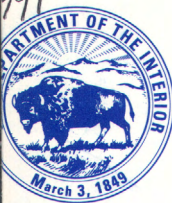


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Water Resources Data Nebraska Water Year 1991

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

CALENDAR FOR WATER YEAR 1991

1990

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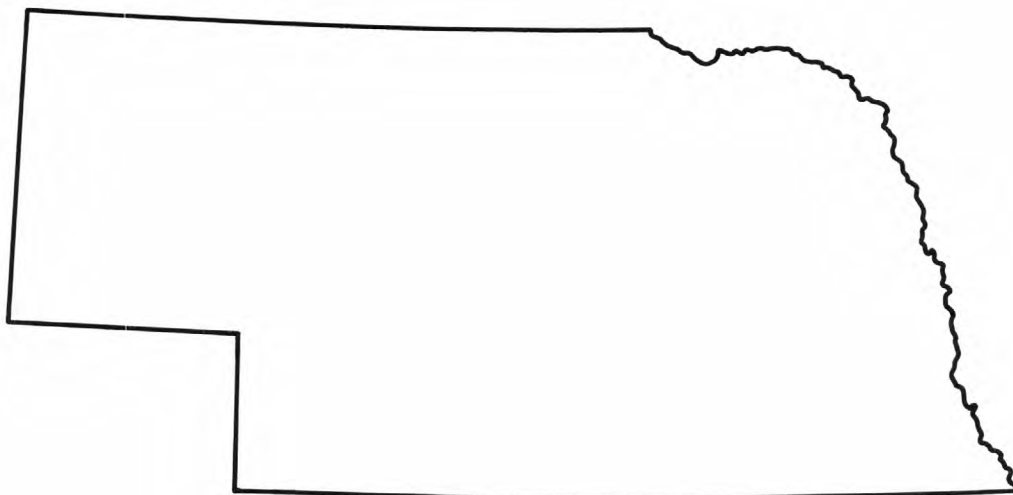
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Water Resources Data Nebraska Water Year 1991

by J.A. Boohar, C.G. Hoy, and G.V. Steele



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NE-91-1
Prepared in cooperation with the Nebraska Department of
Water Resources, the Conservation and Survey Division
of the University of Nebraska, and with other State
and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, 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 typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

G.B. Engel, N.R. Harmon, L.C. Blackburn, D.E. Schild,
F.J. Jelinek, J.C. Sybrandts, R.A. Adams, P.A. Bartz, and
J.E. McKinney of the District office.

M. Kubicek, S.H. Hull, V.C. Walczyk, D.M. Schwartz, and
T.G. Shudak of the Lincoln field office.

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

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

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15. Supplementary Notes Prepared in cooperation with the State of Nebraska and other agencies				
16. Abstract (Limit: 200 words) Water resources data for the 1991 water year for Nebraska consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality in wells. This report contains discharge records for 164 streamflow gaging stations, 3 partial-record or miscellaneous streamflow stations, and 4 crest-stage, partial-record streamflow stations; stage and contents records for 11 lakes and reservoirs; water-quality records for 18 streamflow stations, 3 ungaged stream-sites, and 336 wells; and water-level records for 56 observation wells. These data represent that part of the National Water-Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Nebraska.				
17. Document Analysis. a. Descriptors *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses b. Identifiers/Open-Ended Terms *Nebraska c. COSATI Field/Group				
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CONTENTS

V

	Page
Preface -----	III
List of surface-water stations, in downstream order, for which records are published in this volume -----	VI
Introduction -----	1
Cooperation -----	1
Overview of water year 1991 -----	2
Streamflow -----	5
Chemical quality of streamflow -----	5
Ground-water levels -----	6
Water use -----	9
Special networks and programs -----	11
Explanation of records -----	11
Station identification numbers -----	11
Downstream order system -----	11
Latitude-longitude system -----	12
Records of stage and water discharge -----	12
Data collection and computation -----	12
Data presentation -----	14
Identifying estimated discharge -----	16
Accuracy of the records -----	16
Other records available -----	16
Records of surface-water quality -----	16
Classification of records -----	17
Arrangement of records -----	17
Onsite measurements and sample collection -----	17
Water temperature -----	19
Sediment -----	19
Laboratory measurements -----	19
Data presentation -----	19
Remark codes -----	20
Records of ground-water levels -----	20
Data collection and computation -----	20
Data presentation -----	22
Records of ground-water quality -----	22
Data collection and computation -----	23
Data presentation -----	23
Access to WATSTORE data -----	24
Definition of terms -----	25
Publications on Techniques of Water-Resources Investigations -----	32
Discontinued surface-water gaging stations -----	35
Discontinued surface-water crest stage stations -----	38
Discontinued surface-water quality stations -----	42
Gaging-station records -----	52
Discharge at partial-record stations and miscellaneous sites -----	266
Analyses of samples collected at water-quality partial-record stations -----	268
Analyses of samples collected at miscellaneous sediment stations -----	269
Low-flow investigations -----	270
Ground-water levels -----	274
Chemical analyses of ground water in Nebraska -----	307
Saunders County ground water study -----	349
Index -----	352

ILLUSTRATIONS

Figure 1. Graphs showing comparison of precipitation and streamflow during water year 1991 to long-term means -----	3
2. Graph showing comparison of precipitation for water years 1990 and 1991 with normal precipitation for the eight National Weather Service Divisions in Nebraska -----	4
3. Hydrographs of water levels in representative observation wells, water years 1990 and 1991 -----	7
4a. Diagram showing estimated total water use in Nebraska, 1990 -----	9
4b. Diagram showing estimated total surface-water use in Nebraska, 1990 -----	10
4c. Diagram showing estimated total ground-water use in Nebraska, 1990 -----	10
5. Map showing location of active surface-water gaging stations -----	13
6. Map showing location of active surface-water quality stations -----	18
7. Map showing location of selected observation wells -----	21

TABLES

Table 1. Precipitation and departures from normal, in inches -----	2
2. Comparison of the mean and median specific conductance for water years 1991 with those for the period of record for streamflow at selected stations in Nebraska -----	6

[Letter after station name designates type of data: (d) discharge, (e) elevation and/or contents, (c) chemical, (b) biological, (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 05 preceeding the number has been left off as well as the 00 following a 4-digit number.

	Page
<u>MISSOURI RIVER BASIN</u>	
<u>MISSOURI RIVER:</u>	
<u>WHITE RIVER BASIN</u>	
4440 White River at Crawford (d) -----	52
<u>PONCA CREEK BASIN</u>	
4535 Ponca Creek at Anoka (d) -----	53
4536 Ponca Creek at Verdel (d) -----	54
<u>NIOBRARA RIVER BASIN</u>	
4540 Niobrara River at Wyoming-Nebraska State line (d) -----	55
4541 Niobrara River at Agate (d) -----	56
4545 Niobrara River above Box Butte Reservoir (d) -----	57
4550 Box Butte Reservoir near Hemingford (e) -----	58
4555 Niobrara River below Box Butte Reservoir (d) -----	59
4575 Niobrara River near Gordon (d) -----	60
459175 Snake River at Doughboy (d) -----	61
4593 Merritt Reservoir near Burge (e) -----	62
4595 Snake River near Burge (d) -----	63
4610 Minnechaduzza Creek at Valentine (d) -----	64
4615 Niobrara River near Sparks (dc) -----	65
4625 Plum Creek at Meadville (d) -----	69
463080 Long Pine Creek near Long Pine (d) -----	70
4635 Long Pine Creek near Riverview (dc) -----	71
463720 Niobrara River near Mariaville (d) -----	74
4645 Keya Paha River at Wewela, SD (d) -----	75
4649 Keya Paha River near Naper (d) -----	76
4650 Niobrara River near Spencer (d) -----	77
465310 Eagle Creek near Redbird (dc) -----	78
465440 Redbird Creek at Redbird (d) -----	80
4655 Niobrara River near Verdel (dcms) -----	81
465680 North Branch Verdigre Creek near Verdigre (d) -----	84
<u>BAZILE CREEK BASIN</u>	
4665 Bazile Creek near Niobrara (d) -----	85
<u>MISSOURI RIVER:</u>	
4670 Lewis and Clark Lake Yankton, SD (e) -----	86
4675 Missouri River at Yankton, SD (d) -----	87
<u>BOW CREEK BASIN</u>	
478518 Bow Creek near St. James (d) -----	88
<u>MISSOURI RIVER:</u>	
4860 Missouri River at Sioux City, IA (d) -----	89
<u>OMAHA CREEK BASIN</u>	
6010 Omaha Creek at Homer (d) -----	90
6012 Missouri River at Decatur (d) -----	91
6100 Missouri River at Omaha (d) -----	92
<u>PLATTE RIVER BASIN</u>	
6745 North Platte River (head of Platte River) at Wyoming-Nebraska State line (dc) -----	93
6775 Horse Creek near Lyman (d) -----	95
6780 Sheep Creek near Morrill (d) -----	96
6795 North Platte River at Mitchell (d) -----	97
6815 Gering drain near Gering (d) -----	98
6820 North Platte River near Minatare (d) -----	99
6845 North Platte River at Bridgeport (d) -----	100
6850 Pumpkin Creek near Bridgeport (d) -----	101
6860 North Platte River at Lisco (dcms) -----	102
6870 Blue Creek near Lewellen (d) -----	105
6875 North Platte River at Lewellen (d) -----	106
6900 Lake McConaughy near Keystone (e) -----	107
6905 North Platte River near Keystone (d) -----	108
6910 North Platte River near Sutherland (d) -----	109
6920 Birdwood Creek near Hershey (d) -----	110
6930 North Platte River at North Platte (d) -----	111
<u>South Platte River:</u>	
7625 Lodgepole Creek at Bushnell (d) -----	112
7640 South Platte River at Julesburg, CO (d) -----	113
764880 South Platte River at Roscoe (d) -----	114

STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

VII

Page

MISSOURI RIVER BASIN--ContinuedPLATTE RIVER BASIN--Continued

7655	South Platte River at North Platte (d) -----	115
7660	Platte River at Brady (d) -----	116
7665	Platte River near Cozad (d) -----	117
7680	Platte River near Overton (dcm) -----	118
7700	Platte River near Odessa (d) -----	123
7702	Platte River near Kearney (d) -----	124
7705	Platte River near Grand Island (d) -----	125
7715	Wood River near Gibbon (d) -----	126
7720	Wood River near Alda (d) -----	127
773050	Prairie Creek near Ovina (d) -----	128
773150	Silver Creek at Ovina (d) -----	129
7740	Platte River near Duncan (dcms) -----	130
7755	Middle Loup River (head of Loup River) at Dunning (d) -----	133
7759	Dismal River near Thedford (dcms) -----	134
7765	Dismal River at Dunning (d) -----	138
7790	Middle Loup River at Arcadia (d) -----	139
	South Loup River:	
7835	Mud Creek near Sweetwater (d) -----	140
7840	South Loup River at St. Michael (dc) -----	141
7842	Sherman Reservoir near Loup City (e) -----	143
7848	Turkey Creek near Dannebrog (d) -----	144
7850	Middle Loup River at St. Paul (dc) -----	145
7860	North Loup River at Taylor (d) -----	147
7870	Calamus River near Harrop (d) -----	148
7873	Calamus Reservoir near Burwell (e) -----	149
7875	Calamus River near Burwell (d) -----	150
7885	North Loup River at Ord (d) -----	151
788988	Mira Creek near North Loup (d) -----	152
7905	North Loup River near St. Paul (dc) -----	153
	Loup River:	
7915	Cedar River near Spalding (d) -----	155
7920	Cedar River near Fullerton (dcms) -----	156
7925	Loup River power canal near Genoa (d) -----	160
7930	Loup River near Genoa (d) -----	161
7935	Beaver Creek at Loretto (d) -----	162
7940	Beaver Creek at Genoa (d) -----	163
7955	Shell Creek near Columbus (d) -----	164
7960	Platte River at North Bend (d) -----	165
	Elkhorn River:	
796973	Elkhorn River near Atkinson (d) -----	166
7975	Elkhorn River at Ewing (d) -----	167
7980	South Fork Elkhorn River near Ewing (d) -----	168
7983	Clearwater Creek near Clearwater (d) -----	169
7985	Elkhorn River at Neligh (d) -----	170
7990	Elkhorn River at Norfolk (d) -----	171
	North Fork Elkhorn River:	
799080	Willow Creek near Foster (d) -----	172
7991	North Fork Elkhorn River near Pierce (d) -----	173
799230	Union Creek at Madison (d) -----	174
799350	Elkhorn River at West Point (d) -----	175
799385	Pebble Creek at Scribner (d) -----	176
799450	Logan Creek at Pender (d) -----	177
7995	Logan Creek near Uehling (d) -----	178
8000	Maple Creek near Nickerson (d) -----	179
8005	Elkhorn River at Waterloo (dcms) -----	180
8010	Platte River near Ashland (d) -----	183
8030	Salt Creek at Roca (d) -----	184
8035	Salt Creek at Lincoln (d) -----	185
803510	Little Salt Creek near Lincoln (d) -----	186
803520	Stevens Creek near Lincoln (d) -----	187
803525	Salt Creek below Stevens Creek near Waverly (cm) -----	188
803530	Rock Creek near Ceresco (d) -----	190
803555	Salt Creek at Greenwood (d) -----	191
8040	Wahoo Creek at Ithaca (d) -----	192
8047	Wahoo Creek at Ashland (d) -----	193
8049	Johnson Creek near Memphis (d) -----	194
8055	Platte River at Louisville (dcms) -----	195

	Page
<u>MISSOURI RIVER BASIN--Continued</u>	
<u>WEeping WATER CREEK BASIN</u>	
8065 Weeping Water Creek at Union (d) -----	198
<u>MISSOURI RIVER:</u>	
8070 Missouri River at Nebraska City (d) -----	199
<u>LITTLE NEMAHA RIVER BASIN</u>	
8115 Little Nemaha River at Auburn (d) -----	200
<u>MISSOURI RIVER:</u>	
8135 Missouri River at Rulo (d) -----	201
<u>BIG NEMAHA RIVER BASIN</u>	
Big Nemaha River:	
8140 Turkey Creek near Seneca, KS (d) -----	202
8145 North Fork Big Nemaha River at Humboldt (d) -----	203
8150 Big Nemaha River at Falls City (d) -----	204
<u>KANSAS RIVER BASIN</u>	
8215 Arikaree River (head of Kansas River) at Haigler (d) -----	205
8230 North Fork Republican River at Colorado-Nebraska State line (d) -----	206
Republican River (continuation of Arikaree River):	
8235 Buffalo Creek near Haigler (d) -----	207
8240 Rock Creek at Parks (d) -----	208
8245 Republican River at Benkelman (d) -----	209
8230 South Fork Republican River near Benkelman (d) -----	210
8285 Republican River at Stratton (d) -----	211
8290 Swanson Lake near Trenton (e) -----	212
8295 Republican River at Trenton (d) -----	213
8315 Frenchman Creek near Imperial (d) -----	214
8320 Enders Reservoir near Enders (e) -----	215
8325 Frenchman Creek near Enders (d) -----	216
8340 Frenchman Creek at Palisade (d) -----	217
8350 Stinking Water Creek near Palisade (d) -----	218
8355 Frenchman Creek at Culbertson (d) -----	219
8365 Driftwood Creek near McCook (d) -----	220
8370 Republican River at McCook (dt) -----	221
8373 Red Willow Creek above Hugh Butler Lake (d) -----	222
837390 Hugh Butler Lake near McCook (e) -----	223
8375 Red Willow Creek near McCook (d) -----	224
8380 Red Willow Creek near Red Willow (d) -----	225
<u>Medicine Creek:</u>	
8400 Fox Creek at Curtis (d) -----	226
8410 Medicine Creek above Harry Strunk Lake (d) -----	227
8420 Harry Strunk Lake near Cambridge (e) -----	228
8425 Medicine Creek below Harry Strunk Lake (d) -----	229
8435 Republican River at Cambridge (d) -----	230
8440 Muddy Creek at Arapahoe (d) -----	231
844210 Turkey Creek at Edison (d) -----	232
8445 Republican River near Orleans (dcm) -----	233
<u>Sappa Creek:</u>	
8465 Beaver Creek at Cedar Bluffs, KS (d) -----	235
8470 Beaver Creek near Beaver City (d) -----	236
8475 Sappa Creek near Stamford (d) -----	237
8485 Prairie Dog Creek near Woodruff, KS (d) -----	238
8490 Harlan County Lake near Republican City (e) -----	239
8495 Republican River below Harlan County Dam (d) -----	241
8510 Center Creek at Franklin (d) -----	242
8515 Thompson Creek at Riverton (d) -----	243
8520 Elm Creek at Amboy (d) -----	244
8525 Courtland Canal at Nebraska-Kansas State line (d) -----	245
853020 Republican River at Guide Rock (d) -----	246
8535 Republican River near Hardy (d) -----	247
<u>Kansas River (continuation of Republican River):</u>	
8799 Big Blue River at Surprise (d) -----	248
8800 Lincoln Creek near Seward (d) -----	249
8805 Big Blue River at Seward (d) -----	250
8808 West Fork Big Blue River near Dorchester (dcms) -----	251
8810 Big Blue River near Crete (d) -----	255
8812 Turkey Creek near Wilber (d) -----	256
8815 Big Blue River at Beatrice (d) -----	257
8820 Big Blue River at Barneston (dcm) -----	258
8830 Little Blue River near Deweese (d) -----	261
883570 Little Blue River near Alexandria (d) -----	262
883940 Big Sandy Creek at Alexandria (d) -----	263
8840 Little Blue River near Fairbury (d) -----	264
884025 Little Blue River at Hollenberg, KS (d) -----	265

WATER RESOURCES DATA - NEBRASKA, 1991

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 164 streamflow-gaging stations, for 3 partial-record or miscellaneous streamflow stations, and for 4 crest-stage, partial-record streamflow stations; (2) stage and contents for 11 lakes and reservoirs; (3) water-quality records for 18 streamflow-gaging stations, for 3 ungaged streamsites, and for 336 wells; and (4) water-level records for 56 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, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NE-91-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

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. A limited number of CD-ROM disc will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

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, J. Michael Jess, Director; Conservation and Survey Division, University of Nebraska-Lincoln, Perry B. Wigley, Director; Big Blue River Compact Administration; City of Lincoln; and many of the Natural Resources Districts.

Nebraska Department of Water Resources (NDWR) personnel in Bridgeport, Cambridge, Lincoln, Norfolk, and Ord contributed significantly in the collection and computation of records under a USGS-NDWR cooperative agreement.

Assistance with funds or services was given by the U.S. Army Corps of Engineers in collecting records for 23 streamflow-gaging stations and 4 crest-stage gages, and by the U.S. Bureau of Reclamation in collecting records for 3 streamflow-gaging stations, 2 lake stations, in providing elevations or capacity tables for 8 reservoir stations, and providing funds for collecting water-quality samples at numerous sites.

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

OVERVIEW OF WATER YEAR 1991

Streamflow, chemical quality of streamflow, and ground-water levels are directly related to precipitation. The relation of these hydrologic characteristics to precipitation during water year 1991 at selected locations is discussed in this overview 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 (fig. 1) are listed in table 1. Precipitation and departures from normal are shown for each quarter in order to emphasize temporal as well as areal variation of precipitation during water year 1991.

During the first two quarters of water year 1991 precipitation was near normal in the eight divisions; departures did not vary from normal by more than an inch. During the third quarter of water year 1991 all divisions had precipitation greater than normal by more than an inch, except for the Southeast division which had less-than-normal precipitation by more than an inch and the South Central division which had near normal precipitation. Heavy thunderstorms in May contributed greatly to the precipitation amounts during this quarter. The fourth quarter was unusually dry compared to the previous quarter, and all divisions had less-than-normal precipitation ranging from 58 to 77 percent of normal. Only the Southeast division had precipitation that was less than normal during all four quarters of water year 1991, although five divisions had annual precipitation that was less than normal and the other three had annual precipitation only slightly greater than normal.

A comparison of precipitation totals during water years 1991 and 1990 with normal precipitation in the eight divisions is shown in figure 2. Whereas all divisions showed less-than-normal totals for water year 1990, only five divisions showed less-than-normal totals for water year 1991 with two of these five divisions (South Central and Southeast) having precipitation that was less in water year 1991 than in water year 1990.

Table 1.--Precipitation and departures from normal, in inches
[Period of record for normal, 1951-80]

National Weather Service Division	Precipitation											
	First quarter (October-December)			Second quarter (January-March)			Third quarter (April-June)			Fourth quarter (July-September)		
	Normal	Water year 1991	Departure	Normal	Water year 1991	Departure	Normal	Water year 1991	Departure	Normal	Water year 1991	Departure
Panhandle	1.71	2.07	0.36	1.71	1.27	-0.44	7.91	9.97	2.06	5.28	3.94	-1.34
North Central	2.24	3.12	.88	2.17	2.01	-.16	9.16	11.25	2.09	7.25	4.96	-2.29
Northeast	3.08	3.64	.56	3.01	2.80	-.21	10.53	12.69	2.16	8.69	5.49	-3.20
Central	2.54	3.14	.60	2.57	2.39	-.18	9.89	11.17	1.28	8.08	4.74	-3.34
East Central	3.76	3.48	-.28	3.43	4.28	.85	11.11	13.91	2.80	9.94	6.10	-3.84
Southwest	1.95	2.94	.99	1.95	1.87	-.08	8.28	10.48	2.20	6.69	5.16	-1.53
South Central	2.63	1.90	-.73	2.60	2.06	-.54	9.85	10.64	.79	8.55	5.00	-3.55
Southeast	4.22	3.34	-.88	3.75	3.73	-.02	11.15	9.76	-1.39	11.18	6.49	-4.69

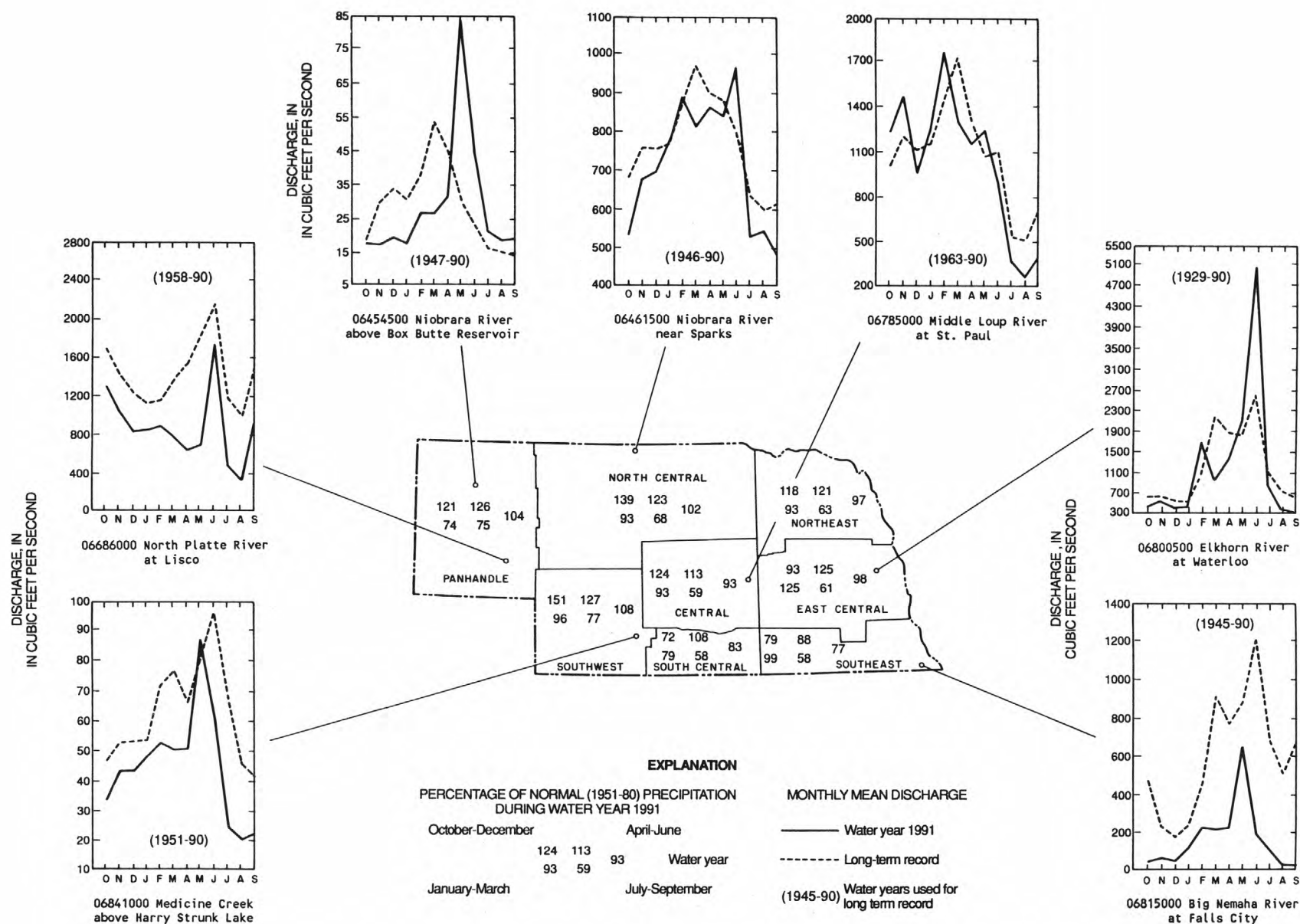


Figure 1.--Comparison of precipitation and streamflow during water year 1991 to long-term means.

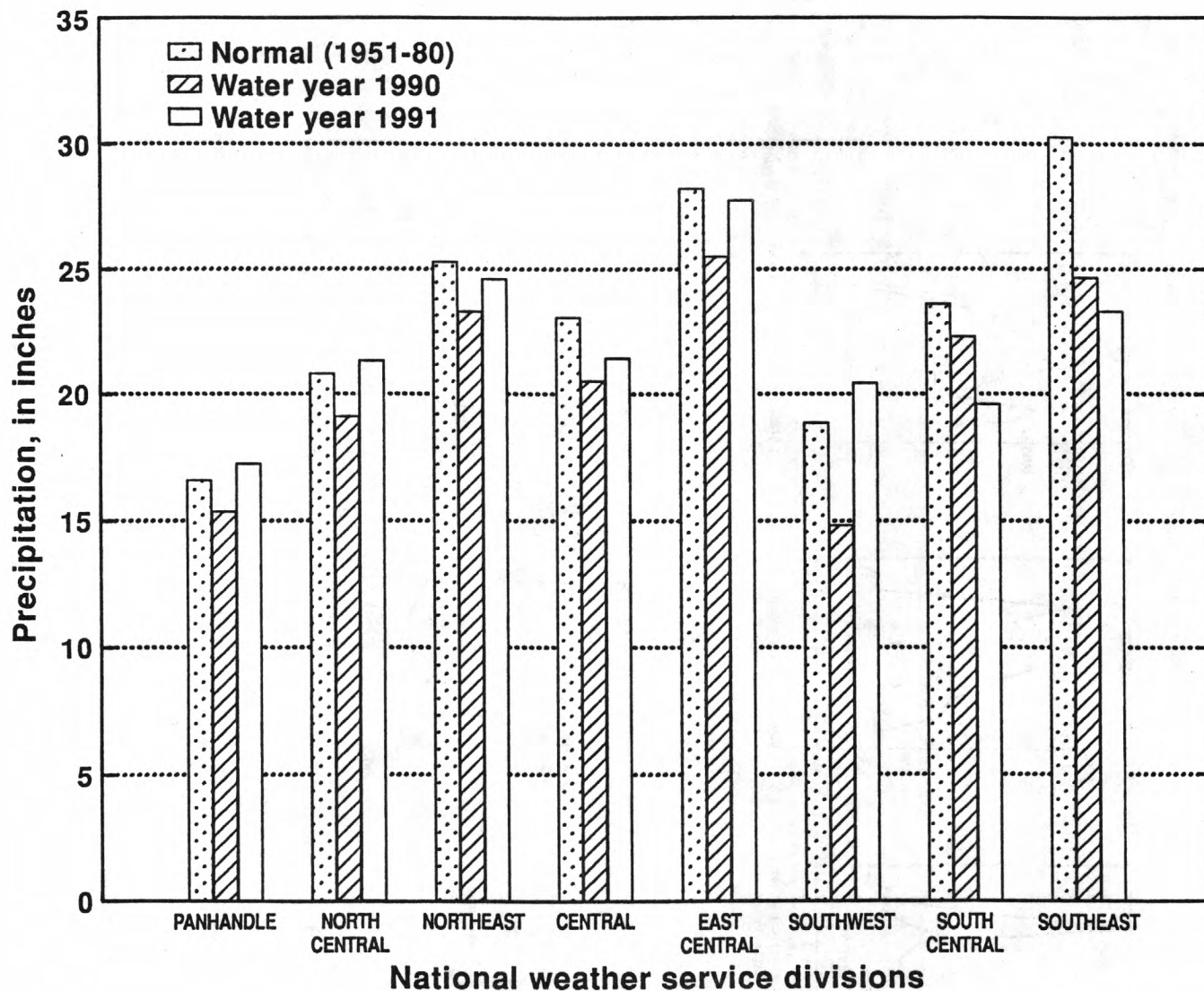


Figure 2.--Comparison of precipitation for water years 1990 and 1991 with normal precipitation for the eight Weather Service Divisions in Nebraska.

Streamflow

Monthly mean discharges during water year 1991 and long-term monthly mean discharges at representative stations are shown in figure 1. The period of record used for the long-term mean at some stations is from the completion of the last known storage structure or from the latest change in streamflow regulation upstream from the gage. The individual graphs demonstrate the varied conditions in the State during the year.

Two of the representative stations show smaller monthly means compared with the long-term means during the entire water year. One station, (06785000, Middle Loup River at St. Paul), shows average monthly means that do not differ much from the long-term means. This station is located in the sandhills region of the State where the main part of the flow is derived from ground-water discharge. The other four stations have monthly means that are generally less than the long-term means. The months during which the means either increased considerably and (or) exceeded the long-term means correspond to those times when precipitation was greater than normal.

Although streamflow at station 06454500, Niobrara River above Box Butte Reservoir, located in the Panhandle division was less than the long-term means for the first half of water year 1991, record flooding occurred in the northeastern portion of the Panhandle in May. Up to 12 inches of rain fell in some areas, which produced an increase in streamflow for May and higher sustained flow for the latter half of the water year. This flow was 275 percent greater than the long-term mean for May and 191 percent greater than the long-term mean for June.

Streamflow during water year 1991 at station 06686000, North Platte River at Lisco, also located in the Panhandle division showed smaller monthly means compared to the long-term means even though the third quarter (April-June) had greater-than-normal precipitation. Although June normally is the month of largest flow, streamflow during June 1991 was less than the long-term mean for that month. This is largely due to the fact that snowpack in the North Platte River basin in the Rocky Mountains was much less than average; consequently, snowmelt runoff and releases from upstream reservoirs were less than normal.

The monthly means for the entire 1991 water year at station 06815000, Big Nemaha River at Falls City, located in the Southeast division were less than the long-term monthly means. The water year mean was only 27 percent of the long-term mean; this was even lower than the previous two water years (44 percent of the long-term mean for water year 1990 and 40 percent of the long-term mean for water year 1989). The water year 1991 mean was 163 cfs while the water year 1990 mean was 266 cfs; this is a 39 percent reduction in mean flow. In addition to the Southeast division receiving precipitation that was less-than-normal during each quarter of the water year (yearly total was only 77 percent of normal), snowfall in the division was less than normal resulting in very little runoff in early spring.

At station 06800500, Elkhorn River at Waterloo, mean discharge during February, May, and June was greater than the long-term means for those months. This station is located in the East Central division, which received precipitation that was 125 percent of normal during both the second and third quarters. Much of the drainage area of the Elkhorn River lies in the Northeast Division. This division received precipitation that was 93 percent of normal during the second quarter and 121 percent of normal during the third quarter.

Chemical Quality of Streamflow

To determine whether significant changes are occurring in the chemical quality of streamflow leaving Nebraska, an analysis was made of specific-conductance records at sampling stations on four streams. Each station is located on a major stream in the State.

Specific conductance can be used to approximate the dissolved-solids concentration in water because it is related to the concentration and type of ions in water. Table 2 shows a comparison of the mean and median specific conductances for water year 1991 with those for the period of record. To determine whether there is any statistical difference between the median specific conductance for water year 1991 and the median for the period of record, the Mann-Whitney test was performed. This test may be used to accept or reject the hypothesis that the medians for water year 1991 and the period of record are equal. The procedure is based on ranked data. A P-value computed from the test indicates the probability that the medians of the two populations are equal. A 95-percent confidence level ($\alpha = 0.05$) was used with the test, which means that the P-value must be less than 0.05 to consider the two medians significantly different.

As shown by the computed P-values in table 2, the median specific conductances for water year 1991 for all four sampling stations do not differ significantly from the medians of their corresponding periods of record. However, the P-values for all 4 stations are very close to the breakpoint for whether the two medians can be considered statistically different. Regression relations between specific conductance and water discharge given in U.S. Geological Survey Water-Supply Paper 2179, "A statistical analysis of the quality of surface water in Nebraska," by R. A. Engberg, indicate that specific conductance tends to increase with decreasing streamflow. Precipitation, which has a direct bearing on streamflow, during water year 1991 was less-than-normal in 5 divisions and not much greater-than-normal in the other 3. The number of samples tested for each station is very small (4 to 8), and the results from the test may have differed had the sample size been greater.

Table 2.--Comparison of the mean and median specific conductance for water year 1991 with those for the period of record for streamflow at selected stations in Nebraska
 [Specific conductance, in microsiemens per centimeter at 25 degrees Celsius; ND = no difference, D = difference]

Station identification	Specific conductance							P-value	Statistical comparison of medians
	Water year 1991			Period of record					
	Number of values	Mean	Median	Number of values	Mean	Median	Water years		
06465500 Niobrara River near Verdel	4	248	252	198	274	268	1973-90	.10	ND
06686000 North Platte River at Lisco	6	924	924	486	878	881	1970-90	.06	ND
06774000 Platte River near Duncan	4	954	922	392	842	855	1965-90	.06	ND
06844500 Republican River near Orleans	8	720	714	360	625	626	1969-90	.07	ND

Ground-Water Levels

Water-level changes during water year 1991 were determined from a statewide network of observation wells measured by 38 federal, state, and local agencies. The network consists of more than 3,700 wells measured annually, semiannually, or monthly and 117 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 pumped. Water-level fluctuations in representative observation wells located in various parts of the state are shown in figure 3.

During water year 1991, the greatest water-level declines probably resulted from the increased irrigation demands due to continuing drought conditions that occurred throughout most of the summer of 1991. The lack of precipitation resulted in less-than-normal amounts of recharge to some aquifers during the growing season (April through September), especially in the southern and eastern regions. At the end of water year 1991, water levels in over 2,800 of the observation wells were lower than they were at the end of water year 1990. The State as a whole showed a mean water-level decline of 1.00 foot from the end of water year 1990 to the end of water year 1991.

The hydrograph for the observation well in Seward County is representative of water-level fluctuations that have occurred in the east-central part of the State during water years 1990 and 1991. The water level in this well was 1.99 feet lower at the end of water year 1991 than at the end of water year 1990. This decline seems to typify most water-level measurements in the east-central region of the state and can be attributed to the less-than-normal precipitation which occurred during July, August, and September.

Throughout much of the central and south-central parts of Nebraska, precipitation during the growing season (April through September) was generally less than normal, and water levels measured in observation wells in these areas were generally lower at the end of water year 1991 than they were at the end of water year 1990. The hydrograph for the Buffalo County well is generally representative of water levels in central and south-central Nebraska. As shown, these water levels generally recovered slightly during the 1990-91 dormant season. This and continued below-normal precipitation during the growing season are probably the dominant reasons that declines during the 1991 growing season were much greater than they were during the 1990 growing season. At the end of water year 1991, the water level in the Buffalo County well was 2.50 feet lower than at the end of water year 1990.

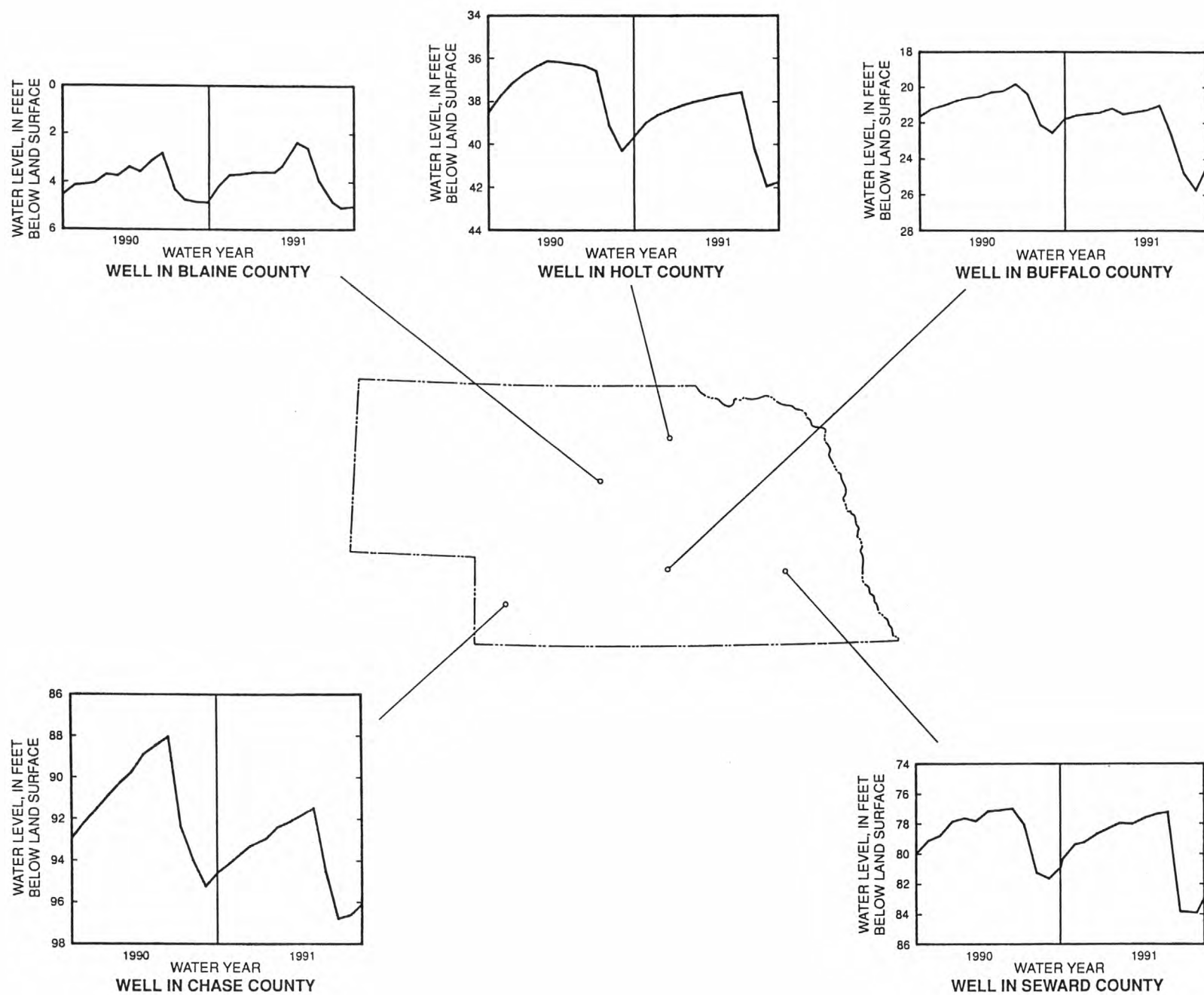


Figure 3.--Water levels in representative observation wells, water years 1990 and 1991.

In the southwestern part of the State, precipitation during the water year was near normal. Counties in this division had average water level changes which ranged from 0.28 foot higher to 1.30 feet lower at the end of water year 1991 than they were at the end of water year 1990. Most of the water-level declines occurred in the areas where the large amounts of ground water used for irrigation usually exceed the amounts of water the aquifer receives from recharge. Recorder wells in the southwestern part of Nebraska show that water levels did not rise as high as the previous year, but because more water from precipitation was available during water year 1991 than during water year 1990, declines were generally less severe than those during the previous year. Water-level fluctuations shown for an observation well in Chase County are representative of those that occurred in irrigated areas in the southwestern part of the state during water years 1990 and 1991. The hydrograph shows that the waterlevel at the end of water year 1991 was 1.51 feet lower than at the end of water year 1990.

Precipitation in north-central and northeastern Nebraska was near normal throughout most of water year 1991. Water levels measured in recorder wells at the end of water year 1991 were approximately 0.4 foot higher to 3.5 feet lower than they were at the end of water year 1990. The hydrograph for an observation well in Holt County is representative of water-level fluctuations that occurred in this part of Nebraska during water years 1990 and 1991. The water level in the well at the end of water year 1991 was 1.08 feet lower than at the end of water year 1990.

In those parts 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. Commonly, water levels rise during the fall and winter months when recharge from precipitation exceeds discharge by seepage to streams and by evapotranspiration; they decline during the spring and summer months when discharge by seepage to streams and by evapotranspiration is greater than recharge from precipitation. The hydrograph for the observation well in Blaine County shows these annual fluctuations. The rising water levels between March, April, and May 1991 can be attributed to near normal to much greater-than-normal precipitation that occurred during this period.

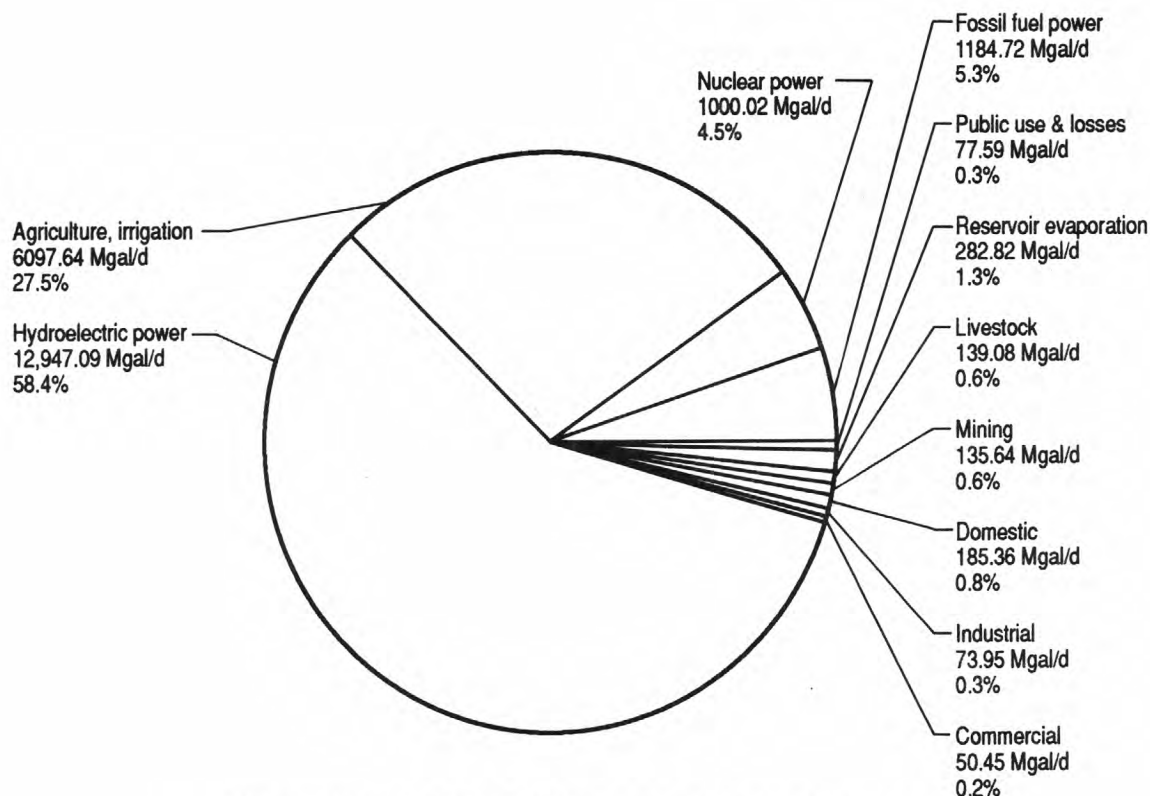
WATER RESOURCES DATA - NEBRASKA 1991

WATER USE

General water-use facts for the State of Nebraska for the year 1990 are listed below. Water-use information is collected and published every 5 years.

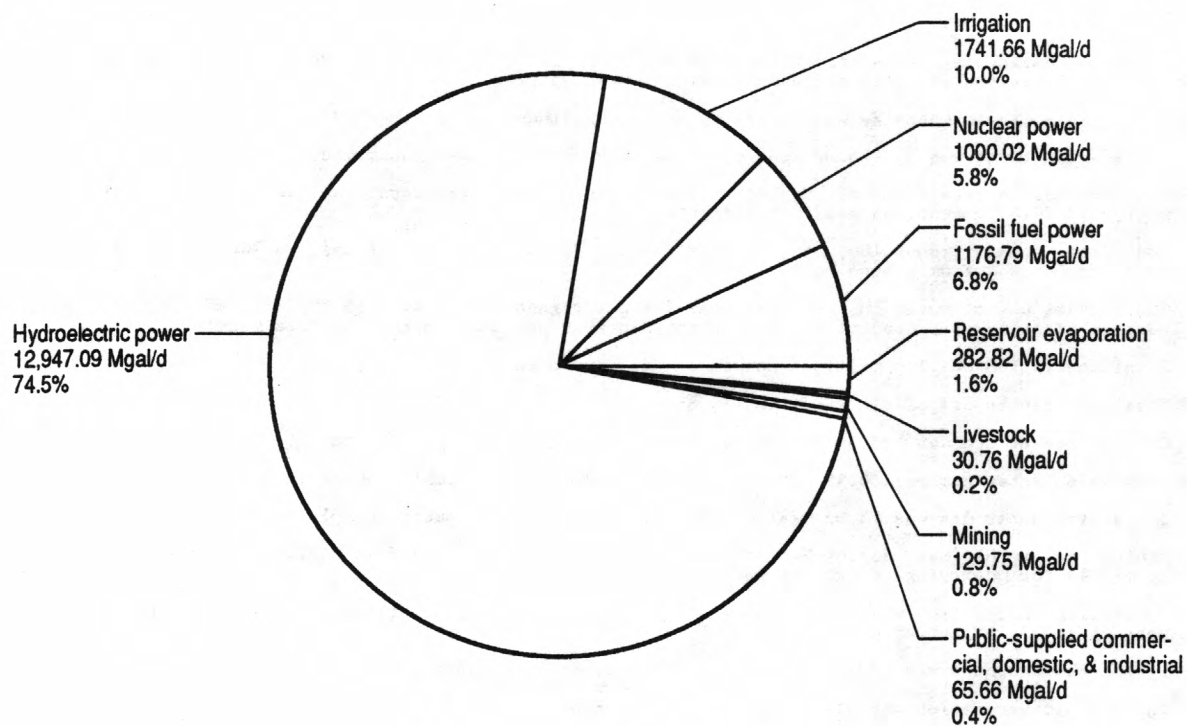
- Total water use in Nebraska was 22,174.50 million gallons per day (Mgal/d).
- Surface water use was 17,376.92 Mgal/d, or 78.0 percent of total water use.
- Ground-water use was 4,797.58 Mgal/d, or 22.0 percent of total water use, of which 4,355.98 Mgal/d or 90.8 percent was used for irrigation.
- Excluding power production, total water use was 7,042.67 Mgal/d, of which 4,789.65 Mgal/d or 68.0 percent was from ground water.
- The largest use of water in Nebraska was for power generation, with 15,131.83 Mgal/d or 68.0 percent of all water use, of which greater than 99.9 percent was from surface water.
- Total population was 1.6 million, no net change in population since 1980.
- Total per capita use of all water was 13,859 GPD (gallons per day).
- Domestic water use was 185.36 Mgal/d, an average of 117.44 GPD per capita.
- Commercial water use was 50.45 Mgal/d, with 99.6 percent from public supply.
- Industrial water use was 73.95 Mgal/d, with 44.7 percent from public supply.
- Mining water use was 135.64 Mgal/d, with 95.7 percent supplied from surface water and used primarily for quarrying and gravel washing.
- Irrigation water use was 6,097.64 Mgal/d, or 27.5 percent of all water use. This is 68.2 percent of all offstream water use.
- Livestock water use was 139.08 Mgal/d, or 1.6 percent all offstream use.
- Total power generation was 21,306 GWh (giga watt hours).

(Z.D. Hill, U.S. Geological Survey, written commun., 1991).



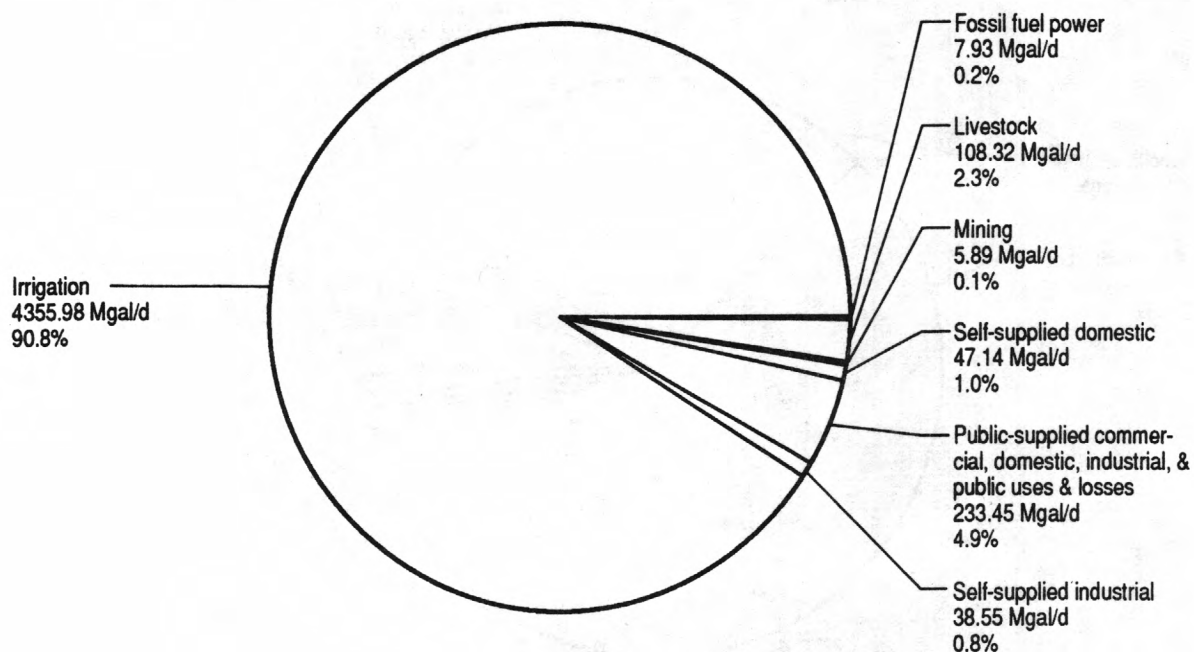
Total water use: 22,174.36 million gallons per day

Figure 4a.--Estimated total water use in Nebraska, 1990.



Total surface-water use: 17,376.92 million gallons per day

Figure 4b.--Estimated total surface-water use in Nebraska, 1990.



Total ground-water use: 4,797.44 million gallons per day

Figure 4c.--Estimated total ground-water use in Nebraska, 1990.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 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.

National Stream-Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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 1991 water year that began October 1, 1990, and ended September 30, 1991. 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 5, 6, and 7. 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.

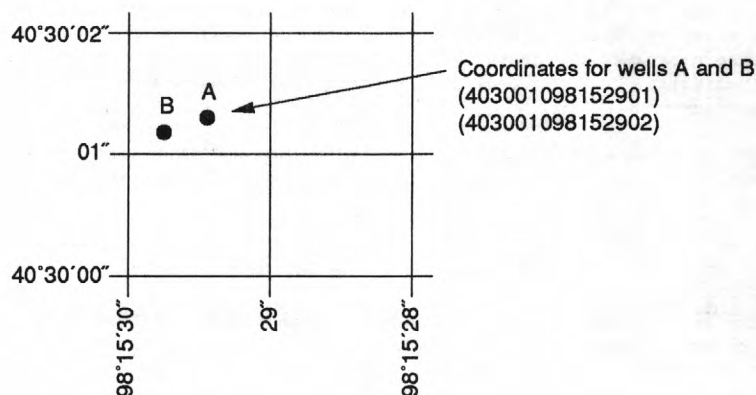
Downstream Order System

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 below.)



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 3.

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 A6.

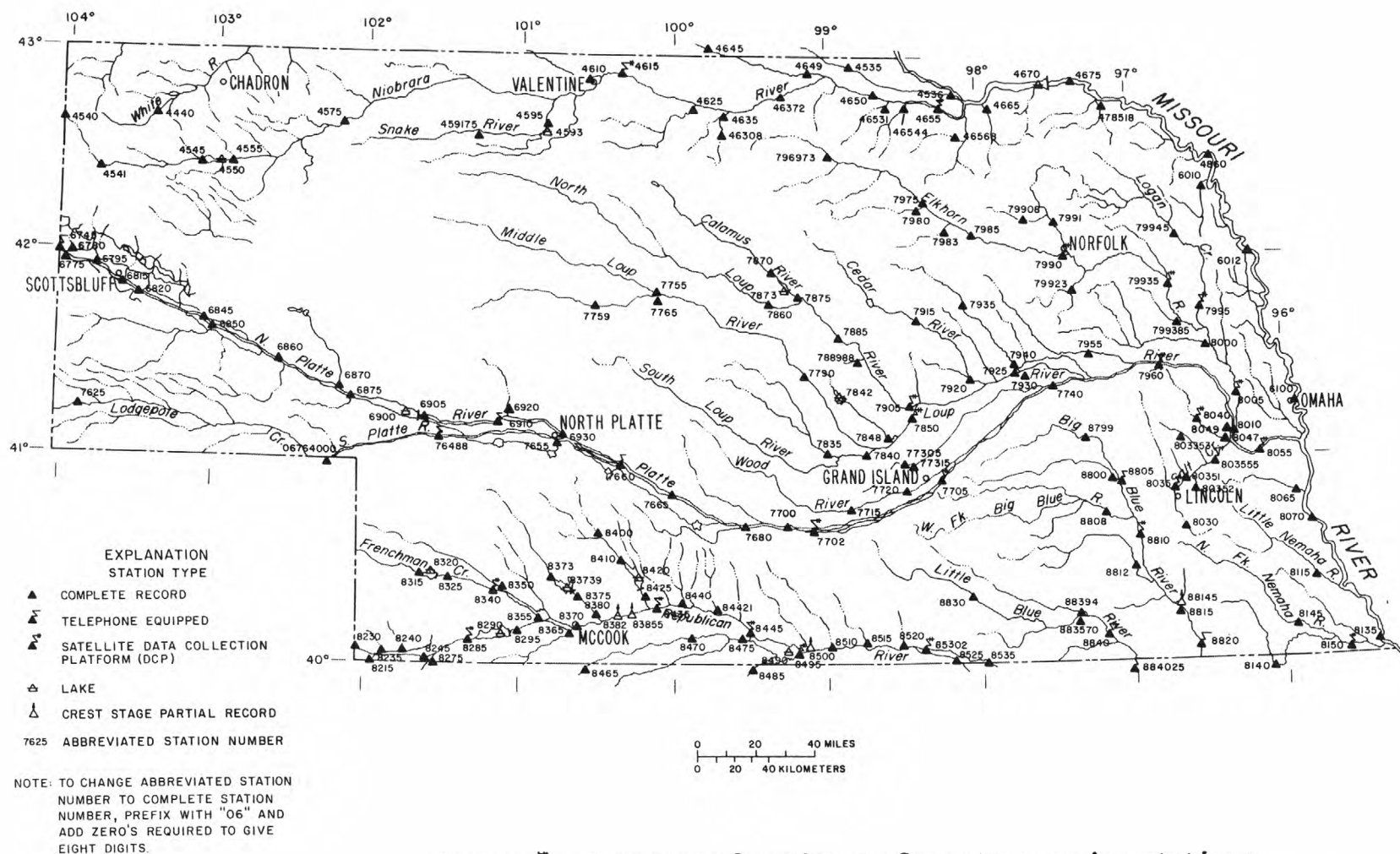


Figure 5.--Location of active surface-water gaging stations.

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 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 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

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; 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.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means 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 National Geodetic Vertical Datum of 1929 (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.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record if the median differs from the average given by more than 10 percent.

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

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

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

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

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

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years.

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 miscellaneous partial-record stations. The tables of partial-record stations may be 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. They also may be made in project areas to help define ground-water/surface-water relationships.

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

The accuracy attributed to the records is indicated under "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 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/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 22092, 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 once 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 6.

Arrangement of Records

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

On-site Measurements and Sample Collection

In obtaining water-quality data, 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 quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Nebraska District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see 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.

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 to 100's of nanograms per liter (ng/L). Present data above the $\mu\text{g/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U. S. Geological Survey will begin using new trace-element protocols in the near future.

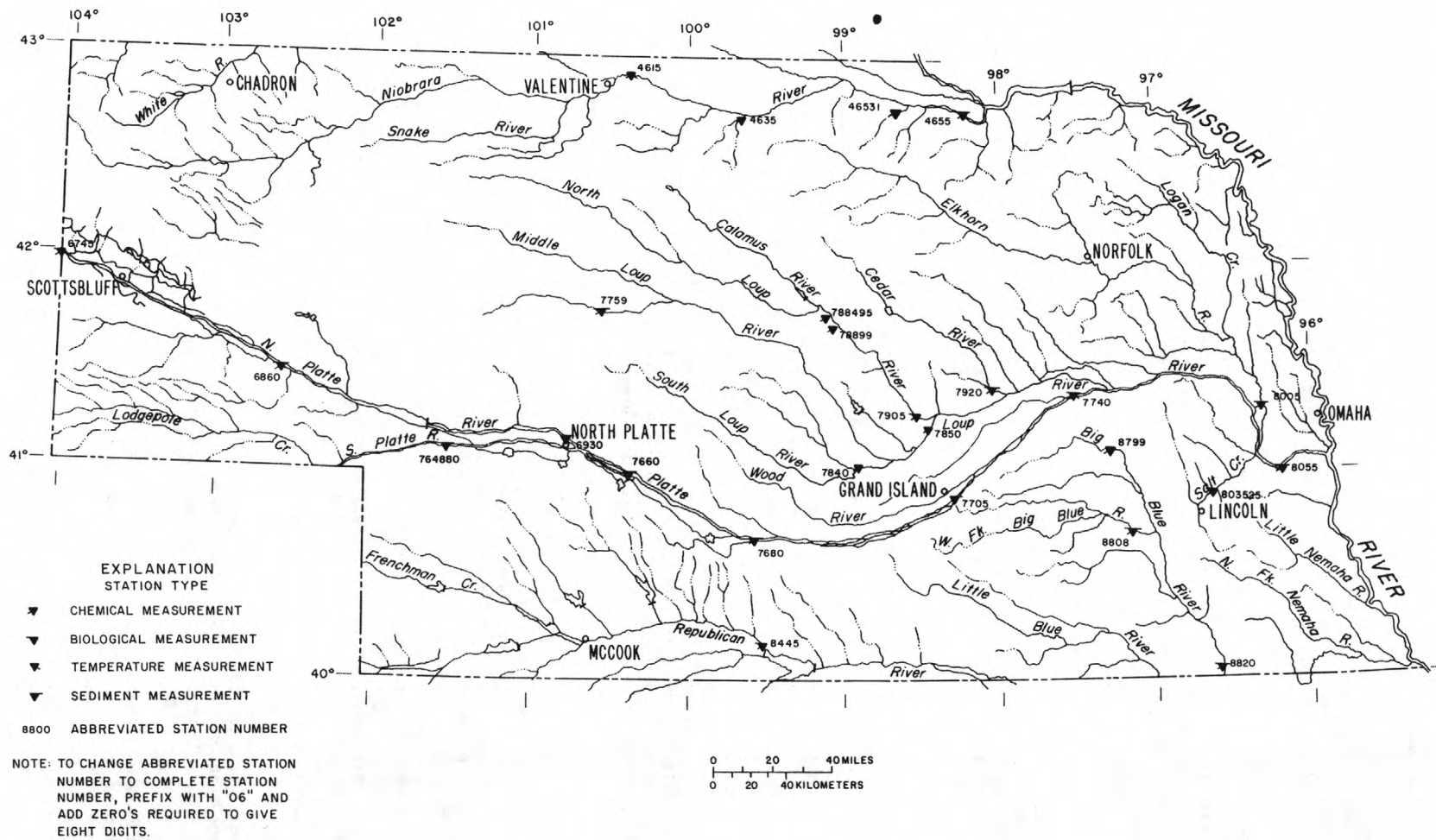


Figure 6.--Location of active surface-water quality stations.

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. 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.

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.

Remark Codes

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

<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

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 7.

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.

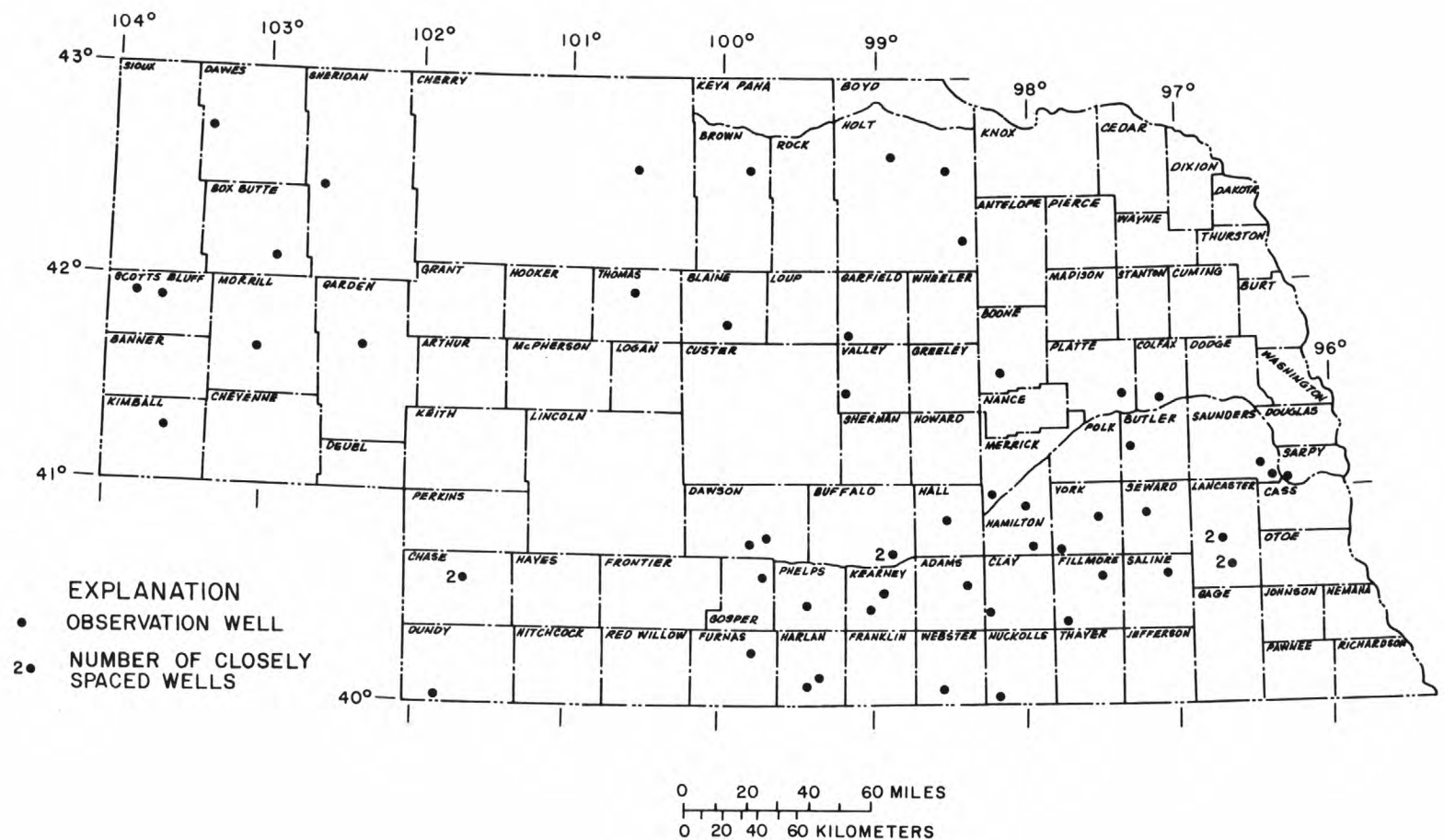


Figure 7.--Location of selected observation wells.

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 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) National Geodetic Vertical Datum of 1929 (NGVD of 1929); 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 Techniques of Water-Resources Investigations" manuals listed at the end of the introductory text. 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. 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.

ACCESS TO WATSTORE DATA

The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey. A variety of useful products ranging from data tables to complex statistical analyses such as Log Pearson Type III statistics can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia and consists of related files and data bases.

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

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

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

In addition to providing direct access to WATSTORE, the National Water Data Exchange (NAWDEX) services include data-search assistance, data dissemination, and data referrals. Data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disc. and, as noted in the introduction, on CD-ROM discs. The request for water-data should be forwarded to the local Geological Survey district office.

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

Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. 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's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225. If the district office does not have the facility to fulfill the request, it will be referred to the National Water Data Exchange (NAWDEX) office in Reston, Virginia.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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 (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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

Organic mass or volatile mass of the living substance is the difference between the dry mass and 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.

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

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

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

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

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

Cubic-foot-per-second day 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.

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).

Dissolved refers to that material in a representative water sample which passes through a $0.45 \mu\text{m}$ 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.

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

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

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

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

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.

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

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

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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 (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

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

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
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 (1×10^{12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{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 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.

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

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

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

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

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).

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

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

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

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

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

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

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

Solute is any substance that is dissolved in water.

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

Stage-discharge relation is the relation between gage height (stage) and 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 μ 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 μ 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 μ 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 recoverable concentrations of the constituent.

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.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

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.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1991, is called the "1991 water year."

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

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

WSP is used as an abbreviation for "Water-Supply Paper" in 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, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. McCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W. Scott Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements 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 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*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 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. Rathburn, N. Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed 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.
- 3-B4. *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 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-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 H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 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.
- 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.
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- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. J. Fishman and L. C. Friedman: 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.
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- 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.
- 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.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 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.
- 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.
- 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.
- 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.

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.

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
White River Basin			
4435	White River near Crawford	163	*1897
4445	White River below Crawford	350	*1931
4450	White River below Cottonwood C near Whitney	676	1949-61
4455	White River near Chadron	750	1931-43
445590	Big Bordeaux Creek near Chadron	9.42	1968-79
Ponca Creek Basin			
4534	Ponca Creek near Naper	373	1961-74
453550	Ponca Creek at Lynch		1961-64
Niobrara River Basin			
4559	Niobrara River near Dunlap	1580	1931-42, 1962-71
4565	Niobrara River near Hay Springs	1790	1950-64
4570	Niobrara River near Colclesser	2220	1948
4580	Antelope Creek near Gordon	160	*1948
4585	Bear Creek near Eli	360	1948-53
4590	Niobrara River near Cody	5570	1948-57
4592	Snake River above Merritt Reservoir	440	1963-81
4600	Gordon Creek near Simeon		*1948
4605	Niobrara River near Valentine	6160	1901-06, 1928-32
4609	Minnehaduza Creek near Kilgore	85	1958-74
4620	Niobrara River near Norden	8390	1953-83, 1986
4630	Niobrara River at Meadville		1951-52
4660	Niobrara River at Niobrara		1954-58
Blackbird Creek Basin			
6011	Blackbird Creek near Macy	102	1979-80
Tekamah Creek Basin			
6080	Tekamah Creek at Tekamah	23.0	1949-81
New York Creek Basin			
6090	New York Creek at Herman	25.4	1946-69
Platte River Basin			
6740	Mitchell Canal at WY-NE State Line		1938-41
6750	North Platte River at Henry		1912-18
6771	Horse Creek at WY-NE State Line		1969-70
6785	North Platte River at Morrill		1917-23
6788	Dutch Flats Drain near Mitchell		1961-65
6790	Dry Spotted Tail Creek at Mitchell	77.2	**1949-79
6800	Tub Springs near Scottsbluff		**1949-79
6805	North Platte River at Scottsbluff	24500	1887-1900, 1912, 1917-18
6807	Winter Creek at Tri-State Canal, near Scottsbluff		1961-65
6810	Winter Creek near Scottsbluff		**1932-79
6822	Alliance Drain near Minatare		1961-65
6823	Ninemile Drain near Minatare		1961-65
6825	Ninemile Drain near McGrew		**1932-79
6830	Bayard Sugar Factory Drain near Bayard		**1932-79
6835	Red Willow Creek near Bridgeport	83	*1931
6840	Red Willow Creek near Bayard	162	**1932-79
6855	North Platte River at Broadwater		1917-23

DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Platte River Basin--continued			
06686500	North Platte River at Oshkosh	31300	1916-17, 1928-60
6880	North Platte River at Belmar	29100	1917-26
6885	Otter Creek near Lemoyne	13.9	1932-37
6890	North Platte River at Lemoyne		1926-27
6895	North Platte River at Martin		1934-38
6915	Birdwood Creek near Sutherland	250	1913-15
6925	Lincoln County Drain No. 1 near North Platte		**1931, 1955-79
7620	Lodgepole Creek at Bushnell (upper station)	1090	1931-32
7630	Lodgepole Creek at Sidney	2190	1931-32
7635	Lodgepole Creek at Ralton	3307	1931, 1951-79
7645	South Platte River at Big Springs	23200	*1903
7650	South Platte River at Paxton	24000	1923-24, 1931-33, 1937-70
7670	Platte River near Lexington	61300	1902-06, 1916-24
7675	Plum Creek near Smithfield	229	1946-53, 1969-75
7685	Buffalo Creek near Darr	63	1947-69
7690	Buffalo Creek near Overton	175	1949-58
7695	Elm Creek near Overton	31	1947-58
770190	North Dry Creek near Kearney		1969-71
770478	Platte River near Grand Island (South Channel)		1984-87
7710	Wood River near Riverdale	379	1946-73
7715	Wood River near Gibbon	572	1949-76
7730	Dry Creek near Cairo	22.2	1949-53
7735	Prarie Creek near Silver Creek	406	1949-53
7745	Middle Loup River near Mullen	1120	1947-48
7750	Middle Loup River near Seneca	1140	1948-53
7760	Dismal River near Gem	1360	1947-53
7770	Middle Loup River near Milburn	3950	1952-56, 1958
7775	Middle Loup River at Walworth	4650	1960-64
7780	Middle Loup River at Sargent	4790	1941-60
7785	Middle Loup River near Comstock	4960	1937-38, 1953-70
7795	Middle Loup River at Loup City	5170	*1937
7800	Middle Loup River at Rockville	5310	1936-38, 1949-56
7805	Boelus Power Canal near Boelus		1956-64, 1968-75
7810	Middle Loup River at Boelus		1952-63
7815	Middle Loup River at Boelus (combined flow)		1952-55
7820	South Loup River near Cumro	1340	1937-38
7825	South Loup River at Ravenna	1570	1946-53
7830	Mud Creek near Broken Bow	126	1941-58, 1968-75
7843	Oak Creek near Loup City	41.9	1949-53
7845	Oak Creek near Dannebrog	122	1952-60, 1961-64
7855	North Loup River at Brewster	1890	1949-57
7865	North Loup River at Burwell	2510	1945-51
7880	North Loup River near Burwell		1953-60
7890	North Loup River at Scotia	3960	1937-38
7895	Davis Creek near Cotesfield	94.0	1937-70
7900	North Loup River near Cotesfield		1949-58
7910	Spring Creek at Cushing	164	1950-56
7917	Spalding Power Canal at Spalding		1949-53
791750	Cedar River at Primrose	870	1960-64
7918	Cedar River at Belgrade	1060	1960-64
7921	Fullerton Power Canal at Fullerton		1960-65
7945	Loup River at Columbus	15200	1960-64
7950	Shell Creek at Newman Grove	122	1895-1915, 1931, 1934-78
7965	Platte River near Fremont		1949-67
796978	Holt Creek near Emmet		1911-15
796985	Elkhorn River at Emmet		1979-89
7970	Elkhorn River at O'Neill	651	1980-82
7988	Elkhorn River at Meadow Grove	2500	1931-32
8013	Salt Creek subwatershed No. 3 near Sprague	4.14	1960-65
8014	Salt Creek subwatershed No. 1 near Roca	1.33	1955-59
8015	Salt Creek subwatershed No. 12 near Roca	1.11	1955-61
8025	Salt Creek subwatershed No. 34 near Roca	5.91	1954-61
8034	Antelope Creek at 17th St., at Lincoln	12.1	1954-61
803450	Oak Creek near Raymond	83.6	1958-62
803550	Dee Creek at Greenwood	14.3	1963-67
8045	Silver Creek at Ithaca	80.0	*1960
8050	Salt Creek near Ashland	1617	1950-58
			1948-69

DISCONTINUED SURFACE-WATER GAGING STATIONS--continued

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Little Nemaha River Basin			
06810500	Little Nemaha River near Syracuse	212	1951-69
8109	Brownell Creek subwatershed No. 1A near Syracuse	.19	1955-69
8110	Brownell Creek subwatershed No. 1 near Syracuse	.77	1955-69
Big Nemaha River Basin			
8155	Muddy Creek at Verdon	186	1953-72
Kansas River Basin			
8225	Pioneer Canal at CO-NE State Line		**1950-51
8280	Republican River at Max	7880	1928-45
828490	Muddy Creek at Stratton	157	1978
8300	Republican River at Culbertson	8740	1931-50
8305	Frenchman Creek near Champion	480	1932-40
8310	Frenchman Creek below Champion	519	1935-56
8335	Frenchman Creek near Hamlet	1090	1929-56
8345	Stinking Water Creek near Wauneta	1330	1941-50
8360	Blackwood Creek near Culbertson	320	1946-86
8385	Dry Creek near Bartley	5.24	1955-57
8390	Medicine Creek at Maywood	231	1951-58
8395	Brushy Creek near Maywood	95.3	1951-58
8405	Dry Creek near Curtis	21.7	1951-58
8415	Mitchell Creek above Harry Strunk Lake	52.0	1950-74
8430	Medicine Creek at Cambridge	909	1936-57
8452	Sappa Creek near Beaver City	1510	1937-72
8500	Turkey Creek at Naponee	129	1948-53
8502	Cottonwood Creek near Bloomington	15.6	1948-56
8505	Republican River near Bloomington	21020	1929-57
8530	Republican River near Guide Rock	22040	1951-84
8531	Beaver Creek near Rosemont	.75	1968-70
8829	Little Blue River below Pawnee Creek, near Pauline	881	1963-68
8835	Little Blue River at Angus		1950-53

* Partial year only.

** Published by Nebraska Department of Water Resources after 1979.

*** Not published.

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.

