER UNFLTRD	BENZENE SEC BUTYL- WATER UNFLTRD	BENZENE TERT- BUTYL- WATER UNFLTRD	
DATE	( µ G/L (04023)	(µ G/L (04034)	(µ G/L (49260)	(µ G/L (46342)	(µ G/L (38401)	(µ G/L (39632)	TOTAL (µ G/L (34030)	REC (µ G/L (77342)	REC (µ G/L (77224)	REC (µ G/L (34536)	REC (µ G/L (77350)	REC (µ G/L (77353)

[illegible][illegible]

DATE	BENZENE	BENZENE	BENZENE	BENZENE								
	1,2,4-TRI-CHLORO-WAT UNF	BENZENE 124-TRI METHYL UNFILT	BENZENE 1,3-DI-CHLORO WATER UNFLTRD	BENZENE 135-TRI METHYL WATER UNFLTRD	BENZENE 1,4-DI-CHLORO WATER UNFLTRD	BROMO-BENZENE WHOLE, FORM	BROMO-BENZENE TOTAL	CARBON TETRA-CHLORIDE TOTAL	CHLORO-BENZENE TOTAL	BROMO-DI-METHANE TOTAL	CHLORO-ETHANE TOTAL	CHLORO-ETHANE TOTAL
	REC	RECOVER	REC	REC	REC	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	( μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L
	(34551)	(77222)	(34566)	(77226)	(34571)	(81555)	(32104)	(32102)	(34301)	(32105)	(34311)	(32106)

[illegible][illegible]

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Ashland Well Field Study--Continued

DATE	CIS-1,2	DIBROMO	1,2-	DI-	DI-	1,1-DI	1,1-DI	1,1-DI	1,1-DI	1,1-DI	1,1-DI
	-DI-	CIS	CHLORO-	DIBROMO	BROMO-	BROMO-	CHI.ORO-	1,1-DI-	1,2-DI-	1,1-DI-	CHLORO-
	CHLORO-	1,3-DI-	PROPANE	ETHANE	METHANE	DI-	DI-	CHLORO-	CHLORO-	CHLORO-	PRO-
	ETHENE	CHLORO-	WATER	WATER	WATER	CHLORO-	FLUORO-	CHLORO-	CHLORO-	ETHYL-	PENE,
	WATER	PROPENE	WHOLE	WHOLE	WHOLE	METHANE	METHANE	ETHANE	ETHANE	ENE	WAT, WH
	TOTAL	TOTAL	TOT.REC	TOTAL	RECOVER	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	( μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L
	(77093)	(34704)	(82625)	(77651)	(30217)	(32101)	(34668)	(34496)	(32103)	(34501)	(77168)

**SARPY COUNTY**

[illegible]**SAUNDERS COUNTY**[illegible]

	1,3-DI- CHLORO- PROPANE	2,2-DI CHLORO- PRO- PANE	ETHANE, 1112- TETRA- CHLORO-	ETHANE, 1,1,2,2 TETRA- CHLORO-		FREON- 113	HEXA- CHLORO- BUT-	ISO- PROPYL- BENZENE	METHANE BROMO- CHLORO-		METHYL- CHLO-
	WAT. WH	WAT. WH	WAT UNF	WAT UNF	ETHYL- BENZENE	WATER	ADIENE	WATER	WAT	METHYL- BROMIDE	RIDE
DATE	TOTAL	TOTAL	REC	REC	TOTAL	REC	TOTAL	REC	REC	TOTAL	TOTAL
	( µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L
	(77173)	(77170)	(77562)	(34516)	(34371)	(77652)	(39702)	(77223)	(77297)	(34413)	(34418)

**SARPY COUNTY**

[illegible]**SAUNDERS COUNTY**[illegible]

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### Ashland Well Field Study--Continued

DATE	METHYL			METRI-		O-		P-ISO-		TETRA-	
	METHYL	TERT-		BUZIN		CHLORO-	PROPYL-	PROP-		CHLORO-	
	ENE	BUTYL	METO-			TOLUENE	TOLUENE	AZINE		ETHYL-	
	CHLOR-	ETHER	LACHLOR	SENCOR	NAPHTH-	WATER	WATER	WATER			
	RIDE	WAT UNF	WATER	WATER	ALENE	WHOLE	WHOLE	DISS	STYRENE	ENE	TOLUENE
	TOTAL	REC	DISSOLV	DISSOLV	TOTAL	TOTAL	REC	REC	TOTAL	TOTAL	TOTAL
	( µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L	(µ G/L
	(34423)	(78032)	(39415)	(82630)	(34696)	(77275)	(77356)	(38535)	(77128)	(34475)	(34010)

**SARPY COUNTY**

[illegible]**SAUNDERS COUNTY**[illegible]

DATE	1,2,3-TRI, 1,1,1-TRI, 1,1,2-TRI						123-TRI				
	TOLUENE	TRANS-1,2-DI	TRANS-1,3-DI	CHLORO	CHLORO	CHLORO	TRI-ETHYL	TRI-FLUORO	CHLORO	VINYL	XYLENE
	P-CHLOR	WATER	CHLORO	BENZENE	CHLORO	CHLORO	ETHYL	FLUORO	PROPANE	CHLO-	WATER
	UNFLTRD	ETHENE	PROPENE	WAT, WH	ETHANE	ETHANE	ENE	METHANE	WHOLE	RIDE	UNFLTRD
	REC	TOTAL	TOTAL	REC	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	REC
	( μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L	(μ G/L
	(77277)	(34546)	(34699)	(77613)	(34506)	(34511)	(39180)	(34488)	(77443)	(39175)	(81551)

**SARPY COUNTY**

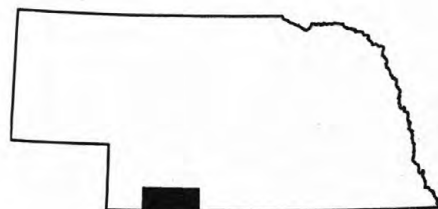
[illegible]**SAUNDERS COUNTY**[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

GROUND-WATER PROTECTION AREA  
MIDDLE REPUBLICAN RIVER

COUNTIES: Hitchcock, Red Willow



WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	GEOLOGIC UNIT	DATE	TIME	DEPTH BELOW AND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>HITCHCOCK COUNTY</b>								
400818101124001	2N 35W13AAAD1	40 08 18 N	101 12 40 W	112SDGV	08-31-99	1100	18.00	46
400818101124002	2N 35W13AAAD2			112SDGV	08-31-99	1200	18.17	30
401655100583201	4N 32W30DCBB1	40 16 55 N	100 58 32 W	112SDGV	08-31-99	1000	18.09	61
401655100583202	4N 32W30DCBB2			112SDGV	08-31-99	1030	18.10	45
<b>RED WILLOW COUNTY</b>								
400357100135201	1N 26W11CBBB1	40 03 57 N	100 13 52 W	112SDGV	09-01-99	1500	17.79	64
400357100135202	1N 26W11CBBB2			112SDGV	09-01-99	1600	17.73	36
401016100391801	2N 30W1ACDD1	40 10 16 N	100 39 18 W	112SDGV	08-31-99	1400	24.30	72
401016100391802	2N 30W1ACDD2			112SDGV	08-31-99	1500	24.06	55
401016100391803	2N 30W1ACDD3			112SDGV	08-31-99	1600	24.13	36
401412100364201	3N 29W8DDBA1	40 14 12 N	100 36 42 W	121OGLL	09-01-99	0900	117.41	174
401412100364202	3N 29W8DDBA2			121OGLL	09-01-99	1000	117.35	159
401412100364203	3N 29W8DDBA3			121OGLL	09-01-99	1100	117.02	135
401454100215401	3N 27W9AAAA1	40 14 54 N	100 21 54 W	112SDGV	09-01-99	1300	24.95	40
401454100215402	3N 27W9AAAA2			112SDGV	09-01-99	1400	25.01	32

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Special Protection Area - Middle Republican River

DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (° C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)
<b>HITCHCOCK COUNTY</b>										
08-31-99	2788	27	1.0	690	1610	7.4	14.0	2.4	26	13.0
08-31-99	2788	--	1.0	690	1820	7.4	14.5	2.8	31	19.0
08-31-99	2867	51	1.0	690	1270	7.4	14.5	3.6	39	11.9
08-31-99	2867	27	1.0	690	1340	7.4	14.5	3.3	36	12.1
<b>RED WILLOW COUNTY</b>										
09-01-99	2366	27	1.0	690	810	7.1	15.0	.7	8	.110
09-01-99	2366	14	1.0	690	1520	7.3	15.0	1.4	15	15.0
08-31-99	2493	32	2.0	690	1440	5.1	15.5	5.1	57	31.1
08-31-99	2493	20	1.0	690	1490	7.3	15.0	4.8	53	28.4
08-31-99	2493	--	1.0	690	1560	7.3	15.5	7.8	87	12.8
09-01-99	2605	65	1.0	690	560	7.4	16.5	7.3	83	4.71
09-01-99	2605	45	1.0	690	760	7.4	17.0	8.2	94	15.2
09-01-99	2605	--	1.0	690	1070	7.3	17.0	8.8	101	28.2
09-01-99	2368	20	1.0	690	665	7.2	14.5	9.7	105	1.26
09-01-99	2368	17	1.0	690	678	7.2	15.0	9.4	103	2.25

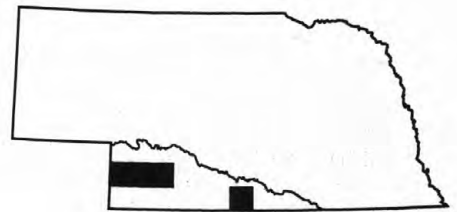


## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

## REPUBLICAN RIVER BASIN WATER QUALITY

COUNTIES: Chase, Harlan, Hayes



STATION/ WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	GEOLOGIC UNIT	HYDROLOGIC UNIT CODE	DATE	TIME
CHASE COUNTY							
06831100	FRENCHMAN CR, BELOW RESERV	40 27 37 N	101 41 36 W	--	10250005	10-20-98	1300
				--	10250005	02-16-99	1700
402733101413501	6N 39W25ACCA1	40 27 33 N	101 41 35 W	121OGLL	10250005	10-20-98	1000
				121OGLL	10250005	02-16-99	1230
402733101413502	6N 39W25ACCA2			121OGLL	10250005	10-20-98	1030
				121OGLL	10250005	02-16-99	1300
402733101413503	6N 39W25ACCA3			112SDGV	10250005	10-20-98	1100
				112SDGV	10250005	02-16-99	1330
402736101413001	6N 39W25ACAC1	40 27 36 N	101 41 30 W	121OGLL	10250005	10-20-98	1130
				121OGLL	10250005	02-16-99	1400
402736101413002	6N 39W25ACAC2			121OGLL	10250005	10-20-98	1200
				121OGLL	10250005	02-16-99	1430
402736101413003	6N 39W25ACAC3			112SDGV	10250005	10-20-98	1230
				112SDGV	10250005	02-16-99	1500
402739101412501	6N 39W25ACAA1	40 27 39 N	101 41 25 W	112SDGV	10250005	10-20-98	1230
				121OGLL	10250005	02-16-99	1530
402739101412502	6N 39W25ACAA2			121OGLL	10250005	10-20-98	1300
				121OGLL	10250005	02-16-99	1600
402739101412503	6N 39W25ACAA3			112SDGV	10250005	10-20-98	1330
				112SDGV	10250005	02-16-99	1630
HARLAN COUNTY							
06847550	SAPPA CREEK, 1 MI BELOW GA	40 07 52 N	099 32 10 W	--	10250011	10-22-98	1400
				--	10250011	02-18-99	1400
400714099320901	2N 20W24CCBC1	40 07 14 N	099 37 09 W	112SDGV	10250011	10-22-98	0930
				112SDGV	10250011	02-18-99	0930
400714099320902	2N 20W24CCBC2	40 07 14 N	099 32 09 W	112SDGV	10250011	10-22-98	1000
				112SDGV	10250011	02-18-99	1000
400714099320903	2N 20W24CCBC3			112SDGV	10250011	10-22-98	1030
				112SDGV	10250011	02-18-99	0900
400732099321001	2N 20W24CBBB1	40 07 32 N	099 32 10 W	112SDGV	10250011	10-22-98	1100
				112SDGV	10250011	02-18-99	1100
400732099321002	2N 20W24CBBB2			112SDGV	10250011	10-22-98	1130
				112SDGV	10250011	02-18-99	1130
400732099321003	2N 20W24CBBB3			112SDGV	10250011	10-22-98	1200
				112SDGV	10250011	02-18-99	1030

# CHEMICAL ANALYSES OF GROUND WATER

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 Republican River Basin Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (° C) (00020)	TEMPER- ATURE WATER (° C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)
CHASE COUNTY											
10-20-98	--	4.0	441	8.4	10.0	11.0	687	10.8	109	2.59	--
02-16-99	--	21	449	8.7	14.0	7.5	675	11.6	109	--	1.58
10-20-98	55	--	502	7.5	10.0	13.5	687	6.7	72	3.58	--
02-16-99	55	--	482	7.6	--	13.5	675	6.9	75	--	3.53
10-20-98	46	--	527	7.5	10.0	13.5	687	6.7	71	3.45	--
02-16-99	46	--	509	7.5	--	13.5	675	--	--	--	3.43
10-20-98	28	--	567	7.6	11.0	13.0	687	.9	10	1.40	--
02-16-99	28	--	564	7.5	--	13.5	675	5.0	54	--	1.36
10-20-98	45	--	440	7.7	12.0	13.0	687	6.8	72	2.62	--
02-16-99	45	--	439	7.6	7.6	13.0	675	6.8	73	--	2.32
10-20-98	35	--	483	7.5	10.0	12.8	687	5.0	53	2.25	--
02-16-99	35	--	483	7.5	--	13.0	675	5.0	54	--	2.00
10-20-98	22	--	519	7.4	10.0	13.5	687	.9	10	.200	--
02-16-99	22	--	534	7.4	--	12.0	675	.4	4	--	.136
10-20-98	39	--	522	7.3	10.0	12.0	687	.0	0	.080	--
02-16-99	39	--	517	7.5	--	12.5	675	.2	2	--	<.050
10-20-98	30	--	548	7.3	10.0	12.0	687	1.0	10	<.050	--
02-16-99	30	--	556	7.5	--	12.5	675	.1	1	--	<.050
10-20-98	20	--	558	7.3	10.0	14.2	687	3.1	34	<.050	--
02-16-99	20	--	565	7.5	--	11.5	675	.2	2	--	<.050
HARLAN COUNTY											
10-22-98	--	12	1060	8.1	12.0	11.0	720	14.0	135	.570	--
02-18-99	--	12	962	8.4	7.5	5.0	705	13.1	111	--	.323
10-22-98	65	--	1110	7.3	--	13.5	720	.1	1	<.050	--
02-18-99	65	--	1110	7.2	--	13.5	705	.4	4	--	<.050
10-22-98	58	--	1070	7.3	--	13.5	720	.1	1	<.050	--
02-18-99	58	--	1100	7.2	--	13.5	705	.1	1	--	<.050
10-22-98	49	--	1310	7.3	--	13.5	720	3.3	34	6.44	--
02-18-99	49	--	1400	7.2	--	13.0	705	3.2	33	--	7.55
10-22-98	50	--	1440	7.4	--	13.5	720	.0	0	<.050	--
02-18-99	50	--	1520	7.2	--	13.5	705	4.7	49	--	<.050
10-22-98	40	--	1630	7.4	--	13.5	720	.1	1	4.19	--
02-18-99	40	--	1530	7.0	7.0	14.0	705	.1	1	--	<.050
10-22-98	30	--	1210	7.2	--	14.0	720	.1	1	.060	--
02-18-99	30	--	1200	7.0	--	13.5	705	5.1	53	--	<.050

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Republican River Basin Water Quality--Continued

STATION/ WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	GEOLOGIC UNIT	HYDROLOGIC UNIT CODE	DATE	TIME
<b>HARLAN COUNTY</b>							
400750099320901	2N 20W24BCBB1	40 07 50 N	099 32 09 W	112SDGV 112SDGV	10250011 10250011	10-22-98 02-18-99	1230 1300
400750099320902	2N 20W24BCBB2			112SDGV 112SDGV	10250011 10250011	10-22-98 02-18-99	1300 1330
400750099320903	2N 20W24BCBB3			112SDGV 112SDGV	10250011 10250011	10-22-98 02-18-99	1330 1230
<b>HAYES COUNTY</b>							
06833900	FRENCHMAN CREEK NR PALISAD	40 21 35 N	101 09 01 W	-- --	10250005 10250005	10-21-98 02-17-99	1430 1700
402124101090501	5N 34W35CBAD1	40 21 24 N	101 09 05 W	112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1000 1030
402124101090502	5N 34W35CBAD2			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1030 1100
402124101090503	5N 34W35CBAD3			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1100 1130
402128101090101	5N 34W35CABB1	40 21 28 N	101 09 01 W	112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1130 1230
402128101090102	5N 34W35CABB2			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1200 1200
402128101090103	5N 34W35CABB3			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1230 1300
402132101085701	5N 34W35BDC 1	40 21 32 N	101 08 57 W	112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1300 1400
402132101085702	5N 34W35BDC 2			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1330 1330
402132101085703	5N 34W35BDC 3			112SDGV 112SDGV	10250005 10250005	10-21-98 02-17-99	1400 1430

# CHEMICAL ANALYSES OF GROUND WATER

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 Republican River Basin Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (° C) (00020)	TEMPER- ATURE WATER (° C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	NITRO- GEN NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)
<b>HARLAN COUNTY</b>											
10-22-98	33	--	1230	7.2	--	13.5	720	1.3	13	<.050	--
02-18-99	33	--	1270	7.2	--	13.5	705	.4	4	--	<.050
10-22-98	27	--	1230	7.2	--	14.0	720	2.3	24	<.050	--
02-18-99	27	--	1330	7.1	--	13.5	705	4.0	42	--	<.050
10-22-98	20	--	1250	7.1	--	14.5	720	4.2	44	<.050	--
02-18-99	20	--	1260	7.0	--	13.0	705	.6	6	--	.745
<b>HAYES COUNTY</b>											
10-21-98	--	15	445	9.0	--	11.0	700	11.8	117	1.26	--
02-17-99	--	7.0	452	8.7	12.0	6.0	685	12.9	116	--	.130
10-21-98	74	--	444	7.8	--	13.5	700	3.0	31	1.73	--
02-17-99	74	--	451	7.7	--	13.0	685	3.2	34	--	1.68
10-21-98	50	--	426	8.0	--	13.5	700	1.3	14	.880	--
02-17-99	50	--	433	7.9	--	13.0	685	7.7	82	--	.916
10-21-98	35	--	440	8.0	--	13.5	700	.2	2	.430	--
02-17-99	35	--	444	7.7	--	13.5	685	4.3	46	--	.453
10-21-98	70	--	468	8.0	--	13.5	700	2.5	26	1.94	--
02-17-99	70	--	476	7.8	--	13.0	685	2.7	29	--	1.91
10-21-98	53	--	545	7.9	--	13.0	700	2.4	25	4.47	--
02-17-99	53	--	555	7.5	--	12.5	685	2.7	28	--	4.58
10-21-98	35	--	600	7.8	--	13.0	700	1.4	15	5.67	--
02-17-99	35	--	605	7.6	--	13.0	685	1.5	16	--	5.34
10-21-98	87	--	753	7.8	--	13.0	700	.1	1	4.15	--
02-17-99	87	--	728	7.6	--	12.5	685	.2	2	--	3.60
10-21-98	55	--	428	8.1	--	13.0	700	.1	1	.710	--
02-17-99	55	--	444	7.8	--	14.0	685	1.0	11	--	.323
10-21-98	22	--	412	8.0	--	21.0	700	.0	0	.230	--
02-17-99	22	--	457	8.2	--	5.5	685	4.3	38	--	1.48

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

## REPUBLICAN RIVER BASIN GROUND-WATER QUALITY

COUNTIES: Chase, Dundy, Frontier, Hayes  
Hitchcock, Lincoln, Perkins, Red Willow



The following data was collected during water year 1998.