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Cheyenne River Basin			
06396490	Warbonnet Creek near Harrison	24.5	1969-78
White River Basin			
4432	White River tributary near Glen	7.97	1953-70
4433	Deep Creek near Glen	10.9	1953-78
4437	Soldier's Creek near Crawford	52.6	1955-78
4439	White River tributary No. 2 near Crawford	5.45	1953-70
445530	Chadron Creek tributary at Chadron State Park near Chadron	2.59	1953-78
445560	Chadron Creek at Chadron State Park near Chadron	15.4	1953-78
Niobrara River Basin			
4544	Niobrara River tributary near Belmont	2.59	1971-78
4562	Pebble Creek near Esther	3.07	1953-78
4563	Pebble Creek near Dunlap	23.5	1953-70
4564	Cottonwood Creek near Dunlap	82.2	1951-78
4571	Point of Rocks Creek near Marsland	7.10	1970-78
4572	Berea Creek near Alliance	34.0	1953-78
4577	Antelope Creek at Gordon	61.1	1953-70
4578	Antelope Creek tributary near Gordon	26.6	1953-78
4613	Big Beaver Creek near Valentine	24.9	1971-79
4631	Bone Creek tributary near Ainsworth	.39	1956-68
4632	Bone Creek tributary No. 2 near Ainsworth	2.18	1958-68
4633	Sand Draw tributary near Ainsworth	1.07	1956-74
4652	Honey Creek near O'Neill	2.54	1958-68
4653	Camp Creek near O'Neill	1.65	1958-78
4654	Blackbird Creek tributary near O'Neill	.60	1958-68
465850	Bingham Creek near Niobrara	6.5	1968-79
Weigand Creek Basin			
466950	Weigand Creek near Crofton	3.5	1968-78
Bow Creek Basin			
478520	West Bow Creek near Fordyce	52.8	1964-65, 1968-78
Omaha Creek Basin			
6006	South Omaha Creek tributary near Walthill	2.64	1950-67
6007	South Omaha Creek near Walthill	15.1	1950-67
6008	South Omaha Creek tributary No. 2 near Walthill	1.51	1950-78
6009	South Omaha Creek at Walthill	51.0	1951-78
Tekamah Creek Basin			
6077	South Branch Tekamah Creek near Craig	2.54	1950-67
6078	South Branch Tekamah Creek tributary near Tekamah	4.08	1950-78
6079	South Branch Tekamah Creek near Tekamah	9.73	1950-67
6080	Tekamah Creek at Tekamah	23.0	1982-89
New York Creek Basin			
6086	New York Creek near Spiker	1.75	1952-67
6087	New York Creek tributary near Spiker	1.55	1951-78
6088	New York Creek north of Spiker	6.50	1951-75
6089	New York Creek east of Spiker	13.9	1950-78
Papillion Creek Basin			
6107	Big Papillion Creek near Orum	8.52	1968-78

WATER RESOURCES DATA - NEBRASKA, 1991

DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Platte River Basin			
678750	Dry Spottedtail Creek tributary near Mitchell	15.0	1971-78
6849	Hackberry Creek near Redington	16.6	1970-78
6876	Ash Hollow near Oshkosh	54.9	1971-78
762650	Lodgepole Creek tributary near Kimball	8.68	1970-78
7632	Lodgepole Creek tributary near Sumol	15.6	1968-78
7671	South Fork Plum Creek tributary near Farnam	9.81	1951-70
7672	North Fork Plum Creek tributary near Farnam	1.83	1952-78
7673	Plum Creek tributary at Farnam	19.8	1947-48, 1951-70
7674	North Plum Creek near Farnam	38.3	1947, 1951-70
767410	Plum Creek near Farnam	79.8	1947, 1951-78
7675	Plum Creek near Smithfield	229	1954-67, 1978-78
768050	Buffalo Creek tributary No. 1 near Buffalo	2.08	1965-78
7681	East Buffalo Creek near Buffalo	5.21	1951-78
7682	Buffalo Creek at Buffalo	33.5	1951-67
7684	West Buffalo Creek near Buffalo	17.1	1951-78
7691	Elm Creek tributary near Overton	.58	1951-78
7692	Elm Creek near Sumner	14.9	1951-78
7693	Elm Creek tributary No. 2 near Overton	5.62	1951-78
7706	Wood River tributary near Lodi	2.02	1952-78
7707	Wood River near Lodi	12.9	1952-78
7708	Wood River near Oconto	26.4	1950, 1952-78
7709	Wood River at Oconto	44.8	1950, 1952-78
770910	Wood River near Lomax	79.6	1952-78
7710	Wood River near Riverdale	379	1974-80
7757	North Fork Dismal River near Mullen	670	1971-78
7776	Lillian Creek tributary near Broken Bow	2.02	1952-78
7777	Lillian Creek near Broken Bow	4.77	1947, 1951-78
7778	Lillian Creek tributary near Walworth	2.04	1951-78
7826	South Branch Mud Creek tributary near Broken Bow	.43	1951-78
782620	South Branch Mud Creek near Broken Bow	79.4	1976-78
7827	South Branch Mud Creek at Broken Bow	400	1945, 1951-75
7828	North Branch Mud Creek at Broken Bow	15.5	1951-67
7829	Mud Creek tributary near Broken Bow	5.98	1945, 1951-78
7847	Turkey Creek near Farwell	27.2	1950, 1953-78
7891	Davis Creek tributary near North Loup	2.29	1951-67
7892	Davis Creek tributary No. 2 near North Loup	6.79	1951-70
7893	Davis Creek near North Loup	21.1	1951-67
7894	Davis Creek southwest of North Loup	41.6	1951-78
7906	East Branch Spring Creek tributary near Wolbach	1.52	1952-78
7907	West Branch Spring Creek at Brayton	19.5	1945, 1952-78
7908	West Branch Spring Creek near Wolbach	36.9	1951-67
7909	Mary's Creek at Wolbach	7.63	1952-67
7911	Spring Creek near Cushing	184	1948, 1953-78
793995	Skeedee Creek tributary near Genoa	.59	1968-78
794710	Bone Creek near David City	8.75	1968-78
7950	Shell Creek at Newman Grove	122	1969
799190	South Fork Union Creek tributary near Cornlea	6.54	1968-78
799423	North Logan Creek near Laurel	25.3	1965, 1968-78
799850	Pond Creek near Schuyler	.54	1968-78
800350	Elkhorn River tributary near Nickerson	6.53	1968-78
801340	Hickman Branch above Hickman	14.7	1956-61
801360	Hickman Branch at Hickman	42.8	1956-61
8032	Antelope Creek at 48th Street, Lincoln	6.82	1951, 1958-78
8033	Antelope Creek at 27th Street, Lincoln	10.4	1957-78
8034	Antelope Creek at 17th Street, Lincoln	12.5	1963-78
803540	Dee Creek near Alvo	8.06	1962-78
803570	Dunlap Creek tributary near Weston	.31	1950-78
8036	North Fork Wahoo Creek near Prague	15.2	1951-78
8037	Dunlap Creek near Weston	8.90	1950-67
8039	North Fork Wahoo Creek at Weston	43.7	1951-78
8041	Silver Creek near Cedar Bluffs	10.9	1950-78
8042	Silver Creek near Colon	29.9	1950-78
8043	Silver Creek tributary near Colon	14.3	1951-78
8044	Silver Creek tributary at Colon	22.4	1951-78
8045	Silver Creek at Ithaca	72	1959-78
805510	Buffalo Creek near Gretna	4.29	1968-78

DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Weeping Water Creek Basin			
8064	Weeping Water Creek at Elmwood	21.4	1950-67, 1971
806420	Stove Creek near Elmwood	4.94	1950-67, 1971
806440	Stove Creek at Elmwood	10.0	1950-78
806460	Weeping Water Creek at Weeping Water	75.5	1947, 1950-78
806470	Weeping Water Creek tributary near Weeping Water	.87	1950-78
Honey Creek Basin			
810060	Honey Creek near Peru	3.40	1968-78
Little Nemaha River Basin			
8101	Hooper Creek tributary near Palmyra	7.81	1950-78
8102	Hooper Creek near Palmyra	57.5	1950-67
8103	Wolf Creek near Syracuse	25.4	1950-67
8104	Little Nemaha River tributary near Syracuse	.76	1950-78
Big Nemaha River Basin			
8155	Muddy Creek at Verdon	186	1973
815510	Temple Creek near Falls City	3.02	1968-78
Kansas River Basin			
8281	North Branch Indian Creek near Max	4.76	1962, 1970-78
8297	Thompson Canyon near Trenton	10	1966-78
8341	Spring Creek tributary near Grant	17.9	1970-78
8351	Bobtail Creek near Palisade	41	1966-78
8371	Ash Creek near Red Willow	22	1966-78
8390	Medicine Creek at Maywood	231	1960-78
8392	Elkhorn Canyon near Maywood	6.74	1952-78
8394	Elkhorn Canyon southwest of Maywood	13.2	1952-70
8395	Brushy Creek near Maywood	130	1947, 1960-76
8396	Frazier Creek near Maywood	11.3	1952-70
8397	Frazier Creek tributary near Maywood	.72	1952-78
839850	Fox Creek north of Curtis	13.8	1952-70
8399	Fox Creek above Cut Canyon near Curtis	31.8	1951-78
839950	Cut Canyon near Curtis	25.6	1951-78
8400	*Fox Creek at Curtis	73.2	1947, 1960-70
8405	Dry Creek near Curtis	20	1947, 1960-70
8496	Turkey Creek near Holdrege	27.8	1941, 1960, 1968-78
8502	Cottonwood Creek near Bloomington	15.6	1957-78
8505	Republican River near Bloomington	20800	1970-78
8510	*Center Creek at Frabklin	146	1961-68
851090	Republican River at Riverton	-	1970-78
8511	West Branch Thompson Creek at Hildreth	27.4	1953-70
8512	West Branch Thompson Creek near Hildreth	56.6	1953-70
8513	West Branch Thompson Creek tributary near Hildreth	13.9	1953-78
8514	West Branch Thompson Creek near Upland	90.8	1953-78
8515	*Thompson Creek at Riverton	223	1961-68
8520	*Elm Creek at Amboy	39.2	1954-78
8531	Beaver Creek near Rosemont	.752	1971-78
8534	Republican River at Superior	22300	1971-75, 1977
879850	Big Blue River tributary near Hordville	4.07	1968-78
880508	Plum Creek near Seward	85.5	1968-78
880590	North Branch West Fork Big Blue River tributary at Giltner	7.52	1968-78
880710	School Creek tributary near Harvard	13.1	1952-70
880720	School Creek near Harvard	55.1	1953-78
880730	School Creek tributary No. 2 near Harvard	14.0	1953-78
880740	School Creek near Saronville	89.4	1952-70
880775	Beaver Creek tributary near Henderson	1.16	1968-78
880790	West Fork Big Blue River at Beaver Crossing	1153	1967-68
881250	South Fork Swan Creek tributary near Western	1.00	1968-78

DISCONTINUED SURFACE-WATER CREST STAGE STATIONS--continued

Station number	Station name	Drainage area (mi ²)	Period of record (water years)
Kansas River Basin--continued			
8815	*Big Blue River at Beatrice	3900	1969-74
881510	Bear Creek near Adams	2.85	1968-70
881530	Big Blue River tributary near Beatrice	1.86	1971-78
8829	Little Blue River below Pawnee Creek near Pauline	881	1969
8831	Little Blue River near Angus	1038	1958-68
883540	Spring Creek tributary near Ruskin	2.11	1968-78
8836	South Fork Big Sandy Creek near Edgar	15.2	1953-70
8837	South Fork Big Sandy Creek near Davenport	32.0	1950, 1952-78
8838	South Fork Big Sandy Creek near Carleton	49.4	1952-70
8839	South Fork Big Sandy Creek near Hebron	81.9	1952-70
883955	Little Sandy Creek near Ohioa	11.6	1968-78
884005	Dry Branch tributary near Fairbury	4.51	1968-78

* Current continuous record streamflow station.

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.

Type of record:		c	chemical
		m	microbiological
		s	sediment
		t	temperature
Station number	Station name	Period of record (water years)	Type of record
White River Basin			
06444000	**White River at Crawford	*1957	c
4450	White River near Whitney	1969-72	c m t
4457	White River at Slim Butte, SD	*1964, 1965-67	c
		1964-67	s
		1965-67	t
Ponca Creek Basin			
4535	**Ponca Creek at Anoka	1949-53, 1964, 1967	c
		1949-52, 1967	s
4536	**Ponca Creek at Verdel	*1930, *, 1949, *1971	c
		1975-80	c m t
Niobrara River Basin			
4541	**Niobrara River at Agate	*1952	c
4545	**Niobrara River above Box Butte Reservoir	*1952	c
4559	Niobrara River near Dunlap	1969-73	c m t
4565	Niobrara River near Hay Springs	1949-53, *1961, 1964	c
		1950-57	s
		1951-55	t
4570	Niobrara River near Colclester	1969-73	c m t
4575	**Niobrara River near Gordon	1947-55	c s
		*1964	c s t
4577	Antelope Creek near Gordon	*1948-49	c
4585	Bear Creek near Eli	*1947	c m t
4590	Niobrara River near Cody	1948-56	c s t
4592	Snake River above Merritt Reservoir	1964-75	t
		1976	c t
459350	Ainsworth Canal near Johnstown	1978-84	c t
4595	**Snake River near Burge	1947-52	c
		1949-53	s
4600	Gordon Creek near Simeon	*1948	c
4605	Niobrara River at Valentine	*1948	c
4610	**Minnehaduzza Creek at Valentine	*1948-49	c
4620	Niobrara River near Norden	*1953, *1961, 1964-67	c s t
462450	Plum Creek at Johnstown	1969-75, 1978-84	c m t
462470	Plum Creek near Johnstown	1969-75, 1978-84	c m t
4625	**Plum Creek near Meadville	1948-49	c *s
		1977-84	c t
4630	Niobrara River at Meadville	1950-52	c s t
463050	Long Pine Creek at Long Pine	1978-84	c t
463090	Bone Creek at Ainsworth	*1969-75, 1978-84	c t
463290	Sand Draw near Johnstown	1978-84	c t
463310	Sand Draw near Meadville	1978-84	c t
463350	Bone Creek near Long Pine	*1969-75, 1978-84	c t
463720	**Niobrara River near Mariaville	1985-89	c m s
4645	Keya Paha River at Wewela, SD	1947-49	c
4650	**Niobrara River near Spencer	*1946-48	c
		1976	c t
465050	Eagle Creek near Midway	*1957-66,	c
		1976-90	c t
4651	East Branch Eagle Creek near Midway	*1957-66	c
		1976-90	c t
		1974-83	c

DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

Station number	Station name	Period of record (water years)	Type of record
Niobrara River Basin--continued			
465202	Honey Creek near Midway	*1957-66	c
465310	Eagle Creek near Redbird	1986-90	c
465398	Redbird Creek near Meek	*1957-66	c
		1976-90	c t
465420	Blackbird Creek near Meek	*1957-66	c
		1976-90	c t
465650	South Branch Verdigre Creek near Royal	*1967	c
4657	Verdigre River near Verdigre	1948-49	c
		1948-50	s
Bazille Creek Basin			
4662	Bazile Creek near Creighton	*1967	c
Missouri River			
4675	Missouri River at Yankton, SD	1951, 1957-59	c
		1957-59	t
6012	Missouri River at Decatur	1969-73	c m t
Missouri River			
6100	Missouri River at Omaha	1969-72	c m t
6106	Missouri River at Bellevue	1969-70, 1971-73	c m t
6098	Missouri River near Mormon Bridge at Omaha	1974-75	c m t
Platte River Basin			
6562	Ft. Laramie Canal at WY-NE State Line near Lyman	*1964	c
6566	Interstate Canal at WY-NE State Line near Henry	*1964	c
6568	High Line Canal near Bayard	*1964	c
656955	Low Line Canal near Bayard	*1964	c
6745	North Platte River at WY-NE State Line at Henry	*1946, 1964	c
6750	North Platte River S of Henry	*1938	c
6771	South Horse Creek lateral at WY-NE State Line near Lyman	*1964	c
677208	Kiowa Creek near Gering	*1964	c
677210	Kiowa Creek above Ft. Laramie Canal near Lyman	*1963-64	c
677220	Kiowa Creek above Horse Creek lateral near Lyman	*1963-64	c
677221	Unnamed tributary to Kiowa Creek near Lyman	*1963-64	c
677234	Owl Creek above Ft. Laramie Canal near Lyman	*1963-64	c
677235	Owl Creek below Ft. Laramie Canal near Lyman	*1963-64	c
677240	Owl Creek near Lyman	*1963-64	c
677245	Unnamed eastern tributary to Kiowa Creek near Lyman	*1963-64	c
677250	Kiowa Creek above Dry Creek Drain near Lyman	*1963-64	c
677251	Dry Creek Drain below Ft. Laramie Canal near Lyman	*1963-64	c
677270	Western tributary to Dry Creek Drain above Horse Creek lateral	*1963-64	c
677274	Dry Creek Drain below Horse Creek lateral near Lyman	*1963-64	c
677280	Western tributary to Dry Creek Drain near Lyman	*1963-64	c
677290	Dry Creek Drain near Lyman	*1963-64	c s
6773	Kiowa Creek near Lyman	1961-65	c s
6775	**Horse Creek near Lyman	*1949, *1964	c
		1970-73	t
677550	Lane Drain near Lyman	*1964	c
6780	**Sheep Creek near Morrill	*1964	c
678580	Morrill Drain near Morrill	*1964	c
678610	Akers Draw near Morrill	*1949-64	c
6787	Brown Canyon Drain near Mitchell	1961-65	c s
6788	Dutch Flats Drain near Mitchell	1961-65	c s
6790	Dry Spottedtail Creek at Mitchell	*1964	c
6794	Bald Drain near Mitchell	*1964	c
		1970-73	c t

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Platte River Basin--continued			
6795	**North Platte River at Mitchell	*1964	c
679950	Wet Spottedtail Creek near Mitchell	*1964	c
6800	Tub Springs near Scottsbluff	*1964	c
680450	Gering Canal at siphon under Gering Drain near Gering	*1964	c
6807	Winter Creek at Tri-State Canal near Scottsbluff	1961-65	c s
6808	Hale Drain near Scottsbluff	1961-65	c s
680950	Scottsbluff Drain No. 1 near Scottsbluff	*1964	c
6810	Winter Creek near Scottsbluff	*1964	c
681290	Gering Drain tributary near Gering	*1963-64	c
6813	Gering Drain at Mitchell-Gering Canal near Gering	1961-65	c s
6815	**Gering Drain near Gering	*1964	c s
681950	Scottsbluff Drain No. 2 near Minatare	*1964	c
6820	**North Platte River near Minatare	*1938, *1964	c
682010	Fairfield Seep near Minatare	*1964	c
6822	Alliance Drain near Minatare	1961-65	c *s
682280	Ninemile Drain above Tri-State Canal near Minatare	*1963-64	c
682290	East Ninemile Drain near Minatare	*1963-64	c
6823	Ninemile Drain near Minatare	1961-65	c s
6825	Ninemile Drain near McGrew	*1964	c
682505	North Platte River at McGrew	1973-89	c m
6830	Bayard Sugar Factory Drain near Bayard	*1964	c
683050	Cleveland Drain near McGrew	*1964	c
6832	West Wildhorse Drain near Bayard	1961-62	c s
6833	Wildhorse Drain near Bayard	1961-62	c s
6840	Red Willow Creek near Bayard	*1964	c
684250	DeGraw Drain near Bridgeport	*1964	c
684350	Indian Creek near Bridgeport	*1964	c
684450	Upper Dugout Creek near Bridgeport	*1964	c
6845	**North Platte River at Bridgeport	*1964	c
		1971-74	c t
		1970-73	c t
6850	**Pumpkin Creek near Bridgeport	*1949	c
6865	North Platte River at Oshkosh	1951	c
6900	Kingsley Reservoir (McConaughy Lake)	1947-50	c
6903	Sutherland Canal below diversion from North Platte River near Keystone	*1968	c
6905	**North Platte River near Keystone	*1945	c
		1973-74	c t
6930	**North Platte River at North Platte	*1950, *1958-59, *1965	c
762550	Lodgepole Creek at Kimball	1973-74	c m t
764001	South Platte River at Julesburg, CO	1946-69	c
764201	South Platte River near Julesburg, CO	1969-71	c
764880	**South Platte River at Roscoe	1975-83	c m t
7649	Sutherland Canal below diversion from South Platte River near Paxton	*1968	c
7650	South Platte River at Paxton	*1965	c
7655	**South Platte River at North Platte	1950-51, 1957-59,	
		*1964-65	c
7657	Supply Canal (Tri-County diversion) near Maxwell	1951-72	c t
7660	**Platte River at Brady	1950-72	c
		1951-72	t
7665	**Platte River near Cozad	*1947-49, *1965,	
7670	Platte River near Lexington	1951	c
767040	Johnson Reservoir below Power Plant No. 2 near Lexington	1950-52, 1957-70	c
7675	Plum Creek near Smithfield	*1948	c
		*1948-51	s
767996	Larson Drain 2 miles SW of Platte River bridge S of Overton	*1968	c
768015	Spring Creek below Lexington	1973-74	c m t
7685	Buffalo Creek near Darr	*1948	c
7690	Buffalo Creek near Overton	*1947	c
769950	Unnamed Drain 2.2 miles SW of Platte River bridge S of Elm Creek	*1968	c
769994	Unnamed Drain 8.2 miles N of Holdrege	*1968	c
769996	Unnamed Drain 5.2 miles SE of Platte River bridge S of Elm Creek	*1968	c

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Platte River Basin--continued			
7700	**Platte River near Odessa	*1947-49, 1950-52, *1965	c
770002	Unnamed Drain 2.3 miles SE of Platte River bridge S of Odessa	*1968	c
770190	North Dry Creek near Kearney	1969-71	c m t
770195	North Dry Creek 2.0 miles SW of Platte River bridge S of Kearney	*1968	c
770198	Whiskey Slough 3.2 miles SW of Platte River bridge S of Kearney	*1968	c
7702	**Platte River near Kearney	*1947, *1959	c
770205	Platte River (North Channel) near Kearney	1973-74	c m t
770250	Crooked Creek Drain 0.8 mile NW of Newark	*1968	c
770340	Lost Creek 7.7 miles NE of Axtell	*1968	c
7705	**Platte River near Grand Island	1972-80 1972-89	t c m
7710	Wood River near Riverdale	*1947-49, *1965-66, 1974 1947-52	c s
7715	**Wood River near Gibbon	*1966, 1974, 1976	c
7720	**Wood River near Alda	*1966, 1974	c m t
7722	Wood River near Grand Island	*1965-66, 1973-74	c m t
7725	Wood River near Chapman	*1958-59, 1962-80	c m t
772750	Warm Slough near Chapman	*1965-66	c
7729	Silver Creek near Silver Creek	*1951, *1965-66	c
772950	Prairie Creek near Cairo	*1965	c
773150	Silver Creek at Ovina	*1966	c
7734	Prairie Creek near Central City	*1965-66	c
773410	Prairie Creek near Fullerton	*1951	c
7735	Prairie Creek near Silver Creek	*1965-66	c
7750	Middle Loup River near Seneca	*1949-51	s
7755	**Middle Loup River at Dunning	*1947-66 1950-52, 1954, *1977 1950-56, 1966-89	c s t
7760	Dismal River near Gem	1949-51	s
7765	**Dismal River at Dunning	*1952 1948-53, 1956-57 1956, *1977	c s s
7770	Middle Loup River near Milburn	1949-55 1970-74	s c t
7775	Middle Loup River at Walworth	*1949	s
7779	Lillian Creek near Walworth	1951	s
7781	Detention structure near Sargent	1960-62	s
7785	Middle Loup River near Comstock	1969-74	c t
778860	Farwell Canal at Highway 58 above Sherman Reservoir	1977-83	c t
7790	**Middle Loup River at Arcadia	*1949 1948-57 1977-83	c s c t
7795	Middle Loup River at Loup City	1949-52	s
781530	Deer Creek near Boleus	1977-83	c t
7820	South Loup River near Cumro	*1948 1948-51	c s
7830	Mud Creek near Broken Bow	1973-74	c m t
7835	**Mud Creek near Sweetwater	*1977 1978-89	s c m
7843	Oak Creek near Loup City	1951-58	s
7844	Oak Creek near Farwell	1977-83	c t
7845	Oak Creek near Dannebrog	1977-83	c t
784505	Dry Creek near Dannebrog	1977-83	c t
784750	Turkey Creek near Nysted	1977-83	c t
784810	Turkey Creek northeast of Dannebrog	1977-83	c t
784820	Turkey Creek tributary near St. Paul	1977-83	c t
785020	Unnamed Creek at St. Paul	1977-83	c t
7855	North Loup River at Brewster	*1950 1948-51	c s
7860	**North Loup River at Taylor	*1956 *1949, *1977 1974-81	c s c t
7865	North Loup River near Burwell	*1944, 1952 1949-57	c s

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Platte River Basin--continued			
7875	**Calamus River near Burwell	*1944, *1952-56	c
		*1949-55	s
		1972-81	c t
7885	**North Loup River at Ord	*1944	c
		1949-55	s
7890	North Loup River at Scotia	*1944	c
		*1949	s
7895	Davis Creek near Cotesfield	*1950-53, 1956	s
7900	North Loup River near Cotesfield	*1950, 1951-54	s
790245	Auger Creek at Elba	1977-83	c t
790255	Unnamed Creek south of Elba	1977-83	c t
7915	**Cedar River near Spalding	*1947-49, *1959-60	c
		1946-47	s
		1957-63	c s
7918	Cedar River at Belgrade	*1959	c
		1958-63	s
792499	Loup River Power Canal at Diversion near Genoa	1973-86	c m s t
7925	**Loup River Power Canal near Genoa	1950-53	s
7930	**Loup River near Genoa	1976, 1979-86	c s t
7935	**Beaver Creek at Loretto	1947-49	c
		1946-51	s
7936	Beaver Creek near Albion	1973-78	c m t
7940	**Beaver Creek at Genoa	*1977	s
		1978-89	c m
7945	Loup River at Columbus	*1946	c
7947	Platte River near Schuyler	1966-68	c s
7955	**Shell Creek near Columbus	*1948-49, *1968	c
		1948-49	s
7960	**Platte River at North Bend	*1966-69	s
		1973-77	t
		1973-89	c m
796950	Elkhorn River near Stuart	*1966, *1968-69	c
796973	**Elkhorn River near Atkinson	1983-89	c m
796980	Holt Creek near Emmet	*1966, *1968-69	c
7972	Dry Creek near O'Neill	*1966, *1968-69	c
7974	Elkhorn River near Inman	*1966, *1968-69	c
		1965-70	s
7975	**Elkhorn River at Ewing	*1948-49, 1960-66,	
		*1968-69, 1976	c
		1948-52, 1961	s
7980	**South Fork Elkhorn River at Ewing	*1948, 1960-66	c
		1961, 1963-67	s
798150	Cache Creek near Ewing	*1967-68	c
798302	Clearwater Creek at Clearwater	*1964, *1967-69	c
		1962-64	s
798450	Antelope Creek near Neligh	*1967-68	c
7985	**Elkhorn River at Neligh	*1947, *1967-68,	
		1974-81	c t
		1948-51	s
		1962-64	s
798550	Cedar Creek at Oakdale	*1967-69	s
7988	Elkhorn River at Meadow Grove	*1943, *1964, *1967-69	c
		1963-65	s
7989	Elkhorn River near Battle Creek	*1968-69	c
798920	Battle Creek at Battle Creek	*1968-69	c
7990	**Elkhorn River near Norfolk	*1976-77	s t
		1960-69, 1974-89	c m
799020	North Fork Elkhorn River above Pierce	*1968-69	c
799030	Dry Creek near Pierce	*1968-69	c
799031	North Fork Elkhorn River below Dry Creek	*1968	c
799040	Yankton Slough near Pierce	*1968	c
799050	Willow Creek near Pierce	*1968-69	c
7991	**North Fork Elkhorn River near Pierce	*1944, 1959-64,	
		*1968-69	c
		*1961, 1963-64	s

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Platte River Basin--continued			
799110	North Fork Elkhorn River at Hadar	*1968-69	c
799130	North Fork Elkhorn River at Norfolk	*1965, 1968-69	c
		1965-68	s
799290	Union Creek near Stanton	*1964, *1968-69	c
		1962-65	s
7993	Elkhorn River at Stanton	*1943, *1968-69	c
799310	Humbog Creek near Pilger	*1968-69	c
799325	Rock Creek near Beemer	*1968-69	c
799345	Plum Creek near Beemer	*1968-69	c
799350	**Elkhorn River at West Point	1968-69, 1981-89	c m
799365	Cuming Creek near Scribner	*1968-69	c
799385	Pebble Creek at Scribner	*1968-69	c
7994	Elkhorn River near Hooper	*1968-69	c
799410	Middle Logan Creek at Laurel	*1968-69	c
799445	Logan Creek at Wakefield	*1963	c
799450	**Logan Creek at Pender	1964-68, 1973-89	c m
7995	**Logan Creek near Uehling	1968-71, 1974-81	t
		*1976	c t
7999	Middle Fork Maple Creek near Schuyler	*1968	c
8000	**Maple Creek near Nickerson	*1968	c
800250	Bell Creek at Arlington	*1968-69	c
8010	**Platte River near Ashland	*1946, 1950-53, *1969	c
801148	East inlet to Olive Creek Lake near Kramer	*1967	c
801150	Olive Creek near Kramer	*1967	c
801264	West tributary to Bluestem Lake near Sprague	*1967	c
801266	Bluestem Lake near Sprague	*1968	c
801330	Salt Creek near Roca	1971-80	c m
801345	Tributary to Wagon Train Lake near Hickman	*1967	c
801346	Wagon Train Lake near Hickman	*1967	c
801364	West tributary to Stagecoach Lake near Hickman	*1967	c
801365	South inlet to Stagecoach Lake near Hickman	*1967	c
801366	Stagecoach Lake near Hickman	*1968	c
801370	Hickman Branch near Roca	1971	c m t
8026	Hickman Branch at Roca	*1972	c m t
803010	Salt Creek at Saltillo Siding	*1972	c
803068	Cardwell Branch near Denton	*1968	c
803069	South tributary to Yankee Hill Reservoir near Denton	*1968	c
803070	Yankee Hill Reservoir at dam near Denton	*1968	c
803073	Holmes Creek near Denton	*1968	c
803075	Conestoga Lake near Denton	*1968	c
803080	Salt Creek above Beal Slough at Lincoln	1971-83	c m t
803085	Beal Slough at Lincoln	*1971-72	c m t
803098	Haines Branch at Lincoln	*1971-72	c m t
8031	Salt Creek at A Street at Lincoln	*1950	c
803113	West tributary to Twin Lakes Reservoir near Pleasant Dale	*1968	c
813114	North tributary to Twin Lakes Reservoir near Pleasant Dale	*1968	c
803115	Twin Lakes Reservoir near Pleasant Dale	*1968	c
803128	Middle Creek near Malcolm	*1968	c
803130	Pawnee Lake near Emerald	*1968	c
803180	Middle Creek at Lincoln	1971-72	c m t
803190	Salt Creek at 14th Street at Lincoln	1971-80	c m t
803196	Antelope Creek above Antelope Lake at Lincoln	*1968	c
803198	Antelope Lake at Lincoln	*1968	c
803199	Antelope Creek at 52nd Street at Lincoln	1983	c t
8033	Antelope Creek at 27th Street at Lincoln	1971-72, 1983	c m t
8034	Antelope Creek at Lincoln	*1963	c
803405	Antelope Creek at Court Street at Lincoln	1971-83	c m t
803442	Oak Creek at Agnew	*1968	c
803445	Middle Oak Creek near Garland	*1968	c
803448	Branched Oak Reservoir near Raymond	*1968	c
803470	North Oak Creek near Valparaiso	*1971-72	c m t
803480	Oak Creek above Air Base near Lincoln	1971-72	c m t
803485	Elk Creek near Lincoln	*1971-72	c m t
803490	Oak Creek at 1st Street at Lincoln	1968-69	c

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Platte River Basin--continued			
803493	Oak Creek at 14th Street at Lincoln	1971-80	c m t
8035	**Salt Creek at Lincoln	1950-60, 1968-80	c m t
		1951-54	s
803501	Dead Man's Run at 66th Street at Lincoln	1983	c t
803503	Dead Man's Run at Highway 6 at Lincoln	1971-72, 1983	c m t
803507	Little Salt Creek near Davey	*1952, *1969	c
803510	**Little Salt Creek near Lincoln	*1952, *1969	c
		1971-72, 1974-77	c m t
803515	Stevens Creek near Walton	*1971-72	c m t
803520	**Stevens Creek near Lincoln	*1969, 1979-80	c
803523	Stevens Creek at Highway 6 near Lincoln	1971-72, 1974-78	c m t
803530	**Rock Creek near Ceresco	1970-81	c m s t
803534	Rock Creek near Greenwood	*1971-72, 1977	c m t
803537	Camp Creek near Greenwood	*1971-72	c m t
803550	Dee Creek at Greenwood	*1971-72	c m t
803555	**Salt Creek at Greenwood	1971-89	c m
		1971-72, 1981-84	t
		1972-76	s
803558	Greenwood Creek near Greenwood	*1971-72	c m t
803563	Callahan Creek near Greenwood	*1971-72	c m t
803565	Salt Creek above Ashland	1971-74	c m t
803567	Salt Creek at Ashland	*1972	c
8040	**Wahoo Creek at Ithaca	1967-68	c
804495	Silver Creek near Wahoo	1974-78	c m t
8050	Salt Creek near Ashland	*1950	c
805005	Salt Creek at mouth near Ashland	*1971	c
805010	Platte River near South Bend	*1960-65	c
		1960, 1965, 1970	s
805499	Mill Creek at Louisville	1973-81	c m s t
805520	Cedar Creek near Manley	*1968	c
805525	Cedar Creek near Louisville	1973-81	c m s t
		*1971	c m t
805550	Platte River near Plattsmouth	1969-72	c
805565	Fourmile Creek near Plattsmouth	1974-81	c m s t
805570	Platte River at La Platte	1974	c m t
Weeping Water Creek Basin			
806460	Weeping Water Creek at Weeping Water	1973-81	c m s t
806495	S Br Weeping Water Creek near Union	1973-81	c m s t
8065	Weeping Water Creek at Union	*1977	s
806501	Weeping Water Creek near Union	1973-81	c m s t
		*1971	c m t
		*1977	s
Missouri River			
8070	Missouri River at Nebraska City	1951-73	c t
Little Nemaha River Basin			
8109	Brownell Creek SWS No. 1A near Syracuse	1955-69	s
8110	Brownell Creek SWS No. 1 near Syracuse	1955-69	s
8115	**Little Nemaha River at Auburn	*1977	s
		1973-89	c m
Big Nemaha River Basin			
8150	**Big Nemaha River at Falls City	1951, 1973-89	c m
Kansas River Basin			
8215	**Arikaree River at Haigler	1947-49	c
		1947-51	s
		1950-51	t
8230	**North Fork Republican River at CO-NE State Line	1947-49	c s

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Kansas River Basin--continued			
8240	**Rock Creek at Parks	*1952-53	c
8245	**Republican River at Benkelman	*1950	s
		1969-73, 1980-89	c m
8275	**South Fork Republican River near Benkelman	1950	s
8280	Republican River near Max	1946-47	c t
8285	**Republican River at Stratton	1951, 1953-54	s t
8290	Swanson Lake near Trenton	*1957	c
8295	**Republican River at Trenton	1947-49	c
		1947-49, 1953	t
		1947-51, 1953	s
		*1975-76	c t
8320	Enders Reservoir	1952-57	c
8325	**Frenchman Creek near Enders	1947-49	c
		1946-47, 1962, 1964	s
8327	Frenchman Creek 2.6 miles E of Enders Dam near Wauneta	1962	s
8329	Frenchman Creek 5.6 miles E of Enders Dam near Wauneta	1962, 1964-67	s
8331	Frenchman Creek at Wauneta	1962	s
8333	Frenchman Creek above Sand Canyon near Hamlet	1962	s
8335	Frenchman Creek near Hamlet	1962	s
8340	**Frenchman Creek at Palisade	1964-65, *1975-76	c t
		1971-76	s
8370	**Republican River at McCook	1957	c
		1967-88	t
		1956-57	s
8379	Red Willow Creek at Red Willow Diversion Dam near McCook	1970-74	c t
8380	**Red Willow Creek near Red Willow	1950-53	c t
		1950-54	s
8387	Republican River above Medicine Creek at Cambridge	1951-58	c
		1951	s
8390	Medicine Creek at Maywood	1951-58	s t
8395	Brushy Creek near Maywood	1951-58	s t
		*1956	c
8400	**Fox Creek at Curtis	1951-58	s t
8405	Dry Creek near Curtis	*1953-56	c
		1951-58	s
8410	**Medicine Creek above Harry Strunk Lake	*1951-56	c
		1953-58	t
		1951-58	s
8415	Mitchell Creek above Harry Strunk Lake	*1951-56	c
		1951-57	s
8420	Harry Strunk Lake	1952-56	c
8425	**Medicine Creek below Harry Strunk Lake	1951-52, 1954,	
		1956-57	s
		1970-74	c t
843010	Medicine Creek at Cambridge	*1947-53	c
		1951-57	t
		1946-49, 1951-57	s
8435	**Republican River at Cambridge	1947-53	c
		1951-53	s
8442	Turkey Creek near Edison	*1968	c
8450	Sappa Creek near Oberlin, KS	1952-53, 1963-64	c
		1963	t
		1950, 1963	s
8452	Sappa Creek near Beaver City	1947-51	c
		1949-52	t
		1947-52	s
8465	Beaver Creek at Cedar Bluffs, KS	1962-63	c s t
8470	**Beaver Creek near Beaver City	1950-53	c t
		1948-50, 1951-53	s
8475	**Sappa Creek near Stamford	*1948-49, 1953	c
		1950-53	t
		1947-53	s
8490	**Harlan County Reservoir	1956-58	c
8495	**Republican River below Harlan County Dam	1969-74	c t
		1956-57	t

DISCONTINUED SURFACE-WATER QUALITY STATIONS-continued

Station number	Station name	Period of record (water years)	Type of record
Kansas River Basin--continued			
8505	Republican River near Bloomington	1947-49	c
8515	**Thompson Creek at Riverton	1950-52	c
8530	Republican River near Guide Rock	1962-85	c m t
853020	**Republican River at Guide Rock	1986-89	c m
8534	Republican River at Superior	1969-73	c
8535	***Republican River near Hardy	*1946, 1950-57	c
8799	**Big Blue River at Surprise	1965-70, 1974-81	c t
		1965-72	s
879945	Kezan Creek near Garrison	*1968-69	c
879995	Lincoln Creek near Utica	*1968-69	c
8800	**Lincoln Creek near Seward	1963-70, 1973-89	c m
		1964-71	s
880510	Plum Creek at Seward	*1968-69	c
8805	**Big Blue River at Seward	1978-89	c m
880550	Big Blue River near Milford	*1968-69	c
880555	West Fork Big Blue River below Hastings	*1968-69	c
		1973-78	c m t
8806	Flessner Creek near Stockham	*1968	c
880750	School Creek near Grafton	*1968-69	c
880785	Beaver Creek near Beaver Crossing	*1968-69	c
880950	Big Blue River at Crete	*1951, *1963	c s
8810	**Big Blue River near Crete	1961-62, *1964,	
		1968-84	c m
		1960-62, *1964	s
		1962, 1968-84	t
881010	Squaw Creek near Crete	*1968	c
881050	Big Blue River at Wilber	*1964, *1969	c
881052	Big Blue River near Wilber	*1964	c
8811	Big Blue River at DeWitt	*1964	c
881105	Clatonia Creek near DeWitt	*1968	c
881110	Turkey Creek near Milligan	*1968-69	c
881150	Turkey Creek above Brush Creek near Wilber	*1964	c
8812	**Turkey Creek near Wilber	1965-72	s
		1966-70, 1973-89	c m
881210	Turkey Creek 2 miles SW of Wilber	*1964	c
881220	Turkey Creek above Swan Creek near DeWitt	*1964	c
881353	North Fork Swan Creek near Swanton	*1964	c
881356	Swan Creek at Swanton	*1964	c
881357	Swan Creek near DeWitt	*1968-69	c
881358	Turkey Creek near DeWitt	*1964	c
881420	Big Blue River near DeWitt	*1968-69	c
881430	Cub Creek near Beatrice	*1968-69	c
881450	Indian Creek at Beatrice	*1968-69	c
8815	**Big Blue River at Beatrice	*1960-69	c
		*1960-61, *1963	s
		1978-83	c m t
881520	Bear Creek near Beatrice	*1968-69	c
881530	Cedar Creek near Homesville	*1968	c
881650	Mud Creek near Homesville	*1968-69	c
881750	Big Indian Creek at Wymore	*1968-69	c
881950	Wildcat Creek near Barneston	*1968	c
882050	Plum Creek at Barneston	*1968-69	c
8824	Big Blue Creek near Oketo, KS	1961-64	c
882550	Sand Creek near Holstein	*1969	c
882650	Cottonwood Creek near Roseland	*1968-69	c
8829	Little Blue River below Pawnee Creek near Pauline	*1965, *1968	c
882950	Pawnee Creek at Spring Ranch	*1968-69	c
8830	**Little Blue River near Deweese	1959-70, 1975-89	c m
		1979-81	t
		1953, 1955-61	s
8833	Little Blue River above Oxbow Creek near Angus	*1968	c
8835	Little Blue River at Angus	1951-53	s
883510	Elk Creek near Oak	*1968-69	c
883553	Spring Creek at Hebron	*1968-69	c

DISCONTINUED SURFACE-WATER QUALITY STATIONS--continued

Station number	Station name	Period of record (water years)	Type of record
Kansas River Basin--continued			
883563	Dry Creek near Hebron	*1968-69	c
883570	**Little Blue River near Alexandria (Gilead)	*1968	c
883585	Big Sandy Creek near Davenport	*1968-69	c
883950	Big Sandy Creek near Powell	*1668-69	c
883960	Little Sandy Creek near Powell	*1968-69	c
883995	Little Blue River at Fairbury	*1968-69	c
8840	**Little Blue River near Fairbury	1951-53, 1955-57 1952-63, *1960-61,	s
		*1968	c
884010	Rose Creek near Endicott	*1968	c
884020	Little Blue River at Steele City	*1968	c

* Less than 10 samples.

** Current continuous-record streamflow station.

*** Streamflow station run by USGS from different state

STATION RECORDS, SURFACE WATER

WHITE RIVER BASIN

06444000 WHITE RIVER AT CRAWFORD, NE

LOCATION.--Lat 42°41'33", long 103°25'03", in W1/2 sec.3, T.31 N., R.52 W., Dawes County, Hydrologic Unit 10140201, on right bank 15 ft downstream from bridge in city park at Crawford.

DRAINAGE AREA.--313 mi².

PERIOD OF RECORD.--February 1931 to September 1943, October 1947 to current year.

REVISED RECORDS.--WSP 1309: 1931(M), 1942(M). WSP 1729: 1958-59(M). WSP 1917: 1958-59.

GAGE.--Water-stage recorder. Datum of gage is 3,659.85 ft above National Geodetic Vertical Datum of 1929. Feb. 25, 1931, to Oct. 2, 1933, nonrecording gage at old highway bridge 0.5 mi upstream at different datum and Oct. 3, 1933, to Sept. 30, 1943, 1 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 7-8, 29, Dec. 4, 16-17, Dec. 19 to Jan. 14, Jan. 24 to Feb. 1, and May 12, 15, 19, 25-27. Records good except for periods of estimated record, which are poor. Some regulation at low flows by pumps for irrigation and diversion for water supply for town of Crawford.

AVERAGE DISCHARGE.--56 years, 20.3 ft³/s, 14,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft³/s May 10, 1991, gage height, 16.32 ft from floodmark, from rating curve extended above 1200 ft³/s on basis of peakflow from slope-area and road overflow measurements; minimum daily discharge, 2.7 ft³/s Aug. 13, 31, Sept. 1, 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 10	2330	*13300	*a16.32	July 19	0530	264	5.99
May 16	0745	569	7.66	July 26	2200	1930	a10.18
May 28	0615	467	7.19	Aug. 7	2345	139	5.14
May 29	2345	1680	9.86	Sept. 13	0545	217	5.69
June 9	1030	115	5.78				

a From floodmark.

Minimum daily discharge, 13.0 ft³/s Sept. 7-8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	15	19	20	19	19	18	50	31	19	15
2	15	15	15	18	20	19	19	18	50	29	19	14
3	14	16	15	18	20	19	18	19	50	27	19	14
4	15	16	15	18	20	20	18	20	53	27	20	14
5	15	16	16	18	19	20	17	18	46	27	26	14
6	14	17	15	17	19	19	17	18	60	24	20	14
7	15	16	15	17	19	18	17	19	46	24	29	13
8	16	15	15	17	19	18	19	20	45	24	57	13
9	18	14	15	17	19	17	18	18	56	25	27	14
10	17	16	16	17	19	17	17	700	37	27	24	15
11	18	16	16	17	18	17	19	1080	35	27	24	17
12	18	15	16	17	19	17	21	120	33	27	27	17
13	17	15	16	17	19	17	21	92	33	28	25	71
14	17	15	16	17	18	17	20	86	44	26	22	29
15	17	15	16	17	17	17	18	88	42	25	21	23
16	17	15	16	17	18	17	17	270	32	25	21	20
17	17	15	15	16	20	17	17	72	31	26	19	20
18	17	15	15	17	20	17	17	58	35	43	18	19
19	16	15	15	17	19	17	20	52	32	110	18	19
20	16	15	16	16	19	17	19	50	40	48	25	19
21	16	15	17	16	21	17	22	47	34	33	21	18
22	16	15	18	16	20	18	23	47	34	24	19	17
23	15	15	19	16	21	19	20	49	33	22	18	18
24	15	15	20	16	20	18	19	50	32	25	16	18
25	15	15	22	16	20	17	19	49	33	26	15	18
26	15	15	24	17	20	18	20	49	32	220	15	18
27	15	16	23	18	20	17	20	48	33	175	15	18
28	15	15	22	17	19	18	19	155	48	29	15	17
29	15	16	20	18	---	19	19	98	51	24	15	17
30	15	16	20	19	---	20	18	270	34	21	14	17
31	15	---	19	20	---	21	---	75	---	19	14	---
TOTAL	491	460	533	533	542	558	567	3773	1214	1268	657	570
MEAN	15.8	15.3	17.2	17.2	19.4	18.0	18.9	122	40.5	40.9	21.2	19.0
MAX	18	17	24	20	21	21	23	1080	60	220	57	71
MIN	14	14	15	16	17	17	17	18	31	19	14	13
AC-FT	974	912	1060	1060	1080	1110	1120	7480	2410	2520	1300	1130

CAL YR 1990 TOTAL 6784 MEAN 18.6 MAX 49 MIN 11 AC-FT 13460
WTR YR 1991 TOTAL 11166 MEAN 30.6 MAX 1080 MIN 13 AC-FT 22150

PONCA CREEK BASIN

53

06453500 PONCA CREEK AT ANOKA, NE

LOCATION.--Lat 42°56'34", long 98°50'25", in NE1/4 sec.9, T.34 N., R.13 W., Boyd County, Hydrologic Unit 10150001, at left downstream end of bridge on State Highway 11, 0.5 mi southwest of Anoka and 0.5 mi upstream from Dry Creek.

DRAINAGE AREA.--505 mi².

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

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,630 above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 13, 1950, nonrecording gage and Sept. 13, 1950, to Oct. 8, 1984, water-stage recorder for stages above 0.4 ft and nonrecording gage read daily at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 3-12, Nov. 22 to Mar. 13. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years, 45.3 ft³/s, 32,820 acre-ft/yr; median of yearly mean discharge, 31 ft³/s, 22,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,810 ft³/s, Mar. 27, 1960, gage height, 16.86 ft; no flow at times in 1949-50, 1955-62, 1965-71, 1974-76, 1978-82, 1989-1990, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 30	1000	(a)	*9.56	No other peak greater than base discharge.			
June 1	1200	*990	5.77				

a Backwater from ice.

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.23	.10	.00	.30	2.0	2.3	25	543	2.1	.31	.00
2	.22	.21	.10	.00	.20	1.9	2.0	27	324	2.0	.63	.00
3	.43	.20	.10	.00	.10	3.0	1.8	39	137	1.9	.33	.00
4	.15	.20	.10	.00	.00	3.5	1.9	56	119	1.8	.27	.00
5	.09	.20	.10	.00	.00	3.3	1.5	89	334	1.7	.29	.00
6	.02	.10	.10	.00	.00	3.0	1.6	54	99	1.6	.42	.00
7	.03	.20	.20	.00	.00	4.0	1.3	41	59	1.5	.72	.00
8	.11	.30	.20	.00	.10	5.0	.96	38	51	1.4	.69	.00
9	.08	.40	.20	.00	.20	6.0	.88	29	35	1.5	.44	.00
10	.08	.50	.20	.00	.90	6.6	.68	24	58	1.4	.29	.00
11	.08	.60	.10	.10	1.8	7.0	3.1	22	58	1.4	.18	.01
12	.08	.70	.10	1.0	3.0	7.6	12	19	38	1.2	.17	.00
13	.09	.66	.10	2.0	4.0	8.0	24	17	25	.95	.25	1.4
14	.08	.69	.10	2.5	3.5	7.7	33	13	20	.89	.15	1.0
15	.08	.63	.10	.50	3.5	10	31	11	16	.76	.10	.21
16	.09	.55	.10	.20	5.0	14	27	13	12	.64	.37	.04
17	.12	.52	.10	.10	4.8	13	25	20	11	.55	.19	.00
18	.12	.51	.10	.00	4.5	13	20	33	10	.46	.14	.00
19	.11	.49	.10	.00	4.6	12	17	44	8.4	.43	.08	.00
20	.15	.53	.00	.00	5.0	14	14	33	7.3	.39	.02	.00
21	.16	.48	.00	.00	5.2	17	13	28	6.9	.49	.00	.00
22	.15	.40	.00	.00	4.0	22	11	25	7.0	1.0	.00	.00
23	.14	.30	.00	.00	3.5	23	9.1	25	5.5	.50	.00	.00
24	.16	.30	.00	.00	3.0	23	8.0	22	5.2	.60	.00	.00
25	.17	.20	.00	.00	2.5	21	5.3	45	5.0	.42	.00	.00
26	.18	.20	.00	.00	2.6	19	2.6	61	4.2	.36	.00	.00
27	.17	.20	.00	.00	3.0	15	1.9	21	3.7	.49	.00	.00
28	.17	.10	.00	.00	2.6	12	3.2	17	3.2	.44	.00	.00
29	.18	.10	.00	.00	---	8.8	6.7	207	2.8	.40	.00	.00
30	.18	.10	.10	.10	---	6.1	14	182	2.2	.34	.00	.00
31	.21	---	.10	.20	---	3.9	---	229	---	.46	.00	---
TOTAL	4.08	10.80	2.50	6.70	67.90	315.4	295.82	1509	2010.4	30.07	6.04	2.66
MEAN	.13	.36	.081	.22	2.42	10.2	9.86	48.7	67.0	.97	.19	.089
MAX	.43	.70	.20	2.5	5.2	23	33	229	543	2.1	.72	1.4
MIN	.00	.10	.00	.00	.00	1.9	.68	11	2.2	.34	.00	.00
AC-FT	8.1	21	5.0	13	135	626	587	2990	3990	60	12	5.3

CAL YR 1990 TOTAL 3198.58 MEAN 8.76 MAX 237 MIN .00 AC-FT 6340
WTR YR 1991 TOTAL 4261.37 MEAN 11.7 MAX 543 MIN .00 AC-FT 8450

PONCA CREEK BASIN

06453600 PONCA CREEK AT VERDEL, NE

LOCATION.--Lat 42°48'40", long 98°10'35", in NE1/4NE1/4 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 3.1 mi upstream from mouth.

DRAINAGE AREA.--812 mi².

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

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder and nonrecording gage read once daily. Datum of gage 1,232.9 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads reference marks). See WSP 1917 for history of changes prior to Nov. 15, 1962.

REMARKS.--Estimated daily discharges: Dec. 21 to Mar. 11. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--34 years, 75.8 ft³/s, 54,920 acre-ft/yr; median of yearly mean discharges, 57 ft³/s, 41,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s Mar. 27, 1960, gage height, 15.10 ft, site and datum then in use; no flow for many days in 1957-60, 1965-72, 1974-77, 1979-81, 1989, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	0630	*1080	*6.69	No other peak greater than base discharge.			
Minimum daily discharge, no flow Aug. 25, 27-30, Sept. 7-8.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.5	11	2.4	7.0	22	17	17	323	9.2	1.7	.60
2	.65	2.1	11	2.3	6.4	21	16	17	708	8.2	1.8	.52
3	2.8	3.0	11	2.3	6.2	29	14	30	404	7.1	.53	.71
4	1.8	3.9	11	2.2	7.4	33	14	37	213	6.4	.41	.64
5	1.6	4.5	15	2.3	7.6	29	13	42	137	6.1	.37	.60
6	1.0	6.1	13	2.2	8.0	27	13	55	386	6.6	.35	.12
7	1.1	8.6	12	2.1	7.8	25	11	54	161	4.7	.55	.00
8	1.6	9.5	12	2.2	8.4	23	9.4	47	98	3.2	.63	.00
9	1.6	5.3	12	2.1	8.0	24	9.6	40	82	3.7	.44	.03
10	1.5	6.0	8.2	1.9	9.0	23	9.0	35	94	4.1	.54	.43
11	1.5	6.1	6.2	1.7	10	25	14	31	122	3.7	.59	.80
12	1.9	7.2	6.1	1.9	9.0	26	20	28	95	2.7	.59	.84
13	1.8	5.5	8.8	3.0	8.0	26	21	25	68	1.9	.46	1.2
14	1.5	5.5	12	3.5	7.0	23	22	23	51	1.5	.31	.90
15	1.3	5.0	14	3.3	7.0	21	27	20	41	1.0	.12	.62
16	1.7	4.6	11	4.0	11	21	29	27	33	.82	.66	.61
17	1.8	4.6	10	5.0	10	22	29	59	29	.69	.51	.41
18	2.2	5.1	10	4.5	9.0	23	27	50	26	.68	.64	.56
19	2.2	4.9	8.5	3.5	11	23	26	39	24	.70	.50	.68
20	2.3	4.8	7.5	3.0	15	24	24	38	22	.78	.43	.64
21	2.6	5.3	4.0	3.5	25	23	21	39	23	1.2	.44	.65
22	2.5	4.5	1.0	3.2	24	23	20	32	24	1.1	.59	.68
23	2.4	4.6	1.2	3.3	25	26	19	33	21	.19	.41	.69
24	2.1	4.9	1.5	2.8	22	26	18	28	19	11	.32	.82
25	2.2	4.4	2.0	3.5	25	27	16	26	18	6.0	.00	.84
26	2.4	4.2	2.1	3.7	24	27	15	24	16	3.5	.05	.82
27	2.1	4.7	2.1	3.0	32	25	16	38	15	3.9	.00	.99
28	1.9	7.2	2.0	2.9	33	25	14	35	13	3.2	.00	.85
29	2.4	6.9	1.8	3.5	---	21	15	29	12	3.1	.00	1.1
30	2.2	10	1.5	4.3	---	19	16	204	11	4.5	.00	.88
31	2.4	---	1.7	5.0	---	19	---	198	---	2.3	.05	---
TOTAL	58.15	161.5	231.2	94.1	382.8	751	535.0	1400	3289	132.57	13.99	19.23
MEAN	1.88	5.38	7.46	3.04	13.7	24.2	17.8	45.2	110	4.28	.45	.64
MAX	2.8	10	15	5.0	33	33	29	204	708	19	1.8	1.2
MIN	.65	2.1	1.0	1.7	6.2	19	9.0	17	11	.68	.00	.00
AC-FT	115	320	459	187	759	1490	1060	2780	6520	263	28	38

CAL YR 1990 TOTAL 6750.82 MEAN 18.5 MAX 253 MIN .65 AC-FT 13390
WTR YR 1991 TOTAL 7068.54 MEAN 19.4 MAX 708 MIN .00 AC-FT 14020

NIOBRARA RIVER BASIN

55

06454000 NIOBRARA RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 42°39'33", long 104°03'54", in SE1/4SW1/4 sec.15, T.31 N., R.60 W., Niobrara County, Wyoming, Hydrologic Unit 10150002, on left bank 0.2 mi downstream from Van Tassel Creek, 0.3 mi upstream from Wyoming-Nebraska State line, and 3 mi east of Van Tassel, WY.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,687.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges: Records good. Diversions for irrigation of about 4,700 acres above station.

AVERAGE DISCHARGE.--36 years, 3.68 ft³/s, 2,670 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s Aug. 16, 1977, gage height, 8.28 ft in gage well, from rating curve extended above 800 ft³/s on basis of computation of peak flow from slope-area measurement; minimum daily, 0.54 ft³/s Aug. 9, 10, 12, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 27	2315	*20.0	*4.05	No peaks greater than base discharge.			
Minimum daily discharge, 1.8 ft ³ /s Aug. 31, Sept. 1, 5-9, 11, 16.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.4	2.4	2.3	2.2	3.0	3.5	4.2	11	4.9	2.6	1.8
2	2.1	2.6	2.4	2.3	2.2	2.9	3.4	3.9	11	4.8	2.6	1.9
3	2.1	2.6	2.3	2.3	2.3	3.0	3.4	3.9	12	4.7	2.6	1.9
4	2.0	2.5	2.3	2.4	2.3	3.2	3.4	3.9	13	4.7	2.6	1.9
5	2.0	2.6	2.3	2.3	2.3	3.4	3.3	3.7	12	4.6	2.6	1.8
6	1.9	2.8	2.3	2.3	2.3	3.4	3.3	3.6	12	4.5	2.5	1.8
7	2.1	2.7	2.3	2.3	2.4	3.6	3.3	3.6	11	4.5	2.5	1.8
8	2.3	2.6	2.3	2.3	2.4	3.7	3.5	3.5	10	4.4	2.4	1.8
9	2.3	2.7	2.3	2.4	2.5	3.5	3.4	3.3	9.6	4.4	2.4	1.8
10	2.2	2.8	2.3	2.4	2.5	3.4	3.4	3.5	9.1	4.6	2.4	1.9
11	2.2	2.8	2.3	2.4	2.5	3.4	3.9	5.1	8.6	4.5	2.4	1.8
12	2.3	2.7	2.3	2.3	2.6	8.3	3.9	4.0	8.3	4.5	2.6	1.9
13	2.2	2.7	2.3	2.3	3.2	3.1	3.9	3.6	8.3	4.3	2.6	1.9
14	2.2	2.6	2.4	2.1	3.0	3.2	3.9	3.5	8.2	3.9	2.5	1.9
15	2.2	2.6	2.4	2.1	2.9	3.2	3.8	3.7	7.6	3.7	2.4	1.9
16	2.2	2.6	2.4	2.1	3.0	3.3	3.8	7.6	7.3	3.4	2.4	1.8
17	2.2	2.6	2.3	2.2	3.2	3.4	3.8	6.4	7.1	3.3	2.4	1.9
18	2.3	3.0	2.3	2.2	3.0	3.6	4.0	5.9	7.0	3.5	2.3	1.9
19	2.4	2.6	2.4	2.2	2.7	3.5	4.4	5.8	6.8	4.1	2.4	1.9
20	2.4	2.6	2.4	2.2	3.0	3.5	4.1	5.9	6.5	4.0	2.5	2.0
21	2.3	2.5	2.5	2.3	3.2	3.8	5.3	6.1	6.1	3.4	2.5	2.0
22	2.3	2.5	2.6	2.4	3.4	3.8	5.2	6.5	5.9	3.1	2.5	2.0
23	2.3	2.6	2.3	2.4	3.5	3.9	4.7	6.8	5.6	3.0	2.4	2.1
24	2.2	2.6	2.2	2.4	3.8	3.8	4.6	9.2	5.2	3.0	2.3	2.1
25	2.2	2.6	2.2	2.4	3.7	3.6	4.6	8.2	4.9	3.1	2.1	2.0
26	2.3	2.6	2.2	2.5	3.3	3.5	4.6	7.9	4.8	3.0	2.1	2.0
27	2.2	2.6	2.3	2.4	3.1	3.5	4.5	10	4.8	3.0	2.0	2.1
28	2.3	2.5	2.5	2.4	3.0	3.4	4.3	17	5.4	2.9	1.9	2.1
29	2.3	2.5	2.6	2.5	---	3.4	4.5	14	5.2	2.8	1.9	2.1
30	2.3	2.4	2.5	2.4	---	3.5	4.4	12	5.1	2.7	1.9	2.1
31	2.3	---	2.4	2.3	---	3.5	---	11	---	2.6	1.8	---
TOTAL	68.7	78.5	73.0	71.8	79.5	111.3	120.1	197.3	239.4	117.9	73.1	57.9
MEAN	2.22	2.62	2.35	2.32	2.84	3.59	4.00	6.36	7.98	3.80	2.36	1.93
MAX	2.4	3.0	2.6	2.5	3.8	8.3	5.3	17	13	4.9	2.6	2.1
MIN	1.9	2.4	2.2	2.1	2.2	2.9	3.3	3.3	4.8	2.6	1.8	1.8
AC-FT	136	156	145	142	158	221	238	391	475	234	145	115

CAL YR 1990 TOTAL 956.89 MEAN 2.62 MAX 7.0 MIN .99 AC-FT 1900
WTR YR 1991 TOTAL 1288.5 MEAN 3.53 MAX 17 MIN 1.8 AC-FT 2560

NIOBRARA RIVER BASIN

06454100 NIOBRARA RIVER AT AGATE, NE

LOCATION.--Lat 42°25'22", long 103°47'28", in SW1/4 sec.6, T.28 N., R.55 W., Sioux County, Hydrologic Unit 10150002, on right bank 10 ft upstream from 54-in culvert, 300 ft upstream from bridge on State Highway 29, 0.2 mi northwest of Agate, and 14.5 mi upstream from Whistle Creek.

DRAINAGE AREA.--840 mi², approximately.

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

GAGE.--Water-stage recorder. Elevation of gage is 4,405 ft, from topographic map. Prior to 1982 water year, elevation published as 4,440 ft. Prior to Nov. 3, 1960, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 3-15, 16-30. Records good except for period of estimated record, which are poor. Diversions for irrigation of about 6,700 acres above station.

AVERAGE DISCHARGE.--34 years, 13.6 ft³/s, 9,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s June 23, 1959, gage height, 5.00 ft, from floodmark; maximum gage height 5.55 ft Mar. 24, 1988; minimum daily discharge, 1.0 ft³/s Mar. 29, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	1315	*93	*6.09	June 1	0815	45	4.69
May 16	2315	41	4.54				

Minimum daily discharge, 6.1 ft³/s Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	8.9	12	7.8	9.0	17	15	14	43	12	8.0	8.8
2	6.6	8.9	12	8.3	9.0	14	15	14	39	11	7.4	8.6
3	6.6	9.1	11	8.4	9.0	17	15	15	36	11	7.6	8.1
4	6.6	9.5	11	8.4	9.3	18	15	15	31	10	7.8	8.8
5	6.6	9.6	12	8.3	9.6	19	15	15	28	9.7	7.9	9.2
6	6.4	9.7	11	8.2	9.9	18	14	15	27	8.8	7.7	9.1
7	6.4	9.1	11	8.2	10	17	15	15	27	7.8	8.5	9.1
8	6.4	11	11	8.2	10	18	15	13	26	7.8	9.6	9.1
9	6.4	13	12	8.2	11	18	15	12	26	8.9	9.6	9.2
10	6.4	14	13	8.2	12	17	14	12	26	9.2	8.8	9.4
11	6.2	13	13	8.2	13	17	15	49	24	9.4	9.4	9.8
12	6.2	13	14	8.2	14	17	16	67	21	9.3	12	10
13	6.2	13	13	8.3	15	16	16	44	20	9.2	14	11
14	6.2	13	13	8.9	14	16	16	26	19	8.8	12	12
15	6.2	13	11	9.4	14	17	16	21	18	8.6	11	12
16	6.1	13	12	9.3	14	17	15	33	17	7.9	12	11
17	6.2	13	12	9.3	18	17	15	39	16	8.2	12	11
18	6.2	13	12	9.3	16	17	14	36	16	8.5	12	11
19	6.4	13	12	9.4	17	17	16	37	16	9.6	11	11
20	6.4	13	8.9	9.4	16	17	16	30	15	10	11	9.8
21	6.4	12	8.6	9.3	18	17	17	26	15	9.6	11	8.5
22	6.6	12	8.5	9.1	18	18	20	24	15	9.5	11	8.4
23	6.6	12	8.4	9.1	19	18	18	23	13	10	10	8.5
24	6.6	12	8.2	9.1	20	17	18	30	12	10	10	8.7
25	6.8	12	8.2	9.1	18	17	17	30	12	9.8	9.6	8.8
26	6.8	12	8.1	9.0	16	16	16	27	12	9.9	9.4	8.8
27	6.8	12	8.1	9.0	18	15	16	26	12	10	9.5	8.7
28	7.0	9.9	8.1	9.1	17	15	15	25	12	9.9	9.5	8.9
29	7.0	11	8.1	8.9	---	15	15	26	12	9.6	9.3	8.9
30	7.2	12	7.8	8.9	---	15	15	29	12	9.3	9.3	8.8
31	7.2	---	7.7	8.9	---	15	---	36	---	8.6	9.3	---
TOTAL	202.6	349.7	326.7	271.4	393.8	519	470	824	618	291.9	307.2	285.0
MEAN	6.54	11.7	10.5	8.75	14.1	16.7	15.7	26.6	20.6	9.42	9.91	9.50
MAX	7.2	14	14	9.4	20	19	20	67	43	12	14	12
MIN	6.1	8.9	7.7	7.8	9.0	14	14	12	12	7.8	7.4	8.1
AC-FT	402	694	648	538	781	1030	932	1630	1230	579	609	565

CAL YR 1990 TOTAL 3909.4 MEAN 10.7 MAX 31 MIN 4.4 AC-FT 7750
WTR YR 1991 TOTAL 4859.3 MEAN 13.3 MAX 67 MIN 6.1 AC-FT 9640

NIOBRARA RIVER BASIN

57

06454500 NIOBRARA RIVER ABOVE BOX BUTTE RESERVOIR, NE

LOCATION.--Lat 42°27'35", long 103°10'15", in NE1/4 sec.27, T.29 N., R.50 W., Dawes County, Hydrologic Unit 10150002, on right bank 1 mi upstream from high-water line of Box Butte Reservoir and 6 mi east of Marsland.

DRAINAGE AREA.--1,400 mi², approximately.

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1917: 1951, 1952(P), 1957(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 12, 1953. Datum of gage is 4,012.47 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1949, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 3, Jan. 5, 6, 20-31, and May 12. Records fair except for periods of estimated record, which are poor. Diversions for irrigation of about 12,800 acres above station.

AVERAGE DISCHARGE.--45 years, 28.9 ft³/s, 20,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,950 ft³/s July 28, 1951, gage height, 10.30 ft, from rating curve extended above 230 ft³/s on basis of step-backwater analysis and slope-area measurement at gage height 9.22 ft; minimum daily, 1.6 ft³/s Sept. 26, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	unknown	*698	*7.90	No other peak greater than base discharge.			

Minimum daily discharge, 14 ft³/s Jan. 14-16, Aug. 5-6, and Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	17	16	19	22	45	27	34	48	30	17	15
2	18	17	17	19	19	28	27	34	47	27	17	15
3	18	16	18	19	19	29	27	33	58	36	15	15
4	18	16	19	19	19	33	27	33	64	34	15	15
5	17	17	20	18	19	39	27	32	56	21	14	14
6	17	18	21	17	20	41	28	32	64	19	14	15
7	17	18	21	17	21	34	27	32	71	18	16	15
8	17	18	19	15	21	34	27	33	86	18	23	15
9	17	17	19	15	19	32	27	35	80	18	31	15
10	18	18	20	16	19	32	28	35	71	19	24	16
11	18	19	19	15	19	32	27	73	61	20	20	17
12	19	20	20	15	23	32	27	485	53	20	20	17
13	19	19	20	16	28	32	27	238	44	21	20	20
14	19	19	20	14	27	32	28	119	38	22	22	21
15	18	19	20	14	22	32	28	84	33	23	22	22
16	18	19	22	14	26	32	27	124	34	23	21	22
17	16	19	22	15	30	32	27	116	30	22	20	21
18	16	19	23	15	28	32	28	135	35	20	19	22
19	17	19	19	16	24	31	32	127	38	20	19	21
20	18	18	19	16	33	31	33	100	34	20	19	21
21	18	16	19	16	27	30	35	77	30	19	18	22
22	17	15	19	17	40	30	40	65	30	18	18	23
23	17	15	19	17	40	30	39	57	33	18	18	23
24	18	15	19	18	46	30	39	56	28	19	17	22
25	17	15	19	19	34	30	38	60	26	20	16	22
26	18	16	18	19	30	29	41	56	25	19	16	22
27	18	15	18	19	45	29	41	63	25	19	16	22
28	17	15	18	20	26	29	39	59	42	19	16	22
29	17	15	19	24	---	28	38	57	26	19	17	22
30	17	16	19	26	---	27	35	56	29	18	17	22
31	17	---	19	28	---	27	---	52	---	17	16	---
TOTAL	544	515	600	547	746	984	941	2592	1339	656	573	576
MEAN	17.5	17.2	19.4	17.6	26.6	31.7	31.4	83.6	44.6	21.2	18.5	19.2
MAX	19	20	23	28	46	45	41	485	86	36	31	23
MIN	16	15	16	14	19	27	27	32	25	17	14	14
AC-FT	1080	1020	1190	1080	1480	1950	1870	5140	2660	1300	1140	1140

CAL YR 1990 TOTAL 7783.2 MEAN 21.3 MAX 55 MIN 8.6 AC-FT 15440
WTR YR 1991 TOTAL 10613 MEAN 29.1 MAX 485 MIN 14 AC-FT 21050

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 mi², approximately.

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

GAGE.--Electric tape gage read three or more times a month. Datum of gage is National Geodetic Vertical Datum of 1929.

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, 19,080 acre-ft July 1, elevation, 3,998.47 ft; minimum observed, 5,530 acre-ft Oct. 12, elevation, 3,983.40 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet) ^{a/}	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,982.60	5,080	-
Oct. 31	3,984.32	6,070	+990
Nov. 30	3,985.90	7,080	+1,010
Dec. 31	3,987.26	8,050	+970
CAL YR 1990	-	-	+3,300
Jan. 31	3,988.37	8,900	+850
Feb. 28	3,989.90	10,180	+1,280
Mar. 31	3,991.43	11,570	+1,390
Apr. 30	3,992.89	12,960	+1,390
May 31	3,996.81	17,110	+4,150
June 30	3,998.45	19,060	+1,950
July 31	3,990.17	10,420	-8,640
Aug. 31	3,984.08	5,920	-4,500
Sept. 30	3,986.03	7,170	+1,250
WTR YR 1991	-	-	+2,090

a Elevations read on or near last day of month.

NIOBRARA RIVER BASIN

59

06455500 NIOBRARA RIVER BELOW BOX BUTTE RESERVOIR, NE

LOCATION.--Lat 42°27'25", long 103°04'05", in SE1/4 sec.28, T.29 N., R.49 W., Dawes County, Hydrologic Unit 10150003, on left bank 0.2 mi downstream from Box Butte Reservoir and 9 mi north of Hemingford.

DRAINAGE AREA.--1,460 mi², approximately.

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Concrete control since Apr. 11, 1953. Datum of gage is 3,950.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 21 to Jan. 6. Records good except for period of estimated record, which is fair. Flow completely regulated by Box Butte Reservoir (station 06455000).

AVERAGE DISCHARGE.--45 years, 24.6 ft³/s, 17,820 acre-ft/yr. Unadjusted for storage or diversions since October 1947.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 616 ft³/s July 2, 1968, gage height, 5.04 ft; minimum daily, 0.10 ft³/s for many days in 1947, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 186 ft³/s July 16, gage height, 4.31 ft; minimum daily, 0.61 ft³/s Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.77	.81	.75	.71	.79	.84	.93	1.2	1.0	135	.85
2	.69	.75	.89	.75	.72	.79	.83	.94	1.2	13	135	.79
3	.67	.78	.83	.75	.72	.82	.81	.94	1.2	83	125	.78
4	.69	.77	.82	.75	.72	.86	.81	.97	1.2	97	127	.80
5	.69	.83	.82	.75	.77	.88	.80	.96	1.2	131	122	.82
6	.69	.81	.88	.75	.78	.85	.73	.97	1.3	131	109	.77
7	.75	.79	.88	.75	.78	.85	.74	1.0	1.3	137	95	.77
8	.77	.76	.85	.75	.76	.81	.81	1.0	1.2	141	80	.76
9	.77	.75	.82	.71	.75	.81	.79	1.0	1.3	148	72	.78
10	.74	.73	.84	.68	.75	.82	.79	1.1	1.2	157	68	.84
11	.70	.74	.86	.70	.75	.82	.85	1.3	1.2	158	68	.85
12	.71	.75	.85	.73	.75	.85	.89	1.0	1.2	155	64	.87
13	.68	.73	.89	.72	.75	.84	.85	1.0	1.1	143	51	.91
14	.72	.68	.85	.72	.73	.83	.88	1.1	1.1	142	50	.89
15	.72	.70	.84	.75	.73	.87	.87	1.1	1.1	149	70	.92
16	.78	.71	.81	.74	.75	.90	.84	1.4	1.1	162	74	.91
17	.77	.73	.80	.74	.78	.90	.84	1.2	1.1	168	64	.98
18	.75	.75	.78	.75	.78	.90	.89	1.1	1.1	169	73	1.0
19	.76	.77	.77	.77	.78	.89	.95	1.1	1.1	153	98	.92
20	.76	.75	.61	.74	.75	.89	.90	1.1	1.1	148	113	.87
21	.75	.69	.62	.71	.74	.89	1.0	1.1	1.1	143	112	.85
22	.77	.70	.62	.68	.75	.88	.96	1.1	1.1	149	107	.92
23	.78	.70	.64	.73	.76	.86	.93	1.0	1.1	136	97	.93
24	.78	.71	.68	.73	.80	.87	.95	1.1	1.0	118	88	.93
25	.77	.72	.70	.70	.81	.91	.98	1.1	1.0	106	89	.89
26	.76	.73	.72	.67	.79	.89	1.0	1.3	.98	101	95	.90
27	.75	.74	.74	.68	.80	.91	1.0	1.1	1.0	97	91	.90
28	.76	.76	.74	.68	.81	.90	.98	1.1	1.2	108	90	.88
29	.76	.78	.74	.68	---	.92	.95	1.1	1.1	131	95	.86
30	.79	.82	.74	.68	---	.88	.98	1.1	1.1	137	88	.86
31	.81	---	.74	.68	---	.84	---	1.1	---	131	53	---
TOTAL	22.97	22.40	24.18	22.37	21.27	26.72	26.44	33.41	34.18	3943.0	2798	26.00
MEAN	.74	.75	.78	.72	.76	.86	.88	1.08	1.14	127	90.3	.87
MAX	.81	.83	.89	.77	.81	.92	1.0	1.4	1.3	169	135	1.0
MIN	.67	.68	.61	.67	.71	.79	.73	.93	.98	1.0	50	.76
AC-FT	46	44	48	44	42	53	52	66	68	7820	5550	52

CAL YR 1990 TOTAL 4706.67 MEAN 12.9 MAX 150 MIN .61 AC-FT 9340
WTR YR 1991 TOTAL 7000.94 MEAN 19.2 MAX 169 MIN .61 AC-FT 13890

NIOBRARA RIVER BASIN

06457500 NIOBRARA RIVER NEAR GORDON, NE

LOCATION.--Lat 42°38'00", long 102°12'40", in NE1/4 sec.26, T.31 N., R.42 W., Sheridan County, Hydrologic Unit 10150003, on left bank 250 ft upstream from bridge on State Highway 27, 4 mi downstream from Rush Creek, and 11 mi south of Gordon.

DRAINAGE AREA.--4,290 mi², approximately.

PERIOD OF RECORD.--August 1928 to September 1932, October 1945 to current year. Monthly discharge only for some periods, published in WSP 1309.

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

GAGE.--Water-stage recorder. Datum of gage is 3,432.49 ft above National Geodetic Vertical Datum of 1929. Aug. 24, 1928, to June 30, 1932, nonrecording gage at bridge 4 mi downstream at different datum. Dec. 3, 1945, to Mar. 24, 1970, water-stage recorder at datum 2.0 ft higher, Mar. 25, 1970, to July 28, 1982, at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 12, 28, 29, and Dec. 15 to Feb. 6. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by storage in Box Butte Reservoir (station 06455000) for irrigation of Mirage Flats project and return flow from irrigated land.

AVERAGE DISCHARGE.--45 years, (water years 1947-91) 114 ft³/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,130 ft³/s May 21, 1962, gage height, 5.25 ft; minimum daily, 16 ft³/s Dec. 20, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 342 ft³/s June 10, gage height, 2.03 ft; maximum gage height, 2.32 ft Jan. 15, backwater from ice; minimum daily discharge, 57 ft³/s Aug. 3, 27, 28, Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	87	89	92	120	119	122	87	125	96	64	58
2	77	88	92	94	120	110	113	86	126	89	59	58
3	74	88	83	90	122	118	107	115	119	82	57	57
4	75	89	92	94	124	153	105	113	119	79	60	63
5	75	89	94	96	126	155	102	101	130	77	65	71
6	72	90	87	98	129	144	98	93	198	80	65	105
7	77	90	89	100	124	135	91	100	162	77	103	75
8	88	91	96	100	118	125	88	101	130	81	129	70
9	92	91	93	102	120	117	86	97	138	92	84	68
10	94	92	92	102	126	111	88	95	184	187	88	76
11	91	92	89	104	108	108	94	96	170	184	97	91
12	87	94	89	104	123	102	103	96	153	105	106	87
13	88	96	90	106	124	102	105	89	111	98	88	87
14	85	93	87	106	103	107	98	87	112	94	82	93
15	87	92	92	108	107	102	94	85	128	83	78	84
16	87	85	92	110	119	98	87	126	120	78	75	80
17	90	88	90	112	129	101	89	159	107	70	72	82
18	89	89	86	114	128	100	89	145	103	66	72	75
19	93	89	62	116	112	96	133	133	156	66	73	79
20	100	91	66	118	108	100	145	118	140	65	68	80
21	95	88	68	118	126	103	131	106	111	64	66	76
22	96	87	74	120	162	101	120	104	109	61	66	72
23	94	87	78	120	146	109	115	108	123	59	64	74
24	86	91	82	120	142	108	104	99	119	70	62	80
25	87	92	88	118	136	106	98	97	109	66	62	81
26	89	83	90	120	137	108	97	106	95	65	60	83
27	86	86	90	120	130	100	99	131	94	73	57	83
28	85	83	88	118	133	104	97	119	99	71	57	83
29	86	76	84	116	---	111	92	110	101	67	59	82
30	86	98	86	116	---	124	91	107	100	75	60	81
31	87	---	90	118	---	125	---	94	---	71	58	---
TOTAL	2677	2675	2668	3370	3502	3502	3081	3303	3791	2591	2256	2334
MEAN	86.4	89.2	86.1	109	125	113	103	107	126	83.6	72.8	77.8
MAX	100	98	96	120	162	155	145	159	198	187	129	105
MIN	72	76	62	90	103	96	86	85	94	59	57	57
AC-FT	5310	5310	5290	6680	6950	6950	6110	6550	7520	5140	4470	4630

CAL YR 1990 TOTAL 32389 MEAN 88.7 MAX 550 MIN 35 AC-FT 64240
WTR YR 1991 TOTAL 35750 MEAN 97.9 MAX 198 MIN 57 AC-FT 70910

61

LOCATION.--Lat 42°36'51", long 101°16'38", in NE1/4NW1/4, sec.2, T.30 N., R.34 W., Cherry County, Hydrologic Unit 10150005, on left bank 21 ft downstream from centerline of Doughboy bridge. 24 mi southwest of Nenzel.

PERIOD OF RECORD.--October 1981 to current year. Discharge measurements only, July 1963, April 1980, May-September 1981.

REMARKS.--Estimated daily discharges Oct. 1-15 and Dec. 20 to Jan. 11. Records good, except for periods of estimated record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 367 ft³/s June 10, 1991, gage height, 1.88 ft, present datum; maximum gage height, 3.92 ft, present datum, Jan. 7, 1982, backwater from ice; minimum daily discharge, 79 ft³/s Mar. 12, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 367 ft³/s June 10, gage height, 1.88 ft; maximum gage height, 2.28 ft Dec. 21, backwater from ice; minimum daily discharge, 122 ft³/s July 8.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	167	162	155	179	170	182	141	198	131	143	152
2	149	161	164	150	189	159	173	146	205	128	158	152
3	149	159	162	151	183	159	151	193	215	126	144	151
4	149	163	158	150	181	172	146	207	228	126	139	152
5	152	165	159	150	180	173	147	200	236	127	142	153
6	152	167	160	145	182	168	148	182	275	126	168	157
7	152	161	158	150	185	162	141	178	270	124	212	154
8	152	159	165	150	183	159	139	173	283	122	213	153
9	152	159	168	150	183	158	136	167	258	135	192	150
10	152	164	168	150	186	158	139	163	307	173	179	151
11	152	175	170	155	180	160	148	159	293	230	173	163
12	152	173	168	161	178	160	167	155	254	193	183	156
13	156	171	159	163	176	156	167	146	227	174	152	150
14	156	172	164	167	169	153	160	146	211	163	147	153
15	156	174	172	168	159	159	159	150	180	155	155	140
16	156	173	168	166	163	162	159	185	162	147	153	133
17	151	170	170	167	176	166	155	203	152	134	149	133
18	144	174	175	167	172	166	155	193	146	127	145	128
19	155	172	147	165	163	167	177	192	168	126	149	128
20	160	171	145	162	170	172	184	188	163	129	155	132
21	159	170	140	167	178	170	185	178	151	134	162	136
22	155	167	135	164	182	165	178	173	147	142	166	136
23	159	166	140	166	175	164	167	173	149	138	170	129
24	154	167	145	165	170	163	158	169	147	134	170	130
25	154	166	145	160	169	164	153	172	149	136	160	134
26	158	169	145	156	166	162	149	166	142	135	157	136
27	153	167	150	165	164	158	141	184	138	191	162	138
28	159	162	145	165	170	157	141	179	140	184	160	143
29	161	156	140	160	---	157	136	189	136	154	164	148
30	161	158	140	158	---	165	138	194	135	154	162	146
31	164	---	150	161	---	173	---	178	---	141	162	---
TOTAL	4783	4998	4837	4929	4911	5057	4679	5422	5865	4539	5046	4317
MEAN	154	167	156	159	175	163	156	175	195	146	163	144
MAX	164	175	175	168	189	173	185	207	307	230	213	163
MIN	144	156	135	145	159	153	136	141	135	122	139	128
AC-FT	9490	9910	9590	9780	9740	10030	9280	10750	11630	9000	10010	8560
CAL YR 1990	TOTAL 58228		MEAN 160	MAX 206	MIN 128	AC-FT 115500						
W												

NIOBRARA RIVER BASIN

06459300 MERRITT RESERVOIR NEAR BURGE, NE

LOCATION.--Lat 42°38'06", long 100°52'18", in SW1/4NW1/4 sec.29, T.31 N., R.30 W., Cherry County, Hydrologic Unit 10150005, in control house of outlet works of Merritt Dam, 8.1 mi southwest of Burge and 23 mi southwest of Valentine.

DRAINAGE AREA.--640 mi², approximately, of which about 44 mi² contributes directly to surface runoff.

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

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

GAGE.--Direct reading, single vertical column, mercury-well type manometer read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

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, 75,370 acre-ft June 10, elevation, 2,946.3 ft; minimum observed, 33,110 acre-ft Sept. 5, elevation, 2,926.9 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,936.2	49,710	-
Oct. 31	2,941.5	62,190	+12,480
Nov. 30	2,944.0	68,830	+6,640
Dec. 31	2,944.0	68,830	0
CAL YR 1990	-	-	0
Jan. 31	2,944.0	68,830	0
Feb. 28	2,944.0	68,830	0
Mar. 31	2,945.2	72,190	+3,360
Apr. 30	2,945.9	74,200	+2,010
May 31	2,946.2	75,080	+880
June 30	2,945.9	74,200	-880
July 31	2,936.3	49,930	-24,270
Aug. 31	2,927.6	34,160	-15,770
Sept. 30	2,932.1	41,640	+7,480
WTR YR 1991	-	-	-8,070

NIOBRARA RIVER BASIN

63

06459500 SNAKE RIVER NEAR BURGE, NE

LOCATION.--Lat 42°39'15", long 100°51'28", in NE1/4 sec.20, T.31 N., R.30 W., Cherry County, Hydrologic Unit 10150005, on right bank 150 ft downstream from Nebraska National Forest boundary, 2.1 mi downstream from Merritt Dam, 6.5 mi southwest of Burge, and 22 mi southwest of Valentine.

DRAINAGE AREA.--660 mi², approximately, of which about 44 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1947 to current year.

REVISED RECORDS.--WSP 1279: 1950(M), 1951(P). WDR NE-67,72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,805.36 ft above National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation).

REMARKS.--No estimated daily discharges. Records good. Natural flow affected since February 1964 by storage in Merritt Reservoir (station 06459300) 2.1 mi upstream.

AVERAGE DISCHARGE.--28 years (1963-91), 154 ft³/s, 111,600 acre-ft/yr, since storage and diversion began.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,170 ft³/s Feb. 7, 1963, gage height, 6.96 ft, release of storage behind temporary construction dike, from rating curve extended above 520 ft³/s on basis of slope-area measurement at gage height, 5.39 ft; minimum daily, 5.8 ft³/s May 24-27, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 328 ft³/s June 10, gage height, 2.16 ft; minimum daily, 14 ft³/s Sept. 26-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	40	213	235	238	245	148	205	218	31	57	44
2	41	41	213	205	238	245	148	206	216	33	52	45
3	41	41	214	215	234	244	149	220	217	35	46	45
4	41	40	213	232	234	243	149	223	223	35	46	45
5	41	40	213	233	246	259	151	223	220	35	46	45
6	41	41	213	233	253	267	151	228	220	35	46	45
7	41	40	225	232	271	266	153	231	222	35	47	40
8	41	40	234	234	281	254	155	241	204	35	47	44
9	41	41	223	233	280	240	159	256	232	35	47	44
10	41	40	222	234	275	239	175	254	300	41	47	45
11	41	40	240	235	275	239	168	241	315	56	46	45
12	41	40	243	233	275	242	179	239	305	56	46	45
13	41	71	235	231	277	241	191	236	296	56	45	46
14	41	117	235	245	258	239	199	232	284	56	45	46
15	42	162	235	255	234	239	205	215	274	55	46	46
16	41	162	235	256	239	238	226	224	257	70	46	46
17	41	163	236	263	258	239	238	239	170	42	46	46
18	40	164	236	283	271	219	236	246	152	55	46	46
19	40	171	238	274	271	73	251	252	155	55	44	46
20	41	186	184	259	270	88	255	258	151	54	41	45
21	40	186	153	248	271	148	258	252	132	54	41	45
22	40	186	151	241	271	148	284	238	126	54	40	45
23	40	204	151	242	271	148	298	231	126	54	40	45
24	40	236	151	242	267	148	311	225	171	55	40	45
25	40	243	194	242	267	148	301	222	190	55	40	27
26	40	223	232	242	251	148	288	215	152	55	45	14
27	40	223	235	241	242	149	281	211	80	55	58	14
28	40	217	235	242	243	147	270	208	47	55	60	14
29	40	213	235	242	---	146	231	210	44	54	51	15
30	40	213	235	239	---	148	206	210	39	55	44	16
31	40	---	235	238	---	148	---	216	---	56	44	---
TOTAL	1259	3824	6707	7479	7261	6185	6414	7107	5738	1507	1435	1179
MEAN	40.6	127	216	241	259	200	214	229	191	48.6	46.3	39.3
MAX	42	243	243	283	281	267	311	258	315	70	60	46
MIN	40	40	151	205	234	73	148	205	39	31	40	14
AC-FT	2500	7580	13300	14830	14400	12270	12720	14100	11380	2990	2850	2340

CAL YR 1990 TOTAL 53783.5 MEAN 147 MAX 328 MIN 9.1 AC-FT 106700
WTR YR 1991 TOTAL 56095 MEAN 154 MAX 315 MIN 14 AC-FT 111300

NIOBRARA RIVER BASIN

06461000 MINNECHADUZA CREEK AT VALENTINE, NE

LOCATION.--Lat 42°53'10", long 100°33'10", in SW1/4 sec.30, T.34 N., R.27 W., Cherry County, Hydrologic Unit 10150004, on right bank 500 ft downstream from powerplant in city park at north edge of Valentine and 4 mi upstream from mouth.

DRAINAGE AREA.--390 mi², approximately, of which about 200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--December 1947 to current year.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharge. Dec. 21-30 and Jan. 2, 3. Records good. Flow regulated by powerplant 500 ft above station.

AVERAGE DISCHARGE.--43 years (1948-91), 34.1 ft³/s, 24,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s Mar. 22, 1960, gage height, 8.0 ft; minimum daily, 2.3 ft³/s July 13, 14, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft³/s June 9, gage height, 2.48 ft; minimum daily, 4.7 ft³/s Oct. 6 and Aug. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

[illegible]

65

LOCATION.--Lat 42°54'10", long 100°21'40", in SE1/4 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 Minnehaduzda Creek, and 6.5 mi southwest of Sparks.

DRAINAGE AREA.--8,090 mi², approximately.

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-67: Drainage area.

GAGE.--Water-stage recorder and peak-stage indicator gage. Datum of gage is 2,287.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 15 to Feb. 10. 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).

AVERAGE DISCHARGE.--46 years, 769 ft³/s, 557,100 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s Mar. 5, 1949, gage height, 6.73 ft, from rating curve extended above 3,800 ft³/s; maximum gage height recorded, 10.06 ft Feb. 7, 1973, ice jam; minimum daily discharge, 100 ft³/s Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,680 ft³/s June 4, gage height, 3.58 ft; maximum gage height, 6.64 ft Feb. 10, backwater from ice; minimum daily discharge, 420 ft³/s Dec. 20, result of freezeup.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	548	574	747	720	860	850	804	697	957	519	498	461
2	529	577	757	700	880	885	819	697	969	481	520	456
3	535	590	753	700	900	873	816	908	1160	479	479	477
4	522	601	775	721	900	828	805	839	1420	451	463	475
5	519	615	743	720	920	850	805	794	1190	468	498	474
6	494	618	753	700	900	897	794	794	1080	434	641	476
7	503	599	731	720	880	885	794	761	1190	425	670	470
8	545	590	748	740	920	862	816	783	1160	446	722	469
9	537	581	743	740	900	839	816	772	1080	456	605	521
10	532	582	752	740	900	816	805	805	1320	522	563	479
11	537	581	757	740	920	805	873	761	1280	741	556	508
12	534	585	780	780	908	850	932	750	1210	628	552	515
13	513	604	774	820	920	850	897	761	1130	637	613	509
14	530	627	769	820	944	828	885	739	1200	589	551	506
15	539	681	760	820	885	828	908	750	1150	552	610	520
16	529	710	780	800	850	839	897	908	1000	525	706	523
17	530	686	760	800	862	828	932	1060	907	530	570	500
18	542	688	780	840	932	828	944	1030	761	489	529	491
19	524	711	700	800	897	783	1040	944	873	489	557	491
20	531	725	420	800	862	697	944	911	863	491	529	472
21	567	738	440	780	885	794	897	897	826	526	514	478
22	561	721	500	820	897	805	908	862	822	563	494	485
23	552	724	570	800	897	805	897	889	772	537	521	501
24	557	753	620	800	897	761	908	884	744	530	492	497
25	548	788	650	780	897	772	908	885	830	532	493	492
26	536	793	680	780	871	772	897	798	775	519	505	474
27	531	804	700	800	851	780	850	804	688	545	495	454
28	546	917	680	800	839	756	805	828	581	750	505	444
29	560	865	640	780	---	753	805	954	526	593	497	457
30	555	722	640	803	---	790	728	908	516	511	484	485
31	561	---	720	820	---	774	---	920	---	513	462	---
TOTAL	16647	20350	21622	23984	24974	25283	25929	26093	28980	16471	16894	14560
MEAN	537	678	697	774	892	816	864	842	966	531	545	485
MAX	567	917	780	840	944	897	1040	1060	1420	750	722	523
MIN	494	574	420	700	839	697	728	697	516	425	462	444
AC-FT	33020	40360	42890	47570	49540	50150	51430	51760	57480	32670	33510	28880
CAL YR 1990	TOTAL 251437		MEAN 689	MAX 1850	MIN 404	AC-FT 498700						

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 current year.

WATER TEMPERATURES: October 1982 to current year.

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.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 276 microsiemens June 22, 23; minimum daily, 191 microsiemens Mar. 1.

WATER TEMPERATURES: Maximum daily, 30.0°C June 30, July 14, 21, Aug. 31; minimum daily, 0.0°C Dec. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
OCT 17...	0915	504	232	8.4	9.0	2	91	30	3.9	8.8	0.4
NOV 15...	0910	644	224	8.6	7.0	<1	91	30	3.8	8.6	0.4
DEC 05...	1500	727	221	8.6	3.5	6	88	29	3.8	8.0	0.4
JAN 04...	1005	721	--	8.3	0.5	5	91	30	4.0	8.7	0.4
FEB 27...	1520	836	225	8.4	6.0	10	91	30	3.9	8.8	0.4
MAR 26...	1545	754	230	8.6	15.5	15	97	32	4.1	9.4	0.4
APR 23...	1520	887	229	8.7	16.0	13	94	31	4.1	9.6	0.4
MAY 16...	1020	786	211	8.5	19.0	12	85	28	3.6	8.4	0.4
JUN 19...	0955	807	256	8.6	20.5	28	110	34	5.1	12	0.5
JUL 17...	0925	546	228	8.9	25.0	7	95	31	4.3	9.4	0.4
AUG 14...	0840	528	218	8.4	19.5	8	88	29	3.8	8.6	0.4
SEP 11...	0920	487	228	8.6	19.5	5	97	32	4.2	9.5	0.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, 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)
OCT 17...	6.0	112	11	4.3	0.20	54	185	0.25	252	--	--
NOV 15...	5.8	106	5.4	0.90	0.30	52	173	0.24	301	--	<0.010
DEC 05...	5.7	104	6.4	2.4	0.40	52	172	0.23	339	--	<0.010
JAN 04...	5.9	107	6.5	0.60	0.30	56	180	0.24	350	--	<0.010
FEB 27...	6.2	105	6.8	0.80	0.30	50	172	0.23	389	--	<0.010
MAR 26...	7.3	111	7.9	2.6	0.40	52	184	0.25	375	--	<0.010
APR 23...	7.3	112	6.3	<0.10	0.30	49	--	--	--	0.230	0.010
MAY 16...	6.1	103	5.3	0.40	0.30	48	163	0.22	346	--	<0.010
JUN 19...	6.6	124	7.6	1.2	0.40	49	191	0.26	417	--	<0.010
JUL 17...	6.9	112	6.1	2.6	0.40	52	180	0.24	265	--	<0.010
AUG 14...	6.4	108	4.9	0.60	0.30	51	170	0.23	243	--	<0.010
SEP 11...	6.4	112	6.8	0.60	0.30	51	179	0.24	236	--	<0.010

NIOBRARA RIVER BASIN
06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN NO ₂ +NO ₃ 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 (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 17...	--	--	--	--	--	0.050	--	--	30	7	1
NOV 15...	0.500	0.030	0.27	0.30	0.80	0.100	0.050	0.060	30	10	<1
DEC 05...	0.500	0.010	--	<0.20	--	0.090	0.060	0.050	10	8	<1
JAN 04...	0.700	0.040	0.36	0.40	1.1	0.070	0.060	0.070	30	8	2
FEB 27...	0.490	0.040	0.26	0.30	0.79	0.120	0.070	0.090	30	19	3
MAR 26...	0.380	0.050	0.35	0.40	0.78	0.090	0.080	0.060	30	15	3
APR 23...	0.240	0.010	--	<0.20	--	0.150	0.070	0.050	30	13	3
MAY 16...	0.200	<0.010	--	0.90	1.1	0.130	0.060	0.060	20	7	2
JUN 19...	0.170	0.020	0.48	0.50	0.67	0.180	0.070	0.080	40	29	<1
JUL 17...	<0.050	0.010	0.69	0.70	--	0.160	0.040	0.030	30	11	1
AUG 14...	0.190	<0.010	--	0.30	0.49	0.170	0.060	0.050	30	10	2
SEP 11...	0.260	0.010	--	<0.20	--	0.120	0.060	0.040	40	7	1

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	228	214	---	---	191	227	239	234	253	221	222
2	219	228	216	---	---	226	231	238	233	257	229	222
3	224	222	214	---	---	221	232	226	237	253	220	226
4	226	226	221	---	---	223	228	229	239	245	230	232
5	224	228	216	---	---	222	228	228	245	248	229	221
6	228	234	214	---	---	219	219	233	247	248	218	226
7	226	232	216	---	---	218	222	226	259	242	219	216
8	229	231	213	---	---	220	233	233	257	246	224	225
9	226	229	214	---	---	221	231	223	245	241	215	223
10	227	231	215	---	---	222	226	230	249	238	228	229
11	231	235	215	---	217	220	224	231	260	231	227	222
12	233	231	213	---	216	216	230	221	253	232	230	224
13	230	233	214	---	213	220	222	231	258	228	230	222
14	230	229	212	---	217	216	235	222	241	236	219	224
15	237	227	213	---	214	218	234	221	257	240	227	225
16	241	224	219	---	221	215	231	216	257	230	221	227
17	230	223	212	---	220	218	229	226	251	231	234	222
18	229	225	213	---	211	216	232	225	266	231	230	226
19	227	227	219	---	214	216	223	224	259	234	232	228
20	223	225	280	---	219	229	231	237	273	234	229	231
21	229	223	231	---	220	231	234	229	274	231	230	235
22	241	---	233	---	221	229	232	243	276	240	229	231
23	235	223	232	---	222	230	233	235	276	240	233	231
24	224	224	233	---	222	238	231	239	272	234	229	228
25	234	220	238	---	226	234	235	244	258	235	231	227
26	230	218	225	---	222	238	233	232	259	229	232	226
27	229	219	218	---	225	232	237	234	247	232	226	229
28	237	207	213	---	226	228	229	233	254	231	226	231
29	232	219	---	---	---	229	231	233	255	239	227	228
30	228	217	---	---	---	230	232	231	249	217	230	230
31	228	---	---	---	---	227	---	227	---	216	224	---
MEAN	229	---	---	---	---	223	230	230	255	237	227	226

NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	13.0	4.0	---	---	6.0	17.0	15.0	20.0	24.0	28.0	28.0
2	21.0	10.0	5.0	---	---	3.0	17.0	10.0	23.0	23.0	25.0	29.0
3	17.0	6.0	5.0	---	---	10.0	18.0	10.0	22.0	22.0	25.0	22.0
4	17.0	8.0	5.0	---	---	8.0	18.0	11.0	19.0	28.0	22.0	20.0
5	20.0	8.0	6.0	---	---	11.0	19.0	11.0	20.0	23.0	22.0	25.0
6	14.0	6.0	4.0	---	---	6.0	19.0	10.0	22.0	24.0	27.0	26.0
7	11.0	4.0	5.0	---	---	7.0	14.0	13.0	23.0	28.0	25.0	26.0
8	10.0	3.0	5.0	---	---	6.0	13.0	13.0	26.0	21.0	22.0	28.0
9	7.0	5.0	7.0	---	---	7.0	15.0	17.0	20.0	23.0	21.0	24.0
10	10.0	8.0	5.0	---	---	10.0	13.0	21.0	24.0	23.0	22.0	20.0
11	11.0	9.0	7.0	---	7.0	8.0	9.0	21.0	24.0	22.0	25.0	25.0
12	13.0	8.0	6.0	---	9.0	5.0	8.0	25.0	25.0	24.0	21.0	23.0
13	10.0	7.0	3.0	---	8.0	6.0	8.0	18.0	24.0	22.0	22.0	23.0
14	12.0	9.0	4.0	---	4.0	5.0	13.0	20.0	25.0	30.0	22.0	22.0
15	14.0	10.0	4.0	---	3.0	5.0	10.0	23.0	21.0	27.0	24.0	19.0
16	16.0	7.0	4.0	---	9.0	7.0	11.0	21.0	25.0	25.0	23.0	22.0
17	10.0	10.0	4.0	---	6.0	11.0	12.0	18.0	21.0	25.0	22.0	18.0
18	10.0	10.0	3.0	---	4.0	8.0	11.0	16.0	24.0	28.0	26.0	14.0
19	15.0	8.0	2.0	---	5.0	7.0	10.0	17.0	22.0	26.0	26.0	15.0
20	10.0	11.0	1.0	---	9.0	8.0	11.0	19.0	23.0	26.0	26.0	17.0
21	7.0	9.0	3.0	---	10.0	10.0	11.0	22.0	22.0	30.0	28.0	19.0
22	11.0	---	1.0	---	9.0	10.0	12.0	22.0	21.0	25.0	29.0	18.0
23	11.0	11.0	1.0	---	7.0	8.0	11.0	20.0	28.0	22.0	23.0	13.0
24	11.0	7.0	2.0	---	5.0	11.0	15.0	21.0	25.0	23.0	24.0	15.0
25	13.0	6.0	1.0	---	3.0	11.0	15.0	22.0	24.0	22.0	23.0	17.0
26	12.0	4.0	3.0	---	4.0	15.0	16.0	24.0	24.0	21.0	28.0	18.0
27	10.0	2.0	4.0	---	7.0	9.0	14.0	22.0	25.0	25.0	28.0	20.0
28	15.0	2.0	3.0	---	7.0	9.0	15.0	20.0	25.0	28.0	24.0	15.0
29	12.0	3.0	---	---	---	7.0	11.0	22.0	26.0	24.0	25.0	22.0
30	12.0	7.0	---	---	---	6.0	11.0	23.0	30.0	25.0	22.0	20.0
31	10.0	---	---	---	---	8.0	---	22.0	---	25.0	30.0	---
MEAN	12.6	---	---	---	---	8.0	13.2	18.4	23.4	24.6	24.5	20.8

NIOBRARA RIVER BASIN

69

06462500 PLUM CREEK AT MEADVILLE, NE

LOCATION.--Lat 42°45'05", long 99°52'05", in NE1/4NW1/4 sec.14, T.32 N., R.22 W., Brown County, Hydrologic Unit 10150004, on left bank 0.4 mi upstream from county road bridge, 1 mi upstream from mouth, 1 mi southwest of Meadville, and 17 mi north of Ainsworth.

DRAINAGE AREA.--600 mi², approximately, of which about 340 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--December 1947 to September 1975, October 1976 to current year. Prior to October 1962, published as "near Meadville."

REVISED RECORDS.--WSP 1729: 1953. WSP 1917: 1953.

GAGE.--Water-stage recorder. Elevation of gage is 2,032 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 25, 1962, at site 6.5 mi upstream at different datum. Nov. 25, 1962, to Nov. 14, 1966, at present site at datum 3.0 ft higher. Nov. 15, 1966 to Oct. 2, 1979, at present site at datum 2.0 ft higher. Oct. 3, 1979 to June 3, 1982, at present site at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 16 and Jan. 26 to Feb. 1. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years (1948-75, 1976-91), 118 ft³/s, 85,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,070 ft³/s Sept. 18, 1967, gage height, 6.98 ft present datum; maximum gage height observed, 8.54 ft Dec. 6, 1964, backwater from ice, present datum; minimum daily discharge, 15 ft³/s Feb. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 22	1500	(a)	*2.69	No peaks greater than base discharge.			
June 9	2100	*288	1.61				

a Backwater from ice.

Minimum daily discharge, 90 ft³/s July 26, Aug. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	106	112	116	106	113	114	132	208	112	92	106
2	101	104	113	121	102	109	113	124	214	116	93	107
3	105	110	114	114	106	106	109	165	217	112	92	101
4	107	112	112	112	107	111	108	198	217	113	90	102
5	106	110	111	112	108	113	106	216	211	112	92	99
6	101	111	112	108	110	110	104	218	208	111	96	98
7	100	109	111	110	110	106	103	202	201	110	104	98
8	100	106	111	110	111	105	102	188	199	107	110	99
9	103	108	111	110	110	104	100	172	216	108	111	98
10	103	108	108	110	110	104	98	157	222	108	111	99
11	103	109	109	112	110	106	101	147	237	116	110	105
12	108	109	108	114	111	112	117	138	242	115	109	110
13	106	108	104	124	112	114	117	127	223	112	110	129
14	107	107	104	122	112	106	111	121	245	109	111	139
15	106	109	111	120	105	107	109	119	228	108	112	125
16	108	106	108	120	108	107	107	135	195	106	106	118
17	107	105	110	122	112	111	107	161	178	104	107	114
18	107	106	109	125	113	114	107	172	168	100	105	109
19	107	105	106	123	115	117	127	169	160	101	103	106
20	106	107	104	121	115	126	141	159	153	101	100	107
21	108	109	100	112	117	133	147	157	151	98	98	107
22	108	107	98	116	122	137	146	166	157	95	100	103
23	105	106	100	118	122	138	140	221	151	93	99	100
24	104	109	104	114	116	132	133	219	142	93	98	101
25	104	107	106	113	114	130	127	215	140	91	97	100
26	106	108	106	110	114	127	124	213	132	90	95	99
27	103	108	108	106	111	120	133	204	131	93	95	102
28	103	106	104	106	114	115	121	189	128	92	96	99
29	104	109	102	102	---	112	127	192	124	92	97	100
30	103	113	102	98	---	115	137	203	116	92	101	99
31	105	---	110	106	---	113	---	208	---	92	105	---
TOTAL	3243	3237	3328	3527	3123	3573	3536	5407	5514	3202	3145	3179
MEAN	105	108	107	114	112	115	118	174	184	103	101	106
MAX	108	113	114	125	122	138	147	221	245	116	112	139
MIN	99	104	98	98	102	104	98	119	116	90	90	98
AC-FT	6430	6420	6600	7000	6190	7090	7010	10720	10940	6350	6240	6310

CAL YR 1990 TOTAL 43643 MEAN 120 MAX 396 MIN 92 AC-FT 86570
WTR YR 1991 TOTAL 44014 MEAN 121 MAX 245 MIN 90 AC-FT 87300

NIOBRARA RIVER BASIN

06463080 LONG PINE CREEK NEAR LONG PINE, NE

LOCATION.--Lat 42°37'55", long 99°40'46", in SE1/4NE1/4 sec.29, T.31 N., R.20 W., Brown County, Hydrologic Unit 10150004, on right bank 4.9 mi upstream from Bone Creek and 7 mi north of Long Pine.

DRAINAGE AREA.--246 mi²

PERIOD OF RECORD.--October 1979 to March 1991 (discontinued).

REVISED RECORDS.--WRD NE-81-1: 1980(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,080 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--11 years, 101 ft³/s, 73,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 507 ft³/s July 16, 1983, gage height, 5.27 ft; minimum daily, 77 ft³/s Sept. 5, 1980.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	96	99	98	96	97	---	---	---	---	---	---
2	94	95	100	96	97	92	---	---	---	---	---	---
3	114	98	100	96	99	94	---	---	---	---	---	---
4	94	97	99	97	98	96	---	---	---	---	---	---
5	94	98	102	98	97	97	---	---	---	---	---	---
6	92	99	101	96	97	93	---	---	---	---	---	---
7	91	97	100	98	96	91	---	---	---	---	---	---
8	94	99	101	98	97	90	---	---	---	---	---	---
9	94	99	102	98	97	89	---	---	---	---	---	---
10	93	98	102	99	97	90	---	---	---	---	---	---
11	93	99	102	98	98	90	---	---	---	---	---	---
12	94	102	101	99	99	90	---	---	---	---	---	---
13	95	98	98	101	99	89	---	---	---	---	---	---
14	95	99	100	99	97	88	---	---	---	---	---	---
15	95	98	101	99	95	88	---	---	---	---	---	---
16	96	97	100	98	98	88	---	---	---	---	---	---
17	95	98	100	102	98	90	---	---	---	---	---	---
18	96	98	101	100	100	93	---	---	---	---	---	---
19	97	98	97	99	98	90	---	---	---	---	---	---
20	97	99	97	97	99	93	---	---	---	---	---	---
21	96	99	98	95	100	97	---	---	---	---	---	---
22	97	99	104	97	106	99	---	---	---	---	---	---
23	96	100	108	96	101	101	---	---	---	---	---	---
24	96	101	108	94	95	99	---	---	---	---	---	---
25	97	99	107	94	94	98	---	---	---	---	---	---
26	98	98	105	95	95	100	---	---	---	---	---	---
27	96	98	104	96	96	102	---	---	---	---	---	---
28	96	98	103	96	98	104	---	---	---	---	---	---
29	97	99	101	95	---	105	---	---	---	---	---	---
30	96	101	100	95	---	103	---	---	---	---	---	---
31	96	---	98	95	---	103	---	---	---	---	---	---
TOTAL	2964	2954	3139	3014	2737	2939	---	---	---	---	---	---
MEAN	95.6	98.5	101	97.2	97.7	94.8	---	---	---	---	---	---
MAX	114	102	108	102	106	105	---	---	---	---	---	---
MIN	90	95	97	94	94	88	---	---	---	---	---	---
AC-FT	5880	5860	6230	5980	5430	5830	---	---	---	---	---	---

CAL YR 1990 TOTAL 36549 MEAN 100 MAX 262 MIN 80 AC-FT 72490

NIOBRARA RIVER BASIN

71

06463500 LONG PINE CREEK NEAR RIVERVIEW, NE

LOCATION.--Lat 42°41'21", long 99°40'43", in SE1/4NE1/4 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, and 5.5 mi southwest of Riverview.

DRAINAGE AREA.--460 mi², approximately.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1729: 1952(M).

GAGE.--Water-stage recorder. Datum of gage is 1,983.34 ft above National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation). Prior to Dec. 7, 1962, at site 100 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 20-24, 29-31. Records good, except for periods of estimated record, which are fair. Flow includes return water from Ainsworth Irrigation District since 1965.

AVERAGE DISCHARGE.--42 years (1948-53, 1954-91), 148 ft³/s, 107,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,650 ft³/s July 1, 1962, gage height, 15.68 ft, backwater from fallen bridge, from rating curve extended above 3,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 44 ft³/s Jan. 10, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 4	0600	*534	*4.27	Sept. 13	0630	480	4.09
May 30	1730	414	3.84				

Minimum daily discharge, 130 ft³/s Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	151	159	156	156	165	161	257	285	171	185	187
2	162	147	155	153	159	156	160	228	264	177	180	191
3	204	152	156	149	161	162	158	280	250	196	169	185
4	165	148	158	151	162	165	160	460	227	203	177	175
5	159	149	159	155	166	166	160	306	203	199	177	178
6	150	160	158	147	165	161	161	233	191	180	185	177
7	147	155	157	149	162	158	157	211	185	175	177	175
8	150	154	157	153	163	158	154	200	185	164	185	171
9	155	156	157	155	161	158	153	191	197	172	213	162
10	154	160	158	155	161	159	152	180	233	178	191	161
11	151	162	161	158	159	161	153	174	244	183	174	176
12	152	163	159	158	160	161	168	169	224	169	163	177
13	153	159	156	159	163	159	167	166	194	156	166	344
14	150	160	158	161	161	163	160	160	213	156	185	244
15	152	157	160	160	153	161	157	158	244	161	193	195
16	153	152	157	158	163	164	155	191	241	166	193	179
17	147	154	156	163	160	173	154	241	208	171	187	180
18	150	154	155	166	163	187	155	297	197	169	186	170
19	155	155	146	166	159	188	178	291	188	164	185	166
20	153	155	140	160	161	183	206	244	184	166	189	164
21	149	154	135	152	167	181	199	224	249	166	175	163
22	152	152	130	160	181	180	184	216	268	177	180	155
23	150	152	140	158	183	178	175	238	242	171	219	153
24	148	153	150	152	171	175	167	264	220	171	212	159
25	149	150	156	158	165	169	163	267	202	166	208	157
26	150	153	155	152	163	166	161	258	189	155	205	155
27	148	152	155	158	162	162	162	238	180	166	197	155
28	147	153	154	158	166	165	156	227	179	174	193	154
29	151	155	145	155	---	166	185	276	167	180	197	157
30	149	159	135	154	---	163	237	364	171	171	194	158
31	149	---	160	154	---	162	---	338	---	205	191	---
TOTAL	4758	4636	4737	4843	4576	5175	5018	7547	6424	5378	5831	5323
MEAN	153	155	153	156	163	167	167	243	214	173	188	177
MAX	204	163	161	166	183	188	237	460	285	205	219	344
MIN	147	147	130	147	153	156	152	158	167	155	163	153
AC-FT	9440	9200	9400	9610	9080	10260	9950	14970	12740	10670	11570	10560
CAL YR 1990	TOTAL 62701	MEAN 172	MAX 557	MIN 130	AC-FT 124400							
WTR YR 1991	TOTAL 64246	MEAN 176	MAX 460	MIN 130	AC-FT 127400							

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 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
OCT 18...	1125	154	202	8.4	7.5	1	79	26	3.5	7.6	0.4
NOV 15...	1350	157	200	8.7	10.5	<1	77	25	3.5	7.7	0.4
DEC 06...	1235	159	203	8.1	6.5	2	80	26	3.7	7.6	0.4
JAN 04...	1250	144	203	8.2	2.5	5	77	25	3.5	7.4	0.4
FEB 28...	0950	162	201	8.4	7.5	7	80	26	3.7	8.1	0.4
MAR 27...	1300	167	199	8.4	8.0	14	80	26	3.6	7.9	0.4
APR 24...	1030	169	200	8.4	11.0	2	80	26	3.6	8.3	0.4
MAY 16...	1500	200	199	8.4	20.0	55	74	24	3.4	7.8	0.4
JUN 19...	1510	193	201	8.5	23.0	22	83	27	3.9	8.0	0.4
JUL 15...	0950	155	197	8.3	19.5	4	81	26	3.9	7.7	0.4
AUG 14...	1330	187	195	8.7	21.0	8	77	25	3.5	7.6	0.4
SEP 11...	1410	184	195	8.8	20.5	5	77	25	3.6	7.9	0.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, 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)
OCT 18...	5.5	87	4.3	3.2	0.20	55	158	0.21	65.5	--	--
NOV 15...	5.6	85	5.6	3.2	0.30	53	164	0.22	69.6	--	<0.010
DEC 06...	5.7	87	5.1	3.5	0.30	55	169	0.23	72.7	--	<0.010
JAN 04...	5.3	84	4.7	1.5	0.20	55	163	0.22	63.5	--	<0.010
FEB 28...	5.4	85	4.9	1.8	0.20	52	163	0.22	71.3	2.08	0.020
MAR 27...	5.6	85	4.4	3.0	0.20	52	163	0.22	73.3	--	<0.010
APR 24...	5.6	88	4.0	3.0	0.20	53	165	0.22	75.2	1.78	0.020
MAY 16...	6.2	87	4.4	3.5	0.20	47	158	0.21	85.2	1.88	0.020
JUN 19...	5.5	89	4.5	3.2	0.30	52	165	0.22	86.2	--	<0.010
JUL 15...	6.1	87	4.4	3.0	0.30	54	165	0.22	69.2	1.59	0.010
AUG 14...	5.9	87	3.7	1.3	0.20	53	159	0.22	80.1	1.29	0.010
SEP 11...	5.9	87	4.8	3.2	0.30	50	160	0.22	79.5	1.49	0.010

NIOBRARA RIVER BASIN

73

06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, NO2+NO3 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 (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 18...	--	--	--	--	--	0.140	--	--	30	3	2
NOV 15...	2.00	0.020	0.28	0.30	2.3	0.150	0.130	0.150	30	11	<1
DEC 06...	2.20	0.020	--	<0.20	--	0.140	0.140	0.140	20	6	1
JAN 04...	2.20	0.060	0.24	0.30	2.5	0.120	0.130	0.140	20	10	2
FEB 28...	2.10	0.020	0.28	0.30	2.4	0.180	0.140	0.150	30	17	2
MAR 27...	1.90	0.050	0.25	0.30	2.2	0.150	0.140	0.130	20	20	3
APR 24...	1.80	0.010	0.29	0.30	2.1	0.210	0.150	0.120	20	21	4
MAY 16...	1.90	<0.010	--	0.40	2.3	0.440	0.210	0.210	20	24	4
JUN 19...	1.60	0.020	0.28	0.30	1.9	0.230	0.120	0.140	30	22	1
JUL 15...	1.60	0.010	0.29	0.30	1.9	0.210	0.170	0.180	30	14	1
AUG 14...	1.30	<0.010	--	0.30	1.6	0.240	0.160	0.150	20	13	4
SEP 11...	1.50	<0.010	--	0.30	1.8	0.210	0.150	0.130	30	8	2

NIOBRARA RIVER BASIN

06463720 NIOBRARA RIVER AT MARIAVILLE, NE

LOCATION.--Lat 42°46'56", long 99°20'04", in NE1/4NW1/4 sec.5, T.32 N., R.17 W., Keya Paha County, Hydrologic Unit 10150004, on left bank 15 ft upstream from bridge on State Highway 137, 13 mi north of Newport and 20.5 mi upstream from mouth of Keya Paha River.

DRAINAGE AREA.--9,810 mi², approximately.

PERIOD OF RECORD.--October 1985 to September 1991 (water quality data only September 1985), (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,797 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 7 to Mar. 4, Apr. 24 to May 13, Aug. 6-11, Aug. 31 to Sept. 8, and Sept. 19-28. Records fair except for periods of estimated record, which are poor. Flow of stream affected by regulation at power plants, diversion for irrigation and return flows, and storage in Box Butte (station 06455000) and Merritt (station 06459300) reservoirs.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,250 ft³/s June 9, gage height, 3.16 ft; maximum gage height, 5.35 ft, Feb. 13, backwater from ice; minimum daily discharge, 646 ft³/s Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	845	1200	1390	1160	1650	2000	1680	1800	2010	1380	944	941
2	848	1150	1310	1180	1700	2100	1800	1750	1910	1310	999	919
3	1030	1190	1490	1200	1700	2050	1690	1750	1740	1330	971	896
4	981	1100	1580	1220	1700	2000	1520	1700	1790	1500	1010	877
5	961	1040	1200	1240	1700	1890	1430	1650	1850	1560	990	866
6	833	951	1080	1260	1700	1620	1300	1600	1740	1500	993	844
7	772	876	1140	1300	1700	1480	1310	1600	1600	1480	980	823
8	1010	926	1220	1300	1700	1190	1460	1550	1580	1340	980	802
9	1000	1570	1300	1350	1700	956	1580	1550	1740	1320	980	784
10	1090	1370	1350	1350	1700	1070	1590	1500	2320	1300	975	791
11	1010	1010	1400	1350	1700	1160	1630	1500	2120	1250	966	854
12	1070	1050	1400	1350	1700	1300	2190	1500	2200	1240	977	860
13	1200	1010	1350	1400	1750	1490	2280	1500	1970	1140	895	1100
14	1090	915	1350	1400	1750	1440	2230	1510	1800	1120	930	1040
15	1060	994	1250	1400	1700	1390	2160	1490	1700	1070	919	911
16	1080	882	1200	1450	1750	1320	2040	1510	1830	1030	974	839
17	1130	937	1180	1450	1750	1550	2050	1790	1680	937	1080	865
18	1080	978	1120	1500	1750	1570	2060	2140	1710	904	964	796
19	1090	1080	1080	1500	1700	1390	2030	2250	1510	871	829	770
20	1180	1190	1040	1500	1700	1690	2240	1990	1490	874	819	758
21	1180	1290	1000	1550	1700	1450	1910	2050	1920	871	828	746
22	1100	1220	1000	1550	1700	1740	2010	1710	1750	970	839	734
23	1170	1150	1000	1600	1700	1820	2050	1540	1660	986	861	721
24	1230	1030	1020	1600	1700	1830	2050	1480	1570	973	860	710
25	1270	1010	1020	1600	1700	1670	2000	1350	1360	941	859	698
26	1210	1200	1040	1600	1750	1360	1950	1230	1270	913	853	686
27	1140	1260	1060	1600	1750	1580	1950	1250	1440	879	872	674
28	1140	1300	1080	1600	1900	1470	1900	1210	1510	903	872	663
29	1190	1290	1100	1600	---	1440	1900	1860	1540	1020	935	646
30	1280	1350	1120	1650	---	1550	1850	1750	1390	965	982	710
31	1240	---	1160	1650	---	1560	---	1760	---	1010	963	---
TOTAL	33510	33519	37030	44460	48100	48126	55840	50820	51700	34887	28899	24324
MEAN	1081	1117	1195	1434	1718	1552	1861	1639	1723	1125	932	811
MAX	1280	1570	1580	1650	1900	2100	2280	2250	2320	1560	1080	1100
MIN	772	876	1000	1160	1650	956	1300	1210	1270	871	819	646
AC-FT	66470	66480	73450	88190	95410	95460	110800	100800	102500	69200	57320	48250

CAL YR 1990 TOTAL 425474 MEAN 1166 MAX 2040 MIN 772 AC-FT 843900
WTR YR 1991 TOTAL 491215 MEAN 1346 MAX 2320 MIN 646 AC-FT 974300

NIOBRARA RIVER BASIN

75

06464500 KEYA PAHA RIVER AT WEWELA, SD

LOCATION.--Lat 43°01'44", long 99°46'49", in NW1/4SW1/4SE1/4 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 mi², 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. Datum of gage is 2,049.78 ft above National Geodetic Vertical Datum of 1929. 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 for estimated daily discharges, which are poor. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

AVERAGE DISCHARGE.--46 years (water years 1939-40, 1948-91), 70.9 ft³/s, 51,370 acre-ft/yr; median of yearly mean discharges, 58 ft³/s, 42,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s, Mar. 31, 1952, gage height, 13.08 ft; maximum gage height, 13.5 ft, Mar. 25, 1950, from floodmark, backwater from ice; no flow Jan. 10 to Feb. 15, 1949, Aug. 19 to Sept. 14, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 19	0230	282	2.84	June 6	1230	*807	*4.59
June 1	1815	252	2.71				

Minimum daily discharge, 2.9 ft³/s, Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	33	e19	e3.4	e12	e86	70	94	232	42	21	12
2	29	35	e20	e3.4	e16	e88	69	88	222	39	22	12
3	30	37	e20	e3.3	e21	e90	68	117	213	37	23	13
4	29	36	e20	e3.3	e25	e98	66	159	201	35	24	12
5	29	37	e19	e3.2	e26	e105	65	147	232	33	25	13
6	28	e37	e19	e2.9	e25	e118	64	130	574	32	27	13
7	27	e34	e20	e3.5	e28	e120	62	116	414	31	30	13
8	31	34	e20	e4.5	e34	e115	60	110	295	33	30	14
9	33	49	e22	e4.6	e38	e105	62	100	256	33	31	14
10	32	43	e22	e4.6	e38	102	60	89	240	33	30	15
11	31	41	e19	e4.6	e37	100	62	83	225	35	29	17
12	31	40	e18	e4.6	e36	109	74	76	182	36	28	18
13	31	38	e17	e4.8	e36	98	87	67	143	34	26	19
14	31	37	e16	e5.4	e36	91	94	61	118	33	25	19
15	31	37	e15	e5.6	e39	88	94	58	102	33	24	17
16	31	36	e14	e5.9	e42	87	91	60	89	30	28	18
17	33	36	e12	e5.9	e49	91	85	90	79	28	28	19
18	32	36	e12	e5.9	e58	104	80	172	72	28	28	20
19	33	35	e12	e6.4	e54	108	77	255	68	26	26	20
20	35	35	e11	e5.8	e50	107	78	218	63	24	22	22
21	33	36	e10	e5.5	e58	107	81	193	61	25	19	23
22	34	35	e9.2	e5.0	e68	110	82	163	61	33	16	23
23	34	35	e9.2	e5.5	e65	110	79	195	59	30	15	22
24	34	35	e10	e5.5	e60	103	76	186	57	29	15	23
25	33	35	e10	e5.4	e60	98	75	164	55	27	14	24
26	33	e28	e10	e5.2	e60	92	75	137	51	26	14	23
27	33	e12	e9.2	e5.2	e72	86	81	122	48	29	14	24
28	32	e14	e8.0	e5.6	e82	81	77	111	46	29	12	24
29	32	e18	e6.2	e6.5	---	77	78	131	44	28	12	24
30	33	e18	e4.8	e8.2	---	74	89	177	44	25	11	25
31	33	---	e3.7	e9.5	---	73	---	217	---	23	11	---
TOTAL	980	1012	437.3	158.7	1225	3021	2261	4086	4546	959	680	555
MEAN	31.6	33.7	14.1	5.12	43.7	97.5	75.4	132	152	30.9	21.9	18.5
MAX	35	49	22	9.5	82	120	94	255	574	42	31	25
MIN	27	12	3.7	2.9	12	73	60	58	44	23	11	12
AC-FT	1940	2010	867	315	2430	5990	4480	8100	9020	1900	1350	1100

CAL YR 1990 TOTAL 18596.3 MEAN 50.9 MAX 364 MIN 3.7 AC-FT 36890
WTR YR 1991 TOTAL 19921.0 MEAN 54.6 MAX 574 MIN 2.9 AC-FT 39510

e Estimated

NIOBRARA RIVER BASIN

06464900 KEYA PAHA RIVER NEAR NAPER, NE

LOCATION.--Lat 42°55'00", long 99°05'50", in SE1/4SE1/4 sec.17, T.34 N., R.15 W., Boyd County, Hydrologic Unit 10150006, on left upstream bank near highway bridge abutment, 3.3 mi south of Napier, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--1,630 mi², approximately.

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

REVISED RECORDS.--WSP 1709: 1959(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,680 ft, from topographic map. Prior to May 2, 1958, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 4-10, 22, Nov. 25 to Mar. 4. Records good, except for period of estimated record, which is poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--34 years, 137 ft³/s, 99,960 acre-ft/yr; median of yearly mean discharges, 116 ft³/s, 84,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,280 ft³/s July 1, 1962, gage height, 10.91 ft; maximum gage height, 13.34 ft Mar. 23, 1960, backwater from ice; no flow July 22-30, Aug. 10, 11, 1976, Aug. 3, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 3	----	(a)	*7.88	No other peak greater than base discharge.			
June 7	0600	*1480	7.67				

a Backwater from ice.

Minimum daily discharge, 9.2 ft³/s Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	66	31	17	35	185	136	187	504	78	30	11
2	45	63	25	17	45	190	129	185	532	78	28	9.9
3	67	69	21	16	50	200	123	262	465	68	25	9.6
4	63	58	21	16	52	220	120	330	402	64	24	9.2
5	54	50	22	17	70	195	120	231	479	55	26	11
6	48	48	22	18	110	159	114	208	462	53	28	12
7	46	50	30	19	130	133	108	254	746	48	32	12
8	53	66	35	19	150	134	97	212	741	46	34	12
9	57	68	37	18	140	128	93	189	575	45	35	14
10	57	70	40	18	160	133	91	173	664	49	32	15
11	56	67	39	19	170	144	117	162	467	50	29	23
12	57	69	35	23	180	155	142	154	454	51	27	26
13	58	66	30	28	160	171	168	134	342	49	27	67
14	62	64	32	33	160	152	211	122	287	46	26	37
15	62	62	28	35	160	143	212	117	315	44	25	30
16	66	61	29	34	180	144	186	125	260	38	29	28
17	65	66	27	33	200	153	169	165	203	35	26	26
18	66	70	22	30	220	163	146	275	167	30	27	23
19	66	70	23	30	205	197	136	484	147	26	27	25
20	65	73	26	28	220	249	134	509	136	26	25	27
21	64	73	27	30	230	242	127	427	134	28	22	28
22	66	73	30	29	200	234	132	378	130	35	20	28
23	67	72	33	30	180	232	127	332	121	44	18	29
24	66	71	32	27	175	235	110	378	115	39	15	31
25	66	70	34	25	170	192	103	451	113	33	13	31
26	65	66	34	28	170	177	113	385	106	27	12	32
27	62	35	36	30	175	162	119	305	100	25	11	33
28	62	20	37	32	180	147	116	264	90	28	11	34
29	65	23	33	30	---	136	132	418	86	26	11	36
30	64	30	20	29	---	128	175	348	79	27	17	36
31	64	---	18	31	---	135	---	428	---	37	14	---
TOTAL	1868	1809	909	789	4277	5368	4006	8592	9422	1328	726	745.7
MEAN	60.3	60.3	29.3	25.5	153	173	134	277	314	42.8	23.4	24.9
MAX	67	73	40	35	230	249	212	509	746	78	35	67
MIN	44	20	18	16	35	128	91	117	79	25	11	9.2
AC-FT	3710	3590	1800	1560	8480	10650	7950	17040	18690	2630	1440	1480

CAL YR 1990 TOTAL 33335 MEAN 91.3 MAX 509 MIN 18 AC-FT 66120
WTR YR 1991 TOTAL 39839.7 MEAN 109 MAX 746 MIN 9.2 AC-FT 79020

NIORARA RIVER BASIN

77

06465000 NIOBRARA RIVER NEAR SPENCER, NE

LOCATION.--Lat 42°48'33", long 98°39'22", in SE1/4NW1/4 sec.30, T.33 N., R.11 W., Boyd County, Hydrologic Unit 10150007, at Spencer powerplant dam 5 mi southeast of Spencer.

DRAINAGE AREA.--12,100 mi², approximately.

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-67: Drainage area.

GAGE.--Water-stage recorder and hourly log and powerplant operation. Datum of gage is 1,473.67 ft above National Geodetic Vertical Datum of 1929. Elevation of taintor gate sill, 1,491.12 ft above National Geodetic Vertical Datum of 1929. 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.--No estimated daily discharges. Records good. 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.

AVERAGE DISCHARGE.--61 years (1913-14, 1927-36, 1940-91), 1,430 ft³/s, 1,036,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s Mar. 12, 1955, gage height, 12.16 ft, site and datum then in use; minimum daily, 5 ft³/s Nov. 14, Dec. 18, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,040 ft³/s June 12; minimum daily, 140 ft³/s Dec. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	975	1160	2000	1140	1310	2330	1450	2040	2810	1040	994	790
2	1010	1180	1730	1160	1400	1830	1420	1760	2760	1040	996	763
3	1770	1420	1140	1200	1530	1440	1740	2500	2440	1010	971	718
4	1380	1460	1100	1250	1630	2130	1960	2910	2330	940	935	768
5	1340	1340	1560	1220	1770	3030	2020	2790	2640	927	934	756
6	1180	1460	1850	1170	1880	2540	1960	2280	2400	910	933	755
7	1140	1490	1550	1150	1920	2090	1970	2040	2360	873	973	794
8	1470	1370	1560	1160	1930	3130	1850	2040	2270	897	1320	787
9	1370	1300	1530	1180	1920	3020	1870	1810	2320	881	1190	819
10	1370	1320	1600	1240	1970	1760	1810	1710	3660	886	1200	815
11	1330	1460	1500	1230	1970	1790	2400	1700	3420	982	1040	1060
12	1060	1470	1430	1270	2040	1750	2080	1710	4040	998	979	1040
13	675	1240	1250	1290	2110	1950	2140	1620	3150	1140	983	1530
14	1120	1270	1340	1320	2060	1810	1890	1450	2720	989	958	1650
15	1090	1240	1260	1330	2080	1710	1850	1390	1880	1010	958	1180
16	1100	1320	1130	1310	1940	1700	1680	1660	2260	933	1050	1140
17	1180	1360	1000	1340	1870	1730	1610	2510	1900	847	1020	1020
18	1250	1400	997	1440	1920	1750	1560	2860	1760	814	1090	1160
19	1130	1390	824	1520	1830	1840	1660	2600	1750	781	1010	1080
20	1200	1390	354	1570	1910	2010	1790	2410	1620	791	892	1030
21	1280	1390	185	1530	2170	2030	2060	2210	1650	793	833	1020
22	1170	1420	164	1510	2310	1970	1990	1970	2020	1050	839	1000
23	1190	1430	140	1490	2290	2090	1810	2290	1860	952	848	1060
24	1200	1420	160	1470	2110	1870	1740	2170	1520	961	800	1080
25	1190	1420	209	1490	2000	1780	1680	2390	1480	902	776	1050
26	1190	1380	292	1480	1860	1690	1740	2310	1290	873	724	1030
27	1180	909	359	1420	1960	1600	1940	2030	1370	932	693	984
28	1170	587	462	1390	2150	1690	1760	1910	1310	932	682	997
29	1140	980	554	1400	---	1570	1910	2240	1170	882	689	971
30	1170	1370	751	1430	---	1560	2350	2980	1100	1000	769	1140
31	1190	---	986	1390	---	1500	---	2850	---	1020	799	---
TOTAL	37210	39346	30967	41490	53840	60690	55690	67140	65260	28986	28878	29987
MEAN	1200	1312	999	1338	1923	1958	1856	2166	2175	935	932	1000
MAX	1770	1490	2000	1570	2310	3130	2400	2980	4040	1140	1320	1650
MIN	675	587	140	1140	1310	1440	1420	1390	1100	781	682	718
AC-FT	73810	78040	61420	82300	106800	120400	110500	133200	129400	57490	57280	59480

CAL YR 1990 TOTAL 506862 MEAN 1389 MAX 2950 MIN 140 AC-FT 1005000
WTR YR 1991 TOTAL 539484 MEAN 1478 MAX 4040 MIN 140 AC-FT 1070000

LOCATION.--Lat 42°45'51", long 98°34'13" in SE1/4NW1/4 sec.11, T.32 N., R.11 W., Holt County, Hydrologic Unit 10150007, on left bank 12 ft downstream from bridge on the county road, 7 mi west of Redbird.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 344 ft³/s May 17, gage height, 4.60 ft; minimum daily, 11 ft³/s Aug. 28, 29.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	34	39	26	58	44	42	50	58	30	19	19
2	35	33	38	25	60	37	43	43	53	27	20	21
3	64	37	39	26	62	41	42	71	48	26	20	22
4	44	36	34	27	60	49	43	75	48	28	21	22
5	36	35	43	26	62	49	43	52	52	25	18	21
6	34	37	41	28	60	43	44	49	50	27	19	21
7	34	34	39	28	58	42	42	46	44	28	20	24
8	37	38	38	29	60	42	40	48	41	25	22	30
9	38	38	38	29	56	41	39	48	41	25	25	29
10	36	40	38	28	50	42	38	46	67	26	22	25
11	35	43	39	26	52	42	45	45	55	25	25	31
12	35	44	39	35	48	42	55	45	43	22	20	32
13	34	41	34	50	45	42	62	43	40	20	21	40
14	35	40	30	51	40	41	54	41	39	22	17	44
15	35	37	25	51	40	40	47	41	38	23	17	33
16	35	34	26	50	45	41	44	58	36	23	19	28
17	38	34	27	51	45	42	43	237	36	22	18	26
18	36	35	31	52	44	43	43	162	35	20	18	25
19	36	35	29	48	45	44	41	81	37	18	17	26
20	39	34	26	45	47	45	43	67	37	20	16	28
21	38	34	23	60	52	46	41	59	41	22	16	28
22	37	33	22	58	50	47	41	57	48	29	15	28
23	35	34	23	50	44	46	40	55	43	22	15	26
24	34	34	24	47	38	44	40	53	39	20	14	27
25	33	33	26	44	38	43	41	51	40	18	13	30
26	34	33	25	48	42	43	40	67	37	16	12	29
27	33	31	29	54	42	42	42	55	35	22	12	30
28	32	31	25	58	45	44	42	51	35	31	11	31
29	33	37	23	48	---	46	46	94	34	26	11	33
30	32	41	19	50	---	43	55	152	32	23	14	32
31	33	---	27	54	---	44	---	76	---	21	16	---
TOTAL	1122	1080	959	1302	1388	1340	1321	2118	1282	732	543	841
MEAN	36.2	36.0	30.9	42.0	49.6	43.2	44.0	68.3	42.7	23.6	17.5	28.0
MAX	64	44	43	60	62	49	62	237	67	31	25	44
MIN	32	31	19	25	38	37	38	41	32	16	11	19
AC-FT	2230	2140	1900	2580	2750	2660	2620	4200	2540	1450	1080	1670
CAL YR 1990	TOTAL 14624		MEAN 40.1	MAX 410	MIN 13	AC-FT 29010						
WTR YR 1991	TOTAL 14028		MEAN 38.4	MAX 237	MIN 11	AC-FT 27820						

NIOBRARA RIVER BASIN
06465310 EAGLE CREEK NR REDBIRD, NE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1985 to October 1990 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT 17...	1015	37	307	8.5	10.0	7	130	42	5.4	8.5	0.3	5.4

DATE	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 17...	119	22	8.1	0.30	43	206	0.28	20.6	0.070	40	19	9

NIOBRARA RIVER BASIN

06465440 REDBIRD CREEK AT REDBIRD, NE

LOCATION (REVISED).--Lat 42°45'36", long 98°26'26", in NW1/4/SW1/4/SW1/4 sec.12, T.32 N., R.10 W., Holt County, Hydrologic Unit 10150007, at right upstream end of county road bridge at Redbird, 1.1 mi upstream from mouth and 4.8 mi south-southeast of Lynch.

DRAINAGE AREA.--157 mi².

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,411.75 ft above National Geodetic Vertical Datum of 1929. Oct. 1980 to Sept. 30, 1982 at bridge 0.2 mi downstream at datum 1.00 ft higher. Oct. 1, 1982 to Sept. 20, 1990 at bridge 0.2 mi downstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 16 to Feb. 21. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--11 years, 40.4 ft³/s, 29,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,140 ft³/s Aug. 23, 1990, gage height, 6.07; maximum gage height, 6.49 ft, May 11, 1985 from floodmark, at site then in use; minimum daily, 3.8 ft³/s July 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 207 ft³/s May 30, gage height, 4.05 ft; maximum gage height, 5.90 ft, Feb. 5, backwater from ice; minimum daily, 7.0 ft³/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	38	33	11	50	39	30	39	41	14	13	9.0
2	29	37	31	13	60	33	30	36	39	13	13	9.2
3	52	40	30	12	58	37	31	47	38	13	12	9.1
4	47	39	26	12	62	35	31	55	29	13	11	9.2
5	35	37	34	13	64	35	32	42	30	13	11	9.8
6	27	38	30	12	62	30	33	35	30	12	12	11
7	23	33	30	12	58	29	32	32	29	11	14	11
8	27	33	31	12	60	29	31	39	29	13	19	14
9	28	32	31	12	56	30	32	45	29	14	19	14
10	28	34	31	12	45	30	31	40	63	15	17	14
11	27	38	31	11	50	30	38	39	58	15	14	21
12	26	40	31	14	52	30	47	44	29	14	13	20
13	25	39	29	20	54	31	54	54	20	13	13	25
14	24	35	30	19	45	31	47	61	19	13	12	26
15	23	31	31	19	45	30	38	62	19	13	11	20
16	25	28	29	18	50	31	34	48	19	13	11	17
17	26	27	27	19	56	32	32	74	19	13	11	16
18	26	29	20	20	58	32	33	90	18	12	11	16
19	25	29	17	19	60	31	34	59	19	13	11	16
20	28	30	16	18	62	33	34	44	17	13	11	17
21	29	31	13	23	58	34	33	33	20	14	11	16
22	26	29	12	24	56	37	34	41	25	27	10	16
23	27	29	13	23	52	38	32	48	27	19	11	16
24	28	30	12	22	53	33	29	59	20	17	11	16
25	28	30	13	21	52	31	32	56	20	15	9.0	17
26	30	29	13	22	52	31	35	37	19	14	8.1	17
27	31	31	14	24	49	29	35	35	18	15	7.2	16
28	30	29	12	30	49	31	34	35	17	17	7.0	16
29	31	34	11	29	---	34	36	43	16	15	7.9	17
30	33	37	10	35	---	32	40	86	15	14	9.4	16
31	34	---	12	45	---	31	---	51	---	14	9.6	---
TOTAL	906	996	703	596	1528	999	1044	1509	791	444	360.2	467.3
MEAN	29.2	33.2	22.7	19.2	54.6	32.2	34.8	48.7	26.4	14.3	11.6	15.6
MAX	52	40	34	45	64	39	54	90	63	27	19	26
MIN	23	27	10	11	45	29	29	32	15	11	7.0	9.0
AC-FT	1800	1980	1390	1180	3030	1980	2070	2990	1570	881	714	927

CAL YR 1990 TOTAL 12795 MEAN 35.1 MAX 897 MIN 10 AC-FT 25380
WTR YR 1991 TOTAL 10343.5 MEAN 28.3 MAX 90 MIN 7.0 AC-FT 20520

81

LOCATION.--Lat 42°44'23", long 98°13'26", in NW1/4NW1/4 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, and 7.5 mi upstream from Verdrie Creek.

WATER-DISCHARGE RECORDS

REVISID RECORDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,312.12 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by irrigation and power developments.

AVERAGE DISCHARGE.--34 years, 1,580 ft³/s, 1,145,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s Mar. 27, 1960, gage height, 10.10 ft; maximum gage height, 10.62 ft Mar. 12, 1966, backwater from ice; minimum daily discharge, 104 ft³/s Nov. 30, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,330 ft³/s June 12; maximum gage height, 5.72 ft Jan. 11, backwater from ice; minimum daily discharge, 187 ft³/s Dec. 23.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	1340	1980	1150	1460	2500	1570	2250	2850	1130	1060	826
2	1080	1250	2070	1290	1530	2110	1550	1940	3050	1090	1040	820
3	1670	1420	1330	1230	1660	1600	1540	2300	2610	1070	1020	766
4	1710	1600	1170	1300	1770	1860	2130	3060	2460	1020	990	782
5	1390	1480	1450	1270	1880	3130	2130	3010	2640	989	973	810
6	1340	1500	2010	1260	2020	2860	2080	2560	2740	972	970	810
7	1150	1620	1690	1220	2160	2130	2110	2250	2320	949	980	824
8	1390	1510	1700	1220	2080	2780	1970	2220	2450	931	1260	846
9	1660	1360	1620	1230	2100	3530	1890	2010	2430	944	1320	871
10	1420	1450	1670	1300	2070	2100	1910	1890	3340	936	1250	860
11	1480	1480	1660	1270	2120	2020	2330	1850	3590	1020	1150	1050
12	1320	1710	1620	1330	2140	1780	2380	1760	4330	1040	1040	1130
13	723	1410	1340	1390	2230	1980	2370	1800	3320	1120	1020	1350
14	1140	1390	1420	1400	2200	2090	2150	1650	3020	1110	1010	1940
15	1190	1320	1310	1420	2220	1830	1970	1550	2030	1080	985	1380
16	1170	1370	1290	1420	2090	1800	1830	1680	2390	1010	1060	1230
17	1220	1410	1050	1420	2040	1810	1740	2590	2090	914	1080	1090
18	1330	1500	1010	1500	2070	1860	1670	3330	1840	868	1120	1200
19	1260	1470	1140	1590	1980	1890	1700	2780	1870	835	1070	1170
20	1260	1490	536	1660	1990	2060	1820	2640	1710	839	969	1110
21	1340	1490	254	1660	2240	2180	2130	2430	1600	798	881	1090
22	1310	1500	228	1610	2520	2050	2120	2170	2140	1080	879	1060
23	1300	1520	187	1680	2440	2230	1970	2330	2070	1000	882	1080
24	1260	1510	199	1580	2340	2040	1880	2370	1730	1050	848	1150
25	1280	1510	239	1570	2110	1900	1790	2450	1590	970	819	1110
26	1280	1530	323	1590	2120	1830	1870	2530	1400	912	767	1090
27	1280	1110	397	1550	1960	1790	2010	2240	1430	953	723	1080
28	1260	727	475	1500	2170	1790	1930	2030	1400	1030	707	1040
29	1250	913	558	1500	---	1710	1900	2250	1260	937	720	1060
30	1240	1350	701	1550	---	1660	2430	3150	1170	965	755	1140
31	1280	---	969	1560	---	1620	---	3180	---	1090	847	---
TOTAL	40053	42240	33596	44220	57710	64520	58880	72250	68870	30652	30195	31765
MEAN	1292	1408	1084	1426	2061	2081	1963	2331	2296	989	974	1059
MAX	1710	1710	2070	1680	2520	3530	2430	3330	4330	1130	1320	1940
MIN	723	727	187	1150	1460							

CAL YR 1990	TOTAL	545302	MEAN	1494	MAX	3290	MIN	187	AC-FT	1082000
WTR YR 1991	TOTAL	574951	MEAN	1575	MAX	4330	MIN	187	AC-FT	1140000

NIOBRARA RIVER BASIN

06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-65, 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1975 to September 1980.

WATER TEMPERATURES: June 1958 to September 1965, October 1966 to September 1984.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1981.

INSTRUMENTATION.--Temperature recorder June 14, 1958 to September 30, 1984.

REMARKS.--Prior to July 1, 1971, sediment records were obtained by U.S. Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 470 microsiemens Dec. 22, 1976; minimum daily, 110 microsiemens Nov. 22, 1976.

WATER TEMPERATURES: Maximum, 38.0°C July 22, 1964, July 20, 1974; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 12,000 mg/L June 8, 1975; minimum daily, 50 mg/L Dec. 31, Jan. 1, 3, 5, 6, 1978.

SEDIMENT LOADS: Maximum daily, 423,000 tons Mar. 19, 1979; minimum daily, 60 tons Dec. 7, 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 13...	1420	1670	262	8.1	7.5	722	87	11.2	39	300	110
MAR 11...	1100	1940	242	8.3	8.5	710	150	11.3	48	210	100
MAY 29...	1050	2960	262	8.6	28.5	719	130	7.5	K3400	3500	110
AUG 19...	1230	1180	228	--	29.0	725	23	8.8	K19	K77	94

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 13...	1	36	4.8	9.2	0.4	5.9	109	0	133	12	1.5
MAR 11...	3	33	4.3	9.3	0.4	5.9	97	0	119	15	3.1
MAY 29...	4	35	4.3	10	0.4	8.1	100	6	111	16	1.0
AUG 19...	0	31	3.9	9.8	0.4	7.1	102	14	95	10	3.0

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 13...	0.20	47	191	188	0.26	861	1.16	--	0.040	<0.010	1.20
MAR 11...	0.30	44	177	178	0.24	927	0.900	--	0.030	<0.010	0.930
MAY 29...	0.40	40	185	177	0.25	1480	0.150	0.280	0.150	0.010	0.300
AUG 19...	0.40	49	177	175	0.24	564	--	--	0.020	<0.010	<0.050

NIOBRARA RIVER BASIN
06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	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)	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 13...	1.20	0.100	0.060	0.50	0.60	--	1.8	0.190	0.050	0.050
MAR 11...	0.970	0.040	0.050	0.66	0.70	--	1.6	0.240	0.090	0.070
MAY 29...	0.290	0.150	0.020	0.75	0.90	--	1.2	0.550	0.050	0.040
AUG 19...	<0.050	0.010	<0.010	0.89	0.90	0.30	--	0.180	0.010	<0.010

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 13...	1420	10	4	100	<0.5	<1.0	2	<3	4	18	<1
MAR 11...	1100	30	4	98	0.6	<1.0	2	<3	4	27	1
MAY 29...	1050	20	6	93	<0.5	<1.0	<1	<3	5	21	<1
AUG 19...	1230	30	6	75	<0.5	<1.0	1	<3	4	15	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 13...	11	3	<0.1	<10	1	<1	<1.0	190	<6	19
MAR 11...	10	10	0.5	<10	<1	<1	<1.0	180	7	4
MAY 29...	12	3	<0.1	<10	2	<1	<1.0	180	10	8
AUG 19...	10	3	0.1	<10	<1	1	<1.0	170	14	5

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	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)
NOV 13...	1420	1670	7.5	950	4280	35
MAR 11...	1100	1940	8.5	1750	9170	31
MAY 29...	1050	2960	28.5	1340	10700	34
AUG 19...	1230	1180	29.0	229	730	30

NIOBRARA RIVER BASIN

06465680 NORTH BRANCH VERDIGRE CREEK NEAR VERDIGRE, NE

LOCATION.--Lat 42°35'51", long 98°08'03", in SE1/4SE1/4 sec.4, T.30 N., R.7 W., Knox County, Hydrologic Unit 10150007, on right bank 15 ft downstream from bridge on paved county road 5 mi west of Verdigre.

DRAINAGE AREA.--137 mi².

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,466.06 ft above National Geodetic Vertical Datum of 1929 (levels by Nebraska Natural Resources Commission).

REMARKS.--Estimated daily discharges: Nov. 6, 7, 28-30, Dec. 4, 5, 16, and Dec. 18 to Feb. 7. Records good except for periods of estimated record, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--12 years, 24.7 ft³/s, 17,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 315 ft³/s July 10, 1987, gage height, 4.93 ft, maximum gage height, 5.54 ft, June 14, 1981, from floodmark; minimum daily discharge, 1.2 ft³/s July 18, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 195 ft³/s June 5, gage height, 3.39 ft, from floodmark; maximum gage height, 3.94 ft Feb. 3, backwater from ice; minimum daily discharge, 1.2 ft³/s July 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	21	15	25	22	22	20	23	11	3.2	9.6
2	20	20	19	11	28	21	22	20	22	10	4.0	9.1
3	27	22	20	15	26	32	21	31	22	5.3	3.6	6.7
4	22	22	19	16	27	23	22	26	26	7.6	3.6	7.5
5	20	21	20	15	30	23	22	22	119	9.4	7.8	10
6	20	22	20	13	36	21	21	22	57	5.1	7.9	11
7	19	20	20	14	41	21	21	22	34	3.1	7.8	11
8	20	20	20	17	34	21	21	26	29	4.0	13	14
9	20	21	19	19	30	21	21	23	29	9.3	14	15
10	20	22	19	19	27	21	21	22	62	11	11	15
11	20	22	20	21	26	21	26	22	34	8.8	8.0	18
12	20	22	19	25	26	21	28	22	29	7.3	6.2	19
13	20	21	20	27	26	21	27	22	27	5.2	4.8	20
14	20	21	21	29	24	21	24	21	26	6.8	6.3	19
15	20	20	21	28	25	21	23	21	25	6.7	5.6	17
16	20	20	19	25	35	21	22	26	24	3.9	8.2	16
17	20	19	22	24	26	22	21	45	24	2.3	6.6	16
18	20	20	11	30	23	22	22	28	23	1.2	9.5	16
19	21	19	6.0	25	25	22	22	25	22	3.2	10	16
20	21	20	7.0	18	24	23	21	24	23	2.3	7.1	17
21	22	19	8.0	15	25	23	21	23	29	4.0	6.1	17
22	21	19	11	23	24	22	21	23	27	17	2.3	16
23	20	19	14	26	23	22	21	24	24	14	3.8	16
24	20	19	15	22	23	22	21	22	24	13	5.2	17
25	20	19	10	15	24	22	21	22	23	5.3	3.1	17
26	21	19	14	20	22	22	21	21	20	2.3	2.7	17
27	20	19	16	24	23	22	22	20	16	7.9	4.4	17
28	20	18	15	25	23	23	21	20	8.3	8.4	4.5	18
29	21	17	7.0	22	---	23	23	23	6.5	8.8	6.0	18
30	21	22	9.0	19	---	22	22	25	11	9.9	8.9	17
31	21	---	17	22	---	22	---	23	---	5.2	9.7	---
TOTAL	636	605	499.0	639	751	686	664	736	868.8	219.3	204.9	452.9
MEAN	20.5	20.2	16.1	20.6	26.8	22.1	22.1	23.7	29.0	7.07	6.61	15.1
MAX	27	22	22	30	41	32	28	45	119	17	14	20
MIN	19	17	6.0	11	22	21	21	20	6.5	1.2	2.3	6.7
AC-FT	1260	1200	990	1270	1490	1360	1320	1460	1720	435	406	898

CAL YR 1990 TOTAL 7270.0 MEAN 19.9 MAX 75 MIN 6.0 AC-FT 14420
WTR YR 1991 TOTAL 6961.9 MEAN 19.1 MAX 119 MIN 1.2 AC-FT 13810

BAZILE CREEK BASIN

85

06466500 BAZILE CREEK NEAR NIOBRARA, NE

LOCATION.--Lat 42°45'26", long 97°56'50", in SW1/4 sec.7, T.32 N., R.5 W., Knox County, Hydrologic Unit 10170101, on left bank 60 ft shoreward and 20 ft downstream from centerline of bridge on State Highway 12, 2.5 mi upstream from mouth and 4.5 mi east of Niobrara.

DRAINAGE AREA.--440 mi², approximately.

PERIOD OF RECORD.--May 1952 to current year. Records for October 1931 to September 1932, published in WSP 731, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1279: 1952. WSP 1729: 1958(M). WDR NE-81-1: 1977,1979-80. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,210.81 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 16, 1952, nonrecording gage only, and Dec. 16, 1952, to June 16, 1957, water-stage recorder at downstream end of right pier, above 4.2 ft, at present site at datum 4 ft higher. June 17, 1957, to Sept. 14, 1958, water-stage recorder above 8.2 ft at present datum. Sept. 15, 1958, to Oct. 17, 1978, water-stage recorder at downstream end of left pier, above 4.3 ft, at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Mar. 4. Records good except for period of estimated record, which is poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--39 years, 81.4 ft³/s, 58,970 acre-ft/yr; median of yearly mean discharges, 71 ft³/s, 51,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,600 ft³/s June 16, 1957, gage height, 19.96 ft, present datum, from high point on surge, from rating curve extended above 6,500 ft³/s on basis of contracted-opening measurements at gage heights 15.36 ft and 19.96 ft, present datum; maximum gage height, 20.25 ft Feb. 19, 1971, backwater from ice; no flow July 24, 25, Aug. 30, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 19, 1951, reached a stage of 15.36 ft, present datum, from floodmarks, discharge, 24,400 ft³/s on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 31	1630	2350	16.87	June 5	0400	*6880	*a17.70
June 1	1330	3260	17.14				

a From floodmark.

Minimum daily discharge, 0.36 ft³/s Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	31	39	24	72	86	46	57	1140	37	8.6	1.3
2	20	29	40	23	80	94	44	54	297	31	8.8	1.2
3	28	34	35	21	84	90	40	72	184	29	8.2	.73
4	28	35	33	21	86	80	39	89	406	28	7.3	1.1
5	25	35	38	23	90	61	40	85	2790	28	9.6	.81
6	24	36	42	22	94	46	39	76	705	29	10	.67
7	24	33	45	21	98	40	39	65	274	28	14	.61
8	25	37	44	23	96	41	38	78	156	27	22	.78
9	27	37	44	25	90	39	39	76	113	29	23	1.1
10	28	36	44	27	86	38	39	66	418	29	18	1.8
11	28	36	44	28	84	38	50	57	203	26	15	6.6
12	28	37	43	29	80	39	69	55	111	24	13	9.8
13	27	37	43	31	84	42	73	52	84	22	11	13
14	27	38	40	33	90	36	72	49	84	22	8.9	20
15	27	37	40	32	82	37	64	47	77	20	6.8	18
16	27	37	35	30	70	37	57	51	118	17	8.5	13
17	28	37	36	32	64	39	53	77	73	14	10	11
18	30	36	39	33	56	41	51	79	62	12	7.5	12
19	30	36	40	35	52	42	50	68	56	11	6.9	13
20	31	36	39	36	52	44	50	59	48	11	5.9	14
21	35	36	35	34	66	47	49	54	76	12	4.6	13
22	34	36	30	37	74	47	49	53	202	13	3.3	13
23	32	36	25	39	64	47	48	64	89	13	3.1	13
24	31	36	20	41	60	45	48	60	66	13	2.5	15
25	30	36	18	35	64	44	47	51	59	11	2.3	15
26	29	37	16	40	70	43	45	46	51	10	1.6	14
27	29	32	18	44	74	47	48	42	45	15	1.2	15
28	29	30	20	50	82	48	48	40	41	20	.52	15
29	29	33	17	48	---	49	54	44	37	17	.36	16
30	29	37	20	45	---	48	58	62	34	14	2.4	15
31	29	---	23	56	---	48	---	704	---	11	1.6	---
TOTAL	869	1059	1045	1018	2144	1523	1486	2532	8099	623	246.48	284.50
MEAN	28.0	35.3	33.7	32.8	76.6	49.1	49.5	81.7	270	20.1	7.95	9.48
MAX	35	38	45	56	98	94	73	704	2790	37	23	20
MIN	20	29	16	21	52	36	38	40	34	10	.36	.61
AC-FT	1720	2100	2070	2020	4250	3020	2950	5020	16060	1240	489	564

MISSOURI-LEWIS AND CLARK RIVER BASIN

06467000 LEWIS AND CLARK LAKE NEAR YANKTON, SD

LOCATION.--Lat 42°50'56", long 97°28'54", in SW1/4 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 mi², 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 National Geodetic Vertical Datum of 1929. 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 ft³/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 ft³/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 U.S. Army Corps of Engineers.

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, 441,000 acre-ft, Oct. 3, Jan. 15; minimum contents, 331,000 acre-ft, Mar. 30.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,208.02	431,000	-
Oct. 31	1,207.66	423,000	-8,000
Nov. 30	1,207.53	420,000	-3,000
Dec. 31	1,207.22	411,000	-9,000
CAL YR 1990	-	-	-23,000
Jan. 31	1,207.89	428,000	+17,000
Feb. 28	1,205.46	364,000	-64,000
Mar. 31	1,204.31	335,000	-29,000
Apr. 30	1,205.26	357,000	+22,000
May 31	1,205.70	370,000	+13,000
June 30	1,204.97	352,000	-18,000
July 31	1,204.81	348,000	-4,000
Aug. 31	1,207.19	409,000	+61,000
Sept. 30	1,208.15	436,000	+27,000
WTR YR 1991	-	-	+5,000

NOTE.--Lake frozen over Dec. 20 to Mar. 21.

MISSOURI-LEWIS AND CLARK RIVER BASIN

06467500 MISSOURI RIVER AT YANKTON, SD

LOCATION.--Lat 42°51'58", long 97°23'37", in SW1/4SW1/4 sec.18, T.93 N., R.55 W., Yankton County, Hydrologic Unit 10170101, near left bank in downstream end of left pier of Meridian Highway Bridge on U.S. Highway 81, 5.2 mi downstream from Gavins Point Dam, 6.0 mi upstream from James River, and at mile 805.8.

DRAINAGE AREA.--279,500 mi², approximately.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1309. Gage-height records collected at same site March 1873 to November 1886, March 1905 to May 1908 (fragmentary), August 1921 to September 1950 (except winter months prior to 1932), are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 1,139.68 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1932, nonrecording gage, and Sept. 20, 1932, to Mar. 9, 1967, water-stage recorder at present site and at datum 20.0 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow completely regulated by Gavins Point Dam 5.2 mi upstream since July 1955. Many diversions for irrigation and water supply above station. U.S. Army Corps of Engineers gage-height telemeter and satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

AVERAGE DISCHARGE.--16 years (water years 1976-91, since main-stem reservoirs initially reached maximum pool elevation), 28,280 ft³/s, 20,489,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s, Apr. 13, 1952; maximum gage height, 35.5 ft, Apr. 13, 14, 1952 (present datum); minimum daily discharge, 2,700 ft³/s, Nov. 15, 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 50.5 ft, Apr. 5, 1881, ice jam, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,400 ft³/s at 1600 hours, Sept. 3, gage height, 16.03 ft; maximum gage height, 16.42 ft, Dec. 24, backwater from ice; minimum daily discharge, 7,080 ft³/s, Mar. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30900	9620	10100	e17000	10600	9300	22900	23500	24900	24000	28400	31900
2	30700	9550	10300	e17000	10200	e8500	22800	24000	26200	23600	28300	32000
3	30400	9620	10300	e16000	10300	e8500	23000	24000	26200	28300	28200	32000
4	30500	9530	9770	e16000	10200	e8500	23600	23800	23500	24800	28500	31900
5	30500	9620	9220	e16000	10300	e8500	23700	23700	22900	24300	28500	32100
6	30500	9530	9000	e16000	10200	e8500	23700	23300	25600	28500	28700	31900
7	30600	9280	9070	e15000	9820	e8500	23700	23500	26000	24700	28700	31900
8	30600	9210	9110	e15000	9270	e8500	23800	23700	23000	24200	28600	31900
9	30600	9340	9060	e15000	9360	8520	23700	29000	28400	28600	28500	31900
10	30000	9270	9090	e14000	9360	8480	24400	24200	23000	24900	28500	31800
11	29500	9330	9090	e14000	9320	8230	25400	24100	22700	24700	28400	31900
12	29500	9230	8980	e14000	9330	7890	24300	29500	28300	28300	28500	31600
13	29500	9110	9050	e14000	10600	7890	24000	24700	23100	25100	28500	31100
14	29600	8570	9060	e13000	13000	7960	24000	24600	22300	24700	28300	30600
15	29900	8530	9040	e12500	13900	7970	24000	30400	28000	28600	28300	30700
16	29800	8570	9940	e12000	12400	7930	24000	25500	23000	25600	28400	30600
17	29600	8590	11200	e12000	11200	7950	23200	24800	22400	25900	28000	30400
18	29700	8560	13200	12900	10300	7950	23400	29900	28500	28900	28000	30500
19	29700	8650	15600	14000	8770	7880	23500	25000	23000	26500	28200	30500
20	29700	8680	e15500	14000	7750	7530	23800	24700	22400	26200	28400	30700
21	29800	8380	e15000	e14000	10800	7400	23700	29900	28300	28900	28500	30900
22	29700	8570	e15000	14200	11200	7260	23800	25000	23000	27300	28600	30700
23	29600	8430	e15000	14000	10000	7080	23800	24600	22700	27000	29000	30800
24	29700	8680	e16500	14100	10200	10600	24200	29800	28200	28800	29700	30900
25	28900	8510	e16000	14100	10300	14200	24100	24900	23200	27100	29500	31000
26	26200	8570	e16000	14100	10300	17200	24200	24700	22100	27300	29400	31100
27	22000	8570	e17000	14000	10000	19600	23700	29800	28400	28900	29700	31200
28	18000	8780	e17000	14100	9300	22400	23900	25200	23500	27300	30100	31300
29	13900	9330	e17000	14100	---	22800	23700	24600	23000	27300	30400	31300
30	11500	9150	e17000	13000	---	22700	23400	28600	28600	28200	31100	31300
31	9320	---	e17000	11900	---	22600	---	24900	---	28300	31400	---
TOTAL	850420	269360	384180	441000	288280	338820	713400	797900	744400	826800	895300	938400
MEAN	27430	8979	12390	14230	10300	10930	23780	25740	24810	26670	28880	31280
MAX	30900	9620	17000	17000	13900	22800	25400	30400	28600	28900	31400	32100
MIN	9320	8380	8980	11900	7750	7080	22800	23300	22100	23600	28000	30400
AC-FT	1687000	534300	762000	874700	571800	672000	1415000	1583000	1477000	1640000	1776000	1861000
CAL YR 1990	TOTAL 7504870	MEAN 20560	MAX 33400	MIN 8290	AC-FT 14890000							
WTR YR 1991	TOTAL 7488260	MEAN 20520	MAX 32100	MIN 7080	AC-FT 14850000							

e Estimated

LOCATION.--Lat 42°43'48", long 97°08'53", in SE1/4SW1/4 sec.24, T.32 N., R.2 E., Cedar County, Hydrologic Unit 10170101, on right downstream end of bridge on State Highway 12, 0.25 mi west of intersection of St. James road and State Highway 12, 0.7 mi south of St. James.

PERIOD OF RECORD.--October 1978 to current year.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 10 and Dec. 16 to Feb. 25. Records good except for periods of estimated record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s June 21, 1984, gage height, 13.23 ft, from high-water mark; minimum daily, 6.1 ft³/s Aug. 18, 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,930 ft³/s June 1, gage height, 6.43 ft; minimum daily, 6.5 ft³/s Sept. 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	38	32	16	45	54	40	31	1880	480	13	7.0
2	19	35	33	16	50	42	32	30	292	100	15	6.5
3	28	43	34	15	52	41	33	51	287	52	13	9.0
4	24	41	33	15	54	48	31	70	795	50	12	10
5	22	40	35	16	53	40	28	69	627	47	13	14
6	18	35	34	16	54	34	25	59	137	48	17	7.8
7	20	35	33	17	54	31	24	45	87	44	22	8.0
8	25	38	35	18	52	33	20	54	67	35	38	9.7
9	26	40	34	18	52	32	20	52	51	33	31	8.1
10	24	35	35	18	54	36	18	52	61	24	26	7.7
11	24	35	35	19	54	39	36	48	48	21	27	13
12	27	35	35	17	52	39	68	44	38	21	25	13
13	27	35	35	20	52	59	101	38	36	18	22	14
14	27	35	35	20	50	41	70	30	46	15	20	23
15	27	37	35	20	44	38	58	26	387	16	20	21
16	29	35	22	21	47	35	50	28	135	16	20	13
17	30	34	19	22	48	40	45	24	70	12	20	15
18	30	34	17	22	49	41	45	20	59	11	18	20
19	30	33	15	20	52	37	45	27	58	19	18	27
20	34	33	14	17	54	43	43	25	49	23	18	24
21	40	32	13	18	56	48	42	24	502	16	18	23
22	38	35	12	21	56	45	42	21	684	16	14	20
23	37	35	14	22	58	51	38	21	146	13	14	20
24	35	34	15	18	62	52	36	18	89	14	14	20
25	33	32	16	16	70	42	33	16	75	13	13	19
26	33	32	17	19	86	41	32	12	63	13	11	17
27	33	32	18	20	75	52	40	10	52	15	9.0	16
28	33	31	20	18	65	44	33	9.2	45	14	9.0	16
29	33	30	19	21	---	50	48	12	39	14	9.0	16
30	34	32	19	30	---	52	44	11	36	11	8.0	14
31	37	---	18	40	---	49	---	898	---	12	7.0	---
TOTAL	895	1051	781	606	1550	1329	1220	1875.2	6941	1236	534.0	451.8
MEAN	28.9	35.0	25.2	19.5	55.4	42.9	40.7	60.5	231	39.9	17.2	15.1
MAX	40	43	35	40	86	59	101	898	1880	480	38	27
MIN	18	30	12	15	44	31	18	9.2	36	11	7.0	6.5
AC-FT	1780	2080	1550	1200	3070	2640	2420	3720	13770	2450	1060	896
CAL YR 1990	TOTAL 15890.3 MEAN 43.5 MAX 1160 MIN 9.3 AC-FT 31520											
WTR YR 1991	TOTAL 18470.0 MEAN 50.6 MAX 1880 MIN 6.5 AC-FT 36640											

LOCATION.--Lat 42°29'09", long 96°24'49", in NW1/4SE1/4 sec.16 T.29 N., R.9 E., sixth principal meridian, Dakota County, Nebraska, Hydrologic Unit 102300001, 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.