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>CHASE COUNTY</b>								
402121101325201	5N 37W32CBAC	1	40 21 21 N	101 32 52 W	08-18-98	0830	121OGLL	3360
402205101401401	5N 38W30DBDC	1	40 22 05 N	101 40 14 W	07-09-98	0900	121OGLL	3302
402113101401201	5N 38W31DO	1	40 21 13 N	101 40 12 W	07-08-98	0900	121OGLL	3290
402321101452001	5N 39W21BCAA	1	40 23 21 N	101 45 20 W	08-10-98	1700	121OGLL	3360
402526101484601	5N 40W1BDBB1		40 25 26 N	101 48 46 W	07-29-98	0900	121OGLL	3400
402255101520901	5N 40W21CCAA	1	40 22 55 N	101 52 09 W	07-29-98	1100	121OGLL	3440
402348101545901	5N 41W13DDBB	1	40 23 48 N	101 54 59 W	07-30-98	1330	121OGLL	3485
402910101250801	6N 36W17DBDA	1	40 29 05 N	101 25 27 W	07-09-98	1500	121OGLL	3288
402927101340001	6N 37W18BO	1	40 29 27 N	101 34 00 W	08-08-98	1100	121OGLL	3325
402654101310701	6N 37W33AACD	1	40 26 54 N	101 31 07 W	08-08-98	1200	121OGLL	3200
403018101350801	6N 38W12BDAA	1	40 30 18 N	101 35 08 W	07-20-98	1200	121OGLL	3250
402953101463301	6N 39W8CO	1	40 29 53 N	101 46 33 W	07-22-98	1500	121OGLL	3325
402849101473401	6N 39W18CDDO	1	40 28 49 N	101 47 34 W	07-10-98	1400	121OGLL	3320
402623101531801	6N 40W32CO	1	40 26 23 N	101 53 18 W	07-10-98	1500	121OGLL	3435
402714101555701	6N 41W26DO	1	40 27 14 N	101 55 57 W	07-22-98	1700	121OGLL	3460
402740101593501	6N 41W29ACAA	1	40 27 40 N	101 59 35 W	07-16-98	1600	121OGLL	3520
403420101213301	7N 36W13CBDB	1	40 34 20 N	101 21 33 W	07-07-98	1600	121OGLL	3084
403126101255201	7N 36W32CDDC	1	40 31 26 N	101 25 52 W	07-23-98	1100	121OGLL	3050
403202101294101	7N 37W35BCBB	1	40 32 02 N	101 29 41 W	07-07-98	1300	121OGLL	3115
					08-11-98	1700	121OGLL	3115
403320101372501	7N 38W22CO	1	40 33 20 N	101 37 25 W	07-06-98	1730	121OGLL	3260
403254101361801	7N 38W26BO	1	40 32 54 N	101 36 18 W	07-06-98	1800	121OGLL	3270
403531101444901	7N 39W9AO	1	40 35 31 N	101 44 49 W	07-13-98	1715	121OGLL	3337
403531101485001	7N 40W12BO	1	40 35 31 N	101 48 50 W	07-14-98	1230	121OGLL	3405
403323101532501	7N 40W20CBDD	1	40 33 23 N	101 53 25 W	07-21-98	1130	121OGLL	3415
403137101575101	7N 41W34CDBB	1	40 31 37 N	101 57 51 W	08-11-98	0930	121OGLL	3495
403901101260301	8N 36W20BO	1	40 39 01 N	101 26 03 W	07-20-98	1230	121OGLL	3210
403949101285601	8N 37W14ACAC	1	40 39 49 N	101 28 56 W	07-23-98	1400	121OGLL	3226
403811101314601	8N 37W28BO	1	40 38 11 N	101 31 46 W	07-20-98	1130	121OGLL	3280
403652101405001	8N 38W31CO	1	40 36 44 N	101 41 11 W	07-15-98	1030	121OGLL	3320
403834101470801	8N 39W19DACB	1	40 38 34 N	101 47 08 W	07-13-98	1645	121OGLL	3410
403649101463201	8N 39W32CO	1	40 36 49 N	101 46 32 W	07-13-98	1615	121OGLL	3395
404040101480901	8N 40W12ADCA	1	40 40 40 N	101 48 09 W	07-14-98	0830	121OGLL	3420
403836101561201	8N 41W23DO	2	40 38 36 N	101 56 12 W	07-28-98	1100	121OGLL	3500
403729101561501	8N 41W35ABAB	1	40 37 30 N	101 56 13 W	07-22-98	1300	121OGLL	3498
<b>DUNDY COUNTY</b>								
400524101245001	1N 36W5BBAA	1	40 05 24 N	101 24 50 W	07-15-98	1000	111ALVM	2903
400502101253901	1N 36W6ACDA	1	40 05 02 N	101 25 39 W	07-15-98	0930	111ALVM	2904
400049101311801	1N 37W32ACBB	1	40 00 49 N	101 31 18 W	07-22-98	0900	111ALVM	3015
400438101392101	1N 38W6CDBD	1	40 04 38 N	101 39 21 W	07-21-98	1620	121OGLL	3230
400116101355201	1N 38W27CDAA	1	40 01 16 N	101 35 52 W	07-22-98	1100	111ALVM	3040
400452101412101	1N 39W2DBBD	1	40 04 52 N	101 41 21 W	07-21-98	1530	121OGLL	3230
400156101493701	1N 40W22CDDD	1	40 01 56 N	101 49 37 W	07-23-98	1230	111ALVM	3175
400225101481301	1N 40W23ACCA	1	40 02 25 N	101 48 13 W	07-16-98	1300	--	3160
400109101552101	1N 41W26CDCC	1	40 01 09 N	101 55 21 W	07-23-98	1500	111ALVM	3250
400017102002301	1N 42W36DDBC	1	40 00 17 N	102 00 23 W	08-19-98	0830	111ALVM	3260



# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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)
CHASE COUNTY											
08-18-98	440	382	7.3	15.5	6.2	1.91	--	140	39	11	15
07-09-98	312	378	7.7	15.5	6.5	1.68	--	--	--	--	--
07-08-98	289	361	7.7	16.7	--	1.50	--	--	--	--	--
08-10-98	320	351	7.7	14.9	--	2.29	--	--	--	--	--
07-29-98	330	366	7.5	14.6	7.2	4.65	--	160	41	14	11
07-29-98	300	339	7.6	15.0	7.0	2.37	--	--	--	--	--
07-30-98	330	260	7.6	15.0	7.0	2.21	--	--	--	--	--
07-09-98	495	333	7.7	16.1	7.3	2.43	--	140	37	12	14
08-08-98	336	345	7.9	14.9	--	2.33	--	--	--	--	--
08-08-98	226	425	7.4	13.8	--	1.11	--	--	--	--	--
07-20-98	345	325	7.6	15.0	9.8	2.25	--	140	38	12	12
07-22-98	295	336	7.8	16.4	--	1.96	--	--	--	--	--
07-10-98	300	316	8.1	15.4	--	--	2.91	140	38	11	12
07-10-98	335	390	7.7	16.1	7.2	--	3.35	--	--	--	--
07-22-98	290	376	7.6	14.6	7.4	4.95	--	150	39	14	9.7
07-16-98	343	299	7.7	15.3	8.2	2.17	--	--	--	--	--
07-07-98	221	432	7.5	14.7	7.1	5.12	--	180	50	14	12
07-23-98	204	236	7.7	14.8	9.2	2.09	--	--	--	--	--
07-07-98	237	373	7.5	14.8	7.0	2.80	--	150	40	12	19
08-11-98	237	406	7.5	15.0	--	2.61	--	--	--	--	--
07-06-98	280	339	7.8	15.9	6.1	1.91	--	--	--	--	--
07-06-98	310	346	7.8	14.6	7.8	2.44	--	--	--	--	--
07-13-98	286	376	7.6	14.6	7.4	4.59	--	130	39	8.4	14
07-14-98	270	303	7.7	15.9	8.8	2.87	--	--	--	--	--
07-21-98	283	261	7.6	14.4	9.7	4.29	--	--	--	--	--
08-11-98	282	302	7.6	15.0	8.9	1.88	--	--	--	--	--
07-20-98	290	353	7.6	15.0	10.0	3.08	--	--	--	--	--
07-23-98	340	237	7.5	14.5	9.5	3.55	--	--	--	--	--
07-20-98	481	370	7.6	14.7	11.6	6.01	--	--	--	--	--
07-15-98	240	277	7.9	18.7	--	1.43	--	130	38	9.0	7.7
07-13-98	355	302	7.9	15.8	--	2.56	--	--	--	--	--
07-13-98	224	337	7.9	16.8	--	4.77	--	--	--	--	--
07-14-98	298	314	7.7	13.9	10.3	2.48	--	--	--	--	--
07-28-98	190	236	7.7	14.8	9.2	1.43	--	110	33	7.4	12
07-22-98	228	315	7.7	13.6	9.8	7.56	--	--	--	--	--
DUNDY COUNTY											
07-15-98	30	1980	7.0	12.9	4.3	4.92	--	730	200	58	159
07-15-98	27	1960	7.0	11.6	--	7.37	--	--	--	--	--
07-22-98	59	2300	7.3	14.5	--	25.1	--	--	--	--	--
07-21-98	110	692	7.4	13.7	--	25.1	--	--	--	--	--
07-22-98	62	2010	7.3	13.5	--	4.47	--	--	--	--	--
07-21-98	65	402	7.5	13.9	--	4.93	--	160	47	10	18
07-23-98	97	1570	7.1	15.4	--	<.050	--	--	--	--	--
07-16-98	73	452	7.3	14.2	7.5	--	--	--	--	--	--
07-23-98	125	2610	7.2	15.5	--	.490	--	--	--	--	--
08-19-98	48	1760	7.3	12.3	--	<.050	--	590	140	57	149



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	BORON, DIS- SOLVED (μ G/L AS B) (01020)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
CHASE COUNTY											
08-18-98	.5	11	171	17	12	1.8	.87	69	--	11	<4.0
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	--	--	--	--	--	--	--	--	--	--	--
08-10-98	--	--	--	--	--	--	--	--	--	--	--
07-29-98	.4	10	166	9.7	13	2.5	.79	62	--	<10	<4.0
07-29-98	--	--	--	--	--	--	--	--	--	--	--
07-30-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	.5	9.7	155	6.0	13	4.5	.85	63	--	<10	<4.0
08-08-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	.4	10	150	7.3	14	11	.81	<.10	--	<10	<4.0
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-10-98	.5	7.7	147	2.2	11	3.3	.79	52	--	<10	<4.0
07-10-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	.3	9.0	148	7.2	18	4.5	.82	59	--	<10	<4.0
07-16-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	.4	11	188	12	18	5.6	.68	64	--	<10	<4.0
07-23-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	.7	9.7	174	9.7	17	4.5	.80	60	--	<10	<4.0
08-11-98	--	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--	--
07-06-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	.5	7.5	138	6.7	11	4.7	.76	53	--	<10	<4.0
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--	--
08-11-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	.3	7.8	149	3.3	7.3	2.0	.72	60	--	<10	<4.0
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-28-98	.5	7.0	132	5.1	9.7	2.8	.67	56	--	<10	<4.0
07-22-98	--	--	--	--	--	--	--	--	--	--	--
DUNDY COUNTY											
07-15-98	3	32	335	65	580	110	.96	42	--	<30	1040
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	.6	9.5	180	11	11	2.4	.96	60	--	<10	<4.0
07-23-98	--	--	--	--	--	--	--	--	--	--	--
07-16-98	--	--	--	--	--	--	--	--	--	--	--
07-23-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	3	19	254	24	610	38	1.4	41	--	1100	922

## CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>DUNDY COUNTY</b>							
400709101200901	2N 36W24CDDD 1	40 07 09 N	101 20 09 W	07-15-98	1130	121OGLL	2855
400552101260301	2N 36W31BCDC 1	40 05 52 N	101 26 03 W	07-19-98	1400	111ALVM	2920
400943101295301	2N 37W 9ABAD1	40 09 43 N	101 29 53 W	08-18-98	0900	121OGLL	3080
400932101380101	2N 38W 8ABCD1	40 09 32 N	101 38 01 W	07-15-98	1500	121OGLL	3280
400814101400501	2N 39W13DO 1	40 08 14 N	101 40 05 W	08-09-98	1530	121OGLL	3322
400617101430801	2N 39W34BBBB 1	40 06 17 N	101 43 08 W	07-19-98	1600	121OGLL	3330
400728101520801	2N 40W20CBAC 1	40 07 17 N	101 52 15 W	07-21-98	0900	121OGLL	3390
400956101535101	2N 41W1DO 1	40 09 56 N	101 53 51 W	07-12-98	1600	121OGLL	3468
400749101585401	2N 41W20BO 1	40 07 49 N	101 58 54 W	07-18-98	1400	121OGLL	3485
401307101222101	3N 36W22BBAA 1	40 13 13 N	101 22 36 W	07-22-98	1700	121OGLL	3196
401151101261101	3N 36W30CBBB 1	40 11 51 N	101 26 11 W	08-09-98	1400	121OGLL	3245
401302101293301	3N 37W22BCCB 1	40 13 02 N	101 29 33 W	07-14-98	1300	121OGLL	3200
401142101342601	3N 38W26DCAA 1	40 11 42 N	101 34 26 W	07-14-98	1600	121OGLL	3209
401143101393201	3N 38W30CO 1	40 11 43 N	101 39 32 W	07-12-98	1100	121OGLL	3295
401458101462101	3N 39W 7BBAA1	40 14 58 N	101 46 21 W	08-18-98	1100	121OGLL	3450
401443101480401	3N 40W11ABDD 1	40 14 43 N	101 48 04 W	07-14-98	1400	121OGLL	3420
401506101534901	3N 41W1DO 1	40 15 06 N	101 53 49 W	07-16-98	1500	121OGLL	3473
401954101250601	4N 36W 8BBCC1	40 19 54 N	101 25 06 W	07-01-98	1030	121OGLL	3275
401956101281401	4N 37W11BO 1	40 19 56 N	101 28 14 W	06-30-98	1200	121OGLL	3280
401732101301201	4N 37W28BAAA 2	40 17 32 N	101 30 12 W	07-23-98	1500	121OGLL	3310
401932101331701	4N 38W12DO 1	40 19 32 N	101 33 17 W	08-18-98	0730	121OGLL	3340
402041101425301	4N 39W 3BDBD1	40 20 41 N	101 42 53 W	07-23-98	0930	121OGLL	3335
401940101411901	4N 39W11DABA 1	40 19 44 N	101 41 06 W	07-07-98	1400	121OGLL	3317
401628101494801	4N 40W34BO 1	40 16 28 N	101 49 48 W	07-16-98	1600	121OGLL	3430
401833101593101	4N 41W18DDBB 1	40 18 33 N	101 59 31 W	08-18-98	1330	121OGLL	3550
401601101553001	4N 41W35CAC 1	40 16 01 N	101 55 30 W	07-13-98	1300	121OGLL	3488
<b>FRONTIER COUNTY</b>							
402610100213901	5N 27W 2BBBB1	40 26 16 N	100 21 43 W	06-23-98	1500	121OGLL	2643
402434100351701	5N 29W11CCAD 1	40 24 40 N	100 35 15 W	07-10-98	1300	121OGLL	2735
402717100462301	6N 30W30CADD 1	40 27 25 N	100 46 20 W	06-23-98	1600	121OGLL	2900
403453100270601	7N 28W13BAB 1	40 35 05 N	100 27 10 W	07-09-98	1500	121OGLL	2652
403739100053801	8N 24W31BBBA 1	40 37 39 N	100 05 38 W	07-09-98	1000	121OGLL	2655
403857100070301	8N 25W23ADCA 1	40 39 02 N	100 07 03 W	07-09-98	1130	121OGLL	2714
403831100235901	8N 27W23AAAA 1	40 38 31 N	100 23 59 W	07-09-98	1400	121OGLL	2726
404132100280201	8N 28W 2BDBC1	40 41 37 N	100 28 02 W	07-10-98	1530	121OGLL	2723
404004100290901	8N 28W15ABCD 1	40 40 06 N	100 29 02 W	07-10-98	1630	121OGLL	2745
403902100432901	8N 30W21ADBD 1	40 39 05 N	100 43 45 W	07-10-98	1400	121OGLL	2945
<b>HAYES COUNTY</b>							
402526100480401	5N 31W1CCBB 1	40 25 33 N	100 47 56 W	07-11-98	0830	121OGLL	2695
402411100543501	5N 32W13BCBB 1	40 24 11 N	100 54 35 W	06-23-98	1600	121OGLL	2890
402139100543201	5N 32W36BACB 1	40 21 40 N	100 54 14 W	08-20-98	1930	121OGLL	2702
402116101064701	5N 33W31CCAA 1	40 21 16 N	101 06 47 W	06-27-98	1700	111ALVM	2780
402558101100301	5N 34W 3BDBC1	40 25 57 N	101 10 06 W	06-28-98	1800	121OGLL	2983
402345101093801	5N 34W15DCDB 1	40 23 45 N	101 09 38 W	08-20-98	1100	121OGLL	2800
402620101185201	5N 35W 5ABBA1	40 26 14 N	101 18 46 W	06-09-98	1300	121OGLL	3157
402323101140601	5N 35W24ACAA 1	40 23 23 N	101 14 06 W	06-09-98	1030	121OGLL	2880
402936100474801	6N 31W13BABD 1	40 29 40 N	100 47 38 W	07-08-98	1500	121OGLL	2935
402726100522101	6N 31W29BCBD 1	40 27 35 N	100 52 13 W	07-08-98	1400	121OGLL	2861
402726100555101	6N 32W27DABA 1	40 27 26 N	100 55 51 W	08-20-98	1800	121OGLL	2985
402848101015801	6N 33W23BAAA 1	40 28 48 N	101 01 58 W	06-28-98	1600	121OGLL	3030
402638101044601	6N 33W32DAAA 1	40 26 40 N	101 04 47 W	07-08-98	1200	121OGLL	3031
403117101133301	6N 34W6BO 1	40 31 17 N	101 13 33 W	06-09-98	1430	121OGLL	3065
402837101174501	6N 35W21ACBB 1	40 28 37 N	101 17 45 W	06-09-98	1430	121OGLL	2900

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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)
<b>DUNDY COUNTY</b>											
07-15-98	50	1000	7.4	14.4	--	1.90	--	--	--	--	--
07-19-98	50	496	7.4	14.5	--	3.75	--	--	--	--	--
08-18-98	120	433	7.3	13.5	7.0	2.04	--	--	--	--	--
07-15-98	210	412	7.7	16.1	--	3.66	--	170	44	13	17
08-09-98	200	310	7.5	14.8	8.3	3.72	--	--	--	--	--
07-19-98	95	421	7.7	14.4	3.4	7.58	--	--	--	--	--
07-21-98	115	378	7.6	--	--	4.26	--	--	--	--	--
07-12-98	230	348	7.7	15.1	--	2.76	--	140	38	10	14
07-18-98	113	391	7.6	14.4	3.5	--	3.82	--	--	--	--
07-22-98	320	462	7.5	16.6	6.6	5.01	--	--	--	--	--
08-09-98	327	428	7.6	17.6	--	4.50	--	--	--	--	--
07-14-98	250	418	7.6	16.9	--	2.76	--	170	45	14	17
07-14-98	185	442	7.6	14.1	6.6	4.81	--	--	--	--	--
07-12-98	230	385	7.6	16.3	6.2	2.54	--	--	--	--	--
08-18-98	306	367	7.3	14.8	6.9	2.08	--	--	--	--	--
07-14-98	300	407	7.6	16.6	4.1	3.95	--	--	--	--	--
07-16-98	290	338	7.6	14.2	8.5	3.38	--	--	--	--	--
07-01-98	425	380	7.6	17.5	--	2.35	--	--	--	--	--
06-30-98	430	366	7.8	17.0	--	1.85	--	150	42	11	15
07-23-98	415	441	7.5	16.2	6.7	5.12	--	--	--	--	--
08-18-98	415	394	7.0	14.4	9.3	2.21	--	--	--	--	--
07-23-98	300	359	8.0	17.4	--	1.90	--	--	--	--	--
07-07-98	292	370	7.7	15.5	6.0	2.62	--	--	--	--	--
07-16-98	312	337	7.5	14.5	7.7	2.30	--	140	39	11	12
08-18-98	350	394	7.5	15.3	9.1	2.10	--	--	--	--	--
07-13-98	305	393	7.7	15.3	3.8	7.94	--	--	--	--	--
<b>FRONTIER COUNTY</b>											
06-23-98	250	472	7.4	15.2	7.9	7.10	--	--	--	--	--
07-10-98	370	567	7.3	14.4	15.3	12.7	--	--	--	--	--
06-23-98	420	418	7.4	16.0	7.6	4.30	--	--	--	--	--
07-09-98	280	429	7.5	16.3	--	3.14	--	190	53	15	11
07-09-98	339	477	7.3	16.7	--	3.52	--	--	--	--	--
07-09-98	360	486	7.2	16.1	13.6	3.39	--	--	--	--	--
07-09-98	510	428	7.5	17.4	--	2.84	--	--	--	--	--
07-10-98	450	395	7.5	14.9	--	4.78	--	--	--	--	--
07-10-98	490	391	7.6	15.7	--	3.41	--	--	--	--	--
07-10-98	410	378	7.6	16.5	--	4.66	--	170	46	13	7.6
<b>HAYES COUNTY</b>											
07-11-98	200	421	7.6	15.8	--	2.31	--	170	42	15	21
06-23-98	338	414	7.5	21.0	6.6	3.00	--	--	--	--	--
08-20-98	165	602	7.2	13.5	5.9	13.0	--	--	--	--	--
06-27-98	105	660	7.5	15.0	.3	3.23	--	260	69	20	35
06-28-98	305	381	7.6	15.5	8.2	3.25	--	--	--	--	--
08-20-98	105	413	7.5	12.5	8.5	3.16	--	--	--	--	--
06-09-98	395	409	7.7	16.0	--	4.87	--	--	--	--	--
06-09-98	104	462	7.6	13.7	4.3	2.03	--	--	--	--	--
07-08-98	400	444	7.8	17.0	--	6.86	--	--	--	--	--
07-08-98	340	426	7.7	16.4	6.8	3.24	--	--	--	--	--
08-20-98	425	394	7.5	15.5	8.7	2.79	--	--	--	--	--
06-28-98	383	393	7.9	--	--	3.88	--	--	--	--	--
07-08-98	420	410	7.7	18.0	--	5.22	--	--	--	--	--
06-09-98	325	364	7.6	14.0	7.8	2.02	--	--	--	--	--
06-09-98	68	459	7.5	14.5	7.3	4.12	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