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.

GAGE.--Water-stage recorder. Datum of gage is 1,056.98 ft above NGVD. 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.

AVERAGE DISCHARGE.--94 years, 31,740 ft³/s, 22,996,000 acre-ft/yr.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,200 ft³/s, June 1; maximum gage height, 19.04 ft, June 1; minimum daily discharge, 5,880 ft³/s, Dec. 21; minimum gage height, 8.64 ft, Dec. 21.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29200	11700	9770	17100	13200	10600	22700	23200	31400	30600	27700	31500
2	29300	10700	9990	16700	12500	10200	23100	23200	28700	27900	27800	32100
3	30000	10600	10300	16500	12000	9090	23100	24000	27400	25600	27800	32500
4	29100	10600	10400	16400	11500	9310	23200	24600	30600	28400	27600	32500
5	28900	10200	10200	16400	11500	9270	24000	24000	27800	27400	27800	32100
6	29000	10300	9440	16400	11500	9280	24100	24200	25900	25500	27800	32100
7	28900	10300	9200	16300	11400	8880	24200	24100	26200	28100	28500	32000
8	29100	9920	9260	16000	11400	9490	24300	24500	30000	27000	29500	32000
9	29300	9940	9230	15500	11300	9600	24200	24300	25600	25200	28600	32300
10	29100	10000	9270	15500	10900	9770	24000	27600	29300	27900	28200	32000
11	28700	9950	9310	15000	10700	9720	24100	26600	27500	27100	28100	32600
12	28100	10000	9320	14300	10600	9690	25200	24200	24900	25700	28000	32400
13	28000	9930	9230	14400	10200	9580	25600	27500	29100	27500	27900	32400
14	28100	9890	9090	14500	9300	9360	24700	26300	27900	26500	28100	32600
15	28200	9620	9300	14000	9000	9370	24400	24200	28400	24800	27900	31600
16	28300	9430	9130	13400	11300	9460	24300	27600	29700	27200	28200	31400
17	28500	9310	9590	13000	14700	9530	24300	27500	27400	26400	28500	31700
18	28800	9410	10100	12400	14500	9640	24000	25000	25100	25300	28000	31000
19	28200	9440	11900	13000	12500	9610	24100	28000	28900	27800	27800	30800
20	28400	9500	12900	14000	11000	9720	24100	27200	27200	27400	27900	30600
21	28900	9740	5880	14300	10900	9830	24200	25000	25100	26200	28300	30500
22	28600	9580	7580	14500	12500	9790	24500	28400	30100	28000	28500	30900
23	28500	9630	13000	14600	13000	9750	24600	27400	27300	27800	28700	30600
24	28400	9480	16000	14600	11700	9270	24600	25000	24700	26700	28600	30800
25	28400	9620	18500	14600	11100	10300	24500	28100	28600	27600	29600	30600
26	27700	9530	16500	14600	11200	13200	24300	26800	27700	27000	29500	30300
27	25500	9640	17000	14600	11200	16500	24100	24500	25200	26400	29200	30500
28	21900	9370	17300	14600	11100	19200	23800	27600	29200	28100	29300	30800
29	18400	9320	17300	14600	---	21400	23700	26700	27700	27800	30000	31200
30	15000	9810	17300	14800	---	22900	24000	24700	25600	26700	30300	31200
31	13100	---	17300	14000	---	23000	---	28000	---	27400	31100	---
TOTAL	839600	296460	360590	460600								

OMAHA CREEK BASIN

06601000 OMAHA CREEK AT HOMER, NE

LOCATION.--Lat 42°19'29", Long 96°29'43", in SW1/4SE1/4 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.

DRAINAGE AREA.--168 mi².

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

REVISED RECORDS.--WDR NE-72: Drainage area. WDR NE-75-1: 1971-73.

GAGE (REVISED).--Water-stage recorder. Datum of gage is 1,080.45 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Oct. 11 to Nov. 5 and Nov. 25 to Mar. 5. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--46 years, 37.6 ft³/s, 27,240 acre-ft/yr; median of yearly mean discharges, 32.2 ft³/s, 23,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s Feb. 19, 1971, gage height, 28.47 ft, from floodmark, from rating curve extended above 3,700 ft³/s on basis of slope-area measurements at gage heights 18.38 ft and 25.62 ft at present datum; minimum daily, 0.1 ft³/s Sept. 16, 18, 19, 1948, Sept. 9, 13, 14, 1955, Oct. 7, 8, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood known occurred June 4, 1940, stage, about 34.5 ft, present site and datum, discharge estimated as 51,000 ft³/s at site 2.5 mi upstream from present site.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 15	0445	*1620	*10.05	May 31	0915	1140	8.32
May 15	2245	1100	8.15	June 3	2200	1530	9.77

Minimum daily discharge, 1.6 ft³/s Dec. 22, 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	14	17	8.4	20	31	30	17	357	44	15	5.9
2	9.1	14	13	8.0	50	32	26	15	133	38	15	5.9
3	23	15	8.3	7.8	90	32	22	27	348	34	17	7.0
4	23	15	14	7.6	120	32	21	45	368	32	14	6.3
5	11	15	14	7.6	80	38	19	36	414	31	15	5.8
6	8.8	16	12	7.0	45	36	16	28	154	31	16	5.5
7	8.0	16	12	6.4	33	21	15	24	128	30	21	5.2
8	9.8	15	12	7.0	30	24	15	43	117	29	40	5.1
9	13	16	14	7.6	29	23	14	35	112	35	26	6.5
10	11	16	13	8.0	29	22	13	25	111	35	19	5.0
11	11	16	15	8.4	28	24	19	22	101	58	17	12
12	11	16	13	8.8	28	27	43	21	93	40	16	59
13	11	16	10	9.0	28	21	57	27	293	29	15	52
14	11	15	9.6	9.2	28	20	35	21	260	27	14	89
15	11	17	9.6	10	25	27	24	453	338	25	13	31
16	12	16	8.6	10	26	22	20	200	122	23	21	11
17	12	14	8.4	11	27	33	19	305	99	22	19	8.8
18	12	14	7.6	11	28	40	25	289	91	22	13	9.0
19	12	15	7.4	10	28	33	25	104	85	21	12	8.8
20	13	16	6.4	8.4	28	34	25	95	79	21	11	9.3
21	14	16	5.4	7.8	28	35	23	91	89	21	11	9.7
22	13	15	1.6	8.6	27	33	20	84	92	20	9.8	9.2
23	13	15	2.0	8.4	27	39	18	80	78	16	10	8.8
24	13	15	6.7	7.6	27	28	16	74	75	15	10	9.9
25	13	16	8.6	7.4	27	25	16	74	68	19	9.1	10
26	13	16	8.4	7.0	29	25	53	74	62	16	8.0	9.3
27	13	15	8.0	8.2	31	28	40	70	53	15	7.3	9.7
28	13	10	7.4	9.2	32	33	21	125	49	17	6.7	9.5
29	13	15	7.4	7.8	---	43	20	81	45	19	6.7	9.7
30	13	16	7.6	9.0	---	31	20	218	42	18	6.7	8.7
31	14	---	8.0	11	---	30	---	425	---	16	6.2	---
TOTAL	387.0	456	296.0	263.2	1028	922	730	3228	4456	819	440.5	442.6
MEAN	12.5	15.2	9.55	8.49	36.7	29.7	24.3	104	149	26.4	14.2	14.8
MAX	23	17	17	11	120	43	57	453	414	58	40	89
MIN	8.0	10	1.6	6.4	20	20	13	15	42	15	6.2	5.0
AC-FT	768	904	587	522	2040	1830	1450	6400	8840	1620	874	878

CAL YR 1990 TOTAL 10803.9 MEAN 29.6 MAX 1550 MIN 1.6 AC-FT 21430
WTR YR 1991 TOTAL 13468.3 MEAN 36.9 MAX 453 MIN 1.6 AC-FT 26710

LOCATION.--Lat 42°00'26", long 96°14'29", in NE1/4SW1/4 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.

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

REMARKS.--Estimated daily discharges: Dec. 24 to Jan. 29. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. 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 CURRENT YEAR.--Maximum discharge, 34,900 ft³/s June 1, gage height, 23.99 ft; minimum daily discharge, 7,130 ft³/s Dec. 22; minimum gage height, 14.04 ft, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29100	13800	10000	17700	14400	11100	23200	23600	30600	28700	28500	31600
2	29000	12300	9930	17500	13800	10600	23200	23200	30300	31300	28600	32000
3	29600	11700	10300	17000	13000	10000	23400	23800	27300	26900	28700	32700
4	29400	11500	10500	17000	12300	9670	23500	24700	29500	26900	28600	32800
5	28900	11000	10600	17000	12400	9730	23800	24900	30100	29700	28600	33000
6	28900	10800	10400	17000	12200	9700	24200	24600	26700	26600	28700	32800
7	28800	10800	9930	17000	12100	9790	24300	24700	25300	26600	28900	32900
8	29000	10600	9820	16800	11900	9540	24400	24800	28700	28900	30100	32800
9	29300	10400	9860	16300	11800	9920	24400	25000	27400	26100	29900	32900
10	29300	10500	9880	16000	11300	9870	24400	25700	26500	26200	29100	32900
11	29000	10400	9880	15600	11200	10000	24400	29100	30000	28900	28800	33200
12	28400	10400	9840	15000	11000	9910	25000	25600	25800	26600	28600	33600
13	28000	10300	9760	15000	10900	9790	26000	26000	26900	26400	28600	33100
14	27900	10300	9630	15000	11000	9720	25600	29300	31300	28400	28600	33600
15	28000	10200	9550	14900	11100	9500	25000	26200	28600	25900	28600	32600
16	28100	9990	9600	14000	9770	9530	24800	26100	29200	26100	28600	31600
17	28300	9930	9470	13500	12800	9600	24600	29800	30100	28300	28900	31800
18	28600	9960	9740	13000	15400	9790	24700	26800	26000	26100	28800	31600
19	28600	10000	10200	13500	14300	9890	24500	26000	26400	26800	28300	31300
20	28200	10100	11700	14200	12900	10100	24600	29300	29700	29000	28300	31300
21	28700	10200	10800	14600	11800	10100	24600	25700	25800	27300	28500	30900
22	28600	10300	7130	14800	11500	10200	24800	26000	28000	27400	28700	31200
23	28500	10100	13400	14900	13200	10300	24800	29000	30800	29200	28800	31300
24	28400	10000	16500	15100	13700	10200	24800	25500	26400	27900	28800	31300
25	28300	9860	19300	15200	12100	9930	24700	25700	27000	27700	29300	31400
26	28200	9880	17000	15200	11500	11700	24600	28700	30700	28600	29800	31200
27	27000	9730	17500	15200	11300	14600	24300	25000	26900	27200	29600	31300
28	24200	9720	18000	15200	11200	17900	24100	25600	27300	27700	29500	31300
29	21000	9580	18000	15500	---	20300	23600	28300	30900	29300	30000	31600
30	18200	9660	18000	15600	---	22600	23900	25400	26900	27600	30400	31600
31	15500	---	18000	14800	---	23300	---	26000	---	27700	30900	---
TOTAL	851000	314010	374220	479100	341870	358880	732200	810100	847100	858000	900100	963200
MEAN	27450	10470	12070	15450	12210	11580	24410	26130	28240	27680	29040	32110
MAX	29600	13800	19300	17700	15400	23300	26000	29800	31300	31300	30900	33600
MIN	15500	9580	7130	13000	9770	9500	23200	23200	25300	25900	28300	30900
AC-FT	1688000	622800	742300	950300	678100	711800	1452000	1607000	1680000	1702000	1785000	1911000
CAL YR 1990	TOTAL	7802090	MEAN	21380	MAX	36500	MIN	7130	AC-FT	15480000		
WTR YR 1991	TOTAL	7829780	MEAN	21450	MAX	33600	MIN	7130	AC-FT	15530000		

LOCATION.--Lat 41°15'32", long 95°55'20", in SE1/4NW1/4 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.

WATER-DISCHARGE RECORDS

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.

GAGE.--Water-stage encoder. Datum of gage is 948.24 ft above NGVD. 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.

AVERAGE DISCHARGE.--63 years, 30,670 ft³/s, 22,220,000 acre-ft/yr.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 86,100 ft³/s June 15, gage height, 25.37 ft; minimum daily discharge, 8,000 ft³/s Dec. 23; minimum gage height, 8.24 ft Dec. 22, result of freeze-up.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32400	17900	11700	18700	16200	14700	28000	33600	37900	32200	29500	31600
2	32000	16200	12100	18300	16300	18600	27700	32600	47300	35100	30300	32100
3	32200	14800	12100	17800	16300	15500	27400	31900	41300	37500	30400	32400
4	32600	14000	12200	17500	15800	13900	27500	32100	36400	32100	30300	33000
5	32400	13900	12600	17500	15100	13700	27400	34100	45100	31900	30200	32900
6	31700	13700	12900	17500	15500	13900	27600	36300	45200	33800	30100	33000
7	31400	13200	12700	17400	15800	13600	28000	34200	37800	30400	30500	33100
8	31200	13100	12200	17200	15700	13500	27900	33500	33800	30400	31200	33200
9	31000	12900	12000	16900	15800	13300	27800	33600	36800	33500	32600	33000
10	30400	12600	12000	16500	16100	13600	27600	33900	36000	30000	32700	33100
11	30600	12600	12000	16300	15400	13600	27500	34800	35100	30100	31600	33200
12	30600	12500	12000	15900	15000	13700	28500	37800	37800	32400	31000	33200
13	30500	12400	12000	15900	14600	14300	31300	33900	34000	30000	30800	34600
14	30400	12400	12000	16000	14500	14700	32900	33700	61100	29800	30900	34400
15	30500	12400	11800	16000	14100	13600	34200	36400	74100	31200	30900	34100
16	30600	12300	11700	16000	13900	13300	32700	33700	74100	28900	30800	33100
17	30700	12100	11800	15600	13300	13500	32200	35700	49900	28900	31900	32100
18	30800	11900	11700	15100	15600	13600	32000	41700	41100	30800	31500	32100
19	31000	11800	11700	14800	19600	13800	32100	37000	34800	28600	31100	31900
20	31000	11800	12000	14700	19000	13800	32900	34100	34700	29400	30100	31500
21	30700	11800	13200	15000	17300	13800	33200	36900	37000	31600	29900	31700
22	30900	11900	9500	15300	16600	14000	32900	32800	33100	29700	30000	31100
23	30900	12000	8000	15300	16600	14200	32400	33700	35700	29600	30300	31500
24	30800	11900	14300	16400	16500	15700	32100	36700	37800	31200	30300	31600
25	30700	11800	18200	17400	16700	15300	31900	33300	33100	29900	30300	31600
26	30600	11700	22000	16900	14700	14500	31700	34100	34200	29700	30900	31900
27	30600	11700	18500	16300	14200	16000	38900	38800	37600	30300	31300	31800
28	29300	11600	19000	16300	14300	19300	36300	35500	33400	29100	31000	31900
29	26600	11600	19000	16900	---	22600	34200	39000	33800	29600	30700	32100
30	23400	11500	18900	16600	---	25100	33700	38500	36500	31000	31200	32600
31	20600	---	18900	16400	---	27100	---	34900	---	29500	31300	

CAL YR 1990	TOTAL	8951200	MEAN	24520	MAX	71700	MIN	8000	AC-FT	17750000
WTR YR 1991	TOTAL	9307500	MEAN	25500	MAX	74100	MIN	8000	AC-FT	18460000

PLATTE RIVER BASIN

93

06674500 NORTH PLATTE RIVER AT WYOMING-NEBRASKA STATE LINE

LOCATION.--Lat 41°59'25", long 104°02'57", in SW1/4NE1/4SE1/4 sec.4, T.23 N., R.58 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 650 ft upstream from bridge on NE State Highway 86, 700 ft downstream from Wyoming-Nebraska State line, and 0.5 mi south of Henry.

DRAINAGE AREA.--22,218 mi², of which 1,929 mi² 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. Datum of gage is 4,021.35 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 6, 1929, non-recording gage and Nov. 6, 1929, to Sept. 30, 1959, water-stage recorder at site 0.5 mi upstream at datum 4.42 ft higher. Oct. 7, 1959 to Feb. 22, 1972, water-stage recorder at site 0.5 mi upstream at datum 3.42 ft higher.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 11 and Jan. 20 to Mar. 7. Records fair 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 0.8 mi upstream. U.S. Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 17,900 ft³/s, June 2, 1929, gage height, 7.04 ft, site and datum then in use; minimum daily, 12 ft³/s, June 21, 22, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,860 ft³/s, June 11, gage height, 4.45 ft; minimum daily, 70 ft³/s, May 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	263	220	175	164	150	133	154	276	667	1170	984
2	414	264	219	180	163	151	132	159	572	777	1180	974
3	390	270	216	172	162	151	135	163	700	853	1180	1010
4	377	272	217	165	161	150	136	165	371	942	1230	1010
5	366	275	217	168	161	148	136	164	348	1090	1300	956
6	355	284	216	167	160	149	134	163	417	1150	1230	912
7	352	272	216	170	159	147	135	162	568	1220	1230	881
8	357	269	214	175	158	144	138	164	1780	1260	1190	876
9	356	263	211	178	157	141	135	159	2420	1320	1170	850
10	345	267	206	179	154	141	133	159	2650	1230	1140	805
11	372	265	209	177	152	141	134	164	2820	1240	1110	789
12	368	259	207	173	151	146	141	160	2620	1220	1120	744
13	344	261	205	172	151	145	139	135	1890	1230	1130	694
14	340	255	206	171	152	142	139	70	1170	1230	1100	650
15	335	250	202	171	153	141	139	73	1050	1220	1100	595
16	331	248	201	169	152	141	138	310	863	1180	1110	592
17	322	244	203	168	151	139	135	233	709	1220	1060	555
18	320	242	201	165	149	139	139	200	621	1230	1050	529
19	323	244	193	168	150	137	145	210	566	1270	1050	501
20	316	240	157	164	152	139	141	171	537	1310	1060	650
21	310	236	138	166	156	138	148	157	503	1310	1040	726
22	307	234	147	166	155	138	152	159	483	1310	1020	713
23	304	229	152	165	153	137	152	167	470	1290	1020	720
24	300	224	162	168	152	135	149	183	467	1300	1030	710
25	297	225	170	162	150	134	157	177	459	1330	1030	724
26	295	224	177	164	149	134	155	174	449	1340	1040	709
27	289	224	185	172	150	132	142	181	536	1270	1020	692
28	284	224	180	167	151	132	147	170	924	1200	1010	685
29	283	220	160	158	---	132	152	191	724	1210	1020	677
30	273	219	150	160	---	132	151	291	614	1180	1010	601
31	269	---	165	162	---	132	---	272	---	1140	1000	---
TOTAL	10336	7466	5922	5237	4328	4358	4242	5460	28577	36739	34150	22514
MEAN	333	249	191	169	155	141	141	176	953	1185	1102	750
MAX	442	284	220	180	164	151	157	310	2820	1340	1300	1010
MIN	269	219	138	158	149	132	132	70	276	667	1000	501
AC-FT	20500	14810	11750	10390	8580	8640	8410	10830	56680	72870	67740	44660

CAL YR 1990 TOTAL 145213 MEAN 398 MAX 1650 MIN 12 AC-FT 288000
WTR YR 1991 TOTAL 169329 MEAN 464 MAX 2820 MIN 70 AC-FT 335900

PLATTE RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (μ S/CM)	TEMPER- ATURE WATER (° C)
OCT 30...	1605	272	910	13.5
DEC 11...	0900	205	895	4.0
JAN 25...	1045	182	940	0.5
MAR 12...	1430	146	890	6.5
APR 18...	1530	137	980	6.0
MAY 21...	1330	158	880	22.0
JUN 27...	0930	533	775	19.5
AUG 06...	1700	1200	725	24.0
SEP 17...	1445	557	835	14.5

PLATTE RIVER BASIN

06677500 HORSE CREEK NEAR LYMAN, NE

LOCATION.--Lat 41°56'21", long 103°59'13", in SE1/4NE1/4 sec.25, T.23 N., R.58 W., Scotts Bluff County, Hydrologic Unit 10180012, on right bank 10 ft upstream from county highway bridge, 1.8 mi upstream from mouth, 2.2 mi downstream from Owl Creek, and 3.2 mi northeast of Lyman.

DRAINAGE AREA.--1,570 mi², approximately, of which about 40 mi² is noncontributing.

PERIOD OF RECORD.--February 1931 to current year.

REVISED RECORDS.--WSP 926: 1940(M). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,992.84 ft above National Geodetic Vertical Datum of 1929 (levels by private engineering firm). See WSP 2118 for history of changes prior to Apr. 17, 1967.

REMARKS.--Estimated daily discharges: Dec. 3, 19 to Feb. 27. Records good except for period of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--60 years, 74.6 ft³/s, 54,050 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,110 ft³/s June 6, 1967, gage height, 10.82 ft, from rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.4 ft³/s Feb. 1, 2, 1949.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s May 16, gage height, 7.17 ft; minimum daily, 11.0 ft³/s Mar. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	33	24	22	18	14	13	20	135	195	53	61
2	61	33	22	21	18	11	14	22	179	183	62	77
3	59	34	23	21	18	14	15	19	198	132	60	85
4	59	35	23	20	18	16	17	18	160	217	64	85
5	55	35	23	19	18	16	22	18	331	157	72	90
6	52	37	22	19	18	15	22	19	628	94	76	74
7	53	36	22	18	18	13	20	19	469	97	66	80
8	57	36	23	18	19	13	20	18	389	87	58	107
9	55	37	24	18	19	12	19	16	368	120	59	118
10	51	40	22	18	19	14	19	16	324	106	54	140
11	48	37	22	20	19	16	21	15	284	100	53	146
12	44	34	21	22	19	14	19	17	246	67	60	166
13	41	32	22	23	20	14	18	14	223	53	58	200
14	40	32	21	23	20	14	20	21	214	52	61	215
15	39	32	21	22	19	13	21	88	221	44	58	226
16	39	31	22	21	18	15	22	432	286	41	64	226
17	39	30	20	20	18	17	18	86	319	42	61	240
18	42	30	18	20	18	16	17	57	283	46	68	290
19	42	30	16	21	17	16	16	34	226	56	66	252
20	41	29	14	21	17	17	14	33	159	75	64	242
21	42	28	15	21	18	17	15	29	178	69	55	241
22	41	26	16	21	18	16	16	32	169	67	55	273
23	39	25	17	20	18	16	16	31	215	69	51	215
24	37	23	18	20	16	15	16	70	185	86	54	154
25	37	24	19	19	15	15	17	109	202	80	58	138
26	37	23	20	19	15	16	18	34	420	98	55	126
27	36	23	21	19	15	16	16	40	341	106	53	116
28	37	24	22	18	14	14	15	39	210	89	50	107
29	35	28	21	18	---	14	22	77	342	89	60	102
30	34	25	20	18	---	13	21	109	198	77	75	100
31	33	---	21	18	---	14	---	128	---	61	71	---
TOTAL	1389	922	635	618	497	456	539	1680	8102	2855	1874	4692
MEAN	44.8	30.7	20.5	19.9	17.7	14.7	18.0	54.2	270	92.1	60.5	156
MAX	64	40	24	23	20	17	22	432	628	217	76	290
MIN	33	23	14	18	14	11	13	14	135	41	50	61
AC-FT	2760	1830	1260	1230	986	904	1070	3330	16070	5660	3720	9310

CAL YR 1990 TOTAL 14390.6 MEAN 39.4 MAX 185 MIN 6.6 AC-FT 28540
WTR YR 1991 TOTAL 24259 MEAN 66.5 MAX 628 MIN 11 AC-FT 48120

PLATTE RIVER BASIN

06678000 SHEEP CREEK NEAR MORRILL, NE

LOCATION.--Lat 41°57'50", long 103°56'20", in NW1/4SW1/4 sec.16, T.23 N., R.57 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 40 ft upstream from Burlington Northern Inc. bridge, 50 ft downstream from bridge on U.S. Highway 26 1 mi west of Morrill, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--362 mi², of which about 25 mi² is noncontributing.

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WDR NE-67: Drainage area. WSP 2118: 1936(M), 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 3,995.04 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1940, nonrecording gage at site 20 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 8. Record good except for estimated record, which is poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--60 years, 55.0 ft³/s, 39,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 516 ft³/s July 21, 1978, gage height, 6.62 ft; maximum gage height, 6.75 ft Aug. 2, 1932, from floodmark, due to break in Interstate Canal (discharge not determined); minimum daily discharge, 0.1 ft³/s Dec. 16, 23, 1956, Jan. 18, Mar. 12, 1957, result of diversion for construction upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 129 ft³/s May 16, gage height, 2.65 ft; minimum daily, 6.3 ft³/s July 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	68	67	48	57	57	50	51	47	7.1	11	8.2
2	75	68	68	50	57	56	50	53	47	7.1	9.9	8.3
3	74	69	66	50	57	56	51	55	47	7.0	9.9	8.1
4	73	68	67	50	57	55	51	54	48	6.4	10	8.0
5	72	69	67	50	56	53	52	59	50	6.3	9.6	8.3
6	70	72	66	51	55	54	53	68	52	6.8	9.2	8.3
7	73	70	63	51	55	53	53	72	50	10	8.9	8.2
8	76	70	63	51	56	52	54	73	49	12	8.6	8.1
9	75	70	63	52	55	52	55	73	48	12	8.3	8.4
10	74	69	63	51	54	52	55	73	47	11	8.2	8.2
11	74	69	62	51	54	53	56	72	48	11	8.3	9.0
12	74	70	62	52	55	53	56	68	47	10	8.4	11
13	73	70	61	53	55	52	53	49	46	9.6	8.5	11
14	72	70	60	53	54	52	52	46	47	10	8.7	9.9
15	71	70	59	54	54	52	52	49	46	10	8.6	16
16	71	69	60	55	55	53	52	79	46	10	8.4	24
17	70	69	59	54	57	53	52	58	24	11	8.2	21
18	71	69	59	55	55	52	53	55	10	11	8.3	19
19	71	70	58	55	55	53	53	52	9.9	11	8.4	19
20	70	71	58	56	54	53	50	51	9.7	11	8.5	60
21	69	70	48	57	55	54	54	49	9.8	11	8.8	81
22	71	69	40	57	56	54	52	49	9.8	11	8.7	83
23	70	68	44	56	55	52	51	48	9.9	12	8.6	83
24	70	69	50	56	56	53	51	47	9.7	12	8.5	83
25	71	69	50	57	55	52	52	46	9.7	12	8.4	82
26	70	70	50	57	55	52	51	45	9.5	12	8.4	82
27	69	70	50	57	55	51	51	48	9.8	11	8.4	81
28	69	69	46	57	57	50	52	47	9.3	11	8.5	80
29	70	67	44	56	---	51	52	48	8.7	11	8.5	83
30	68	67	40	56	---	51	49	48	7.8	11	8.3	84
31	68	---	48	56	---	51	---	48	---	11	8.0	---
TOTAL	2218	2078	1761	1664	1551	1637	1568	1733	912.6	315.3	271.0	1104.0
MEAN	71.5	69.3	56.8	53.7	55.4	52.8	52.3	55.9	30.4	10.2	8.74	36.8
MAX	76	72	68	57	57	57	56	79	52	12	11	84
MIN	68	67	40	48	54	50	49	45	7.8	6.3	8.0	8.0
AC-FT	4400	4120	3490	3300	3080	3250	3110	3440	1810	625	538	2190

CAL YR 1990 TOTAL 18073.9 MEAN 49.5 MAX 81 MIN 5.0 AC-FT 35850
WTR YR 1991 TOTAL 16812.9 MEAN 46.1 MAX 84 MIN 6.3 AC-FT 33350

PLATTE RIVER BASIN

97

06679500 NORTH PLATTE RIVER AT MITCHELL, NE

LOCATION.--Lat 41°55'38", long 103°48'48", in NE1/4NE1/4 sec.33, T.23 N., R.56 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank of main channel 10 ft downstream from bridge on State Highway 29, 0.5 mi south of Mitchell.

DRAINAGE AREA.--24,300 mi², approximately, of which about 22,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1901 to September 1910, May to December 1911, February 1912 to July 1913 (gage heights only), May 1916 to October 1918 (irrigation seasons only), May 1920 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,929.3 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to May 27, 1960. May 27, 1960, to Aug. 24, 1971, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 14, Dec. 19 to Jan. 7, Jan. 19-21, Apr. 6-8, and June 11. Records good except for period of estimated record, which is 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.

AVERAGE DISCHARGE (since Glendo project).--34 years (water years 1958-91), 836 ft³/s, 605,700 acre-ft/yr; median of yearly mean discharges, 540 ft³/s, 391,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft³/s June 3, 1909, gage height, 6.45 ft, datum then in use, from graph based on gage readings, from rating curve extended above 17,000 ft³/s; maximum gage height, 7.80 ft May 29, 1984; minimum daily discharge observed, 25 ft³/s Sept. 25-29, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,200 ft³/s June 9, gage height, 4.80 ft; minimum daily, 140 ft³/s Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	799	542	431	400	341	331	326	271	459	301	239	222
2	752	531	432	420	345	323	321	270	900	276	237	220
3	682	533	427	400	349	332	317	277	1110	263	220	216
4	673	529	437	390	352	337	316	276	827	267	213	239
5	659	541	443	390	351	333	317	272	816	298	269	243
6	603	554	439	390	349	325	320	265	1520	253	296	236
7	590	533	437	390	339	323	320	263	1240	215	295	223
8	606	534	438	390	334	315	320	265	1980	246	259	219
9	611	525	437	388	342	314	310	260	3000	286	235	237
10	642	523	429	389	345	316	314	255	2900	316	225	243
11	617	514	434	390	349	313	315	250	2800	294	235	281
12	648	506	434	390	351	288	320	246	2500	273	250	345
13	630	498	429	389	349	289	321	233	2210	259	272	410
14	620	497	429	382	343	286	320	208	1220	259	264	450
15	620	487	419	367	341	287	320	231	1020	259	264	424
16	612	475	419	363	345	289	316	909	925	232	274	420
17	580	480	425	356	357	297	315	585	784	231	276	411
18	584	475	419	350	356	298	313	384	675	230	265	425
19	592	470	400	350	354	298	316	351	579	246	257	439
20	573	464	140	340	357	306	316	339	473	282	247	477
21	565	458	175	340	357	304	317	337	377	315	247	665
22	580	452	190	340	355	305	316	307	344	319	228	896
23	561	448	200	349	355	305	312	291	334	319	206	1080
24	552	447	250	344	353	310	312	304	323	317	199	1040
25	563	443	300	346	350	313	309	394	354	339	202	1050
26	565	441	350	342	342	306	308	301	334	362	218	1070
27	553	441	400	339	333	292	301	301	307	375	235	1040
28	557	432	420	340	331	294	296	349	857	319	219	1000
29	557	430	400	330	---	301	296	420	675	310	219	998
30	551	435	350	327	---	301	285	422	412	310	222	1000
31	550	---	350	332	---	310	---	628	---	269	224	---
TOTAL	18847	14638	11683	11353	9725	9541	9405	10464	32255	8840	7511	16219
MEAN	608	488	377	366	347	308	313	338	1075	285	242	541
MAX	799	554	443	420	357	337	326	909	3000	375	296	1080
MIN	550	430	140	327	331	286	285	208	307	215	199	216
AC-FT	37380	29030	23170	22520	19290	18920	18650	20760	63980	17530	14900	32170

CAL YR 1990 TOTAL 133910 MEAN 367 MAX 861 MIN 72 AC-FT 265600
WTR YR 1991 TOTAL 160481 MEAN 440 MAX 3000 MIN 140 AC-FT 318300

PLATTE RIVER BASIN

06681500 GERING DRAIN NEAR GERING, NE

LOCATION.--Lat 41°49'22", long 103°37'02", in SE1/4NE1/4 sec.6, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 200 ft downstream from county road bridge, 0.2 mi downstream from bridge on State Highway 92, 1 mi upstream from mouth, and 2 mi east of Gering.

PERIOD OF RECORD.--February 1931 to September 1945, October 1948 to current year.

REVISED RECORDS.--WSP 896: 1935(M). WDR NE-79-1: 1977, 1978 (M).

GAGE.--Water-stage recorder. Datum of gage is 3,850.62 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). See WSP 1918 for history of changes prior to June 27, 1958. June 27, 1958, to Oct. 27, 1970, at datum 6.0 ft higher, Oct. 28, 1970, to Dec. 8, 1975, at datum 4.0 ft higher, Dec. 9, 1975, to Sept. 30, 1980, at datum 3.0 ft higher, all at site 200 ft upstream. Oct. 1, 1980 to Sept. 30, 1986, at datum 2.0 ft higher.

REMARKS.--Estimated daily discharges: Dec. 20, 21, Jan. 28-30, May 16, June 28, and Sept. 2-3, 8-9, 24-30. Records good except for periods of estimated record, which are poor. Base flow is mainly return water from land irrigated by Fort Laramie Canal.

AVERAGE DISCHARGE.--57 years, 49.7 ft³/s, 36,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft³/s June 8, 1958, gage height, 18.3 ft, present datum, from floodmarks, from rating curve extended above 2,200 ft³/s on basis of slope-area measurements at gage heights 16.67 ft and 18.3 ft present datum; minimum daily, 5 ft³/s Aug. 13, 16, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,510 ft³/s June 28, gage height, 10.13 ft, from floodmark; minimum daily, 15 ft³/s Mar. 17, May 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	24	21	21	17	18	21	16	67	98	84	79
2	29	24	21	21	16	18	22	16	79	137	88	80
3	25	24	21	21	16	18	21	16	84	116	87	80
4	24	23	21	21	16	18	20	16	68	96	89	78
5	24	24	22	22	16	18	19	16	92	73	80	78
6	24	24	21	21	16	18	18	16	126	65	74	81
7	25	22	21	22	16	18	18	16	93	79	84	89
8	26	22	21	22	17	18	18	16	50	104	79	90
9	26	23	21	22	18	18	18	15	20	91	78	100
10	26	24	21	21	18	18	18	18	18	78	81	110
11	26	23	22	21	19	18	18	19	18	82	80	121
12	25	23	21	21	19	19	19	18	18	80	82	124
13	25	23	21	21	19	19	19	18	18	75	84	134
14	24	22	22	21	19	19	19	18	18	75	81	138
15	24	22	20	21	18	20	19	42	18	75	81	142
16	25	22	21	20	18	19	18	300	17	84	82	131
17	24	22	21	20	19	20	18	30	57	81	83	148
18	24	22	21	20	18	19	18	40	101	75	86	159
19	25	22	19	20	18	19	19	47	99	74	85	151
20	26	22	19	20	18	19	18	54	88	73	84	144
21	25	21	19	19	18	19	19	89	86	70	80	124
22	25	21	18	19	18	20	19	71	82	69	78	83
23	25	22	18	19	19	19	19	69	163	75	76	46
24	25	22	18	20	19	20	18	91	78	82	81	40
25	25	22	19	19	19	20	18	79	71	87	81	40
26	25	22	19	19	18	21	17	74	108	89	79	39
27	24	22	19	18	18	20	16	71	104	89	75	38
28	24	22	19	17	18	20	16	117	550	90	74	38
29	24	21	19	17	---	20	16	98	76	87	76	37
30	24	22	19	17	---	20	16	53	65	83	75	37
31	24	---	20	17	---	21	---	62	---	84	74	---
TOTAL	778	674	625	620	498	591	552	1621	2532	2616	2501	2779
MEAN	25.1	22.5	20.2	20.0	17.8	19.1	18.4	52.3	84.4	84.4	80.7	92.6
MAX	31	24	22	22	19	21	22	300	550	137	89	159
MIN	24	21	18	17	16	18	16	15	17	65	74	37
AC-FT	1540	1340	1240	1230	988	1170	1090	3220	5020	5190	4960	5510

CAL YR 1990 TOTAL 13346 MEAN 36.6 MAX 101 MIN 18 AC-FT 26470
WTR YR 1991 TOTAL 16387 MEAN 44.9 MAX 550 MIN 15 AC-FT 32500

PLATTE RIVER BASIN

99

06682000 NORTH PLATTE RIVER NEAR MINATARE, NE

LOCATION.--Main channel gage: Lat 41°47'24", long 103°31'8", in SW1/4SW1/4 sec.18, T.21 N., R.53 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 15 ft downstream from bridge on State Highway 326 and 1.8 mi southwest of Minatare. Nine Mile channel gage: Lat 41°47'32", long 103°31'08", in NE1/4SE1/4 sec.13, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on left bank 50 ft upstream from bridge on State Highway 326 and 750 ft north of main channel bridge.

DRAINAGE AREA.--24,700 mi², approximately, of which about 22,700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May to August 1916, May 1917 to September 1918, May to October 1919, April to September 1922, June 1923 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1710, WDR NE-76-1: Drainage area, WRD NE-90-1: Gage datum.

GAGE.--Main channel: Water-stage recorder. Datum of gage is 3,807.0 ft above National Geodetic Vertical Datum of 1929. Nov. 2, 1966 to July 13, 1976, water-stage recorder 220 ft upstream from bridge at datum 4.00 ft higher. July 14, 1976 to Apr. 29, 1982, water-stage recorder 220 ft upstream from bridge at datum 3.00 ft higher; Apr. 30, 1982 to Apr. 2, 1990, water-stage recorder on left bank 200 ft upstream from bridge at datum 1.00 ft higher. See WDR NE-72 for history of changes prior to Nov. 2, 1966. Nine Mile channel: Water-stage recorder. Datum of gage is 3,812.3 ft above National Geodetic Vertical Datum of 1929. See WDR NE-72 for history of changes prior to Aug. 25, 1971.

REMARKS.--Main channel: Estimated daily discharges: Dec. 20 to Jan. 10. Nine Mile channel: Estimated daily discharges: Dec. 20 to Jan. 15 and Jan. 30. Records good except for periods of estimated record, which are fair. 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. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE (since Glendo project).--34 years (water years 1958-91), 1,068 ft³/s, 773,800 acre-ft/yr; median of yearly mean discharges, 794 ft³/s, 575,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s July 2, 1917, from graph based on mean daily discharge and discharge measurement published by State engineer of Nebraska; minimum daily, 11 ft³/s Aug. 16-18, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 18, 1921, may have been greater than flood of July 2, 1917.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,360 ft³/s June 12; minimum daily, 230 ft³/s July 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	952	732	645	535	543	509	463	407	659	710	271	269
2	922	734	640	550	552	505	462	407	728	642	251	279
3	881	751	623	555	551	501	454	407	1010	564	243	284
4	854	742	627	580	550	504	450	404	1080	509	242	298
5	864	757	630	580	555	504	453	392	889	474	248	324
6	858	795	621	600	557	500	452	383	1380	410	258	336
7	850	783	620	615	554	500	452	381	1420	346	281	350
8	859	774	618	615	544	496	452	376	1420	340	287	382
9	857	772	617	620	543	487	449	365	2210	329	284	472
10	857	770	610	620	541	492	448	343	2890	448	281	479
11	825	765	607	619	535	496	457	329	3020	353	279	552
12	820	755	610	604	534	503	468	322	3320	316	286	574
13	824	747	603	600	538	501	471	313	2910	334	297	573
14	799	744	600	604	535	496	470	300	1850	326	304	690
15	784	736	587	600	524	494	465	287	1350	313	294	717
16	789	718	579	595	531	489	462	1260	1150	287	299	701
17	763	719	580	588	534	487	452	1000	1040	253	303	701
18	737	718	580	581	537	486	431	660	964	234	313	729
19	741	718	547	573	529	488	447	584	875	230	308	734
20	740	714	315	563	526	490	440	550	764	242	305	747
21	719	704	300	553	521	478	451	525	674	274	309	855
22	719	692	325	560	519	485	465	501	614	294	287	1000
23	706	683	350	556	520	484	457	472	723	294	271	1120
24	696	685	390	552	514	482	450	569	571	299	265	1190
25	691	678	420	547	507	479	442	519	541	334	262	1170
26	705	669	450	546	503	475	435	514	562	370	262	1170
27	708	671	470	545	506	470	431	467	557	387	261	1170
28	714	658	500	534	511	463	417	475	1420	392	259	1150
29	726	651	460	527	---	463	412	753	1050	353	249	1140
30	726	657	490	529	---	463	408	601	848	325	257	1140
31	728	---	520	535	---	460	---	699	---	304	260	---
TOTAL	24414	21692	16534	17781	14914	15130	13466	15565	38489	11286	8576	21296
MEAN	788	723	533	574	533	488	449	502	1283	364	277	710
MAX	952	795	645	620	557	509	471	1260	3320	710	313	1190
MIN	691	651	300	527	503	460	408	287	541	230	242	269
AC-FT	48430	43030	32800	35270	29580	30010	26710	30870	76340	22390	17010	42240

CAL YR 1990 TOTAL 189467 MEAN 519 MAX 1040 MIN 70 AC-FT 375800
WTR YR 1991 TOTAL 219143 MEAN 600 MAX 3320 MIN 230 AC-FT 434700

PLATTE RIVER BASIN

06684500 NORTH PLATTE RIVER AT BRIDGEPORT, NE

LOCATION.--Main channel gage: Lat 41°40'54", long 103°05'52", in NW1/4NW1/4 sec.28, T.20 N., R.50 W., Morrill County, Hydrologic Unit 10180009, on left bank 0.3 mi upstream from bridge on U.S. Highway 26, 0.8 mi north of Bridgeport. Browns Creek channel gage: Lat 41°40'55", long 103°05'53", in NW1/4NW1/4 sec.28, T.20 N., R.50 W., Morrill County, on right bank 0.2 mi upstream from culvert on U.S. Highway 26 and 0.8 mi north of Bridgeport.

DRAINAGE AREA.--25,300 mi², approximately, of which about 23,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June 1896 to October 1900 (no winter records most years), May 1902 to November 1906, June to August 1915, May 1916 to current year. Monthly discharge only for some years, published in WSP 1310. Published as "near Camp Clark" 1896-1900.

REVISED RECORDS.--WSP 1390: 1897, 1915. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Main channel: Water-stage recorder. Datum of gage is 3,656.14 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 7, 1927. Oct. 7, 1927 to July 16, 1978 at downstream side of bridge on U.S. Highway 26, 0.3 mi downstream at same datum. Browns Creek channel: Water-stage recorder. Datum of gage is 3,663.51 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to June 1, 1943. June 1, 1943 to Nov. 17, 1983 on left bank at same location and datum.

REMARKS.--Main channel: Estimated daily discharge Dec. 19 to Jan. 17, and Jan. 29 to Feb. 1. Browns Creek channel: Estimated daily discharges, Nov. 25-30, Dec. 21, Dec. 28 to Jan. 3, and Feb. 3-7. Records good except for periods of estimated record, which are fair. 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. River flows in two independently rated channels for which separate records are computed; figures herein represent combined discharge.

AVERAGE DISCHARGE (since Glendo project).--34 years (water years 1958-91), 1,344 ft³/s, 973,700 acre-ft/yr; median of yearly mean of discharges, 1,046 ft³/s, 757,800 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s June 26, 1899, gage height, 5.39 ft, site and datum then in use, from graph based on gage readings; minimum daily, 55 ft³/s May 28, 1934, Aug. 15, 1940, but may have been less during periods of no record for Browns Creek channel.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,550 ft³/s June 10; minimum daily, 226 ft³/s Aug. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1050	928	772	826	641	591	468	947	1110	279	398
2	1100	1030	892	790	791	615	602	401	848	913	260	431
3	1120	1080	850	805	755	582	588	423	1190	786	276	443
4	1110	1100	894	791	736	587	573	445	1330	685	262	469
5	1080	1090	896	776	757	630	575	441	1170	639	250	530
6	1140	1100	902	802	775	674	572	423	1470	609	226	555
7	1190	1070	895	762	767	707	567	401	1640	556	286	550
8	1250	1050	915	770	747	702	585	392	1560	511	323	677
9	1260	1020	930	774	702	687	589	387	2020	516	298	842
10	1210	1010	940	796	675	681	591	381	4090	541	294	902
11	1200	981	940	821	656	690	617	363	3940	476	296	1000
12	1190	931	932	835	660	691	640	348	3700	375	327	1120
13	1220	936	904	832	688	671	623	321	3500	335	377	1110
14	1210	942	897	841	684	666	629	308	2720	300	364	1180
15	1130	941	901	809	695	664	642	272	2040	319	368	1240
16	1090	936	868	792	699	679	655	894	1740	348	367	1190
17	1100	917	815	780	694	688	637	1520	1440	303	368	1200
18	1150	894	824	764	697	667	633	1020	1350	243	402	1200
19	1200	932	790	723	679	652	654	839	1300	233	429	1220
20	1220	962	500	738	676	615	608	765	1220	270	422	1200
21	1170	937	565	745	684	579	610	722	1100	317	416	1220
22	1150	913	752	769	666	602	641	704	1070	363	404	1260
23	1110	852	823	741	669	590	629	706	1550	418	407	1400
24	1110	784	835	687	664	573	630	866	1190	454	399	1560
25	1110	790	856	689	657	553	614	823	1050	487	422	1420
26	1090	801	880	691	660	562	592	780	1030	503	429	1420
27	1060	814	868	740	640	570	583	712	969	526	397	1430
28	1030	862	860	736	624	556	567	720	1470	536	382	1380
29	1050	886	844	730	---	556	532	1090	1610	493	375	1330
30	1060	928	816	727	---	544	504	941	1360	387	383	1390
31	1050	---	774	878	---	564	---	806	---	316	387	---
TOTAL	35300	28539	26286	23906	19623	19438	18073	19682	51614	14868	10875	31267
MEAN	1139	951	848	771	701	627	602	635	1720	480	351	1042
MAX	1260	1100	940	878	826	707	655	1520	4090	1110	429	1560
MIN	1030	784	500	687	624	544	504	272	848	233	226	398
AC-FT	70020	56610	52140	47420	38920	38560	35850	39040	102400	29490	21570	62020

CAL YR 1990 TOTAL 263909 MEAN 723 MAX 1260 MIN 138 AC-FT 523500
WTR YR 1991 TOTAL 299471 MEAN 820 MAX 4090 MIN 226 AC-FT 594000

PLATTE RIVER BASIN

06685000 PUMPKIN CREEK NEAR BRIDGEPORT, NE

LOCATION.--Lat 41°37'38", long 103°02'10", in SW1/4 sec.12, T.19 N., R.50 W., Morrill County, Hydrologic Unit 10180013, on right bank 250 ft downstream from bridge on U.S. Highway 385 and State Highway 92, 0.5 mi upstream from mouth, and 4 mi southeast of Bridgeport.

DRAINAGE AREA.--1,020 mi², approximately.

PERIOD OF RECORD.--February 1931 to current year.

REVISED RECORDS.--WSP 1390: 1932, 1934(M), 1935, 1936(M), 1938-39. WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Sheet piling control since December 1964. Datum of gage is 3,635.99 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1934, nonrecording gage on downstream side of bridge 240 ft upstream and June 25, 1934, to May 18, 1936, water-stage recorder at upstream side of bridge 260 ft upstream, both at datum 0.29 ft higher. May 19, 1936, to June 8, 1965, water-stage recorder, June 9, 1965, to Sept. 1, 1965, non-recording gage, and Sept. 2, 1965, to Sept. 18, 1980, water-stage recorder, all on left bank 250 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 4, 7, 8, 27-29, Dec. 3, 4, 7, 14-16, Dec. 19 to Feb. 3, and Feb. 14, 15. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--60 years, 26.7 ft³/s, 19,340 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,880 ft³/s June 9, 1965, gage height, 9.98 ft, from floodmark, from rating curve extended above 3,500 ft³/s on basis of rating extension for main channel and determination of flow over road; no flow for many days in 1975-77, 1981-82, 1982, 1985, 1989-91.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97 ft³/s June 19, gage height, 2.30 ft; maximum gage height, 3.08 ft Jan. 29, backwater from ice; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	8.2	8.5	7.6	11	14	13	9.7	33	2.7	.15	.00
2	6.3	8.4	9.1	8.0	11	13	14	23	30	2.5	.07	.00
3	3.3	8.9	9.0	7.8	12	13	14	42	29	1.6	.00	1.4
4	2.0	8.8	8.0	7.4	11	11	13	34	29	.41	.00	13
5	2.0	8.4	8.3	7.4	11	11	12	30	26	.30	.00	12
6	1.9	9.2	7.4	7.6	11	12	12	27	26	.33	.22	13
7	2.6	7.8	8.2	7.4	10	12	11	26	25	.26	.32	13
8	3.2	8.0	8.3	7.6	10	11	12	28	24	.18	.25	4.6
9	3.0	9.0	8.9	7.8	9.9	12	12	34	24	.13	.21	2.5
10	2.9	9.2	9.0	7.8	9.8	11	12	29	23	.05	.22	11
11	2.8	9.5	9.0	8.0	9.8	11	14	26	23	.00	.09	18
12	2.9	9.1	9.0	8.2	9.8	11	13	27	21	.00	.00	10
13	2.7	8.8	8.6	8.6	10	12	11	27	13	.00	.00	2.3
14	3.0	8.5	9.8	9.0	10	12	11	21	14	.00	.00	2.2
15	3.2	8.5	10	10	11	12	11	19	13	.16	.00	1.7
16	3.2	8.5	10	10	12	12	11	26	14	.20	.30	1.7
17	3.0	8.7	8.1	11	12	13	12	37	14	.24	.33	1.8
18	3.7	8.9	8.0	11	13	12	11	39	13	.21	.31	1.7
19	6.7	9.0	8.0	11	14	11	11	35	49	.12	.26	1.9
20	6.9	9.0	7.0	11	15	11	10	32	26	.06	.54	5.9
21	7.4	9.0	7.4	10	14	12	10	31	18	.02	1.5	10
22	7.0	9.0	7.6	11	16	13	10	27	16	.03	.03	8.2
23	7.0	8.9	7.8	11	16	13	11	26	17	.00	.02	8.1
24	7.2	9.0	7.8	10	15	12	11	31	13	6.0	.01	13
25	7.5	9.0	8.0	11	14	12	10	46	8.3	16	.01	16
26	7.5	9.4	8.2	11	14	12	8.7	68	6.8	15	.00	17
27	7.4	9.2	8.4	11	13	14	9.0	73	6.9	12	.00	18
28	7.5	9.0	8.0	10	13	13	9.0	35	6.8	11	.00	18
29	7.6	9.2	7.8	10	---	13	9.3	53	6.7	5.6	.00	17
30	7.9	9.2	7.0	11	---	14	8.9	35	4.4	.22	.00	11
31	8.0	---	7.4	11	---	14	---	14	---	.21	.00	---
TOTAL	153.1	265.3	257.6	291.2	338.3	379	336.9	1010.7	572.9	75.53	4.84	254.00
MEAN	4.94	8.84	8.31	9.39	12.1	12.2	11.2	32.6	19.1	2.44	.16	8.47
MAX	8.0	9.5	10	11	16	14	14	73	49	16	1.5	18
MIN	1.9	7.8	7.0	7.4	9.8	11	8.7	9.7	4.4	.00	.00	.00
AC-FT	304	526	511	578	671	752	668	2000	1140	150	9.6	504

CAL YR 1990 TOTAL 4205.75 MEAN 11.5 MAX 56 MIN .00 AC-FT 8340
WTR YR 1991 TOTAL 3939.37 MEAN 10.8 MAX 73 MIN .00 AC-FT 7810

PLATTE RIVER BASIN

06686000 NORTH PLATTE RIVER AT LISCO, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°29'24", long 102°37'24", in SW1/4NE1/4 sec.33, T.18 N., R.46 W., Garden County,
Hydrologic Unit 10180009, on left bank 40 ft downstream of highway bridge, 0.5 mi south of Lisco.

DRAINAGE AREA.--26,700 mi², approximately, of which about 24,700 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 1916, June to October 1917, September 1931 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,474.5 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 8, 1931, nonrecording gage at different datum, Sept. 8, 1931 to May 3, 1932, nonrecording gage at datum 1.0 ft higher, May 4, 1932, to May 28, 1974, water-stage recorder at datum 1.0 ft higher, and May 29, 1974 to Oct. 31, 1988, water-stage recorder at present datum; all at downstream side of right bridge pier 40 ft upstream and 600 ft south of present site.

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 8. 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 and return flow from irrigated areas.

AVERAGE DISCHARGE (since Glendo project).--34 years (water years 1958-91), 1,422 ft³/s, 1,030,000 acre-ft/yr; median of yearly mean discharges, 1,160 ft³/s, 840,400 acre-ft/yr. Figures are unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft³/s June 27, 29, 1917, from graph based on daily gage readings, from rating curve extended above 15,000 ft³/s; minimum daily, 8 ft³/s Aug. 4, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,840 ft³/s June 11, gage height, 2.90 ft; minimum daily discharge, 215 ft³/s July 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1360	1180	916	780	800	845	693	557	999	1280	350	316
2	1360	1140	913	760	820	817	695	533	1040	1110	316	336
3	1360	1180	898	780	820	793	694	554	1110	930	260	361
4	1370	1170	922	800	860	793	688	515	1310	803	253	385
5	1340	1170	941	820	900	810	687	513	1380	710	274	411
6	1320	1250	918	820	1000	814	685	493	1310	591	277	449
7	1350	1200	897	840	1000	834	681	499	1770	531	255	492
8	1420	1180	877	860	1020	812	680	502	2040	476	231	505
9	1430	1160	849	880	999	762	687	487	1810	453	272	591
10	1430	1130	853	900	999	766	689	467	2410	403	348	787
11	1410	1140	862	920	960	783	681	453	3660	422	319	888
12	1360	1110	845	940	941	804	614	426	3430	431	323	946
13	1340	1080	838	980	895	800	616	424	3340	378	351	1060
14	1360	1080	861	1000	863	792	640	435	3090	336	363	1090
15	1360	1030	847	1000	836	819	650	417	2520	311	358	1170
16	1380	999	857	1000	858	822	648	534	2000	280	357	1230
17	1350	996	858	980	893	800	646	1180	1790	257	343	1230
18	1280	1000	867	920	925	768	645	1400	1520	244	352	1220
19	1260	989	880	880	915	767	658	1020	1660	215	384	1220
20	1340	975	800	840	897	742	625	914	1460	246	408	1230
21	1290	938	800	860	853	732	634	859	1320	228	382	1240
22	1260	897	760	860	851	776	645	781	1260	224	354	1270
23	1260	862	740	860	850	769	640	769	1530	335	332	1320
24	1250	848	700	820	852	751	621	801	1520	393	319	1430
25	1260	838	700	760	871	733	611	874	1160	439	330	1510
26	1240	846	720	780	847	721	594	855	979	482	353	1420
27	1210	868	800	800	838	752	565	848	936	518	354	1410
28	1210	888	780	780	858	764	573	795	882	536	350	1370
29	1200	891	780	760	---	745	584	856	1460	538	352	1330
30	1180	913	760	760	---	736	562	1020	1480	476	328	1320
31	1190	---	780	780	---	707	---	940	---	393	323	---
TOTAL	40730	30948	25819	26520	25021	24129	19331	21721	52176	14969	10171	29537
MEAN	1314	1032	833	855	894	778	644	701	1739	483	328	985
MAX	1430	1250	941	1000	1020	845	695	1400	3660	1280	408	1510
MIN	1180	838	700	760	800	707	562	417	882	215	231	316
AC-FT	80790	61390	51210	52600	49630	47860	38340	43080	103500	29690	20170	58590

CAL YR 1990 TOTAL 290610 MEAN 796 MAX 1430 MIN 78 AC-FT 576400
WTR YR 1991 TOTAL 321072 MEAN 880 MAX 3660 MIN 215 AC-FT 636800

PLATTE RIVER BASIN
06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1970 to September 1981.

WATER TEMPERATURES: October 1970 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,280 microsiemens Feb. 11, 1981; minimum daily, 275 microsiemens Mar. 1, 1978.

WATER TEMPERATURES: Maximum, 31.0°C July 19, 1972; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
NOV 06...	0900	1260	905	8.4	3.0	670	25	12.2	55	560	280	38
JAN 15...	1145	1010	931	8.4	1.5	663	19	12.5	K4	250	280	37
MAR 12...	1030	834	960	8.5	5.0	663	33	11.9	K18	95	300	53
MAY 13...	0845	425	949	8.4	12.0	670	17	9.0	40	70	260	52
JUL 22...	0930	220	885	8.5	23.5	672	45	7.4	260	140	270	76
SEP 16...	1000	1250	916	8.5	13.0	673	180	9.6	800	820	280	65

K Results based on colony count outside the acceptable range (non-ideal colony count).

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)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 06...	80	20	93	2	10	245	11	277	210	23	0.20
JAN 15...	80	20	90	2	10	245	11	277	200	24	0.40
MAR 12...	85	21	95	2	11	247	7	287	220	25	0.50
MAY 13...	68	22	100	3	9.8	209	11	233	230	26	0.40
JUL 22...	74	21	87	2	11	196	7	225	220	22	0.50
SEP 16...	79	21	85	2	10	219	14	238	160	25	0.50

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
NOV 06...	36	679	635	0.92	2310	3.39	3.19	0.010	0.010	3.40	3.20
JAN 15...	35	637	621	0.87	1740	3.26	3.17	0.040	0.030	3.30	3.20
MAR 12...	37	641	659	0.87	1440	3.38	3.38	0.020	0.020	3.40	3.40
MAY 13...	35	626	629	0.85	718	--	2.48	--	0.020	--	2.50
JUL 22...	34	616	595	0.84	366	--	1.46	--	0.040	--	1.50
SEP 16...	32	616	555	0.84	2080	2.36	2.49	0.040	0.010	2.40	2.50

PLATTE RIVER BASIN

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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 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)
NOV 06...	0.020	<0.010	0.78	--	0.80	--	4.2	--	0.070	0.030	0.030
JAN 15...	0.140	0.140	0.76	--	0.90	--	4.2	--	0.050	0.050	0.040
MAR 12...	0.030	0.020	0.67	--	0.70	--	4.1	--	0.050	0.030	0.030
MAY 13...	0.020	0.010	1.2	--	1.2	--	--	--	0.090	0.030	<0.010
JUL 22...	0.020	0.030	1.1	0.67	1.1	0.70	--	2.2	0.030	<0.010	0.010
SEP 16...	0.020	0.020	1.1	--	1.1	--	3.5	--	0.350	0.040	0.030

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 06...	0900	10	5	82	<0.5	<1.0	<1	<3	2	10	<1
MAR 12...	1030	30	7	99	0.5	2.0	20	<3	2	11	1
MAY 13...	0845	<10	5	86	<0.5	<1.0	1	<3	5	8	<1
JUL 22...	0930	10	9	110	0.5	1.0	10	<3	3	4	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 06...	39	4	<0.1	<10	2	4	<1.0	870	6	10
MAR 12...	37	4	<0.1	<10	<1	3	<1.0	910	10	12
MAY 13...	41	2	<0.1	<10	1	3	<1.0	870	8	5
JUL 22...	38	4	<0.1	<10	2	3	<1.0	800	11	82

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	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)
NOV 06...	0900	1260	3.0	346	1180	33
JAN 15...	1145	1010	1.5	188	513	40
MAR 12...	1030	834	5.0	249	561	53
MAY 13...	0845	425	12.0	105	120	56
JUL 22...	0930	220	23.5	118	70	79
SEP 16...	1000	1250	13.0	590	1990	77

PLATTE RIVER BASIN

06687000 BLUE CREEK NEAR LEWELLEN, NE

LOCATION.--Lat 41°20'08", long 102°10'21", in NE1/4 sec.30, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on left bank 5 ft downstream from county highway bridge, 0.5 mi downstream from bridge on U.S. Highway 26, 0.8 mi upstream from mouth, and 1.5 mi west of Lewellen.

DRAINAGE AREA.--1,190 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year.

REVISED RECORDS.--WSP 1310: 1941(M). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,310.04 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Apr. 10, 1958. Apr. 10, 1958 to Sept. 17, 1983, recording gage at site 125 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Feb. 1, July 4-8, 15-19, and Aug. 1. Records good above 10 ft³/s and fair below, except for discharge below 2.0 ft³/s and periods of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--61 years, 68.9 ft³/s, 49,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 720 ft³/s May 20, 1938, gage height, 6.46 ft, present datum, from rating curve extended above 500 ft³/s; maximum gage height observed, 7.28 ft, Dec. 17, 1985, backwater from ice; no flow for short periods in 1940, 1947, 1957, 1960-61, 1963, 1971, 1981, 1990, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 135 ft³/s June 21, gage height, 3.95 ft; maximum gage height, 6.24 ft Jan. 30, backwater from ice; no flow Aug. 18, 22-26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	78	88	66	105	84	86	79	87	20	.10	20
2	15	77	87	68	112	81	84	82	88	31	.10	22
3	38	80	85	68	117	79	84	102	71	22	2.1	14
4	57	79	84	68	111	82	84	102	86	3.0	2.0	30
5	67	84	87	66	110	85	83	85	86	2.8	1.4	26
6	66	94	88	66	111	83	83	79	86	2.7	.95	4.6
7	69	87	86	66	110	80	82	79	91	2.6	.21	1.6
8	72	84	86	70	108	80	80	77	94	2.5	.28	3.3
9	79	86	86	72	108	79	79	69	93	3.0	.30	2.4
10	79	88	86	72	106	80	79	60	96	3.4	.28	4.4
11	77	87	87	72	105	83	80	60	91	5.6	1.8	5.6
12	79	86	87	74	103	87	85	64	85	2.8	5.8	8.4
13	77	83	81	76	102	86	85	61	83	1.7	2.6	6.9
14	75	83	85	80	100	85	84	56	82	.73	1.5	5.6
15	74	83	85	84	95	85	85	46	85	.80	1.8	5.2
16	73	82	84	90	95	83	85	56	79	.60	1.1	4.9
17	83	81	86	94	99	84	84	76	72	.40	.25	4.7
18	80	81	85	90	101	89	84	87	79	.40	.00	7.2
19	88	82	70	90	95	89	87	101	76	.20	.92	5.3
20	87	81	72	92	94	87	89	89	67	5.0	1.3	4.7
21	87	80	74	90	94	88	91	85	93	11	.18	4.5
22	86	76	76	88	92	87	96	75	74	12	.00	5.3
23	82	75	78	82	89	84	93	61	87	13	.00	6.0
24	83	76	80	80	86	83	89	71	86	18	.00	8.9
25	81	78	82	78	84	84	88	89	70	23	.00	6.3
26	78	78	78	80	85	83	86	85	58	23	.00	4.1
27	77	81	74	82	85	91	84	81	45	22	1.1	1.7
28	78	87	70	84	83	94	83	79	39	19	4.7	2.8
29	78	95	66	80	---	93	82	86	29	12	30	14
30	78	83	64	82	---	88	81	93	20	6.3	40	10
31	77	---	64	90	---	86	---	90	---	.43	29	---
TOTAL	2237	2475	2491	2440	2785	2632	2545	2405	2278	270.96	129.77	250.4
MEAN	72.2	82.5	80.4	78.7	99.5	84.9	84.8	77.6	75.9	8.74	4.19	8.35
MAX	88	95	88	94	117	94	96	102	96	31	40	30
MIN	15	75	64	66	83	79	79	46	20	.20	.00	1.6
AC-FT	4440	4910	4940	4840	5520	5220	5050	4770	4520	537	257	497

CAL YR 1990 TOTAL 23760.91 MEAN 65.1 MAX 111 MIN .00 AC-FT 47130
WTR YR 1991 TOTAL 22939.13 MEAN 62.8 MAX 117 MIN .00 AC-FT 45500

PLATTE RIVER BASIN

06687500 NORTH PLATTE RIVER AT LEWELLEN, NE

LOCATION.--Lat 41°19'01", long 102°07'32", in SE1/4NW1/4 sec.34, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on left bank 19 ft downstream from bridge on State Highway 26, 1 mi southeast of Lewellen, and approximately 0.5 mi upstream from high-water line of Lake McConaughy.

DRAINAGE AREA.--28,600 mi², approximately, of which about 25,400 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July to September 1931, December 1940 to current year.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,285.88 ft above National Geodetic Vertical Datum of 1929. July to September 1931, nonrecording gage at site 0.9 mi upstream at different datum. December 1940 to Sept. 19, 1973, water-stage recorders on two channels at present site at datum 1.28 ft lower. Sept. 21, 1973 to July 13, 1984, water-stage recorder at site 0.9 mi upstream at datum 4.28 ft higher.

REMARKS.--Estimated daily discharges: Nov. 28-30, Dec. 19 to Feb. 12, June 5-6, and July 16-17. 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.

AVERAGE DISCHARGE (since Glendo project).--34 years (water years 1958-91), 1,521 ft³/s, 1,102,000 acre-ft/yr; median of yearly mean discharges, 1,260 ft³/s, 912,900 acre-ft/yr. Figures are unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s June 4, 1971, at different datum; minimum daily, 44 ft³/s July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,830 ft³/s June 12, gage height, 6.55 ft; minimum daily, 213 ft³/s July 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	1210	1190	700	800	913	837	690	1100	1430	316	348
2	1170	1210	1140	700	840	876	820	721	1200	1230	299	341
3	1160	1240	1110	720	880	852	796	886	1210	982	276	345
4	1170	1220	1010	760	920	856	764	787	1450	757	260	355
5	1160	1180	1120	780	980	861	766	701	1460	701	259	371
6	1120	1240	1140	780	980	842	785	695	1470	627	255	380
7	1140	1240	1090	800	1000	830	790	699	1480	563	259	444
8	1230	1220	1060	820	1000	806	796	688	1930	497	243	533
9	1230	1240	1040	840	1000	786	792	653	1930	450	238	595
10	1240	1240	1030	860	1000	778	774	560	2000	422	260	654
11	1240	1240	1060	880	980	802	802	539	2780	385	310	852
12	1220	1230	1060	900	940	867	834	513	3750	385	329	974
13	1220	1210	1050	940	917	892	803	474	3470	399	328	1110
14	1250	1200	1070	960	876	870	787	456	3500	359	353	1230
15	1260	1190	1060	980	841	877	786	411	3190	315	370	1220
16	1250	1160	1010	980	863	891	777	530	2470	270	399	1270
17	1240	1160	1070	980	885	909	773	1070	2200	250	396	1300
18	1210	1170	1040	960	915	932	741	1680	1920	235	366	1270
19	1210	1200	980	940	935	913	764	1480	1890	213	338	1180
20	1260	1200	900	900	917	915	785	1170	1760	242	335	1180
21	1260	1180	880	900	883	858	790	1050	1740	281	346	1170
22	1240	1120	840	900	873	836	802	963	1460	270	324	1170
23	1230	1090	820	900	873	858	784	866	1620	260	315	1200
24	1230	1080	820	880	873	864	773	969	1830	315	319	1270
25	1240	1060	820	840	873	875	752	1060	1680	375	324	1430
26	1230	1050	800	840	872	883	738	981	1370	400	323	1480
27	1230	1050	780	840	862	995	723	903	1210	435	338	1430
28	1200	1040	760	820	877	981	713	875	1100	448	358	1460
29	1170	1040	740	800	---	900	710	924	1010	458	435	1480
30	1200	1060	720	800	---	860	675	1020	1600	430	406	1470
31	1200	---	700	800	---	834	---	1240	---	376	376	---
TOTAL	37590	34970	29910	26500	25455	27012	23232	26254	56780	14760	10053	29512
MEAN	1213	1166	965	855	909	871	774	847	1893	476	324	984
MAX	1260	1240	1190	980	1000	995	837	1680	3750	1430	435	1480
MIN	1120	1040	700	700	800	778	675	411	1010	213	238	341
AC-FT	74560	69360	59330	52560	50490	53580	46080	52070	112600	29280	19940	58540

CAL YR 1990 TOTAL 313329 MEAN 858 MAX 1350 MIN 107 AC-FT 621500
WTR YR 1991 TOTAL 342028 MEAN 937 MAX 3750 MIN 213 AC-FT 678400

PLATTE RIVER BASIN

107

06690000 LAKE MCCONAUGHY NEAR KEYSTONE, NE

LOCATION.--Lat 41°12'45", long 101°40'03", in NW1/4SW1/4 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.

DRAINAGE AREA.--29,300 mi², approximately, of which about 25,800 mi² contributes directly to surface runoff.

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

GAGE.--Electric tape gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam; storage began Feb. 9, 1941. Capacity, 1,948,000 acre-ft 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; minimum observed since operation of reservoir began, 32,860 acre-ft Sept. 29, 1941, elevation, 3,153.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,276,000 acre-ft June 24-25, elevation, 3,248.1 ft; minimum observed, 822,800 acre-ft Sept. 10, elevation, 3,227.3 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,231.0	896,100	-
Oct. 31	3,233.4	945,300	+49,000
Nov. 30	3,235.7	993,600	+48,000
Dec. 31	3,237.1	1,024,000	+30,000
CAL YR 1990	-	-	-213,000
Jan. 31	3,238.8	1,060,000	+36,000
Feb. 28	3,241.0	1,109,000	+49,000
Mar. 31	3,242.9	1,153,000	+44,000
Apr. 30	3,243.9	1,176,000	+23,000
May 31	3,245.3	1,209,000	+33,000
June 30	3,247.3	1,257,000	+48,000
July 31	3,237.0	1,021,000	-236,000
Aug. 31	3,228.2	840,300	-181,000
Sept. 30	3,228.8	852,200	+12,000
WTR YR 1991	-	-	-44,000

PLATTE RIVER BASIN

06690500 NORTH PLATTE RIVER NEAR KEYSTONE, NE

LOCATION.--Lat 41°12'30", long 101°37'50", in SW1/4 sec.1, T.14 N., R.38 W., Keith County, Hydrologic Unit 10180014, on right bank 0.2 mi downstream from diversion dam of Sutherland Reservoir supply canal and 2.5 mi southwest of Keystone.

DRAINAGE AREA.--29,300 mi², approximately, of which about 25,800 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June to August 1917, July to September 1939, May to September 1940, January to April 1941, March 1942 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1942, 1946-47. WSP 1630: 1958. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,105.59 ft above National Geodetic Vertical Datum of 1929 (Nebraska Public Power District bench mark). See WSP 1918 for history of changes prior to May 1, 1964.

REMARKS.--Estimated daily discharges Dec. 29 to Feb. 21. Records good. 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. Flow completely regulated by Lake McConaughy (station 06690000) since Feb. 9, 1941. Supply canal for Nebraska Public Power District diverts 0.2 mi upstream from station.

AVERAGE DISCHARGE.--49 years (water years 1943-91), 526 ft³/s, 381,100 acre-ft/yr; median of yearly mean discharges, 370 ft³/s, 268,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s June 30, 1917, from graph based on daily gage readings; no flow for many days in 1975-91.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,980 ft³/s July 5, gage height, 5.30 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	27	29	25	24	28	20	40	57	2330	2270	229
2	29	26	27	26	24	26	20	41	57	2390	2340	249
3	32	26	27	26	24	25	21	45	55	2440	2200	275
4	34	25	27	26	24	22	20	43	54	2500	2210	271
5	39	26	27	26	25	21	21	43	51	2790	2100	264
6	36	25	27	26	25	20	21	43	50	2780	2000	275
7	41	26	28	26	25	19	21	44	51	2570	1830	268
8	42	25	29	26	25	19	21	42	52	2510	1700	270
9	37	26	27	26	25	20	18	41	54	2550	1780	256
10	34	26	26	26	25	20	14	41	62	2590	1790	262
11	32	31	27	26	25	20	22	40	76	2510	1480	178
12	30	25	27	26	25	20	32	41	128	2470	934	59
13	30	13	26	26	25	18	32	43	186	2480	680	47
14	25	21	26	26	25	18	32	42	191	2480	750	41
15	22	20	25	26	25	18	32	83	188	2480	761	37
16	31	27	25	26	25	18	30	129	295	2550	715	32
17	31	27	25	25	25	17	29	114	601	2590	669	27
18	31	29	25	25	25	18	24	121	635	2600	676	.15
19	34	29	24	25	26	17	22	136	505	2600	873	.00
20	33	30	23	25	26	19	19	121	395	2590	1190	.00
21	31	35	22	25	26	19	18	101	429	2640	1600	.00
22	34	35	23	25	26	19	19	90	574	2650	1790	.00
23	47	35	24	24	26	18	45	92	619	2490	1820	.00
24	41	34	25	24	26	17	43	98	643	2300	1820	.00
25	33	35	27	24	26	18	44	91	964	2230	1830	.00
26	31	34	27	24	26	19	45	90	1450	2180	1840	.00
27	30	35	27	24	25	20	45	89	1900	2180	1800	.00
28	28	32	25	24	25	19	44	89	2300	2150	1710	.00
29	28	29	25	24	---	19	45	91	2230	2090	1460	.00
30	28	29	25	24	---	20	45	70	2230	2100	701	.00
31	27	---	25	24	---	20	---	57	---	2140	296	---
TOTAL	1014	843	802	781	704	611	864	2251	17082	75950	45615	3040.15
MEAN	32.7	28.1	25.9	25.2	25.1	19.7	28.8	72.6	569	2450	1471	101
MAX	47	35	29	26	26	28	45	136	2300	2790	2340	275
MIN	22	13	22	24	24	17	14	40	50	2090	296	.00
AC-FT	2010	1670	1590	1550	1400	1210	1710	4460	33880	150600	90480	6030

CAL YR 1990 TOTAL 150800.00 MEAN 413 MAX 2820 MIN .00 AC-FT 299100
WTR YR 1991 TOTAL 149557.15 MEAN 410 MAX 2790 MIN .00 AC-FT 296600

PLATTE RIVER BASIN

109

06691000 NORTH PLATTE RIVER NEAR SUTHERLAND, NE

LOCATION.--Lat 41°12'37", long 101°06'53", in sec.4, T.14 N., R.33 W., Lincoln County, Hydrologic Unit 10180014, on left bank 80 ft downstream from bridge on county road, 2.5 mi upstream from Birdwood Creek, and 3.5 mi north of Sutherland.

DRAINAGE AREA.--29,800 mi², approximately, of which about 26,120 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--June to October 1917, July 1931 to August 1933 (irrigation seasons only), May to September 1935, May 1936 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 976: 1942. WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft, from topographic map. Prior to Apr. 29, 1936, nonrecording gage near present site at different datums. Apr. 29, 1936 to Oct. 6, 1971, water-stage recorder at site 80 ft upstream and Oct. 7, 1971 to Sept. 30, 1984 at present site, all at datum 1.0 ft higher.

REMARKS.--Estimated daily discharges: Oct. 8-16, Nov. 28 to Dec. 2, Dec. 20 to Feb. 7, 16-21, and Apr. 3-8. Records good except for periods of estimated record, which are fair. 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.

AVERAGE DISCHARGE.--49 years (water years 1943-91), 529 ft³/s, 383,300 acre-ft/yr; median of yearly mean discharges, 364 ft³/s, 264,000 acre-ft/yr. Figures unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s June 29, 1917, from discharge graph based on daily gage readings, from rating curve extended above 16,000 ft³/s; no flow July 24-28, 30, 31, 1931, Aug. 7, 1934, July 20-28, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s July 7, gage height, 4.00 ft; minimum daily discharge, 30 ft³/s Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	127	128	112	165	142	146	98	300	1550	1630	180
2	134	128	128	114	175	145	143	96	270	1580	1760	97
3	166	156	127	110	180	144	140	260	232	1600	1780	67
4	144	154	124	108	180	144	135	234	203	1650	1750	47
5	146	150	135	108	185	142	130	177	107	1780	1820	34
6	144	163	140	108	180	140	130	153	74	2050	1780	31
7	142	147	142	110	180	137	125	141	73	2080	1690	30
8	140	140	139	112	159	137	120	130	65	1880	1500	30
9	138	142	139	112	155	137	120	117	58	1910	1450	47
10	136	149	137	114	152	137	118	111	61	2020	1500	113
11	134	149	133	116	155	137	123	109	55	2100	1480	304
12	132	140	133	120	155	141	131	104	53	2020	1160	324
13	128	138	133	122	155	142	134	98	59	1980	671	249
14	124	128	134	125	159	140	133	63	101	1960	475	210
15	122	124	131	125	151	141	134	57	103	1930	505	167
16	120	120	140	130	160	145	133	66	84	1920	442	151
17	119	121	140	130	160	155	133	157	156	1960	431	156
18	119	125	136	130	155	162	131	177	450	1970	415	150
19	119	126	107	130	150	153	141	147	493	1950	392	137
20	130	124	100	135	145	149	138	144	368	1950	579	146
21	131	123	90	135	145	148	146	135	213	1930	856	135
22	124	122	96	135	142	165	163	113	226	1940	1220	128
23	125	122	98	135	138	155	138	106	415	2060	1350	126
24	135	123	100	135	140	146	134	113	498	2020	1390	126
25	139	121	100	135	138	144	100	135	498	1870	1390	122
26	130	123	102	135	138	141	93	130	726	1830	1370	117
27	123	128	106	140	139	163	103	118	1050	1810	1340	117
28	123	128	106	145	142	177	85	124	1410	1780	1240	112
29	125	128	106	150	---	169	90	387	1600	1680	1260	110
30	127	128	108	155	---	159	98	435	1560	1560	910	111
31	127	---	110	160	---	149	---	367	---	1570	433	---
TOTAL	4076	3997	3748	3931	4378	4586	3788	4802	11561	57890	35969	3874
MEAN	131	133	121	127	156	148	126	155	385	1867	1160	129
MAX	166	163	142	160	185	177	163	435	1600	2100	1820	324
MIN	119	120	90	108	138	137	85	57	53	1550	392	30
AC-FT	8080	7930	7430	7800	8680	9100	7510	9520	22930	114800	71340	7680

CAL YR 1990 TOTAL 138801 MEAN 380 MAX 2340 MIN 54 AC-FT 275300
WTR YR 1991 TOTAL 142600 MEAN 391 MAX 2100 MIN 30 AC-FT 282800

PLATTE RIVER BASIN

06692000 BIRDWOOD CREEK NEAR HERSHEY, NE

LOCATION.--Lat 41°13'20", long 101°04'12", in NE1/4NW1/4 sec.2, T.14 N., R.33 W., Lincoln County, Hydrologic Unit 10180014, on left bank 60 ft downstream from bridge on county road, 1 mi upstream from mouth, and 5 mi northwest of Hershey.

DRAINAGE AREA.--940 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May 1931 to current year.

REVISED RECORDS.--WSP 1390: 1948(M), 1949, 1951-52(M). WDR NE-67, WDR NE 76-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,920 ft above National Geodetic Vertical Datum of 1929, from topographic map. Jan. 1, 1931, to Dec. 16, 1934, nonrecording gage and Dec. 17, 1934 to Nov. 4, 1953, water-stage recorder, at site 50 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 13. Records good except for period of estimated record, which is fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--60 years, 151 ft³/s, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s Apr. 1, 1949, gage height, 4.35 ft, from rating curve extended above 680 ft³/s; maximum gage height, 5.12 ft Dec. 15, 1940, backwater from ice; minimum daily discharge, 61 ft³/s Jan. 19, 1935, Apr. 7, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 290 ft³/s Sept. 12, gage height, 2.34 ft; maximum gage height, 3.25 ft, Jan. 12, backwater from ice; minimum daily discharge, 100 ft³/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	162	185	165	160	163	164	155	166	138	120	103
2	130	163	182	160	162	156	167	158	168	137	120	102
3	148	161	178	160	167	160	165	193	164	134	119	103
4	139	152	176	150	167	161	165	163	166	131	119	101
5	139	156	188	155	166	162	166	160	160	127	119	102
6	139	161	187	155	166	158	166	156	166	121	115	104
7	139	152	181	160	166	158	166	160	166	121	115	105
8	142	152	187	165	166	159	165	159	164	117	117	104
9	142	156	184	165	165	158	165	157	162	116	114	107
10	141	160	185	165	166	157	162	157	165	116	111	129
11	144	161	186	170	165	159	164	156	162	120	111	162
12	145	160	181	175	167	164	169	157	157	116	120	181
13	148	158	180	180	167	156	166	153	156	112	120	192
14	148	162	183	179	162	160	165	152	159	109	115	151
15	146	162	178	172	158	164	165	153	168	109	113	135
16	151	160	176	168	163	162	166	159	159	109	115	133
17	156	162	183	166	167	162	165	181	168	108	113	134
18	151	167	181	169	167	167	163	167	163	108	112	135
19	155	168	172	169	157	164	172	159	164	109	111	135
20	158	167	150	164	165	166	165	159	159	108	110	135
21	155	173	140	165	168	166	167	158	161	108	111	139
22	155	170	145	162	163	171	166	159	161	111	109	131
23	157	170	150	161	161	161	162	159	168	116	109	137
24	156	178	150	159	159	162	164	154	162	115	109	137
25	157	177	155	157	158	166	163	158	161	114	109	138
26	158	183	160	157	160	165	164	155	157	113	106	134
27	153	177	160	159	161	168	160	159	153	115	104	136
28	151	178	160	157	162	165	157	160	151	117	100	135
29	159	171	140	162	---	166	157	200	148	121	101	136
30	161	185	150	172	---	165	156	172	141	122	102	136
31	161	---	160	158	---	163	---	165	---	121	104	---
TOTAL	4615	4964	5273	5081	4581	5034	4927	5013	4825	3639	3473	3912
MEAN	149	165	170	164	164	162	164	162	161	117	112	130
MAX	161	185	188	180	168	171	172	200	168	138	120	192
MIN	130	152	140	150	157	156	156	152	141	108	100	101
AC-FT	9150	9850	10460	10080	9090	9980	9770	9940	9570	7220	6890	7760

CAL YR 1990 TOTAL 54373 MEAN 149 MAX 203 MIN 93 AC-FT 107800
WTR YR 1991 TOTAL 55337 MEAN 152 MAX 200 MIN 100 AC-FT 109800

PLATTE RIVER BASIN

111

06693000 NORTH PLATTE RIVER AT NORTH PLATTE, NE

LOCATION.--Lat 41°09'13", long 100°45'16", in sec.28, T.14 N., R.30 W., Lincoln County, Hydrologic Unit 10180014, on right bank 150 ft downstream from bridge on U.S. Highway 83, 0.5 mi north of city of North Platte, and 4.5 mi upstream from confluence with South Platte River.

DRAINAGE AREA.--30,900 mi², approximately, of which about 26,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1895 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area. WSP 2118: 1915(M).

GAGE.--Water-stage recorder. Datum of gage is 2,792.14 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads bench mark). See WSP 2118 for history of changes prior to June 3, 1968.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 2, Dec. 19 to Feb. 8, and Feb. 15, 16. Records good except for period of estimated record, which are fair. 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.

AVERAGE DISCHARGE.--49 years (water years 1943-91), 767 ft³/s, 557,700 acre-ft/yr; median of yearly mean discharges, 599 ft³/s, 434,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 29,600 ft³/s June 11, 1909, discharge measurement; minimum daily, 20 ft³/s Sept. 20, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,190 ft³/s July 24, gage height, 4.87 ft; minimum daily, 263 ft³/s Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	326	380	350	410	360	369	360	619	1620	1610	511
2	334	327	390	360	410	353	363	350	590	1660	1670	384
3	418	360	393	360	410	344	351	608	543	1680	1720	320
4	394	373	385	360	410	349	355	674	515	1700	1610	282
5	384	369	376	370	410	352	354	535	446	1740	1650	278
6	353	380	374	370	410	347	353	466	402	1820	1680	272
7	350	375	369	370	400	338	351	428	369	2020	1570	279
8	367	370	366	380	380	336	341	397	359	2010	1510	271
9	374	378	370	380	367	349	331	381	347	1950	1360	263
10	367	389	360	380	354	360	316	348	339	1980	1390	300
11	346	392	367	390	363	370	327	337	321	2090	1460	512
12	341	385	375	400	375	371	324	339	289	2070	1410	571
13	336	384	374	420	366	379	336	330	285	1960	1090	629
14	335	384	373	430	365	381	346	314	285	1960	756	553
15	332	355	354	430	360	381	338	309	308	1960	652	470
16	330	361	348	440	380	381	334	345	317	1960	670	430
17	324	368	344	440	394	383	326	427	304	1950	593	400
18	317	361	345	440	413	383	324	499	372	1950	574	393
19	306	364	340	440	399	378	346	431	545	1920	537	381
20	331	360	340	440	396	369	363	405	573	1920	557	371
21	341	367	330	400	394	372	368	382	505	1910	675	361
22	331	371	330	410	379	397	399	356	471	1930	1000	352
23	324	361	330	420	364	411	365	310	549	2050	1360	349
24	329	364	320	400	365	360	342	342	638	2150	1460	347
25	335	373	320	390	370	354	354	388	638	1970	1460	345
26	343	367	320	400	374	347	334	409	651	1870	1440	338
27	336	370	330	400	373	353	341	394	965	1810	1410	333
28	301	370	340	400	368	377	348	383	1200	1760	1390	323
29	323	370	340	390	---	377	363	514	1580	1700	1310	323
30	332	380	350	410	---	376	360	771	1680	1610	1260	324
31	326	---	350	410	---	371	---	699	---	1560	835	---
TOTAL	10564	11054	10983	12380	10759	11359	10422	13231	17005	58240	37669	11265
MEAN	341	368	354	399	384	366	347	427	567	1879	1215	375
MAX	418	392	393	440	413	411	399	771	1680	2150	1720	629
MIN	301	326	320	350	354	336	316	309	285	1560	537	263
AC-FT	20950	21930	21780	24560	21340	22530	20670	26240	33730	115500	74720	22340

CAL YR 1990 TOTAL 212356 MEAN 582 MAX 2640 MIN 227 AC-FT 421200
WTR YR 1991 TOTAL 214931 MEAN 589 MAX 2150 MIN 263 AC-FT 426300

PLATTE RIVER BASIN

06762500 LODGEPOLE CREEK AT BUSHNELL, NE

LOCATION.--Lat 41°13'50", long 103°53'28", in sec.32, T.15 N., R.57 W., Kimball County, Hydrologic Unit 10190016, on right bank 0.1 mi south of Bushnell at south end of highway bridge on State Highway 53c.

DRAINAGE AREA.--1,350 mi².

PERIOD OF RECORD.--October 1931 to current year. Records for March to September 1931 at site 1.5 mi upstream not equivalent owing to diversions. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1933, 1935, 1937-38, 1941, 1948-49. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,845.31 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1938, nonrecording gage, Mar. 26, 1938 to July 2, 1981 water stage recorder, July 3, 1981 to Sept. 30, 1981 a nonrecording gage at previous site 1.7 mi downstream from present site at datum 33.01 ft lower.

REMARKS.--Estimated daily discharges: Dec. 3, 7, 15, and Dec. 19 to Jan. 10. Records good except for periods of estimated record, which are poor. Natural flow or stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas. Diversions for irrigation of about 12,600 acres above station.

AVERAGE DISCHARGE.--60 years, 10.2 ft³/s, 7,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s Sept. 15, 1950, gage height, 9.98 ft, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 10.06 ft July 2, 1981, from highwater mark, site and datum then in use; minimum daily discharge, 0.09 ft³/s July 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 463 ft³/s Aug. 12, gage height, 2.91 ft; minimum daily discharge, 1.6 ft³/s Sept. 5-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.3	3.4	3.5	4.2	4.3	4.7	3.9	3.7	3.1	2.5	1.8
2	2.6	3.3	3.7	3.5	4.1	4.1	4.7	4.0	10	3.0	2.5	1.8
3	2.5	3.6	3.6	3.5	4.2	4.2	4.6	4.0	73	2.9	2.5	1.7
4	2.5	3.5	3.5	3.5	4.1	4.4	4.5	3.9	19	2.8	2.5	1.7
5	2.5	3.7	3.6	3.5	4.1	4.4	4.3	3.8	30	2.8	2.5	1.6
6	2.6	3.8	3.4	3.5	4.1	4.2	4.3	3.7	11	2.6	2.4	1.6
7	2.9	3.5	3.4	3.5	4.1	4.3	4.0	4.0	7.5	2.5	2.3	1.6
8	3.1	3.7	3.4	3.5	4.1	4.1	4.2	3.9	6.0	2.5	2.3	1.9
9	3.0	3.8	3.5	3.5	4.0	4.2	4.1	3.7	7.5	2.6	2.3	2.2
10	3.1	3.8	3.6	3.5	4.0	4.5	4.3	3.3	12	2.6	2.2	2.1
11	3.0	3.8	3.5	3.3	4.0	4.6	4.3	3.3	6.2	2.7	15	2.3
12	3.0	3.7	3.4	3.4	4.2	4.6	4.6	3.2	5.3	2.6	74	2.6
13	3.1	3.6	3.4	3.5	4.1	4.7	4.5	3.2	5.2	2.5	3.5	2.4
14	2.9	3.5	3.3	3.4	4.0	4.4	4.7	3.1	4.8	2.5	3.1	2.5
15	3.0	3.4	3.4	3.5	4.0	4.2	4.5	3.1	4.7	2.5	2.9	2.5
16	3.0	3.4	3.4	3.9	4.1	4.2	4.1	5.0	4.5	2.4	2.8	2.5
17	2.9	3.5	3.4	3.8	4.1	4.3	3.9	4.8	4.5	2.4	2.7	2.6
18	3.0	3.5	3.4	3.7	4.1	4.3	3.8	4.0	4.5	2.4	2.7	2.6
19	3.1	3.5	3.4	3.5	4.0	4.4	3.8	3.6	4.4	2.4	2.8	2.7
20	3.0	3.5	3.4	3.4	4.1	4.2	3.8	3.6	4.4	2.3	2.5	2.8
21	3.0	3.3	3.4	3.5	4.1	4.4	4.2	3.7	4.3	2.2	2.5	2.7
22	3.1	3.2	3.4	3.6	4.1	4.7	4.4	3.5	4.2	2.2	2.5	2.7
23	3.0	3.3	3.4	5.4	4.1	4.5	4.2	3.3	4.2	2.3	2.4	2.8
24	3.1	3.4	3.4	4.4	3.9	4.6	4.3	5.2	4.1	2.5	2.3	3.0
25	3.2	3.4	3.4	4.4	4.1	4.7	4.2	3.8	3.9	2.5	2.4	3.2
26	3.0	3.4	3.4	4.5	4.1	4.5	4.0	3.6	3.8	2.4	2.2	3.2
27	3.0	3.3	3.4	4.4	4.1	4.3	3.9	3.6	3.8	2.5	2.2	3.4
28	3.1	3.2	3.4	4.4	4.2	4.5	3.9	3.5	3.7	2.5	2.1	3.4
29	3.2	3.3	3.4	4.5	---	4.5	3.9	3.3	3.4	2.7	2.1	3.4
30	3.2	3.6	3.5	5.5	---	4.5	3.9	3.4	3.2	2.5	2.1	3.5
31	3.3	---	3.5	4.5	---	4.6	---	3.4	---	2.5	1.8	---
TOTAL	91.5	104.8	106.7	119.5	114.4	136.4	126.6	115.4	266.8	78.9	160.6	74.8
MEAN	2.95	3.49	3.44	3.85	4.09	4.40	4.22	3.72	8.89	2.55	5.18	2.49
MAX	3.3	3.8	3.7	5.5	4.2	4.7	4.7	5.2	73	3.1	74	3.5
MIN	2.5	3.2	3.3	3.3	3.9	4.1	3.8	3.1	3.2	2.2	1.8	1.6
AC-FT	181	208	212	237	227	271	251	229	529	156	319	148

CAL YR 1990 TOTAL 1529.1 MEAN 4.19 MAX 134 MIN 1.5 AC-FT 3030
WTR YR 1991 TOTAL 1496.4 MEAN 4.10 MAX 74 MIN 1.6 AC-FT 2970

PLATTE RIVER BASIN

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW1/4NE1/4 and NE1/4SE1/4 (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, 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 mi².

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.--Two water-stage recorders with satellite telemetry. Datum of gages is 3,446.76 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 18 and July 7-17. Records fair. 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 collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--89 years, 542 ft³/s; 392,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft³/s, June 20, 1965, gage height, 10.44 ft, from floodmarks in gage well; no flow, Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,150 ft³/s, June 7, gage height, 5.48 ft, maximum gage height, 5.94 ft, Feb. 6 (backwater from ice); minimum daily discharge, 31 ft³/s, Aug. 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	134	277	850	1210	453	396	102	133	81	48	37
2	271	129	330	855	1220	451	394	122	177	78	48	39
3	246	139	366	850	1160	469	396	202	197	65	47	40
4	220	139	389	835	1220	456	392	132	229	58	46	46
5	205	147	417	810	1260	445	392	119	268	51	48	58
6	187	150	440	860	1280	448	390	108	740	50	46	104
7	187	150	396	880	1140	445	369	121	1880	53	52	94
8	202	147	351	930	1080	442	335	121	1490	53	55	91
9	229	149	334	925	1010	431	285	117	1210	51	41	104
10	232	146	321	890	950	431	251	102	1110	44	39	137
11	228	142	301	860	920	435	229	86	1350	44	135	161
12	239	139	288	825	807	449	230	72	1390	44	204	249
13	194	138	275	715	745	439	220	65	1230	38	171	348
14	182	135	274	725	678	440	223	58	1500	36	139	446
15	162	128	283	735	642	451	223	53	1680	42	92	631
16	153	125	286	750	634	442	242	79	1460	43	61	668
17	138	127	289	770	603	441	344	90	1440	43	45	671
18	126	130	289	670	583	460	339	80	1420	44	38	664
19	126	130	291	460	613	459	286	80	1660	39	35	596
20	132	130	301	460	597	381	256	73	1620	37	45	590
21	126	127	306	420	562	318	244	69	1290	44	48	640
22	131	124	601	450	498	261	235	70	883	49	45	544
23	129	170	671	550	458	252	204	71	644	58	41	423
24	124	203	701	580	443	244	183	111	496	45	37	369
25	125	220	702	715	409	243	144	137	390	42	35	325
26	127	224	584	935	432	233	134	105	340	41	31	274
27	126	234	725	1000	452	253	119	105	274	44	31	201
28	129	241	770	1060	449	246	100	109	178	42	38	185
29	131	236	785	1080	---	266	94	120	128	70	41	172
30	132	248	815	1220	---	381	109	153	97	63	36	163
31	132	---	830	1160	---	404	---	133	---	53	36	---
TOTAL	5352	4781	13988	24825	22055	11969	7758	3165	26904	1545	1854	9070
MEAN	173	159	451	801	788	386	259	102	897	49.8	59.8	302
MAX	281	248	830	1220	1280	469	396	202	1880	81	204	671
MIN	124	124	274	420	409	233	94	53	97	36	31	37
AC-FT	10620	9480	27750	49240	43750	23740	15390	6280	53360	3060	3680	17990

CAL YR 1990 TOTAL 148138 MEAN 406 MAX 1530 MIN 19 AC-FT 293800
WTR YR 1991 TOTAL 133266 MEAN 365 MAX 1880 MIN 31 AC-FT 264300

PLATTE RIVER BASIN

06764880 SOUTH PLATTE RIVER AT ROSCOE, NE

LOCATION.--Lat 41°07'33" long 101°34'35", in NW1/4SW1/4 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.

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

GAGE.--Water-stage recorder. Elevation of gage is 3,150 ft, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 27 to Feb. 11. Records good except for periods of estimated record, which are fair. 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.

AVERAGE DISCHARGE.--9 years, 1,058 ft³/s, 766,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,700 ft³/s July 2, 1983, gage height, 9.31 ft; maximum gage height, 10.23 ft Dec. 16, 1984, backwater from ice; minimum daily discharge, 0.5 ft³/s July 28, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,150 ft³/s June 20, gage height, 6.20 ft; maximum gage height, 6.78 ft Feb. 6, backwater from ice; minimum daily discharge, 0.71 ft³/s Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	119	210	200	800	429	365	140	177	95	17	3.2
2	239	113	240	205	880	420	368	153	174	77	12	2.8
3	236	127	280	205	900	454	366	339	186	73	9.5	1.3
4	214	132	300	205	940	475	364	319	204	69	7.8	.71
5	209	138	300	200	980	463	366	230	224	63	6.9	.75
6	180	143	290	200	1000	438	360	201	259	59	7.9	1.3
7	164	139	300	205	1000	423	350	198	472	59	7.0	1.1
8	167	144	300	210	1020	410	340	198	1600	57	6.0	1.1
9	181	143	300	220	1040	405	328	194	1650	58	5.0	2.7
10	199	145	300	240	1100	411	312	189	1420	54	4.9	15
11	211	147	300	260	1120	424	298	179	1280	50	4.4	25
12	207	142	280	280	1150	434	279	156	1290	46	4.3	51
13	220	137	260	300	1030	436	268	133	1400	42	39	91
14	210	131	240	340	824	426	259	124	1280	38	21	98
15	188	136	240	380	723	428	259	106	1300	34	11	178
16	181	124	260	380	717	443	252	111	1540	32	11	321
17	160	114	260	420	677	451	252	165	1510	29	6.5	403
18	149	126	260	440	650	448	289	168	1540	25	4.6	456
19	155	130	220	480	600	445	314	142	1730	21	3.6	469
20	139	132	190	460	560	452	279	138	2030	19	5.0	464
21	152	133	180	480	515	406	257	133	1960	17	6.5	467
22	150	130	180	500	486	373	242	121	1920	17	7.8	423
23	144	130	190	540	445	326	226	113	1380	20	6.6	383
24	138	137	200	580	410	298	216	111	1040	23	4.2	342
25	135	168	200	600	399	287	212	139	762	24	3.0	318
26	130	185	200	640	399	277	199	156	556	28	1.6	285
27	123	190	200	660	407	279	177	149	411	27	1.4	268
28	116	185	190	660	427	281	169	140	277	24	1.3	216
29	114	190	190	660	---	265	159	212	200	18	14	186
30	117	200	190	720	---	270	143	216	138	16	9.2	174
31	121	---	210	760	---	336	---	193	---	30	4.6	---
TOTAL	5287	4310	7460	12630	21199	12113	8268	5266	29910	1244	254.6	5647.96
MEAN	171	144	241	407	757	391	276	170	997	40.1	8.21	188
MAX	239	200	300	760	1150	475	368	339	2030	95	39	469
MIN	114	113	180	200	399	265	143	106	138	16	1.3	.71
AC-FT	10490	8550	14800	25050	42050	24030	16400	10450	59330	2470	505	11200
CAL YR 1990	TOTAL	135084.0	MEAN	370	MAX	1450	MIN	1.3	AC-FT	267900		
WTR YR 1991	TOTAL	113589.56	MEAN	311	MAX	2030	MIN	.71	AC-FT	225300		

PLATTE RIVER BASIN

115

06765500 SOUTH PLATTE RIVER AT NORTH PLATTE, NE

LOCATION.--Lat 41°07'08", long 100°45'45", in NE1/4NW1/4 sec.9, T.13 N., R.30 W., Lincoln County, Hydrologic Unit 10190018, on left bank 50 ft downstream from bridge on U.S. Highway 83, 0.5 mi north of intersection of U.S. Highway 83 and Interstate 80 south of North Platte, and 4.5 mi upstream from confluence with North Platte River.

DRAINAGE AREA.--24,300 mi², approximately.

PERIOD OF RECORD.--June to November 1897, June to August 1914, May to September 1915, and May 1917 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1932-33, 1935.

GAGE.--Water-stage recorder. Datum of gage is 2,787.73 ft above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Dec. 11, 1956. Dec. 11, 1956, to Mar. 29, 1973, at site 50 ft upstream at same datum. Mar. 30, 1973, to Aug. 12, 1981, at site 0.5 mi upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 27-29, Dec. 19 to Jan. 18 and Jan. 29-31. Records good except for periods of estimated record, which are fair. 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. South Platte canal diverts around station; diversion began Nov. 13, 1946.

AVERAGE DISCHARGE.--45 years (water years 1947-91, since Sutherland Canal diversion), 441 ft³/s, 319,500 acre-ft/yr; median of yearly mean discharges, 254 ft³/s, 184,200 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 37,100 ft³/s June 3, 1935, gage height, 14.02 ft, present datum; no flow at times in summers of most years prior to 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1400 ft³/s June 23, gage height, 3.34 ft; minimum daily, 90 ft³/s Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	161	170	155	160	255	198	154	339	322	115	107
2	258	173	175	150	170	243	239	171	305	300	132	101
3	284	201	180	160	168	239	197	330	265	251	150	90
4	275	191	170	160	239	200	196	319	254	239	126	101
5	237	170	160	160	283	184	216	328	220	236	155	107
6	182	179	176	160	336	209	202	267	216	197	126	120
7	161	161	197	160	399	210	187	218	262	180	108	108
8	152	155	192	165	540	185	165	193	275	179	120	110
9	141	155	179	170	741	195	155	208	283	190	120	129
10	147	176	170	170	888	208	159	218	503	191	140	157
11	145	172	169	175	886	191	162	190	617	203	163	188
12	160	166	169	180	875	182	162	197	544	189	141	133
13	181	160	161	180	832	187	152	200	511	182	138	148
14	187	150	149	190	620	203	133	182	572	175	149	141
15	193	138	152	190	375	191	124	163	602	173	132	127
16	181	141	153	200	285	158	144	166	621	153	134	123
17	169	144	152	210	298	184	151	231	576	151	122	105
18	182	141	167	220	297	201	141	230	579	165	117	107
19	181	144	165	202	246	197	151	233	616	150	102	122
20	177	149	160	200	251	173	167	213	616	147	109	134
21	154	147	155	201	245	214	172	210	751	164	127	140
22	155	169	145	173	220	246	184	208	807	147	126	157
23	164	156	150	141	188	186	153	235	1190	187	110	158
24	168	158	150	161	231	187	142	239	999	177	110	143
25	155	154	150	146	244	199	147	255	772	166	118	138
26	145	159	155	134	246	208	153	242	595	174	116	145
27	140	155	155	157	218	178	156	238	436	142	104	157
28	131	155	155	158	224	193	174	246	399	152	114	141
29	139	155	155	150	---	202	181	337	413	169	111	148
30	147	159	155	150	---	195	160	380	363	156	101	132
31	163	---	155	150	---	171	---	349	---	138	103	---
TOTAL	5484	4794	5046	5278	10705	6174	5023	7350	15501	5745	3839	3917
MEAN	177	160	163	170	382	199	167	237	517	185	124	131
MAX	284	201	197	220	888	255	239	380	1190	322	163	188
MIN	131	138	145	134	160	158	124	154	216	138	101	90
AC-FT	10880	9510	10010	10470	21230	12250	9960	14580	30750	11400	7610	7770

CAL YR 1990 TOTAL 61161 MEAN 168 MAX 540 MIN 68 AC-FT 121300
WTR YR 1991 TOTAL 78856 MEAN 216 MAX 1190 MIN 90 AC-FT 156400

PLATTE RIVER BASIN

06766000 PLATTE RIVER AT BRADY, NE

LOCATION.--Lat 41°01'10", long 100°22'16" (north channel only), on two channels in secs.11 and 23, T.12 N., R.27 W., Lincoln County, Hydrologic Unit 10200101, on downstream side of highway bridges 0.5 mi and 2.5 mi, respectively, south of Brady and 18 mi downstream from confluence of North Platte and South Platte Rivers.

DRAINAGE AREA.--56,200 mi², approximately, of which about 51,400 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May to September 1937, May 1938 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1941(M). WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Two water-stage recorders. Datum of gage on north channel is 2,639.19 ft and on south channel, 2,640.66 ft above National Geodetic Vertical Datum of 1929. No information available on gages operated by State engineer prior to Nov. 18, 1938. Nov. 18, 1938, to Sept. 30, 1942, gage on north channel at datum 1 ft higher. Nov. 18, 1938, to Oct. 1, 1983, gage on south channel at datum 1 ft higher.

REMARKS.--Channel No. 1: Estimated daily discharge: Nov. 27-29, Dec. 19 to Feb. 7, and Feb. 15-18. Channel No. 4: Estimated daily discharge, Nov. 28, 29, Dec. 20 to Jan. 12, and Jan. 26 to Feb. 3. Records good except for periods of estimated record, which are fair. 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. Tri-County main supply canal, capacity, about 2,000 ft³/s, diverts 18 mi above station; diversion started Nov. 26, 1940. River flows in two canals for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 773 ft³/s, 560,000 acre-ft/yr; median of yearly mean discharges, 374 ft³/s, 271,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s June 29, 1983; no flow Aug. 22-24, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft³/s July 24; minimum daily, 80 ft³/s Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	121	150	126	164	150	173	334	265	1420	1220	345
2	90	121	152	128	166	135	168	241	261	1470	1260	153
3	107	129	146	130	168	152	167	637	245	1480	1240	113
4	108	133	144	130	170	157	164	783	260	1470	1220	101
5	105	135	146	130	171	160	160	479	244	1460	1260	93
6	95	136	136	130	175	151	157	353	223	1500	1280	87
7	93	132	138	132	179	144	154	284	219	1480	1240	84
8	95	132	139	134	169	145	148	244	217	1480	1140	84
9	100	141	139	134	172	142	142	219	211	1480	1050	80
10	103	141	140	138	169	146	143	201	220	1490	1250	102
11	104	148	146	140	171	148	163	191	209	1500	1230	153
12	105	152	153	144	167	147	162	181	187	1500	1200	135
13	104	144	150	143	165	147	161	163	169	1480	929	152
14	105	141	151	146	160	147	151	157	158	1500	668	142
15	106	137	150	150	132	148	151	149	159	1500	610	119
16	105	127	147	154	148	149	143	158	149	1490	499	105
17	103	137	156	154	166	157	141	204	141	1550	427	97
18	102	139	153	154	157	162	142	230	140	1600	453	94
19	109	138	132	150	151	162	148	222	185	1630	458	95
20	107	138	118	151	151	166	154	196	183	1620	528	96
21	106	136	112	155	140	164	159	185	183	1610	596	97
22	115	138	112	159	141	163	174	179	174	1600	711	93
23	113	138	116	164	143	174	179	264	174	1650	991	94
24	113	138	120	164	141	179	166	297	379	1710	1190	95
25	114	136	128	158	136	173	165	280	372	1580	1200	96
26	118	136	128	156	147	172	168	270	240	1470	1240	96
27	116	125	130	158	147	175	172	244	221	1440	1220	97
28	117	115	128	154	149	177	182	218	339	1430	1190	95
29	113	127	110	152	---	177	273	237	753	1370	1190	97
30	115	141	110	156	---	177	428	281	1260	1230	1090	93
31	115	---	120	160	---	175	---	294	---	1220	816	---
TOTAL	3291	4052	4200	4534	4415	4921	5158	8375	8140	46410	30596	3383
MEAN	106	135	135	146	158	159	172	270	271	1497	987	113
MAX	118	152	156	164	179	179	428	783	1260	1710	1280	345
MIN	90	115	110	126	132	135	141	149	140	1220	427	80
AC-FT	6530	8040	8330	8990	8760	9760	10230	16610	16150	92050	60690	6710

CAL YR 1990 TOTAL 136167 MEAN 373 MAX 2230 MIN 72 AC-FT 270100
WTR YR 1991 TOTAL 127475 MEAN 349 MAX 1710 MIN 80 AC-FT 252800

PLATTE RIVER BASIN

06766500 PLATTE RIVER NEAR COZAD, NE

LOCATION.--North Channel gage: Lat 40°50'19", long 99°59'17" in SE1/4NW1/4 sec.18, T.10 N., R.23 W., Dawson County, Hydrologic Unit 10200101, on left bank 10 ft downstream from highway bridge, 1.4 mi south of Cozad. South Channel gage: Lat 40°49'58", long 99°59'31" in SW1/4SW1/4 sec.18, T.10 N., R.23 W., Dawson County, on left bank 10 ft downstream from highway bridge, 1.6 mi south of Cozad.

DRAINAGE AREA.--56,500 mi², approximately, of which about 51,700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July to September 1932, May 1937 to current year (prior to April 1939, irrigation seasons only). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Two water-stage recorders. Datum of gage on south channel is 2,473.07 ft and on north channel, 2,475.72 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Roads bench mark). SEE WSP 2118 for history of changes prior to May 10, 1966. North channel gage: May 10, 1966, to May 10, 1976, at datum 1.00 ft higher and May 11, 1976, to June 16, 1977, at present datum, both at downstream side of previous highway bridge 1,100 ft downstream, June 17, 1977 to Nov. 15, 1988, 30 ft upstream of previous highway bridge, 1,110 ft downstream of present site, at present datum. South channel gage: May 10, 1966, to July 17, 1980, at downstream side of previous highway bridge 1,300 ft downstream, at present datum, July 18, 1980 to Nov. 15, 1988, 20 ft upstream of previous highway bridge, 1,300 ft downstream of present site, at present datum.

REMARKS.--Estimated daily discharges on one or both channels: Nov. 27-29 and Dec. 17 to Jan. 13. Records good except for periods of estimated record, which are fair. 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. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 682 ft³/s, 494,100 acre-ft/yr; median of yearly mean discharges, 320 ft³/s, 232,000 acre-ft/yr. Figures are unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s June 29, 1983; no flow at times in 1937-40.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,550 ft³/s May 23; minimum daily, 18 ft³/s June 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	192	242	199	202	250	239	450	627	183	58	26
2	75	229	226	190	225	228	229	383	540	96	102	48
3	97	243	220	180	238	215	224	517	457	67	104	116
4	120	235	212	180	248	249	221	765	461	93	83	83
5	106	230	229	180	261	243	216	717	425	33	75	50
6	156	243	230	175	275	233	214	573	367	88	68	43
7	162	243	223	160	280	232	207	391	346	103	70	63
8	175	243	227	171	282	229	198	349	328	56	83	76
9	150	245	230	215	284	223	190	348	292	74	134	70
10	200	247	236	219	289	225	192	293	333	67	140	76
11	180	254	226	219	276	228	209	255	302	65	108	102
12	176	267	227	224	260	226	235	245	261	76	266	63
13	178	267	220	230	255	223	232	225	226	53	277	144
14	179	263	220	230	248	221	217	205	142	33	221	165
15	175	261	224	240	209	224	189	194	88	73	149	142
16	175	260	227	235	202	219	183	195	84	76	68	130
17	175	250	219	219	260	231	202	224	83	67	80	123
18	169	254	209	217	268	243	200	249	83	74	108	117
19	175	252	199	224	244	217	219	248	117	99	46	114
20	181	252	186	217	250	229	218	245	97	78	29	117
21	199	252	177	189	249	241	224	230	95	64	24	125
22	198	245	179	183	240	245	262	217	87	46	24	133
23	193	248	183	195	238	244	246	2530	75	177	23	123
24	193	248	188	195	235	236	220	861	40	405	23	124
25	193	245	188	187	224	238	206	640	126	377	23	123
26	194	239	188	172	223	230	201	577	61	257	41	119
27	191	189	194	172	238	254	208	569	18	154	22	120
28	184	160	184	185	246	260	246	459	126	159	33	120
29	186	169	180	177	---	254	349	396	39	163	58	120
30	188	213	190	154	---	248	420	1100	71	124	30	118
31	189	---	194	170	---	244	---	952	---	86	126	---
TOTAL	5189	7138	6477	6103	6949	7282	6816	15602	6397	3566	2696	3093
MEAN	167	238	209	197	248	235	227	503	213	115	87.0	103
MAX	200	267	242	240	289	260	420	2530	627	405	277	165
MIN	75	160	177	154	202	215	183	194	18	33	22	26
AC-FT	10290	14160	12850	12110	13780	14440	13520	30950	12690	7070	5350	6130

CAL YR 1990 TOTAL 84519 MEAN 232 MAX 1640 MIN 16 AC-FT 167600
WTR YR 1991 TOTAL 77308 MEAN 212 MAX 2530 MIN 18 AC-FT 153300

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON. NE

LOCATION.--Lat 40°40'57", long 99°32'27", in NE1/4NW1/4 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 and 4 mi downstream from Plum Creek.

DRAINAGE AREA.--57,700 mi², approximately, of which about 52,900 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,297.83 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharge: Nov. 2-4, Dec. 19 to Jan. 25. Records good 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.

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 1,619 ft³/s, 1,173,000 acre-ft per year; median of yearly mean discharges, 1,200 ft³/s, 869,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD:--Maximum discharge, 37,600 ft³/s June 5, 1935, gage height, 6.25 ft, datum then in use, south channel; maximum gage height, 7.44 ft, present datum, June 22, 1983; no flow at times in 1919, 1922, 1925, 1927-28, 1930-41.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,590 ft³/s May 24, gage height, 4.45 ft; maximum gage height, 4.48 ft Jan. 13, backwater from ice; minimum daily discharge, 179 ft³/s Aug. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	623	627	680	1160	1180	1260	893	2580	320	251	582
2	431	700	647	800	1150	959	1060	967	2260	374	221	877
3	445	780	588	840	1190	1050	1070	1020	1920	336	225	535
4	459	860	613	740	1190	1160	950	1610	1750	301	228	452
5	513	900	661	800	1340	1400	923	1970	1630	317	218	449
6	424	844	794	780	1380	1340	918	2010	1460	271	230	403
7	442	935	859	800	1320	1300	1010	1770	1060	286	238	384
8	442	988	939	880	1450	1220	945	1370	875	290	226	366
9	463	934	938	900	1390	1180	930	1200	932	288	226	377
10	474	810	924	1000	1460	1250	773	881	847	327	271	450
11	514	921	1000	1040	1580	1200	676	554	817	339	319	527
12	523	1010	930	1040	1880	1230	661	478	770	315	633	588
13	612	930	1050	1080	1870	1260	619	429	735	303	2070	584
14	646	816	1100	1100	1770	1330	646	415	633	278	1690	609
15	680	875	1120	1160	1720	1160	639	395	615	293	717	637
16	1120	630	1090	1200	1590	1050	583	415	526	377	718	609
17	1380	814	1070	1100	1580	1050	590	397	475	380	660	618
18	1350	967	889	1100	1570	1130	600	380	484	357	436	596
19	1410	1030	500	1100	1470	991	624	396	544	303	318	585
20	1280	1070	520	1160	1370	862	590	402	814	318	263	575
21	1350	1030	660	1160	1460	973	616	541	1000	309	244	530
22	905	979	680	1180	1310	1060	695	798	855	294	229	503
23	495	987	700	1060	1380	1050	774	2650	800	311	233	515
24	445	1010	720	1060	1280	1110	695	4140	529	440	224	529
25	504	972	660	1120	1330	1110	667	3010	357	538	218	534
26	529	913	600	1190	1310	1130	652	2190	391	558	212	543
27	527	672	580	1150	1420	1300	505	1750	352	465	200	539
28	527	552	540	1150	1490	1290	483	1520	296	368	193	520
29	591	507	500	1110	---	1320	712	1280	332	344	180	523
30	603	589	500	1030	---	1330	880	1510	294	343	186	487
31	604	---	580	898	---	1340	---	2760	---	304	179	---
TOTAL	21108	25648	23579	31408	40410	36315	22746	40101	26933	10647	12456	16026
MEAN	681	855	761	1013	1443	1171	758	1294	898	343	402	534
MAX	1410	1070	1120	1200	1880	1400	1260	4140	2580	558	2070	877
MIN	420	507	500	680	1150	862	483	380	294	271	179	366
AC-FT	41870	50870	46770	62300	80150	72030	45120	79540	53420	21120	24710	31790
CAL YR 1990	TOTAL 353233		MEAN 968	MAX 2850	MIN 144	AC-FT 700600						
WTR YR 1991	TOTAL 307377		MEAN 842	MAX 4140	MIN 179	AC-FT 609700						

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1958 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1958 to current year.

WATER TEMPERATURES: January 1958 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,480 microsiemens May 15, 1966 (south chan.); minimum daily, 176 microsiemens June 25, 1989 (south chan.).

WATER TEMPERATURES: Maximum, 37.0°C June 13, 1959 (south chan.), July 9, 1960 (north chan.); minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,040 microsiemens July 16 (south channel); minimum daily, 417 microsiemens May 24 (south chan.).

WATER TEMPERATURES: Maximum daily, 36.0°C July 21 (south chan.); minimum daily, 1.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
OCT 10...	1500	500	875	8.7	16.0	700	11.4	83	13	197
DEC 06...	0845	760	910	8.3	1.5	710	12.3	74	13	198
JAN 08...	1115	700	972	7.5	0.5	700	9.8	74	14	239
MAR 28...	0830	798	770	8.3	4.0	695	12.0	77	12	181
APR 24...	1545	695	825	8.6	14.0	700	10.3	79	13	188
JUN 20...	1300	926	960	8.6	25.0	700	9.1	81	15	179
JUL 18...	1045	357	968	8.5	24.5	700	8.6	100	14	194
SEP 12...	0830	568	916	8.3	22.0	700	7.2	85	13	181

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 10...	210	28	0.30	26	--	<0.010	0.900	0.010	<0.010	<0.010
DEC 06...	200	27	0.60	30	1.09	0.010	1.10	0.060	0.040	0.020
JAN 08...	200	32	0.40	36	2.07	0.030	2.10	0.390	0.100	0.090
MAR 28...	260	33	0.50	25	1.19	0.010	1.20	0.120	0.050	0.040
APR 24...	270	36	0.50	22	1.17	0.030	1.20	0.020	0.070	0.050
JUN 20...	260	35	0.50	17	0.550	0.010	0.560	0.060	0.020	0.010
JUL 18...	290	40	0.40	20	0.700	0.020	0.720	0.020	0.050	0.050
SEP 12...	--	--	0.80	23	0.480	0.010	0.490	0.010	0.020	<0.010

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT				
10...	1500	150	<3	5
DEC				
06...	0845	130	3	5
JAN				
08...	1115	140	4	22
MAR				
28...	0830	120	<3	15
APR				
24...	1545	140	<3	8
JUN				
20...	1300	160	4	6
JUL				
18...	1045	160	9	8
SEP				
12...	0830	160	5	9

PLATTE RIVER BASIN
06767998 PLATTE RIVER NEAR OVERTON, NE (NORTH CHANNEL)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991 ONCE-DAILY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	890	862	846	---	832	836	821	819	917	966	968	989
2	871	856	844	---	766	828	820	817	907	860	977	982
3	862	819	843	---	788	821	819	828	957	923	968	1010
4	871	818	845	---	769	765	820	770	953	912	962	940
5	888	825	858	---	732	787	822	728	943	904	954	984
6	849	829	845	---	744	822	817	811	945	941	964	998
7	859	840	846	---	776	830	828	837	944	933	974	991
8	858	855	839	872	756	762	830	869	930	903	966	956
9	845	861	827	877	769	821	842	865	969	957	939	976
10	869	866	831	904	742	815	839	882	946	950	930	911
11	858	871	832	852	742	787	836	898	941	936	915	871
12	859	865	836	869	779	800	807	900	963	956	858	916
13	845	855	824	860	798	818	800	892	983	955	852	917
14	842	853	825	844	816	828	809	897	987	945	902	933
15	858	858	853	901	833	827	822	898	980	953	928	963
16	842	853	854	925	846	820	843	870	994	952	954	964
17	857	857	864	836	833	793	848	879	1000	907	947	974
18	856	856	854	818	778	815	807	843	971	958	934	974
19	854	853	855	807	789	757	795	859	974	961	972	974
20	830	839	---	939	786	817	812	849	950	916	971	981
21	826	849	---	934	823	819	793	857	970	945	978	975
22	846	861	---	888	822	805	804	831	975	966	967	958
23	855	811	---	850	733	797	975	627	994	913	951	969
24	842	814	---	851	829	769	835	421	1000	883	981	958
25	852	825	---	856	831	782	843	719	1020	863	964	948
26	850	833	---	905	834	778	861	859	925	883	963	933
27	845	842	---	899	848	782	868	922	967	904	946	933
28	832	851	---	844	840	784	844	918	999	940	963	930
29	842	895	---	883	---	812	797	950	956	920	978	934
30	844	865	---	901	---	798	809	920	983	926	989	946
31	851	---	---	903	---	804	---	577	---	938	984	---
MEAN	853	848	---	---	794	803	829	826	965	928	952	956

06767999 PLATTE RIVER NEAR OVERTON, NE (SOUTH CHANNEL)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991 ONCE-DAILY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	851	849	838	---	920	967	982	957	792	923	997	902
2	840	841	837	---	928	967	984	976	793	883	999	963
3	836	823	835	---	917	963	979	987	939	904	1000	933
4	845	828	842	---	923	957	970	949	944	888	1010	938
5	846	826	849	---	856	960	975	968	947	883	995	942
6	841	830	826	---	895	957	992	965	933	902	1000	932
7	842	838	854	---	918	956	992	976	937	909	1010	929
8	838	849	851	---	921	954	1010	976	952	932	1020	930
9	833	850	822	---	936	960	986	988	939	947	1000	938
10	846	825	821	---	931	964	1010	986	937	919	1030	870
11	845	825	803	---	921	960	1010	970	938	949	1010	911
12	841	828	800	---	925	958	996	968	945	987	811	871
13	830	846	835	---	928	956	1000	945	943	1000	914	900
14	824	825	839	---	920	957	987	914	944	1000	942	905
15	840	845	852	---	919	970	985	932	945	1030	956	911
16	814	860	839	909	927	967	998	870	943	1040	961	909
17	830	828	836	905	934	958	995	861	937	1030	947	913
18	844	828	842	920	918	964	988	851	926	1030	948	907
19	842	830	859	915	932	966	990	882	921	1020	930	903
20	818	822	906	852	939	971	971	867	928	1000	939	913
21	816	829	---	864	938	962	916	966	934	993	912	914
22	842	848	---	946	944	967	949	968	937	990	998	906
23	848	826	---	942	944	973	822	426	941	910	842	909
24	843	829	---	946	950	967	976	417	945	993	822	907
25	844	826	---	957	964	976	982	784	962	924	825	908
26	840	826	---	928	956	979	972	841	966	963	828	901
27	849	838	---	927	961	973	992	908	942	945	825	890
28	839	850	---	947	959	974	943	922	958	933	833	890
29	836	848	---	938	---	987	935	930	901	931	846	888
30	833	846	---	942	---	977	1020	911	883	926	892	890
31	853	---	---	956	---	985	---	939	---	932	906	---
MEAN	838	835	---	---	929	966	977	897	928	955	931	911

PLATTE RIVER BASIN

06767998 PLATTE RIVER NEAR OVERTON, NE (NORTH CHANNEL)

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	14.0	5.0	---	2.0	3.0	18.0	16.0	21.0	30.0	24.0	31.0
2	21.0	11.0	2.0	---	3.0	2.0	12.0	19.0	23.0	31.0	24.0	30.0
3	21.0	6.0	2.0	---	4.0	7.0	14.0	16.0	22.0	28.0	27.0	28.0
4	21.0	9.0	2.0	---	4.0	7.0	16.0	9.0	22.0	31.0	24.0	27.0
5	16.0	9.0	2.0	---	2.0	11.0	21.0	14.0	20.0	31.0	23.0	21.0
6	20.0	5.0	4.0	---	5.0	9.0	19.0	18.0	24.0	31.0	30.0	28.0
7	14.0	3.0	2.0	---	7.0	9.0	21.0	13.0	21.0	29.0	32.0	28.0
8	9.0	2.0	5.0	1.0	7.0	7.0	17.0	21.0	27.0	24.0	25.0	30.0
9	17.0	3.0	6.0	1.0	4.0	10.0	10.0	20.0	27.0	30.0	27.0	25.0
10	17.0	10.0	7.0	1.0	8.0	12.0	13.0	19.0	27.0	27.0	26.0	27.0
11	13.0	11.0	8.0	1.0	8.0	14.0	13.0	23.0	28.0	32.0	26.0	29.0
12	15.0	10.0	7.0	1.0	4.0	6.0	20.0	27.0	24.0	29.0	20.0	31.0
13	16.0	7.0	4.0	1.0	9.0	7.0	10.0	25.0	27.0	29.0	26.0	23.0
14	16.0	12.0	2.0	1.0	5.0	3.0	16.0	26.0	23.0	31.0	28.0	21.0
15	11.0	9.0	2.0	1.0	1.0	4.0	18.0	20.0	21.0	31.0	28.0	22.0
16	17.0	10.0	3.0	1.0	5.0	4.0	12.0	22.0	28.0	29.0	30.0	23.0
17	11.0	8.0	2.0	1.0	8.0	7.0	12.0	21.0	28.0	32.0	29.0	20.0
18	9.0	10.0	2.0	1.0	5.0	10.0	9.0	19.0	29.0	33.0	29.0	18.0
19	10.0	10.0	2.0	1.0	2.0	13.0	9.0	19.0	29.0	30.0	28.0	18.0
20	10.0	12.0	1.0	1.0	10.0	10.0	10.0	21.0	28.0	34.0	28.0	18.0
21	13.0	11.0	---	1.0	6.0	12.0	9.0	25.0	28.0	35.0	32.0	12.0
22	8.0	5.0	---	1.0	3.0	10.0	18.0	24.0	23.0	29.0	31.0	20.0
23	16.0	9.0	---	1.0	4.0	13.0	17.0	23.0	22.0	21.0	31.0	18.0
24	15.0	10.0	---	1.0	6.0	16.0	15.0	19.0	22.0	26.0	31.0	16.0
25	9.0	8.0	---	1.0	6.0	16.0	13.0	20.0	30.0	28.0	31.0	21.0
26	18.0	6.0	---	1.0	7.0	14.0	21.0	22.0	27.0	26.0	30.0	21.0
27	13.0	1.0	---	1.0	3.0	11.0	18.0	23.0	31.0	27.0	30.0	22.0
28	13.0	1.0	---	1.0	3.0	13.0	14.0	21.0	23.0	30.0	29.0	22.0
29	17.0	1.0	---	1.0	---	9.0	9.0	25.0	30.0	30.0	28.0	23.0
30	17.0	2.0	---	1.0	---	13.0	14.0	23.0	32.0	31.0	22.0	17.0
31	11.0	---	---	1.0	---	15.0	---	21.0	---	31.0	22.0	---
MEAN	14.5	7.5	---	---	5.0	9.6	14.6	20.5	25.6	29.5	27.5	23.0

06767999 PLATTE RIVER NEAR OVERTON, NE (SOUTH CHANNEL)

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	13.0	6.0	---	5.0	4.0	16.0	12.0	21.0	31.0	21.0	30.0
2	21.0	11.0	2.0	---	6.0	3.0	11.0	21.0	25.0	31.0	21.0	29.0
3	20.0	7.0	5.0	---	6.0	9.0	12.0	17.0	23.0	26.0	22.0	27.0
4	21.0	10.0	6.0	---	6.0	7.0	17.0	10.0	23.0	33.0	19.0	28.0
5	16.0	10.0	6.0	---	10.0	8.0	19.0	15.0	20.0	33.0	20.0	23.0
6	19.0	6.0	5.0	---	3.0	6.0	21.0	17.0	24.0	33.0	23.0	28.0
7	15.0	5.0	2.0	---	7.0	7.0	21.0	11.0	22.0	28.0	22.0	28.0
8	10.0	4.0	5.0	---	7.0	7.0	19.0	19.0	28.0	25.0	19.0	29.0
9	17.0	4.0	6.0	---	2.0	7.0	8.0	21.0	28.0	30.0	20.0	25.0
10	17.0	10.0	7.0	---	5.0	10.0	15.0	19.0	28.0	28.0	20.0	27.0
11	13.0	10.0	7.0	---	6.0	11.0	16.0	21.0	26.0	31.0	21.0	29.0
12	15.0	11.0	6.0	---	3.0	5.0	22.0	25.0	25.0	31.0	21.0	30.0
13	16.0	6.0	4.0	---	7.0	7.0	10.0	25.0	29.0	31.0	26.0	23.0
14	15.0	12.0	3.0	---	4.0	3.0	17.0	23.0	23.0	32.0	29.0	22.0
15	12.0	8.0	2.0	---	4.0	4.0	22.0	18.0	19.0	31.0	31.0	23.0
16	16.0	10.0	4.0	1.0	7.0	5.0	12.0	20.0	30.0	32.0	28.0	26.0
17	11.0	10.0	3.0	1.0	6.0	7.0	14.0	24.0	30.0	33.0	28.0	22.0
18	9.0	11.0	4.0	1.0	4.0	11.0	10.0	20.0	30.0	34.0	28.0	21.0
19	10.0	11.0	3.0	1.0	3.0	13.0	10.0	18.0	30.0	32.0	26.0	22.0
20	10.0	12.0	---	1.0	8.0	10.0	14.0	22.0	28.0	33.0	26.0	21.0
21	13.0	10.0	---	1.0	5.0	12.0	10.0	24.0	26.0	36.0	33.0	15.0
22	8.0	6.0	---	1.0	4.0	8.0	20.0	24.0	23.0	27.0	33.0	21.0
23	15.0	10.0	---	1.0	3.0	12.0	20.0	22.0	23.0	20.0	30.0	19.0
24	15.0	10.0	---	1.0	6.0	12.0	16.0	17.0	24.0	29.0	32.0	19.0
25	9.0	9.0	---	1.0	6.0	13.0	14.0	20.0	30.0	26.0	32.0	21.0
26	17.0	7.0	---	1.0	6.0	12.0	23.0	26.0	25.0	26.0	31.0	23.0
27	13.0	2.0	---	1.0	4.0	11.0	15.0	24.0	32.0	26.0	31.0	22.0
28	13.0	6.0	---	1.0	2.0	13.0	15.0	21.0	24.0	30.0	28.0	22.0
29	16.0	1.0	---	1.0	---	9.0	10.0	27.0	33.0	30.0	29.0	23.0
30	16.0	8.0	---	1.0	---	13.0	13.0	24.0	32.0	29.0	21.0	17.0
31	11.0	---	---	1.0	---	12.0	---	21.0	---	29.0	21.0	---
MEAN	14.4	8.3	---	---	5.2	8.7	15.4	20.3	26.1	29.9	25.5	23.8

PLATTE RIVER BASIN

06770000 PLATTE RIVER NEAR ODESSA, NE

LOCATION.--Lat 40°39'53", long 99°15'20", in SW1/4NW1/4 sec.16, T.8 N., R.17 W., Phelps County, Hydrologic Unit 10200101, on right bank 15 ft downstream from county bridge, 2.5 mi south of Odessa and 5 mi downstream from Elm Creek.

DRAINAGE AREA.--58,100 mi², approximately, of which about 53,300 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--March 1937 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-67, WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,195.07 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1938, nonrecording gage and Oct. 7, 1938 to Sept. 30, 1942, water-stage recorder, both at datum 3.00 ft higher and Oct. 1, 1942 to July 23, 1984, water-stage recorder at datum 2.00 ft higher, all at present site. July 24, 1984 to Apr. 5, 1988, water-stage recorder at site 1,500 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 1-4 and Dec. 19 to Feb. 9. Records good except for periods of estimated record, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated irrigated areas.

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 1,539 ft³/s, 1,115,000 acre-ft per year; median of yearly mean discharges, 1,170 ft³/s, 848,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s June 29, 1983, gage height, 5.82 ft, datum then is use; maximum gage height, 5.90 ft June 22, 1983, datum and site then in use; no flow for periods in each year prior to 1947 and in 1953-57, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,510 ft³/s May 24, gage height, 5.34 ft; minimum daily, 63 ft³/s Aug. 31, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	648	983	680	1000	1410	1160	791	3120	229	258	63
2	210	652	970	900	1100	899	1010	920	3200	234	235	432
3	220	856	805	860	1200	940	954	979	2590	224	180	442
4	230	849	895	640	1250	1030	961	1150	1930	225	172	219
5	239	927	1150	660	1300	1160	894	1730	1580	255	163	226
6	188	876	1320	700	1400	1280	861	1830	1380	233	191	243
7	172	812	1370	800	1400	1280	873	1760	1210	198	189	240
8	202	937	1400	880	1400	1320	904	1500	1030	177	150	270
9	153	972	1410	880	1400	1240	853	1140	1010	223	133	275
10	161	832	1400	900	1440	1280	831	1020	1090	214	140	308
11	164	819	1590	920	1430	1320	781	667	975	263	164	506
12	198	939	1590	940	1710	1270	820	530	910	259	290	567
13	183	1030	1660	940	1770	1170	775	398	794	234	1070	608
14	239	858	1780	960	1670	1180	704	310	770	237	1600	623
15	237	990	1720	1000	1560	1030	690	279	765	246	742	603
16	299	1060	1550	1120	1530	994	665	273	690	283	542	546
17	828	764	1540	1040	1500	1070	659	375	678	304	517	534
18	960	1160	1540	900	1470	1100	659	313	559	304	464	469
19	994	1220	800	980	1430	1030	667	316	559	295	323	450
20	1020	1280	500	960	1340	877	685	325	544	282	231	491
21	975	1320	600	1000	1470	888	704	334	868	290	152	511
22	1060	1210	620	1100	1330	973	841	429	736	246	133	467
23	439	1250	600	1080	1340	1060	770	1660	648	214	125	455
24	279	1300	560	960	1270	1070	777	5120	617	302	118	455
25	287	1340	540	900	1290	1120	686	4470	460	398	113	485
26	419	1410	500	900	1340	1190	716	3370	356	460	104	468
27	570	1420	520	880	1380	1290	663	2620	297	425	88	495
28	538	788	540	900	1430	1260	556	2060	261	359	85	501
29	572	858	560	800	---	1190	639	1360	258	313	75	529
30	608	878	580	720	---	1060	886	1430	253	320	70	516
31	626	---	600	740	---	1120	---	2360	---	286	63	---
TOTAL	13470	30255	32193	27640	39150	35101	23644	41819	30138	8532	8880	12997
MEAN	435	1008	1038	892	1398	1132	788	1349	1005	275	286	433
MAX	1060	1420	1780	1120	1770	1410	1160	5120	3200	460	1600	623
MIN	153	648	500	640	1000	877	556	273	253	177	63	63
AC-FT	26720	60010	63850	54820	77650	69620	46900	82950	59780	16920	17610	25780
CAL YR 1990	TOTAL 336504	MEAN 922	MAX 2860	MIN 43	AC-FT 667500							
WTR YR 1991	TOTAL 303819	MEAN 832	MAX 5120	MIN 63	AC-FT 602600							

PLATTE RIVER BASIN

06770200 PLATTE RIVER NEAR KEARNEY, NE

LOCATION.--Lat 40°39'32", long 99°05'08", in SE1/4SE1/4 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.

DRAINAGE AREA.--58,200 mi², approximately, of which about 53,400 mi² contributes directly to surface runoff.

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

GAGE.--Water stage recorder. Datum of gage is 2134.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 29, Dec. 1-5, and Dec. 20 to Feb. 6. 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.

AVERAGE DISCHARGE.--9 years (water years 1983-91), 2,550 ft³/s, 1,847,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft³/s June 29, 1983, gage height, 7.42 ft; minimum daily discharge, 3.0 ft³/s Sept. 7, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,010 ft³/s May 25, gage height, 4.88 ft; minimum daily, 40 ft³/s Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	700	610	450	1100	1500	1300	690	2640	223	214	40
2	187	691	610	380	1150	1080	1160	692	2860	240	179	303
3	174	883	620	380	1250	1040	1080	726	2440	242	153	529
4	166	873	580	420	1350	1080	1050	879	1860	247	152	376
5	167	860	780	470	1500	1140	945	1390	1540	242	153	350
6	160	957	812	600	1800	1270	892	1540	1430	237	170	357
7	142	962	831	720	1710	1270	916	1520	1400	211	157	354
8	189	1040	851	880	1720	1270	948	1350	1110	198	126	341
9	229	1040	867	880	1680	1170	864	1080	968	242	107	351
10	235	930	899	820	1600	1130	826	908	1050	240	116	360
11	234	885	997	840	1620	1120	714	672	954	270	144	463
12	284	917	1060	840	1800	1110	703	586	887	239	321	510
13	313	965	1040	860	1940	1090	673	528	840	242	703	521
14	358	855	1130	920	1860	1130	647	396	837	256	1470	540
15	382	904	1190	980	1730	1110	683	330	777	225	992	549
16	430	915	1200	1050	1740	1080	668	330	712	217	632	558
17	665	704	1180	1050	1680	1040	654	475	665	253	568	541
18	783	855	1120	1000	1600	1130	669	438	578	219	530	517
19	866	896	1030	1000	1560	1110	696	447	572	221	412	536
20	916	929	640	1000	1470	981	682	458	585	208	349	519
21	933	946	500	1050	1540	917	652	457	814	220	277	530
22	985	906	330	1050	1430	976	739	487	796	210	213	546
23	716	914	360	1050	1370	1080	713	1180	715	226	167	555
24	548	925	460	1050	1290	1070	708	4020	623	310	155	562
25	497	933	490	980	1240	1050	627	4530	409	376	136	551
26	506	905	450	960	1300	1050	637	3430	318	390	95	538
27	610	841	470	1000	1420	1190	572	2660	281	375	63	534
28	617	611	450	960	1490	1250	530	2180	234	342	52	527
29	599	610	420	1000	---	1210	605	1570	204	262	47	518
30	655	606	380	1050	---	1160	726	1520	219	259	42	517
31	691	---	400	1100	---	1280	---	1920	---	240	42	---
TOTAL	14447	25958	22757	26790	42940	35084	23279	39389	29318	7882	8937	13993
MEAN	466	865	734	864	1534	1132	776	1271	977	254	288	466
MAX	985	1040	1200	1100	1940	1500	1300	4530	2860	390	1470	562
MIN	142	606	330	380	1100	917	530	330	204	198	42	40
AC-FT	28660	51490	45140	53140	85170	69590	46170	78130	58150	15630	17730	27760
CAL YR 1990	TOTAL 365386.6			MEAN 1001	MAX 3000	MIN 3.0	AC-FT 724700					
WTR YR 1991	TOTAL 290774			MEAN 797	MAX 4530	MIN 40	AC-FT 576800					

PLATTE RIVER BASIN

125

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE

LOCATION.--Lat 40°52'28", long 98°16'54", in SW1/4SW1/4 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, and 5 mi southeast of Grand Island.

DRAINAGE AREA.--58,800 mi², approximately, of which about 54,000 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1942. WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,831.90 ft above National Geodetic Vertical Datum of 1929 (Nebraska Department of Highways bench mark). Prior to Oct. 23, 1933, nonrecording gage at bridge 68 ft downstream and Oct. 23, 1933, to Aug. 19, 1980, water-stage recorder at site 98 ft downstream, all at same datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 5 and Dec. 20 to Feb. 20. 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.

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 1,572 ft³/s, 1,139,000 acre-ft per year; median of yearly mean discharges, 1,180 ft³/s, 855,000 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 6, 1935, gage height, 5.99 ft, from rating curve extended above 18,000 ft³/s; maximum gage height, 6.16 ft Mar. 27, 1960, backwater from ice; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,690 ft³/s June 1, gage height, 3.53 ft, maximum gage height, 3.91 ft Feb. 10, backwater from ice; minimum daily discharge, 5.0 ft³/s Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	646	720	500	1000	1370	1250	593	3500	268	84	6.2
2	283	635	660	350	1050	1470	1220	663	4460	164	65	5.8
3	313	675	680	360	1050	1160	1180	677	3740	124	58	5.0
4	294	730	650	380	1150	1050	1030	712	3140	125	59	17
5	289	799	1000	400	1250	1210	941	828	2850	119	65	104
6	289	804	1240	450	1400	1170	882	1170	2150	106	76	119
7	293	817	1050	660	1550	1300	774	1390	1880	101	74	116
8	321	827	958	760	1600	1330	686	1510	1690	100	73	128
9	344	916	888	720	1800	1350	667	1320	1460	234	69	119
10	359	951	817	700	1750	1280	693	1040	1340	181	61	116
11	322	960	805	760	1700	1270	764	866	1360	210	55	147
12	314	885	801	800	1800	1200	856	721	1250	215	83	209
13	319	873	891	860	1900	1210	681	541	1150	186	167	292
14	340	885	922	900	2100	1270	631	458	1050	141	236	339
15	363	852	980	940	2200	1290	562	390	946	104	646	376
16	432	741	979	1000	2100	1360	560	402	858	82	1110	386
17	372	788	1120	1000	1900	1360	553	518	839	67	551	395
18	469	735	1050	940	1850	1310	541	455	797	57	411	379
19	658	692	864	940	1800	1230	542	385	706	64	372	412
20	743	864	640	980	1700	1240	548	342	632	79	324	468
21	840	867	500	940	1410	1110	563	347	635	71	190	438
22	851	878	300	900	1350	981	625	346	720	59	125	402
23	911	857	300	960	1360	978	637	687	901	70	83	374
24	886	856	400	960	1280	983	596	1240	897	82	63	359
25	662	875	450	900	1270	983	565	3880	879	111	32	362
26	604	884	400	880	1220	997	555	4950	631	135	18	352
27	546	811	450	880	1280	1180	442	3670	409	171	13	326
28	578	686	400	880	1300	1370	451	2890	311	179	10	299
29	600	740	370	890	---	1340	636	2600	274	195	8.2	288
30	624	740	350	900	---	1280	630	2340	250	158	7.4	273
31	637	---	350	940	---	1260	---	2190	---	104	7.0	---
TOTAL	15161	24269	21985	24430	43120	37892	21261	40121	41705	4062	5195.6	7612.0
MEAN	489	809	709	788	1540	1222	709	1294	1390	131	168	254
MAX	911	960	1240	1000	2200	1470	1250	4950	4460	268	1110	468
MIN	283	635	300	350	1000	978	442	342	250	57	7.0	5.0
AC-FT	30070	48140	43610	48460	85530	75160	42170	79580	82720	8060	10310	15100

CAL YR 1990 TOTAL 392473 MEAN 1075 MAX 2800 MIN 38 AC-FT 778500
WTR YR 1991 TOTAL 286813.6 MEAN 786 MAX 4950 MIN 5.0 AC-FT 568900

PLATTE RIVER BASIN

06771500 WOOD RIVER NEAR GIBBON, NE

LOCATION.-- Lat. 40° 46' 17", long. 98° 47' 51" in NW1/4 sec. 9, T.9 N., R.13 W., Buffalo County, Hydrologic Unit 10200102, on the right bank 10 ft downstream from bridge on county road. From Gibbon 2.5 mi east on U.S. Highway 30 and 0.6 mi north on the county road.

DRAINAGE AREA.--572 mi².

PERIOD OF RECORD.--April 1, 1949 to September 30, 1976. June to September 1991 (irrigation season only).

Gage.--Water-stage recorder. Datum of gage is 2,024.88 ft above the National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: June 12-19, July 10-16, 21-31, and Aug. 1. Records good except for periods of estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft³/s June 15, 1967, gage height, 16.79 ft; No flow for many days in 1952-1962, 1964-1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period, June to September, 476 ft³/s July 10, gage height, 10.98 ft from floodmark; minimum daily during period June to September, 0.81 ft³/s Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	5.4	4.5	2.2
2	---	---	---	---	---	---	---	---	---	7.0	3.8	1.9
3	---	---	---	---	---	---	---	---	---	9.0	4.6	2.2
4	---	---	---	---	---	---	---	---	---	9.2	3.1	2.0
5	---	---	---	---	---	---	---	---	---	8.2	4.3	2.2
6	---	---	---	---	---	---	---	---	---	9.2	3.8	2.2
7	---	---	---	---	---	---	---	---	---	8.6	5.7	2.0
8	---	---	---	---	---	---	---	---	---	7.4	5.6	1.7
9	---	---	---	---	---	---	---	---	---	100	5.3	1.7
10	---	---	---	---	---	---	---	---	---	370	4.7	2.1
11	---	---	---	---	---	---	---	---	5.2	90	3.3	4.2
12	---	---	---	---	---	---	---	---	4.0	35	8.2	1.9
13	---	---	---	---	---	---	---	---	3.0	15	5.3	2.0
14	---	---	---	---	---	---	---	---	2.0	8.0	4.7	1.9
15	---	---	---	---	---	---	---	---	1.6	5.8	5.7	1.6
16	---	---	---	---	---	---	---	---	2.0	8.8	6.8	1.6
17	---	---	---	---	---	---	---	---	1.0	10	2.9	1.8
18	---	---	---	---	---	---	---	---	.50	9.5	1.2	1.7
19	---	---	---	---	---	---	---	---	2.5	11	.81	1.6
20	---	---	---	---	---	---	---	---	3.6	11	1.3	1.7
21	---	---	---	---	---	---	---	---	35	11	2.0	1.8
22	---	---	---	---	---	---	---	---	18	9.0	3.3	1.4
23	---	---	---	---	---	---	---	---	9.1	9.0	3.4	1.4
24	---	---	---	---	---	---	---	---	5.2	11	2.8	1.6
25	---	---	---	---	---	---	---	---	4.6	12	1.8	2.1
26	---	---	---	---	---	---	---	---	5.2	9.0	2.7	2.5
27	---	---	---	---	---	---	---	---	4.7	8.0	2.5	2.4
28	---	---	---	---	---	---	---	---	5.8	7.0	2.3	2.2
29	---	---	---	---	---	---	---	---	4.5	6.6	4.1	1.9
30	---	---	---	---	---	---	---	---	3.8	6.0	2.9	2.0
31	---	---	---	---	---	---	---	---	---	5.2	2.8	---
TOTAL	---	---	---	---	---	---	---	---	---	831.9	116.21	59.5
MEAN	---	---	---	---	---	---	---	---	---	26.8	3.75	1.98
MAX	---	---	---	---	---	---	---	---	---	370	8.2	4.2
MIN	---	---	---	---	---	---	---	---	---	5.2	.81	1.4
AC-FT	---	---	---	---	---	---	---	---	---	1650	231	118

PLATTE RIVER BASIN

127

06772000 WOOD RIVER NEAR ALDA, NE

LOCATION.--Lat 40°51'10", long 98°28'20", in NE1/4SE1/4 sec.7, T.10 N., R.10 W., Hall County, Hydrologic Unit 10200102, on right bank 1.2 mi south of Alda, 2.2 mi upstream from old north channel of the Platte River, and 19 mi upstream from present mouth.

DRAINAGE AREA.--628 mi².

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,897.66 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Dec. 3, 4, 5, and Jan. 21. Records good, except for periods of estimated record, which are fair. Numerous small pump diversions for irrigation above station.

AVERAGE DISCHARGE.--38 years, 10.5 ft³/s, 7,610 acre-ft/yr; median of yearly mean discharges, 8.1 ft³/s, 5,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,630 ft³/s June 16, 1967, gage height, 12.22 ft; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 26	0100	334	8.59	June 1	1630	*559	*10.02

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.10	.00	.00	.00	.00	.00	413	5.5	9.1	.87
2	.00	.00	.00	.00	.00	.00	.00	.00	284	3.9	14	.27
3	.02	.00	.50	.00	.00	.00	.00	.00	68	4.8	8.2	.34
4	.06	.00	.30	.00	.00	.00	.00	.00	159	11	8.6	.01
5	.00	.00	.30	.00	.00	.00	.00	.00	129	14	8.4	.03
6	.00	.00	1.1	.00	.00	.00	.00	.00	89	13	5.3	.00
7	.00	.00	.22	.00	.00	.00	.00	.00	45	13	6.5	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	28	12	7.5	.00
9	.00	.15	.00	.00	.00	.00	.00	.00	20	46	9.0	.00
10	.00	1.5	.00	.00	.00	.00	.00	.00	13	64	6.2	.00
11	.00	1.8	.00	.00	.00	.00	.00	.00	9.9	225	5.3	.00
12	.00	2.0	.00	.00	.00	.00	.00	.00	7.6	90	6.9	.00
13	.00	1.9	.00	.00	.00	.00	.00	.00	4.8	28	5.1	.00
14	.00	1.7	.00	1.9	.00	.00	.00	.00	3.5	13	7.7	.00
15	.00	1.7	.00	4.3	.00	.00	.00	.00	2.1	6.8	5.6	.00
16	.00	2.4	.00	6.1	.00	.00	.00	.00	3.2	11	3.0	.00
17	.00	2.4	.00	6.8	.00	.00	.00	2.0	1.6	7.8	5.0	.00
18	.00	2.3	.00	7.6	.00	.00	.00	.89	.73	13	4.7	.00
19	.00	2.3	.00	6.7	.00	.00	.00	.23	3.8	17	2.1	.00
20	.00	2.5	.00	4.4	.00	.00	.00	.54	5.1	18	1.7	.00
21	.00	1.8	.00	4.0	.00	.00	.00	.14	1.9	17	1.3	.00
22	.00	1.5	.00	3.5	.00	.00	.00	.00	22	15	1.6	.00
23	.00	1.9	.00	2.4	.00	.00	.00	.00	26	15	1.7	.00
24	.00	1.7	.00	1.4	.00	.00	.00	37	15	17	4.3	.00
25	.00	1.8	.00	.24	.00	.00	.00	197	8.4	19	3.7	.00
26	.00	1.6	.00	.00	.00	.00	.00	219	4.7	18	1.8	.00
27	.00	1.1	.00	.00	.00	.00	.00	172	3.6	12	1.8	.00
28	.00	1.0	.00	.00	.00	.00	.00	237	4.2	12	1.3	.00
29	.00	.54	.00	.00	---	.00	.00	178	4.2	10	3.2	.00
30	.00	.62	.00	.00	---	.00	.00	91	6.0	12	1.7	.00
31	.00	---	.00	.00	---	.00	---	84	---	11	.85	---
TOTAL	0.08	36.21	2.52	49.34	0.00	0.00	0.00	1218.80	1386.33	774.8	153.15	1.52
MEAN	.003	1.21	.081	1.59	.000	.000	.000	39.3	46.2	25.0	4.94	.051
MAX	.06	2.5	1.1	7.6	.00	.00	.00	237	413	225	14	.87
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.73	3.9	.85	.00
AC-FT	.2	72	5.0	98	.00	.00	.00	2420	2750	1540	304	3.0

CAL YR 1990 TOTAL 1681.46 MEAN 4.61 MAX 231 MIN .00 AC-FT 3340
WTR YR 1991 TOTAL 3622.75 MEAN 9.93 MAX 413 MIN .00 AC-FT 7190

BAZILE CREEK BASIN

06773050 PRAIRIE CREEK NEAR OVINA, NE

LOCATION.--Lat 40°59'18", long 98°26'18", in NW1/4NW1/4, sec.27, T.12 N., R.10 W., Hall County, Hydrologic Unit 10200103, on right downstream wing wall of Hall County bridge number 20V9 on Monitor Road, 2 mi north of Airport Road.

DRAINAGE AREA.--132 mi².

PERIOD OF RECORD.--June to September, 1991 (irrigation season only).

GAGE.--Water-stage recorder. Datum of gage is 1,873 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. Natural flow affected by beaver activity, small pump diversions and runoff from irrigation above gage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 1030 ft³/s June 2, gage height 10.77 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	306	9.9	16	2.3
2	---	---	---	---	---	---	---	---	910	12	15	1.1
3	---	---	---	---	---	---	---	---	527	11	14	.52
4	---	---	---	---	---	---	---	---	42	12	14	.20
5	---	---	---	---	---	---	---	---	216	11	11	.06
6	---	---	---	---	---	---	---	---	115	11	9.8	.01
7	---	---	---	---	---	---	---	---	19	11	9.8	.00
8	---	---	---	---	---	---	---	---	9.3	9.7	8.4	.00
9	---	---	---	---	---	---	---	---	6.5	442	8.0	.00
10	---	---	---	---	---	---	---	---	6.5	924	5.7	.00
11	---	---	---	---	---	---	---	---	12	296	4.1	.00
12	---	---	---	---	---	---	---	---	5.9	18	3.9	.00
13	---	---	---	---	---	---	---	---	4.4	7.2	7.9	.00
14	---	---	---	---	---	---	---	---	3.7	4.6	8.0	.00
15	---	---	---	---	---	---	---	---	3.4	3.7	4.2	.00
16	---	---	---	---	---	---	---	---	3.2	3.4	4.3	.00
17	---	---	---	---	---	---	---	---	3.2	5.4	3.6	.00
18	---	---	---	---	---	---	---	---	3.2	8.4	3.5	.00
19	---	---	---	---	---	---	---	---	3.2	9.2	4.1	.00
20	---	---	---	---	---	---	---	---	3.1	11	3.2	.00
21	---	---	---	---	---	---	---	---	2.9	9.3	3.3	.00
22	---	---	---	---	---	---	---	---	3.0	7.1	6.3	.00
23	---	---	---	---	---	---	---	---	3.1	5.6	7.4	.00
24	---	---	---	---	---	---	---	---	3.5	7.8	7.3	.00
25	---	---	---	---	---	---	---	---	3.5	7.7	7.3	.00
26	---	---	---	---	---	---	---	---	4.0	9.2	6.8	.00
27	---	---	---	---	---	---	---	---	5.5	8.8	5.5	.00
28	---	---	---	---	---	---	---	---	6.8	9.4	5.5	.00
29	---	---	---	---	---	---	---	---	7.5	9.2	5.6	.00
30	---	---	---	---	---	---	---	6.9	9.1	9.8	4.7	.00
31	---	---	---	---	---	---	---	70	---	14	3.3	---
TOTAL	---	---	---	---	---	---	---	---	2251.5	1918.4	221.5	4.19
MEAN	---	---	---	---	---	---	---	---	75.0	61.9	7.15	.14
MAX	---	---	---	---	---	---	---	---	910	924	16	2.3
MIN	---	---	---	---	---	---	---	---	2.9	3.4	3.2	.00
AC-FT	---	---	---	---	---	---	---	---	4470	3810	439	8.3

PLATTE RIVER BASIN

129

06773150 SILVER CREEK AT OVINA, NE

LOCATION.--Lat. 40° 57' 34", Long 98° 27' 18", in NW1/4NW1/4NW1/4, sec.4, T.11 N., R.10 W., Hydrologic Unit 10200103, on right bank 150 ft downstream from Hall County Bridge Number 2219 on private property, 2 mi west of intersection of Airport and Engleman Road, then 1/8 mi south of Airport Road, Hall County.

DRAINAGE AREA.--67.6 mi².

PERIOD OF RECORD.--May to September 1991 (irrigation season only).

GAGE.--Water-stage recorder. Datum of gage is 1,881 ft above the National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 620 ft³/s June 2, gage height, 6.57 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	91	.01	1.1	.00
2	---	---	---	---	---	---	---	---	565	.24	.25	.00
3	---	---	---	---	---	---	---	---	286	.19	.31	.00
4	---	---	---	---	---	---	---	---	40	.31	.06	.00
5	---	---	---	---	---	---	---	---	96	.30	.18	.00
6	---	---	---	---	---	---	---	---	142	.12	.34	.00
7	---	---	---	---	---	---	---	---	26	.02	.23	.00
8	---	---	---	---	---	---	---	---	6.3	.05	.00	.00
9	---	---	---	---	---	---	---	---	3.0	306	.00	.00
10	---	---	---	---	---	---	---	---	2.4	497	.00	.00
11	---	---	---	---	---	---	---	---	2.2	103	.00	.00
12	---	---	---	---	---	---	---	---	1.9	26	.00	.00
13	---	---	---	---	---	---	---	---	1.4	7.5	.00	.00
14	---	---	---	---	---	---	---	---	1.1	2.5	.00	.00
15	---	---	---	---	---	---	---	---	.84	1.4	.36	.00
16	---	---	---	---	---	---	---	---	.76	.98	.31	.00
17	---	---	---	---	---	---	---	---	.67	1.1	.05	.00
18	---	---	---	---	---	---	---	---	.68	1.6	.00	.00
19	---	---	---	---	---	---	---	---	.57	2.2	.00	.00
20	---	---	---	---	---	---	---	---	.54	2.4	.00	.00
21	---	---	---	---	---	---	---	---	.46	1.7	.05	.00
22	---	---	---	---	---	---	---	---	.45	.98	.18	.00
23	---	---	---	---	---	---	---	---	.51	.95	.13	.00
24	---	---	---	---	---	---	---	---	.76	.80	.00	.00
25	---	---	---	---	---	---	---	---	.72	1.4	.00	.00
26	---	---	---	---	---	---	---	---	.43	.61	.00	.00
27	---	---	---	---	---	---	---	---	.42	.36	.00	.00
28	---	---	---	---	---	---	---	---	.33	.07	.00	.00
29	---	---	---	---	---	---	---	---	.18	.00	.00	.00
30	---	---	---	---	---	---	---	---	.04	.73	.00	.00
31	---	---	---	---	---	---	---	44	---	1.2	.00	---
TOTAL	---	---	---	---	---	---	---	---	1272.66	961.72	3.55	0.00
MEAN	---	---	---	---	---	---	---	---	42.4	31.0	.11	.000
MAX	---	---	---	---	---	---	---	---	565	497	1.1	.00
MIN	---	---	---	---	---	---	---	---	.04	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	---	2520	1910	7.0	.00

PLATTE RIVER BASIN

06774000 PLATTE RIVER NEAR DUNCAN, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°22'04", long 97°29'40", in SE1/4SW1/4 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 12 mi upstream from Loup River.

DRAINAGE AREA.--60,900 mi², approximately, of which about 56,100 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1895 to December 1909 (irrigation seasons only 1895-1900), 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, 1903-5, 1929-32, 1935(M), 1936. WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,476.82 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 3-7, Dec. 17 to Feb. 21, and Mar. 2-4. 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.a

AVERAGE DISCHARGE.--50 years (water years 1942-91, since storage in Lake McConaughy), 1,761 ft³/s, 1,276,000 acre-ft/yr; median of yearly mean discharges, 1,340 ft³/s, 971,000 acre-ft/yr. Figures unadjusted for storage or diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 44,100 ft³/s June 23, 1905, gage height, 6.50 ft, site and datum then in use; maximum gage height, 6.78 ft Mar. 24, 1987, present site and datum. No flow at times in 1896, 1902, 1904-5, 1910-11, 1913-14, 1928, all at site downstream, 1931, 1933-42, 1944, 1952-57, 1959, 1963, 1974, 1976, 1978, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,480 ft³/s June 2, gage height, 5.76 ft; no flow Sept. 1-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	530	870	410	1100	1660	1700	1210	3500	268	151	.00
2	206	541	808	420	1200	1600	1640	1090	7060	198	106	.00
3	270	589	780	430	1300	1500	1570	1450	7550	173	88	.00
4	269	637	740	500	1400	1400	1530	1560	6280	150	70	.00
5	236	689	700	540	1600	1520	1440	1490	6340	108	68	.00
6	232	790	900	520	1700	1360	1330	1450	6130	73	68	.00
7	196	916	1000	560	1800	1350	1290	1590	4900	52	68	.00
8	189	978	1220	600	2000	1360	1140	2120	4080	39	72	.00
9	193	990	1000	600	2100	1480	1060	2280	3460	396	75	.00
10	224	934	955	600	2300	1460	1080	2200	2840	1670	58	.00
11	241	909	915	620	2500	1390	1180	1920	2280	1840	41	.00
12	241	931	842	600	2400	1320	1400	1620	2010	1600	30	.00
13	249	931	823	640	2400	1360	1660	1410	1910	1430	25	.00
14	248	868	858	680	2500	1380	1480	1180	2490	1330	19	.00
15	251	851	901	800	2500	1360	1200	974	2110	885	16	.55
16	251	857	952	1000	2300	1400	1070	912	1600	448	18	53
17	249	824	900	1200	2200	1400	990	968	1310	312	151	96
18	263	736	800	1300	2100	1410	981	872	1220	228	536	127
19	306	736	640	1300	2200	1380	989	902	1080	173	406	133
20	342	693	500	1200	2400	1360	973	837	1010	145	305	152
21	554	686	400	1200	2200	1280	969	835	1030	118	225	152
22	683	735	350	1200	1730	1300	937	782	1110	112	174	148
23	772	747	400	1300	1510	1220	948	764	1120	119	115	161
24	783	780	450	1300	1490	1190	980	918	1250	126	79	164
25	838	795	430	1200	1420	1190	966	1410	1350	105	51	158
26	834	803	430	1200	1470	1240	896	3570	1200	91	31	158
27	628	829	480	1300	1530	1300	800	5620	985	81	16	183
28	547	1110	460	1100	1650	1530	764	4680	690	110	7.4	196
29	508	987	450	1100	---	1670	939	4070	460	134	2.8	208
30	493	988	380	1100	---	1740	1180	3980	351	121	1.4	200
31	509	---	380	1100	---	1730	---	3420	---	193	.08	---
TOTAL	12019	24390	21714	27620	53000	43840	35082	58084	78706	12828	3073.68	2289.55
MEAN	388	813	700	891	1893	1414	1169	1874	2624	414	99.2	76.3
MAX	838	1110	1220	1300	2500	1740	1700	5620	7550	1840	536	208
MIN	189	530	350	410	1100	1190	764	764	351	39	.08	.00
AC-FT	23840	48380	43070	54780	105100	86960	69590	115200	156100	25440	6100	4540
CAL YR 1990	TOTAL	451753.6	MEAN	1238	MAX	3840	MIN	1.2	AC-FT	896100		
WTR YR 1991	TOTAL	372646.23	MEAN	1021	MAX	7550	MIN	.00	AC-FT	739100		

PLATTE RIVER BASIN

131

06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1981.

WATER TEMPERATURES: November 1977 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,100 microsiemens Feb. 12, 1981; minimum daily, 290 microsiemens Mar. 21, 1978.