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## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>HAYES COUNTY</b>								
403448100493101	7N 31W15ABCD	1	40 34 48 N	100 49 31 W	08-11-98	1600	121OGLL	3016
403334100521701	7N 31W20CABC	1	40 33 34 N	100 52 17 W	07-08-98	1600	121OGLL	2865
403506100560401	7N 32W10DDAC	1	40 35 01 N	100 55 46 W	08-21-98	0900	--	2845
403149100552101	7N 32W35BDDC	1	40 31 50 N	100 55 12 W	06-23-98	1230	121OGLL	2989
403506101044101	7N 33W9CO	1	40 35 06 N	101 04 41 W	07-29-98	1530	121OGLL	3140
403627101181201	7N 35W4BBDD	1	40 36 27 N	101 18 12 W	06-23-98	1100	121OGLL	3145
403636101202401	7N 35W6BBAA	1	40 36 36 N	101 2024W	08-20-98	1330	121OGLL	3240
404027100510601	8N 31W9CO	1	40 40 27 N	100 51 06 W	08-21-98	1200	121OGLL	3070
403909100590601	8N 32W20BACD	1	40 38 59 N	100 58 40 W	08-21-98	1030	--	2933
403835101022701	8N 33W23CO	1	40 38 35 N	101 02 27 W	07-29-98	1230	121OGLL	3200
404114101084201	8N 34W2DB	1	40 41 14 N	101 08 42 W	06-23-98	1330	121OGLL	3145
403928101125101	8N 34W18DDBB	1	40 39 27 N	101 13 01 W	08-20-98	1530	121OGLL	3227
404138101200801	8N 35W6BDBB	1	40 41 38 N	101 20 23 W	08-20-98	1400	121OGLL	3230
403704101185601	8N 35W32DBBA	1	40 37 04 N	101 18 56 W	06-23-98	1000	121OGLL	3202
<b>HITCHCOCK COUNTY</b>								
401030100582501	2N 32W6BAAC	1	40 10 30 N	100 58 25 W	07-07-98	1000	111ALVM	2650
400928101025101	2N 33W9ACBA	1	40 09 28 N	101 02 51 W	06-09-98	1330	111ALVM	2960
400939101013201	2N 33W10AABC	1	40 09 39 N	101 01 32 W	06-09-98	1300	111ALVM	2800
400856101122101	2N 34W7CDCB	1	40 08 56 N	101 12 21 W	06-23-98	1600	111ALVM	2786
400857101124001	2N 34W18BC	1	40 08 57 N	101 12 40 W	06-23-98	1730	111ALVM	2785
401004101134301	2N 35W2DAAA	1	40 10 08 N	101 13 52 W	07-11-98	1300	111ALVM	2855
400822101125701	2N 35W13ADDD	1	40 08 22 N	101 12 57 W	06-23-98	1830	111ALVM	2785
401525100512501	3N 31W6AC	1	40 15 41 N	100 51 42 W	06-27-98	1630	121OGLL	2670
401217100504701	3N 31W29BAAB	1	40 12 17 N	100 50 47 W	06-27-98	1400	111ALVM	2592
401457100540101	3N 32W11BA	1	40 14 57 N	100 54 01 W	06-24-98	1800	111ALVM	2615
401143100532401	3N 32W25CBDD	1	40 11 43 N	100 53 24 W	06-24-98	2030	111ALVM	2604
401456101021501	3N 33W3CCDC	1	40 14 56 N	101 02 15 W	06-25-98	2000	121OGLL	2970
401435101012101	3N 33W11BCCA	1	40 14 35 N	101 01 21 W	07-07-98	1130	121OGLL	2907
401508101073301	3N 34W2DBCC	1	40 15 08 N	101 07 33 W	06-09-98	1530	121OGLL	3110
401227101160501	3N 35W21DDBB	1	40 12 33 N	101 16 18 W	07-11-98	1400	121OGLL	3093
401617100502301	4N 31W33DBBA	1	40 16 17 N	100 50 23 W	06-25-98	2100	121OGLL	2625
401931101031001	4N 33W9CA	1	40 19 29 N	101 03 08 W	07-11-98	1600	111ALVM	2702
401734101004301	4N 33W23DCCC	1	40 17 34 N	101 00 43 W	06-26-98	1030	111ALVM	2720
401620101073901	4N 34W35ADB	1	40 16 34 N	101 07 18 W	06-23-98	1230	121OGLL	2955
401638101162201	4N 35W28DCCC	1	40 16 43 N	101 16 35 W	07-07-98	1330	121OGLL	3188
401558101160201	4N 35W34CCBB	1	40 15 58 N	101 16 02 W	06-25-98	1500	121OGLL	3189
<b>LINCOLN COUNTY</b>								
404319100225401	9N 27W27ACDD	1	40 43 18 N	100 22 50 W	07-12-98	1100	121OGLL	2865
404504100324201	9N 28W17BCDC	1	40 45 04 N	100 32 36 W	07-12-98	1000	121OGLL	2825
404204100371001	9N 29W3BBBD	1	40 42 04 N	100 37 10 W	07-12-98	1300	121OGLL	2750
404542100375101	9N 29W9DBCC	1	40 45 42 N	100 37 51 W	07-10-98	1200	121OGLL	2919
404211100431501	9N 30W34DBDC	1	40 42 13 N	100 43 22 W	06-20-98	1400	121OGLL	2930
404213100485501	9N 31W35DO	1	40 42 13 N	100 48 55 W	07-12-98	1530	121OGLL	3060
404424101005301	9N 32W19BO	1	40 44 24 N	101 00 53 W	06-21-98	1200	121OGLL	3020
404535101065301	9N 33W7DO	1	40 45 35 N	101 06 53 W	06-26-98	1130	121OGLL	3080
404326101063701	9N 33W29BBDD	1	40 43 26 N	101 06 37 W	06-21-98	1030	121OGLL	3190
404629101085101	9N 34W1CO	1	40 46 29 N	101 08 51 W	06-20-98	1430	121OGLL	3110
404348101092301	9N 34W23DO	1	40 43 51 N	101 09 24 W	06-23-98	1400	121OGLL	3185
404904100315101	10N 28W20DACD	1	40 49 09 N	100 31 47 W	07-17-98	1130	121OGLL	2890
404845100390001	10N 29W29BO	1	40 48 42 N	100 39 14 W	07-12-98	1400	121OGLL	2970
405155100431101	10N 30W3DABB	1	40 51 55 N	100 43 11 W	07-13-98	0930	121OGLL	2930
404722100461601	10N 30W32CCBA	1	40 47 22 N	100 46 16 W	06-21-98	1430	121OGLL	2900
404909101061201	10N 33W20DO	1	40 49 09 N	101 06 12 W	06-21-98	0930	121OGLL	3040
404806101095301	10N 34W26CBC	1	40 48 06 N	101 09 53 W	06-26-98	0930	121OGLL	3100
405249100451901	11N 30W32ADCD	1	40 52 50 N	100 45 27 W	06-26-98	1300	121OGLL	3080
405419100522201	11N 31W20DO	1	40 54 19 N	100 52 22 W	07-09-98	1300	121OGLL	3090
405236100500501	11N 31W34DO	1	40 52 36 N	100 50 05 W	07-10-98	0930	121OGLL	3066
405326100543901	11N 32W25DO	1	40 53 26 N	100 54 39 W	06-20-98	1200	121OGLL	3045

## CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L) AS N (00630)	NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L) AS N (00631)	HARD- NESS TOTAL (MG/L) AS CaCO <sub>3</sub> (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)
<b>HAYES COUNTY</b>											
08-11-98	536	399	7.4	16.0	7.5	3.39	--	--	--	--	--
07-08-98	346	392	7.7	17.0	6.4	2.75	--	170	45	13	15
08-21-98	190	379	7.5	15.5	9.1	3.18	--	--	--	--	--
06-23-98	418	388	7.6	17.3	7.0	2.80	--	--	--	--	--
07-29-98	415	396	7.5	15.2	8.0	2.91	--	--	--	--	--
06-23-98	280	355	7.7	14.8	8.0	3.10	--	--	--	--	--
08-20-98	296	335	7.6	14.4	8.6	3.37	--	--	--	--	--
08-21-98	595	--	--	--	--	2.84	--	--	--	--	--
08-21-98	--	--	--	--	--	5.10	--	--	--	--	--
07-29-98	617	388	7.3	16.4	7.3	2.45	--	--	--	--	--
06-23-98	490	360	7.7	17.5	--	2.50	--	--	--	--	--
08-20-98	540	--	--	--	--	1.95	--	--	--	--	--
08-20-98	480	342	7.6	16.0	8.3	2.15	--	--	--	--	--
06-23-98	330	347	7.7	15.4	8.0	2.70	--	--	--	--	--
<b>HITCHCOCK COUNTY</b>											
07-07-98	44	925	7.5	14.4	--	8.23	--	320	86	26	55
06-09-98	46	767	7.3	15.9	5.1	2.81	--	--	--	--	--
06-09-98	44	768	7.6	15.3	--	4.55	--	--	--	--	--
06-23-98	46	1660	7.3	13.0	.3	26.9	--	560	140	51	140
06-23-98	49	957	7.8	13.5	--	.080	--	--	--	--	--
07-11-98	40	514	7.5	13.3	--	8.38	--	--	--	--	--
06-23-98	47	729	7.7	13.1	.3	.630	--	--	--	--	--
06-27-98	144	746	7.5	18.2	4.7	7.80	--	--	--	--	--
06-27-98	60	1040	7.4	13.5	4.7	14.6	--	310	73	30	93
06-24-98	52	1030	7.2	14.4	--	10.8	--	--	--	--	--
06-24-98	54	871	7.5	15.0	--	7.90	--	--	--	--	--
06-25-98	338	361	7.7	18.1	--	1.81	--	--	--	--	--
07-07-98	285	404	7.9	18.5	--	1.70	--	--	--	--	--
06-09-98	286	405	7.4	17.0	7.5	2.14	--	160	40	13	17
07-11-98	285	482	7.5	15.1	--	9.31	--	--	--	--	--
06-25-98	130	611	7.5	15.0	--	8.28	--	--	--	--	--
07-11-98	80	684	7.4	16.3	--	8.05	--	--	--	--	--
06-26-98	--	1110	7.4	14.5	--	25.2	--	--	--	--	--
06-23-98	270	404	7.6	16.5	--	2.10	--	--	--	--	--
07-07-98	412	404	7.6	17.3	6.4	2.62	--	--	--	--	--
06-25-98	415	352	7.6	17.0	7.0	2.05	--	--	--	--	--
<b>LINCOLN COUNTY</b>											
07-12-98	598	407	7.4	15.7	--	3.30	--	--	--	--	--
07-12-98	417	361	7.7	17.0	--	3.19	--	--	--	--	--
07-12-98	370	334	7.5	16.2	--	3.71	--	150	45	10	8.6
07-10-98	396	355	7.6	17.6	6.9	3.31	--	--	--	--	--
06-20-98	320	387	7.5	15.8	7.2	5.07	--	--	--	--	--
07-12-98	589	340	7.5	15.2	12.7	2.90	--	--	--	--	--
06-21-98	356	347	7.7	15.0	--	2.33	--	150	46	8.5	12
06-26-98	456	372	7.6	15.4	8.8	2.30	--	--	--	--	--
06-21-98	440	359	7.7	16.0	7.8	2.11	--	--	--	--	--
06-20-98	437	378	7.6	16.2	8.6	2.26	--	--	--	--	--
06-23-98	460	378	7.6	16.9	8.0	2.90	--	180	47	14	6.3
07-17-98	260	450	7.3	14.6	--	9.68	--	210	61	13	7.2
07-12-98	572	326	7.5	16.6	--	2.69	--	--	--	--	--
07-13-98	360	330	7.5	16.4	11.1	2.84	--	--	--	--	--
06-21-98	344	336	7.7	17.5	--	3.10	--	--	--	--	--
06-21-98	215	537	7.5	13.8	6.7	16.1	--	--	--	--	--
06-26-98	304	452	7.6	15.8	8.1	3.25	--	200	55	16	9.6
06-26-98	606	324	7.8	16.5	--	2.56	--	--	--	--	--
07-09-98	490	303	7.6	15.0	--	2.91	--	--	--	--	--
07-10-98	505	314	7.6	16.0	--	2.62	--	130	41	7.2	7.8
06-20-98	421	324	7.7	15.2	8.8	2.51	--	140	42	8.4	7.5



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	SODIUM AD- SORP- TION RATIO (00931)	POTASSIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB AS CaCO <sub>3</sub> (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	BORON, DIS- SOLVED (μ G/L AS B) (01020)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
<b>HAYES COUNTY</b>											
08-11-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	.5	12	177	6.8	16	4.7	.77	<.10	--	<10	<4.0
08-21-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
07-29-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
08-20-98	--	--	--	--	--	--	--	--	--	--	--
08-21-98	--	--	--	--	--	--	--	--	--	--	--
08-21-98	--	--	--	--	--	--	--	--	--	--	--
07-29-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
08-20-98	--	--	--	--	--	--	--	--	--	--	--
08-20-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
<b>HITCHCOCK COUNTY</b>											
07-07-98	1	23	293	18	130	22	.83	56	--	<10	<4.0
06-09-98	--	--	--	--	--	--	--	--	--	--	--
06-09-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	3	28	458	44	270	61	1.2	45	--	<10	26
06-23-98	--	--	--	--	--	--	--	--	--	--	--
07-11-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
06-27-98	--	--	--	--	--	--	--	--	--	--	--
06-27-98	2	17	320	25	130	28	1.2	56	--	<10	<4.0
06-24-98	--	--	--	--	--	--	--	--	--	--	--
06-24-98	--	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
06-09-98	.6	11	181	14	19	3.0	1.2	70	--	<10	<4.0
07-11-98	--	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--	--
07-11-98	--	--	--	--	--	--	--	--	--	--	--
06-26-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
06-25-98	--	--	--	--	--	--	--	--	--	--	--
<b>LINCOLN COUNTY</b>											
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-12-98	.3	9.7	165	10	8.3	1.8	.44	<.10	--	<10	<4.0
07-10-98	--	--	--	--	--	--	--	--	--	--	--
06-20-98	--	--	--	--	--	--	--	--	--	--	--
07-12-98	--	--	--	--	--	--	--	--	--	--	--
06-21-98	.4	8.6	165	6.4	11	3.5	.52	62	--	<10	<4.0
06-26-98	--	--	--	--	--	--	--	--	--	--	--
06-21-98	--	--	--	--	--	--	--	--	--	--	--
06-20-98	--	--	--	--	--	--	--	--	--	--	--
06-23-98	.2	11	180	8.7	10	5.1	.47	62	--	<10	<4.0
07-17-98	.2	10	153	15	10	5.1	.43	64	--	<10	<4.0
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
06-21-98	--	--	--	--	--	--	--	--	--	--	--
06-21-98	--	--	--	--	--	--	--	--	--	--	--
06-26-98	.3	13	196	9.5	18	7.3	.58	62	--	<10	<4.0
06-26-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-10-98	.3	9.0	150	7.3	5.5	1.2	.49	65	--	<10	<4.0
06-20-98	.3	8.7	153	5.9	6.0	1.2	.45	61	--	<10	<4.0

# CHEMICAL ANALYSES OF GROUND WATER

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998 Republican River Basin Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)
<b>PERKINS COUNTY</b>							
404553101162001	9N 35W11ACAC 1	40 45 53 N	101 16 20 W	07-15-98	1600	121OGLL	3190
404600101225801	9N 36W11AO 1	40 46 00 N	101 22 58 W	08-19-98	1400	121OGLL	3255
404508101233401	9N 36W14BO 1	40 45 08 N	101 23 34 W	07-16-98	1630	121OGLL	3230
404654101293901	9N 37W1BBDC 1	40 46 49 N	101 29 23 W	07-29-98	1300	121OGLL	3256
404422101415901	9N 38W19BO 1	40 44 22 N	101 41 59 W	07-14-98	0900	121OGLL	3370
404400101405401	9N 38W20CBDB 1	40 44 00 N	101 40 54 W	07-14-98	0830	121OGLL	3375
404655101450501	9N 39W3BDAA 1	40 46 55 N	101 45 05 W	07-16-98	0930	121OGLL	3430
404330101430801	9N 39W25BO 1	40 43 30 N	101 43 08 W	07-30-98	1830	121OGLL	3385
404419101493801	9N 40W24ADBA 1	40 44 20 N	101 49 29 W	07-21-98	1300	121OGLL	3435
404254101495901	9N 40W25CDCB 1	40 42 54 N	101 49 59 W	07-21-98	1230	121OGLL	3455
405207101154401	10N 35W1BO 1	40 52 07 N	101 15 44 W	07-13-98	1830	121OGLL	3190
404903101175701	10N 35W22CACC 1	40 49 03 N	101 17 57 W	07-15-98	1500	121OGLL	3300
404833101250901	10N 36W28AO 1	40 48 33 N	101 25 09 W	07-08-98	1430	121OGLL	3320
404811101343501	10N 37W30DCAC 1	40 48 11 N	101 34 35 W	08-09-98	1130	121OGLL	3330
404747101310101	10N 37W34AO 1	40 47 47 N	101 31 01 W	08-10-98	1100	121OGLL	3340
404722101364701	10N 38W35DO 1	40 47 22 N	101 36 47 W	08-18-98	0800	121OGLL	3365
404905101441801	10N 39W23CO 1	40 49 05 N	101 44 18 W	07-20-98	1430	121OGLL	3420
404839101441701	10N 39W26BO 1	40 48 39 N	101 44 17 W	08-18-98	1630	121OGLL	3435
404929101552501	10N 40W19ACAA 1	40 49 29 N	101 55 25 W	08-11-98	1330	121OGLL	3530
405001101580901	10N 41W14CACC 1	40 50 01 N	101 58 09 W	08-09-98	1100	121OGLL	3505
404906102000001	10N 41W21DO 1	40 49 06 N	101 59 53 W	08-09-98	1030	121OGLL	3566
405258101191701	11N 35W33BDBC 1	40 52 55 N	101 19 07 W	07-13-98	1700	121OGLL	3320
405536101245801	11N 36W15BO 1	40 55 36 N	101 24 58 W	07-09-98	1500	121OGLL	3300
405509101271101	11N 36W17CO 1	40 55 09 N	101 27 11 W	07-09-98	1600	121OGLL	3360
405417101333301	11N 37W20DO 1	40 54 17 N	101 33 33 W	08-18-98	1430	121OGLL	3340
405417101395401	11N 38W21CACC 1	40 54 17 N	101 39 54 W	08-08-98	1100	121OGLL	3400
405359101412801	11N 38W30ADCB 1	40 53 49 N	101 41 37 W	08-08-98	1200	121OGLL	3390
405522101473901	11N 39W17DBAD 1	40 55 22 N	101 47 39 W	07-22-98	0900	121OGLL	3455
405633101525001	11N 40W9AO 1	40 56 33 N	101 52 50 W	08-03-98	1200	121OGLL	3510
405510101540501	11N 40W17DDAB 1	40 55 10 N	101 54 05 W	08-08-98	0930	121OGLL	3150
405300101584601	11N 41W34AO 1	40 53 00 N	101 58 46 W	08-19-98	0900	121OGLL	3561
405814101231801	12N 36W35AO 1	40 58 14 N	101 23 18 W	07-29-98	0830	121OGLL	3270
410013101493601	12N 40W24ACAD 1	40 59 53 N	101 49 41 W	08-03-98	1230	121OGLL	3445
<b>RED WILLOW COUNTY</b>							
400250100181701	1N 27W13DDAA 1	40 02 50 N	100 18 17 W	07-17-98	0830	111ALVM	2415
400306100193901	1N 27W14ADCC 1	40 03 06 N	100 19 39 W	06-23-98	0930	111ALVM	2435
400344100352001	1N 29W10CCAC 1	40 03 44 N	100 35 20 W	06-23-98	1130	121OGLL	2735
400913100130501	2N 26W11DBAA 1	40 09 13 N	100 13 05 W	07-16-98	0900	121OGLL	2555
400850100270001	2N 28W11DCCC 1	40 08 54 N	100 26 58 W	07-11-98	1730	121OGLL	2510
400839100262501	2N 28W14AADD 1	40 08 39 N	100 26 25 W	07-11-98	1800	121OGLL	2628
401216100222601	3N 27W28ABBB 1	40 12 16 N	100 22 26 W	07-13-98	1230	121OGLL	2495
401435100343601	3N 29W10ACDD 1	40 14 35 N	100 34 36 W	07-10-98	1000	121OGLL	2625
401850100173201	4N 26W18DAAA 1	40 18 46 N	100 17 30 W	06-22-98	1200	121OGLL	2489
402013100212001	4N 27W3DCDC 1	40 20 13 N	100 21 20 W	07-10-98	0800	121OGLL	2465
401706100252201	4N 28W25DAAB 1	40 17 06 N	100 25 22 W	06-22-98	1100	121OGLL	2520
401721100414801	4N 30W27ACCB 1	40 17 21 N	100 41 48 W	08-11-98	1130	121OGLL	2765

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Republican River Basin Ground-Water Quality--Continued

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L) AS N (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L) AS N (00631)	HARD- NESS TOTAL (MG/L) AS CaCO <sub>3</sub> (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)
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## PERKINS COUNTY

07-15-98	420.00	375	7.8	15.0	9.2	2.81	--	--	--	--	--
08-19-98	456.00	379	7.5	14.8	--	2.88	--	150	42	12	9.0
07-16-98	470.00	355	7.8	15.0	8.9	2.07	--	--	--	--	--
07-29-98	--	306	7.7	13.6	--	7.63	--	--	--	--	--
07-14-98	338.00	427	7.8	14.0	8.6	9.16	--	--	--	--	--
07-14-98	256	370	7.9	14.4	7.8	4.45	--	--	--	--	--
07-16-98	312	362	8.1	15.6	--	4.42	--	150	42	10	9.6
07-30-98	190	378	7.8	13.9	9.4	6.16	--	--	--	--	--
07-21-98	330	315	7.7	15.1	9.0	3.27	--	--	--	--	--
07-21-98	340	353	7.7	15.1	10.4	2.73	--	--	--	--	--
07-13-98	390	421	8.0	16.4	--	3.23	--	--	--	--	--
07-15-98	589	377	8.1	21.7	--	2.04	--	--	--	--	--
07-08-98	535	373	7.7	18.3	8.2	2.30	--	140	36	12	15
08-09-98	425	376	7.4	16.0	--	2.09	--	--	--	--	--
08-10-98	427	368	7.7	14.4	9.2	2.69	--	--	--	--	--
08-18-98	460	158	7.6	15.2	8.3	2.06	--	--	--	--	--
07-20-98	420	350	7.7	16.7	7.8	2.28	--	130	36	9.8	16
08-18-98	420	--	7.6	14.5	8.5	3.75	--	--	--	--	--
08-11-98	350	386	7.6	14.1	8.5	3.55	--	--	--	--	--
08-09-98	360	331	8.0	15.5	--	1.85	--	--	--	--	--
08-09-98	345	316	8.0	16.0	--	1.88	--	--	--	--	--
07-13-98	460	372	8.1	17.3	8.2	1.89	--	130	36	11	18
07-09-98	457	376	7.6	15.9	8.3	2.26	--	--	--	--	--
07-09-98	468	377	7.6	16.3	8.3	2.34	--	--	--	--	--
08-18-98	453	--	--	--	--	2.03	--	--	--	--	--
08-08-98	502	396	7.5	15.0	--	2.04	--	150	40	13	11
08-08-98	455	362	7.4	16.5	--	2.38	--	--	--	--	--
07-22-98	435	509	7.6	15.1	8.2	3.92	--	--	--	--	--
08-03-98	415	498	7.6	13.8	9.7	5.22	--	--	--	--	--
08-08-98	435	376	7.6	14.6	--	2.98	--	--	--	--	--
08-19-98	408	365	7.6	14.4	9.8	3.92	--	160	45	11	12
07-29-98	390	381	7.3	15.5	8.8	1.87	--	--	--	--	--
08-03-98	390	307	7.8	15.1	10.6	2.11	--	--	--	--	--

## RED WILLOW COUNTY

07-17-98	54	740	7.2	13.5	--	5.05	--	--	--	--	--
06-23-98	52	963	7.2	13.7	--	8.90	--	--	--	--	--
06-23-98	200	432	7.7	18.7	--	1.80	--	140	32	15	36
07-16-98	280	422	7.3	14.4	10.9	1.82	--	--	--	--	--
07-11-98	148	778	7.3	14.6	--	2.08	--	280	72	26	39
07-11-98	298	471	7.3	15.5	--	5.67	--	--	--	--	--
07-13-98	220	479	7.3	14.7	8.4	3.18	--	--	--	--	--
07-10-98	202	559	7.6	15.7	--	9.02	--	240	61	21	18
06-22-98	180	491	7.2	15.3	--	6.11	--	--	--	--	--
07-10-98	146	449	7.2	14.0	--	2.33	--	--	--	--	--
06-22-98	187	655	7.3	15.5	--	7.32	--	--	--	--	--
08-11-98	307	472	7.5	15.3	8.0	2.73	--	--	--	--	--

## 501

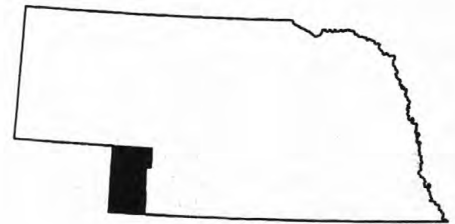
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> )	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> )	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> )	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> )	BORON, DIS- SOLVED (µ G/L AS B)	IRON, DIS- SOLVED (µ G/L AS FE)	MANGA- NESE, DIS- SOLVED (µ G/L ASMN)
	(00931)	(00935)	(90410)	(00405)	(00945)	(00940)	(00950)	(00955)	(01020)	(01046)	(01056)

[illegible][illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

**UPPER REPUBLICAN NATURAL RESOURCES DISTRICT  
GROUND-WATER QUALITY**

COUNTIES: Chase, Dundy, Perkins



The following data was collected during water year 1998.

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>CHASE COUNTY</b>								
402112101510001	5N 40W34CO 1	40 21 12 N	101 51 00 W	07-28-98	1000	121OGLL	3475	355
402158101451301	5N 39W28CABD 1	40 21 58 N	101 45 13 W	07-08-98	1200	121OGLL	3360	300
402205101393901	5N 38W29CO 1	40 22 05 N	101 39 39 W	07-09-98	1000	121OGLL	3288	320
402227101441301	5N 39W27BDAA 1	40 22 27 N	101 44 13 W	08-11-98	1400	121OGLL	3330	310
402236101343101	5N 38W25ADBA 1	40 22 30 N	101 34 31 W	07-09-98	1200	121OGLL	3397	474
402254101432001	5N 39W23CBCC 1	40 22 54 N	101 43 20 W	07-10-98	1000	121OGLL	3339	254
402254102022301	5N 42W24CADD 1	40 22 54 N	102 02 23 W	08-11-98	1200	121OGLL	3580	350
402255101350701	5N 38W24CCBB 1	40 22 55 N	101 35 07 W	07-08-98	1000	121OGLL	3400	465
402322101563901	5N 41W23BO 1	40 23 22 N	101 56 39 W	07-29-98	1630	121OGLL	3500	340
402322101565801	5N 41W22AADD 1	40 23 22 N	101 56 58 W	07-29-98	1700	121OGLL	3500	340
402323101394001	5N 38W20BDBB 1	40 23 23 N	101 39 40 W	07-09-98	1100	121OGLL	3300	325
402347101531701	5N 40W17CO 1	40 23 47 N	101 53 17 W	07-29-98	1200	121OGLL	3450	380
402419101495401	5N 40W14BO 1	40 24 12 N	101 49 52 W	07-29-98	1600	121OGLL	3410	325
402438101495301	5N 40W11CO 1	40 24 38 N	101 49 53 W	07-29-98	1530	121OGLL	3410	340
402442101430401	5N 39W11CACC 1	40 24 42 N	101 43 04 W	08-11-98	1440	121OGLL	3340	322
402507101404601	5N 38W7BDBB 1	40 25 07 N	101 40 46 W	07-10-98	0800	121OGLL	3332	325
402509101272001	5N 36W7BCBB 1	40 25 09 N	101 27 20 W	07-09-98	1400	121OGLL	3022	99
402532101560701	5N 41W2DO 1	40 25 32 N	101 56 07 W	08-09-98	1030	121OGLL	3502	330
402628101471201	6N 39W31BDBB 1	40 26 28 N	101 47 12 W	08-10-98	1630	121OGLL	3380	330
402649101575101	6N 41W34BO 1	40 26 49 N	101 57 51 W	07-16-98	1700	121OGLL	3500	348
402650101535301	6N 40W31AO 1	40 26 50 N	101 53 53 W	07-30-98	1000	121OGLL	3425	380
402650101564101	6N 41W35BO 1	40 26 50 N	101 56 41 W	07-29-98	1730	121OGLL	3470	305
402655101581401	6N 41W33AO 1	40 26 49 N	101 58 24 W	07-16-98	1630	121OGLL	3515	349
402715101510201	6N 40W27CO 1	40 27 15 N	101 51 02 W	07-10-98	1700	121OGLL	3425	345
402808101585801	6N 41W21CO 1	40 28 08 N	101 58 58 W	07-29-98	1500	121OGLL	3500	340
402835101343401	6N 38W24AO 1	40 28 35 N	101 34 34 W	07-21-98	1030	121OGLL	3208	305
402836101314301	6N 37W21ACAA 1	40 28 36 N	101 31 43 W	07-21-98	0930	121OGLL	3212	340
402851101290701	6N 37W23BABA 1	40 28 50 N	101 29 15 W	07-20-98	1230	121OGLL	3326	471
402901101585801	6N 41W16CDBB 1	40 29 01 N	101 58 58 W	07-21-98	1700	121OGLL	3515	352
402930101300101	6N 37W15ABDD 1	40 29 30 N	101 30 01 W	07-23-98	0930	121OGLL	3326	480
402939101541601	6N 40W 7CDDC1	40 29 39 N	101 54 16 W	08-17-98	1330	121OGLL	3400	345
402951101593501	6N 41W 8DCAA1	40 29 51 N	101 59 35 W	07-21-98	1600	121OGLL	3520	355
402952101470601	6N 39W7DO 1	40 29 52 N	101 47 06 W	07-22-98	1600	121OGLL	3330	350
402955101274101	6N 37W12DO 1	40 29 55 N	101 27 41 W	08-17-98	1600	121OGLL	3290	475
402959101363401	6N 38W11CBCB 1	40 29 59 N	101 36 34 W	07-20-98	1000	121OGLL	3270	340
403017101495701	6N 40W11BO 1	40 30 17 N	101 49 57 W	07-16-98	1500	121OGLL	3402	311
403018101435601	6N 39W10ABCC 1	40 30 18 N	101 43 56 W	07-15-98	0900	121OGLL	3349	328
403021101332401	6N 37W 7ADCC1	40 30 21 N	101 33 24 W	08-05-98	1700	121OGLL	3235	340
403102101334101	6N 37W 6ACCC1	40 31 02 N	101 33 41 W	08-10-98	0900	121OGLL	3335	340
403109101521301	6N 40W04BO 1	40 31 09 N	101 52 13 W	07-14-98	1530	121OGLL	3435	357



# CHEMICAL ANALYSES OF GROUND WATER

503

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)
CHASE COUNTY											
07-28-98	342	7.6	15.5	7.4	2.22	--	140	36	12	14	.5
07-08-98	--	7.6	--	--	5.40	--	--	--	--	--	--
07-09-98	361	7.6	16.1	7.2	1.42	--	--	--	--	--	--
08-11-98	295	7.6	14.8	6.8	1.76	--	140	37	12	12	.4
07-09-98	352	7.6	15.8	6.8	2.20	--	--	--	--	--	--
07-10-98	345	7.7	14.2	--	1.72	--	--	--	--	--	--
08-11-98	317	7.7	15.0	--	1.75	--	140	34	13	11	.4
07-08-98	323	7.6	17.0	7.2	1.72	--	--	--	--	--	--
07-29-98	354	7.9	--	--	2.36	--	--	--	--	--	--
07-29-98	363	7.6	14.6	6.3	3.89	--	--	--	--	--	--
07-09-98	390	7.6	14.3	7.1	3.69	--	--	--	--	--	--
07-29-98	366	7.6	14.4	6.3	2.60	--	160	41	13	12	.4
07-29-98	349	7.8	--	--	2.36	--	--	--	--	--	--
07-29-98	342	7.6	15.3	7.0	2.37	--	--	--	--	--	--
08-11-98	332	7.6	15.1	6.3	1.99	--	--	--	--	--	--
07-10-98	361	7.7	15.5	7.8	2.25	--	--	--	--	--	--
07-09-98	354	7.7	15.2	--	2.43	--	--	--	--	--	--
08-09-98	307	7.6	15.2	8.0	2.07	--	150	36	14	13	.5
08-10-98	375	7.7	15.2	--	2.65	--	--	--	--	--	--
07-16-98	329	8.0	--	--	2.08	--	--	--	--	--	--
07-30-98	335	7.6	15.5	--	1.99	--	98	24	9.5	8.4	.4
07-29-98	336	8.0	--	--	2.03	--	--	--	--	--	--
07-16-98	315	8.0	--	--	1.90	--	--	--	--	--	--
07-10-98	344	7.7	15.3	--	--	2.04	150	37	13	10	.4
07-29-98	299	7.8	15.4	8.3	1.48	--	130	33	11	7.6	.3
07-21-98	239	7.6	15.1	9.3	1.87	--	--	--	--	--	--
07-21-98	307	7.8	17.0	9.0	2.17	--	--	--	--	--	--
07-20-98	265	7.3	17.5	9.5	2.85	--	--	--	--	--	--
07-21-98	199	7.7	15.3	8.9	1.61	--	--	--	--	--	--
07-23-98	258	7.9	16.2	9.1	2.01	--	--	--	--	--	--
08-17-98	332	7.3	15.6	8.8	2.07	--	130	36	11	10	.4
07-21-98	208	7.7	14.8	8.9	3.02	--	130	36	10	8.6	.3
07-22-98	349	7.7	14.6	8.3	2.43	--	--	--	--	--	--
08-17-98	377	7.3	16.4	9.0	2.20	--	--	--	--	--	--
07-20-98	250	7.6	15.0	9.3	2.51	--	--	--	--	--	--
07-16-98	298	7.7	17.1	7.7	1.96	--	130	37	10	12	.4
07-15-98	307	7.9	--	--	2.00	--	140	39	9.6	13	.5
08-05-98	339	7.6	14.9	10.1	2.12	--	--	--	--	--	--
08-10-98	327	7.5	14.7	--	1.86	--	130	36	9.6	13	.5
07-14-98	268	7.8	--	--	2.43	--	--	--	--	--	--



## Upper Republican Natural Resources District Ground-Water Quality--Continued

[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

505

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
CHASE COUNTY									
403111101365101	6N 38W3AO	1	40 31 11 N	101 36 51 W	07-07-98	0900	121OGLL	3270	323
403111101412201	6N 39W1AO	1	40 31 11 N	101 41 22 W	08-08-98	0800	121OGLL	3315	340
403111101473901	6N 39W6BO	1	40 31 11 N	101 47 39 W	07-17-98	0830	121OGLL	3375	370
403112101590001	6N 41W4BDD	1	40 31 12 N	101 59 00 W	08-11-98	1000	121OGLL	3490	303
403122101510701	7N 40W34CCDD	1	40 31 22 N	101 51 07 W	08-10-98	1540	121OGLL	3420	330
403137101560901	7N 41W35DO	1	40 31 37 N	101 56 09 W	07-17-98	1100	121OGLL	3472	312
403138101343401	7N 38W36DO	1	40 31 38 N	101 34 34 W	07-13-98	1030	121OGLL	3250	360
403141101444401	7N 39W33DABD	1	40 31 41 N	101 44 44 W	07-22-98	1500	121OGLL	3346	360
403202101294101	7N 37W35BCBB	1	40 32 02 N	101 29 41 W	07-07-98	1300	121OGLL	3115	237
403203101550001	7N 41W36AO	1	40 32 03 N	101 55 00 W	08-17-98	1200	121OGLL	3460	325
403205102010001	7N 41W31ABCC	1	40 32 05 N	102 01 00 W	08-11-98	1030	121OGLL	3530	320
403228101455501	7N 39W29DDBB	1	40 32 28 N	101 45 55 W	07-16-98	0900	121OGLL	3320	310
403229101473801	7N 39W30CACC	1	40 32 29 N	101 47 38 W	07-14-98	1615	121OGLL	3380	340
403230101392001	7N 38W29DBDD	1	40 32 30 N	101 39 09 W	07-06-98	1600	121OGLL	3287	270
403253101585901	7N 41W28BO	1	40 32 53 N	101 58 59 W	07-15-98	1700	121OGLL	3515	310
403321101484401	7N 40W24CACC	1	40 33 21 N	101 48 44 W	07-14-98	1315	121OGLL	3410	310
403323101415201	7N 39W24CADC	1	40 33 23 N	101 41 52 W	07-14-98	1735	121OGLL	3300	260
403324101245301	7N 36W21BO	1	40 33 24 N	101 24 53 W	08-11-98	1730	121OGLL	3170	280
403324102001401	7N 41W20CBDD	1	40 33 24 N	102 00 14 W	07-15-98	1630	121OGLL	3532	312
403325101471001	7N 39W19DBDB	1	40 33 25 N	101 47 10 W	07-22-98	1000	121OGLL	3352	265
403341101423101	7N 39W23ACAD	1	40 33 41 N	101 42 31 W	07-09-98	1900	121OGLL	3309	287
403347101394401	7N 38W20BO	1	40 33 47 N	101 39 44 W	08-10-98	1300	121OGLL	3305	300
403400101455101	7N 39W20AABC	1	40 34 00 N	101 45 51 W	07-08-98	1700	121OGLL	3357	299
403425101572401	7N 41W15DBBA	1	40 34 25 N	101 57 24 W	07-21-98	1400	121OGLL	3510	293
403438101551901	7N 41W13ACBB	1	40 34 38 N	101 55 19 W	08-19-98	1200	121OGLL	3420	280
403439101481601	7N 40W13AACA	1	40 34 39 N	101 48 16 W	07-16-98	1000	121OGLL	3385	275
403439102013901	7N 41W18BCCC	1	40 34 39 N	102 01 39 W	07-15-98	1600	121OGLL	3560	295
403441101372801	7N 38W15BACD	1	40 34 41 N	101 37 28 W	08-10-98	1030	121OGLL	3265	280
403451101291401	7N 41W14BAAC	1	40 34 51 N	101 29 14 W	08-11-98	1600	121OGLL	3210	210
403504101495801	7N 40W11CCAA	1	40 35 04 N	101 49 58 W	08-10-98	1500	121OGLL	3415	300
403505101441501	7N 39W10CO	1	40 35 05 N	101 44 15 W	08-10-98	1430	121OGLL	3320	295
403505101470601	7N 39W07DO	1	40 35 05 N	101 47 06 W	08-10-98	1430	121OGLL	3385	275
403531101415701	7N 39W12BO	1	40 35 31 N	101 41 57 W	07-13-98	1430	121OGLL	3300	273
403531101423301	7N 39W11ADBB	1	40 35 31 N	101 42 33 W	08-10-98	1400	121OGLL	3300	300
403546101350901	7N 38W 1CCDD1	1	40 35 46 N	101 35 09 W	07-20-98	1000	121OGLL	3300	234
403557101423101	7N 39W 2DDBB1	1	40 35 57 N	101 42 31 W	07-22-98	0900	121OGLL	3299	250
403557101452301	7N 39W 4CO	1	40 35 57 N	101 45 23 W	07-13-98	1545	121OGLL	3360	290
403600101481501	7N 40W 1DACC1	1	40 36 00 N	101 48 15 W	07-08-98	1800	121OGLL	3403	350
403606101523201	7N 40W 4CBCB1	1	40 36 06 N	101 52 32 W	07-22-98	1200	121OGLL	3440	273
403611101401901	7N 38W 6DBAA1	1	40 36 11 N	101 40 19 W	07-06-98	1900	121OGLL	3300	245
403614101383801	7N 38W 4BCDD1	1	40 36 14 N	101 38 38 W	07-09-98	0800	121OGLL	3248	165
403619101543601	7N 40W 6BCCB1	1	40 36 19 N	101 54 36 W	07-16-98	1230	121OGLL	3465	245
403623102000301	7N 41W 5BDCA1	1	40 36 23 N	102 00 03 W	07-15-98	1400	121OGLL	3530	240
403624101575101	7N 41W 3BDD1	1	40 36 24 N	101 57 51 W	07-21-98	1500	121OGLL	3508	240
403637101485101	8N 40W36CCDD	1	40 36 37 N	101 48 51 W	08-09-98	0900	121OGLL	3415	254
403638101561401	7N 41W02ABBA	1	40 36 38 N	101 56 14 W	07-15-98	1200	121OGLL	3490	273
403649101500001	8N 40W35CO	1	40 36 49 N	101 50 00 W	07-14-98	0930	121OGLL	3425	265
403651101535901	8N 40W31DCAA	1	40 36 51 N	101 53 59 W	07-14-98	1115	121OGLL	3465	240
403715101510901	8N 40W34BO	1	40 37 15 N	101 51 09 W	07-14-98	1000	121OGLL	3440	264
403718102004401	8N 41W31AO	1	40 37 18 N	102 00 44 W	07-15-98	1430	121OGLL	3550	247
403721102014601	8N 42W36ABDC	1	40 37 18 N	102 02 05 W	07-15-98	1530	121OGLL	3570	225
403744101514401	8N 40W28DBDD	1	40 37 44 N	101 51 44 W	07-16-98	1100	121OGLL	3445	270
403942101574001	8N 41W15CAAA	1	40 39 42 N	101 57 40 W	07-15-98	1330	121OGLL	3525	170
403955101302101	8N 37W15BDBB	1	40 39 55 N	101 30 21 W	07-07-98	1800	121OGLL	3243	330
404019101224201	8N 36W11CO	1	40 40 19 N	101 22 42 W	07-20-98	1330	121OGLL	3235	414
404047101561701	8N 41W11ACAB	1	40 40 47 N	101 56 17 W	07-15-98	1300	121OGLL	3510	310
404140101221001	8N 36W 2ACAB	1	40 41 40 N	101 22 10 W	07-20-98	1500	121OGLL	3275	500

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)
CHASE COUNTY											
07-07-98	341	7.7	18.6	--	2.01	1.95	130	34	9.7	16	.6
08-08-98	316	7.7	15.1	9.7	1.89	--	130	35	9.1	13	.5
07-17-98	318	7.5	14.6	8.4	2.07	--	130	38	9.5	13	.5
08-11-98	306	7.8	15.4	8.2	2.15	--	--	--	--	--	--
08-10-98	352	7.8	13.8	--	3.11	--	--	--	--	--	--
07-17-98	294	7.7	14.5	8.0	1.71	--	--	--	--	--	--
07-13-98	279	7.7	17.0	8.6	1.96	--	--	--	--	--	--
07-22-98	238	6.3	14.2	9.3	2.21	--	--	--	--	--	--
07-07-98	373	7.5	14.8	7.0	2.80	--	150	40	12	19	.7
08-17-98	330	7.4	14.5	9.0	1.82	1.91	130	37	9.0	11	.4
08-11-98	300	7.7	13.8	8.9	2.31	--	130	38	9.3	9.6	.4
07-16-98	320	7.7	14.2	8.8	2.27	--	130	38	9.3	13	.5
07-14-98	267	8.5	--	--	2.59	--	--	--	--	--	--
07-06-98	310	7.3	14.5	6.8	2.63	--	--	--	--	--	--
07-15-98	312	8.1	--	--	3.60	--	--	--	--	--	--
07-14-98	298	7.7	14.5	9.1	2.64	--	--	--	--	--	--
07-14-98	274	7.7	14.7	9.3	--	2.98	--	--	--	--	--
08-11-98	318	7.6	14.1	8.0	2.39	--	--	--	--	--	--
07-15-98	266	7.7	14.8	8.5	1.89	--	130	38	8.8	12	.5
07-22-98	231	7.8	14.8	--	2.10	--	--	--	--	--	--
07-09-98	321	7.7	14.1	8.3	3.22	--	--	--	--	--	--
08-10-98	344	7.7	14.3	8.9	4.19	--	140	40	9.4	12	.5
07-08-98	313	7.8	15.5	--	2.43	--	--	--	--	--	--
07-21-98	242	7.7	15.5	--	2.40	--	130	39	8.6	14	.5
08-19-98	366	7.6	14.6	--	3.26	--	140	40	9.0	15	.5
07-16-98	318	7.8	14.4	8.3	2.54	--	--	--	--	--	--
07-15-98	--	--	--	--	2.55	--	--	--	--	--	--
08-10-98	323	7.6	14.0	--	1.77	--	130	37	9.0	12	.4
08-11-98	253	7.7	14.7	11.0	2.22	--	--	--	--	--	--
08-10-98	383	7.7	13.2	8.6	5.15	--	--	--	--	--	--
08-10-98	339	7.7	13.4	9.2	5.21	--	--	--	--	--	--
08-10-98	330	7.7	13.7	8.5	4.16	--	--	--	--	--	--
07-13-98	304	7.7	14.6	8.9	2.56	--	--	--	--	--	--
08-10-98	311	8.1	15.8	--	2.06	--	--	--	--	--	--
07-20-98	403	7.6	14.2	10.9	4.78	--	170	49	11	8.6	.3
07-22-98	256	7.7	14.9	9.4	6.02	--	--	--	--	--	--
07-13-98	314	7.8	14.1	9.7	2.83	--	--	--	--	--	--
07-08-98	308	7.8	11.7	8.8	2.94	--	--	--	--	--	--
07-22-98	240	7.7	14.3	9.2	3.97	--	--	--	--	--	--
07-06-98	369	9.7	16.1	5.6	2.29	--	--	--	--	--	--
07-09-98	311	7.7	14.1	9.6	1.55	--	--	--	--	--	--
07-16-98	295	7.8	14.1	8.7	2.68	--	--	--	--	--	--
07-15-98	264	8.0	--	--	2.03	--	--	--	--	--	--
07-21-98	283	7.9	14.5	9.8	2.59	--	--	--	--	--	--
08-09-98	343	7.8	14.8	--	3.28	--	130	38	8.4	14	.5
07-15-98	308	7.9	--	--	3.19	--	--	--	--	--	--
07-14-98	276	7.8	14.3	8.8	2.40	--	--	--	--	--	--
07-14-98	294	7.9	14.0	8.6	2.43	--	130	38	7.8	14	.6
07-14-98	263	7.8	14.2	8.7	2.02	--	120	34	7.4	14	.6
07-15-98	273	7.8	13.9	9.4	2.61	--	--	--	--	--	--
07-15-98	269	7.8	13.7	9.2	2.49	--	120	36	6.9	13	.5
07-16-98	293	7.9	14.6	8.5	1.95	--	--	--	--	--	--
07-15-98	281	8.1	--	--	1.96	--	--	--	--	--	--
07-07-98	347	7.7	18.0	--	2.31	--	140	39	10	9.7	.4
07-20-98	361	7.5	15.8	9.4	2.62	--	140	40	11	9.3	.3
07-15-98	288	8.1	--	--	1.82	--	--	--	--	--	--
07-20-98	355	7.6	16.9	9.0	2.17	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