WATER TEMPERATURES: Maximum, 33.0°C July 10, 11, 1980; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE PER SECOND (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 13...	1330	931	884	8.4	11.0	725	14	14.3	K33	100	260
JAN 14...	1130	680	1090	7.9	0.5	--	1.8	17.5	<10	K56	330
MAR 06...	1400	1360	942	8.4	7.0	719	16	11.8	--	36	310
MAY 15...	1035	974	902	8.7	21.0	717	17	11.9	K30	K73	240
JUL 12...	1145	1600	--	8.8	27.5	727	55	12.4	--	--	160

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARE DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 13...	79	65	23	88	2	13	179	12	194	240	36
JAN 14...	110	83	29	100	2	13	219	0	267	280	46
MAR 06...	120	82	25	88	2	12	186	14	198	250	40
MAY 15...	100	54	25	87	2	16	136	5	156	260	47
JUL 12...	50	44	13	41	1	14	114	14	110	120	20

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NOV 13...	0.50	21	593	598	0.81	1490	--	<0.010	0.700	0.700
JAN 14...	0.50	23	706	712	0.96	1300	1.18	0.020	1.20	1.20
MAR 06...	0.50	24	645	641	0.88	2370	1.58	0.020	1.60	1.60
MAY 15...	0.60	8.7	594	581	0.81	1560	--	<0.010	<0.050	<0.050
JUL 12...	0.50	16	338	352	0.46	1460	3.05	0.150	3.20	3.20

PLATTE RIVER BASIN

06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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, 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)
NOV 13...	0.050	0.060	0.85	--	0.90	1.6	--	0.200	0.080	0.090
JAN 14...	0.270	0.280	0.23	--	0.50	1.7	--	0.110	0.110	0.110
MAR 06...	0.070	0.080	0.73	--	0.80	2.4	--	0.200	0.090	0.070
MAY 15...	<0.010	0.020	--	--	1.2	--	--	0.130	0.020	0.020
JUL 12...	0.120	0.160	2.4	1.0	2.5	5.7	4.4	0.480	0.240	0.260

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 13...	1330	<10	3	77	<0.5	<1.0	2	<3	3	5	<1
MAR 06...	1400	20	3	84	<0.5	<1.0	<1	<3	1	5	<1
MAY 15...	1035	<10	2	61	<0.5	<1.0	<1	<3	3	6	<1
JUL 12...	1145	<10	4	91	<0.5	<1.0	<1	<3	3	17	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 13...	33	5	<0.1	<10	2	1	<1.0	660	<6	7
MAR 06...	33	5	<0.1	10	1	2	<1.0	790	<6	12
MAY 15...	31	2	<0.1	10	2	2	<1.0	640	6	<3
JUL 12...	18	2	<0.1	<10	3	1	<1.0	370	8	10

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 13...	1330	931	11.0	69	173	--
JAN 14...	1130	680	0.5	26	48	31
MAR 06...	1400	1360	7.0	80	294	47
MAY 15...	1035	974	21.0	75	197	72
JUL 12...	1145	1600	27.5	307	1330	85

PLATTE RIVER BASIN

133

06775500 MIDDLE LOUP RIVER AT DUNNING, NE

LOCATION.--Lat 41°49'50", long 100°06'20", in NW1/4SE1/4 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.

DRAINAGE AREA.--1,850 mi², approximately, of which about 80 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,604.14 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Dec. 21 to Jan. 17. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--46 years, 410 ft³/s, 297,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft³/s Mar. 8, 1989, gage height, 3.55 ft, result of a bridge collapsing and releasing ice jam 0.2 mi upstream; maximum gage height, 7.02 ft Mar. 31, 1949, backwater from ice, site and datum then in use; minimum daily discharge, 100 ft³/s Dec. 5, 6, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 879 ft³/s May 17, gage height, 4.23 ft; maximum gage height 5.38 ft, Dec. 21, backwater from ice; minimum daily discharge, 250 ft³/s Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	425	453	393	400	386	473	459	418	492	458	421	438
2	445	447	388	370	452	428	463	432	483	449	411	440
3	505	446	386	390	443	423	455	554	467	442	412	438
4	441	441	377	400	428	445	452	492	468	437	407	429
5	431	436	393	410	467	462	450	472	471	440	415	443
6	419	442	404	400	478	447	449	469	454	439	418	444
7	407	415	388	400	467	465	450	487	481	440	422	441
8	410	406	411	400	473	473	433	475	480	436	497	451
9	405	409	399	400	488	466	420	466	488	449	470	442
10	408	409	416	410	492	487	417	465	568	455	457	444
11	430	420	449	430	494	500	449	467	550	484	461	485
12	410	415	435	460	488	512	451	475	504	524	496	486
13	411	424	427	540	504	462	434	461	487	447	480	522
14	416	440	421	560	458	472	429	453	481	423	478	497
15	411	443	420	540	429	436	434	454	467	415	462	460
16	427	428	432	520	438	438	442	493	453	406	462	435
17	430	417	424	700	453	447	439	730	447	404	457	435
18	390	437	445	652	469	469	443	583	451	408	447	422
19	416	430	423	520	457	468	474	521	474	406	444	419
20	429	432	320	466	467	506	467	496	462	418	443	429
21	412	434	250	447	476	530	457	496	493	413	447	427
22	426	415	350	445	491	557	452	520	503	419	447	429
23	443	409	400	432	492	513	465	516	480	421	456	417
24	441	404	430	395	466	504	466	480	473	415	446	414
25	443	409	410	409	441	514	462	482	474	409	441	427
26	457	411	420	419	455	506	483	459	464	406	438	432
27	453	386	430	415	460	488	455	453	464	410	434	427
28	440	402	430	380	470	465	450	465	461	406	434	431
29	453	398	420	393	---	472	475	566	458	409	445	438
30	456	388	300	400	---	442	431	492	457	415	447	435
31	452	---	440	413	---	447	---	480	---	411	442	---
TOTAL	13342	12646	12431	13916	12982	14717	13506	15272	14355	13314	13837	13277
MEAN	430	422	401	449	464	475	450	493	478	429	446	443
MAX	505	453	449	700	504	557	483	730	568	524	497	522
MIN	390	386	250	370	386	423	417	418	447	404	407	414
AC-FT	26460	25080	24660	27600	25750	29190	26790	30290	28470	26410	27450	26330

CAL YR 1990 TOTAL 161968 MEAN 444 MAX 604 MIN 250 AC-FT 321300
WTR YR 1991 TOTAL 163595 MEAN 448 MAX 730 MIN 250 AC-FT 324500

LOCATION.--Lat 41°46'45", long 100°31'30", in SE1/4NW1/4 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), and 14 mi south of Thedford.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 323 ft³/s Aug. 8, gage height, 1.72 ft; minimum daily, 174 ft³/s Nov. 28.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	212	210	211	219	212	249	220	217	211	205	188
2	205	214	203	201	220	207	240	227	211	206	207	187
3	210	216	203	194	223	210	243	270	204	206	201	190
4	197	206	200	200	229	215	234	236	206	206	199	187
5	200	202	200	209	224	218	234	216	205	206	203	189
6	198	218	204	204	222	213	236	224	214	206	206	190
7	193	216	201	197	222	219	234	222	233	205	215	191
8	197	202	205	209	223	210	231	220	212	206	242	191
9	200	208	202	207	225	211	227	214	213	210	207	189
10	201	208	207	215	226	213	222	213	231	211	202	195
11	201	216	203	216	225	217	229	210	222	258	213	206
12	197	216	201	216	226	217	231	207	209	216	221	205
13	201	210	196	223	220	214	222	204	208	208	213	218
14	199	208	203	217	215	215	229	202	209	206	200	202
15	202	210	204	228	207	215	227	203	200	207	198	195
16	203	206	196	212	208	211	227	211	198	205	201	185
17	204	206	201	226	218	216	229	288	198	205	202	187
18	194	213	201	227	213	223	229	241	206	204	190	186
19	202	210	194	226	205	217	227	209	210	206	192	183
20	208	213	193	221	214	226	238	215	212	207	191	186
21	205	215	195	209	223	237	227	216	238	206	193	186
22	204	203	195	217	221	238	229	227	227	208	189	186
23	206	211	200	221	216	220	234	216	218	211	195	186
24	208	208	204	217	205	233	231	209	220	209	191	184
25	212	208	198	216	208	232	229	208	220	205	190	187
26	212	206	191	213	214	235	241	204	222	206	186	187
27	214	204	200	215	210	235	224	197	219	203	187	187
28	208	204	201	219	213	234	222	204	216	204	190	189
29	216	193	198	213	---	236	229	235	215	203	190	191
30	214	205	202	209	---	228	224	213	214	207	191	191
31	212	---	213	217	---	245	---	206	---	207	189	---
TOTAL	6324	6237	6224	6625	6094	6872	6928	6787	6427	6464	6199	5724
MEAN	204	208	201	214	218	222	231	219	214	209	200	191
MAX	216	218	213	228	229	245	249	288	238	258	242	218
MIN	193	174	191	194	205	207	222	197	198	203	186	183
AC-FT	12540	12370	12350	13140	12090	13630	13740	13460	12750	12820	12300	11350
CAL YR 1990	TOTAL 75135				MEAN 206	MAX 244	MIN 174	AC-FT 149000				
WTR YR 1991	TOTAL 76905				MEAN 211	MAX 288	MIN 174	AC-FT 152500				

PLATTE RIVER BASIN
06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

RAINFALL RECORDS

PERIOD OF RECORD.--November 1990 to current year.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.0	.0	.0	.0	.0	---	.7	.0	.0	.0
2	---	---	.0	.0	.0	.0	.0	---	.0	.0	.0	.0
3	---	---	.0	.0	.0	.0	---	---	.1	.0	.0	.0
4	---	---	.0	.0	.0	.0	---	---	.0	.0	.1	.0
5	---	---	.0	.0	.0	.0	---	---	.0	.0	.0	.0
6	---	---	.0	.0	.0	.0	---	---	.1	.0	.0	.0
7	---	---	.0	.0	.0	.0	---	---	.0	.0	.0	.0
8	---	---	.0	.0	.0	.0	---	---	.0	.0	.0	.0
9	---	---	.0	.0	.0	.0	---	---	.5	.0	.0	.0
10	---	---	.0	.0	.0	.0	---	.0	.0	.0	.0	.6
11	---	---	.0	.0	.0	.0	---	.0	.0	.0	.5	.0
12	---	---	.1	.0	.0	.1	---	.0	.0	.0	.5	.8
13	---	---	.0	.0	.1	.1	---	.0	.0	.0	.0	.2
14	---	.0	.1	.0	.0	.0	---	.0	.0	.0	.0	.0
15	---	.0	.1	.0	.0	.0	---	.0	.0	.0	.3	.0
16	---	.0	.0	.0	.0	.0	---	1.7	.0	.0	.1	.0
17	---	.0	.0	.0	.0	.2	---	.9	.1	.0	.0	.0
18	---	.0	.0	.0	.0	.0	---	.0	.2	.0	.0	.0
19	---	.0	.0	.0	.1	.0	---	.0	.0	.0	.0	.0
20	---	.0	.0	.1	.0	.3	---	.0	.0	.0	.0	.0
21	---	.0	.1	.0	.0	.4	---	.0	.6	2.3	.0	.0
22	---	.0	.0	.0	.0	.7	---	.8	.0	.3	.0	.0
23	---	.0	.0	.0	.0	.0	---	.0	.0	.0	.0	.0
24	---	.0	.0	.0	.0	.0	---	.1	.0	.0	.0	.0
25	---	.0	.0	.1	.0	.0	---	.0	.0	.0	.0	.0
26	---	.0	.0	.0	.0	.1	---	.1	.0	.0	.0	.0
27	---	.4	.0	.0	.0	.2	---	.0	.0	.0	.0	.0
28	---	.0	.0	.0	.0	.0	---	1.5	.0	.0	.0	.0
29	---	.0	.0	.1	---	.0	---	.3	.0	.0	.0	.0
30	---	.0	.0	.0	---	.2	---	.0	.0	.0	.0	.0
31	---	---	.0	.0	---	.0	---	.0	---	.0	.0	---
TOTAL	---	---	0.4	0.3	0.2	2.3	---	---	2.3	2.6	1.5	1.6

PLATTE RIVER BASIN
06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 20...	1230	217	173	8.3	10.5	674	12	9.8	36	48	71
FEB 12...	1220	216	175	8.1	9.0	680	20	10.0	270	K23	71
MAY 10...	0915	212	180	8.2	17.0	685	20	8.1	180	66	69
AUG 07...	1100	207	175	8.2	22.0	690	15	8.0	170	160	72

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LINITY WAT DIS TOT IT FIELD CACO3 (39086)	CAR- BONATE WATER DIS IT FIELD CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 20...	0	23	3.3	6.7	0.3	4.8	75	0	91	6.1	0.40
FEB 12...	0	23	3.3	6.8	0.4	5.1	77	0	93	6.1	0.90
MAY 10...	3	22	3.4	7.1	0.4	5.2	80	0	80	6.3	1.9
AUG 07...	0	23	3.4	6.8	0.4	5.0	73	0	89	6.2	0.30

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 20...	0.40	56	142	148	0.19	83.2	0.480	0.480	0.020	0.020	0.500
FEB 12...	0.20	55	150	149	0.20	87.5	--	0.480	<0.010	0.020	0.500
MAY 10...	0.30	56	141	144	0.19	80.7	0.400	0.360	0.020	0.010	0.420
AUG 07...	0.30	56	130	147	0.18	72.7	0.370	0.370	0.020	0.010	0.390

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	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)	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 20...	0.500	0.050	0.030	0.25	0.30	--	0.80	0.210	0.120	0.130
FEB 12...	0.500	<0.010	<0.010	--	0.30	--	0.80	0.180	0.110	0.130
MAY 10...	0.370	0.020	0.020	0.58	0.60	--	1.0	0.210	0.130	0.110
AUG 07...	0.380	0.030	0.040	0.37	0.40	<0.20	0.79	0.170	0.130	0.130

PLATTE RIVER BASIN

06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 20...	1230	20	6	47	<0.5	<1.0	<1	<3	1	13	1
FEB 12...	1220	<10	6	46	<0.5	<1.0	1	<3	<1	12	<1
MAY 10...	0915	20	6	47	<0.5	<1.0	2	<3	1	17	<1
AUG 07...	1100	<10	6	52	<0.5	<1.0	<1	<3	1	14	<1

DATE	TIME	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 20...	12	12	2	<0.1	<10	1	<1	<1.0	110	9	<3
FEB 12...	13	13	2	<0.1	<10	1	<1	<1.0	110	10	9
MAY 10...	11	11	2	<0.1	<10	2	<1	<1.0	120	13	9
AUG 07...	9	9	3	<0.1	<10	<1	<1	<1.0	120	10	<3

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L AS U) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
NOV 20...	1230	0.7	5.7	5.2	<0.6	4.0	<0.6	0.08	0.36
MAY 10...	0915	1.1	9.7	5.1	4.5	3.9	4.1	0.05	0.33

DATE	TIME	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (UG/L) (75986)	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCI/L) (75987)	BETA, 2 SIGMA WATER, DISS, AS SR90 (PCI/L (75988)	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCI/L) (75989)	URANIUM NATURAL 2 SIGMA WATER, DISS, (UG/L) (75990)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	ALPHA, 2 SIGMA SED SUS TOT DRY AS TH-230 (PCI/L) (76004)	BETA, 2 SIGMA SED, SUSP, TOT DRY SR90Y90 (PCI/L) (76005)
NOV 20...		0.80	<0.60	1.2	1.4	<1.0	0.020	2.7	0.50
MAY 10...		1.0	0.80	0.90	1.4	<1.0	0.010	3.5	1.2

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 20...	1230	217	10.5	449	263	15
FEB 12...	1220	216	9.0	680	397	20
MAY 10...	0915	212	17.0	388	222	26
AUG 07...	1100	207	22.0	280	156	15

LOCATION.--Lat 41°49'23", long 100°06'05", in sec.4, T.21 N., R.24 W., Blaine County, Hydrologic Unit 10210002, on right bank 100 ft downstream from bridge on State Highway 2 at southeast corner of Dunning and 1 mi upstream from mouth.

REVISED RECORDS.--WSP 2118: Drainage area.

AVERAGE DISCHARGE.--46 years (1945-91), 327 ft³/s, 236,900 acre-ft/yr.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 630 ft³/s May 16, gage height, 1.37 ft; maximum gage height, 2.25 ft Jan. 13, backwater from ice; minimum daily discharge, 220 ft³/s Dec. 20.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	326	353	340	360	306	358	345	355	401	329	325	304
2	351	332	347	320	330	331	351	371	402	321	326	309
3	410	339	348	320	346	332	364	445	387	314	318	303
4	329	319	357	320	350	351	374	376	377	321	316	305
5	333	332	359	330	358	373	374	352	376	324	323	309
6	327	350	367	340	358	346	381	354	362	328	326	319
7	314	310	373	340	354	338	378	360	385	329	331	317
8	309	312	369	330	362	350	361	353	379	319	338	319
9	308	322	376	340	359	349	352	364	365	325	352	313
10	324	338	374	340	365	352	346	366	402	341	316	318
11	324	349	382	350	362	365	362	365	383	341	329	360
12	310	355	378	360	357	371	367	372	364	373	348	359
13	324	350	366	390	361	341	355	362	358	325	345	388
14	325	361	370	420	330	352	354	356	362	327	333	374
15	317	356	354	440	315	352	351	362	347	327	326	337
16	333	350	357	450	307	342	352	410	334	326	337	315
17	325	341	368	391	338	354	355	554	336	324	317	328
18	295	341	369	376	340	364	352	463	338	329	317	314
19	318	363	351	364	320	357	380	431	349	333	314	314
20	324	365	220	340	346	378	362	409	349	333	315	322
21	308	357	270	336	365	381	353	407	353	333	310	323
22	313	341	320	344	370	396	350	435	371	340	310	321
23	320	339	360	322	361	360	364	424	350	338	312	314
24	313	347	370	312	343	351	363	389	340	333	312	305
25	318	349	350	306	335	360	361	395	343	327	307	313
26	334	346	370	319	333	372	385	391	339	325	303	321
27	330	320	380	319	336	354	367	379	340	326	302	333
28	331	355	370	295	357	330	358	389	338	322	303	331
29	334	322	350	306	---	337	430	475	337	327	307	333
30	343	327	300	316	---	321	353	433	336	331	306	327
31	340	---	350	309	---	328	---	405	---	339	300	---
TOTAL	10110	10241	10915	10705	9664	10946	10900	12302	10803	10230	9924	9748
MEAN	326	341	352	345	345	353	363	397	360	330	320	325
MAX	410	365	382	450	370	396	430	554	402	373	352	388
MIN	295	310	220	295	306	321	345	352	334	314	300	303
AC-FT	20050	20310	21650	21230	19170	21710	21620	24400	21430	20290	19680	19340
CAL YR 1990	TOTAL 127921			MEAN 350	MAX 435	MIN 220	AC-FT 253700					
WTR YR 1991	TOTAL 126488			MEAN 347	MAX 554	MIN 220	AC-FT 250900					

PLATTE RIVER BASIN

06779000 MIDDLE LOUP RIVER AT ARCADIA, NE

LOCATION.--Lat 41°25'20", long 99°08'10", in sec.26, T.17 N., R.16 W., Valley County, Hydrologic Unit 10210003, at right downstream end of bridge on State Highway 70 at southwest edge of Arcadia.

DRAINAGE AREA.--5,040 mi², approximately, of which about 820 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1937 to current year.

REVISED RECORDS.--WDR NE-72: Drainage area. WDR NE-82-1: 1981(M).

GAGE.--Water-stage recorder. Datum of gage is 2,146.30 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 23, 1938, nonrecording gage at bridge at datum 1.23 ft lower. Apr. 24, 1938 to July 24, 1991, water-stage recorder on left bank 80 ft downstream from bridge, at present datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 10, Dec. 21 to Feb. 22, and June 24 to July 1. Records fair except for periods of estimated record, which are poor. Middle Loup Public Power and Irrigation District began diversion above station Mar. 30, 1938. Farwell Irrigation District canal began diversion from river in November 1962 at point 8 mi above station.

AVERAGE DISCHARGE.--29 years (1962-91), 699 ft³/s, 504,400 acre-ft/yr since diversion to Farwell Irrigation District canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 18,500 ft³/s June 22, 1947, gage height, 6.24 ft; maximum discharge computed, 9,700 ft³/s May 27, 1945, gage height, 5.12 ft; maximum gage height, 6.41 ft Mar. 27, 1960, backwater from ice; minimum daily discharge, 6.0 ft³/s July 23, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,800 ft³/s May 3, gage height 3.28 ft; maximum gage height, 4.45 ft, Feb. 8, backwater from ice; minimum daily, 72 ft³/s Aug. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	441	1470	620	900	780	883	614	536	1090	111	75	109
2	398	1440	800	880	860	592	941	602	1080	101	78	110
3	1030	1430	900	820	940	981	855	1100	993	86	72	100
4	1510	1290	960	800	1000	906	931	1030	881	82	103	104
5	858	1030	1000	760	1150	1030	885	713	884	86	103	106
6	672	1420	1100	800	1250	1210	822	761	828	73	102	110
7	721	1370	1200	840	1250	1260	811	733	745	88	87	100
8	948	1030	1250	800	1250	1140	816	755	676	86	86	125
9	941	1060	1350	880	1300	1160	771	886	690	103	115	135
10	783	1290	1400	860	1300	1020	687	1010	830	125	115	163
11	1180	1250	1450	900	1300	875	716	1160	910	92	96	347
12	1240	1090	1450	1100	1500	916	716	1160	747	81	118	540
13	1190	1370	1330	1100	1900	1130	723	1140	616	98	183	1190
14	1200	1260	1280	1050	2000	747	507	1050	590	117	140	1310
15	1160	1220	1230	900	1500	864	736	977	592	91	116	1180
16	1230	1140	1110	940	1300	874	646	1090	569	95	107	849
17	1360	1090	1150	1020	1400	780	604	1370	492	85	104	350
18	1020	888	1020	1100	1500	693	434	1340	410	85	121	347
19	1020	818	731	1000	1600	1020	686	791	339	100	91	297
20	1130	974	190	900	1700	955	710	722	393	96	94	277
21	904	1060	150	800	1700	1240	725	638	340	150	87	304
22	723	1010	100	1000	1600	1390	588	666	385	185	87	313
23	770	853	150	800	1390	1480	534	824	355	110	100	314
24	899	791	250	760	1100	1140	557	777	200	97	102	363
25	808	737	230	740	981	1260	555	697	150	78	92	369
26	814	957	260	700	770	1420	504	642	145	74	84	292
27	970	734	300	800	687	1550	747	623	130	76	76	281
28	1220	700	250	700	942	1340	667	651	120	150	78	282
29	1370	600	180	680	---	994	998	775	115	94	102	283
30	1380	600	300	680	---	965	974	1400	115	73	98	290
31	1400	---	500	720	---	728	---	1140	---	110	110	---
TOTAL	31290	31972	24191	26730	35950	32543	21460	27759	16410	3078	3122	10940
MEAN	1009	1066	780	862	1284	1050	715	895	547	99.3	101	365
MAX	1510	1470	1450	1100	2000	1550	998	1400	1090	185	183	1310
MIN	398	600	100	680	687	592	434	536	115	73	72	100
AC-FT	62060	63420	47980	53020	71310	64550	42570	55060	32550	6110	6190	21700

CAL YR 1990 TOTAL 268411 MEAN 735 MAX 1560 MIN 85 AC-FT 532400
WTR YR 1991 TOTAL 265445 MEAN 727 MAX 2000 MIN 72 AC-FT 526500

PLATTE RIVER BASIN

06783500 MUD CREEK NEAR SWEETWATER, NE

LOCATION.--Lat 41°02'15", long 98°59'35", in NE1/4SE1/4 sec.3, T.12 N., R.15 W., Buffalo County, Hydrologic Unit 10210005, on right bank 12 ft downstream from bridge on State Highway 2, 0.9 mi southeast of Sweetwater, and 11.6 mi upstream from mouth.

DRAINAGE AREA.--707 mi², of which 655 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,013.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 28-30, Dec. 2-11, 13-15, Dec. 17 to Feb. 28, Mar. 2, 3, and May 6, 7. Records good except for periods of estimated discharge, which are poor. Minor irrigation developments above station.

AVERAGE DISCHARGE.--45 years, 37.6 ft³/s, 27,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 27,000 ft³/s June 22, 1947, gage height, 23.20 ft; maximum discharge computed, 5,600 ft³/s June 24, 1968, gage height, 20.07 ft; no flow at times in 1955-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1929, that of June 22, 1947, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 24	1530	*400	*10.29	No peaks greater than base discharge.			
Minimum daily discharge, 1.6 ft ³ /s Aug. 29.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	13	17	16	20	19	23	34	40	11	3.8	1.9
2	10	13	16	17	24	19	22	38	167	12	2.2	3.2
3	12	14	16	16	26	19	22	40	79	10	2.1	3.2
4	12	14	16	16	25	19	22	110	190	8.7	2.0	5.5
5	13	14	16	16	27	21	21	49	94	8.3	2.3	5.9
6	13	14	16	16	29	21	21	37	55	8.2	2.1	3.9
7	14	14	16	16	25	21	20	31	39	6.7	3.7	5.0
8	15	15	16	16	26	21	20	28	31	5.2	3.1	4.1
9	13	15	17	17	30	20	20	25	27	26	2.7	3.5
10	11	14	17	17	29	20	20	24	25	27	2.7	4.2
11	11	14	17	16	29	20	21	24	24	16	3.9	7.0
12	11	14	18	15	29	21	21	24	23	14	8.0	7.1
13	12	14	17	16	30	22	21	24	24	12	9.3	7.3
14	12	15	16	17	29	21	22	22	24	9.1	12	7.7
15	11	15	16	18	20	21	22	21	23	9.2	11	7.5
16	11	15	16	18	22	21	22	23	22	9.0	9.1	7.0
17	12	15	16	18	26	21	21	28	26	8.5	8.6	8.7
18	11	15	17	18	24	21	21	24	23	5.6	7.3	9.0
19	13	15	17	18	21	21	21	22	20	4.6	5.1	8.9
20	12	16	15	18	22	21	23	22	20	4.5	4.0	7.5
21	13	16	14	16	28	22	23	21	18	5.1	4.2	6.3
22	13	16	14	16	30	22	23	21	18	7.0	3.2	6.9
23	13	16	14	17	27	22	23	52	22	5.8	2.4	7.6
24	14	16	15	17	22	22	22	180	20	12	1.9	7.1
25	13	16	16	16	20	23	21	142	20	11	2.8	7.4
26	13	16	16	16	20	23	21	49	18	10	1.9	7.9
27	13	16	16	16	20	23	21	36	16	8.2	2.7	7.8
28	12	16	16	17	21	23	22	32	15	4.5	2.3	7.4
29	13	16	15	17	---	23	27	29	14	2.9	1.6	7.1
30	12	16	14	16	---	23	33	38	12	3.7	1.8	7.1
31	13	---	15	17	---	23	---	29	---	3.8	1.7	---
TOTAL	381	448	493	516	701	659	662	1279	1149	289.6	131.5	190.7
MEAN	12.3	14.9	15.9	16.6	25.0	21.3	22.1	41.3	38.3	9.34	4.24	6.36
MAX	15	16	18	18	30	23	33	180	190	27	12	9.0
MIN	10	13	14	15	20	19	20	21	12	2.9	1.6	1.9
AC-FT	756	889	978	1020	1390	1310	1310	2540	2280	574	261	378

CAL YR 1990 TOTAL 9880.7 MEAN 27.1 MAX 987 MIN 6.3 AC-FT 19600
WTR YR 1991 TOTAL 6899.8 MEAN 18.9 MAX 190 MIN 1.6 AC-FT 13690

LOCATION.--Lat 41°01'53", long 98°44'25", in NW1/4NW1/4 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, and 3.4 mi upstream from Sweet Creek.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 1,921.26 ft above National Geodetic Vertical Datum of 1929. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 50,000 ft³/s June 22, 1947, gage height, 12.0 ft, present datum, from graph based on gage readings; maximum discharge computed, 27,500 ft³/s June 24, 1968, gage height, 11.00 ft; no flow Aug. 5-8. 1980.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	129	176	130	160	179	247	382	856	116	61	38
2	91	127	156	150	185	183	221	323	911	104	61	52
3	107	156	150	130	210	155	209	355	503	100	66	58
4	111	157	145	125	200	159	207	470	464	87	52	56
5	120	160	160	130	210	143	200	483	468	77	59	62
6	111	167	180	120	217	152	185	360	338	75	66	64
7	104	180	170	105	210	154	185	286	269	81	68	64
8	120	184	190	120	220	158	183	285	237	78	67	68
9	129	183	205	130	230	157	180	253	213	284	66	73
10	121	178	220	125	220	154	168	285	241	310	70	79
11	112	179	237	120	220	153	174	271	237	229	69	95
12	110	175	200	105	210	154	177	289	228	194	88	109
13	112	177	170	120	225	179	196	238	196	172	147	131
14	116	175	166	150	215	198	204	222	169	166	145	145
15	115	175	151	140	190	208	186	211	156	147	127	143
16	114	170	141	135	220	215	172	220	162	123	116	157
17	112	168	150	135	260	227	160	243	204	125	104	151
18	105	164	144	130	290	226	163	227	484	116	100	127
19	109	157	148	140	328	206	207	587	365	104	95	99
20	120	156	70	125	279	199	220	331	223	93	94	95
21	129	155	40	120	236	198	217	275	206	93	91	91
22	128	154	45	130	218	209	229	251	189	93	89	88
23	133	151	70	140	217	247	237	672	197	93	73	87
24	133	144	100	125	209	255	228	1490	216	96	68	93
25	134	143	130	120	201	226	206	2890	212	104	58	95
26	133	141	110	110	203	240	187	1260	194	100	48	98
27	128	131	115	125	187	307	161	945	173	85	48	101
28	120	103	135	135	190	315	158	827	157	82	40	101
29	119	55	105	130	---	298	344	684	141	82	40	100
30	127	113	90	110	---	317	407	720	131	82	39	95
31	127	---	105	135	---	274	---	906	---	71	40	---
TOTAL	3637	4607	4374	3945	6160	6445	6218	17241	8740	3762	2355	2815
MEAN	117	154	141	127	220	208	207	556	291	121	76.0	93.8
MAX	134	184	237	150	328	317	407	2890	911	310	147	157
MIN	87	55	40	105	160	143	158	211	131	71	39	38
AC-FT	7210	9140	8680	7820	12220	12780	12330	34200	17340	7460	4670	5580
CAL YR 1990	TOTAL 66975		MEAN 183	MAX 1660	MIN 40	AC-FT 132800						
WTR YR 1991	TOTAL 70299		MEAN 193	MAX 2890	MIN 38	AC-FT 139400						

PLATTE RIVER BASIN

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 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT						
22...	1110	132	402	8.6	8.0	11.9
NOV						
21...	1100	165	408	8.5	10.0	10.3
DEC						
19...	1055	148	475	8.6	0.5	12.9
JAN						
16...	1330	134	442	8.0	0.5	12.8
FEB						
06...	1150	217	383	8.0	0.5	12.6
MAR						
15...	1120	208	434	8.6	4.0	12.3
APR						
10...	1100	175	425	8.9	10.5	12.1
MAY						
09...	1110	258	424	8.4	17.0	8.4
JUN						
03...	1450	489	382	8.1	26.5	6.6
JUL						
03...	1120	109	320	8.8	26.0	8.8
AUG						
01...	1100	64	339	8.6	28.0	8.0
SEP						
19...	1445	97	383	8.7	18.5	9.6

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
MAR									
15...	1120	14	200	65	9.4	13	0.4	8.4	203
JUL									
03...	1120	25	130	41	7.3	13	0.5	8.5	149

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, 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)
MAR									
15...	19	7.4	0.30	42	291	0.40	163	0.790	
JUL									
03...	18	4.6	0.30	48	230	0.31	67.7	--	

DATE	TIME	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAR									
15...	0.010	0.800	0.090	0.220	0.230	40	12	11	
JUL									
03...	<0.010	<0.050	0.020	0.030	0.020	50	5	2	

PLATTE RIVER BASIN

06784200 SHERMAN RESERVOIR NEAR LOUP CITY, NE

LOCATION.--Lat 41°18'10", long 98°52'45", in SW1/4NW1/4 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 National Geodetic Vertical Datum of 1929.

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, 69,940 acre-ft June 3, elevation, 2,162.6 ft; minimum observed, 23,150 acre-ft Sept. 1, elevation, 2140.4 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,154.6	49,190	-
Oct. 31	2,156.2	52,970	+3,780
Nov. 30	2,155.8	52,000	-970
Dec. 31	2,155.2	50,580	-1,420
CAL YR 1990	-	-	-2,140
Jan. 31	2,154.8	49,650	-930
Feb. 28	2,154.5	48,960	-690
Mar. 31	2,154.1	48,040	-920
Apr. 30	2,156.9	54,670	+6,630
May 31	2,162.4	69,360	+14,690
June 30	2,161.1	65,680	-3,680
July 31	2,150.5	40,320	-25,360
Aug. 31	2,140.4	23,150	-17,170
Sept. 30	2,153.6	46,920	+23,770
WTR YR 1991	-	-	-2,270

PLATTE RIVER BASIN

06784800 TURKEY CREEK NEAR DANNEBROG, NE

LOCATION.--Lat 41°09'24", long 98°33'22", in SW1/4NW1/4 sec.26, T.14 N., R.11 W., Howard County, Hydrologic Unit 10210003, on left bank 25 ft downstream from bridge on State Highway 11, 2.8 mi north of Dannebrog, and 10 mi upstream from mouth.

DRAINAGE AREA.--66.2 mi².

PERIOD OF RECORD.--May 1966 to September 1970, October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,870.35 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 5, Jan. 20, 21, 24-26, 29, and Feb. 15. Records good except for periods of estimated record, which are poor. Low flow includes return water from Farwell Irrigation District.

AVERAGE DISCHARGE.--13 years (1979-91), 20.6 ft³/s, 14,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft³/s June 14, 1967, gage height, 19.21 ft; maximum gage height, 19.26 ft June 12, 1983; no flow May 17-20, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 288 ft³/s June 1, gage height, 9.69 ft; minimum daily, 4.3 ft³/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	7.7	8.8	9.0	8.2	9.5	11	15	154	26	22	19
2	7.0	7.9	8.8	8.8	8.9	9.0	10	13	89	27	28	13
3	7.3	11	8.6	8.8	10	8.3	9.9	39	21	25	32	13
4	7.4	12	9.1	8.8	13	8.6	9.5	31	23	26	30	7.0
5	6.5	9.6	9.1	8.8	11	9.2	9.1	18	82	28	29	5.8
6	6.2	9.6	9.5	8.6	10	9.3	9.1	16	18	31	29	5.6
7	6.3	9.4	9.3	8.6	9.8	8.4	8.7	14	16	29	30	5.8
8	6.3	9.3	9.2	9.1	9.3	8.4	8.6	14	15	31	27	5.6
9	6.5	9.7	9.5	8.7	9.6	8.3	8.3	13	14	94	27	5.4
10	6.5	9.6	9.4	8.3	9.4	8.3	8.1	12	17	79	25	5.0
11	6.6	9.4	9.4	8.3	9.1	8.6	8.3	11	14	18	22	5.6
12	6.7	8.7	9.5	8.4	9.0	9.0	8.8	11	12	12	26	5.7
13	6.8	8.3	8.7	8.8	9.4	9.2	9.5	9.6	11	11	26	5.9
14	6.5	8.5	8.6	9.3	9.3	8.5	9.5	8.9	19	15	24	5.5
15	6.2	8.5	8.9	9.6	8.4	8.3	8.8	8.7	17	12	21	4.9
16	6.3	7.9	8.9	9.3	8.6	8.5	8.4	12	9.6	14	17	4.8
17	6.4	7.7	9.3	9.1	9.1	9.3	8.3	28	9.0	17	24	4.6
18	6.6	7.8	9.1	9.1	9.9	9.5	8.2	14	15	28	25	4.8
19	6.9	8.3	8.4	9.8	9.0	8.9	8.8	10	8.8	35	25	4.7
20	7.3	8.2	8.0	9.2	8.6	9.8	9.3	9.9	8.3	36	27	4.4
21	8.2	8.7	7.6	8.6	9.0	10	8.7	10	7.9	34	28	5.0
22	8.4	7.9	7.8	8.9	9.0	10	8.9	9.1	8.0	35	27	5.1
23	7.7	7.4	8.0	9.0	8.6	9.9	8.7	13	9.5	33	31	5.0
24	7.5	8.0	8.6	8.6	8.5	8.8	8.4	25	10	31	29	5.0
25	7.7	8.2	8.6	8.6	8.3	8.9	8.4	16	9.2	24	28	5.2
26	7.8	8.3	8.6	8.2	8.3	9.1	8.4	14	8.7	24	28	5.0
27	8.5	8.4	8.8	8.5	8.4	10	8.1	11	11	29	24	5.2
28	8.2	7.8	8.6	8.4	8.7	10	8.0	9.5	18	23	25	5.0
29	8.7	7.4	8.0	8.0	---	13	33	9.7	16	19	23	4.9
30	8.5	8.2	8.4	8.5	---	11	27	9.1	19	19	22	4.3
31	7.7	---	8.8	8.1	---	11	---	14	---	20	22	---
TOTAL	222.0	259.4	271.9	271.8	258.4	288.6	307.8	448.5	690.0	885	803	185.8
MEAN	7.16	8.65	8.77	8.77	9.23	9.31	10.3	14.5	23.0	28.5	25.9	6.19
MAX	8.7	12	9.5	9.8	13	13	33	39	154	94	32	19
MIN	6.2	7.4	7.6	8.0	8.2	8.3	8.0	8.7	7.9	11	17	4.3
AC-FT	440	515	539	539	513	572	611	890	1370	1760	1590	369
CAL YR 1990	TOTAL 8269.6		MEAN 22.7	MAX 895	MIN 6.2	AC-FT 16400						
WTR YR 1991	TOTAL 4892.2		MEAN 13.4	MAX 154	MIN 4.3	AC-FT 9700						

PLATTE RIVER BASIN

145

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE

LOCATION.--Lat 41°12'13", long 98°26'46", in SE1/4NW1/4NE1/4 sec.10, T.14 N., R.10 W., Howard County, Hydrologic Unit 10210003, on left bank at St. Paul, 20 ft upstream from bridge on U.S. Highway 281 and 6 mi upstream from confluence with North Loup River.

DRAINAGE AREA.--8,090 mi², approximately, of which about 3,130 mi² 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-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,776.61 ft above National Geodetic Vertical Datum of 1929. 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 430 ft upstream at same datum. Mar. 17 to May 31, 1978, nonrecording gage on railroad bridge 30 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 10 and Dec. 18 to Feb. 21. Records fair except for periods of estimated record, which are poor. Diversions above station for irrigation.

AVERAGE DISCHARGE.--84 years, 1,190 ft³/s, 862,200 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s June 23, 1947, gage height, 12.69 ft, site then in use, present datum, from rating curve extended above 55,000 ft³/s; minimum daily since 1929, 23 ft³/s Aug. 9, 10, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,880 ft³/s May 25, gage height, 4.12, ft from flood mark; maximum gage height, 5.96 ft Feb. 13, backwater from ice; minimum daily discharge, 180 ft³/s Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	834	2120	1100	1100	1300	1110	1170	922	1140	371	217	218
2	826	1990	1200	1140	1400	1130	1190	827	1540	369	277	216
3	841	1920	1250	1080	1500	1020	1160	827	924	359	261	232
4	976	1870	1250	1040	1550	1160	1260	1140	924	362	228	240
5	1310	1580	1350	1020	1550	1220	1140	865	1050	328	238	219
6	914	1490	1400	1100	1600	1170	1140	815	941	325	286	212
7	791	1440	1450	1140	1650	1290	1100	729	827	349	306	209
8	820	1420	1400	1080	1700	1350	1180	854	812	336	259	222
9	931	1230	1500	1040	1700	1090	1160	917	797	818	247	221
10	878	1160	1500	1020	1750	1060	1140	792	960	1380	242	246
11	813	1310	1560	1200	1750	1060	1140	877	975	753	247	304
12	1640	1470	1540	1600	1900	1230	1280	1200	992	523	309	369
13	1590	1550	1510	1600	2100	1380	1120	1260	891	413	411	546
14	1420	1680	1550	1500	2250	1430	1060	1360	932	336	495	750
15	1480	1650	1480	1450	2400	1290	1120	1260	1050	327	455	802
16	1400	1530	1350	1400	1700	1230	1070	1480	1020	310	334	640
17	1310	1230	1180	1400	1800	1210	1100	1590	1020	256	281	562
18	1490	1240	1000	1500	2000	1490	1060	1870	1180	232	246	500
19	1210	1190	800	1400	2100	1530	1150	1180	1290	218	235	458
20	1240	1320	300	1300	2300	1550	1200	1050	809	215	223	476
21	1400	1550	230	1250	2800	1500	1200	1060	831	266	197	436
22	1290	1870	180	1400	2280	1500	1110	1210	802	217	218	428
23	1290	1600	200	1300	1300	1540	981	1270	799	290	253	448
24	1220	1390	350	1300	1180	1420	994	2210	834	338	265	457
25	1250	1360	300	1300	1430	1230	979	4780	787	288	260	490
26	1230	1390	330	1300	1630	1280	1080	1160	613	264	250	499
27	1360	1380	400	1400	1370	1640	960	958	500	238	219	469
28	1160	1100	320	1300	1140	1640	1430	993	458	249	226	452
29	1370	1000	260	1250	---	1380	1520	993	445	255	199	427
30	1920	1050	500	1200	---	1220	1390	993	393	322	195	416
31	2040	---	1000	1200	---	1330	---	1160	---	255	215	---
TOTAL	38244	44080	29740	39310	49130	40680	34584	38602	26536	11562	8294	12164
MEAN	1234	1469	959	1268	1755	1312	1153	1245	885	373	268	405
MAX	2040	2120	1560	1600	2800	1640	1520	4780	1540	1380	495	802
MIN	791	1000	180	1020	1140	1020	960	729	393	215	195	209
AC-FT	75860	87430	58990	77970	97450	80690	68600	76570	52630	22930	16450	24130

CAL YR 1990 TOTAL 391496 MEAN 1073 MAX 4890 MIN 180 AC-FT 776500
WTR YR 1991 TOTAL 372926 MEAN 1022 MAX 4780 MIN 180 AC-FT 739700

PLATTE RIVER BASIN

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)						
DATE	TIME											
OCT 09...	1515	923	276	8.3	10.5	11.0						
NOV 07...	1425	1440	266	8.7	0.5	13.4						
DEC 04...	1050	1250	283	8.0	0.0	--						
JAN 07...	1100	1130	250	7.5	0.5	10.1						
JAN 29...	1100	1220	270	7.9	0.0	8.1						
MAR 26...	1025	1390	284	7.6	12.5	10.0						
APR 23...	0945	961	316	8.3	10.5	9.9						
MAY 23...	1030	1170	283	8.3	21.0	8.0						
JUN 18...	1040	1220	289	8.7	23.0	7.9						
JUL 16...	1150	302	360	8.6	27.5	7.9						
AUG 12...	1145	312	344	8.6	20.0	8.5						
SEP 10...	1115	249	340	8.7	21.0	8.9						

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 26...	1025	25	120	40	5.7	9.9	0.4	7.8	134	10	4.0	0.40
JUL 16...	1150	13	150	48	8.0	12	0.4	9.8	165	18	5.9	0.30

DATE	TIME	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L AC-FT) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
MAR 26...	52	213	0.29	800	<0.010	0.580	0.070	0.140	0.140	30	7	3	
JUL 16...	51	254	0.35	207	<0.010	0.330	<0.010	0.160	0.160	50	8	2	

147

LOCATION.--Lat 41°46'37", long 99°22'45", in NE1/4SE1/4 sec.22, T.21 N., R.18 W., Loup County, Hydrologic Unit 10210006, on left bank 25 ft (revised) downstream from bridge on U.S. Highway 183 and 0.4 mi north of Taylor.

PERIOD OF RECORD.--November 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,248.21 ft above National Geodetic Vertical Datum of 1929. 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.

AVERAGE DISCHARGE.--54 years (1937-91). 472 ft³/s. 342,000 acre-ft/yr.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,840 ft³/s May 18, gage height, 5.20 ft; maximum gage height, 5.93 ft Jan. 14, backwater from ice; minimum daily discharge, 165 ft³/s July 19.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	507	581	708	490	410	603	621	566	748	247	232	214
2	499	576	659	480	430	541	624	556	706	233	250	208
3	745	605	589	430	450	451	635	801	704	218	222	206
4	666	589	557	410	540	630	625	875	695	218	211	215
5	518	572	595	410	700	682	611	593	712	210	220	276
6	484	589	624	410	800	601	606	612	759	204	238	337
7	477	540	582	410	840	621	570	585	694	193	254	326
8	495	511	552	410	840	596	535	594	667	195	268	317
9	514	566	552	420	840	582	511	609	631	219	389	329
10	528	613	545	420	820	599	507	602	739	247	295	343
11	509	641	533	420	819	622	587	581	892	261	243	404
12	494	662	554	430	752	595	599	571	894	313	247	611
13	500	681	535	440	724	542	647	544	758	269	291	652
14	497	663	504	450	664	565	592	530	696	234	301	675
15	492	652	503	460	529	574	562	412	669	236	255	605
16	502	633	544	480	559	571	537	395	564	214	249	487
17	521	622	537	470	600	576	528	828	525	184	220	441
18	460	590	504	470	651	575	538	1140	482	167	208	429
19	464	594	441	450	627	669	653	761	489	165	199	420
20	507	615	430	440	662	722	679	731	431	183	182	428
21	491	620	320	430	674	756	661	657	527	195	174	430
22	509	607	250	430	686	762	583	643	615	218	200	441
23	526	580	200	430	673	726	562	714	664	231	218	432
24	519	588	240	420	620	683	590	779	565	235	210	449
25	529	574	270	420	603	661	579	759	511	231	210	454
26	535	570	290	410	589	654	563	711	418	222	200	471
27	535	539	260	400	583	669	557	648	380	235	191	500
28	531	473	230	400	590	582	525	612	330	244	197	499
29	533	531	350	390	---	560	631	719	267	214	210	488
30	550	643	480	390	---	569	668	872	246	227	214	490
31	548	---	500	400	---	578	---	790	---	228	222	---
TOTAL	16185	17820	14438	13320	18275	19117	17686	20790	17978	6890	7220	12577
MEAN	522	594	466	430	653	617	590	671	599	222	233	419
MAX	745	681	708	490	840	762	679	1140	894	313	389	675
MIN	460	473	200	390	410	451	507	395	246	165	174	206
AC-FT	32100	35350	28640	26420	36250	37920	35080	41240	35660	13670	14320	24950
CAL YR 1990	TOTAL 178365		MEAN 489	MAX 937	MIN 155	AC-FT 353800						
WTR YR 1991	TOTAL 182296		MEAN 499	MAX 1140	MIN 165	AC-FT 361600						

PLATTE RIVER BASIN

149

06787300 CALAMUS RESERVOIR NEAR BURWELL, NE

LOCATION.--Lat 41°49'38", long 99°13'11", in SW1/4SW1/4 sec.31, T.22 N., R.16W., Garfield County, Hydrologic Unit 1021008, 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 mi², approximately, of which about 110 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1985 to current year.

GAGE.--Fluid gage with continuous recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

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, 62,340 acre-ft Sept. 30, 1991, elevation 2228.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 127,350 acre-ft June 1, elevation, 2243.99 ft; minimum observed, 62,340 acre-ft Sept. 30, elevation, 2228.28 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,237.05	94,970	-
Oct. 31	2,238.95	103,210	+8,240
Nov. 30	2,239.88	107,420	+4,210
Dec. 31	2,239.75	106,820	-600
CAL YR 1990	-	-	+120
Jan. 31	2,239.96	107,780	+900
Feb. 28	2,239.94	107,690	-90
Mar. 31	2,241.80	116,450	+8,760
Apr. 30	2,243.61	125,410	+8,960
May 31	2,243.92	126,990	+1,580
June 30	2,242.60	120,360	-6,630
July 31	2,236.93	94,460	-25,900
Aug. 31	2,231.53	73,470	-20,990
Sept. 30	2,228.28	62,340	-11,130
WTR YR 1991	-	-	-32,630

PLATTE RIVER BASIN

06787500 CALAMUS RIVER NEAR BURWELL, NE

LOCATION.--Lat 41°48'35", long 99°10'56", in NW1/4NW1/4 sec.9, T.21 N., R.16 W., Garfield County, Hydrologic Unit 10210008, on left bank 20 ft downstream from highway bridge, 1.1 mi downstream from Calamus Dam, 1.5 mi upstream from mouth, and 3 mi northwest of Burwell.

DRAINAGE AREA.--1,060 mi², approximately, of which about 110 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1918: 1958. WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,153.48 ft (revised) above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 20, 1945, nonrecording gage at site 20 ft upstream; Apr. 21, 1945 to Jan. 28, 1964, water-stage recorder at site 400 ft downstream; Jan. 29, 1964 to Oct. 4, 1977, water-stage recorder at site 230 ft downstream; Oct. 5, 1977 to July 30, 1985, water-stage recorder at site 190 ft downstream; at present datum and July 31, 1985 to Feb. 28, 1991, water-stage recorder at present site, all at datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Dec. 20-25, 29, 30. Records good except for periods of estimated record, which are fair. Diversions for irrigation above station, and since Oct. 1, 1985, flow regulated by the Calamus Dam.

AVERAGE DISCHARGE.--6 years (water years 1986-91), 265 ft³/s, 192,000 acre-ft/yr. Average discharge prior dam closure: 45 years (water years 1941-85), 305 ft³/s, 221,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft³/s May 4, 1964, gage height, 7.35 ft, present datum; maximum gage height, 8.90 ft Jan. 26, 1967, backwater from ice, present datum; minimum daily discharge, 13 ft³/s Apr. 27, 1986, Oct. 8-10, 1987, due to temporary closure of Calamus Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 696 ft³/s May 18, gage height, 4.97 ft; minimum daily, 18 ft³/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	20	269	236	280	297	89	219	408	302	312	405
2	143	18	268	236	284	303	91	227	442	325	313	415
3	140	19	263	237	300	299	96	277	416	333	307	436
4	135	49	266	251	302	292	92	285	442	330	309	441
5	132	187	281	259	303	290	87	300	406	330	306	464
6	127	185	285	257	302	286	80	303	358	330	307	466
7	127	184	285	261	302	285	79	324	337	314	304	465
8	126	185	285	270	313	280	69	332	324	300	300	462
9	129	184	282	276	323	278	64	337	316	303	300	440
10	130	183	278	277	338	280	68	340	317	309	300	417
11	128	251	276	275	349	282	71	341	313	310	321	421
12	139	284	277	277	340	194	63	342	272	301	339	512
13	143	296	280	279	330	146	63	290	256	304	343	530
14	140	324	281	286	325	145	62	271	275	305	346	523
15	142	332	287	303	317	106	100	244	282	302	346	488
16	141	335	291	307	310	82	114	290	231	297	345	497
17	136	338	282	307	313	81	197	467	217	300	344	442
18	138	336	280	309	338	85	243	647	214	300	344	452
19	136	338	274	305	350	89	270	238	214	294	341	463
20	131	330	260	291	352	90	310	20	312	292	340	447
21	141	321	220	287	350	89	321	19	382	291	339	432
22	145	320	481	285	351	86	323	90	383	316	341	419
23	147	318	431	287	350	86	224	232	384	323	342	413
24	146	317	300	288	333	87	217	232	378	324	343	406
25	148	316	250	299	304	84	195	231	408	282	361	406
26	148	295	236	304	293	82	212	233	421	291	360	401
27	146	284	224	304	285	83	197	235	413	295	386	396
28	148	285	225	303	281	81	183	236	401	298	392	381
29	148	277	200	301	---	82	210	238	345	313	390	376
30	131	272	250	291	---	82	214	284	295	320	390	381
31	22	---	226	284	---	84	---	353	---	315	389	---
TOTAL	4222	7383	8593	8732	8918	5116	4604	8477	10162	9549	10500	13197
MEAN	136	246	277	282	318	165	153	273	339	308	339	440
MAX	189	338	481	309	352	303	323	647	442	333	392	530
MIN	22	18	200	236	280	81	62	19	214	282	300	376
AC-FT	8370	14640	17040	17320	17690	10150	9130	16810	20160	18940	20830	26180

CAL YR 1990 TOTAL 91437 MEAN 251 MAX 481 MIN 18 AC-FT 181400
WTR YR 1991 TOTAL 99453 MEAN 272 MAX 647 MIN 18 AC-FT 197300

PLATTE RIVER BASIN

151

06788500 NORTH LOUP RIVER AT ORD, NE

LOCATION.--Lat 41°36'27", long 98°55'17", in SW1/4NW1/4 sec.22, T.19 N., R.14 W., Valley County, Hydrologic Unit 10210007, on right bank 150 ft downstream from bridge on State Highway 70 at Ord.

DRAINAGE AREA.--3,750 mi², approximately, of which about 700 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1936 to September 1938 (published as "near Ord"), June 1952 to current year.

REVISED RECORDS.--WSP 1730: 1957(M). WDR NE-74: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,012.14 ft above National Geodetic Vertical Datum of 1929. Nov. 25, 1936, to Sept. 30, 1938, nonrecording gage at site 2 mi downstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Feb. 9. Records good except for period of estimated record, which is poor. Diversions above stations for irrigation. Flow includes return water from North Loup irrigation project.

AVERAGE DISCHARGE.--40 years (1937-38, 1952-91), 886 ft³/s, 641,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s June 7, 1962, gage height, 5.52 ft; maximum gage height, 6.56 ft Jan. 16, 1981, ice jam; minimum daily discharge, 100 ft³/s Jan. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft³/s May 18, gage height, 3.89 ft, maximum gage height, 4.75 ft, Feb. 7, backwater from ice; minimum daily discharge, 140 ft³/s Dec. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	739	695	961	660	1060	1040	774	1020	1160	618	576	495
2	646	711	1030	640	1120	929	763	981	1170	607	581	524
3	913	807	985	600	1160	928	778	1200	1140	584	567	529
4	1040	823	995	640	1350	941	767	1300	1180	554	531	543
5	879	866	977	700	1400	1110	687	1160	1160	549	567	631
6	818	947	955	720	1350	1040	667	1110	1170	536	598	678
7	785	918	966	740	1500	1040	665	1100	1080	540	611	752
8	778	849	982	780	1700	1010	654	1090	1040	524	619	738
9	787	815	962	780	1900	994	651	1090	988	539	666	729
10	803	798	957	800	1740	996	630	1050	1020	548	779	759
11	782	850	925	800	1360	999	653	1030	1030	539	679	814
12	815	911	931	780	1240	974	707	995	1140	541	657	1020
13	814	927	902	800	1230	874	767	962	1030	566	648	1280
14	813	937	876	820	1130	878	701	919	954	544	665	1170
15	825	930	900	880	1000	837	661	899	961	520	648	1130
16	833	948	946	940	1040	748	691	817	900	508	601	1090
17	832	935	939	1040	1070	764	701	1000	786	508	567	1000
18	789	903	922	1060	1150	804	814	1660	797	504	548	958
19	703	899	867	1100	1150	860	920	1270	751	507	520	983
20	699	920	450	1120	1110	918	958	881	738	509	515	1040
21	795	946	300	1020	1100	966	1010	851	855	530	506	1030
22	783	947	150	1080	1120	1020	1040	813	887	569	518	988
23	809	935	140	1100	1120	1000	1010	987	940	599	603	975
24	830	949	300	1080	1080	979	952	1070	902	614	577	973
25	835	949	250	1000	1020	905	964	1050	886	599	555	938
26	804	955	300	980	960	854	957	1010	841	566	545	934
27	780	986	370	1140	971	873	1020	997	784	593	529	989
28	746	981	300	1060	1000	922	945	957	763	618	531	1010
29	757	956	280	960	---	861	1090	989	694	599	474	995
30	787	896	300	980	---	841	1140	1220	638	614	437	957
31	743	---	400	920	---	791	---	1160	---	575	457	---
TOTAL	24762	26889	21518	27720	34131	28696	24737	32638	28385	17321	17875	26652
MEAN	799	896	694	894	1219	926	825	1053	946	559	577	888
MAX	1040	986	1030	1140	1900	1110	1140	1660	1180	618	779	1280
MIN	646	695	140	600	960	748	630	813	638	504	437	495
AC-FT	49120	53330	42680	54980	67700	56920	49070	64740	56300	34360	35460	52860

CAL YR 1990 TOTAL 306568 MEAN 840 MAX 1600 MIN 140 AC-FT 608100
WTR YR 1991 TOTAL 311324 MEAN 853 MAX 1900 MIN 140 AC-FT 617500

PLATTE RIVER BASIN

06788988 MIRA CREEK NEAR NORTH LOUP, NE

LOCATION.--Lat 41°30'09", long 98°47'47", in NW1/4SE1/4 sec.27, T.18 N., R.13 W., Valley County, Hydrologic Unit 10210007, on left bank near county road 1.4 mi northwest of North Loup.

PERIOD OF RECORD.--October 1979 to current year.

REVISED RECORDS.--WDR NE-83-1: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 1,964.41 ft above National Geodetic Vertical Datum of 1929, (levels by Nebraska Department of Roads).

REMARKS.--Estimated daily discharges: Dec. 24 to Jan. 1. Records fair except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--12 years, 2.49ft³/s, 1,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft³/s Aug. 5, 1981, gage height, 10.56 ft, from floodmark, from rating curve extended above 200 ft³/s on basis of indirect measurement of peak flow; no flow at times in 1980-81.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23 ft³/s and maximim (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 3	0900	35	2.46	May 30	1200	*82	*2.86
May 22	2330	74	2.81				

Minimum daily discharge, 0.05 ft³/s, Jan. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	.20	.44	.10	.63	.80	2.2	2.1	5.3	3.7	6.9	4.0
2	3.0	.20	.43	.10	1.8	.66	1.7	1.3	4.5	3.3	5.3	3.8
3	3.4	.36	.49	.10	2.5	.80	1.6	16	3.5	3.6	3.9	2.9
4	3.0	.43	.46	.13	1.6	.78	1.1	4.7	2.8	3.5	2.7	2.4
5	2.8	.42	.50	.14	1.2	.94	.81	3.0	2.2	3.8	2.7	2.1
6	2.6	.84	.54	.15	1.1	1.0	.58	1.6	2.1	3.5	2.7	2.1
7	2.5	.80	.54	.14	1.2	.36	.51	1.3	2.1	3.8	2.4	2.3
8	2.4	.66	.57	.14	1.1	.62	.44	1.4	2.4	3.6	2.6	2.3
9	1.8	.60	.56	.14	1.1	.66	.42	1.4	2.5	4.5	2.7	2.1
10	1.4	.56	.59	.14	1.1	.68	.41	1.0	3.4	4.1	2.7	2.1
11	1.2	.60	.62	.14	1.0	.71	.51	1.1	5.0	3.9	3.0	2.7
12	.95	.63	.58	.14	1.0	.81	.85	.83	4.2	3.8	4.2	2.9
13	.82	.57	.50	.15	1.1	.82	2.6	.60	3.9	3.9	4.3	3.1
14	.68	.52	.49	.18	.87	.84	2.9	.46	4.1	3.4	5.2	3.6
15	.56	.46	.55	.21	.75	.83	1.4	.49	4.2	3.1	2.9	3.4
16	.50	.36	.46	.20	.78	.82	.92	.45	3.5	2.7	2.7	2.6
17	.39	.32	.50	.17	.89	.87	.77	.69	3.0	2.5	3.1	2.0
18	.34	.31	.43	.15	1.1	.89	.65	.69	3.3	2.6	2.3	1.8
19	.48	.40	.36	.10	.92	.89	.88	.56	3.3	2.6	2.3	2.0
20	.60	.46	.25	.10	1.1	.93	1.0	.54	3.5	2.5	2.2	2.1
21	.68	.51	.16	.08	1.2	.88	.89	.56	3.5	2.4	2.4	2.1
22	.59	.49	.13	.06	1.0	.82	.85	4.9	3.5	2.9	2.3	2.1
23	.54	.46	.10	.06	.93	.88	.65	30	3.5	4.0	2.5	2.1
24	.51	.51	.10	.06	.83	.85	1.5	5.5	3.3	4.6	2.5	1.8
25	.47	.55	.10	.05	.72	.88	.77	8.8	3.4	4.9	2.7	1.5
26	.44	.50	.10	.05	.66	.79	.57	3.4	3.4	3.8	3.1	1.3
27	.44	.30	.10	.33	.63	.87	.61	2.2	3.3	3.1	3.2	1.1
28	.44	.31	.10	.46	.70	1.1	.52	1.8	2.7	3.3	2.6	.95
29	.43	.31	.10	.46	---	1.7	3.4	2.7	2.5	2.5	2.8	1.0
30	.45	.38	.10	.60	---	1.5	4.3	26	3.1	2.7	3.4	.92
31	.40	---	.10	.55	---	1.8	---	6.4	---	5.3	3.7	---
TOTAL	38.51	14.02	11.05	5.58	29.51	27.78	36.31	132.47	101.0	107.9	98.1	67.17
MEAN	1.24	.47	.36	.18	1.05	.90	1.21	4.27	3.37	3.48	3.16	2.24
MAX	3.7	.84	.62	.60	2.5	1.8	4.3	30	5.3	5.3	6.9	4.0
MIN	.34	.20	.10	.05	.63	.36	.41	.45	2.1	2.4	2.2	.92
AC-FT	76	28	22	11	59	55	72	263	200	214	195	133

CAL YR 1990 TOTAL 3078.52 MEAN 8.43 MAX 1330 MIN .10 AC-FT 6110
WTR YR 1991 TOTAL 669.40 MEAN 1.83 MAX 30 MIN .05 AC-FT 1330

PLATTE RIVER BASIN

153

06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE

LOCATION.--Lat 41°15'48", long 98°26'56", in NW1/4NW1/4NE1/4 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 4 mi upstream from confluence with Middle Loup River.

DRAINAGE AREA.--4,290 mi², approximately, of which about 1,240 mi² 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-74: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 1,759.29 ft, adjusted, above National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 1, 1954.

REMARKS.--Estimated daily discharges: Nov. 27, 28, Dec. 2, 3, 6, and Dec. 19 to Feb. 21. Records fair 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.

AVERAGE DISCHARGE.--84 years, 976 ft³/s, 707,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,000 ft³/s, estimated, June 6, 1896, gage height, 14.9 ft, from floodmark, datum then in use; minimum daily discharge since 1931, 85 ft³/s Aug. 8, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,390 ft³/s May 18, gage height, 4.65 ft; maximum gage height, 5.46 ft Feb. 10, backwater from ice; minimum daily discharge, 200 ft³/s Dec. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	922	775	884	740	1100	1170	897	1310	1510	584	602	487
2	881	701	900	700	1150	1160	873	1140	1500	578	570	517
3	860	776	940	660	1200	905	868	1410	1380	553	548	528
4	1040	807	972	600	1400	891	866	1830	1280	554	538	497
5	1130	800	925	680	1500	898	815	1620	1300	553	518	567
6	888	1240	900	740	1400	1100	763	1390	1310	518	524	691
7	764	1190	893	760	1600	989	753	1300	1260	509	522	780
8	744	1080	851	760	1800	990	752	1280	1180	507	505	887
9	764	946	815	780	2000	976	716	1260	1100	635	525	838
10	770	870	845	800	2200	1010	695	1270	1090	607	563	825
11	820	895	841	820	2300	1000	736	1270	1110	620	673	906
12	822	988	868	820	2300	1020	851	1290	1080	575	645	922
13	827	1050	893	840	2000	1050	1040	1240	1180	519	680	1370
14	822	1050	895	900	1800	937	1050	1190	1070	554	675	1650
15	819	1090	910	1100	1400	981	931	1110	1040	522	665	1440
16	824	1050	928	1100	1500	983	862	1110	1040	506	653	1390
17	824	1010	938	1150	1400	980	851	1090	959	489	610	1340
18	792	1060	995	1200	1400	935	870	1350	828	461	576	1270
19	835	1060	1000	1200	1300	904	1070	2340	809	469	549	1180
20	854	1070	600	1200	1550	937	1200	1570	743	486	533	1150
21	898	1080	400	1150	1500	999	1170	1010	810	478	527	1280
22	935	1070	250	1200	1430	984	1250	858	1170	506	508	1270
23	920	1040	200	1200	1320	1100	1150	957	1260	533	502	1230
24	896	946	400	1200	1280	999	1060	1240	1380	539	523	1240
25	878	901	350	1150	1170	962	1010	1440	1290	564	519	1210
26	857	963	400	1200	1130	936	1020	1360	1170	574	511	1180
27	835	1030	450	1150	1090	1090	988	1220	1040	534	503	1170
28	823	1020	400	1100	1060	1000	1030	1100	860	625	499	1210
29	858	1000	350	1000	---	1090	1260	1060	788	597	507	1190
30	856	1010	450	940	---	970	1450	1280	672	544	497	1160
31	854	---	580	1000	---	947	---	1790	---	610	490	---
TOTAL	26612	29568	22023	29840	42280	30893	28847	40685	33209	16903	17260	31375
MEAN	858	986	710	963	1510	997	962	1312	1107	545	557	1046
MAX	1130	1240	1000	1200	2300	1170	1450	2340	1510	635	680	1650
MIN	744	701	200	600	1060	891	695	858	672	461	490	487
AC-FT	52780	58650	43680	59190	83860	61280	57220	80700	65870	33530	34240	62230

CAL YR 1990 TOTAL 343420 MEAN 941 MAX 3000 MIN 200 AC-FT 681200
WTR YR 1991 TOTAL 349495 MEAN 958 MAX 2340 MIN 200 AC-FT 693200

PLATTE RIVER BASIN

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 1990 TO SEPTEMBER 1991

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)											SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)																																																																																																																																																																																																																																																																																																																																																																																																																																						
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		MAR 26...	1000	946		242	7.6	12.5	9.8																																																																																																																																																																																																																																																																																																																																																																																																																																													
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		JUN 18...	1020	784		232	8.7	22.5	8.7																																																																																																																																																																																																																																																																																																																																																																																																																																													
		JUL 16...	1130	502		236	8.9	27.5	8.6																																																																																																																																																																																																																																																																																																																																																																																																																																													
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		SEP 10...	1045	808		203	8.8	22.0	9.4																																																																																																																																																																																																																																																																																																																																																																																																																																													

PLATTE RIVER BASIN

155

06791500 CEDAR RIVER NEAR SPALDING, NE

LOCATION.--Lat 41°42'41", long 98°26'48", in NE1/4NE1/4NE1/4 sec.15, T.20 N., R.10 W., Greeley County, Hydrologic Unit 10210010, on left bank 15 ft downstream from bridge on county road, 0.4 mi upstream from small tributary, and 4.7 mi northwest of Spalding.

DRAINAGE AREA.--762 mi², approximately, of which about 50 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1944 to September 1953, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WDR NE-73: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,896.24 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 4, 1961, at two sites 6.5 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 3 and Feb. 15. Records good except for periods of estimated record, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--43 years, 164 ft³/s, 118,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s June 23, 1947, gage height, 7.50 ft, site and datum then in use, from rating curve extended above 640 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 30 ft³/s Jan. 30, 1946.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 16	1030	(a)	*5.02	June 5	0200	375	3.89
May 6	0600	*421	3.99				

a Backwater from ice.

Minimum daily discharge, 92 ft³/s Aug. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	143	159	150	190	173	168	186	186	121	119	93
2	136	217	153	140	195	170	157	172	181	117	116	95
3	160	120	154	135	190	162	153	212	189	114	114	96
4	162	130	148	135	194	164	149	234	275	112	113	96
5	159	139	149	135	180	162	148	283	337	113	112	99
6	142	159	157	130	177	157	144	399	245	112	115	101
7	130	162	155	130	173	149	140	347	195	114	118	103
8	128	154	153	135	172	150	137	263	173	115	123	103
9	131	153	153	135	170	148	134	219	136	119	120	104
10	134	155	151	135	171	148	131	192	155	122	120	104
11	133	160	149	135	164	147	139	179	155	125	117	114
12	133	163	147	130	162	150	153	172	149	122	117	126
13	134	160	146	150	165	153	178	160	145	117	116	174
14	136	156	144	170	162	153	187	152	143	117	118	225
15	132	150	143	175	150	153	189	144	142	116	115	202
16	134	145	146	175	147	153	197	149	134	114	114	177
17	137	140	148	170	175	157	185	157	131	111	107	156
18	127	139	147	190	176	159	171	164	131	108	109	146
19	126	141	135	190	168	157	164	138	130	112	106	141
20	132	144	120	165	170	163	161	150	126	114	105	143
21	140	151	105	160	176	163	159	155	131	117	103	142
22	140	145	110	175	177	166	151	155	140	126	100	137
23	137	144	120	190	171	165	143	174	141	125	103	133
24	133	144	130	180	165	161	140	205	143	125	106	134
25	130	144	135	180	163	161	138	233	146	122	105	134
26	132	144	135	170	164	157	138	202	138	118	102	132
27	131	143	140	185	160	171	142	190	135	115	98	132
28	130	142	135	185	161	175	139	180	133	122	98	135
29	130	156	130	175	---	189	171	178	128	125	95	137
30	133	161	125	175	---	188	186	224	125	123	94	135
31	132	---	140	185	---	180	---	195	---	121	92	---
TOTAL	4205	4504	4362	4970	4788	5004	4692	6163	4818	3654	3390	3949
MEAN	136	150	141	160	171	161	156	199	161	118	109	132
MAX	162	217	159	190	195	189	197	399	337	126	123	225
MIN	126	120	105	130	147	147	131	138	125	108	92	93
AC-FT	8340	8930	8650	9860	9500	9930	9310	12220	9560	7250	6720	7830

CAL YR 1990 TOTAL 54533 MEAN 149 MAX 305 MIN 105 AC-FT 108200
WTR YR 1991 TOTAL 54499 MEAN 149 MAX 399 MIN 92 AC-FT 108100

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°23'36", long 98°00'15", in NE1/4NE1/4 sec.4, T.16 N., R.6 W., Nance County, Hydrologic Unit 10210010, on left upstream bank near county bridge, 3 mi northwest of Fullerton and 7.2 mi, upstream from mouth.

DRAINAGE AREA.--1,220 mi², approximately, of which about 480 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1931 to June 1932, October 1940 to current year.

REVISED RECORDS.--WSP 1086: Drainage area. WSP 1390: 1932, 1941, 1943. WSP 1710: 1951(P), 1952(M), 1953, 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 1,638.39 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1942, nonrecording gage; Nov. 5, 1942, to June 23, 1947, water-stage recorder; June 24, 1947, to Apr. 6, 1948, nonrecording gage; Apr. 7, 1948, to Apr. 15, 1971, water-stage recorder, all on downstream side of bridge pier at datum 2.00 ft higher; Apr. 16, 1971, to Aug. 26, 1980, on downstream side of bridge pier and Aug. 27, 1980, to Mar. 5, 1987, on left bank upstream from bridge both at present datum. Mar. 5, 1987 to Apr. 19, 1988, on left bank 400 ft downstream from county bridge.

REMARKS.--Estimated daily discharges: Dec. 5-8 and Dec. 18 to Feb. 19. Records good except for periods of estimated record, which are poor. Natural flow affected by power developments, ground-water and surface-water withdrawals for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--5 years (1940-91), 249 ft³/s, 180,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,700 ft³/s Aug. 13, 1966, gage height, 16.90 ft, present datum, from high point on surge, from rating curve extended above 6,600 ft³/s on basis of flow-over-highway-embankment and contracted-opening measurement of peak flow; minimum daily, 30 ft³/s July 18, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 6	0330	(a)	*3.52	No peaks greater than base discharge.			
May 7	1430	*437	2.74				

a Backwater from ice.

Minimum daily discharge, 65 ft³/s July 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	184	259	170	330	232	273	298	308	105	116	84
2	141	198	258	160	350	258	261	293	301	80	126	90
3	181	262	239	150	370	246	257	302	261	71	119	100
4	175	249	255	160	380	285	245	322	229	78	106	95
5	190	199	275	170	390	265	245	321	345	84	119	111
6	197	220	268	165	390	263	246	343	393	79	116	114
7	199	236	268	160	370	252	242	405	353	71	116	106
8	195	232	255	165	350	248	234	409	294	84	109	116
9	198	234	252	175	340	240	268	357	264	103	124	124
10	201	221	248	180	320	242	216	310	231	139	114	126
11	202	224	246	175	300	239	216	280	214	128	100	139
12	200	230	246	180	290	241	263	269	224	114	106	149
13	200	231	246	185	310	242	276	254	234	111	116	222
14	195	255	252	190	290	245	295	239	290	100	100	316
15	185	238	262	210	270	241	310	225	227	106	92	290
16	187	228	256	220	280	242	312	221	223	82	91	246
17	188	230	263	240	290	252	316	240	210	73	100	216
18	188	222	250	250	334	260	319	240	206	65	104	193
19	188	222	180	270	329	259	314	239	207	65	100	158
20	191	225	140	260	305	259	303	227	194	78	93	160
21	191	232	110	240	282	266	288	202	183	88	84	160
22	194	216	150	260	265	274	269	218	187	83	75	160
23	200	220	150	260	252	271	252	229	185	81	67	155
24	198	218	140	250	251	252	240	248	190	111	75	149
25	196	213	150	240	230	252	236	275	180	114	77	145
26	194	206	150	230	232	244	231	310	198	91	79	145
27	194	205	160	250	232	269	235	296	158	102	77	151
28	191	193	155	240	235	285	234	274	124	120	77	156
29	191	193	150	250	---	280	268	288	119	120	77	161
30	233	233	150	280	---	280	292	349	106	93	82	163
31	192	---	155	300	---	288	---	346	---	126	82	---
TOTAL	5911	6669	6538	6635	8567	7972	7956	8829	6838	2945	3019	4700
MEAN	191	222	211	214	306	257	265	285	228	95.0	97.4	157
MAX	233	262	275	300	390	288	319	409	393	139	126	316
MIN	136	184	110	150	230	232	216	202	106	65	67	84
AC-FT	11720	13230	12970	13160	16990	15810	15780	17510	13560	5840	5990	9320

CAL YR 1990 TOTAL 95800 MEAN 262 MAX 2820 MIN 76 AC-FT 190000
WTR YR 1991 TOTAL 76579 MEAN 210 MAX 409 MIN 65 AC-FT 151900

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1974 to September 1983.

WATER TEMPERATURES: July 1974 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 550 microsiemens Jan. 1, 1978; minimum daily, 119 microsiemens Nov. 23, 1980.

WATER TEMPERATURES: Maximum, 36.0°C July 7, 1975; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
18...	1050	188	282	8.0	4.5	725	--	--	11.6	--	--	130
NOV												
13...	1015	228	299	8.2	6.0	722	7	19	11.1	K190	880	130
DEC												
11...	0840	246	297	8.2	2.0	--	11	--	--	--	--	130
JAN												
14...	1415	190	285	7.8	0.5	725	7	6.4	15.6	K40	K87	120
FEB												
12...	1100	287	271	8.0	0.0	715	11	--	16.9	--	--	120
MAR												
06...	1100	249	308	8.1	3.0	714	14	35	12.0	20	330	140
APR												
11...	1230	234	343	8.6	6.5	--	13	--	--	--	--	150
MAY												
15...	1430	224	300	8.5	23.5	712	14	27	11.1	190	260	140
JUN												
12...	1300	230	294	8.8	27.5	--	17	--	--	--	--	130
JUL												
12...	0930	126	252	8.5	23.5	722	25	19	10.1	--	--	120
AUG												
14...	1600	93	274	8.7	30.0	--	14	--	--	--	--	110
SEP												
03...	1020	97	254	8.5	24.0	725	20	27	9.8	1100	800	110

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT												
18...	--	40	6.4	8.6	0.3	7.0	--	--	--	11	3.4	0.30
NOV												
13...	5	42	6.9	8.2	0.3	7.4	129	0	157	7.7	3.5	0.20
DEC												
11...	--	42	6.7	8.1	0.3	6.8	--	--	--	11	3.6	0.20
JAN												
14...	0	39	6.5	8.0	0.3	6.2	131	0	160	8.4	1.0	0.40
FEB												
12...	--	38	6.0	7.3	0.3	6.7	--	--	--	8.3	3.0	0.20
MAR												
06...	3	45	7.1	9.2	0.3	7.3	139	0	170	13	3.3	0.10
APR												
11...	--	48	7.7	9.3	0.3	7.4	--	--	--	11	3.3	0.30
MAY												
15...	0	44	6.6	8.5	0.3	7.5	145	5	167	9.0	1.4	0.20
JUN												
12...	--	42	6.4	8.6	0.3	7.4	--	--	--	8.2	3.5	0.30
JUL												
12...	0	39	6.3	7.6	0.3	7.3	134	10	144	9.0	1.6	0.50
AUG												
14...	--	37	5.1	7.5	0.3	6.9	--	--	--	9.9	3.4	0.30
SEP												
03...	0	35	5.1	7.3	0.3	6.4	121	7	133	7.0	0.60	0.30

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	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 TOTAL (MG/L AS N) (00620)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00631)
OCT 18...	41	--	202	0.28	103	--	--	--	<0.010	--	0.300
NOV 13...	42	203	199	0.28	125	0.580	--	0.020	<0.010	0.600	0.600
DEC 11...	43	--	209	0.28	139	--	--	--	<0.010	--	0.600
JAN 14...	44	190	196	0.26	97.5	0.780	0.680	0.020	0.020	0.800	0.700
FEB 12...	38	--	193	0.26	150	--	--	--	<0.010	--	0.500
MAR 06...	40	197	212	0.27	132	0.480	--	0.020	<0.010	0.500	0.490
APR 11...	36	--	224	0.31	142	--	--	--	<0.010	--	0.050
MAY 15...	39	208	204	0.28	126	0.056	--	0.020	0.010	0.076	<0.050
JUN 12...	38	--	203	0.28	126	--	--	--	<0.010	--	0.084
JUL 12...	37	187	190	0.25	63.6	--	--	0.020	<0.010	<0.050	<0.050
AUG 14...	39	--	188	0.26	47.1	--	--	--	<0.010	--	<0.050
SEP 03...	37	173	172	0.24	45.3	--	--	0.010	<0.010	<0.050	<0.050

DATE	NITRO- GEN AMMONIA TOTAL (MG/L AS N) (00610)	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)	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)
OCT 18...	--	0.020	--	0.38	--	0.40	--	0.70	0.200	0.160	0.150
NOV 13...	0.090	0.070	0.41	--	0.50	--	1.1	--	0.250	0.170	0.180
DEC 11...	--	0.070	--	0.13	--	0.20	--	0.80	0.170	0.150	0.140
JAN 14...	0.070	0.080	0.23	--	0.30	--	1.1	--	0.180	0.160	0.170
FEB 12...	--	0.100	--	--	--	<0.20	--	--	0.190	0.170	0.170
MAR 06...	0.030	0.040	0.77	--	0.80	--	1.3	--	0.410	0.190	0.170
APR 11...	--	<0.010	--	--	--	0.50	--	0.55	0.200	0.120	0.120
MAY 15...	0.010	0.020	0.79	--	0.80	--	0.88	--	0.200	0.150	0.140
JUN 12...	--	0.050	--	0.75	--	0.80	--	0.88	0.280	0.170	0.160
JUL 12...	0.010	0.030	0.79	0.17	0.80	0.20	--	--	0.320	0.150	0.160
AUG 14...	--	0.020	--	0.28	--	0.30	--	--	0.300	0.160	0.150
SEP 03...	0.020	0.010	0.78	--	0.80	--	--	--	0.290	0.160	0.140

PLATTE RIVER BASIN

159

06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 18...	1050	--	--	--	--	20	--	--	--	--	60
NOV 13...	1015	<10	6	160	<0.5	--	<1.0	<1	<3	1	16
DEC 11...	0840	--	--	--	--	30	--	--	--	--	23
JAN 14...	1415	--	--	--	--	20	--	--	--	--	--
FEB 12...	1100	--	--	--	--	20	--	--	--	--	27
MAR 06...	1100	20	5	140	<0.5	30	2.0	<1	<3	2	15
APR 11...	1230	--	--	--	--	20	--	--	--	--	14
MAY 15...	1430	30	9	130	<0.5	30	<1.0	1	<3	2	24
JUN 12...	1300	--	--	--	--	30	--	--	--	--	18
JUL 12...	0930	<10	8	140	<0.5	30	1.0	<1	<3	1	<3
AUG 14...	1600	--	--	--	--	30	--	--	--	--	9
SEP 03...	1020	--	--	--	--	20	--	--	--	--	--

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 18...	--	--	21	--	--	--	--	--	--	--	--
NOV 13...	<1	15	14	<0.1	<10	<1	<1	<1.0	240	<6	22
DEC 11...	--	--	13	--	--	--	--	--	--	--	--
JAN 14...	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	--	--	34	--	--	--	--	--	--	--	--
MAR 06...	1	16	14	<0.1	<10	<1	1	<1.0	250	6	12
APR 11...	--	--	12	--	--	--	--	--	--	--	--
MAY 15...	<1	13	5	<0.1	10	1	<1	<1.0	250	11	<3
JUN 12...	--	--	8	--	--	--	--	--	--	--	--
JUL 12...	<1	15	3	<0.1	<10	1	1	<1.0	230	10	6
AUG 14...	--	--	6	--	--	--	--	--	--	--	--
SEP 03...	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	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)
NOV 13...	1015	228	6.0	657	404	24
JAN 14...	1415	190	0.5	62	32	59
MAR 06...	1100	249	3.0	490	329	43
MAY 15...	1430	224	23.5	630	381	36
JUL 12...	0930	126	23.5	162	55	68
SEP 03...	1020	97	24.0	200	52	66

PLATTE RIVER BASIN

06792500 LOUP RIVER POWER CANAL NEAR GENOA, NE

LOCATION.--Lat 41°25'03", long 97°47'37", in NE1/4NE1/4 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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1956, at datum 3.0 feet higher.