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## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>DUNDY COUNTY</b>								
400131101585501	1N 41W29BCDC 1	40 01 31 N	101 58 55 W	07-21-98	1200	112SDGV	3275	100
400135101372901	1N 38W28BCCB 1	40 01 35 N	101 37 29 W	07-22-98	1000	111ALVM	3040	58
400135101581601	1N 41W29ADBB 1	40 01 35 N	101 58 16 W	07-22-98	1200	112SDGV	3260	52
400137101525401	1N 40W30BDBD 1	40 01 37 N	101 52 54 W	07-16-98	1330	111ALVM	3227	105
400204101502101	1N 40W21DCAD 1	40 02 04 N	101 50 21 W	07-23-98	1100	111ALVM	3185	60
400334101525301	1N 40W18ABBC 1	40 03 31 N	101 52 49 W	07-23-98	1530	121OGLL	3220	58
400419101403801	1N 39W12BDBC 1	40 04 19 N	101 40 38 W	07-17-98	1220	121OGLL	3226	63
400435101402001	1N 39W 1DCCC1	40 04 35 N	101 40 20 W	07-17-98	1150	121OGLL	3239	75
400443101352801	1N 38W 3DDBB1	40 04 43 N	101 35 28 W	07-21-98	1630	112SDGV	3150	110
400551101311701	2N 37W32ACCC 1	40 05 51 N	101 31 17 W	07-14-98	1500	121OGLL	3120	80
400604101583201	2N 41W32ABCC 1	40 06 04 N	101 58 32 W	07-18-98	1230	121OGLL	3448	91
400612101324101	2N 37W31BABB 1	40 06 18 N	101 32 43 W	07-14-98	1430	121OGLL	3152	80
400613101392801	2N 38W31BABA 1	40 06 13 N	101 39 28 W	07-15-98	1250	121OGLL	3270	150
400623101335201	2N 38W25CCDD 1	40 06 23 N	101 33 52 W	07-15-98	1010	121OGLL	3190	115
400628101243301	2N 36W29CCAB 1	40 06 28 N	101 24 33 W	07-19-98	1300	121OGLL	2880	30
400630101364001	2N 38W28DCAA 1	40 06 30 N	101 36 40 W	07-15-98	1150	121OGLL	3220	103
400630101391301	2N 38W30CDAA 1	40 06 30 N	101 39 13 W	07-15-98	1230	121OGLL	3310	165
400657101591101	2N 41W29BBCB 1	40 06 57 N	101 59 11 W	07-13-98	1500	121OGLL	3511	130
400702101573001	2N 41W28BAAA 1	40 07 02 N	101 57 30 W	07-21-98	1030	121OGLL	3465	110
400724101345801	2N 38W23CO 1	40 07 24 N	101 34 58 W	07-14-98	1900	121OGLL	3244	208
400733102004201	2N 42W24CAAC 1	40 07 33 N	102 00 42 W	07-13-98	1530	121OGLL	3580	132
400755101365901	2N 38W21BADA 1	40 07 55 N	101 36 59 W	07-14-98	1810	121OGLL	3293	192
400756101320701	2N 37W19AABB 1	40 08 03 N	101 32 09 W	07-14-98	1600	121OGLL	3164	151
400801101534601	2N 41W13DDCC 1	40 08 01 N	101 53 46 W	07-18-98	1030	121OGLL	3411	123
400814101422101	2N 39W15DO 1	40 08 14 N	101 42 21 W	07-15-98	1640	121OGLL	3329	187
400831102020001	2N 42W14BDCC 1	40 08 31 N	102 02 00 W	07-13-98	1630	121OGLL	3552	155
400840101360601	2N 38W15BO 1	40 08 40 N	101 36 06 W	07-14-98	1320	121OGLL	3235	208
400842101345701	2N 38W14BBCC 1	40 08 42 N	101 34 57 W	07-14-98	1150	121OGLL	3225	180
400848101375101	2N 38W17ABAD 1	40 08 48 N	101 37 51 W	07-14-98	1740	121OGLL	3282	208
400908101404101	2N 39W12CO 1	40 09 08 N	101 40 41 W	08-08-98	1030	121OGLL	3310	220
400929101545501	2N 41W11ACAA 1	40 09 29 N	101 54 55 W	07-12-98	1530	121OGLL	3451	160
400930101291201	2N 37W10BACD 1	40 09 37 N	101 29 10 W	07-14-98	1130	121OGLL	3053	90
400931101364001	2N 38W09AO 1	40 09 31 N	101 36 40 W	07-14-98	1450	121OGLL	3290	245
400932101582001	2N 41W 8ADBB1	40 09 32 N	101 58 20 W	07-18-98	1440	121OGLL	3485	155
400934101333101	2N 38W12ABCC 1	40 09 34 N	101 33 31 W	07-14-98	1030	121OGLL	3205	170
400956101502101	2N 40W 4DO 1	40 09 56 N	101 50 21 W	08-18-98	1500	121OGLL	3440	260
400958101364101	2N 38W 4DCAB1	40 09 58 N	101 36 41 W	08-09-98	1500	121OGLL	3300	245
401000102002701	2N 42W 1DCBA1	40 10 00 N	102 00 27 W	07-09-98	1200	121OGLL	3530	202
401005101411301	2N 39W 2DBAD1	40 10 05 N	101 41 13 W	07-20-98	1100	121OGLL	3320	234
401015102020101	2N 42W 2BDCD1	40 10 15 N	102 02 01 W	07-09-98	1300	121OGLL	3568	249
401018101353001	2N 38W 3ADBB1	40 10 20 N	101 35 32 W	07-15-98	1730	121OGLL	3245	200
401031101380701	2N 38W 5BADB1	40 10 31 N	101 38 07 W	08-08-98	0930	121OGLL	3330	255
401050101440401	3N 39W33CO 1	40 10 50 N	101 44 04 W	07-20-98	1130	121OGLL	3360	236
401057101512101	3N 40W32DAAD 1	40 10 57 N	101 51 21 W	07-18-98	0930	121OGLL	3435	248
401103101541501	3N 41W36BDCA 1	40 11 03 N	101 54 15 W	07-12-98	1800	121OGLL	3461	240
401105101292401	3N 37W34BCDB 1	40 11 08 N	101 29 22 W	07-08-98	1700	121OGLL	3189	210
401117101454701	3N 39W31AO 1	40 11 17 N	101 45 47 W	07-20-98	1530	121OGLL	3400	250
401119101295101	3N 37W33AO 1	40 11 19 N	101 29 51 W	07-14-98	1100	121OGLL	3198	220
401132102020801	3N 42W35BBAA 1	40 11 32 N	102 02 08 W	07-09-98	1430	121OGLL	3575	255
401143101422201	3N 39W27DACC 1	40 11 43 N	101 42 22 W	07-17-98	1150	121OGLL	3355	270
401146101514001	3N 40W29DBCA 1	40 11 46 N	101 51 40 W	07-13-98	1830	121OGLL	3440	240
401203101534701	3N 41W25AO 1	40 12 03 N	101 53 47 W	07-18-98	1130	121OGLL	2450	245
401205101403401	3N 39W25BACD 1	40 12 05 N	101 40 34 W	08-19-98	1000	121OGLL	3320	260
401209101462201	3N 39W30BDD 1	40 12 09 N	101 46 22 W	08-09-98	1630	121OGLL	3437	320
401212101283801	3N 37W27AACD 1	40 12 12 N	101 28 38 W	07-01-98	1200	121OGLL	3190	220

## CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS (CACO <sub>3</sub> )) (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 AD- SORP- TION RATIO (00931)
DUNDY COUNTY											
07-21-98	2080	7.2	12.6	--	.120	--	--	--	--	--	--
07-22-98	3330	7.5	12.4	--	.220	--	1300	290	135	327	4
07-22-98	2130	7.2	13.3	--	<.030	--	--	--	--	--	--
07-16-98	830	7.2	13.3	3.8	<.030	--	340	87	29	45	1
07-23-98	730	7.4	14.8	--	9.62	--	290	80	22	32	.8
07-23-98	482	7.4	12.2	--	1.11	--	190	55	12	19	.6
07-17-98	588	7.6	--	--	--	16.5	--	--	--	--	--
07-17-98	477	7.5	14.2	--	--	22.7	--	--	--	--	--
07-21-98	756	7.5	13.7	--	16.3	--	--	--	--	--	--
07-14-98	590	7.9	18.7	--	7.07	--	--	--	--	--	--
07-18-98	489	7.6	13.7	8.6	--	16.3	--	--	--	--	--
07-14-98	705	7.4	13.4	8.1	7.42	--	--	--	--	--	--
07-15-98	555	7.5	14.8	5.4	4.45	--	220	60	16	20	.6
07-15-98	454	7.7	15.1	--	3.06	--	--	--	--	--	--
07-19-98	--	7.5	23.0	--	.140	--	--	--	--	--	--
07-15-98	441	7.7	14.2	--	7.96	--	170	50	11	18	.6
07-15-98	414	7.6	15.0	7.1	3.94	--	--	--	--	--	--
07-13-98	362	7.7	17.5	7.3	4.51	--	--	--	--	--	--
07-21-98	381	7.6	14.5	--	7.40	--	160	45	10	11	.4
07-14-98	493	7.7	14.9	--	4.58	--	--	--	--	--	--
07-13-98	404	7.6	16.2	8.3	10.4	--	--	--	--	--	--
07-14-98	411	7.6	14.6	8.0	3.44	--	--	--	--	--	--
07-14-98	437	7.5	14.3	9.1	3.68	--	170	49	13	18	.6
07-18-98	360	7.6	14.6	3.6	--	3.91	150	43	10	13	.5
07-15-98	360	7.7	15.8	--	2.47	--	--	--	--	--	--
07-13-98	382	7.7	16.1	7.6	6.44	--	--	--	--	--	--
07-14-98	412	7.6	15.8	12.2	4.84	--	--	--	--	--	--
07-14-98	471	7.6	15.4	7.8	3.09	--	180	49	14	19	.6
07-14-98	415	7.7	15.9	6.5	2.89	--	--	--	--	--	--
08-08-98	177	7.9	16.2	--	3.19	--	140	40	11	13	.5
07-12-98	361	7.7	15.1	--	4.97	--	--	--	--	--	--
07-14-98	481	7.5	13.4	7.6	2.74	--	--	--	--	--	--
07-14-98	373	7.6	15.5	7.6	2.88	--	--	--	--	--	--
07-18-98	413	7.7	13.7	2.3	--	6.06	--	--	--	--	--
07-14-98	463	7.6	14.4	9.8	4.51	--	--	--	--	--	--
08-18-98	350	7.4	15.2	7.0	2.50	--	--	--	--	--	--
08-09-98	297	7.5	15.0	--	2.58	--	140	39	11	15	.5
07-09-98	371	7.5	15.7	7.1	7.19	--	--	--	--	--	--
07-20-98	359	7.8	15.4	6.9	2.16	--	--	--	--	--	--
07-09-98	368	7.6	16.0	5.8	6.33	--	--	--	--	--	--
07-15-98	412	7.9	--	--	5.37	--	--	--	--	--	--
08-08-98	164	7.7	15.6	6.8	1.83	--	--	--	--	--	--
07-20-98	350	7.7	14.6	7.5	2.89	--	--	--	--	--	--
07-18-98	337	7.8	14.7	3.4	--	2.06	--	--	--	--	--
07-12-98	313	7.8	15.7	--	1.64	--	--	--	--	--	--
07-08-98	341	7.4	14.9	5.2	2.48	--	--	--	--	--	--
07-20-98	354	7.8	15.1	--	5.32	--	150	41	11	12	.4
07-14-98	419	7.6	17.3	--	2.44	--	--	--	--	--	--
07-09-98	317	7.8	14.9	5.0	3.51	--	--	--	--	--	--
07-17-98	338	7.7	15.4	6.6	--	1.12	140	37	11	12	.5
07-13-98	367	7.7	15.7	5.5	7.17	--	--	--	--	--	--
07-18-98	317	7.9	15.4	3.5	--	1.65	130	34	11	12	.5
08-19-98	412	7.4	14.6	--	4.96	--	160	42	13	15	.5
08-09-98	324	7.5	14.7	7.9	3.30	--	--	--	--	--	--
07-01-98	442	7.8	15.5	--	4.12	--	180	49	15	17	.5



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
DUNDY COUNTY											
07-21-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	36	263	17	1600	83	1.0	41	3000	1390	2730	3.71
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-16-98	16	242	28	180	11	1.2	48	1500	463	569	.77
07-23-98	2.9	291	21	43	12	.90	53	<10	7.5	420	.57
07-23-98	12	230	16	14	3.9	.85	50	<10	15	305	.42
07-17-98	--	--	--	--	--	--	--	--	--	--	--
07-17-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	14	144	8.4	60	17	.95	59	<10	<4.0	333	.45
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-19-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	9.6	179	7.6	14	3.0	.98	58	<10	<4.0	272	.37
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	9.1	161	7.1	7.4	2.3	.71	58	<10	<4.0	241	.33
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	9.4	177	10	18	13	1.1	62	<10	<4.0	289	.39
07-18-98	8.7	165	8.0	9.4	2.0	.82	62	<10	<4.0	266	.36
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	11	170	9.0	29	20	1.1	63	<10	<4.0	309	.42
07-14-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	10	166	4.3	11	5.6	1.0	58	<10	<4.0	250	.34
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
08-09-98	11	171	10	13	2.0	1.0	59	<10	<4.0	253	.34
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	--	--	--	--	--	--	--	--	--	--	--
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	10	158	5.4	9.2	1.8	.90	62	<10	<4.0	243	.33
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-17-98	9.2	163	6.3	8.8	1.2	1.0	65	32	<4.0	248	.34
07-13-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	9.2	146	3.6	10	1.1	.98	64	<10	<4.0	236	.32
08-19-98	11	175	12	14	2.9	.94	64	<10	4.1	267	.36
08-09-98	--	--	--	--	--	--	--	--	--	--	--
07-01-98	11	187	5.9	19	9.4	1.2	65	<10	<4.0	298	.40

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>DUNDY COUNTY</b>								
401212102002301	3N 42W25AADD 1	40 12 12 N	102 00 23 W	07-09-98	1600	121OGLL	3535	236
401235101393101	3N 38W19CO 1	40 12 35 N	101 39 31 W	07-08-98	1100	121OGLL	3320	275
401238101300301	3N 37W21CDAA 1	40 12 38 N	101 30 03 W	07-08-98	1430	121OGLL	3200	244
401300101353301	3N 38W22AO 1	40 13 00 N	101 35 33 W	07-15-98	1800	121OGLL	3240	245
401300101385701	3N 38W19AO 1	40 13 00 N	101 38 57 W	07-20-98	1000	121OGLL	3295	260
401304102002601	3N 42W24ABDD 1	40 13 04 N	102 00 26 W	07-22-98	1200	121OGLL	3550	290
401325101301901	3N 37W16CDCB 1	40 13 25 N	101 30 19 W	07-14-98	1230	121OGLL	3225	274
401325101385701	3N 38W18DCAA 1	40 13 25 N	101 38 57 W	07-12-98	0900	121OGLL	3308	260
401328101422301	3N 39W15DO 1	40 13 28 N	101 42 23 W	07-14-98	1700	121OGLL	3350	245
401329102020801	3N 42W14CO 1	40 13 29 N	102 02 08 W	07-22-98	1230	121OGLL	3555	290
401333101374301	3N 38W17DABD 1	40 13 33 N	101 37 43 W	07-13-98	1830	121OGLL	3278	263
401358101382201	3N 38W17BBCA 1	40 13 58 N	101 38 22 W	07-17-98	0930	121OGLL	3295	260
401417101414801	3N 39W11CCAA 1	40 14 17 N	101 41 48 W	07-15-98	1530	121OGLL	3352	300
401421101443801	3N 39W08DO 1	40 14 21 N	101 44 38 W	07-20-98	1220	121OGLL	3400	290
401448101584701	3N 41W 8BACD1	40 14 48 N	101 58 47 W	07-11-98	1130	121OGLL	3530	154
401449101465001	3N 40W12AACC 1	40 14 49 N	101 46 50 W	07-14-98	1500	121OGLL	3411	310
401505101300501	3N 37W04DCCC 1	40 15 05 N	101 30 05 W	06-30-98	1730	121OGLL	3340	405
401509101553001	3N 41W2CO 1	40 15 09 N	101 55 30 W	07-12-98	2000	121OGLL	3480	305
401510101451201	3N 39W05CO 1	40 15 10 N	101 45 12 W	07-15-98	1700	121OGLL	3395	300
401535101531301	3N 40W6BO 1	40 15 32 N	101 53 12 W	07-15-98	1800	121OGLL	3472	300
401538101313501	3N 37W 5BACC1	40 15 38 N	101 31 35 W	07-23-98	1600	121OGLL	3260	320
401541101594401	3N 41W 6ABCD1	40 15 41 N	101 59 44 W	07-11-98	1000	121OGLL	3538	280
401557101531101	4N 40W31CO 1	40 15 57 N	101 53 11 W	08-18-98	1200	121OGLL	3450	300
401604101591601	4N 41W31DADD 1	40 16 05 N	101 59 13 W	07-11-98	0800	121OGLL	3534	257
401629101414901	4N 39W35BO 1	40 16 29 N	101 41 49 W	07-16-98	1300	121OGLL	3350	240
401629101465601	4N 40W36AO 1	40 16 29 N	101 46 56 W	07-22-98	1000	121OGLL	3420	340
401630101462001	4N 39W31BO 1	40 16 30 N	101 46 20 W	07-15-98	1600	121OGLL	3412	320
401640101264601	4N 37W36ABBB 1	40 16 40 N	101 26 46 W	06-30-98	1500	121OGLL	3310	440
401719101335401	4N 38W25BBDD 1	40 17 21 N	101 33 50 W	07-10-98	0930	121OGLL	3222	286
401720101430001	4N 39W27BBDD 1	40 17 22 N	101 42 57 W	07-07-98	1700	121OGLL	3390	330
401746101494801	4N 40W22CO 1	40 17 46 N	101 49 48 W	07-11-98	1600	121OGLL	3432	340
401748101580601	4N 41W20DADD 1	40 17 48 N	101 58 06 W	07-18-98	1620	121OGLL	3525	320
401805101450901	4N 39W20BDCC 1	40 18 05 N	101 45 09 W	08-09-98	1730	121OGLL	3393	304
401807101593001	4N 41W19ADBB 1	40 18 07 N	101 59 30 W	07-18-98	1700	121OGLL	3559	365
401838101310301	4N 37W17DACC 1	40 18 38 N	101 31 03 W	06-30-98	1600	121OGLL	3315	360
401929101393301	4N 38W 7CACC1	40 19 33 N	101 39 33 W	07-07-98	1300	121OGLL	3303	300
401932101400701	4N 39W12DO 1	40 19 32 N	101 40 07 W	07-07-98	1530	121OGLL	3303	300
401939101595801	4N 41W 7CABD1	40 19 39 N	101 59 58 W	08-18-98	1300	121OGLL	3545	360
401942101520501	4N 40W 8CABB1	40 19 42 N	101 52 05 W	07-14-98	1030	121OGLL	3455	310
401952101353301	4N 38W10ACDA 1	40 19 52 N	101 35 33 W	07-13-98	1415	121OGLL	3300	295
402010101473101	4N 40W12BABB 1	40 20 10 N	101 47 31 W	08-19-98	1100	121OGLL	3410	320
402022101382601	4N 38W05CO 1	40 20 22 N	101 38 26 W	07-07-98	1600	121OGLL	3278	290
402024101411401	4N 39W 2AACC1	40 20 24 N	101 41 14 W	07-16-98	1000	121OGLL	3305	298
402042101351701	4N 38W02BCBC 1	40 20 42 N	101 35 17 W	07-07-98	1100	121OGLL	3388	400
402044101393301	4N 38W 6BDDD1	40 20 44 N	101 39 33 W	07-23-98	1030	121OGLL	3290	300

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER FIELD (STANDARD WATER UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)
DUNDY COUNTY											
07-09-98	298	7.8	15.3	4.7	3.20	--	130	33	10	11	.4
07-08-98	--	7.4	16.8	5.2	6.80	--	--	--	--	--	--
07-08-98	249	7.5	14.5	--	2.79	--	--	--	--	--	--
07-15-98	440	7.6	14.7	2.4	2.95	--	--	--	--	--	--
07-20-98	369	7.7	15.4	6.4	1.76	--	140	38	12	16	.6
07-22-98	335	7.8	15.0	6.1	4.73	--	--	--	--	--	--
07-14-98	395	7.7	16.9	--	2.11	--	150	40	13	16	.6
07-12-98	384	7.6	15.3	7.2	1.96	--	--	--	--	--	--
07-14-98	245	7.7	15.5	5.6	1.91	--	--	--	--	--	--
07-22-98	360	7.7	14.8	6.5	6.82	--	140	36	11	13	.5
07-13-98	402	7.6	14.5	--	4.66	--	180	47	14	16	.5
07-17-98	427	7.7	20.1	--	--	2.89	--	--	--	--	--
07-15-98	434	7.4	14.4	8.5	6.81	--	--	--	--	--	--
07-20-98	368	7.7	15.3	1.3	3.12	--	--	--	--	--	--
07-11-98	356	7.7	15.7	6.2	--	3.44	--	--	--	--	--
07-14-98	264	7.6	14.7	4.8	3.28	--	--	--	--	--	--
06-30-98	386	7.6	16.2	5.0	1.79	--	--	--	--	--	--
07-12-98	341	7.8	15.2	5.2	4.66	--	--	--	--	--	--
07-15-98	366	7.6	14.6	8.4	3.04	--	--	--	--	--	--
07-15-98	361	7.6	14.4	7.6	5.61	--	--	--	--	--	--
07-23-98	378	7.5	15.7	--	1.80	--	150	39	12	14	.5
07-11-98	318	7.8	15.3	8.0	--	4.44	--	--	--	--	--
08-18-98	348	7.5	14.7	5.8	2.46	--	130	36	11	13	.5
07-11-98	360	7.7	14.5	5.9	--	7.85	150	39	12	9.7	.4
07-16-98	402	7.6	14.5	--	3.33	--	160	43	13	15	.5
07-22-98	352	7.7	15.2	5.9	1.40	--	--	--	--	--	--
07-15-98	364	7.6	14.4	6.7	2.67	--	150	40	12	14	.5
06-30-98	411	7.5	17.3	5.7	4.69	--	--	--	--	--	--
07-10-98	380	7.4	14.2	7.0	3.83	--	160	46	12	13	.5
07-07-98	351	7.7	16.6	5.3	1.73	--	--	--	--	--	--
07-11-98	344	7.7	15.5	5.6	--	1.41	--	--	--	--	--
07-18-98	335	7.8	15.4	3.7	--	1.68	140	37	11	14	.5
08-09-98	322	7.5	14.4	7.0	3.21	--	--	--	--	--	--
07-18-98	353	7.7	15.4	3.2	--	1.86	--	--	--	--	--
06-30-98	376	7.6	15.6	6.5	2.03	--	150	43	11	14	.5
07-07-98	397	7.6	14.3	5.8	3.21	--	--	--	--	--	--
07-07-98	357	7.7	16.1	5.1	1.39	--	--	--	--	--	--
08-18-98	450	7.3	14.1	7.9	5.45	--	--	--	--	--	--
07-14-98	396	7.7	15.3	7.5	2.01	--	150	38	12	20	.7
07-13-98	373	7.8	15.0	8.4	3.04	--	--	--	--	--	--
08-19-98	--	--	--	--	1.74	--	--	--	--	--	--
07-07-98	375	7.7	16.2	5.0	2.14	--	--	--	--	--	--
07-16-98	364	7.7	14.7	--	1.63	--	150	40	12	13	.5
07-07-98	365	7.6	15.7	5.8	1.86	--	--	--	--	--	--
07-23-98	360	7.7	14.9	6.3	1.39	--	140	38	11	12	.4

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
DUNDY COUNTY											
07-09-98	9.7	136	4.7	11	1.4	1.1	<.10	<10	6.6	160	.22
07-08-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	11	175	6.6	12	1.9	1.2	<.10	<10	<4.0	197	.27
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	10	182	7.9	14	2.2	1.2	<.10	<10	<4.0	206	.28
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	9.7	144	5.7	12	1.7	1.0	64	<10	<4.0	234	.32
07-13-98	11	178	8.7	23	8.4	1.1	64	<10	<4.0	293	.40
07-17-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-11-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
06-30-98	--	--	--	--	--	--	--	--	--	--	--
07-12-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-23-98	9.9	175	11	12	2.6	1.1	<.10	<10	<4.0	195	.27
07-11-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	9.7	156	10	10	1.2	.79	66	<10	<4.0	241	.33
07-11-98	10	137	5.3	13	2.2	.90	<.10	<10	<4.0	204	.28
07-16-98	14	183	8.9	14	6.9	.61	61	<10	<4.0	277	.38
07-22-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	10	170	8.6	12	1.5	.89	<.10	<10	<4.0	193	.26
06-30-98	--	--	--	--	--	--	--	--	--	--	--
07-10-98	11	179	14	12	3.4	.85	<.10	<10	<4.0	206	.28
07-07-98	--	--	--	--	--	--	--	--	--	--	--
07-11-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	9.0	159	4.9	13	1.2	.78	<.10	<10	<4.0	189	.26
08-09-98	--	--	--	--	--	--	--	--	--	--	--
07-18-98	--	--	--	--	--	--	--	--	--	--	--
06-30-98	10	175	8.7	13	2.2	.91	66	<10	<4.0	265	.36
07-07-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	9.5	174	6.9	20	1.5	.75	66	<10	<4.0	272	.37
07-13-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
07-16-98	9.8	166	6.6	14	3.2	.70	<.10	<10	<4.0	193	.26
07-07-98	--	--	--	--	--	--	--	--	--	--	--
07-23-98	9.6	163	7.0	13	4.0	.72	<.10	<10	<4.0	186	.25



## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER		LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
PERKINS COUNTY									
404232101274401	9N 36W31AO	1	40 42 32 N	101 27 44 W	07-15-98	0930	121OGLL	3200	397
404258101274201	9N 36W30DO	1	40 42 58 N	101 27 42 W	08-19-98	1500	121OGLL	3160	350
404329101453101	9N 39W27BBDD	1	40 43 29 N	101 45 25 W	08-10-98	1500	121OGLL	3412	200
404346101183101	9N 35W21DO	1	40 43 46 N	101 18 31 W	07-07-98	1200	121OGLL	3300	530
404347101150801	9N 35W24DCAA	1	40 43 47 N	101 15 08 W	07-16-98	1430	121OGLL	3175	480
404348101181401	9N 35W22CCCB	1	40 43 48 N	101 18 14 W	07-17-98	0930	121OGLL	3280	363
404348101205501	9N 35W19DO	1	40 43 48 N	101 20 55 W	07-07-98	1030	121OGLL	3260	520
404420101270401	9N 36W19AO	1	40 44 20 N	101 27 04 W	07-15-98	1100	121OGLL	3200	385
404420101423401	9N 39W24AO	1	40 44 20 N	101 42 34 W	07-14-98	1000	121OGLL	3375	270
404443101494001	9N 40W13CCAB	1	40 44 46 N	101 50 12 W	07-21-98	1000	121OGLL	3460	334
404445101481401	9N 39W18DDCB	1	40 44 45 N	101 48 14 W	07-22-98	1200	121OGLL	3455	359
404508101270201	9N 36W17BBDC	1	40 45 08 N	101 27 02 W	08-17-98	1030	121OGLL	3240	449
404534101280901	9N 36W7CO	1	40 45 34 N	101 28 09 W	08-10-98	1000	121OGLL	3205	243
404538101302801	9N 37W11CO	1	40 15 38 N	101 30 28 W	07-10-98	1000	121OGLL	3235	400
404540101375601	9N 38W10DO	1	40 45 40 N	101 37 56 W	07-10-98	0830	121OGLL	3350	390
404557101251601	9N 36W9AO	1	40 45 57 N	101 25 16 W	07-07-98	1700	121OGLL	3255	480
404605101372301	9N 38W11BACC	1	40 46 05 N	101 37 23 W	08-08-98	1430	121OGLL	3360	387
404605101435901	9N 39W11ABCC	1	40 46 05 N	101 43 59 W	07-29-98	1030	121OGLL	3440	255
404605101481601	9N 39W7AACA	1	40 46 05 N	101 48 16 W	07-29-98	1130	121OGLL	3447	310
404627101161401	9N 35W2DO	1	40 46 27 N	101 16 14 W	07-08-98	1130	121OGLL	3200	480
404631101321201	9N 37W04DO	1	40 46 31 N	101 32 12 W	07-15-98	1330	121OGLL	3280	420
404652101251401	9N 36W4AO	1	40 46 52 N	101 25 14 W	07-15-98	1230	121OGLL	3280	500
404659101390301	9N 38W4AACB	1	40 46 59 N	101 39 03 W	07-20-98	1000	121OGLL	3375	415
404717101475501	10N 39W32CCDB	1	40 47 17 N	101 47 55 W	07-16-98	1030	121OGLL	3440	405
404743101280701	10N 36W31BO	1	40 47 43 N	101 28 07 W	08-17-98	1200	121OGLL	3270	380
404749101415801	10N 38W31BO	1	40 47 49 N	101 41 58 W	07-20-98	1100	121OGLL	3380	440
404826101375001	10N 38W26CBCB	1	40 48 23 N	101 37 38 W	07-08-98	1730	121OGLL	3368	400
404836101224501	10N 36W25BO	1	40 48 36 N	101 22 28 W	08-10-98	1600	121OGLL	3335	600
404836101265801	10N 36W29BO	1	40 48 36 N	101 26 58 W	07-08-98	1530	121OGLL	3260	480
404842101393801	10N 38W28BDBB	1	40 48 42 N	101 39 38 W	08-18-98	0930	121OGLL	3390	470
404901101322201	10N 37W19CCA	1	40 49 01 N	101 32 22 W	08-09-98	1030	121OGLL	3340	435
404907101375501	10N 38W22DBDD	1	40 49 07 N	101 37 55 W	07-17-98	1030	121OGLL	3380	468
404936101401401	10N 38W20AO	1	40 49 36 N	101 40 14 W	08-19-98	1530	121OGLL	3405	480
404953101150901	10N 35W13DDBB	1	40 49 53 N	101 15 09 W	07-08-98	1000	121OGLL	3210	395
404957101250201	10N 36W15CACC	1	40 49 51 N	101 24 41 W	07-13-98	1500	121OGLL	3350	560
404957101431101	10N 39W13CO	1	40 49 57 N	101 43 11 W	08-18-98	1030	121OGLL	3400	268
404958101321301	10N 37W16DO	1	40 49 58 N	101 32 13 W	07-24-98	1600	121OGLL	3285	455
404959101335601	10N 37W17CDBB	1	40 49 59 N	101 33 56 W	08-10-98	1330	121OGLL	3308	430
405000101265401	10N 36W17CACB	1	40 50 00 N	101 26 54 W	07-09-98	0900	121OGLL	3310	560
405000101365001	10N 38W14DO	1	40 50 00 N	101 36 50 W	07-20-98	1300	121OGLL	3380	460
405000101502301	10N 40W13CBCA	1	40 50 00 N	101 50 23 W	07-21-98	1500	121OGLL	3465	335
405014101442401	10N 39W14BCDA	1	40 50 14 N	101 44 24 W	07-29-98	0830	121OGLL	3425	260
405025101471701	10N 39W17AO	1	40 50 25 N	101 47 17 W	08-18-98	1730	121OGLL	3460	407
405029101400701	10N 38W17AADB	1	40 50 29 N	101 40 07 W	07-16-98	1100	121OGLL	3375	435
405049101314001	10N 37W10CO	1	40 50 49 N	101 31 40 W	08-09-98	0900	121OGLL	3285	370
405111101263201	10N 36W08ACAB	1	40 51 11 N	101 26 32 W	08-11-98	1030	121OGLL	3340	537
405116101500901	10N 40W12BBDD	1	40 51 16 N	101 50 09 W	08-03-98	0830	121OGLL	3465	430
405121101531901	10N 40W09BAAD	1	40 51 21 N	101 53 19 W	08-10-98	1330	121OGLL	3520	380
405139101234101	10N 36W2CO	1	40 51 39 N	101 23 41 W	07-09-98	1030	121OGLL	3380	555
405143101570201	10N 41W01CO	1	40 51 43 N	101 57 02 W	08-09-98	1000	121OGLL	3544	362

## CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)
PERKINS COUNTY											
07-15-98	362	7.8	15.6	9.0	2.43	--	130	34	10	12	.5
08-19-98	--	--	--	--	2.32	--	--	--	--	--	--
08-10-98	--	--	--	--	6.15	--	--	--	--	--	--
07-07-98	375	7.9	17.3	--	1.96	--	130	35	11	18	.7
07-16-98	384	7.7	16.0	8.3	2.13	--	150	40	13	13	.5
07-17-98	395	7.7	14.4	10.2	2.72	--	--	--	--	--	--
07-07-98	361	7.9	15.7	4.9	1.97	--	--	--	--	--	--
07-15-98	360	7.8	15.9	8.1	2.58	--	140	38	10	10	.4
07-14-98	384	7.9	15.6	--	6.17	--	--	--	--	--	--
07-21-98	355	7.7	14.5	10.8	4.73	--	--	--	--	--	--
07-22-98	387	7.6	14.2	8.8	8.36	--	--	--	--	--	--
08-17-98	378	7.5	13.7	8.9	3.67	--	--	--	--	--	--
08-10-98	381	7.9	17.1	--	3.83	--	150	43	11	10	.4
07-10-98	349	7.7	16.2	7.8	2.11	--	130	35	10	18	.7
07-10-98	365	7.7	14.2	9.1	3.24	--	--	--	--	--	--
07-07-98	433	7.8	16.4	--	4.14	--	--	--	--	--	--
08-08-98	337	8.0	14.8	--	--	--	--	--	--	--	--
07-29-98	240	7.8	14.3	--	6.39	--	170	50	12	7.6	.3
07-29-98	176	7.9	15.2	8.4	1.91	--	120	34	8.3	11	.5
07-08-98	387	7.7	17.1	7.9	2.04	--	--	--	--	--	--
07-15-98	387	7.8	15.8	8.2	2.23	--	--	--	--	--	--
07-15-98	369	7.7	16.3	--	2.40	--	140	37	11	9.8	.4
07-20-98	349	7.8	15.5	7.9	2.21	--	--	--	--	--	--
07-16-98	338	7.9	15.1	10.2	3.01	--	--	--	--	--	--
08-17-98	414	7.5	13.8	8.7	5.80	--	--	--	--	--	--
07-20-98	341	7.6	16.4	--	2.17	--	130	37	9.6	13	.5
07-08-98	422	7.7	14.3	9.8	3.79	--	170	48	12	8.6	.3
08-10-98	363	7.7	16.4	8.6	1.93	--	--	--	--	--	--
07-08-98	381	7.8	15.8	--	2.27	--	140	37	12	14	.5
08-18-98	364	7.5	13.8	8.8	3.36	--	160	46	12	10	.3
08-09-98	373	7.6	17.5	--	2.38	--	130	34	11	18	.7
07-17-98	391	7.8	16.0	8.2	2.33	--	--	--	--	--	--
08-19-98	350	7.7	15.3	8.5	1.97	--	--	--	--	--	--
07-08-98	384	7.6	16.5	8.3	2.08	--	--	--	--	--	--
07-13-98	384	8.0	16.8	8.5	2.67	--	150	40	12	16	.6
08-18-98	--	--	--	--	2.52	--	--	--	--	--	--
07-24-98	274	7.6	14.1	--	3.10	--	--	--	--	--	--
08-10-98	396	7.7	14.4	8.8	2.85	--	--	--	--	--	--
07-09-98	362	7.6	16.5	8.4	2.01	--	140	36	11	17	.6
07-20-98	405	7.1	15.2	8.6	3.75	--	--	--	--	--	--
07-21-98	324	7.8	15.8	8.2	2.12	--	130	35	9.3	15	.6
07-29-98	346	8.0	13.4	--	4.80	--	--	--	--	--	--
08-18-98	--	--	--	--	4.44	--	--	--	--	--	--
07-16-98	359	8.0	16.2	--	2.16	--	--	--	--	--	--
08-09-98	376	7.7	15.3	8.8	2.48	--	--	--	--	--	--
08-11-98	379	7.6	16.0	8.1	2.07	--	--	--	--	--	--
08-03-98	733	7.4	13.4	8.4	10.2	--	320	91	23	16	.4
08-10-98	250	7.8	17.8	8.3	1.94	--	--	--	--	--	--
07-09-98	361	7.6	16.4	8.1	2.20	--	150	39	12	14	.5
08-09-98	337	7.9	15.0	--	2.12	--	--	--	--	--	--



WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
PERKINS COUNTY											
07-15-98	8.8	162	5.0	11	2.8	.71	61	<10	<4.0	238	.32
08-19-98	--	--	--	--	--	--	--	--	--	--	--
08-10-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	9.7	161	4.2	14	4.6	.77	58	<10	<4.0	246	.33
07-16-98	11	167	6.5	13	5.1	.68	63	<10	<4.0	258	.35
07-17-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	8.6	156	4.8	11	4.6	.72	54	<10	<4.0	231	.31
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	--	--	--	--	--	--	--	--	--	--	--
07-22-98	--	--	--	--	--	--	--	--	--	--	--
08-17-98	--	--	--	--	--	--	--	--	--	--	--
08-10-98	10	166	3.6	12	5.9	.71	49	<10	<4.0	242	.33
07-10-98	8.9	156	5.5	13	4.1	.72	48	<10	<4.0	233	.32
07-10-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-29-98	8.7	149	4.6	12	12	.57	51	<10	<4.0	244	.33
07-29-98	7.5	134	3.5	8.5	2.6	.66	54	<10	<4.0	207	.28
07-08-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	--	--	--	--	--	--	--	--	--	--	--
07-15-98	8.7	161	6.2	12	4.8	.69	52	<10	<4.0	233	.32
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-16-98	--	--	--	--	--	--	--	--	--	--	--
08-17-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	9.1	150	8.1	11	3.8	.68	51	<10	<4.0	224	.30
07-08-98	9.5	162	6.9	13	13	.61	47	<10	<4.0	249	.34
08-10-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	10	160	5.5	15	4.8	.74	58	<10	<4.0	247	.34
08-18-98	10	156	9.7	14	13	.57	45	<10	<4.0	244	.33
08-09-98	8.4	156	8.5	15	7.0	.71	44	<10	<4.0	233	.32
07-17-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	--	--	--	--	--	--	--	--	--	--	--
07-08-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	9.8	139	2.7	16	4.7	.65	49	<10	<4.0	231	.31
08-18-98	--	--	--	--	--	--	--	--	--	--	--
07-24-98	--	--	--	--	--	--	--	--	--	--	--
08-10-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	9.7	158	7.0	15	5.4	.67	47	<10	<4.0	236	.32
07-20-98	--	--	--	--	--	--	--	--	--	--	--
07-21-98	7.7	141	4.8	13	4.6	.65	50	<10	<4.0	219	.30
07-29-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
07-16-98	--	--	--	--	--	--	--	--	--	--	--
08-09-98	--	--	--	--	--	--	--	--	--	--	--
08-11-98	--	--	--	--	--	--	--	--	--	--	--
08-03-98	12	193	14	77	55	.55	40	<10	<4.0	430	.58
08-10-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	10	162	7.7	13	3.9	.63	51	<10	<4.0	240	.33
08-09-98	--	--	--	--	--	--	--	--	--	--	--

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>PERKINS COUNTY</b>								
405202101274001	10N 36W06ACAD 1	40 52 02 N	101 27 40 W	07-09-98	1630	121OGLL	3365	520
405203101252101	10N 36W04AO 1	40 52 03 N	101 25 21 W	07-13-98	1430	121OGLL	3380	560
405205101413001	10N 38W06AO 1	40 52 05 N	101 41 30 W	08-09-98	1230	121OGLL	3395	373
405206101464501	10N 39W04BO 1	40 52 06 N	101 46 45 W	08-08-98	1530	121OGLL	3430	372
405207101325301	10N 37W 4BBDD1	40 52 07 N	101 32 53 W	07-13-98	1200	121OGLL	3300	290
405209101354701	10N 38W1AO 1	40 52 09 N	101 35 47 W	08-08-98	1430	121OGLL	3335	405
405223101342201	11N 37W32CCCC 1	40 52 25 N	101 34 22 W	08-10-98	1130	121OGLL	3300	399
405223101504401	11N 40W35DCDD 1	40 52 23 N	101 50 44 W	08-09-98	1400	121OGLL	3490	405
405234101365701	11N 38W35DO 1	40 52 34 N	101 36 57 W	08-08-98	1400	121OGLL	3350	410
405257101410201	11N 38W32BBDD 1	40 52 57 N	101 41 02 W	08-10-98	1530	121OGLL	3370	399
405258101462701	11N 39W33ACBB 1	40 52 58 N	101 46 27 W	08-19-98	1430	121OGLL	3440	390
405325101450301	11N 39W27DBDD 1	40 53 25 N	101 45 03 W	08-08-98	1600	121OGLL	3420	410
405326101311301	11N 37W27DBDD 1	40 53 26 N	101 31 13 W	08-18-98	1400	121OGLL	3350	430
405332101593901	11N 41W28DADA 1	40 53 32 N	101 59 39 W	08-18-98	1200	121OGLL	3580	400
405352101355301	11N 38W25AO 1	40 53 52 N	101 35 53 W	07-16-98	1130	121OGLL	3340	474
405352101392001	11N 38W28AACC 1	40 53 52 N	101 39 20 W	08-08-98	1030	121OGLL	3400	430
405357101442301	11N 39W26BO 1	40 53 52 N	101 44 27 W	07-20-98	1600	121OGLL	3410	427
405418101190801	11N 35W21CO 1	40 54 18 N	101 19 08 W	08-17-98	1400	121OGLL	3245	416
405445101363301	11N 38W24BBDC 1	40 54 45 N	101 36 33 W	07-21-98	1730	121OGLL	3350	489
405502101582101	11N 41W14CCAC 1	40 55 02 N	101 58 21 W	08-19-98	0930	121OGLL	3570	402
405511101384801	11N 38W15CO 1	40 55 11 N	101 38 48 W	08-18-98	1200	121OGLL	3380	--
405511102021401	11N 41W18DACO 1	40 55 11 N	102 02 14 W	08-09-98	0930	121OGLL	3985	400
405535101421501	11N 38W18BO 1	40 55 35 N	101 42 15 W	08-18-98	1100	121OGLL	3430	505
405536101180401	11N 35W15BO 1	40 55 36 N	101 18 04 W	07-07-98	1500	121OGLL	3220	360
405536101370501	11N 38W14AO 1	40 55 36 N	101 37 05 W	08-18-98	1230	121OGLL	3345	436
405538101205901	11N 35W18AACC 1	40 55 37 N	101 20 59 W	08-17-98	1530	121OGLL	3270	452
405627101414001	11N 38W 7ABDB1	40 56 27 N	101 41 40 W	08-08-98	1230	121OGLL	3400	450
405628101180201	11N 35W10BO 1	40 56 28 N	101 18 02 W	07-14-98	1630	121OGLL	3215	398
405629101165501	11N 35W11BO 1	40 56 29 N	101 16 55 W	07-10-98	1630	121OGLL	3210	396
405654101233301	11N 36W 2CADC1	40 56 01 N	101 27 09 W	07-14-98	1530	121OGLL	3335	369
405655101231601	11N 36W02DO 1	40 56 55 N	101 23 16 W	07-14-98	1430	121OGLL	3290	380
405656101392401	11N 38W04DO 1	40 56 56 N	101 39 24 W	07-14-98	1030	121OGLL	3380	430
405708101162801	11N 35W 2DBAB1	40 57 08 N	101 16 28 W	07-09-98	1230	121OGLL	3220	418
405721102025001	11N 41W06BBDD 1	40 57 21 N	102 02 50 W	08-11-98	1530	121OGLL	3625	420
405814101334701	12N 37W32AO 1	40 58 14 N	101 33 47 W	07-20-98	1800	121OGLL	3330	370
405816101520001	12N 40W34ABDC 1	40 58 16 N	101 52 00 W	08-08-98	0900	121OGLL	3495	420
405839101472601	12N 39W29DO 1	40 58 39 N	101 47 26 W	07-29-98	1830	121OGLL	3450	364
405839101512401	12N 40W26CO 1	40 58 39 N	101 51 24 W	08-19-98	1300	121OGLL	3490	420
405841101231901	12N 36W26DO 1	40 58 41 N	101 23 19 W	07-16-98	1300	121OGLL	3260	370
405842101213601	12N 35W30CACC 1	40 58 42 N	101 21 36 W	07-14-98	1400	121OGLL	3233	365
405904101253601	12N 36W28AO 1	40 59 04 N	101 25 36 W	07-14-98	1200	121OGLL	3290	350
405905101242701	12N 36W27AO 1	40 59 05 N	101 24 27 W	07-14-98	1300	121OGLL	3290	385
405919101273701	12N 36W20CCCC 1	40 59 19 N	101 27 37 W	07-07-98	1600	121OGLL	3351	415
405921101354701	12N 38W24DDDA 1	40 59 21 N	101 35 47 W	08-08-98	1330	121OGLL	3345	340
405955101224501	12N 36W24BO 1	40 59 55 N	101 22 45 W	08-17-98	1630	121OGLL	3270	420
405956102010701	12N 41W20ABDD 1	40 59 56 N	102 01 07 W	08-03-98	1100	121OGLL	3615	393
405958101282601	12N 36W19BO 1	40 59 58 N	101 28 26 W	07-14-98	1130	121OGLL	3360	403
410002101532501	12N 40W21ABCB 1	41 00 02 N	101 53 25 W	08-19-98	1100	121OGLL	3525	420

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS- SOLVED (MG/L AS N) (00631)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)
PERKINS COUNTY											
07-09-98	405	7.7	15.3	5.7	3.15	--	--	--	--	--	--
07-13-98	367	8.0	18.0	--	2.18	--	--	--	--	--	--
08-09-98	395	7.7	15.2	9.1	2.87	--	--	--	--	--	--
08-08-98	--	--	--	--	1.48	--	--	--	--	--	--
07-13-98	409	8.0	14.6	9.3	3.01	--	170	46	14	8.0	.3
08-08-98	343	7.8	16.4	--	1.97	--	130	35	11	14	.5
08-10-98	375	7.7	15.2	--	4.20	--	--	--	--	--	--
08-09-98	364	7.7	16.1	--	2.39	--	--	--	--	--	--
08-08-98	404	7.5	13.9	11.2	4.44	--	--	--	--	--	--
08-10-98	353	7.8	17.6	--	2.15	--	130	33	10	17	.6
08-19-98	351	7.7	16.1	8.6	3.08	--	--	--	--	--	--
08-08-98	334	7.9	16.3	--	2.08	--	120	33	10	16	.6
08-18-98	--	--	--	--	2.09	--	--	--	--	--	--
08-18-98	388	7.7	15.1	8.5	3.90	--	150	41	12	18	.6
07-16-98	384	7.7	16.8	8.3	2.23	--	130	35	10	25	.9
08-08-98	366	7.5	16.5	--	2.36	--	--	--	--	--	--
07-20-98	394	7.7	17.4	--	3.18	--	--	--	--	--	--
08-17-98	344	7.6	15.9	7.5	1.98	--	130	36	11	19	.7
07-21-98	365	7.7	14.8	8.9	2.22	--	--	--	--	--	--
08-19-98	161	7.7	15.0	8.8	2.37	--	--	--	--	--	--
08-18-98	456	7.4	13.3	8.8	5.88	--	--	--	--	--	--
08-09-98	334	7.8	17.0	--	2.51	--	--	--	--	--	--
08-18-98	362	7.6	15.0	8.1	2.20	--	--	--	--	--	--
07-07-98	391	7.8	16.0	--	2.04	--	--	--	--	--	--
08-18-98	--	--	--	--	5.61	--	--	--	--	--	--
08-17-98	--	--	--	--	2.47	--	160	42	13	9.4	.3
08-08-98	382	8.0	16.4	--	2.74	--	150	40	11	15	.5
07-14-98	390	7.7	15.1	8.7	2.21	--	--	--	--	--	--
07-10-98	385	7.8	18.8	--	--	2.29	--	--	--	--	--
07-14-98	398	7.8	16.4	--	2.74	--	--	--	--	--	--
07-14-98	388	7.7	15.5	8.7	2.11	--	--	--	--	--	--
07-14-98	378	7.7	16.3	8.1	2.51	--	--	--	--	--	--
07-09-98	383	7.6	15.4	8.3	2.27	--	150	42	12	13	.5
08-11-98	344	7.6	14.8	8.4	2.84	--	--	--	--	--	--
07-20-98	401	7.6	15.2	8.9	2.90	--	--	--	--	--	--
08-08-98	375	7.7	14.6	--	2.83	--	--	--	--	--	--
07-29-98	510	7.7	13.5	9.4	5.09	--	--	--	--	--	--
08-19-98	482	7.6	14.1	8.8	5.51	--	200	55	16	14	.4
07-16-98	388	7.8	15.5	8.5	1.74	--	140	38	11	17	.6
07-14-98	381	8.0	16.9	--	1.82	--	--	--	--	--	--
07-14-98	385	7.7	15.6	8.3	1.61	--	--	--	--	--	--
07-14-98	388	7.7	15.4	8.3	1.69	--	--	--	--	--	--
07-07-98	387	8.0	16.1	--	1.63	--	130	37	10	20	.7
08-08-98	356	7.8	15.0	--	1.87	--	--	--	--	--	--
08-17-98	168	7.6	15.9	7.5	1.76	--	--	--	--	--	--
08-03-98	279	7.9	16.8	--	1.62	--	--	--	--	--	--
07-14-98	367	7.7	15.3	8.2	1.45	--	--	--	--	--	--
08-19-98	534	7.5	13.8	8.8	8.14	--	230	69	13	20	.6

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> ) (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 SiO <sub>2</sub> ) (00955)	IRON, DIS- SOLVED (µ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µ G/L AS MN) (01056)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
PERKINS COUNTY											
07-09-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	--	--	--	--	--	--	--	--	--	--	--
08-09-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-13-98	9.9	171	3.3	12	11	.60	49	<10	<4.0	252	.34
08-08-98	9.2	156	5.4	14	4.7	.71	42	110	<4.0	225	.31
08-10-98	--	--	--	--	--	--	--	--	--	--	--
08-09-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
08-10-98	8.3	155	4.7	13	4.2	.74	40	<10	<4.0	219	.30
08-19-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	8.4	151	3.7	13	4.5	.76	40	<10	<4.0	217	.30
08-18-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	9.1	156	6.6	18	12	.64	45	<10	<4.0	249	.34
07-16-98	8.3	161	6.2	15	6.5	.67	38	<10	<4.0	236	.32
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
08-17-98	9.8	165	7.5	14	4.9	.62	<.10	<10	<4.0	194	.26
07-21-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
08-09-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	--	--	--	--	--	--	--	--	--	--	--
08-18-98	--	--	--	--	--	--	--	--	--	--	--
08-17-98	12	173	--	11	4.1	.47	63	<10	<4.0	258	.35
08-08-98	9.2	162	3.3	14	11	.69	43	<10	<4.0	240	.33
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-10-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-09-98	12	169	9.0	14	5.0	.54	62	<10	<4.0	261	.36
08-11-98	--	--	--	--	--	--	--	--	--	--	--
07-20-98	--	--	--	--	--	--	--	--	--	--	--
08-08-98	--	--	--	--	--	--	--	--	--	--	--
07-29-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	11	169	8.2	23	27	.52	43	<10	<4.0	291	.40
07-16-98	9.5	166	5.1	11	1.7	.95	<.10	<10	<4.0	189	.26
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
07-07-98	9.4	164	3.2	14	6.8	.67	60	<10	<4.0	256	.35
08-08-98	--	--	--	--	--	--	--	--	--	--	--
08-17-98	--	--	--	--	--	--	--	--	--	--	--
08-03-98	--	--	--	--	--	--	--	--	--	--	--
07-14-98	--	--	--	--	--	--	--	--	--	--	--
08-19-98	9.2	190	11	37	22	.45	38	<10	<4.0	322	.44

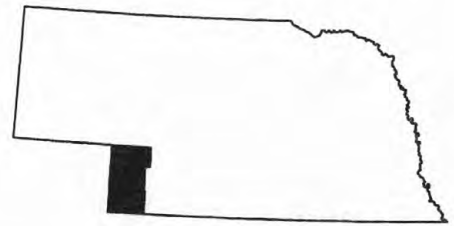


## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

UPPER REPUBLICAN NATURAL RESOURCES DISTRICT  
GROUND-WATER QUALITY

COUNTIES: Chase, Dundy, Perkins



The following data was collected during water year 1999.

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM ( FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>CHASE COUNTY</b>								
402121101325201	5N 37W32CBAC 1	40 21 21 N	101 32 52 W	07-13-99	0900	121OGLL	3360	440
402205101401401	5N 38W30DBDC 1	40 22 05 N	101 40 14 W	07-14-99	1000	121OGLL	3302	312
402227101441301	5N 39W27BDAA 1	40 22 27 N	101 44 13 W	07-14-99	1100	121OGLL	3330	310
402254102022301	5N 42W24CADD 1	40 22 54 N	102 02 23 W	07-22-99	1300	121OGLL	3580	350
402255101350701	5N 38W24CCBB 1	40 22 55 N	101 35 07 W	07-13-99	1000	121OGLL	3400	465
402255101520901	5N 40W21CCAA 1	40 22 55 N	101 52 09 W	07-15-99	1000	121OGLL	3440	300
402322101565801	5N 41W22AADD 1	40 23 22 N	101 56 58 W	07-26-99	0930	121OGLL	3500	340
402347101531701	5N 40W17CO 1	40 23 47 N	101 53 17 W	07-22-99	1500	121OGLL	3450	380
402348101545901	5N 41W13DDDB 1	40 23 48 N	101 54 59 W	07-22-99	1400	121OGLL	3485	330
402442101430401	5N 39W11CACC 1	40 24 42 N	101 43 04 W	07-16-99	0900	121OGLL	3340	322
402507101404601	5N 38W7BDBB 1	40 25 07 N	101 40 46 W	07-23-99	0800	121OGLL	3332	325
402526101484601	5N 40W1BDBB 1	40 25 26 N	101 48 46 W	07-15-99	0800	121OGLL	3400	330
402623101531801	6N 40W32CO 1	40 26 23 N	101 53 18 W	07-15-99	1200	121OGLL	3435	335
402650101564101	6N 41W35BO 1	40 26 50 N	101 56 41 W	07-22-99	1200	121OGLL	3470	305
402714101555701	6N 41W26DO 1	40 27 14 N	101 55 57 W	07-15-99	1300	121OGLL	3460	290
402715101510201	6N 40W27CO 1	40 27 15 N	101 51 02 W	07-15-99	0900	121OGLL	3425	345
402836101314301	6N 37W21ACAA 1	40 28 36 N	101 31 43 W	07-23-99	0900	121OGLL	3212	340
402910101250801	6N 36W17DBDA 1	40 29 05 N	101 25 27 W	07-20-99	0800	121OGLL	3288	495
402939101541601	6N 40W7CDDC 1	40 29 39 N	101 54 16 W	07-26-99	1600	121OGLL	3400	345
402951101593501	6N 41W8DCAA 1	40 29 51 N	101 59 35 W	07-22-99	1100	121OGLL	3520	355
402955101274101	6N 37W12DO 1	40 29 55 N	101 27 41 W	07-19-99	1400	121OGLL	3290	475
403017101495701	6N 40W11BO 1	40 30 17 N	101 49 57 W	07-27-99	0800	121OGLL	3402	311
403018101350801	6N 38W12BDAA 1	40 30 18 N	101 35 08 W	07-12-99	1300	121OGLL	3250	345
403111101365101	6N 38W3AO 1	40 31 11 N	101 36 51 W	07-12-99	1100	121OGLL	3270	323
403111101412201	6N 39W1AO 1	40 31 11 N	101 41 22 W	07-12-99	1500	121OGLL	3315	340
403111101473901	6N 39W6BO 1	40 31 11 N	101 47 39 W	07-14-99	1300	121OGLL	3375	370
403137101560901	7N 41W35DO 1	40 31 37 N	101 56 09 W	07-15-99	1500	121OGLL	3472	312
403137101575101	7N 41W34CDBB 1	40 31 37 N	101 57 51 W	07-21-99	1100	121OGLL	3495	282
403202101294101	7N 37W35BCBB 1	40 32 02 N	101 29 41 W	07-19-99	1500	121OGLL	3115	237
403205102010001	7N 41W31ABCC 1	40 32 05 N	102 01 00 W	07-21-99	1200	121OGLL	3530	320
403254101361801	7N 38W26BO 1	40 32 54 N	101 36 18 W	07-12-99	1200	121OGLL	3270	310
403320101372501	7N 38W22CO 1	40 33 20 N	101 37 25 W	07-12-99	1100	121OGLL	3260	280
403323101415201	7N 39W24CADC 1	40 33 23 N	101 41 52 W	07-12-99	1400	121OGLL	3300	260
403323101532501	7N 40W20CBDD 1	40 33 23 N	101 53 25 W	07-21-99	1000	121OGLL	3415	283
403324101245301	7N 36W21BO 1	40 33 24 N	101 24 53 W	07-19-99	1200	121OGLL	3170	280
403325101471001	7N 39W19DBDB 1	40 33 25 N	101 47 10 W	07-12-99	1300	121OGLL	3352	265
403420101213301	7N 36W13CBDB 1	40 34 20 N	101 21 33 W	07-19-99	1000	121OGLL	3084	221
403438101551901	7N 41W13ACBB 1	40 34 38 N	101 55 19 W	07-21-99	0900	121OGLL	3420	280
403451101291401	7N 41W14BAAC 1	40 34 51 N	101 29 14 W	07-20-99	0900	121OGLL	3210	210
403531101444901	7N 39W9AO 1	40 35 31 N	101 44 49 W	07-12-99	1100	121OGLL	3337	286
403531101485001	7N 40W12BO 1	40 35 31 N	101 48 50 W	07-26-99	1700	121OGLL	3405	270
403546101350901	7N 38W1CCDD 1	40 35 46 N	101 35 09 W	07-23-99	0900	121OGLL	3300	234
403651101535901	8N 40W31DCAA 1	40 36 51 N	101 53 59 W	07-21-99	0800	121OGLL	3465	240
403715101510901	8N 40W34BO 1	40 37 15 N	101 51 09 W	07-22-99	0900	121OGLL	3440	264
403718102004401	8N 41W31AO 1	40 37 18 N	102 00 44 W	07-22-99	1000	121OGLL	3550	247
403729101561501	8N 41W35ABAB 1	40 37 30 N	101 56 13 W	07-22-99	0900	121OGLL	3498	228
403811101314601	8N 37W28BO 1	40 38 11 N	101 31 46 W	07-20-99	1100	121OGLL	3280	481
403901101260301	8N 36W20BO 1	40 39 01 N	101 26 03 W	07-23-99	0800	121OGLL	3210	290
403949101285601	8N 37W14ACAC 1	40 39 49 N	101 28 56 W	07-20-99	1200	121OGLL	3226	340
404019101224201	8N 36W11CO 1	40 40 19 N	101 22 42 W	07-20-99	1400	121OGLL	3235	414
404040101480901	8N 40W12ADCA 1	40 40 40 N	101 48 09 W	07-22-99	0800	121OGLL	3420	298

## CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPECIFIC CONDUCTANCE ( $\mu$ S/CM) (00095)	PH WATER FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L) AS N (00630)	HARD- NESS TOTAL (MG/L) AS CaCO <sub>3</sub> (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 AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L) AS CaCO <sub>3</sub> (90410)
CHASE COUNTY												
07-13-99	376	7.1	15.2	6.3	2.24	--	--	--	--	--	--	--
07-14-99	400	6.9	15.3	6.7	1.65	--	--	--	--	--	--	--
07-14-99	366	7.9	15.1	7.0	1.89	--	--	--	--	--	--	--
07-22-99	340	7.3	15.4	9.1	1.81	--	--	--	--	--	--	--
07-13-99	374	7.3	15.8	6.5	1.76	--	--	--	--	--	--	--
07-15-99	361	7.8	15.0	8.1	2.27	--	--	--	--	--	--	--
07-26-99	383	7.1	14.6	7.2	4.00	160	41	13	12	.4	8.7	162
07-22-99	367	7.6	14.6	7.8	2.59	--	--	--	--	--	--	--
07-22-99	360	7.4	15.4	7.4	2.23	--	--	--	--	--	--	--
07-16-99	386	7.0	14.7	7.2	2.08	--	--	--	--	--	--	--
07-23-99	346	7.4	15.1	7.2	2.12	--	--	--	--	--	--	--
07-15-99	427	7.2	14.4	7.2	7.35	--	--	--	--	--	--	--
07-15-99	387	7.7	15.4	7.9	3.32	--	--	--	--	--	--	--
07-22-99	338	7.6	15.5	8.3	1.95	--	--	--	--	--	--	--
07-15-99	377	7.8	14.7	8.2	4.55	160	40	14	9.7	.3	9.0	148
07-15-99	355	7.7	14.9	8.0	2.11	--	--	--	--	--	--	--
07-23-99	324	7.5	16.8	8.3	1.99	--	--	--	--	--	--	--
07-20-99	363	7.2	16.3	8.2	2.87	--	--	--	--	--	--	--
07-26-99	328	7.2	14.8	8.4	2.04	--	--	--	--	--	--	--
07-22-99	320	7.4	15.4	8.6	2.78	--	--	--	--	--	--	--
07-19-99	350	7.1	20.2	6.9	2.13	--	--	--	--	--	--	--
07-27-99	302	7.1	18.5	7.9	2.04	130	36	10	12	.4	6.8	143
07-12-99	374	7.1	14.9	8.9	2.27	--	--	--	--	--	--	--
07-12-99	344	7.3	16.2	8.5	1.97	--	--	--	--	--	--	--
07-12-99	340	7.2	15.2	9.0	1.88	--	--	--	--	--	--	--
07-14-99	340	7.7	14.5	9.5	2.08	--	--	--	--	--	--	--
07-15-99	324	7.6	14.6	9.2	1.72	--	--	--	--	--	--	--
07-21-99	226	7.4	15.5	8.8	1.97	--	--	--	--	--	--	--
07-19-99	399	7.0	17.3	6.2	2.80	--	--	--	--	--	--	--
07-21-99	232	7.5	14.1	9.1	2.41	140	39	9.8	9.8	.4	6.9	146
07-12-99	351	7.2	15.2	4.3	2.55	140	39	10	13	.5	9.3	149
07-12-99	333	7.6	15.3	5.4	1.90	--	--	--	--	--	--	--
07-12-99	352	7.4	15.1	--	2.96	--	--	--	--	--	--	--
07-21-99	360	7.5	14.4	8.1	3.56	--	--	--	--	--	--	--
07-19-99	355	6.7	15.2	8.9	2.61	--	--	--	--	--	--	--
07-12-99	333	7.6	16.0	8.0	2.16	--	--	--	--	--	--	--
07-19-99	455	7.0	15.8	7.8	5.20	190	53	15	12	.4	10	188
07-21-99	354	6.9	14.8	8.9	3.05	--	--	--	--	--	--	--
07-20-99	324	8.1	20.2	4.5	2.48	--	--	--	--	--	--	--
07-12-99	345	7.4	15.5	9.0	5.04	--	--	--	--	--	--	--
07-26-99	356	7.5	14.1	8.6	3.00	--	--	--	--	--	--	--
07-23-99	405	7.2	14.1	8.5	4.57	--	--	--	--	--	--	--
07-21-99	975	6.9	17.8	--	2.24	--	--	--	--	--	--	--
07-22-99	309	7.4	14.1	9.4	2.00	--	--	--	--	--	--	--
07-22-99	317	7.4	14.3	9.4	2.35	--	--	--	--	--	--	--
07-22-99	463	7.4	13.2	--	8.32	--	--	--	--	--	--	--
07-20-99	374	7.3	15.2	9.4	6.23	--	--	--	--	--	--	--
07-23-99	363	7.1	14.1	9.6	3.02	--	--	--	--	--	--	--
07-20-99	354	7.5	14.8	8.0	3.72	--	--	--	--	--	--	--
07-20-99	376	7.5	15.3	8.4	2.58	--	--	--	--	--	--	--
07-22-99	343	7.2	14.6	12.4	4.27	--	--	--	--	--	--	--



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Upper Republican Natural Resources District Ground-Water Quality--Continued

[illegible]

## 523

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground Water-Quality--Continued

[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

525

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
<b>DUNDY COUNTY</b>								
400017102002301	1N 42W36DDBC 1	40 00 17 N	102 00 23 W	07-21-99	1000	111ALVM	3260	48
400049101311801	1N 37W32ACBB 1	40 00 49 N	101 31 18 W	07-23-99	0900	111ALVM	3015	59
400116101355201	1N 38W27CDAA 1	40 01 16 N	101 35 52 W	07-20-99	1400	111ALVM	3040	62
400131101585501	1N 41W29BCDC 1	40 01 31 N	101 58 55 W	07-21-99	1100	111ALVM	3275	100
400137101525401	1N 40W30BDBD 1	40 01 37 N	101 52 54 W	07-22-99	1000	111ALVM	3227	105
400419101403801	1N 39W12BDBC 1	40 04 19 N	101 40 38 W	07-20-99	1000	121OGLL	3226	63
400438101392101	1N 38W 6CDBD1	40 04 38 N	101 39 21 W	07-20-99	1300	121OGLL	3230	110
400443101352801	1N 38W 3DDBB1	40 04 43 N	101 35 28 W	07-20-99	1100	112SDGV	3150	110
400502101253901	1N 36W 6ACDA1	40 05 02 N	101 25 39 W	07-26-99	1200	111ALVM	2904	27
400604101583201	2N 41W32ABCC 1	40 06 04 N	101 58 32 W	07-21-99	1200	121OGLL	3448	91
400623101335201	2N 38W25CCDD 1	40 06 23 N	101 33 52 W	07-28-99	1200	121OGLL	3190	115
400630101364001	2N 38W28DCAA 1	40 06 30 N	101 36 40 W	07-19-99	1400	121OGLL	3220	103
400630101391301	2N 38W30CDAA 1	40 06 30 N	101 39 13 W	07-26-99	1100	121OGLL	3310	165
400733102004201	2N 42W24CAAC 1	40 07 33 N	102 00 42 W	07-22-99	1200	121OGLL	3580	132
400749101585401	2N 41W20BO 1	40 07 49 N	101 58 54 W	07-22-99	1100	121OGLL	3485	113
400756101320701	2N 37W19AABB 1	40 08 03 N	101 32 09 W	07-28-99	1100	121OGLL	3164	151
400801101534601	2N 41W13DDCC 1	40 08 01 N	101 53 46 W	07-27-99	1000	121OGLL	3411	123
400814101422101	2N 39W15DO 1	40 08 14 N	101 42 21 W	07-26-99	1000	121OGLL	3329	187
400831102020001	2N 42W14BDCC 1	40 08 31 N	102 02 00 W	07-21-99	1300	121OGLL	3552	155
400842101345701	2N 38W14BBCC 1	40 08 42 N	101 34 57 W	07-14-99	1000	121OGLL	3225	180
400929101545501	2N 41W11ACAA 1	40 09 29 N	101 54 55 W	07-15-99	1200	121OGLL	3451	160
400932101380101	2N 38W 8ABCD1	40 09 32 N	101 38 01 W	07-14-99	0900	121OGLL	3280	210
400943101295301	2N 37W 9ABAD1	40 09 43 N	101 29 53 W	07-23-99	0800	121OGLL	3080	120
400956101535101	2N 41W 1DO 1	40 09 56 N	101 53 51 W	07-28-99	0900	121OGLL	3468	230
401000102002701	2N 42W 1DCBA1	40 10 00 N	102 00 27 W	07-21-99	1400	121OGLL	3530	202
401005101411301	2N 39W 2DBAD1	40 10 05 N	101 41 13 W	07-19-99	0900	121OGLL	3320	234
401057101512101	3N 40W32DAAD 1	40 10 57 N	101 51 21 W	07-28-99	0900	121OGLL	3435	248
401117101454701	3N 39W31AO 1	40 11 17 N	101 45 47 W	07-19-99	1200	121OGLL	3400	250
401142101342601	3N 38W26DCAA 1	40 11 42 N	101 34 26 W	07-14-99	1200	121OGLL	3209	185
401143101393201	3N 38W30CO 1	40 11 43 N	101 39 32 W	07-16-99	0900	121OGLL	3295	230
401143101422201	3N 39W27DACC 1	40 11 43 N	101 42 22 W	07-26-99	0900	121OGLL	3355	270
401203101534701	3N 41W25AO 1	40 12 03 N	101 53 47 W	07-15-99	1400	121OGLL	2450	245
401212102002301	3N 42W25AADD 1	40 12 12 N	102 00 23 W	07-21-99	1500	121OGLL	3535	236
401302101293301	3N 37W22BCCB 1	40 13 02 N	101 29 33 W	07-13-99	1300	121OGLL	3200	250
401307101222101	3N 36W22BBAA 1	40 13 13 N	101 22 36 W	07-13-99	1400	121OGLL	3196	320
401333101374301	3N 38W17DABD 1	40 13 33 N	101 37 43 W	07-13-99	1100	121OGLL	3278	263
401417101414801	3N 39W11CCAA 1	40 14 17 N	101 41 48 W	07-13-99	1300	121OGLL	3352	300
401421101443801	3N 39W08DO 1	40 14 21 N	101 44 38 W	07-19-99	1000	121OGLL	3400	290
401510101480401	3N 40W 2DCAA1	40 15 10 N	101 48 04 W	07-27-99	1200	121OGLL	3425	291
401535101531301	3N 40W6BO 1	40 15 32 N	101 53 12 W	07-28-99	0700	121OGLL	3472	300
401538101313501	3N 37W 5BACC1	40 15 38 N	101 31 35 W	07-13-99	1200	121OGLL	3260	320
401629101414901	4N 39W35BO 1	40 16 29 N	101 41 49 W	07-13-99	1400	121OGLL	3350	240
401640101264601	4N 37W36ABBB 1	40 16 40 N	101 26 46 W	07-16-99	1000	121OGLL	3310	440
401719101335401	4N 38W25BBDD 1	40 17 21 N	101 33 50 W	07-13-99	0900	121OGLL	3222	286
401732101301201	4N 37W28BAAA 2	40 17 32 N	101 30 12 W	07-13-99	1100	121OGLL	3310	415
401746101494801	4N 40W22CO 1	40 17 46 N	101 49 48 W	07-28-99	0600	121OGLL	3432	340
401748101580601	4N 41W20DADD 1	40 17 48 N	101 58 06 W	07-26-99	1200	121OGLL	3525	320
401805101450901	4N 39W20BDCC 1	40 18 05 N	101 45 09 W	07-19-99	1100	121OGLL	3393	304
401833101593101	4N 41W18DDBB 1	40 18 33 N	101 59 31 W	07-26-99	1300	121OGLL	3550	350
401932101331701	4N 38W12DO 1	40 19 32 N	101 33 17 W	07-13-99	0800	121OGLL	3340	415
401940101411901	4N 39W11DABA 1	40 19 44 N	101 41 06 W	07-13-99	1500	121OGLL	3317	292
401942101520501	4N 40W 8CABB1	40 19 42 N	101 52 05 W	07-15-99	0900	121OGLL	3455	310
402022101382601	4N 38W05CO 1	40 20 22 N	101 38 26 W	07-14-99	1200	121OGLL	3278	290