REMARKS.--No estimated daily discharges. 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.

AVERAGE DISCHARGE.--54 years (water years 1938-91), 1,605 ft³/s, 1,163,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,410 ft³/s Apr. 27, 1944; no flow Aug. 16, 24-27, 30, 31, 1966, flood damage to canal was being repaired.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,090 ft³/s Nov. 7; minimum daily, 14 ft³/s Dec. 21-23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1840	2260	2440	1090	2080	2650	2580	2660	2080	926	529	619
2	1870	2210	1240	1050	2080	883	2310	2610	2060	807	496	718
3	1850	2540	139	977	2130	128	2290	2670	2070	793	534	692
4	1830	3010	61	1140	2110	1730	2330	2760	2090	773	549	743
5	2040	3050	138	1310	2080	2580	2290	2620	2090	772	577	744
6	2240	2610	1150	1370	2020	2600	2160	2650	2200	728	596	802
7	1860	2020	1120	1530	2010	2680	2150	2750	2270	704	657	899
8	1800	2860	2250	1670	1890	2770	2110	2750	2240	714	686	942
9	1860	2700	2760	1760	1930	2680	2270	2670	2180	855	677	1140
10	1960	2480	2660	1860	1900	2560	2340	2560	2230	1510	679	948
11	1890	2440	2630	1960	1660	2420	2240	2270	2270	1940	685	1100
12	1880	2420	2510	1940	708	2450	2440	2260	2300	1410	741	1200
13	2320	2550	2570	1940	541	2850	2620	2200	2290	1130	725	1400
14	2190	2630	2620	1970	549	2820	2600	2160	2270	971	783	1760
15	2120	2580	2680	2030	624	2740	2500	2120	2230	904	806	1940
16	2150	2690	556	1980	1470	2650	2340	2000	2280	793	800	2000
17	2070	2850	365	2050	1910	2710	2390	2140	2240	725	802	1900
18	2230	2700	46	2050	1330	2700	2240	2060	2210	614	704	1820
19	2390	2590	22	2040	401	2450	2320	2160	2240	565	707	1670
20	2170	2460	15	2070	929	2340	2600	2150	2190	613	664	1580
21	2290	2420	14	2020	1050	2450	2690	2170	1810	622	628	1570
22	2550	2700	14	2030	2150	2740	2610	2130	1870	691	588	1630
23	2340	2730	14	2050	2610	2850	2490	2240	2050	720	600	1590
24	2180	2640	175	2050	2660	2730	2310	2230	2050	903	697	1590
25	2260	2490	607	2010	1690	2580	2110	2180	2080	1060	725	1620
26	2320	2550	755	2050	2600	2430	2060	2110	1850	969	714	1620
27	2270	1420	899	2050	2240	2580	2050	2280	1610	925	653	1610
28	2310	62	934	2050	2460	2690	2000	2310	1390	946	607	1580
29	2310	112	1020	2040	---	2750	2460	2270	1090	848	602	1600
30	2310	949	1100	2060	---	2710	2760	2240	1030	698	596	1590
31	2270	---	1110	2060	---	2660	---	2230	---	666	629	---
TOTAL	65970	69723	34614	56257	47812	76561	70660	72610	60860	27295	20436	40617
MEAN	2128	2324	1117	1815	1708	2470	2355	2342	2029	880	659	1354
MAX	2550	3050	2760	2070	2660	2850	2760	2760	2300	1940	806	2000
MIN	1800	62	14	977	401	128	2000	2000	1030	565	496	619
AC-FT	130900	138300	68660	111600	94840	151900	140200	144000	120700	54140	40530	80560

CAL YR 1990 TOTAL 636369 MEAN 1743 MAX 3120 MIN 14 AC-FT 1262000
WTR YR 1991 TOTAL 643415 MEAN 1763 MAX 3050 MIN 14 AC-FT 1276000

PLATTE RIVER BASIN

161

06793000 LOUP RIVER NEAR GENOA, NE

LOCATION.--Lat 41°25'05", long 97°43'25", in SW1/4NE1/4 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, and 6 mi downstream from diversion dam of Loup River Public Power District.

DRAINAGE AREA.--14,400 mi², approximately, of which about 5,650 mi² 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-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,540.13 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 23 to Feb. 21. 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.

AVERAGE DISCHARGE.--48 years (water years 1944-91), 673 ft³/s, 487,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 129,000 ft³/s Aug. 13, 1966, gage height, 13.93 ft, from rating curve extended above 42,000 ft³/s on basis of indirect measurement of peak flow; no flow at times during 1956, 1959, 1961, 1963, 1970, 1973, 1974, 1975, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,080 ft³/s June 2, gage height, 6.86 ft; maximum gage height, 7.62 ft Feb. 14, backwater from ice; minimum daily discharge, 7.7 ft³/s Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	7.9	29	48	800	119	167	732	2770	37	537	110
2	14	7.7	1380	48	900	1590	109	142	5020	34	468	46
3	18	12	2470	47	940	2220	117	119	2920	33	487	80
4	14	172	2250	46	1000	953	108	988	1750	34	469	115
5	12	120	1940	46	1200	101	78	1290	2620	36	440	121
6	12	72	1280	47	1600	135	57	535	2510	39	435	112
7	11	859	1790	50	2200	178	50	228	1470	34	403	112
8	13	66	556	50	2100	92	39	185	1160	35	370	91
9	11	59	78	52	2000	85	40	79	683	42	327	40
10	11	59	46	56	2100	80	36	53	346	67	303	54
11	10	52	36	60	2200	83	24	45	434	122	301	37
12	10	54	30	70	2000	94	28	44	291	38	357	24
13	12	56	27	74	3600	224	61	106	434	54	394	23
14	11	57	26	80	3000	220	152	75	767	43	470	59
15	10	56	25	90	2600	71	68	63	339	41	440	270
16	9.9	53	1440	110	1700	63	35	78	101	28	392	115
17	9.9	57	1630	150	1400	78	31	229	40	27	281	29
18	11	53	2200	540	2700	86	27	377	46	23	338	28
19	58	57	2110	620	4000	78	26	1220	167	24	313	28
20	39	52	498	720	3300	77	55	1030	85	28	283	24
21	25	45	140	680	3500	82	56	458	24	27	262	24
22	13	55	72	660	2700	90	47	134	25	30	276	24
23	10	61	52	700	1260	300	30	95	25	46	230	25
24	9.6	56	44	580	831	392	21	574	28	59	126	37
25	9.8	36	40	540	1530	341	22	3080	29	36	125	25
26	11	48	39	620	412	124	21	1810	26	15	116	33
27	9.6	827	42	720	636	310	22	1080	25	14	111	37
28	8.8	2230	40	660	334	624	21	459	25	14	110	38
29	8.9	1860	42	620	---	398	179	339	26	124	121	39
30	9.2	1170	45	660	---	389	989	436	51	254	137	44
31	8.3	---	50	740	---	197	---	1610	---	383	105	---
TOTAL	435.0	8369.6	20447	10184	52543	9874	2716	17693	24237	1821	9527	1844
MEAN	14.0	279	660	329	1877	319	90.5	571	808	58.7	307	61.5
MAX	58	2230	2470	740	4000	2220	989	3080	5020	383	537	270
MIN	8.3	7.7	25	46	334	63	21	44	24	14	105	23
AC-FT	863	16600	40560	20200	104200	19590	5390	35090	48070	3610	18900	3660

CAL YR 1990 TOTAL 232926.6 MEAN 638 MAX 15300 MIN 7.7 AC-FT 462000
WTR YR 1991 TOTAL 159690.6 MEAN 438 MAX 5020 MIN 7.7 AC-FT 316700

PLATTE RIVER BASIN

06793500 BEAVER CREEK AT LORETTO, NE

LOCATION.--Lat 41°45'50", long 98°04'50", in NE1/4SE1/4 sec.26, T.21 N., R.7 W., Boone County, Hydrologic Unit 10210009, on left bank 5 ft downstream from county road bridge, at the west edge of Loretto.

DRAINAGE AREA.--311 mi², of which about 100 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1944 to September 1953, October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,785.95 ft above National Geodetic Vertical Datum of 1929. Prior to May 15, 1945, staff gage at bridge 25 ft upstream, May 15, 1945, to Aug. 16, 1946, water-stage recorder at site 85 ft upstream, Aug. 17, 1946, to Sept. 30, 1953, at site 5 ft downstream, all at present datum.

REMARKS.--Estimated daily discharges: Nov. 6-8, 28-30, Dec. 3-5, Dec. 16 to Feb. 8, Feb. 15-18, and Mar. 2-3. Records good except for periods of estimated record, which are poor. There are diversions for irrigation above station during the summer period.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--21 years (water years 1945-53, 1980-91), 80.3 ft³/s, 58,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,570 ft³/s June 2, 1950, gage height, 11.74 ft; minimum daily, 12 ft³/s July 8, Aug. 8, 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 16	0430	*1610	*9.54	No other peak greater than base discharge.			

Minimum daily discharge, 19 ft³/s July 8, Aug. 26-28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	49	60	39	60	67	89	89	90	28	29	26
2	47	48	59	42	64	68	81	85	97	25	26	27
3	51	49	56	43	68	70	76	93	97	24	25	28
4	56	54	50	43	72	78	72	142	87	23	28	28
5	51	54	60	43	76	78	68	131	109	23	29	29
6	48	54	64	41	83	78	66	113	82	21	30	31
7	46	52	63	40	80	77	64	96	76	21	32	33
8	47	54	61	42	78	73	63	85	71	19	37	33
9	50	58	61	43	75	70	62	80	68	22	37	33
10	51	58	62	46	72	70	62	73	66	24	36	34
11	50	59	62	46	69	70	70	69	58	28	34	36
12	49	62	63	46	68	69	73	66	62	28	33	46
13	49	60	63	46	68	71	76	61	60	26	31	72
14	49	60	64	50	66	71	79	58	51	28	29	112
15	49	60	64	60	58	71	80	57	50	29	29	61
16	49	57	64	55	60	71	81	481	49	24	27	49
17	48	56	64	55	64	71	71	316	48	25	25	45
18	47	54	50	55	66	73	70	311	47	23	24	43
19	52	53	45	55	66	74	69	212	44	22	23	42
20	50	53	40	55	66	77	69	143	43	26	23	42
21	51	53	35	50	70	81	71	115	42	30	23	43
22	52	52	35	52	72	81	71	98	42	30	22	42
23	51	51	36	56	71	81	66	89	45	30	21	42
24	49	51	37	52	69	81	63	83	46	32	21	42
25	49	51	38	45	67	75	62	95	45	31	21	42
26	49	50	38	47	67	69	63	114	42	29	19	43
27	49	49	39	52	67	74	64	111	38	32	19	43
28	49	45	39	52	66	75	63	99	36	35	19	42
29	49	50	39	52	---	97	67	108	32	34	21	42
30	49	58	38	52	---	109	85	149	30	33	22	44
31	49	---	37	52	---	100	---	112	---	32	23	---
TOTAL	1529	1614	1586	1507	1928	2370	2116	3934	1753	837	818	1275
MEAN	49.3	53.8	51.2	48.6	68.9	76.5	70.5	127	58.4	27.0	26.4	42.5
MAX	56	62	64	60	83	109	89	481	109	35	37	112
MIN	44	45	35	39	58	67	62	57	30	19	19	26
AC-FT	3030	3200	3150	2990	3820	4700	4200	7800	3480	1660	1620	2530

CAL YR 1990 TOTAL 21787 MEAN 59.7 MAX 461 MIN 31 AC-FT 43210
WTR YR 1991 TOTAL 21267 MEAN 58.3 MAX 481 MIN 19 AC-FT 42180

PLATTE RIVER BASIN

163

06794000 BEAVER CREEK AT GENOA, NE

LOCATION.--Lat 41°26'32", long 97°44'11", in NE1/4SE1/4 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 2.5 mi upstream from mouth.

DRAINAGE AREA.--647 mi², of which about 410 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1310: 1942(M). WDR NE-73: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,542.13 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Nov. 28-30, Dec. 3-7, Dec. 19 to Feb. 11, and Feb. 15-18. Records fair except for periods of estimated record, which are poor. Natural flow affected slightly by ground-water and surface-water withdrawals for irrigation.

AVERAGE DISCHARGE.--51 years, 126 ft³/s, 91,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s July 19, 1950, gage height, 18.70 ft, site and datum then in use, from rating curve extended above 8,500 ft³/s; minimum daily, 0.41 ft³/s July 25, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 16	1225	*2450	*11.27	May 25	0125	1330	9.00
May 17	0655	1400	9.17	May 30	2355	1360	9.09

Minimum daily discharge, 1.3 ft³/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	71	91	54	90	89	141	115	268	53	20	3.8
2	56	72	87	56	110	87	123	127	225	44	20	4.2
3	66	77	88	50	130	93	111	137	176	39	16	9.4
4	66	78	80	52	160	96	98	135	170	40	12	10
5	68	79	84	54	200	103	94	209	556	38	12	9.4
6	66	84	96	50	180	101	92	192	248	36	14	13
7	62	85	120	46	170	101	87	163	153	36	24	15
8	60	82	94	50	160	98	84	142	136	27	20	20
9	63	85	91	54	150	91	78	122	126	34	25	18
10	64	81	89	60	140	89	72	117	120	33	30	16
11	68	81	88	62	120	91	75	108	116	32	31	22
12	67	83	85	62	140	91	82	104	109	29	26	25
13	66	87	83	64	113	90	96	99	112	25	24	310
14	66	88	81	64	111	90	97	95	279	28	19	275
15	66	85	83	66	108	90	103	90	132	25	12	199
16	65	82	82	70	104	89	102	890	102	22	11	92
17	65	80	81	72	102	92	100	938	98	19	13	63
18	65	80	79	74	100	94	92	517	96	15	7.3	53
19	64	80	74	80	96	97	85	390	93	11	5.8	47
20	69	80	64	76	91	103	85	294	90	13	5.8	46
21	73	81	54	60	97	103	86	224	87	13	11	46
22	69	81	48	66	102	111	87	187	84	13	6.8	45
23	72	81	40	70	96	110	87	177	83	12	5.0	45
24	72	80	44	64	93	109	85	219	87	18	7.8	46
25	71	80	46	58	89	109	81	430	88	14	6.3	46
26	70	80	50	50	87	102	84	168	85	12	3.5	47
27	71	79	54	54	87	106	81	166	79	13	1.8	47
28	71	82	50	62	87	105	80	162	73	15	1.3	46
29	70	86	44	54	---	103	96	179	65	22	4.2	47
30	71	88	46	60	---	125	97	558	60	23	4.6	46
31	71	---	50	70	---	156	---	528	---	22	4.2	---
TOTAL	2066	2438	2246	1884	3313	3114	2761	7982	4196	776	404.4	1711.8
MEAN	66.6	81.3	72.5	60.8	118	100	92.0	257	140	25.0	13.0	57.1
MAX	73	88	120	80	200	156	141	938	556	53	31	310
MIN	53	71	40	46	87	87	72	90	60	11	1.3	3.8
AC-FT	4100	4840	4450	3740	6570	6180	5480	15830	8320	1540	802	3400

CAL YR 1990 TOTAL 49048 MEAN 134 MAX 7010 MIN 30 AC-FT 97290
WTR YR 1991 TOTAL 32892.2 MEAN 90.1 MAX 938 MIN 1.3 AC-FT 65240

PLATTE RIVER BASIN

06795500 SHELL CREEK NEAR COLUMBUS, NE

LOCATION.--Lat 41°31'33", long 97°16'55", in NE1/4NW1/4 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, and 7 mi northeast of Columbus.

DRAINAGE AREA.--270 mi², approximately.

PERIOD OF RECORD.--August 1947 to September 1975, October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,435 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 28-30, Dec. 3-7, Dec. 12 to Mar. 5. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years, 44.8 ft³/s, 32,460 acre-ft/yr; median of yearly mean discharges, 40.5 ft³/s, 29,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s June 17, 1990, gage height, 22.76 ft; minimum daily discharge, 0.4 ft³/s July 27, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1947, reached a stage of 21.7 ft, from floodmark, discharge, 4,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 5	2315	*1480	*16.70	No other peak greater than base discharge.			

Minimum daily discharge, 2.8 ft³/s Sept. 6, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	16	13	12	17	22	47	33	144	23	9.4	5.8
2	9.6	13	13	12	24	18	39	25	113	23	9.4	5.7
3	11	14	12	10	40	20	35	25	73	20	9.1	5.5
4	14	16	11	11	70	22	30	106	42	18	8.1	4.4
5	13	24	12	11	160	22	25	67	825	17	6.7	4.2
6	11	20	14	10	165	22	22	55	1070	15	8.8	2.8
7	8.6	16	18	9.0	130	20	20	38	250	14	8.0	3.8
8	9.8	20	22	10	90	17	18	34	69	15	5.0	3.6
9	12	18	19	12	64	16	17	45	47	16	4.2	2.8
10	12	16	14	13	50	16	17	33	38	31	6.2	3.8
11	12	15	15	13	35	16	16	28	35	20	7.2	4.1
12	12	16	15	13	28	18	52	28	35	9.3	6.3	4.3
13	12	19	14	14	24	26	128	26	30	9.2	6.9	5.7
14	11	18	14	14	24	28	59	25	39	9.2	8.0	184
15	11	17	14	14	20	27	39	24	81	9.3	6.8	121
16	12	15	13	15	23	20	35	33	32	9.2	7.2	36
17	16	15	13	16	25	20	30	168	24	11	6.4	19
18	8.8	13	13	16	24	24	29	183	24	9.8	6.8	8.4
19	15	11	12	14	23	28	28	86	25	9.4	6.4	6.3
20	8.6	10	11	13	24	25	27	57	25	9.3	6.4	4.9
21	14	10	10	12	26	26	27	41	26	9.4	6.2	3.3
22	15	9.8	9.0	13	28	28	27	35	33	9.4	5.9	3.3
23	17	11	7.0	15	27	24	26	32	29	9.5	6.5	3.5
24	13	12	8.0	14	25	24	25	42	25	9.4	6.8	3.3
25	14	11	8.4	12	22	22	23	76	25	9.0	6.7	3.2
26	16	10	9.6	11	23	17	21	50	25	8.1	5.2	3.4
27	12	10	11	13	22	18	22	30	25	9.1	4.8	3.5
28	10	9.0	10	14	24	21	22	27	24	8.9	6.3	4.0
29	8.7	9.4	9.8	12	---	22	29	27	25	8.0	6.2	4.1
30	8.5	10	10	13	---	43	36	34	24	8.9	5.6	3.8
31	19	---	11	14	---	46	---	294	---	9.2	5.5	---
TOTAL	375.5	424.2	385.8	395.0	1257	718	971	1807	3282	396.6	209.0	471.5
MEAN	12.1	14.1	12.4	12.7	44.9	23.2	32.4	58.3	109	12.8	6.74	15.7
MAX	19	24	22	16	165	46	128	294	1070	31	9.4	184
MIN	8.5	9.0	7.0	9.0	17	16	16	24	24	8.0	4.2	2.8
AC-FT	745	841	765	783	2490	1420	1930	3580	6510	787	415	935

CAL YR 1990 TOTAL 31392.2 MEAN 86.0 MAX 4900 MIN 4.6 AC-FT 62270
WTR YR 1991 TOTAL 10692.6 MEAN 29.3 MAX 1070 MIN 2.8 AC-FT 21210

LOCATION.--Lat 41°27'10", long 96°45'50", in SE1/4 sec.7, T.17 N., R.6 E., Dodge County, Hydrologic Unit 10200201, on left bank 80 ft upstream from bridge on State Highway 79, 1 mi south of North Bend, and 5 mi downstream from Shell Creek.

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

GAGE.--Water-stage recorder. Datum of gage is 1,262.32 ft above National Geodetic Vertical Datum of 1929. 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.

AVERAGE DISCHARGE.--42 years, 4,479 ft³/s, 3,245,000 acre-ft/yr.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,600 ft³/s June 3, gage height, 6.73 ft; maximum gage height, 7.18 ft Feb. 13, backwater from ice; minimum daily discharge, 493 ft³/s Aug. 28, 31.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2310	2640	4210	1200	2800	4910	4240	5070	9250	1530	1140	597
2	2560	2650	4530	1300	3000	4870	4230	4490	14000	1530	1060	585
3	2630	2730	3160	1300	3100	3820	3640	4200	17900	1350	867	670
4	2800	3040	2100	1400	3100	4890	3950	4220	14000	1090	1010	713
5	2280	3210	2400	1600	3000	5030	3540	5530	15500	842	1020	775
6	2330	4800	2800	1500	3300	4250	4050	6130	17700	835	1020	698
7	3030	2360	3300	1500	3600	4170	3360	5070	17300	695	1320	736
8	2200	3430	3800	1700	4000	4370	3580	4680	13200	705	867	977
9	2580	3660	4790	1800	4500	4650	3470	4870	10200	1590	1130	1160
10	2170	3380	4750	2000	5200	4710	3260	4710	8770	1520	983	1240
11	2620	3440	4670	2200	5600	4330	3340	4970	7200	3230	905	1180
12	2740	3290	4460	2300	5400	4560	4620	3970	6000	3650	875	1090
13	2480	3150	4350	2400	5400	5120	7020	4070	5100	3200	989	1380
14	3090	3510	4680	2600	5800	4770	5950	3640	8170	2810	1150	1460
15	2710	3270	4620	2700	6200	5070	4320	3500	7360	1970	1030	2260
16	3070	3630	4350	2700	6000	4730	3620	3210	5790	2190	986	2340
17	2740	3630	3870	2600	5500	5830	3690	4980	4750	915	1110	2340
18	2710	3940	2800	2700	5400	5490	3110	4840	4670	1270	1140	1890
19	2610	3750	2400	2800	5400	4450	3040	4370	4210	674	1180	1610
20	3060	3700	2000	2700	5500	4100	3150	5680	3590	739	1280	1720
21	3060	3690	1400	2600	5800	3780	3470	4910	4470	636	1140	1590
22	3160	3610	1200	2600	6400	3970	3750	3850	5010	499	991	1470
23	3480	4010	1300	2700	7000	2850	3390	3310	3500	714	735	1630
24	3620	4050	1600	2600	5830	4480	3230	3400	3450	690	869	1750
25	3390	3960	1500	2500	5080	5540	3500	4080	3610	863	808	1680
26	3110	3740	1500	2600	5270	4140	3050	9930	3420	997	835	1600
27	3310	4220	1600	2700	4930	4070	3080	9380	3390	987	538	1680
28	2990	3040	1400	2600	4220	4160	2990	9490	2710	923	493	1730
29	2500	4100	1200	2500	---	4890	2970	8200	2780	1030	499	1740
30	2490	3660	1200	2600	---	2960	3620	8110	1460	961	611	1700
31	2920	---	1200	2700	---	4770	---	7710	---	743	493	---
TOTAL	86750	105290	89140	69700	136330	139730	112230	164570	228460	41378	29074	42001
MEAN	2798	3510	2875	2248	4869	4507	3741	5309	7615	1335	938	1400
MAX	3620	4800	4790	2800	7000	5830	7020	9930	17900	3650	1320	2340
MIN	2170											

CAL YR 1990	TOTAL	1440204	MEAN	3946	MAX	33600	MIN	842	AC-FT	2857000
WTR YR 1991	TOTAL	1244653	MEAN	3410	MAX	17900	MIN	493	AC-FT	2469000

PLATTE RIVER BASIN

06796973 ELKHORN RIVER NEAR ATKINSON, NE

LOCATION.--Lat 42°29'12", long 98°54'42", in SW1/4NW1/4 sec.13, T.29 N., R.14 W, Holt County, Hydrologic Unit 10220001, on left bank 10 ft downstream from county road bridge, 4.0 mi southeast of Atkinson.

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

GAGE.--Water-stage recorder. Elevation of gage is 2,042 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 3-8 and Nov. 27 to Feb. 16. Records good except for periods of estimated daily discharges, which are poor. Minor diversions for irrigation above station.

COOPERATION.--Discharge record furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--9 years, 95.4 ft³/s, 69,120 acre-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft³/s Apr.8, 1984, gage height, 8.41 ft; minimum daily, 1.1 ft³/s Aug. 31 to Sept. 3.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 940 ft³/s May 19, gage height, 6.63 ft; minimum daily, 1.1 ft³/s Aug. 31 to Sept. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	14	23	13	25	45	52	71	450	42	8.3	1.1
2	9.6	13	19	14	27	30	48	75	457	38	7.5	1.1
3	17	14	18	15	28	41	45	128	481	35	6.6	1.1
4	16	15	17	14	31	48	42	303	429	33	6.2	1.2
5	13	15	18	13	35	45	40	335	378	31	6.0	1.2
6	11	14	19	14	35	44	38	271	349	29	6.5	1.2
7	10	14	18	15	34	40	35	227	308	27	7.2	1.3
8	12	17	19	15	34	39	31	202	258	25	8.3	1.4
9	13	19	17	13	34	38	30	177	213	25	8.3	1.4
10	14	18	20	15	37	37	29	148	244	26	8.1	1.5
11	14	19	21	17	41	37	34	121	353	22	7.2	1.9
12	14	21	20	19	43	36	41	101	473	21	6.4	1.6
13	13	22	19	22	41	36	56	80	359	19	6.1	2.1
14	13	23	20	23	38	37	77	67	254	19	5.8	2.3
15	13	23	19	22	37	37	82	63	194	18	5.2	2.0
16	14	22	18	21	40	39	70	63	162	18	4.2	1.8
17	13	22	17	21	45	41	61	214	140	16	3.6	1.8
18	14	22	14	22	38	45	55	516	115	15	3.5	1.6
19	13	21	10	20	36	49	50	860	100	13	3.2	1.8
20	13	22	9.0	19	36	53	48	609	85	13	2.8	2.0
21	14	22	8.4	19	37	56	46	470	82	13	2.6	2.6
22	13	21	8.0	20	47	60	45	363	86	14	2.2	3.1
23	13	21	8.8	20	52	63	43	316	87	12	2.2	3.2
24	13	22	13	19	49	65	40	276	88	12	2.0	4.3
25	13	21	12	18	45	62	37	242	81	11	2.1	4.4
26	14	21	14	18	44	59	35	255	71	11	1.9	4.5
27	13	19	16	20	43	53	36	210	63	10	1.8	4.7
28	13	21	15	19	43	52	35	167	56	10	1.6	5.2
29	14	22	13	19	---	56	35	216	52	9.8	1.6	5.3
30	14	24	12	21	---	58	47	329	47	9.3	1.3	5.1
31	14	---	14	23	---	56	---	435	---	8.7	1.1	---
TOTAL	406.8	584	489.2	563	1075	1457	1363	7910	6515	605.8	141.4	73.8
MEAN	13.1	19.5	15.8	18.2	38.4	47.0	45.4	255	217	19.5	4.56	2.46
MAX	17	24	23	23	52	65	82	860	481	42	8.3	5.3
MIN	9.2	13	8.0	13	25	30	29	63	47	8.7	1.1	1.1
AC-FT	807	1160	970	1120	2130	2890	2700	15690	12920	1200	280	146

CAL YR 1990 TOTAL 7740.4 MEAN 21.2 MAX 62 MIN 2.6 AC-FT 15350
WTR YR 1991 TOTAL 21184.0 MEAN 58.0 MAX 860 MIN 1.1 AC-FT 42020

PLATTE RIVER BASIN

06797500 ELKHORN RIVER AT EWING, NE

LOCATION.--Lat 42°16'03", long 98°20'11", in NW1/4SW1/4 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, and 1.5 mi upstream from South Fork Elkhorn River.

DRAINAGE AREA.--1,400 mi², approximately, of which about 740 mi² 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 National Geodetic Vertical Datum of 1929, levels by Nebraska Department of Roads. Prior to Oct. 22, 1952, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 6-8 and Nov. 26 to Feb. 16. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--44 years, 179 ft³/s, 129,700 acre-ft/yr; median of yearly mean discharges, 120 ft³/s, 86,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s June 10, 1962, gage height, 10.60 ft; minimum daily, 5.2 ft³/s Sept. 6, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 11.32 ft June 23, 24, 1947, from floodmark at site 300 ft upstream, discharge, 6,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 7	0540	729	5.22	June 4	0745	1050	5.78
May 21	1930	*1280	*6.15				

Minimum daily discharge, 7.2 ft³/s Sept. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	57	64	44	47	145	141	124	968	105	23	8.4
2	38	58	62	42	50	110	135	127	988	91	22	8.1
3	50	59	58	38	54	125	128	219	1030	80	22	7.8
4	56	64	62	42	56	138	120	381	1030	72	21	7.7
5	58	65	65	39	58	156	113	517	974	67	21	7.9
6	57	58	68	36	64	142	106	696	872	61	21	7.2
7	53	44	70	34	72	129	100	705	760	57	28	7.5
8	53	50	70	37	84	127	94	626	655	53	37	7.9
9	55	67	64	39	96	122	90	556	579	53	34	7.7
10	56	77	72	41	110	118	87	481	530	54	33	8.2
11	58	86	70	42	125	117	102	406	557	52	30	8.9
12	57	87	72	43	160	115	125	323	512	49	28	9.8
13	57	88	72	43	130	114	166	252	516	46	26	11
14	58	91	70	44	140	112	203	204	575	44	24	12
15	56	90	66	44	180	112	231	171	513	41	23	12
16	55	90	52	44	170	111	252	162	403	37	22	12
17	56	90	45	44	161	113	238	401	325	34	21	12
18	57	91	40	45	143	115	215	757	275	32	20	12
19	55	95	36	46	134	115	200	941	240	29	19	12
20	57	94	31	44	130	119	171	1100	206	30	18	12
21	60	91	28	41	155	126	154	1230	196	28	16	12
22	58	88	28	43	172	136	141	1150	204	30	15	12
23	60	85	31	45	183	145	129	1020	213	32	15	12
24	59	84	35	41	166	144	120	826	207	36	13	13
25	59	82	34	39	154	146	114	691	194	32	12	13
26	57	80	39	37	157	155	109	603	180	29	11	13
27	58	74	44	39	151	148	114	528	162	29	9.6	14
28	58	54	40	42	146	136	108	483	151	29	9.5	14
29	56	56	37	42	---	140	113	459	138	28	9.0	14
30	57	60	35	42	---	138	120	432	121	27	9.6	15
31	57	---	40	44	---	143	---	505	---	25	8.9	---
TOTAL	1718	2255	1600	1286	3448	4012	4239	17076	14274	1412	621.6	324.1
MEAN	55.4	75.2	51.6	41.5	123	129	141	551	476	45.5	20.1	10.8
MAX	60	95	72	46	183	156	252	1230	1030	105	37	15
MIN	37	44	28	34	47	110	87	124	121	25	8.9	7.2
AC-FT	3410	4470	3170	2550	6840	7960	8410	33870	28310	2800	1230	643

CAL YR 1990 TOTAL 26217 MEAN 71.8 MAX 182 MIN 12 AC-FT 52000
WTR YR 1991 TOTAL 52265.7 MEAN 143 MAX 1230 MIN 7.2 AC-FT 103700

PLATTE RIVER BASIN

06798000 SOUTH FORK ELKHORN RIVER NEAR EWING, NE

LOCATION.--Lat 42°14'29", long 98°23'53", in SE1/4NE1/4 sec.7, T.26 N., R.9 W., Holt County, Hydrologic Unit 10220001, on right bank 17 ft downstream from bridge on county highway, 2.9 mi southwest of intersection with U.S. Highway 275 in Ewing and 5.5 mi upstream from mouth.

DRAINAGE AREA.--314 mi², approximately, of which about 190 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1947 to September 1953, August 1960 to September 1972, October 1977 to current year. Prior to October 1977 station published as "at Ewing" at sites 4.5 mi downstream at different datum.

GAGE.--Water-stage recorder. Elevation of gage is 1,880 ft from topographic map. See WSP 1918 for history of changes prior to June 14, 1963.

REMARKS.--Estimated daily discharges: Nov. 6-8, 27-30, Dec. 3-5, Dec. 16 to Feb. 5, Feb. 15-21, and Mar. 2-4. Records good except for periods of estimated record, which are poor.

COOPERATION.--Records furnished by Nebraska Department of Water Resources since Oct. 1, 1982.

AVERAGE DISCHARGE.--32 years (water years 1948-53, 1961-72, 1978-91) 67.5 ft³/s, 48,900 acre-ft/yr; median of yearly mean discharges, 52.6 ft³/s, 38,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,640 ft³/s Mar. 18, 1987, gage height, 7.59 ft; minimum discharge, 11 ft³/s Jan. 15, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1947, reached a stage of 7.22 ft, from floodmarks at site and datum then in use; discharge, about 3,400 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 14	1245	(a)	*2.60	No other peaks greater than base discharge.			
May 19	0130	*215	2.08				

a Backwater from ice.

Minimum daily discharge, 18 ft³/s Sept. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	40	31	29	38	28	43	43	89	30	26	23
2	31	40	32	32	40	26	43	43	83	30	25	24
3	40	40	30	29	41	24	41	58	116	31	25	22
4	35	40	27	28	41	25	41	64	151	32	24	21
5	34	40	38	27	42	28	41	132	109	31	25	23
6	34	40	37	27	38	29	40	175	81	30	25	23
7	33	32	34	27	36	31	39	130	61	30	32	23
8	34	34	34	27	35	32	38	103	51	28	35	23
9	34	37	36	27	34	33	37	88	47	30	27	22
10	34	38	38	26	35	33	36	77	46	30	28	23
11	34	37	39	27	34	34	46	70	46	29	27	25
12	34	38	40	28	34	34	45	61	49	26	26	26
13	34	37	41	29	32	32	46	52	50	26	25	24
14	34	36	40	35	33	29	51	50	48	26	24	23
15	34	37	38	40	30	29	88	46	45	25	24	20
16	34	37	35	37	27	30	95	45	44	24	24	19
17	34	36	30	35	30	28	86	57	41	23	24	18
18	34	35	27	37	31	29	74	159	37	23	23	18
19	34	35	26	35	33	30	65	209	37	24	25	20
20	34	35	24	35	35	35	55	191	36	27	25	20
21	34	33	22	30	38	37	51	147	41	25	23	21
22	34	32	23	30	36	37	51	113	43	27	22	20
23	34	33	24	31	37	37	49	95	40	25	22	22
24	34	33	25	32	38	37	46	77	39	26	21	21
25	34	32	26	33	37	39	43	76	41	24	21	22
26	34	31	27	35	30	38	44	79	41	24	20	24
27	35	28	27	35	30	40	48	77	41	25	21	25
28	35	25	27	35	30	41	44	64	38	27	21	26
29	37	27	27	32	---	38	46	57	38	26	21	26
30	40	30	27	30	---	38	46	53	34	26	22	24
31	40	---	28	35	---	41	---	57	---	27	21	---
TOTAL	1070	1048	960	975	975	1022	1518	2748	1663	837	754	671
MEAN	34.5	34.9	31.0	31.5	34.8	33.0	50.6	88.6	55.4	27.0	24.3	22.4
MAX	40	40	41	40	42	41	95	209	151	32	35	26
MIN	30	25	22	26	27	24	36	43	34	23	20	18
AC-FT	2120	2080	1900	1930	1930	2030	3010	5450	3300	1660	1500	1330
CAL YR 1990	TOTAL 13274	MEAN 36.4	MAX 100	MIN 21	AC-FT 26330							
WTR YR 1991	TOTAL 14241	MEAN 39.0	MAX 209	MIN 18	AC-FT 28250							

PLATTE RIVER BASIN

169

06798300 CLEARWATER CREEK NR CLEARWATER, NE

LOCATION.--Lat 42°08'20", long 98°12'10", in SW1/4NW1/4 sec.13, T.25 N., R.8 W., Antelope County, Hydrologic Unit 10220001, on left bank at downstream side of county road bridge, 0.5 mi west and 2 mi south of Clearwater, and about 3 mi upstream from mouth.

DRAINAGE AREA.--210 mi², approximately, of which about 130 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--July 1961 to September 1964, October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,810 ft above National Geodetic Vertical Datum of 1929 from topographic map. Prior to Sept. 7, 1961, wire-weight gage only at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 27-29, Dec. 20 to Feb. 4, and Feb. 15-16. No gage height record Dec. 22-27 due to freeze up at end of bubble line. Records good except for periods of estimated record, which are poor.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--17 years (water years 1962-64, 1978-91), 41.5 ft³/s, 30,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1510 ft³/s Mar. 18, 1987, gage height, 9.00 ft; maximum gage height, 9.00 ft Aug. 5, 1981 and Mar. 18, 1987; minimum daily discharge, 4.4 ft³/s Aug. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 5	0830	*137	*4.38	June 4	0130	120	4.26

Minimum daily discharge, 7.0 ft³/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	30	30	31	35	29	38	49	86	16	8.5	11
2	22	30	29	34	36	27	33	47	89	15	8.0	12
3	30	30	30	33	37	32	32	67	104	12	8.5	11
4	26	30	27	32	37	31	32	93	103	13	11	12
5	26	30	31	32	43	30	30	123	77	13	12	12
6	27	30	31	31	38	30	29	85	61	12	12	13
7	27	30	31	29	39	30	28	52	45	11	14	12
8	26	28	31	31	38	29	27	38	38	12	23	13
9	26	27	32	31	35	28	27	34	35	16	18	13
10	27	28	32	32	33	28	28	32	33	18	16	13
11	27	28	32	33	32	29	40	34	30	18	15	15
12	27	28	30	34	31	29	40	28	27	16	15	17
13	27	27	31	36	30	33	43	24	27	14	13	22
14	27	25	31	38	29	33	66	22	26	13	14	22
15	28	24	31	37	25	34	76	22	25	15	13	17
16	28	24	31	35	28	34	51	24	25	14	11	16
17	27	24	30	35	30	36	38	34	23	13	11	16
18	28	24	32	37	28	38	34	55	23	11	9.1	17
19	28	24	30	37	29	38	37	65	22	14	11	17
20	28	24	25	35	31	40	37	75	20	15	8.3	18
21	28	24	23	31	31	42	39	58	19	15	8.3	18
22	28	25	22	33	30	46	37	47	23	14	7.7	16
23	28	26	23	32	29	45	35	49	22	13	9.4	16
24	29	26	24	31	28	41	32	61	22	15	8.0	16
25	29	25	24	30	29	37	30	76	22	13	8.8	18
26	28	26	25	31	29	34	29	68	19	10	8.6	17
27	29	25	25	32	30	36	34	70	18	10	7.0	17
28	29	24	26	32	31	41	29	55	16	14	7.2	17
29	29	27	27	32	---	47	41	51	16	14	8.2	17
30	29	31	28	33	---	54	42	49	14	14	10	16
31	30	---	29	34	---	46	---	44	---	12	10	---
TOTAL	851	804	883	1024	901	1107	1114	1631	1110	425	344.6	467
MEAN	27.5	26.8	28.5	33.0	32.2	35.7	37.1	52.6	37.0	13.7	11.1	15.6
MAX	30	31	32	38	43	54	76	123	104	18	23	22
MIN	22	24	22	29	25	27	27	22	14	10	7.0	11
AC-FT	1690	1590	1750	2030	1790	2200	2210	3240	2200	843	684	926

CAL YR 1990 TOTAL 10617 MEAN 29.1 MAX 369 MIN 13 AC-FT 21060
WTR YR 1991 TOTAL 10661.6 MEAN 29.2 MAX 123 MIN 7.0 AC-FT 21150

PLATTE RIVER BASIN

06798500 ELKHORN RIVER AT NELIGH, NE

LOCATION.--Lat 42°07'20", long 98°01'40", in SE1/4NE1/4 sec.20, T.25 N., R.6 W., Antelope County, Hydrologic Unit 10220001, on right bank 30 ft downstream from bridge on old State Highway 14 at Neligh.

DRAINAGE AREA.--2,200 mi², approximately, of which about 1,200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1930 to September 1958, August 1960 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1006: 1935, 1942. WSP 1390: 1931-32, 1937(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,714.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 16, 1933, nonrecording gage at site 10 ft downstream at present datum. Apr. 16, 1933, to Jan. 23, 1939, nonrecording gage at bridge 30 ft upstream at present datum. Jan. 24, 1939, to Oct. 9, 1958, and Aug. 8, 1960, to Sept. 8, 1970, water-stage recorder at site 20 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 7-9, 28, and Dec. 19 to Feb. 17. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--59 years, 302 ft³/s, 218,800 acre-ft/yr; median of yearly mean discharges, 240 ft³/s, 173,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s Mar. 19, 1987, gage height, 11.99 ft; maximum gage height, 12.53 ft June 23, 1947; minimum daily, 12 ft³/s July 2, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1960, reached a stage of 12.24 ft, from floodmark, discharge, 12,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 6	1310	1230	5.18	June 3	1545	*1910	*5.97
May 20	1100	1670	5.86	No other peak greater than base discharge.			

Minimum daily discharge, 38 ft³/s Aug. 27, 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	127	210	92	140	221	273	251	1070	212	68	43
2	93	125	195	94	150	193	254	265	1520	190	63	43
3	125	128	186	92	165	125	248	352	1670	171	61	43
4	142	136	177	92	180	205	239	540	1700	155	57	43
5	135	138	183	94	190	211	228	697	1560	145	59	43
6	124	150	200	92	210	227	214	1110	1340	133	62	45
7	114	150	219	88	240	216	202	1060	1140	121	80	46
8	110	150	228	94	260	202	192	901	952	112	126	46
9	111	148	221	105	280	199	188	765	807	122	143	46
10	112	150	208	112	270	193	187	658	737	129	115	46
11	110	162	208	115	270	196	200	546	704	131	95	50
12	111	165	210	115	270	202	249	456	695	120	89	60
13	112	165	206	115	280	202	281	373	651	107	86	72
14	111	165	196	118	210	201	337	315	673	102	83	77
15	112	165	199	120	170	199	402	277	721	97	75	72
16	112	163	199	120	230	199	442	275	614	92	69	68
17	112	162	188	125	340	199	436	372	496	83	65	65
18	113	162	182	130	327	209	383	1150	414	75	63	65
19	112	162	120	120	240	214	365	1490	361	79	58	66
20	114	162	90	115	277	226	333	1610	315	76	55	66
21	128	163	72	110	299	242	311	1550	283	98	53	66
22	129	163	78	115	286	252	301	1540	286	95	49	68
23	130	160	76	115	273	276	278	1400	292	89	47	62
24	131	160	80	118	262	283	253	1210	300	90	47	65
25	131	161	85	120	243	280	237	1170	297	87	45	71
26	131	157	90	110	228	280	223	986	278	74	41	67
27	131	157	97	120	231	288	216	876	256	74	38	67
28	125	110	92	130	220	284	222	742	242	84	38	68
29	126	161	86	120	---	274	227	676	227	80	38	68
30	125	220	80	130	---	273	246	598	216	75	43	68
31	126	---	85	135	---	273	---	586	---	71	43	---
TOTAL	3683	4647	4746	3471	6741	7044	8167	24797	20817	3369	2054	1775
MEAN	119	155	153	112	241	227	272	800	694	109	66.3	59.2
MAX	142	220	228	135	340	288	442	1610	1700	212	143	77
MIN	85	110	72	88	140	125	187	251	216	71	38	43
AC-FT	7310	9220	9410	6880	13370	13970	16200	49180	41290	6680	4070	3520

CAL YR 1990 TOTAL 58149 MEAN 159 MAX 820 MIN 33 AC-FT 115300
WTR YR 1991 TOTAL 91311 MEAN 250 MAX 1700 MIN 38 AC-FT 181100

PLATTE RIVER BASIN

171

06799000 ELKHORN RIVER AT NORFOLK, NE

LOCATION.--Lat 42°00'14", long 97°25'31", in SW1/4SW1/4 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 and 275, and 3.6 mi upstream from North Fork Elkhorn River.

DRAINAGE AREA.--2,790 mi², approximately, of which about 1,790 mi² 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 1,502.95 ft above National Geodetic Vertical Datum of 1929. 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 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 28-29, Dec. 3-4, and Dec. 21 to Feb. 20. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--46 years, 507 ft³/s, 367,300 acre-ft/yr; median of yearly mean discharges, 411 ft³/s, 298,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s June 14, 1967, gage height, 8.52 ft, site and datum then in use; maximum gage height observed, 15.63 ft Mar. 11, 1949, at site 200 ft upstream at present datum, backwater from ice; minimum daily discharge, 33 ft³/s Aug. 3, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 13, 1944, reached a stage of 13.8 ft, at site 200 ft upstream at present datum, discharge, 14,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	1845	2670	5.08	June 4	2341	*10700	*9.10
May 26	0030	2190	4.63				

Minimum daily discharge, 47 ft³/s Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	213	278	130	320	380	469	417	1230	349	128	58
2	182	217	286	120	330	375	445	401	1790	310	120	67
3	212	224	280	125	340	356	418	509	1960	265	117	65
4	234	238	260	130	350	333	381	645	3790	239	110	60
5	258	246	285	135	360	357	370	708	4950	224	113	56
6	266	266	294	140	366	379	351	832	2040	214	116	54
7	254	282	277	130	380	384	332	1180	1600	204	129	58
8	255	291	291	135	400	380	311	1010	1340	209	175	60
9	203	285	308	140	420	360	281	1020	1040	234	198	62
10	199	280	298	150	430	357	270	1010	902	224	209	60
11	196	286	291	155	430	355	279	951	980	225	163	99
12	196	292	289	160	420	351	330	878	993	219	151	108
13	196	297	290	170	410	365	408	821	932	190	143	205
14	192	295	292	178	380	352	406	753	899	188	130	193
15	192	292	291	185	350	335	429	694	1120	183	128	183
16	192	280	276	195	400	330	478	712	992	174	122	129
17	190	280	281	205	500	346	528	1110	872	158	122	92
18	190	281	236	215	680	372	540	1590	772	146	99	74
19	196	282	194	230	620	365	516	1700	667	142	91	65
20	202	284	126	230	560	366	504	1920	583	142	82	69
21	209	292	98	220	436	381	481	1830	527	148	78	74
22	210	290	100	250	432	398	455	1810	522	145	68	72
23	210	282	98	245	412	412	416	1770	510	171	62	73
24	206	275	110	240	396	413	384	1640	509	150	65	74
25	202	269	105	235	396	417	353	1760	500	144	65	75
26	208	264	100	230	376	416	342	1970	480	143	62	80
27	213	252	110	270	375	438	345	1680	433	139	52	90
28	211	220	98	285	382	451	332	1510	406	142	50	94
29	209	190	100	280	---	483	416	1180	372	147	50	103
30	208	249	110	295	---	492	433	1470	345	144	47	113
31	212	---	118	310	---	483	---	1320	---	133	48	---
TOTAL	6474	7994	6570	6118	11651	11982	12003	36801	34056	5845	3293	2665
MEAN	209	266	212	197	416	387	400	1187	1135	189	106	88.8
MAX	266	297	308	310	680	492	540	1970	4950	349	209	205
MIN	171	190	98	120	320	330	270	401	345	133	47	54
AC-FT	12840	15860	13030	12140	23110	23770	23810	72990	67550	11590	6530	5290

CAL YR 1990 TOTAL 113901 MEAN 312 MAX 7440 MIN 95 AC-FT 225900
WTR YR 1991 TOTAL 145452 MEAN 398 MAX 4950 MIN 47 AC-FT 288500

PLATTE RIVER BASIN

06799080 WILLOW CREEK NEAR FOSTER, NE

LOCATION.--Lat 42°10'38", Long 97°40'02" in NW1/4NE1/4 sec.4, T.25 N., R.3 W., Pierce County, Hydrologic Unit 10220002, on left downstream bank at county road bridge, 6.8 mi south of Foster and 7.2 mi southwest of Pierce.

DRAINAGE AREA.--137 mi².

PERIOD OF RECORD.--October 1975 (monthly discharge only) to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,650 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 7-9, Nov. 27 to Dec. 10, and Dec. 13 to Mar. 4. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--16 years, 13.9 ft³/s, 10,070 acre-ft/yr; median of yearly mean discharges, 9.39 ft³/s, 6,800 acre-ft per year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 574 ft³/s Mar. 18, 1987, gage height, 7.94 ft; maximum gage height, 8.28 ft Feb. 24, 1983, backwater from ice; minimum daily discharge, 1.5 ft³/s Feb. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 5	1830	(a)	*4.42	No peaks greater than base discharge.			
July 1	1340	*43	3.80				

a Backwater from ice.

Minimum daily discharge, 1.6 ft³/s Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.9	5.6	3.4	4.2	6.4	10	9.7	9.4	33	3.0	2.0
2	3.8	5.6	4.7	3.2	4.4	6.6	9.7	9.2	10	14	3.6	2.0
3	4.4	6.1	4.2	3.0	4.4	6.6	9.5	15	9.9	11	3.5	2.1
4	4.3	6.1	4.0	3.2	4.5	6.8	9.3	16	14	9.6	3.4	2.1
5	4.2	6.0	5.4	3.3	4.5	7.0	8.8	16	22	9.0	3.2	2.1
6	3.7	6.2	6.4	3.1	4.5	6.6	8.4	15	16	8.3	3.2	2.1
7	3.7	5.4	6.6	3.1	4.5	6.8	7.8	12	20	7.7	3.8	2.0
8	4.2	5.7	6.9	3.4	4.8	6.5	7.2	11	18	6.3	4.4	2.0
9	4.4	6.0	6.9	3.3	4.5	6.6	7.2	10	15	6.3	4.0	2.0
10	4.3	6.2	6.5	3.7	4.4	6.5	7.0	9.4	14	6.7	13	2.0
11	4.4	6.1	5.8	3.9	4.4	6.6	8.9	9.0	12	7.2	16	2.9
12	4.5	6.1	5.4	4.2	4.7	7.1	12	8.4	11	6.6	12	3.7
13	4.4	6.1	5.4	4.5	4.9	7.7	11	7.8	10	5.7	8.5	3.7
14	4.5	5.4	5.8	4.5	4.3	7.7	12	7.4	10	5.1	6.4	4.5
15	4.5	5.3	5.6	4.0	4.0	7.3	11	7.2	10	5.5	5.0	3.3
16	5.0	5.3	5.5	4.1	5.2	7.2	10	7.5	9.6	5.3	3.2	2.8
17	4.7	5.3	5.4	4.3	5.0	8.1	9.5	8.0	8.9	4.1	2.8	2.7
18	4.9	5.3	5.4	4.5	4.9	8.7	9.1	11	8.6	4.2	3.0	2.7
19	5.1	5.4	4.8	4.3	4.8	8.2	9.1	9.5	8.3	4.1	3.2	2.7
20	5.2	5.6	3.3	4.0	6.4	8.5	9.4	9.4	8.1	3.6	2.3	2.8
21	5.5	5.8	2.5	3.9	8.0	8.7	9.1	9.0	8.7	3.4	2.7	2.9
22	5.5	5.7	2.6	3.7	8.2	9.4	9.0	8.5	9.6	3.8	2.8	3.0
23	5.6	5.7	2.5	4.0	7.6	10	8.3	8.7	9.6	4.2	2.7	3.0
24	5.6	5.9	3.0	4.2	7.2	9.5	7.8	8.7	9.3	4.2	2.6	3.1
25	5.9	6.0	2.9	3.8	7.0	9.5	7.5	8.7	9.1	3.8	2.4	3.1
26	6.0	6.0	3.1	3.7	7.7	9.3	7.3	8.2	8.7	2.8	2.4	3.1
27	5.3	4.1	3.3	3.9	8.5	8.7	8.5	7.9	8.1	2.8	1.6	3.1
28	5.3	4.2	3.1	4.2	9.0	14	7.7	7.7	7.8	4.5	2.1	3.1
29	5.4	4.8	2.9	3.7	---	13	11	8.5	7.5	4.0	2.3	3.4
30	5.5	6.0	2.7	3.7	---	12	11	9.1	10	3.6	2.1	3.3
31	5.8	---	3.1	4.0	---	12	---	9.0	---	2.7	2.0	---
TOTAL	149.5	169.3	141.3	117.8	156.5	259.6	274.1	302.5	333.2	203.1	133.2	83.3
MEAN	4.82	5.64	4.56	3.80	5.59	8.37	9.14	9.76	11.1	6.55	4.30	2.78
MAX	6.0	6.2	6.9	4.5	9.0	14	12	16	22	33	16	4.5
MIN	3.7	4.1	2.5	3.0	4.0	6.4	7.0	7.2	7.5	2.7	1.6	2.0
AC-FT	297	336	280	234	310	515	544	600	661	403	264	165

CAL YR 1990 TOTAL 2350.0 MEAN 6.44 MAX 17 MIN 2.0 AC-FT 4660
WTR YR 1991 TOTAL 2323.4 MEAN 6.37 MAX 33 MIN 1.6 AC-FT 4610

PLATTE RIVER BASIN

173

06799100 NORTH FORK ELKHORN RIVER NEAR PIERCE, NE

LOCATION.--Lat 42°10'44", long 97°29'04", in SW1/4 sec.31, T.26 N., R.1 W., Pierce County, Hydrologic Unit 10220002, on left downstream wingwall of county road bridge, 2.5 mi southeast of Pierce.

DRAINAGE AREA.--700 mi², approximately, of which about 30 mi² is noncontributing.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,553.07 ft above National Geodetic Vertical Datum of 1929 (U.S. Weather Bureau levels).

REMARKS.--Estimated daily discharges: Nov. 27 to Feb. 9, Feb. 14-27, and Aug. 16-18. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--31 years, 86.1 ft³/s, 62,400 acre-ft/yr; median of yearly mean discharges, 64.1 ft³/s, 46,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s Feb. 19, 1971, gage height, 15.10 ft; minimum daily, 2.7 ft³/s July 29, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 870 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 15	1730	*759	*8.13	No peaks greater than base discharge.			
Minimum daily discharge, 5.0 ft ³ /s Aug. 4.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	17	15	23	28	34	46	61	372	6.0	6.2
2	12	18	16	14	26	28	31	41	490	108	5.7	6.9
3	15	18	15	14	29	43	30	49	301	41	5.1	7.3
4	15	19	14	14	34	32	28	68	133	35	5.0	6.8
5	15	19	15	15	40	30	27	65	396	30	8.5	6.9
6	14	20	16	15	46	29	26	54	522	25	6.6	7.4
7	14	21	16	14	60	26	25	47	363	22	9.1	7.7
8	14	23	16	16	74	27	25	44	206	20	79	8.3
9	14	21	16	16	54	26	26	41	100	21	397	8.8
10	14	20	16	15	32	26	26	39	79	19	440	8.6
11	14	20	15	15	33	27	30	37	97	18	151	12
12	14	20	15	15	32	28	34	34	72	16	71	13
13	14	20	15	16	30	30	38	31	58	15	48	13
14	14	21	14	16	28	30	36	30	55	15	36	16
15	14	22	16	16	26	30	34	28	475	15	27	12
16	14	21	17	17	39	28	33	29	110	14	19	9.9
17	15	21	18	17	50	28	31	34	53	13	17	9.6
18	15	20	17	18	60	29	31	52	44	12	14	9.6
19	15	19	16	18	50	30	31	45	39	12	11	9.9
20	16	20	15	19	54	31	32	39	36	12	10	10
21	17	21	14	20	62	31	32	35	45	11	10	10
22	17	20	12	21	56	31	31	33	93	11	8.8	11
23	18	19	13	22	47	32	30	35	78	9.1	8.3	10
24	18	20	14	21	42	31	30	30	62	8.9	8.4	11
25	18	20	15	20	37	30	28	29	44	8.9	8.3	12
26	18	19	16	19	34	29	28	28	35	9.0	7.3	11
27	17	18	16	19	32	29	32	27	30	6.6	6.8	12
28	17	17	17	19	31	29	39	27	26	9.3	6.6	13
29	18	19	15	17	---	40	47	30	23	9.2	6.7	13
30	18	18	13	19	---	36	49	32	21	9.0	7.0	11
31	18	---	14	21	---	35	---	36	---	7.8	6.6	---
TOTAL	477	592	474	533	1161	939	954	1195	4147	934.8	1450.8	303.9
MEAN	15.4	19.7	15.3	17.2	41.5	30.3	31.8	38.5	138	30.2	46.8	10.1
MAX	18	23	18	22	74	43	49	68	522	372	440	16
MIN	11	17	12	14	23	26	25	27	21	6.6	5.0	6.2
AC-FT	946	1170	940	1060	2300	1860	1890	2370	8230	1850	2880	603

CAL YR 1990 TOTAL 7741.6 MEAN 21.2 MAX 46 MIN 2.9 AC-FT 15360
WTR YR 1991 TOTAL 13161.5 MEAN 36.1 MAX 522 MIN 5.0 AC-FT 26110

PLATTE RIVER BASIN

06799230 UNION CREEK AT MADISON, NE

LOCATION.--Lat 41°49'52", long 97°27'19", in SW1/4SE1/4 sec.32, T.22 N., R.1 W., Madison County, Hydrologic Unit 10220003, on left bank 12 ft downstream from bridge on U.S. Highway 81, in Madison.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,549.70 ft, above National Geodetic Vertical Datum of 1929, levels by Nebraska Natural Resources Commission.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 7, Jan. 21-30, Feb. 14, 15, Mar. 1-31, Aug. 30, and Sept. 1, 2, 4. Records good, except those for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--13 years, 40.8 ft³/s, 29,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s June 16, 1990, gage height, 25.72 ft; minimum daily, 2.0 ft³/s Aug. 28, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 31	0630	887	14.99	June 4	2000	*5000	*21.29

Minimum daily discharge, 2.0 ft³/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	21	15	18	20	34	28	102	9.0	4.6	4.5
2	13	12	20	14	21	20	28	24	68	9.6	6.1	5.3
3	16	19	20	14	38	21	22	43	53	8.7	6.1	6.5
4	12	17	20	13	70	21	21	66	1320	8.9	4.5	6.5
5	12	18	21	12	70	22	19	41	1030	7.5	4.5	4.6
6	11	15	20	13	53	22	17	33	56	7.4	6.9	4.6
7	11	17	20	14	38	22	18	28	42	9.0	7.2	4.9
8	12	17	20	14	30	21	19	27	29	7.3	10	6.0
9	13	18	20	15	27	20	19	25	24	9.1	6.9	6.0
10	13	19	20	16	23	20	18	25	23	7.8	6.4	4.9
11	13	20	20	17	20	21	22	23	21	7.1	6.5	6.6
12	12	20	20	17	19	22	25	22	20	8.8	6.6	14
13	12	19	20	17	19	22	35	22	20	7.2	6.6	78
14	14	20	20	18	15	21	31	20	82	7.0	5.9	48
15	14	20	19	20	16	22	22	20	22	7.0	4.0	37
16	14	20	19	19	18	22	20	23	20	7.0	4.1	20
17	14	21	19	19	18	23	19	29	17	5.7	4.3	11
18	14	21	19	19	21	24	19	70	19	6.0	4.3	7.6
19	14	21	19	21	19	25	20	36	16	6.3	3.4	7.3
20	15	21	16	20	20	25	21	26	14	5.6	3.4	7.5
21	18	21	15	17	23	26	18	26	16	5.9	3.8	7.7
22	17	21	14	16	23	27	18	30	16	5.7	2.9	7.8
23	14	21	14	17	21	27	18	40	17	6.2	2.7	8.0
24	12	22	15	17	20	27	17	39	17	5.8	3.1	8.1
25	12	20	14	16	20	27	18	37	14	5.5	3.7	8.5
26	13	20	15	16	20	26	18	34	14	5.8	4.3	8.8
27	12	21	15	16	20	26	18	32	14	5.9	3.0	9.0
28	11	20	14	17	20	25	19	29	14	5.7	2.0	9.0
29	11	20	14	17	---	27	33	36	12	5.7	3.0	9.3
30	11	21	15	18	---	29	33	46	9.0	5.0	3.7	9.5
31	11	---	15	18	---	31	---	424	---	4.9	3.7	---
TOTAL	403	574	553	512	740	734	659	1404	3141.0	214.1	148.2	376.5
MEAN	13.0	19.1	17.8	16.5	26.4	23.7	22.0	45.3	105	6.91	4.78	12.5
MAX	18	22	21	21	70	31	35	424	1320	9.6	10	78
MIN	11	12	14	12	15	20	17	20	9.0	4.9	2.0	4.5
AC-FT	799	1140	1100	1020	1470	1460	1310	2780	6230	425	294	747

CAL YR 1990 TOTAL 25355.8 MEAN 69.5 MAX 7590 MIN 5.7 AC-FT 50290
WTR YR 1991 TOTAL 9458.8 MEAN 25.9 MAX 1320 MIN 2.0 AC-FT 18760

PLATTE RIVER BASIN

175

06799350 ELKHORN RIVER AT WEST POINT, NE

LOCATION.--Lat 41°50'22", long 96°43'38", in SW1/4NW1/4 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 and 1 mi west of West Point.

DRAINAGE AREA.--5,100 mi², approximately, of which about 4,100 mi² 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 National Geodetic Vertical Datum of 1929. Prior to May 18, 1976, at site on left bank 50 ft upstream from bridge at same datum.

REMARKS.--Estimated daily discharges: Nov. 2-6, Nov. 27 to Feb. 21. Records good except for periods of estimated record, which are poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--23 years (water years 1969-91), 846 ft³/s, 612,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 33,000 ft³/s June 25, 1969, gage height, 13.21 ft; maximum gage height, 16.09 ft Mar. 18, 1978, ice jam; minimum daily discharge, 41 ft³/s Aug. 31, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1960 reached a stage of 16.09 ft, backwater from ice; observed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 18	0302	9090	9.82	June 5	0730	*27400	*13.34
May 31	0802	5990	9.39				

Minimum daily discharge, 109 ft³/s Sept. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	269	409	370	300	500	436	804	596	2800	555	198	112
2	271	410	360	270	600	463	770	562	1700	557	191	109
3	304	410	350	250	800	498	714	559	2500	726	185	113
4	324	410	350	280	1200	502	659	702	2610	606	179	117
5	314	410	370	290	2500	555	619	887	19600	508	168	120
6	309	410	440	260	2600	532	587	908	5780	467	167	120
7	306	403	480	230	2300	563	558	963	1770	428	174	120
8	303	395	520	260	2000	567	525	1330	1230	391	211	121
9	317	395	580	270	1800	583	494	1110	1200	403	239	122
10	329	393	600	280	1700	578	469	1010	1160	427	250	123
11	336	401	600	290	1600	575	478	928	1070	408	402	134
12	336	414	580	300	1500	565	532	860	1020	392	460	149
13	339	432	560	310	1400	572	629	767	1350	366	333	208
14	335	459	500	320	1400	586	794	702	1290	340	273	312
15	338	471	480	330	1300	574	730	643	1150	321	243	401
16	339	470	430	340	1400	565	682	623	1210	309	226	309
17	329	476	380	360	1500	563	652	716	1150	292	209	270
18	327	477	310	380	1400	618	670	4030	999	276	190	242
19	337	466	270	390	1300	646	674	1250	901	256	177	217
20	348	462	245	370	1300	651	691	1380	815	245	166	207
21	365	482	230	350	900	666	680	1420	747	286	167	199
22	377	483	210	390	862	682	677	1320	746	247	158	198
23	386	483	240	420	592	693	613	1660	755	233	153	193
24	396	491	260	440	511	699	578	1810	769	234	145	193
25	393	496	270	380	421	708	549	1730	749	241	135	197
26	398	500	300	340	404	692	541	1590	722	222	131	192
27	394	450	290	400	406	689	513	1530	680	214	125	190
28	400	360	270	430	409	727	496	1950	629	207	123	205
29	411	380	250	400	---	705	507	1380	593	205	119	210
30	401	410	240	430	---	737	594	1670	565	205	119	205
31	403	---	270	470	---	789	---	2550	---	207	117	---
TOTAL	10734	13108	11605	10530	34605	18979	18479	39136	58260	10774	6133	5608
MEAN	346	437	374	340	1236	612	616	1262	1942	348	198	187
MAX	411	500	600	470	2600	789	804	4030	19600	726	460	401
MIN	269	360	210	230	404	436	469	559	565	205	117	109
AC-FT	21290	26000	23020	20890	68640	37640	36650	77630	115600	21370	12160	11120

CAL YR 1990 TOTAL 227671 MEAN 624 MAX 25500 MIN 174 AC-FT 451600
WTR YR 1991 TOTAL 237951 MEAN 652 MAX 19600 MIN 109 AC-FT 472000

PLATTE RIVER BASIN

06799385 PEBBLE CREEK AT SCRIBNER, NE

LOCATION.--Lat 41°39'34", long 96°41'00", in NW1/4SE1/4 sec.36, T.20 N., R.6 E., Dodge County, Hydrologic Unit 10220003, on right bank 12 ft downstream from bridge on county road, 1 mi southwest of Scribner and 3 mi upstream from mouth.

DRAINAGE AREA.--204 mi².

PERIOD OF RECORD.--October 1978 to current year.

REVISED RECORDS.--WRD NE-82-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 1,234.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 28, 29, Dec. 2-5, Dec. 18 to Feb. 10, Feb. 15, 16, Mar. 1-3, Apr. 5-15, June 18-20, June 23 to July 2. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--13 years, 64.5 ft³/s, 46,730 acre-ft/yr; median of yearly mean discharges, 47.0 ft³/s, 34,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,900 ft³/s June 5, 1991, gage height, 24.15 ft, from floodmark; minimum daily, 0.29 ft³/s July 20, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 5	unknown	*27900	*a24.15	No other peak greater than base discharge.			

a From floodmark.

Minimum daily discharge, 4.3 ft³/s Sept. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	9.3	5.6	17	20	28	21	33	27	10	8.4
2	11	12	10	5.6	18	19	24	19	51	30	8.2	9.8
3	17	14	12	5.6	20	19	22	27	27	23	8.2	11
4	16	19	14	5.8	70	20	21	33	219	20	7.0	11
5	12	16	17	6.0	360	20	20	41	7700	18	8.3	11
6	11	16	16	6.2	150	19	19	33	495	16	8.1	9.6
7	11	16	17	6.4	60	17	18	28	113	15	7.9	8.6
8	11	14	16	6.4	50	17	14	34	66	14	13	7.8
9	11	15	16	6.4	45	17	13	32	54	20	14	8.0
10	11	16	15	6.2	36	16	15	28	54	21	10	7.4
11	11	16	15	7.0	31	16	25	26	56	19	9.0	8.7
12	11	15	15	8.0	27	19	70	25	46	18	8.7	9.7
13	11	14	13	10	27	25	280	24	71	17	8.5	22
14	11	12	14	11	22	18	100	23	226	16	8.0	26
15	11	11	13	11	21	21	50	22	44	15	8.0	43
16	11	11	14	12	25	22	38	51	38	14	7.4	11
17	12	11	14	12	32	24	34	86	36	13	7.6	5.2
18	12	11	13	12	26	26	33	41	34	11	7.6	4.3
19	12	11	12	13	24	25	31	33	34	11	7.4	4.3
20	12	10	10	13	23	24	31	29	33	10	6.6	4.4
21	13	11	9.4	11	26	24	30	28	92	11	6.1	4.5
22	13	10	8.0	12	24	25	28	27	43	10	5.8	4.7
23	12	9.4	5.2	13	22	26	26	26	34	9.9	6.6	5.0
24	11	9.5	5.4	12	20	22	24	24	33	8.8	6.6	5.4
25	11	10	5.4	11	20	19	23	23	32	7.3	8.4	5.8
26	11	10	5.6	9.6	20	19	26	23	32	7.1	14	6.2
27	11	9.1	5.8	12	19	24	28	22	33	7.4	16	6.6
28	11	9.2	5.6	11	21	25	23	22	32	7.8	17	7.0
29	11	9.4	5.4	10	---	42	22	21	31	8.8	20	7.2
30	11	9.6	5.2	12	---	30	22	54	28	8.5	8.9	7.0
31	11	---	5.6	15	---	29	---	23	---	9.6	7.0	---
TOTAL	362	369.2	341.9	297.8	1256	689	1138	949	9820	444.2	289.9	290.6
MEAN	11.7	12.3	11.0	9.61	44.9	22.2	37.9	30.6	327	14.3	9.35	9.69
MAX	17	19	17	15	360	42	280	86	7700	30	20	43
MIN	11	9.1	5.2	5.6	17	16	13	19	27	7.1	5.8	4.3
AC-FT	718	732	678	591	2490	1370	2260	1880	19480	881	575	576

CAL YR 1990 TOTAL 27497.1 MEAN 75.3 MAX 7420 MIN 5.2 AC-FT 54540
WTR YR 1991 TOTAL 16247.6 MEAN 44.5 MAX 7700 MIN 4.3 AC-FT 32230

PLATTE RIVER BASIN

177

06799450 LOGAN CREEK AT PENDER, NE

LOCATION.--Lat 42°06'40", long 96°42'00", in NW1/4 sec.26, T.25 N., R.6 E., Thurston County, Hydrologic Unit 10220004, on right bank 200 ft downstream from bridge on Nebraska State Highway 94 at Pender and 0.7 mi downstream from Rattlesnake Creek.

DRAINAGE AREA.--731 mi², approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,300.96 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1966, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 11 to Nov. 4, Nov. 27 to Feb. 25, and Mar. 3, 4. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--26 years, 155 ft³/s, 112,300 acre-ft/yr; median of yearly mean discharges, 124 ft³/s, 89,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s Feb. 19, 1971, gage height, 23.11 ft; minimum daily, 12 ft³/s Aug. 11, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	2250	2320	8.62	June 22	0430	1630	7.55
June 5	0845	4060	11.30	July 1	----	5360	b13.34
June 15	1500	*14630	*a20.10				

a Observed.

b From floodmark.

Minimum daily discharge, 22 ft³/s Aug. 25, 28, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	43	43	32	37	64	62	63	158	2550	36	23
2	48	44	41	30	50	61	57	61	551	880	35	24
3	59	44	40	35	80	62	59	66	601	387	34	28
4	61	45	37	43	400	64	69	92	206	306	33	33
5	55	46	38	40	250	66	64	100	1760	226	33	36
6	53	49	39	37	140	56	61	92	422	147	34	36
7	47	48	40	36	80	53	59	81	240	131	34	36
8	49	50	41	33	62	54	56	95	184	121	40	36
9	50	54	42	31	56	50	56	85	157	118	78	37
10	46	51	42	30	58	50	58	73	141	113	51	37
11	47	52	41	31	58	52	60	66	134	106	41	42
12	46	51	40	32	52	50	81	66	122	97	37	51
13	46	52	37	33	50	49	113	61	136	90	36	47
14	45	53	39	34	46	51	129	69	878	85	35	63
15	45	53	40	36	43	45	95	255	10900	80	33	50
16	43	50	38	38	46	46	82	93	1770	75	32	42
17	42	47	35	40	48	47	75	79	633	70	32	38
18	42	51	30	40	52	49	72	70	437	64	31	38
19	41	51	25	38	54	53	72	74	376	59	30	40
20	41	52	23	37	56	52	76	65	293	57	30	42
21	43	52	23	35	56	52	75	60	333	55	28	42
22	44	48	24	36	54	50	69	63	917	51	26	40
23	45	51	25	37	56	53	65	63	452	48	24	41
24	44	52	25	37	58	55	63	63	352	46	24	42
25	42	48	24	33	60	48	63	58	301	44	22	41
26	42	48	26	30	63	45	67	65	251	44	27	41
27	41	49	26	30	63	45	63	69	219	42	25	42
28	41	49	25	31	60	48	61	83	204	40	22	42
29	40	47	26	33	---	54	65	93	193	41	23	42
30	40	46	27	32	---	60	65	102	187	41	23	43
31	41	---	28	35	---	62	---	113	---	37	22	---
TOTAL	1417	1476	1030	1075	2188	1646	2112	2538	23508	6251	1011	1195
MEAN	45.7	49.2	33.2	34.7	78.1	53.1	70.4	81.9	784	202	32.6	39.8
MAX	61	54	43	43	400	66	129	255	10900	2550	78	63
MIN	40	43	23	30	37	45	56	58	122	37	22	23
AC-FT	2810	2930	2040	2130	4340	3260	4190	5030	46630	12400	2010	2370

CAL YR 1990 TOTAL 25454 MEAN 69.7 MAX 2430 MIN 23 AC-FT 50490
WTR YR 1991 TOTAL 45447 MEAN 125 MAX 10900 MIN 22 AC-FT 90140

PLATTE RIVER BASIN

06799500 LOGAN CREEK NEAR UEHLING, NE

LOCATION (REVISED).--Lat 41°42'46", long 96°31'18", in SE1/4SE1/4 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 mi upstream from mouth.

DRAINAGE AREA.--1,030 mi², approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,208.73 ft above National Geodetic Vertical Datum of 1929.

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.

REMARKS.--Estimated daily discharges: Nov. 7-12, Nov. 27 to Mar. 4, and June 3-4. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--50 years, 200 ft³/s, 144,900 acre-ft/yr; median of yearly mean discharges, 166 ft³/s, 120,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s Feb. 20, 1971, gage height, 20.15 ft, from floodmark; maximum gage height, 20.15 ft, Mar. 27, 1962, present datum, in addition to Feb. 20, 1971; minimum daily discharge, 6.1 ft³/s July 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1940, reached a stage of 20.6 ft, present datum, from floodmarks, discharge, 22,200 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	0345	2390	8.53	June 15	2230	*10600	*18.34
June 5	1545	3980	11.40	July 1	2054	3990	10.72

Minimum daily discharge, 25 ft³/s Dec. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	58	52	47	48	76	114	104	978	1420	53	46
2	63	59	50	41	56	72	114	98	1670	1470	49	49
3	76	61	47	43	66	70	106	99	560	712	55	50
4	74	64	40	48	65	80	102	114	215	300	51	52
5	72	66	50	47	150	121	97	164	2740	208	50	56
6	67	68	52	44	600	99	91	158	1370	179	50	57
7	61	66	54	41	300	86	88	131	445	155	53	57
8	60	68	52	38	150	85	85	126	275	136	70	58
9	63	70	50	37	90	83	83	134	235	140	72	60
10	66	74	50	36	70	83	82	121	288	136	95	60
11	66	72	49	37	68	82	84	112	215	129	79	64
12	65	70	49	37	66	82	176	104	200	119	68	69
13	64	68	45	40	64	84	178	102	584	114	65	104
14	64	65	48	44	62	87	190	99	1290	107	59	81
15	62	66	47	48	52	83	181	99	6810	102	57	93
16	61	65	45	49	60	83	135	100	4970	92	59	76
17	62	62	42	48	62	84	114	140	1260	87	63	68
18	61	62	37	47	64	88	112	251	758	81	60	65
19	58	63	34	47	68	93	112	263	498	76	58	65
20	60	64	31	46	70	97	122	148	383	75	57	64
21	62	67	25	42	68	98	120	128	326	147	56	64
22	62	66	29	44	66	101	114	116	583	101	54	62
23	61	63	30	46	66	101	107	112	829	80	48	61
24	59	63	28	45	72	102	103	106	445	74	47	62
25	59	63	31	43	68	97	98	112	307	69	44	64
26	58	63	31	40	72	92	103	107	253	65	41	61
27	59	62	30	35	78	99	112	100	221	63	44	61
28	58	54	29	42	76	98	103	422	198	65	47	59
29	56	56	31	37	---	100	99	355	177	62	46	60
30	58	54	34	44	---	107	103	296	163	57	47	59
31	60	---	37	47	---	110	---	616	---	57	48	---
TOTAL	1939	1922	1259	1330	2797	2823	3428	5137	29246	6678	1745	1907
MEAN	62.5	64.1	40.6	42.9	99.9	91.1	114	166	975	215	56.3	63.6
MAX	76	74	54	49	600	121	190	616	6810	1470	95	104
MIN	56	54	25	35	48	70	82	98	163	57	41	46
AC-FT	3850	3810	2500	2640	5550	5600	6800	10190	58010	13250	3460	3780
CAL YR 1990	TOTAL 44638	MEAN 122	MAX 5530	MIN 25	AC-FT 88540							
WTR YR 1991	TOTAL 60211	MEAN 165	MAX 6810	MIN 25	AC-FT 119400							

PLATTE RIVER BASIN

06800000 MAPLE CREEK NEAR NICKERSON, NE

LOCATION (REVISED).--Lat 41°33'39", long 96°32'27", in SW1/4NW1/4 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 6 mi upstream from mouth.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1630: 1957-58.

GAGE.--Water-stage recorder. Datum of gage is 1,211.62 ft (revised) above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Nov. 14 to Dec. 6, 8, Jan. 14, 19-22, Jan. 31 to Feb. 5, 13-21, and Feb. 25 to Mar. 3. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--40 years, 67.8 ft³/s, 49,120 acre-ft/yr; median of yearly mean discharges, 53 ft³/s, 38,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s June 17, 1990, gage height, 16.30 ft from floodmark; maximum gage height, 17.65 ft June 17, 1984, from floodmark; minimum daily discharge, 0.1 ft³/s Jan. 15, 16, 1956, Aug. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since 1944, 35,000 ft³/s June 11, 1944, from indirect measurement of peak flow; gage height, 16.28 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 13	1200	1260	10.50	June 14	1120	956	9.09
June 5	0630	*8690	*16.10				

Minimum daily discharge, 1.8 ft³/s Sept. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	9.9	8.8	2.6	5.2	35	41	51	51	71	13	2.5
2	9.3	10	8.4	2.6	5.4	34	35	31	273	64	14	2.3
3	15	10	10	2.5	5.4	35	28	27	78	39	14	2.1
4	14	12	11	2.4	5.4	37	20	18	67	29	13	2.0
5	18	16	13	2.4	5.6	42	18	28	4930	24	13	2.4
6	13	20	16	2.2	5.6	32	15	41	2810	19	12	2.1
7	10	15	14	2.3	5.4	27	12	21	585	18	13	2.1
8	8.4	16	19	2.6	5.4	24	11	5.3	280	14	18	2.2
9	8.8	17	20	3.0	5.6	20	11	26	131	21	19	1.8
10	9.6	15	19	3.5	5.6	19	11	60	105	42	17	1.8
11	9.4	15	20	4.0	5.6	19	12	34	71	48	15	3.0
12	9.3	15	22	4.3	5.4	54	294	32	52	47	13	3.4
13	8.9	15	16	4.5	5.4	37	617	21	217	79	12	7.0
14	9.0	16	18	4.8	5.2	24	195	31	528	56	11	35
15	9.6	15	21	5.0	4.5	22	85	33	179	40	11	137
16	8.2	12	13	5.4	5.8	21	68	27	88	39	11	44
17	8.9	11	21	5.8	8.0	23	90	216	89	37	10	15
18	8.2	11	8.0	5.8	9.0	26	102	330	78	35	9.0	7.3
19	8.5	11	6.0	5.6	13	31	77	163	62	28	8.0	3.7
20	8.7	12	5.0	5.0	20	32	71	53	57	26	7.0	2.9
21	9.5	12	3.5	5.2	35	30	86	40	176	26	6.7	2.5
22	9.3	10	2.5	5.4	40	35	86	34	136	23	7.0	2.5
23	10	10	2.0	5.2	52	32	52	29	69	16	6.8	2.7
24	9.2	10	2.4	4.6	46	29	36	27	62	12	5.8	2.6
25	9.4	9.8	2.0	4.0	46	29	44	26	65	13	6.0	2.7
26	9.4	9.7	2.4	4.3	36	24	27	24	66	13	4.7	2.8
27	8.9	9.0	2.7	4.8	31	29	57	20	66	13	4.2	2.8
28	7.9	7.6	2.5	4.5	35	28	42	17	65	12	3.9	2.9
29	9.3	6.8	2.3	5.0	---	27	35	15	63	13	4.2	2.9
30	7.7	8.0	2.3	5.2	---	35	33	22	66	14	4.0	3.0
31	8.9	---	2.5	5.4	---	42	---	38	---	14	2.5	---
TOTAL	303.3	366.8	316.3	129.9	457.5	934	2311	1540.3	11565	945	308.8	307.0
MEAN	9.78	12.2	10.2	4.19	16.3	30.1	77.0	49.7	385	30.5	9.96	10.2
MAX	18	20	22	5.8	52	54	617	330	4930	79	19	137
MIN	7.7	6.8	2.0	2.2	4.5	19	11	5.3	51	12	2.5	1.8
AC-FT	602	728	627	258	907	1850	4580	3060	22940	1870	613	609

CAL YR 1990 TOTAL 35280.2 MEAN 96.7 MAX 7000 MIN 2.0 AC-FT 69980
WTR YR 1991 TOTAL 19484.9 MEAN 53.4 MAX 4930 MIN 1.8 AC-FT 38650

PLATTE RIVER BASIN

06800500 ELKHORN RIVER AT WATERLOO, NE
(National stream-quality accounting network station)

LOCATION (REVISED).--Lat 41°17'25", Long 96°17'05" in SW1/4 sec.3, T.15 N., R.10 E., Douglas County, Hydrologic Unit 10220003, on right bank 800 ft downstream from Nebraska Highway 64 bridge at north edge of Waterloo and 3.5 mi downstream from Rawhide Creek.