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE ( $\mu$ S/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)
DUNDY COUNTY												
07-21-99	1740	7.3	13.6	.6	.090	--	--	--	--	--	--	--
07-23-99	2310	7.5	17.5	--	23.7	--	--	--	--	--	--	--
07-20-99	1930	7.4	16.7	1.2	3.74	700	170	69	157	3	24	294
07-21-99	2080	7.2	13.8	.5	.150	--	--	--	--	--	--	--
07-22-99	823	7.5	15.5	3.2	.110	--	--	--	--	--	--	--
07-20-99	591	7.5	16.0	--	18.6	--	--	--	--	--	--	--
07-20-99	739	7.2	14.2	8.3	26.1	--	--	--	--	--	--	--
07-20-99	725	7.5	15.5	9.2	14.6	290	81	21	27	.7	11	204
07-26-99	1970	8.6	14.2	--	7.40	--	--	--	--	--	--	--
07-21-99	507	7.4	15.4	8.3	19.5	--	--	--	--	--	--	--
07-28-99	424	7.4	15.3	7.5	3.23	--	--	--	--	--	--	--
07-19-99	456	7.6	17.3	--	8.95	--	--	--	--	--	--	--
07-26-99	416	8.1	14.9	--	4.00	--	--	--	--	--	--	--
07-22-99	392	7.3	14.6	9.1	10.3	--	--	--	--	--	--	--
07-22-99	385	7.2	14.9	7.2	4.08	--	--	--	--	--	--	--
07-28-99	421	7.3	14.3	6.8	3.82	180	50	13	18	.6	10	174
07-27-99	343	7.7	15.5	--	3.92	--	--	--	--	--	--	--
07-26-99	375	7.5	15.2	--	2.70	--	--	--	--	--	--	--
07-21-99	386	7.7	15.8	7.4	8.43	--	--	--	--	--	--	--
07-14-99	469	7.7	15.5	7.0	3.00	--	--	--	--	--	--	--
07-15-99	366	7.6	17.0	5.5	5.12	--	--	--	--	--	--	--
07-14-99	423	7.7	17.0	6.3	3.85	--	--	--	--	--	--	--
07-23-99	409	7.2	14.2	5.6	1.96	--	--	--	--	--	--	--
07-28-99	312	7.6	15.0	5.9	1.82	--	--	--	--	--	--	--
07-21-99	406	7.3	18.1	6.7	7.85	--	--	--	--	--	--	--
07-19-99	359	7.2	16.3	6.2	2.05	--	--	--	--	--	--	--
07-28-99	312	7.2	16.9	--	1.94	--	--	--	--	--	--	--
07-19-99	359	7.7	17.3	9.4	4.43	150	40	12	12	.4	10	155
07-14-99	438	7.6	14.0	6.0	4.49	--	--	--	--	--	--	--
07-16-99	388	8.0	17.0	4.2	2.61	150	40	12	15	.5	11	171
07-26-99	343	7.0	20.9	--	1.24	--	--	--	--	--	--	--
07-15-99	325	7.4	15.5	--	1.80	130	33	10	12	.5	9.8	145
07-21-99	310	7.6	16.4	4.5	3.27	--	--	--	--	--	--	--
07-13-99	419	7.7	18.0	4.8	2.70	--	--	--	--	--	--	--
07-13-99	456	7.7	18.0	5.5	4.06	--	--	--	--	--	--	--
07-13-99	456	7.2	14.4	6.6	4.61	180	48	14	17	.5	12	178
07-13-99	451	7.2	14.5	8.3	6.73	--	--	--	--	--	--	--
07-19-99	377	7.5	15.4	6.3	3.30	--	--	--	--	--	--	--
07-27-99	361	7.2	14.7	5.4	2.52	--	--	--	--	--	--	--
07-28-99	347	7.5	14.4	4.8	6.29	--	--	--	--	--	--	--
07-13-99	377	7.3	16.0	5.7	1.90	--	--	--	--	--	--	--
07-13-99	410	7.2	14.2	8.3	3.45	--	--	--	--	--	--	--
07-16-99	415	7.6	17.0	--	3.94	--	--	--	--	--	--	--
07-13-99	400	7.4	15.5	6.7	3.65	--	--	--	--	--	--	--
07-13-99	445	7.6	15.0	--	5.59	--	--	--	--	--	--	--
07-28-99	318	7.3	16.4	--	1.71	--	--	--	--	--	--	--
07-26-99	348	7.3	15.3	5.6	1.99	--	--	--	--	--	--	--
07-19-99	353	7.7	16.6	5.6	3.43	--	--	--	--	--	--	--
07-26-99	384	7.0	15.5	6.9	2.10	--	--	--	--	--	--	--
07-13-99	371	7.8	16.0	6.4	2.02	--	--	--	--	--	--	--
07-13-99	374	7.3	15.1	9.5	2.59	--	--	--	--	--	--	--
07-15-99	400	7.6	15.0	6.4	2.05	150	40	12	19	.7	11	189
07-14-99	381	7.6	15.4	6.6	2.12	--	--	--	--	--	--	--
07-21-99	343	7.4	15.0	8.6	3.20	--	--	--	--	--	--	--



## 527

Upper Republican Natural Resources District Ground-Water Quality--Continued

[illegible]



DATE	ATRA-ZINE, WATER, DISS, REC (µ G/L) (39632)	BRO-MACIL, WATER, DISS, REC (µ G/L) (04029)	BUTA-CHLOR, WATER, DISS, REC (µ G/L) (04026)	BUTYL-ATE, WATER, DISS, REC (µ G/L) (04028)	CAR-BOXIN, WATER, DISS, REC (µ G/L) (04027)	CYANA-ZINE, WATER, DISS, REC (µ G/L) (04041)	DEETHYL ATRA-ZINE, WATER, DISS, REC (µ G/L) (04040)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (µ G/L) (04038)	DIPHEN- AMID, WATER, DISS, REC (µ G/L) (04033)	HEXA-ZINONE, WATER, DISS, REC (µ G/L) (04025)	METO-LACHLOR WATER DISSOLV (µ G/L) (39415)
	DUNDY COUNTY										
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-23-99	E.030	<.0500	<.05	<.0500	<.05	<.200	.176	<.0500	<.05	<.05	<.050
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-20-99	.173	<.0500	<.05	<.0500	<.05	<.200	.350	<.0500	<.05	<.05	E.005
07-20-99	.176	<.0500	<.05	<.0500	<.05	<.200	.688	<.0500	<.05	<.05	<.050
07-20-99	.109	<.0500	<.05	<.0500	<.05	<.200	.210	<.0500	<.05	<.05	<.050
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	.153	<.0500	<.05	<.0500	<.05	<.200	.384	<.0500	<.05	<.05	E.015
07-28-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	.124	<.0500	<.05	<.0500	<.05	<.200	.834	<.0500	<.05	<.05	<.050
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-28-99	--	--	--	--	--	--	--	--	--	--	--
07-27-99	<.050	<.0500	<.05	<.0500	<.05	<.200	E.0116	<.0500	<.05	<.05	<.050
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	E.035	<.0500	<.05	<.0500	<.05	<.200	.282	<.0500	<.05	<.05	E.020
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-23-99	--	--	--	--	--	--	--	--	--	--	--
07-28-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	.222	<.0500	<.05	<.0500	<.05	<.200	.960	<.0500	<.05	<.05	E.010
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-28-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-16-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	E.031	<.0500	<.05	<.0500	<.05	<.200	E.0385	<.0500	<.05	<.05	<.050
07-19-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-27-99	--	--	--	--	--	--	--	--	--	--	--
07-28-99	.093	<.0500	<.05	<.0500	<.05	<.200	.470	<.0500			

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[illegible]

## CHEMICAL ANALYSES OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground-Water Quality--Continued

WELL NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DATE	TIME	GEOLOGIC UNIT	ELEV. OF LAND SURFACE DATUM (FT ABOVE NGVD) (72000)	DEPTH OF WELL, TOTAL (FEET) (72008)
PERKINS COUNTY								
404232101274401	9N 36W31AO 1	40 42 32 N	101 27 44 W	07-21-99	0800	121OGLL	3200	397
404254101495901	9N 40W25CDCB 1	40 42 54 N	101 49 59 W	07-15-99	1200	121OGLL	3455	340
404329101453101	9N 39W27BBDD 1	40 43 29 N	101 45 25 W	07-15-99	1000	121OGLL	3412	200
404330101430801	9N 39W25BO 1	40 43 30 N	101 43 08 W	07-13-99	0800	121OGLL	3385	190
404346101183101	9N 35W21DO 1	40 43 46 N	101 18 31 W	07-21-99	1000	121OGLL	3300	530
404347101150801	9N 35W24DCAA 1	40 43 47 N	101 15 08 W	07-21-99	1200	121OGLL	3175	480
404419101493801	9N 40W24ADBA 1	40 44 20 N	101 49 29 W	07-15-99	1300	121OGLL	3435	330
404420101270401	9N 36W19AO 1	40 44 20 N	101 27 04 W	07-21-99	0900	121OGLL	3200	385
404422101415901	9N 38W19BO 1	40 44 22 N	101 41 59 W	07-14-99	1400	121OGLL	3370	338
404538101302801	9N 37W11CO 1	40 15 38 N	101 30 28 W	07-13-99	1100	121OGLL	3235	400
404540101375601	9N 38W10DO 1	40 45 40 N	101 37 56 W	07-14-99	1300	121OGLL	3350	390
404553101162001	9N 35W11ACAC 1	40 45 53 N	101 16 20 W	07-21-99	1300	121OGLL	3190	420
404557101251601	9N 36W9AO 1	40 45 57 N	101 25 16 W	07-20-99	0900	121OGLL	3255	480
404605101481601	9N 39W 7AACA1	40 46 05 N	101 48 16 W	07-15-99	0900	121OGLL	3447	310
404631101321201	9N 37W04DO 1	40 46 31 N	101 32 12 W	07-13-99	1200	121OGLL	3280	420
404722101364701	10N 38W35DO 1	40 47 22 N	101 36 47 W	07-14-99	1100	121OGLL	3365	460
404747101310101	10N 37W34AO 1	40 47 47 N	101 31 01 W	07-14-99	1200	121OGLL	3340	427
404833101250901	10N 36W28AO 1	40 48 33 N	101 25 09 W	07-19-99	0900	121OGLL	3320	535
404836101224501	10N 36W25BO 1	40 48 36 N	101 22 28 W	07-19-99	1000	121OGLL	3335	600
404839101441701	10N 39W26BO 1	40 48 39 N	101 44 17 W	07-22-99	1500	121OGLL	3435	420
404842101393801	10N 38W28BDBB 1	40 48 42 N	101 39 38 W	07-14-99	1500	121OGLL	3390	470
404929101552501	10N 40W19ACAA 1	40 49 29 N	101 55 25 W	07-22-99	0800	121OGLL	3530	350
404953101150901	10N 35W13DDBB 1	40 49 53 N	101 15 09 W	07-20-99	1000	121OGLL	3210	395
404958101321301	10N 37W16DO 1	40 49 58 N	101 32 13 W	07-26-99	1200	121OGLL	3285	455
405000101365001	10N 38W14DO 1	40 50 00 N	101 36 50 W	07-13-99	1000	121OGLL	3380	460
405000101502301	10N 40W13CBCA 1	40 50 00 N	101 50 23 W	07-15-99	0800	121OGLL	3465	335
405116101500901	10N 40W12BBDD 1	40 51 16 N	101 50 09 W	07-16-99	0800	121OGLL	3465	430
405139101234101	10N 36W2CO 1	40 51 39 N	101 23 41 W	07-20-99	1100	121OGLL	3380	555
405202101274001	10N 36W06ACAD 1	40 52 02 N	101 27 40 W	07-19-99	1200	121OGLL	3365	520
405207101325301	10N 37W 4BBDD1	40 52 07 N	101 32 53 W	07-13-99	1400	121OGLL	3300	290
405234101365701	11N 38W35DO 1	40 52 34 N	101 36 57 W	07-26-99	1100	121OGLL	3350	410
405257101410201	11N 38W32BBDD 1	40 52 57 N	101 41 02 W	07-26-99	1100	121OGLL	3370	399
405258101191701	11N 35W33BDBC 1	40 52 55 N	101 19 07 W	07-26-99	1400	121OGLL	3320	460
405258101462701	11N 39W33ACBB 1	40 52 58 N	101 46 27 W	07-22-99	1400	121OGLL	3440	390
405300101584601	11N 41W34AO 1	40 53 00 N	101 58 46 W	07-15-99	1500	121OGLL	3561	408
405357101442301	11N 39W26BO 1	40 53 52 N	101 44 27 W	07-14-99	0900	121OGLL	3410	427
405445101363301	11N 38W24BBDC 1	40 54 45 N	101 36 33 W	07-13-99	1500	121OGLL	3350	489
405502101582101	11N 41W14CCAC 1	40 55 02 N	101 58 21 W	07-26-99	0800	121OGLL	3570	402
405509101271101	11N 36W17CO 1	40 55 09 N	101 27 11 W	07-19-99	1600	121OGLL	3360	468
405536101245801	11N 36W15BO 1	40 55 36 N	101 24 58 W	07-20-99	1600	121OGLL	3300	457
405627101414001	11N 38W 7ABDB1	40 56 27 N	101 41 40 W	07-29-99	0700	121OGLL	3400	450
405656101392401	11N 38W04DO 1	40 56 56 N	101 39 24 W	07-16-99	0900	121OGLL	3380	430
405708101162801	11N 35W 2DBAB1	40 57 08 N	101 16 28 W	07-29-99	0900	121OGLL	3220	418
405721102025001	11N 41W06BBDD 1	40 57 21 N	102 02 50 W	07-22-99	1000	121OGLL	3625	420
405814101231801	12N 36W35AO 1	40 58 14 N	101 23 18 W	07-21-99	1500	121OGLL	3270	390
405839101472601	12N 39W29DO 1	40 58 39 N	101 47 26 W	07-26-99	0900	121OGLL	3450	364
405921101354701	12N 38W24DDDA 1	40 59 21 N	101 35 47 W	07-29-99	0800	121OGLL	3345	340
405955101224501	12N 36W24BO 1	40 59 55 N	101 22 45 W	07-19-99	1400	121OGLL	3270	420
405958101282601	12N 36W19BO 1	40 59 58 N	101 28 26 W	07-19-99	1500	121OGLL	3360	403
410002101532501	12N 40W21ABCB 1	41 00 02 N	101 53 25 W	07-22-99	1200	121OGLL	3525	420
410013101493601	12N 40W24ACAD 1	40 59 53 N	101 49 41 W	07-22-99	1300	121OGLL	3445	390

# CHEMICAL ANALYSES OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (°C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N) (00630)	HARD- NESS TOTAL (MG/L AS CaCO <sub>3</sub> ) (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 AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO <sub>3</sub> ) (90410)
PERKINS COUNTY												
07-15-99	328	7.6	19.3	7.4	2.84	--	--	--	--	--	--	--
07-15-99	346	7.7	22.7	--	7.04	--	--	--	--	--	--	--
07-13-99	351	7.6	14.3	5.8	6.61	--	--	--	--	--	--	--
07-21-99	335	7.9	18.9	7.7	1.93	--	--	--	--	--	--	--
07-21-99	342	7.3	17.5	8.5	2.13	--	--	--	--	--	--	--
07-15-99	301	7.6	16.4	8.7	3.26	--	--	--	--	--	--	--
07-21-99	322	7.5	18.8	8.4	2.28	--	--	--	--	--	--	--
07-14-99	400	7.3	14.3	9.4	10.5	--	--	--	--	--	--	--
07-13-99	319	7.5	16.3	5.2	2.04	--	--	--	--	--	--	--
07-14-99	317	7.3	15.4	8.6	2.49	--	--	--	--	--	--	--
07-21-99	341	7.3	16.0	10.1	2.91	--	--	--	--	--	--	--
07-20-99	391	7.2	14.3	9.4	4.26	180	51	13	9.4	.3	11	166
07-15-99	272	7.7	16.6	8.0	2.01	120	34	8.4	12	.5	8.6	133
07-13-99	374	6.9	15.6	6.0	3.70	--	--	--	--	--	--	--
07-14-99	312	7.4	17.0	8.1	2.02	--	--	--	--	--	--	--
07-14-99	363	7.4	14.7	9.0	3.11	--	--	--	--	--	--	--
07-19-99	339	7.2	16.8	8.5	2.40	--	--	--	--	--	--	--
07-19-99	342	7.4	18.5	7.9	2.01	--	--	--	--	--	--	--
07-22-99	331	7.5	--	--	3.61	--	--	--	--	--	--	--
07-14-99	337	7.2	14.6	9.1	2.26	150	43	11	9.8	.3	10	155
07-22-99	343	7.7	14.6	8.5	3.26	150	43	11	10	.4	8.0	140
07-20-99	343	7.3	16.3	8.4	2.05	--	--	--	--	--	--	--
07-26-99	357	7.3	15.5	8.4	3.35	--	--	--	--	--	--	--
07-13-99	371	7.4	16.7	5.5	4.10	--	--	--	--	--	--	--
07-15-99	298	7.7	14.9	8.7	2.11	--	--	--	--	--	--	--
07-16-99	337	7.2	15.4	8.8	2.75	--	--	--	--	--	--	--
07-20-99	335	7.4	16.8	8.5	2.17	--	--	--	--	--	--	--
07-19-99	377	7.5	16.0	10.0	3.12	--	--	--	--	--	--	--
07-13-99	371	7.0	15.5	5.6	3.04	--	--	--	--	--	--	--
07-26-99	393	7.3	15.2	8.0	3.89	--	--	--	--	--	--	--
07-26-99	322	7.4	25.0	--	2.34	--	--	--	--	--	--	--
07-26-99	337	7.1	20.6	6.1	1.92	140	36	11	18	.7	10	161
07-22-99	330	7.3	--	--	3.08	--	--	--	--	--	--	--
07-15-99	353	7.5	14.6	9.1	3.50	--	--	--	--	--	--	--
07-14-99	359	7.6	21.6	--	3.24	--	--	--	--	--	--	--
07-13-99	346	7.4	15.4	5.5	2.19	--	--	--	--	--	--	--
07-26-99	325	7.3	15.4	7.8	2.41	--	--	--	--	--	--	--
07-19-99	351	7.2	17.9	9.4	2.31	--	--	--	--	--	--	--
07-20-99	349	7.3	16.3	9.3	2.15	--	--	--	--	--	--	--
07-29-99	369	7.4	15.8	8.3	2.90	--	--	--	--	--	--	--
07-16-99	335	7.5	16.2	8.6	2.39	--	--	--	--	--	--	--
07-29-99	357	7.4	14.9	8.4	2.31	--	--	--	--	--	--	--
07-22-99	317	7.4	15.8	8.4	2.99	140	39	11	11	.4	7.8	139
07-21-99	348	7.2	16.9	8.6	1.96	--	--	--	--	--	--	--
07-26-99	385	7.4	14.5	10.8	3.74	180	49	14	8.9	.3	9.9	151
07-29-99	337	7.5	14.7	8.4	1.96	--	--	--	--	--	--	--
07-19-99	348	7.3	16.6	8.0	1.73	--	--	--	--	--	--	--
07-19-99	340	7.4	14.7	9.0	1.66	--	--	--	--	--	--	--
07-22-99	335	7.3	16.3	8.4	2.90	--	--	--	--	--	--	--
07-22-99	301	7.4	16.2	7.9	1.93	--	--	--	--	--	--	--



WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground-Water Quality--Continued

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DATE	ATRA- ZINE, WATER, DISS, REC (µ G/L) (39632)	BRO- MACIL, WATER, DISS, REC (µ G/L) (04029)	BUTA- CHLOR, WATER, DISS, REC (µ G/L) (04026)	BUTYL- ATE, WATER, DISS, REC (µ G/L) (04028)	CAR- BOXIN, WATER, DISS, REC (µ G/L) (04027)	CYANA- ZINE, WATER, DISS, REC (µ G/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µ G/L) (04040)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (µ G/L) (04038)	DIPHEN- AMID, WATER, DISS, REC (µ G/L) (04033)	HEXA- ZINONE, WATER, DISS, REC (µ G/L) (04025)	METO- LACHLOR WATER DISSOLV (µ G/L) (39415)
	PERKINS COUNTY										
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	E.028	<.0500	<.05	<.0500	<.05	<.200	.0535	<.0500	<.05	<.05	<.050
07-21-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	E.043	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-16-99	E.020	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-29-99	<.050	<.0500	<.05	<.0500	<.05	<.200	<.0500	<.0500	<.05	<.05	<.050
07-16-99	--	--	--	--	--	--	--	--	--	--	--
07-29-99	--	--	--								



WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
Upper Republican Natural Resources District Ground-Water Quality--Continued

DATE	METRI- BUZIN SENCOR WATER DISSOLV (µ G/L) (82630)	PRO- METON, WATER, DISS, REC (µ G/L) (04037)	PRO- METRYN, WATER, DISS, REC (µ G/L) (04036)	PROP- AZINE WATER, DISS, REC (µ G/L) (38535)	PROP- CHLOR, WATER, DISS, REC (µ G/L) (04024)	SI- CLOATE, WATER, DISS, REC (µ G/L) (04031)	SIMA- TRYN, WATER, DISS, REC (µ G/L) (04030)	SI- MAZINE, WATER, DISS, REC (µ G/L) (04035)	TER- BACIL, WATER, DISS, REC (µ G/L) (04032)	TRI- FLUR- ALIN, WATER, DISS, REC (µ G/L) (04023)	VERNO- LATE, WATER, DISS, REC (µ G/L) (04034)
PERKINS COUNTY											
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-21-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-16-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-15-99	--	--	--	--	--	--	--	--	--	--	--
07-14-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-13-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-20-99	--	--	--	--	--	--	--	--	--	--	--
07-29-99	<.050	<.0500	<.0500	<.050	<.0500	<.05	<.05	<.0500	<.05	<.05	<.05
07-16-99	--	--	--	--	--	--	--	--	--	--	--
07-29-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-21-99	--	--	--	--	--	--	--	--	--	--	--
07-26-99	--	--	--	--	--	--	--	--	--	--	--
07-29-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-19-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--
07-22-99	--	--	--	--	--	--	--	--	--	--	--

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## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<i>Area</i>		
acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer
<i>Volume</i>		
gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second
<i>Mass</i>		
ton (short)	$9.072 \times 10^{-1}$	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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