DRAINAGE AREA.--6,900 mi², approximately, of which about 5,870 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,104.73 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1960, to July 28, 1978, at datum 2.00 ft higher. See WSP 1918 for history of changes prior to Oct. 1, 1960.

REMARKS.--Estimated daily discharges: Dec. 2-12 and Dec. 18 to Feb. 21. Records good except for periods of estimated record, which are poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--71 years, 1,215 ft³/s, 880,300 acre-ft/yr; median of yearly mean discharges, 1,020 ft³/s, 739,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s June 12, 1944, gage height, 16.6 ft from floodmark in gage well, site and datum then in use, from rating curve extended above 22,000 ft³/s on basis of current-meter measurement of peak flow in main channel and velocity-area studies of overflow section; minimum observed, 50 ft³/s Nov. 12, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage and discharge of the flood of June 12, 1944, are the greatest known since at least 1880.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 19	0425	6890	6.93	June 6	1300	*24300	*a13.41
June 2	2200	6100	6.69	June 16	1100	12600	b9.57

a Observed.

b From floodmark.

Minimum daily discharge, 173 ft³/s Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	372	455	536	390	610	1080	1170	1100	4460	1180	389	204
2	376	456	470	340	620	1090	1190	1220	5410	2700	376	188
3	428	462	410	330	630	869	1200	1190	4160	2220	367	178
4	493	477	370	350	640	853	1140	1200	3500	1680	364	173
5	486	518	380	370	900	932	1060	1380	9990	1390	351	184
6	478	539	410	300	1800	932	998	1940	21600	1060	355	188
7	439	558	450	260	3300	849	943	1930	14700	928	364	194
8	421	535	520	280	3200	806	916	1770	6430	846	425	211
9	432	563	580	300	3000	801	897	2210	4690	993	471	210
10	449	601	600	320	2700	794	845	2280	4400	1030	519	196
11	461	587	600	330	2300	786	838	1910	3590	914	540	228
12	463	583	600	350	2100	780	1860	1760	2950	879	548	242
13	456	584	594	360	2100	970	3160	1630	3380	801	779	281
14	448	590	543	370	2000	892	2840	1480	7610	781	783	479
15	449	615	523	390	1700	855	2070	1370	9270	741	593	544
16	456	616	500	420	1800	853	1770	1330	10500	676	503	846
17	447	583	473	440	1800	861	1510	2160	5660	620	466	732
18	445	571	370	490	1700	943	1390	2730	4040	574	439	511
19	445	572	330	540	1700	947	1380	5630	3100	532	410	423
20	444	581	310	560	1800	964	1380	3150	2590	499	374	373
21	460	596	290	460	1900	978	1430	3180	2320	535	355	344
22	464	585	270	520	1610	983	1420	3010	2700	769	338	333
23	466	572	320	600	1660	998	1350	2540	2470	720	331	310
24	464	568	320	640	1530	998	1270	2660	2450	585	305	309
25	446	569	350	580	1300	1000	1190	2530	1980	476	280	307
26	440	564	390	520	1130	992	1150	2280	1740	444	254	301
27	447	556	380	550	957	1170	1170	1940	1590	437	235	298
28	433	511	350	580	1000	1180	1160	1860	1450	425	226	283
29	423	427	310	620	---	1140	1090	2660	1340	410	226	280
30	435	501	330	556	---	1150	1080	2140	1250	400	219	298
31	449	---	350	570	---	1150	---	2280	---	387	221	---
TOTAL	13815	16495	13229	13686	47487	29596	40867	66450	151320	26632	12406	9648
MEAN	446	550	427	441	1696	955	1362	2144	5044	859	400	322
MAX	493	616	600	640	3300	1180	3160	5630	21600	2700	783	846
MIN	372	427	270	260	610	780	838	1100	1250	387	219	173
AC-FT	27400	32720	26240	27150	94190	58700	81060	131800	300100	52820	24610	19140

CAL YR 1990 TOTAL 379343 MEAN 1039 MAX 31100 MIN 270 AC-FT 752400
WTR YR 1991 TOTAL 441631 MEAN 1210 MAX 21600 MIN 173 AC-FT 876000

PLATTE RIVER BASIN

181

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1981.

WATER TEMPERATURES: November 1977 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 750 microsiemens Jan. 10, 1979; minimum daily, 235 microsiemens Mar. 15, 1979.

WATER TEMPERATURES: Maximum, 36.0°C Aug. 19, 1979; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L) (00904)
NOV 14...	0930	583	568	8.4	8.0	732	24	14.9	K2700	K4500	240	18
JAN 17...	1100	440	696	7.7	0.5	737	5.5	9.4	4500	1200	260	16
MAR 07...	1030	863	575	8.1	2.5	735	65	14.3	K640	9800	240	34
MAY 13...	1130	1640	492	8.4	23.0	733	77	8.9	380	820	210	13
JUL 11...	1200	902	594	8.4	23.0	727	45	7.8	3200	4000	250	21
SEP 05...	1015	183	650	8.5	20.0	737	2.6	10.8	2900	330	260	34

K Results based on colony count outside the acceptable range (non-ideal colony count).

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)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 14...	71	16	25	0.7	9.5	225	11	253	41	21	0.40
JAN 17...	78	16	34	0.9	7.3	244	0	298	50	30	0.30
MAR 07...	72	14	26	0.7	7.8	204	0	249	49	23	0.20
MAY 13...	61	13	21	0.6	10	192	5	225	22	12	0.20
JUL 11...	73	17	23	0.6	8.3	232	0	283	69	14	0.40
SEP 05...	70	20	37	1	8.7	223	12	248	72	32	0.40

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
NOV 14...	27	364	357	0.50	573	1.63	1.64	0.070	0.060	1.70	1.70
JAN 17...	32	401	406	0.55	476	2.07	2.07	0.030	0.030	2.10	2.10
MAR 07...	28	345	352	0.47	804	1.86	1.77	0.040	0.030	1.90	1.80
MAY 13...	24	299	288	0.41	1320	1.60	1.65	0.100	0.050	1.70	1.70
JUL 11...	21	375	371	0.51	913	0.970	0.980	0.030	0.020	1.00	1.00
SEP 05...	25	400	403	0.54	198	0.550	0.550	0.020	0.010	0.570	0.560

PLATTÉ RIVER BASIN

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	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 14...	0.590	0.650	0.91	--	1.5	--	3.2	--	0.690	0.440	0.460
JAN 17...	0.850	0.890	0.05	--	0.90	--	3.0	--	0.490	0.470	0.450
MAR 07...	0.260	0.360	1.4	--	1.7	--	3.6	--	0.610	0.310	0.310
MAY 13...	0.060	0.050	1.7	--	1.8	--	3.5	--	0.630	0.340	0.340
JUL 11...	0.090	0.090	1.3	0.61	1.4	0.70	2.4	1.7	0.580	0.270	0.210
SEP 05...	0.020	0.010	1.5	--	1.5	--	2.1	--	0.650	0.420	0.400

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 14...	0930	10	5	190	<0.5	<1.0	2	<3	4	10	<1
MAR 07...	1030	<10	4	160	<0.5	<1.0	<1	<3	2	8	1
MAY 13...	1130	<10	7	150	<0.5	<1.0	<1	<3	4	10	<1
JUL 11...	1200	<10	6	160	<0.5	<1.0	<1	<3	5	5	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 14...	21	39	<0.1	<10	4	4	<1.0	370	<6	28
MAR 07...	20	34	<0.1	<10	2	5	<1.0	360	<6	4
MAY 13...	18	3	<0.1	<10	4	5	<1.0	310	8	5
JUL 11...	21	18	<0.1	<10	3	6	<1.0	380	<6	10

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 14...	0930	583	8.0	107	168	94
MAR 07...	1030	863	2.5	240	559	88
MAY 13...	1130	1640	23.0	426	1890	93
JUL 11...	1200	902	23.0	338	823	59
SEP 05...	1015	183	20.0	44	22	82

LOCATION.--Lat 41°03'44", long 96°19'28", in SE1/4SW1/4 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 and 2 mi upstream from Salt Creek.

PERIOD OF RECORD.--August 1928 to May 1953, July 1988 to current year.

REMARKS.--Estimated daily discharges: Dec. 3-5, Dec. 16 to Feb. 22. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge known since 1928, 107,000 ft³/s June 12, 1944, includes overbank flow caused by breaking of dikes, gage height, 8.10 ft, site and datum then in use; minimum daily, 265 ft³/s Aug. 18, 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2730	3710	3660	1800	3600	5570	5950	5390	11800	3550	1270	735
2	2320	3070	4520	1900	3700	6070	5630	6920	17100	4350	1300	662
3	3000	3530	3000	1900	3800	5450	5620	6310	23500	4470	1390	708
4	2870	3450	2000	1900	3700	4910	5030	5960	19200	3520	1340	677
5	2810	3800	4000	2100	3800	5620	5060	6270	31900	3100	1360	791
6	2380	4050	4800	2000	4300	5590	4430	8050	40000	2550	1400	718
7	1980	5580	4570	2000	5000	4870	4840	7820	31100	2190	1390	803
8	2900	3150	4980	2300	5900	4750	4400	7180	18300	1940	1810	861
9	2120	4320	5530	2500	6300	4710	4470	6670	13400	2330	1540	880
10	2450	4560	5260	2800	6600	4720	4280	7200	13200	2670	1640	934
11	2090	4260	5150	2900	7200	4710	4490	6560	9990	2720	1530	1290
12	2550	4190	5020	3000	7000	4570	5160	6460	8440	3530	1570	1210
13	2700	4000	4680	3100	7400	5160	8110	5800	9340	4240	1380	1220
14	2470	3890	4510	3200	7800	5400	10600	5660	22900	3990	1740	1270
15	3080	4200	4640	3300	7200	5000	7780	5550	21100	3670	1610	1480
16	2870	3830	4650	3200	7200	5290	6720	5470	22500	3030	1370	1960
17	3270	4190	4000	3300	6400	5250	5690	6020	11500	3040	1450	2580
18	2980	4190	3100	3500	6600	6160	5700	7010	8780	1960	1390	2780
19	2900	4360	2900	3400	6400	5930	5060	9490	7860	2150	1320	2410
20	2780	4210	2600	3400	6800	5420	5070	7730	7170	1600	1400	2320
21	3240	4140	1600	3400	7400	5230	5140	8650	6600	1580	1360	2180
22	3230	4090	1400	3400	7400	4950	5560	8300	7510	1580	1280	1970
23	3200	4020	1600	3500	9390	5210	5800	6940	7620	1500	1240	1700
24	3560	4270	2000	3700	8610	4320	5270	6340	6810	1330	1090	2120
25	3750	4380	1900	3400	7190	5310	4970	6320	6090	1300	977	1990
26	3490	4280	1800	3300	6500	5830	5200	6960	6010	1260	935	2040
27	3240	4190	2000	3300	6540	5340	4910	11000	5610	1340	901	1790
28	3590	3800	1700	3400	5880	5340	4730	10900	5370	1340	828	1940
29	3540	2910	1400	3300	---	5240	4650	9760	4650	1360	713	2000
30	3000	4000	1500	3300	---	5830	4610	9440	4480	1290	681	1960
31	3060	---	1600	3600	---	4460	---	9400	---	1410	732	---
TOTAL	90150	120620	102070	91100	175610	162210	164930	227530	409830	75890	39937	45979
MEAN	2908	4021	3293	2939	6272	5233	5498	7340	13660	2448	1288	1533
MAX	3750	5580	5530	3700	9390	6160	10600	11000	40000	4470	1810	2780
MIN	1980	2910	1400	1800	3600	4320	4280	5390	4480	1260	681	662
AC-FT	178800	239200	202500	180700	348300	321700	327100	451300	812900	150500	79220	91200
CAL YR 1990	TOTAL 1826440		MEAN 5004	MAX 62700		MIN 1090	AC-FT 3623000					
WTR YR 1991	TOTAL 1705856		MEAN 4674	MAX 40000		MIN 662	AC-FT 3384000					

PLATTE RIVER BASIN

06803000 SALT CREEK AT ROCA, NE

LOCATION.--Lat 40°39'29", long 96°39'55", in NW1/4SW1/4 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.

DRAINAGE AREA.--167 mi².

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 National Geodetic Vertical Datum of 1929, Kansas City supplementary adjustment of 1943. Prior to May 16, 1956, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 20-24, Jan. 26, 29, 30, and Feb. 14, 15. Records good except for periods of estimated record, which are fair. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--40 years, 45.7 ft³/s, 33,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s July 10, 1958, gage height, 22.70 ft; minimum daily, 0.2 ft³/s July 23, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8, 1950, reached a stage of 26.0 ft, from floodmark established by Corps of Engineers, discharge, 67,000 ft³/s, but may have been exceeded by flood of July 5, 1908.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 27	1000	*420	*7.03	No peaks greater than base discharge.			
Minimum daily discharge, .96 ft ³ /s Aug. 27.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	4.1	5.2	5.0	11	8.8	7.1	8.4	7.4	4.4	2.0	1.3
2	2.6	4.2	4.9	4.9	10	14	7.0	7.7	8.6	4.4	2.9	1.7
3	3.5	4.4	5.7	5.1	9.3	10	7.0	8.3	8.9	3.7	2.6	1.6
4	5.5	5.9	6.3	5.1	39	8.4	6.8	11	7.5	3.3	3.0	1.5
5	5.1	5.6	6.0	5.6	70	8.0	6.2	20	34	3.5	2.8	1.4
6	3.8	4.9	5.6	4.9	68	7.8	6.3	16	25	5.4	4.6	1.3
7	3.5	4.6	5.3	5.4	39	6.8	6.6	11	8.0	4.6	4.0	1.8
8	3.5	4.4	5.1	5.8	29	6.9	6.4	9.5	6.6	4.1	3.9	2.1
9	3.1	4.4	4.9	5.7	23	9.2	10	8.9	6.0	4.4	3.8	2.1
10	2.7	4.2	4.9	6.2	16	9.8	6.8	8.5	6.4	5.1	3.3	1.7
11	2.4	4.1	5.0	5.7	15	9.5	5.7	8.4	7.0	5.1	3.3	1.7
12	2.3	4.2	5.1	5.1	14	9.8	6.3	8.6	7.0	4.1	3.2	1.9
13	2.5	4.3	5.4	5.4	14	11	51	7.8	6.7	2.9	2.6	2.0
14	2.4	4.0	5.2	5.6	12	10	24	7.3	5.7	2.5	2.4	1.8
15	2.3	3.7	5.7	5.4	9.0	9.1	14	7.6	5.7	2.5	2.3	1.6
16	2.3	3.9	5.7	5.6	9.0	8.8	11	7.8	5.1	2.4	1.7	1.7
17	2.3	3.7	6.1	5.9	9.6	18	9.3	9.7	5.1	2.2	2.0	1.4
18	2.3	3.8	6.4	6.2	11	19	9.2	9.4	4.6	2.2	2.6	1.6
19	2.1	4.0	6.4	6.4	13	13	9.5	8.2	4.1	1.6	2.9	1.9
20	2.4	4.1	3.8	6.5	8.8	10	9.3	7.7	3.7	1.0	3.3	1.8
21	3.2	4.2	3.6	6.3	8.5	9.6	9.1	7.9	3.5	1.3	2.3	1.9
22	3.2	4.9	3.8	6.3	9.5	7.6	8.9	8.1	4.6	1.7	1.6	1.8
23	3.0	4.2	4.3	6.3	9.5	7.3	8.8	7.3	6.0	2.1	1.2	1.5
24	2.9	4.1	4.8	6.8	8.2	7.5	8.8	7.4	6.3	1.9	1.0	1.5
25	3.0	3.9	5.1	7.0	7.6	7.3	8.4	7.6	6.3	2.4	1.1	1.4
26	3.1	4.2	4.3	6.4	6.8	6.7	9.2	10	5.4	2.2	1.1	1.5
27	3.7	4.7	4.7	8.2	6.6	10	136	9.5	4.6	2.3	.96	1.5
28	3.6	4.8	4.9	8.2	7.0	12	17	8.0	4.4	2.2	1.0	1.7
29	3.7	4.7	4.9	7.8	---	9.7	11	7.4	4.6	2.3	1.2	1.6
30	4.0	5.0	4.6	9.0	---	7.8	8.9	7.4	3.9	2.2	1.3	1.4
31	4.3	---	5.1	7.8	---	7.0	---	7.4	---	2.0	1.2	---
TOTAL	97.0	131.2	158.8	191.6	493.4	300.4	445.6	279.8	222.7	92.0	73.16	49.7
MEAN	3.13	4.37	5.12	6.18	17.6	9.69	14.9	9.03	7.42	2.97	2.36	1.66
MAX	5.5	5.9	6.4	9.0	70	19	136	20	34	5.4	4.6	2.1
MIN	2.1	3.7	3.6	4.9	6.6	6.7	5.7	7.3	3.5	1.0	.96	1.3
AC-FT	192	260	315	380	979	596	884	555	442	182	145	99

CAL YR 1990 TOTAL 4014.5 MEAN 11.0 MAX 546 MIN 1.7 AC-FT 7960
WTR YR 1991 TOTAL 2535.36 MEAN 6.95 MAX 136 MIN .96 AC-FT 5030

PLATTE RIVER BASIN

185

06803500 SALT CREEK AT LINCOLN, NE

LOCATION.--Lat 40°50'49", long 96°40'54", in NW1/4SW1/4 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.

DRAINAGE AREA.--684 mi².

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

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,113.90 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--No estimated daily discharges. Records good. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--42 years, 228 ft³/s, 165,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,200 ft³/s June 2, 1951, gage height, 26.15 ft; minimum daily, 21 ft³/s July 10, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1951, may have been equaled or exceeded in discharge by flood of July 6, 1908, which reached a stage of 33.6 ft. Channel changes since 1908 have materially altered the stage-discharge relation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 21	1730.	*4880	*10.21	No other peak greater than base discharge.			
Minimum daily discharge, 29 ft ³ /s July 7.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	54	60	51	71	168	66	62	122	75	48	38
2	49	53	62	53	90	125	62	58	222	48	45	39
3	180	133	72	53	209	83	63	152	137	44	52	43
4	63	75	56	53	288	78	62	79	86	39	50	36
5	58	64	68	52	226	73	61	299	509	36	121	40
6	52	72	68	53	196	71	56	116	316	37	56	43
7	42	67	63	55	170	67	50	91	151	29	62	92
8	58	63	63	55	133	66	189	82	102	32	127	64
9	46	57	62	56	123	64	72	77	87	1000	66	47
10	43	55	64	56	108	64	59	73	185	745	54	45
11	50	56	65	58	92	67	63	69	92	202	51	93
12	56	55	62	57	84	115	99	62	83	154	53	63
13	56	55	61	58	86	106	420	66	81	134	54	63
14	55	57	61	69	81	93	203	66	214	119	49	51
15	55	54	63	66	56	83	110	67	335	112	53	43
16	56	52	58	63	77	85	91	157	135	104	69	44
17	58	52	84	62	74	209	83	272	106	98	65	44
18	51	52	65	66	88	106	78	116	92	90	41	42
19	51	51	56	75	71	94	74	84	74	84	45	44
20	53	54	43	67	72	93	71	78	64	75	45	45
21	60	55	53	58	75	82	68	74	899	67	48	46
22	60	47	47	61	70	92	74	72	300	61	50	44
23	58	45	43	60	70	92	73	75	112	57	50	52
24	51	49	42	59	67	68	63	101	85	51	48	49
25	51	50	39	51	68	68	62	89	77	48	43	53
26	53	55	42	61	66	70	127	131	68	46	50	47
27	53	65	46	58	63	147	153	87	58	42	50	48
28	49	59	49	59	63	112	137	77	52	40	45	50
29	55	57	50	56	---	83	79	76	46	46	41	50
30	55	57	46	56	---	69	65	128	43	47	43	53
31	53	---	49	59	---	61	---	72	---	46	40	---
TOTAL	1774	1770	1762	1816	2937	2854	2933	3108	4933	3808	1714	1511
MEAN	57.2	59.0	56.8	58.6	105	92.1	97.8	100	164	123	55.3	50.4
MAX	180	133	84	75	288	209	420	299	899	1000	127	93
MIN	42	45	39	51	56	61	50	58	43	29	40	36
AC-FT	3520	3510	3490	3600	5830	5660	5820	6160	9780	7550	3400	3000

CAL YR 1990 TOTAL 42236 MEAN 116 MAX 7510 MIN 39 AC-FT 83780
WTR YR 1991 TOTAL 30920 MEAN 84.7 MAX 1000 MIN 29 AC-FT 61330

PLATTE RIVER BASIN

06803510 LITTLE SALT CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°53'36", long 96°40'52", in NW1/4SW1/4 sec.30, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft downstream from county road bridge and 0.4 mi north of intersection of Interstate Highway 80 and North 27th Street north of Lincoln.

DRAINAGE AREA.--43.6 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 10, 1980, water-stage recorder at present site and datum 3.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 7-13 and Dec. 19 to Feb. 7. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--22 years, 14.8 ft³/s, 10,720 acre-ft/yr; median of yearly mean discharges, 12.3 ft³/s, 8,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s July 19, 1985, gage height, 18.24 ft, from floodmark, from rating curve extended above 3,710 ft³/s; maximum gage height, 20.02 ft, Aug. 25, 1987; minimum daily discharge, 0.20 ft³/s Sept. 29, 30, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 9	0710	*886	*9.47	No other peak greater than base discharge.			
Minimum daily discharge, 1.4 ft ³ /s Aug. 14.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.6	3.8	3.5	7.6	7.3	5.2	4.4	7.4	3.1	1.8	1.6
2	3.2	3.8	3.2	3.3	9.8	8.5	5.1	4.2	17	3.2	1.8	2.2
3	8.6	3.6	2.9	3.1	18	5.3	5.9	5.9	5.0	2.7	1.6	2.3
4	3.7	4.0	2.8	3.3	33	5.8	5.7	5.6	3.8	2.6	1.5	2.4
5	4.0	3.7	3.0	3.4	38	6.4	5.6	8.6	12	2.7	2.5	2.5
6	4.0	3.6	3.6	3.2	29	5.2	5.5	6.1	17	2.8	2.8	2.8
7	2.6	3.7	3.3	3.0	23	4.4	5.3	4.7	4.8	2.8	2.4	3.1
8	2.7	4.0	3.2	3.5	17	4.8	5.4	4.8	3.9	2.7	4.4	2.2
9	2.7	4.4	3.4	3.3	14	5.1	4.0	4.7	3.9	353	2.4	1.9
10	3.2	4.3	3.6	3.6	9.7	4.4	3.5	4.5	14	21	1.9	1.7
11	3.6	4.2	4.0	3.8	7.8	4.9	3.8	4.5	5.5	10	1.9	5.3
12	3.4	4.4	3.9	3.7	6.9	5.9	5.9	4.6	4.5	6.9	2.0	2.6
13	3.8	4.2	3.8	4.1	7.6	9.7	20	4.5	4.2	5.2	1.6	1.9
14	3.4	4.1	3.7	5.0	8.4	7.2	10	4.5	6.2	4.6	1.4	2.2
15	3.4	2.9	3.7	4.5	10	6.8	7.3	4.7	6.5	4.2	1.7	2.5
16	3.6	3.3	3.6	4.4	6.0	6.9	6.2	5.6	4.5	4.0	2.0	3.1
17	3.0	2.3	3.5	4.2	6.0	11	6.3	73	4.0	4.0	2.2	3.5
18	3.2	2.4	3.5	4.6	6.8	10	6.6	6.9	4.3	3.7	3.1	4.1
19	2.8	2.4	2.8	4.9	6.0	8.2	5.2	4.9	4.2	3.7	3.4	4.6
20	2.4	2.4	2.7	4.8	6.0	7.9	5.6	4.7	3.7	3.4	3.1	4.8
21	1.9	2.5	2.5	4.5	6.5	7.0	4.7	4.6	5.1	3.3	2.6	5.1
22	2.8	2.2	2.7	5.2	6.3	6.2	4.9	4.3	6.5	2.8	2.7	5.2
23	3.4	2.6	2.6	5.2	5.6	5.9	5.3	4.0	4.1	2.6	3.3	5.3
24	3.4	2.5	3.3	4.8	5.0	5.4	5.3	4.0	3.9	2.6	3.5	5.3
25	2.7	2.4	3.3	4.6	5.0	6.2	5.8	4.3	4.1	2.6	2.5	5.9
26	3.6	2.4	3.2	4.7	4.7	7.3	6.6	3.9	3.9	2.7	2.5	6.0
27	3.1	2.3	3.5	5.4	4.5	10	8.2	3.6	3.6	2.6	2.0	5.8
28	2.9	2.5	3.0	5.8	5.4	8.7	6.1	3.5	3.4	2.3	1.8	5.2
29	4.8	2.9	2.9	5.6	---	5.2	5.9	3.3	3.3	2.2	2.0	5.0
30	4.2	3.7	2.8	5.4	---	4.2	5.0	4.7	3.0	2.0	2.0	4.8
31	4.4	---	3.1	6.2	---	4.9	---	3.7	---	2.1	1.8	---
TOTAL	107.9	98.3	100.9	134.6	313.6	206.7	185.9	215.3	177.3	474.1	72.2	110.9
MEAN	3.48	3.28	3.25	4.34	11.2	6.67	6.20	6.95	5.91	15.3	2.33	3.70
MAX	8.6	4.6	4.0	6.2	38	11	20	73	17	353	4.4	6.0
MIN	1.9	2.2	2.5	3.0	4.5	4.2	3.5	3.3	3.0	2.0	1.4	1.6
AC-FT	214	195	200	267	622	410	369	427	352	940	143	220

CAL YR 1990 TOTAL 3578.2 MEAN 9.80 MAX 1200 MIN 1.5 AC-FT 7100
WTR YR 1991 TOTAL 2197.7 MEAN 6.02 MAX 353 MIN 1.4 AC-FT 4360

PLATTE RIVER BASIN

187

06803520 STEVENS CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°51'25", long 96°35'42", in NW1/4NE1/4 sec.11, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft upstream and 20 ft west from county road bridge on Havelock Avenue and 1.6 mi east of 70th Street at east edge of Lincoln.

DRAINAGE AREA.--47.8 mi².

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,125.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 7, Dec. 15 to Jan. 13, and Jan. 18 to Feb. 5. Records fair except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--23 years, 18.0 ft³/s, 13,040 acre-ft/yr; median of yearly mean discharges, 15.4 ft³/s, 11,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft³/s Sept. 8, 1989, gage height, 19.42 ft; maximum gage height, 19.57 ft June 13, 1984; no flow July 31, Aug. 2-4, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 5	0945	635	6.93	June 21	2330	*930	*8.23

Minimum daily discharge, .08 ft³/s Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	1.6	1.4	1.8	1.9	5.1	4.1	6.5	5.4	1.4	.66	.56
2	.90	1.6	1.4	1.7	2.2	8.2	4.1	5.9	6.4	1.4	.59	.64
3	1.8	2.0	1.5	1.6	3.6	5.6	4.0	6.5	7.3	1.4	.69	.64
4	2.9	2.5	1.6	1.6	12	4.8	3.9	6.9	5.4	1.4	.74	.49
5	1.7	1.9	1.6	1.7	19	4.5	3.9	17	162	1.3	1.1	.49
6	1.5	1.8	1.7	1.5	14	4.4	3.8	14	19	1.2	1.3	.49
7	.91	1.7	1.7	1.4	9.9	4.2	3.8	10	5.7	1.1	1.1	.64
8	.96	1.6	1.8	1.5	9.3	3.8	5.9	8.6	4.4	.97	1.3	.75
9	1.1	1.8	1.8	1.6	8.9	3.9	6.9	8.0	3.8	67	1.4	.72
10	1.4	1.5	1.8	1.7	6.9	4.1	5.4	7.5	8.0	4.7	.91	.56
11	1.3	1.4	1.8	1.9	6.0	4.2	4.7	6.9	5.9	2.8	.72	.56
12	1.3	1.5	1.8	2.1	5.7	4.0	4.6	6.5	4.5	2.3	.58	.49
13	1.3	1.5	1.9	2.3	5.7	4.5	9.9	6.3	3.9	2.0	.46	.42
14	1.2	1.4	1.9	2.7	5.9	4.5	8.7	6.1	4.4	1.6	.44	.42
15	1.3	1.5	1.8	2.7	5.1	4.4	7.1	5.7	4.1	1.6	.46	.36
16	1.2	1.4	1.7	2.7	4.7	4.4	5.9	6.4	3.6	1.3	.30	.30
17	1.2	1.6	1.7	2.7	4.9	7.4	5.2	10	3.1	1.2	.37	.24
18	1.4	1.6	1.6	2.4	5.5	9.1	4.9	8.0	2.7	1.2	.42	.18
19	1.2	1.5	1.6	2.4	5.5	6.8	4.9	6.3	2.6	1.1	.46	.11
20	1.1	1.4	1.5	2.3	4.7	5.9	4.6	5.9	2.5	1.1	.48	.18
21	1.5	1.6	1.5	2.3	4.7	5.4	4.4	5.7	113	1.1	.49	.14
22	1.6	1.6	1.4	1.8	4.7	5.0	4.4	5.5	140	1.1	.44	.14
23	1.3	1.5	1.3	1.9	4.4	5.0	4.5	5.3	6.2	.85	.38	.18
24	1.5	1.5	1.4	1.6	4.3	4.8	4.4	5.0	3.9	.79	.49	.14
25	1.5	1.5	1.4	1.5	4.2	4.4	4.1	5.2	3.0	.75	.64	.14
26	1.5	1.5	1.5	1.3	4.1	4.3	6.5	5.1	2.4	.70	.42	.10
27	1.6	1.5	1.5	1.4	4.0	4.8	29	5.1	2.0	.67	.53	.09
28	1.5	1.4	1.6	1.8	4.0	5.2	10	4.9	1.7	.63	.38	.09
29	1.3	1.4	1.6	1.4	---	4.8	8.0	4.5	1.5	.68	.30	.08
30	1.4	1.5	1.7	1.5	---	4.4	7.2	4.7	1.4	.65	.49	.11
31	1.6	---	1.7	1.8	---	4.1	---	6.7	---	.76	.49	---
TOTAL	42.96	47.8	50.2	58.6	175.8	156.0	188.8	216.7	539.8	106.75	19.53	10.45
MEAN	1.39	1.59	1.62	1.89	6.28	5.03	6.29	6.99	18.0	3.44	.63	.35
MAX	2.9	2.5	1.9	2.7	19	9.1	29	17	162	67	1.4	.75
MIN	.90	1.4	1.3	1.3	1.9	3.8	3.8	4.5	1.4	.63	.30	.08
AC-FT	85	95	100	116	349	309	374	430	1070	212	39	21

CAL YR 1990 TOTAL 5517.58 MEAN 15.1 MAX 2560 MIN .82 AC-FT 10940
WTR YR 1991 TOTAL 1613.39 MEAN 4.42 MAX 162 MIN .08 AC-FT 3200

PLATTE RIVER BASIN

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE

LOCATION.--Lat 40°54'18", long 96°35'09", in NW1/4SW1/4 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 mi².

PERIOD OF RECORD.--Water years 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT												
16...	1000	65	7300	8.0	14.0	9.6	K29000	4100	340	84	31	1500
NOV												
15...	1000	61	7450	8.0	12.5	14.2	K28000	K1600	350	88	32	1500
DEC												
12...	0900	70	--	7.9	3.0	9.4	--	--	330	83	30	1400
JAN												
16...	1400	70	7320	7.8	4.5	14.8	5100	12000	340	88	30	1400
FEB												
13...	1400	105	6080	7.9	9.0	19.2	17000	1800	310	81	27	1100
MAR												
04...	1330	95	5800	7.8	10.0	15.1	8300	1400	320	84	27	1000
APR												
16...	1400	105	5540	7.9	14.0	10.2	K460	K40	320	84	27	1000
MAY												
14...	1330	80	--	7.9	25.0	11.8	K380	130	330	81	30	1400
JUN												
05...	1100	680	985	7.7	20.5	4.7	370000	--	78	22	5.5	140
JUL												
11...	1445	220	2960	7.8	24.0	6.4	13000	7200	190	51	15	530
AUG												
15...	1350	55	8250	8.7	28.0	--	K570	K170	340	84	32	1600
SEP												
04...	1035	40	7950	8.2	19.0	8.7	220	160	340	84	32	1600

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
OCT												
16...	36	17	274	380	2100	0.50	20	4320	5.88	758	2.13	2.10
NOV												
15...	35	17	283	320	2300	0.70	23	4470	6.08	737	1.65	1.02
DEC												
12...	33	17	294	340	2100	<0.10	22	4200	5.71	793	2.77	2.69
JAN												
16...	33	16	305	300	2000	0.20	26	4070	5.53	769	1.12	1.25
FEB												
13...	27	17	254	290	1700	0.80	24	3410	4.64	967	1.37	1.37
MAR												
04...	24	14	271	300	1800	0.50	21	3430	4.66	879	1.22	1.25
APR												
16...	24	15	257	210	1600	0.80	20	3130	4.25	887	1.37	1.39
MAY												
14...	34	16	291	360	2100	0.90	21	4210	5.72	908	1.52	1.53
JUN												
05...	7	7.8	74	32	200	0.40	7.4	472	0.64	867	2.20	2.35
JUL												
11...	17	12	164	150	740	0.60	13	1620	2.21	963	1.84	1.86
AUG												
15...	38	19	271	430	2400	1.3	20	4780	6.49	709	2.05	2.14
SEP												
04...	38	18	267	440	2300	1.7	23	4680	6.37	506	1.10	1.09

PLATTE RIVER BASIN

189

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 16...	0.970	1.00	3.10	3.10	2.10	2.10	1.2	3.3	6.4	3.20	2.30
NOV 15...	0.450	0.380	2.10	1.40	4.00	3.90	0.60	4.6	6.7	3.30	3.70
DEC 12...	0.530	0.510	3.30	3.20	2.20	2.10	0.40	2.6	5.9	3.80	3.30
JAN 16...	0.180	0.150	1.30	1.40	6.60	6.50	3.4	10	11	3.20	2.90
FEB 13...	0.230	0.230	1.60	1.60	3.40	3.40	1.4	4.8	6.4	2.30	2.20
MAR 04...	0.180	0.150	1.40	1.40	4.10	4.00	1.2	5.3	6.7	2.50	2.40
APR 16...	0.330	0.310	1.70	1.70	3.20	3.20	1.1	4.3	6.0	2.40	1.80
MAY 14...	0.880	0.870	2.40	2.40	2.50	2.50	1.4	3.9	6.3	3.40	2.70
JUN 05...	0.300	0.150	2.50	2.50	0.900	0.820	8.4	9.3	12	0.580	0.150
JUL 11...	0.360	0.340	2.20	2.20	0.480	0.440	1.4	1.9	4.1	0.760	0.510
AUG 15...	0.850	0.860	2.90	3.00	1.00	1.10	1.0	2.0	4.9	4.20	3.90
SEP 04...	0.800	0.810	1.90	1.90	4.50	4.60	1.0	5.5	7.4	2.90	2.90

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
NOV 15...	5	200	<1	2	4	640	1
FEB 13...	3	100	<1	2	4	1100	<1
MAY 14...	5	200	<1	1	7	490	1
AUG 15...	5	200	3	<1	3	350	<1

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 15...	310	<0.20	<1	<1	20	9.5
FEB 13...	420	0.10	<1	<1	20	9.9
MAY 14...	290	<0.10	<1	<1	<10	8.4
AUG 15...	170	0.10	2	<1	20	9.5

PLATTE RIVER BASIN

06803530 ROCK CREEK NEAR CERESCO, NE

LOCATION.--Lat 41°00'56", long 96°32'39", in NE1/4NE1/4 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 and 5.7 mi southeast of Ceresco.

DRAINAGE AREA.--119 mi².

PERIOD OF RECORD.--April 1970 to current year.

REVISED RECORDS.--WDR NE-76-1: 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 1,112.18 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 6, 1980, at present site at datum 3.0 ft higher. July 14, 1981 to Feb. 29, 1984, on left bank 30 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 11, Dec. 17 to Feb. 9, and Feb. 15-16. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--21 years, 37.6 ft³/s, 27,240 acre-ft/yr; median of yearly mean discharges, 29.5 ft³/s, 21,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,300 ft³/s Aug. 25, 1987, gage height, 19.60 ft, present datum, from floodmark; minimum daily, 0.25 ft³/s July 13, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	0315	913	6.71	July 9	1735	*2120	*10.56
June 14	1030	1310	8.19				

Minimum daily discharge, 2.6 ft³/s Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	8.0	8.8	7.8	11	25	12	11	94	11	3.8	3.1
2	6.6	8.0	8.8	8.8	12	27	11	11	357	10	4.4	3.7
3	16	8.6	8.6	6.6	16	16	12	14	23	8.4	4.2	4.3
4	10	9.9	8.4	8.0	60	14	12	15	15	7.0	4.4	4.0
5	7.1	8.4	8.0	8.6	150	15	12	20	102	6.4	7.0	3.9
6	6.9	8.6	9.0	8.0	140	14	12	16	115	6.4	9.7	4.4
7	6.3	9.3	9.6	6.0	125	13	12	13	16	6.2	7.8	5.3
8	6.4	8.6	9.8	7.0	140	13	12	13	12	6.3	8.8	6.5
9	6.8	8.7	10	7.6	120	13	11	12	11	1320	7.6	5.6
10	6.9	8.9	10	7.8	74	12	11	12	247	286	6.7	4.7
11	6.7	8.7	9.8	8.0	33	12	13	12	44	36	6.2	20
12	6.7	8.6	11	8.2	27	13	21	12	17	19	5.6	9.6
13	6.8	8.7	10	8.4	20	21	155	11	121	13	4.9	4.9
14	6.8	9.1	10	8.4	18	14	36	11	624	12	4.4	4.4
15	6.7	9.1	10	8.4	17	14	19	11	68	11	4.2	4.3
16	6.8	8.6	9.7	8.6	15	16	15	14	24	10	4.5	3.8
17	6.7	8.3	9.6	8.6	14	39	14	244	16	9.5	3.9	3.5
18	6.2	8.9	9.4	8.0	19	27	13	21	14	9.3	2.7	3.3
19	6.8	8.9	9.2	8.2	15	16	13	14	12	8.3	3.3	3.2
20	7.1	9.3	9.0	8.6	14	15	13	14	12	7.4	3.4	3.5
21	8.0	9.6	8.8	7.8	14	14	13	14	13	5.4	3.6	3.2
22	7.8	9.4	7.0	8.4	14	13	13	13	15	6.0	4.0	3.7
23	7.2	8.7	4.5	8.2	13	13	12	12	14	5.3	4.4	3.2
24	7.4	8.9	6.2	7.6	12	12	11	12	13	5.7	4.5	3.3
25	7.2	9.5	6.6	6.8	12	12	11	12	13	5.7	4.4	3.4
26	7.4	9.1	7.4	7.6	11	12	12	12	12	5.7	4.1	3.7
27	7.2	9.4	7.0	8.0	11	33	14	13	11	5.7	3.9	4.1
28	7.5	9.3	6.8	7.4	12	30	13	11	11	5.5	3.0	4.5
29	7.6	9.2	6.2	8.0	---	14	12	11	10	6.1	2.7	4.1
30	7.8	9.4	6.0	9.2	---	12	12	16	9.5	4.4	2.6	4.0
31	8.2	---	6.6	10	---	12	---	12	---	5.1	2.7	---
TOTAL	230.3	267.7	261.8	248.6	1139	526	552	639	2065.5	1863.8	147.4	143.2
MEAN	7.43	8.92	8.45	8.02	40.7	17.0	18.4	20.6	68.8	60.1	4.75	4.77
MAX	16	9.9	11	10	150	39	155	244	624	1320	9.7	20
MIN	6.2	8.0	4.5	6.0	11	12	11	11	9.5	4.4	2.6	3.1
AC-FT	457	531	519	493	2260	1040	1090	1270	4100	3700	292	284

CAL YR 1990	TOTAL 9288.4	MEAN 25.4	MAX 3670	MIN 4.5	AC-FT 18420
WTR YR 1991	TOTAL 8084.3	MEAN 22.1	MAX 1320	MIN 2.6	AC-FT 16040

PLATTE RIVER BASIN

191

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.

DRAINAGE AREA.--1,051 mi².

PERIOD OF RECORD.--November 1951 to current year. Records furnished by Corps of Engineers prior to Oct. 1, 1972.

REVISED RECORDS.--WDR NE-71: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,068.14 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1964, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Feb. 4. Records good except for period of estimated record, which is poor.

AVERAGE DISCHARGE.--39 years (water years 1953-91), 334 ft³/s, 242,000 acre-ft/yr; median of yearly mean discharges, 280 ft³/s, 203,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,800 ft³/s June 13, 1984, gage height, 26.50 ft; minimum daily, 14 ft³/s Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 9	0855	*8880	*12.23	No other peak greater than base discharge.			
Minimum daily discharge, 66 ft ³ /s Jan. 4.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	101	112	80	150	150	125	124	183	147	85	78
2	94	104	113	78	180	301	127	118	842	141	82	77
3	242	127	122	76	250	158	126	218	353	130	81	79
4	178	220	123	66	450	150	126	175	179	125	84	79
5	115	123	125	70	648	146	123	499	868	119	149	76
6	107	123	132	70	541	140	116	307	903	116	146	78
7	95	132	124	68	448	136	111	192	334	114	99	80
8	100	114	123	70	442	134	175	157	194	112	189	209
9	106	109	122	72	392	129	195	140	170	4500	133	93
10	98	106	123	74	271	129	126	132	588	1920	101	85
11	99	103	126	76	197	130	125	126	310	434	93	135
12	102	104	123	76	164	136	150	120	179	263	92	132
13	101	103	123	80	155	209	587	115	299	207	93	94
14	100	103	122	86	150	176	355	116	868	177	92	89
15	102	103	123	80	104	156	223	122	747	161	88	81
16	102	101	122	88	168	161	174	154	286	150	90	76
17	103	101	136	82	136	288	157	884	203	140	127	77
18	99	103	152	86	156	232	152	346	182	130	90	77
19	98	103	131	88	143	180	145	165	167	122	83	77
20	97	106	115	80	129	170	142	143	154	117	84	79
21	110	106	95	74	131	156	135	138	334	109	84	76
22	102	103	80	90	130	149	133	133	1300	101	83	75
23	108	98	74	100	124	172	147	131	271	101	85	74
24	103	100	68	94	121	139	127	135	191	95	85	77
25	99	101	66	88	122	135	123	224	175	91	83	74
26	102	104	70	70	121	134	140	184	166	91	83	74
27	101	117	76	78	121	212	420	162	154	89	88	73
28	98	116	82	96	122	196	225	139	144	87	84	72
29	99	114	80	88	---	158	160	143	138	86	81	72
30	102	115	74	80	---	141	135	253	131	89	80	69
31	101	---	74	120	---	131	---	165	---	87	79	---
TOTAL	3355	3363	3331	2524	6266	5134	5305	6160	11013	10351	2996	2587
MEAN	108	112	107	81.4	224	166	177	199	367	334	96.6	86.2
MAX	242	220	152	120	648	301	587	884	1300	4500	189	209
MIN	92	98	66	66	104	129	111	115	131	86	79	69
AC-FT	6650	6670	6610	5010	12430	10180	10520	12220	21840	20530	5940	5130

CAL YR 1990 TOTAL 83661 MEAN 229 MAX 23900 MIN 66 AC-FT 165900
WTR YR 1991 TOTAL 62385 MEAN 171 MAX 4500 MIN 66 AC-FT 123700

PLATTE RIVER BASIN

06804000 WAHOO CREEK AT ITHACA, NE

LOCATION.--Lat 41°08'40", long 96°32'10", in NW1/4NW1/4 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 and 0.5 mi south of Ithaca.

DRAINAGE AREA.--271 mi², of which 268 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WDR NE-71-1: Drainage area. WDR NE-78-1: 1977(P).

GAGE.--Water-stage recorder. Datum of gage is 1,110.48 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 18 to Feb. 7, Feb. 15, and Aug. 12-13. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years, 85.7 ft³/s, 62,090 acre-ft/yr; median of yearly mean discharges, 75.6 ft³/s, 54,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,400 ft³/s June 24, 1963, gage height, 22.93 ft, from rating curve extended above 13,000 ft³/s on basis of indirect measurement of peak flow; minimum daily, 3.3 ft³/s June 11, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since about 1910, 23.22 ft, from floodmark, Aug. 2, 1959, discharge, 45,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	0720	2460	16.15	June 14	1435	*10700	*21.64
June 5	1550	6290	20.81	July 9	1545	2360	16.22

Minimum daily discharge, 13 ft³/s Sept. 5, 17-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	24	23	21	22	33	31	27	144	49	30	14
2	17	24	24	22	22	41	30	26	1190	44	27	15
3	25	23	23	20	21	31	30	29	98	41	25	15
4	24	25	23	22	22	34	30	31	62	39	25	14
5	17	25	23	18	60	33	30	32	3640	38	25	13
6	16	24	23	20	56	33	29	32	772	37	24	14
7	15	24	23	22	50	31	29	28	210	36	25	16
8	16	24	23	21	65	29	28	28	155	37	37	18
9	20	24	23	21	91	28	30	27	101	1080	40	18
10	19	24	24	22	73	28	31	25	394	210	26	17
11	19	24	24	22	47	27	31	25	104	68	23	23
12	18	25	24	23	36	30	435	24	61	52	22	22
13	20	23	24	23	36	41	547	24	1010	45	22	16
14	20	23	24	23	35	36	89	23	5840	41	23	14
15	21	24	24	24	34	32	48	25	758	39	22	14
16	21	23	24	25	45	32	39	28	242	37	23	14
17	21	23	24	25	32	35	35	305	157	37	26	13
18	21	23	17	24	32	38	34	148	126	36	22	13
19	20	24	18	23	31	35	35	57	104	34	20	14
20	20	24	19	22	31	33	34	40	85	34	20	14
21	21	25	20	21	32	33	33	34	154	33	20	16
22	21	23	20	23	32	33	32	31	498	32	19	14
23	21	23	20	21	31	32	30	29	103	31	19	15
24	21	23	20	19	30	31	29	29	84	30	19	15
25	20	24	18	21	29	30	29	28	78	30	18	15
26	21	24	19	23	29	30	29	31	70	28	17	15
27	21	24	20	22	28	45	30	33	66	27	16	15
28	22	23	21	21	29	73	29	26	61	41	16	16
29	23	23	20	20	---	38	28	25	57	38	16	16
30	24	23	19	21	---	34	27	26	53	29	15	16
31	24	---	20	22	---	32	---	35	---	28	15	---
TOTAL	625	712	671	677	1081	1071	1921	1311	16477	2381	697	464
MEAN	20.2	23.7	21.6	21.8	38.6	34.5	64.0	42.3	549	76.8	22.5	15.5
MAX	25	25	24	25	91	73	547	305	5840	1080	40	23
MIN	15	23	17	18	21	27	27	23	53	27	15	13
AC-FT	1240	1410	1330	1340	2140	2120	3810	2600	32680	4720	1380	920

CAL YR 1990 TOTAL 13944.0 MEAN 38.2 MAX 2770 MIN 7.8 AC-FT 27660
WTR YR 1991 TOTAL 28088 MEAN 77.0 MAX 5840 MIN 13 AC-FT 55710

PLATTE RIVER BASIN

193

06804700 WAHOO CREEK AT ASHLAND, NE

LOCATION.--Lat 41°03'13", long 96°22'04", in SE1/4NE1/4 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 and 1 mi north of Ashland.

DRAINAGE AREA.--416 mi².

PERIOD OF RECORD.--September, 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,067.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 3-5, Dec. 18 to Feb. 11, Feb. 15, Feb. 26 to Mar. 25, and May 29 to Aug. 7. Records poor.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 7000 ft³/s June 15; minimum daily, 25 ft³/s Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	40	50	50	49	60	51	58	350	72	54	26
2	42	38	50	48	52	72	51	56	1500	66	49	27
3	54	47	50	46	54	62	57	69	700	62	46	27
4	58	45	46	49	58	49	51	86	350	58	45	25
5	54	43	48	47	86	54	50	109	4000	56	45	26
6	45	49	46	44	200	52	48	97	2500	54	44	27
7	42	49	46	46	145	52	48	89	400	54	46	28
8	45	48	44	47	170	48	53	86	350	54	51	33
9	44	46	44	46	300	45	59	82	500	410	58	28
10	41	44	44	47	250	45	55	79	2000	2500	52	31
11	40	45	44	48	170	44	64	77	1100	1100	43	77
12	39	42	43	49	97	58	327	75	500	520	40	40
13	38	42	41	50	91	72	869	74	1500	240	41	36
14	38	43	45	50	85	58	367	76	2500	100	40	31
15	36	40	48	52	80	48	125	75	7000	70	39	29
16	35	38	48	52	175	48	89	90	2000	64	39	28
17	34	35	48	52	152	49	74	366	800	58	49	29
18	35	35	50	50	85	64	74	248	300	54	40	27
19	36	37	48	49	75	56	70	154	170	52	35	27
20	36	35	46	47	62	50	74	104	150	50	35	28
21	35	44	44	45	64	50	71	89	360	49	35	28
22	33	39	40	48	62	50	74	82	800	48	34	29
23	36	37	37	46	56	50	67	78	400	47	33	28
24	36	37	41	42	50	49	63	75	140	45	33	29
25	36	39	44	40	46	48	59	76	120	43	32	29
26	36	40	47	40	44	47	69	78	105	42	30	29
27	36	44	50	41	44	76	81	82	98	42	28	29
28	36	53	54	44	50	168	65	55	88	58	27	29
29	37	52	50	47	---	98	60	52	82	82	27	29
30	38	49	51	45	---	72	60	58	76	60	27	30
31	41	---	52	47	---	62	---	64	---	50	27	---
TOTAL	1235	1275	1439	1454	2852	1856	3325	2939	30939	6260	1224	919
MEAN	39.8	42.5	46.4	46.9	102	59.9	111	94.8	1031	202	39.5	30.6
MAX	58	53	54	52	300	168	869	366	7000	2500	58	77
MIN	33	35	37	40	44	44	48	52	76	42	27	25
AC-FT	2450	2530	2850	2880	5660	3680	6600	5830	61370	12420	2430	1820

WTR YR 1991 TOTAL 55717 MEAN 153 MAX 7000 MIN 25 AC-FT 110500

PLATTE RIVER BASIN

06804900 JOHNSON CREEK NEAR MEMPHIS, NE

LOCATION.--Lat 41°08'48", long 96°23'12", in NW1/4NW1/4 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.

DRAINAGE AREA.--21.5 mi².

PERIOD OF RECORD.--September 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,070.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 269 ft³/s June 14, gage height, 10.25 ft; minimum daily 0.65 ft³/s
Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.1	1.2	1.4	1.5	2.0	1.8	1.6	26	1.5	.85	.77
2	1.5	1.1	1.3	1.4	1.4	2.0	1.8	1.6	6.0	1.4	.84	.87
3	1.7	1.2	1.3	1.4	1.6	1.6	1.9	1.7	2.7	1.3	.88	.68
4	1.5	1.2	1.3	1.4	1.5	1.6	1.9	1.7	2.7	1.3	.81	.65
5	1.7	1.2	1.4	1.4	1.5	1.7	1.8	2.4	4.2	1.3	.96	.71
6	1.6	1.2	1.4	1.5	1.5	1.6	1.8	1.8	3.2	1.1	.89	.70
7	1.6	1.2	1.4	1.4	1.5	1.6	1.8	1.6	3.3	1.2	.80	.80
8	1.7	1.2	1.4	1.4	1.5	1.6	1.8	1.6	3.7	1.1	.98	.79
9	1.6	1.2	1.4	1.3	2.1	1.6	1.8	1.6	3.9	5.9	.84	.75
10	1.5	1.1	1.4	1.4	2.7	1.6	1.7	1.6	125	1.2	.83	.73
11	1.4	1.2	1.4	1.3	1.9	1.6	1.9	1.6	43	1.1	.82	1.2
12	1.4	1.2	1.5	1.3	1.7	1.8	2.1	1.6	8.0	1.0	.90	.94
13	1.4	1.2	1.5	1.3	1.8	1.8	3.6	1.6	42	1.0	.86	.84
14	1.4	1.2	1.5	1.3	1.6	1.7	2.4	1.7	191	.98	.86	.91
15	1.3	1.2	1.5	1.3	1.5	1.8	2.1	3.3	162	.94	.84	.90
16	1.3	1.2	1.5	1.3	1.5	1.9	2.0	12	120	.93	.86	.83
17	1.3	1.2	1.5	1.4	1.5	2.8	1.9	12	27	.89	.87	.87
18	1.2	1.2	1.5	1.4	2.0	2.2	2.0	1.8	6.3	.88	.87	.86
19	1.2	1.2	1.4	1.4	1.5	2.0	1.9	1.6	3.4	.84	.87	.86
20	1.2	1.2	1.4	1.4	1.5	1.9	1.9	1.5	2.5	.92	.87	.91
21	1.1	1.3	1.4	1.5	1.5	1.8	1.9	1.5	3.0	.91	.86	.93
22	1.1	1.3	1.4	1.5	1.5	1.8	1.9	1.5	3.3	.91	.84	.98
23	1.1	1.2	1.4	1.5	1.5	1.8	1.8	1.5	2.6	.93	.88	1.0
24	1.1	1.2	1.4	1.5	1.5	1.8	1.8	1.5	2.3	.93	.88	1.1
25	1.1	1.3	1.4	1.5	1.5	1.8	1.8	1.5	2.1	.95	.89	1.1
26	1.1	1.3	1.3	1.5	1.5	1.8	2.0	1.5	1.9	1.0	.80	1.1
27	1.1	1.3	1.4	1.6	1.5	2.2	2.0	1.5	1.8	1.1	.75	1.2
28	1.1	1.3	1.4	1.5	1.5	1.9	1.8	1.6	1.7	1.1	.72	1.2
29	1.1	1.3	1.4	1.5	---	1.8	1.8	1.8	1.6	1.0	.70	1.2
30	1.1	1.3	1.4	1.5	---	1.8	1.7	2.2	1.5	.96	.77	1.1
31	1.1	---	1.4	1.5	---	1.8	---	2.3	---	.88	.74	---
TOTAL	41.1	36.5	43.5	44.0	45.3	56.7	58.4	74.3	807.7	37.45	26.13	27.48
MEAN	1.33	1.22	1.40	1.42	1.62	1.83	1.95	2.40	26.9	1.21	.84	.92
MAX	1.7	1.3	1.5	1.6	2.7	2.8	3.6	12	191	5.9	.98	1.2
MIN	1.1	1.1	1.2	1.3	1.4	1.6	1.7	1.5	1.5	.84	.70	.65
AC-FT	82	72	86	87	90	112	116	147	1600	74	52	55

WTR YR 1991 TOTAL 1298.56 MEAN 3.56 MAX 191 MIN .65 AC-FT 2580

LOCATION.--Lat 41°00'55", long 96°09'28", in NW1/4NW1/4 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.

WATER-DISCHARGE RECORDS

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

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 22. Records good except for period of estimated record, which is fair. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--38 years, 6,534 ft³/s, 4,734,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 144,000 ft³/s June 14, 1984, gage height, 11.34 ft; maximum gage height, 12.45 ft Mar. 30, 1960; minimum daily discharge, 131 ft³/s Sept. 3, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1881, 144,000 ft³/s June 14, 1984, gage height, 11.34 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 55,500 ft³/s June 6, gage height, 8.72 ft; minimum daily, 985 ft³/s Sept. 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2460	3830	3490	2100	4600	5700	5940	5570	12300	3610	1560	1050
2	2290	3300	4050	2200	4700	6910	5810	6830	20600	3560	1420	985
3	2850	3680	4310	2300	5000	6220	5720	6960	23000	5100	1560	1010
4	3100	3730	3470	2300	5400	4580	5010	6690	20200	3390	1560	1020
5	2780	3890	3260	2500	6200	6040	5060	7000	30300	3150	1540	987
6	2790	4010	4170	2500	7000	6220	4570	8610	50100	2770	1690	1040
7	2520	5170	4100	2600	7800	5320	4730	9090	35400	2430	1620	1110
8	2960	3900	4720	2900	8400	5070	4950	7900	19600	2320	1710	1250
9	2920	3890	5210	3200	8000	5190	5090	7260	14900	8450	1990	1210
10	2680	4420	5200	3300	8200	5180	4560	7520	14400	8560	1630	1200
11	2750	4330	4840	3400	8800	5460	4570	6990	13200	4400	1690	1360
12	2770	4190	4900	3500	8600	5220	5450	7420	10200	3900	1600	1570
13	2950	4070	4720	3600	8600	6260	10700	6460	9970	5480	1550	1450
14	2800	4010	4640	3700	9200	6490	13300	6130	25200	5080	1690	1370
15	2940	4240	4600	3900	9000	6630	9570	5870	29400	4280	1750	1620
16	3120	3730	4490	4000	8600	6450	7580	5670	24200	3720	1780	1770
17	3140	4110	4820	4000	8200	6780	6670	7240	14400	3710	1840	2510
18	3080	4210	3680	4100	7400	7530	6090	7860	10400	3030	1830	2560
19	3030	4160	3300	4200	7000	7640	5700	10300	8700	2650	1800	2240
20	2990	4520	3000	4100	7200	6660	5500	8930	7770	2510	1780	2090
21	3290	3940	2600	4100	7400	6310	5200	8990	7260	2200	1720	1950
22	3670	4230	1800	4200	8600	5920	5860	8120	9300	2110	1680	1840
23	3460	4100	1900	4000	11000	5860	6160	7120	9140	1980	1560	1720
24	3810	4060	2200	4100	10100	5450	5720	6330	7660	1800	1450	1880
25	3980	4250	2100	4000	8090	5500	5640	6310	6080	1740	1300	1900
26	3920	3990	2100	3900	6960	6320	5320	6360	6220	1640	1260	1970
27	3720	4160	2400	3900	6440	6000	5970	11000	5400	1650	1220	1750
28	3750	4030	2300	4000	6220	6350	5280	10400	5260	1690	1170	1830
29	3950	3420	2100	4200	---	5780	5270	10800	4450	1710	1060	1870
30	3460	3320	1900	4300	---	6290	4610	10800	4180	1610	1030	1850
31	3530	---	1800	4400	---	5090	---	10300	---	1640	1020	---
TOTAL	97460	120890	108170	109500	212710	186420	181600	242830	459190	101870	48060	47962
MEAN	3144	4030	3489	3532	7597	6014	6053	7833	15310	3286	1550	1599
MAX	3980	5170	5210	4400	11000	7640	13300					

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

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 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 14...	1330	4010	--	8.4	11.0	735	40	14.7	K64	1500	170
FEB 13...	0945	8600	--	7.9	0.0	725	34	--	140	6700	140
MAY 21...	1035	10400	445	8.2	19.0	736	810	9.2	63000	16000	150
AUG 16...	1120	1890	--	8.9	23.5	732	20	10.0	--	--	170

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LINITY WAT DIS TOT IT MG/L AS CACO3 (39086)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 14...	18	50	12	76	3	9.1	157	7	177	61	88
FEB 13...	23	42	9.4	40	1	9.5	121	0	148	61	35
MAY 21...	18	45	9.6	26	0.9	11	134	0	164	52	21
AUG 16...	3	49	11	99	.3	8.7	164	23	154	61	130

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 14...	0.30	35	445	432	0.61	4820	1.07	1.08	0.030	0.020	1.10
FEB 13...	0.30	28	307	304	0.42	7130	0.970	1.08	0.030	0.020	1.00
MAY 21...	0.40	24	272	277	0.37	7640	1.09	1.25	0.210	0.050	1.30
AUG 16...	0.40	26	474	485	0.64	2420	--	--	0.010	<0.010	<0.050

PLATTE RIVER BASIN

197

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	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)	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 14...	1.10	0.140	0.110	0.46	0.60	--	1.7	0.370	0.250	0.270
FEB 13...	1.10	0.260	0.280	0.64	0.90	--	1.9	0.310	0.220	0.200
MAY 21...	1.30	0.220	0.090	4.6	4.8	--	6.1	0.790	0.220	0.220
AUG 16...	<0.050	0.010	<0.010	2.0	2.0	0.40	--	0.480	0.190	0.160

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 14...	1330	30	5	140	<0.5	<1.0	2	<3	3	12	<1
FEB 13...	0945	20	4	100	<0.5	<1.0	<1	<3	2	22	<1
MAY 21...	1035	80	5	130	<0.5	<1.0	2	<3	3	57	<1
AUG 16...	1120	20	8	100	<0.5	<1.0	1	<3	3	9	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 14...	23	9	<0.1	<10	3	1	<1.0	340	<6	7
FEB 13...	17	28	<0.1	<10	3	<1	<1.0	260	<6	10
MAY 21...	13	2	<0.1	<10	3	1	<1.0	270	8	3
AUG 16...	22	4	<0.1	<10	2	2	<1.0	350	12	11

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	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)
NOV 14...	1330	4010	11.0	172	1860	89
FEB 13...	0945	8600	0.0	296	6870	44
MAY 21...	1035	10400	19.0	2810	78900	93
AUG 16...	1120	1890	23.5	205	1050	72

WEeping WATER CREEK BASIN

06806500 WEeping WATER CREEK AT UNION, NE

LOCATION.--Lat 40°47'35", long 95°54'40", in SW1/4NW1/4 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 and 2.8 mi downstream from South Branch Weeping Water Creek.

DRAINAGE AREA.--241 mi².

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 National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 20-25 and Jan. 25 to Feb. 9. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--41 years, 95.7 ft³/s, 69,330 acre-ft/yr; median of yearly mean discharges, 71.8 ft³/s, 52,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s May 9, 1950, gage height, 29.80 ft, from floodmark, present site and datum, from rating curve extended above 12,000 ft³/s on basis of measurement of peak flow through bridges and over highway embankment; minimum daily, 0.1 ft³/s Sept. 10-12, 14, 15, 17, 18, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 9	1245	*7450	*29.20	No other peak greater than base discharge.			
Minimum daily discharge, 5.8 ft ³ /s Sept. 19, 26, 30.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	21	21	24	40	26	44	56	13	22	8.3
2	12	15	20	21	27	93	25	37	47	12	18	8.6
3	28	16	22	19	26	59	27	39	65	11	15	8.9
4	30	31	22	19	38	40	30	42	44	12	14	8.8
5	29	24	22	27	90	35	24	51	358	9.7	23	7.5
6	18	21	21	23	210	32	19	70	41	7.8	34	7.6
7	12	20	22	21	350	26	23	57	40	6.8	29	16
8	11	21	22	25	450	24	24	44	34	6.9	65	84
9	12	20	21	24	580	22	23	43	31	4650	38	25
10	12	20	21	25	440	20	29	36	50	722	29	12
11	12	20	21	29	224	21	27	35	43	98	24	11
12	13	23	21	27	129	24	33	33	35	63	21	10
13	12	20	20	25	117	34	85	31	31	47	20	10
14	12	19	19	24	89	33	145	33	50	40	20	8.4
15	12	20	20	24	56	30	98	40	43	35	20	7.5
16	12	20	19	23	70	30	64	33	37	32	36	6.9
17	12	20	18	22	51	71	49	60	29	30	188	6.4
18	10	20	17	22	98	114	87	88	25	26	55	6.3
19	11	20	15	24	73	70	60	40	22	23	36	5.8
20	11	21	16	25	49	51	48	33	19	23	24	6.0
21	12	28	14	21	46	42	41	32	22	64	17	6.2
22	14	24	12	22	43	35	39	35	129	42	12	6.4
23	13	19	11	22	34	61	39	32	47	28	11	6.4
24	15	19	12	21	29	38	34	31	34	24	11	6.3
25	14	21	12	20	27	32	31	28	28	23	11	5.9
26	14	19	14	20	25	30	31	170	25	21	10	5.8
27	14	22	16	21	23	36	91	140	21	20	11	6.1
28	13	22	17	20	24	40	100	50	18	19	9.0	6.1
29	14	21	19	20	---	32	50	38	16	15	8.5	6.9
30	13	21	17	21	---	29	61	67	14	14	8.7	5.8
31	20	---	19	23	---	28	---	126	---	20	8.7	---
TOTAL	449	623	563	701	3442	1272	1463	1638	1454	6158.2	848.9	326.9
MEAN	14.5	20.8	18.2	22.6	123	41.0	48.8	52.8	48.5	199	27.4	10.9
MAX	30	31	22	29	580	114	145	170	358	4650	188	84
MIN	10	15	11	19	23	20	19	28	14	6.8	8.5	5.8
AC-FT	891	1240	1120	1390	6830	2520	2900	3250	2880	12210	1680	648

CAL YR 1990 TOTAL 28849.1 MEAN 79.0 MAX 15700 MIN 6.6 AC-FT 57220
WTR YR 1991 TOTAL 18939.0 MEAN 51.9 MAX 4650 MIN 5.8 AC-FT 37570

MISSOURI RIVER MAIN STEM

199

06807000 MISSOURI RIVER AT NEBRASKA CITY, NE

LOCATION.--Lat 40°40'55", long 95°50'48", in NW1/4NE1/4 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 mi², approximately. The 3,959 mi² 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 NGVD, supplementary adjustment of 1954. See WSP 1918 or 1919 for history of changes prior to Apr. 1, 1963.

REMARKS.--Estimated daily discharges: Dec. 24. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. Army Corps of Engineers rain-gage and satellite data collection platform at station.

AVERAGE DISCHARGE.--62 years, 36,720 ft³/s, 26,600,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414,000 ft³/s Apr. 19, 1952; maximum gage height, 27.66 ft Apr. 18, 1952; minimum discharge, 1,600 ft³/s Dec. 31, 1946 (discharge measurement); minimum gage height observed, -0.28 ft Dec. 24, 1960, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 91,200 ft³/s June 16, gage height, 18.04 ft; minimum daily discharge, 5,200 ft³/s Dec. 24, gage height, unknown, result of freeze-up.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32800	22100	13500	15900	18000	20700	30000	35000	41100	37300	30200	31500
2	32800	20300	14000	16900	17900	23600	31300	35600	52100	34600	30500	32000
3	33000	18300	15200	18300	18200	26000	30900	36500	54300	37900	30800	32300
4	33100	18000	15400	19400	18700	20600	30600	35800	50600	37200	30800	32700
5	32900	17000	14300	19500	18700	18000	30400	36700	55000	33700	30800	33000
6	32600	17000	14500	19000	18800	18400	30800	38500	78900	34700	30600	33000
7	32400	17300	16000	18300	19700	18400	31000	39400	76000	34500	30700	33200
8	32200	18100	15800	18000	20500	17200	31800	38200	56400	32100	31800	34700
9	32800	16300	15700	17800	21700	16600	32000	37700	49200	39700	32300	33700
10	32300	16300	16100	17600	22300	16400	31800	37600	49000	42700	33200	33500
11	32200	16700	16200	17700	22100	16600	32000	38200	48300	35300	32500	34200
12	31800	16600	15800	17600	21100	16700	32700	39100	46500	34200	31700	34400
13	31600	16300	15800	17700	20900	16900	35900	39200	44200	34700	31400	34500
14	31300	16000	15800	17800	20800	18500	40300	36500	67200	33500	31300	35300
15	30800	15800	15700	17800	19900	18400	41400	37700	85300	33900	31500	34600
16	31100	15900	15500	18000	19400	16800	39200	37700	89200	33400	31300	34600
17	31200	15400	15400	18000	19100	16600	38100	38800	71500	31100	33000	33900
18	31300	15500	15800	17900	18900	17200	37100	42500	53000	32300	31600	33900
19	31400	15400	14700	17600	22600	17400	36600	45000	46000	31600	31400	33900
20	32000	15300	15500	17500	24300	17400	36200	43500	42100	30100	30900	33100
21	32400	15400	13500	17400	24100	16500	36200	43200	42700	32200	30300	32800
22	32800	14700	10800	17400	24100	16100	36100	43500	42300	32200	30200	32400
23	32800	15100	6080	17100	25600	16200	36500	41200	41700	30300	30500	31800
24	32600	14900	5200	17100	24400	17000	36500	41700	42600	31000	30600	32100
25	32500	14700	5580	18700	24700	18000	35600	41400	40400	31300	30600	32300
26	32200	15000	8070	19400	22800	17900	34800	39900	37700	30300	30500	32500
27	31600	14800	11800	19000	20500	18400	36500	42600	39400	30500	31200	32700
28	30800	14900	16000	18000	20500	20600	39300	43400	38800	30600	31300	32400
29	29200	14700	17400	18100	---	24500	36200	42000	36400	29900	31000	32800
30	26700	13900	16800	18400	---	27300	35400	45100	37800	31100	31000	32900
31	24200	---	17400	18300	---	29600	---	41700	---	31500	31700	---
TOTAL	979400	487700	435330	557200	590300	590500	1043200	1234900	1555700	1035400	967200	996700
MEAN	31590	16260	14040	17970	21080	19050	34770	39840	51860	33400	31200	33220
MAX	33100	22100	17400	19500	25600	29600	41400	45100	89200	42700	33200	35300
MIN	24200	13900	5200	15900	17900	16100	30000	35000	36400	29900	30200	31500
AC-FT	1943000	967400	863500	1105000	1171000	1171000	2069000	2449000	3086000	2054000	1918000	1977000

CAL YR 1990 TOTAL 10133130 MEAN 27760 MAX 114000 MIN 5200 AC-FT 20100000
WTR YR 1991 TOTAL 10474230 MEAN 28690 MAX 89200 MIN 5200 AC-FT 20770000

LITTLE NEMAHA RIVER BASIN

06811500 LITTLE NEMAHA RIVER AT AUBURN, NE

LOCATION.--Lat 40°23'33", long 95°48'46", in NE1/4NW1/4 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 and 1 mi east of Auburn.

DRAINAGE AREA.--793 mi².

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 889.87 ft above National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to July 24, 1967.

REMARKS.--Estimated daily discharges: Dec. 3-6 and Dec. 16 to Feb. 21. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--42 years, 287 ft³/s, 207,900 acre-ft/yr; median of yearly mean discharges, 200 ft³/s, 145,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164,000 ft³/s May 9, 1950, gage height, 27.65 ft, from floodmark, from rating curve extended above 49,000 ft³/s on basis of computations of peak flow through bridge and culvert openings and over highway and railway embankments at gage heights 24.96 ft and 27.65 ft; minimum daily, 0.87 ft³/s July 6-8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 9	2110	*2510	*8.71	No peaks greater than base discharge.			

Minimum daily discharge, 15 ft³/s Aug. 2, 15, 23-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	39	47	36	58	73	71	80	139	29	18	17
2	29	41	45	34	64	141	69	70	105	28	15	17
3	45	52	39	30	100	152	69	67	129	24	16	18
4	44	69	36	33	430	105	69	72	91	22	20	16
5	42	59	36	37	370	94	69	92	70	22	27	17
6	37	51	40	35	310	82	67	112	177	20	28	17
7	31	45	51	31	260	70	66	115	100	19	28	25
8	29	45	52	31	230	64	64	87	75	19	28	145
9	30	45	53	33	195	59	65	77	63	624	28	66
10	31	45	53	35	180	57	72	70	57	808	31	36
11	32	44	53	36	170	57	69	66	98	268	23	27
12	32	42	53	39	160	59	73	63	82	156	19	25
13	32	42	51	42	155	71	104	61	56	99	19	24
14	33	43	51	44	150	77	199	58	47	65	18	22
15	31	42	51	47	140	71	239	57	55	51	15	21
16	32	41	47	44	125	70	149	66	70	45	18	21
17	32	38	48	45	115	107	114	218	47	35	16	20
18	29	40	43	46	105	223	148	114	38	27	18	20
19	32	41	35	52	96	172	152	89	34	22	19	20
20	32	43	30	45	92	131	116	72	34	19	18	21
21	30	44	26	38	95	109	101	67	68	19	18	21
22	30	41	22	42	88	97	95	71	277	43	16	21
23	32	41	20	48	79	95	90	73	203	181	15	20
24	33	41	23	52	70	95	86	155	96	43	15	21
25	30	41	26	49	65	86	81	324	69	26	15	21
26	32	43	24	45	60	82	81	103	55	20	15	20
27	33	52	33	48	57	83	84	94	46	19	15	20
28	31	51	33	56	60	93	151	80	38	21	16	19
29	32	51	31	54	---	91	103	74	34	21	17	20
30	34	50	24	54	---	78	85	342	29	19	16	20
31	37	---	28	54	---	74	---	315	---	20	17	---
TOTAL	1018	1362	1204	1315	4079	2918	3001	3404	2482	2834	597	798
MEAN	32.8	45.4	38.8	42.4	146	94.1	100	110	82.7	91.4	19.3	26.6
MAX	45	69	53	56	430	223	239	342	277	808	31	145
MIN	29	38	20	30	57	57	64	57	29	19	15	16
AC-FT	2020	2700	2390	2610	8090	5790	5950	6750	4920	5620	1180	1580

CAL YR 1990 TOTAL 47380 MEAN 130 MAX 13900 MIN 20 AC-FT 93980
WTR YR 1991 TOTAL 25012 MEAN 68.5 MAX 808 MIN 15 AC-FT 49610

MISSOURI RIVER MAIN STEM

201

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW1/4NW1/4 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 mi², approximately. The 3,959 mi² 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 NGVD 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. Flow regulated by upstream main-stem reservoirs. 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.

AVERAGE DISCHARGE.--42 years, 40,930 ft³/s, 29,650,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s Apr. 22, 1952, gage height, 25.60 ft; minimum daily discharge, 4,420 ft³/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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 99,300 ft³/s June 15, gage height, 18.83 ft; minimum daily discharge, 7,450 ft³/s Dec. 25, minimum gage height -0.19 ft Dec. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33500	25000	15100	16700	19600	20900	33800	39400	48700	40600	32400	33300
2	33500	23000	14900	15900	19100	22100	33800	39100	60600	38300	31700	33100
3	33600	21300	15400	17000	19700	29900	33600	39300	71300	37500	32300	33200
4	34400	19900	16000	18300	21700	29500	32800	39800	62500	40400	32600	33300
5	34500	19400	15900	19500	22500	22500	32600	40100	58800	37000	32600	33800
6	34300	18300	15100	19400	22400	20400	32400	42400	80800	35400	32900	33800
7	33800	18300	15700	19000	22300	21100	32500	44700	83800	36500	32700	33500
8	33700	18500	16600	18600	23000	20700	32400	44100	67000	34300	32900	35000
9	33900	19000	16400	18500	24400	19400	33000	42900	55400	37000	33800	34500
10	34400	17300	16500	18300	26000	18700	32800	42800	53100	48500	34800	34200
11	34200	17300	16900	18500	26600	18600	32900	42700	53000	42200	34800	34500
12	34200	17500	16800	18600	25600	18800	33400	43000	50600	37000	33900	34700
13	33400	17300	16600	18700	24100	19000	35900	44400	49200	37100	33400	36000
14	33300	17200	16500	19200	23600	19700	42900	42300	52200	36400	33000	35500
15	32800	17200	16500	19500	22400	21200	51200	41200	94600	35200	32700	35400
16	32800	17000	16300	19600	21200	20700	46700	43200	88000	35800	32500	35000
17	33100	17000	16200	19800	20900	19400	43500	53100	79500	34300	33000	34400
18	33000	16600	16300	19800	20600	20200	42900	50100	66200	33100	33900	34800
19	33300	16700	16300	19500	21900	21000	42900	52300	58800	34400	32600	34800
20	33100	16600	15500	19300	26000	21500	43000	51100	52000	32600	33500	34800
21	32900	16700	15500	19100	28100	20900	42400	48700	50500	32800	32600	34100
22	33200	16500	13600	19100	26700	19700	42000	50900	61300	34900	32200	33900
23	33200	16000	11500	19100	27200	19300	41600	46400	52000	34700	32200	33400
24	32800	16300	8340	18600	27000	19800	41000	46000	50500	32400	32400	33200
25	33100	16100	7450	18900	25400	21300	40500	51300	47300	33500	32300	33500
26	33400	16200	7910	20600	24800	21900	40200	47000	41700	32800	31900	33600
27	33000	16400	9780	21000	22200	22300	40800	45300	41300	32100	31900	33900
28	32400	16200	12400	20300	20500	22700	44300	50000	42300	32500	32500	33700
29	31400	16100	15600	19500	---	25200	43200	47600	39800	32000	32300	33600
30	29700	15900	16700	19800	---	29400	40600	55300	38900	31700	31900	33600
31	27100	---	16700	19900	---	32100	---	54600	---	32900	32300	---
TOTAL	1025000	532800	456980	589600	655500	679900	1161600	1421100	1751700	1105900	1016500	1024100
MEAN	33060	17760	14740	19020	23410	21930	38720	45840	58390	35670	32790	34140
MAX	34500	25000	16900	21000	28100	32100	51200	55300	94600	48500	34800	36000
MIN	27100	15900	7450	15900	19100	18600	32400	39100	38900	31700	31700	33100
AC-FT	2033000	1057000	906400	1169000	1300000	1349000	2304000	2819000	3474000	2194000	2016000	2031000

CAL YR 1990 TOTAL 11139780 MEAN 30520 MAX 118000 MIN 7450 AC-FT 22100000
WTR YR 1991 TOTAL 11420680 MEAN 31290 MAX 94600 MIN 7450 AC-FT 22650000

BIG NEMAHA RIVER BASIN

203

06814500 NORTH FORK BIG NEMAHA RIVER AT HUMBOLDT, NE

LOCATION.--Lat 40°09'25", long 95°56'40", in NW1/4NE1/4 sec.10, T.2 N., R.13 E., Richardson County, Hydrologic Humboldt, Unit 10240008, on right bank near right downstream wingwall of bridge on State Highway 105 at south edge of Humboldt, 800 ft downstream from Long Branch Creek.

DRAINAGE AREA.--548 mi².

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1967 published as North Fork Nemaha River at Humboldt.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder; nonrecording gage read twice daily. Datum of gage is 944.44 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1968, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 3-7, Dec. 17 to Feb. 16, and Feb. 27-28. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--39 years, 195 ft³/s, 141,300 acre-ft/yr; median of yearly mean discharges, 135 ft³/s, 197,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft³/s Aug. 13, 1982, gage height, 31.25 ft, from floodmark; maximum gage height, 31.70 ft July 10, 1958; minimum daily, 0.07 ft³/s July 22, 23, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 3	2209	ice jam	*6.58	No peaks greater than base discharge.			
May 17	0531	*1820	5.44				

Minimum daily discharge, 7.4 ft³/s Aug. 28, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	27	12	26	37	28	29	37	30	8.5	7.4
2	20	23	27	12	60	66	27	27	54	64	8.7	9.3
3	26	32	24	12	150	47	29	29	38	22	11	10
4	31	50	21	12	410	46	29	33	32	15	13	9.5
5	23	31	22	12	320	38	28	63	29	13	24	9.2
6	21	25	23	13	270	33	26	43	27	14	23	9.8
7	19	24	23	13	220	28	26	34	26	15	17	11
8	18	22	26	13	170	26	28	31	25	15	16	30
9	19	24	26	12	150	26	29	29	25	16	13	24
10	19	24	26	13	140	24	27	28	26	106	12	16
11	19	23	25	13	135	25	29	27	26	94	11	12
12	20	23	26	14	125	26	29	27	25	32	11	12
13	20	23	26	14	110	32	52	25	24	21	10	11
14	20	24	25	15	80	31	93	23	23	18	9.8	11
15	19	24	26	16	72	28	108	23	47	15	10	12
16	18	24	26	15	68	30	61	48	113	13	9.8	12
17	18	24	26	15	64	57	46	774	38	12	11	11
18	16	23	24	15	59	93	89	121	25	11	11	11
19	15	25	22	14	54	78	64	65	19	11	11	11
20	17	27	19	14	50	59	47	53	16	9.8	10	11
21	19	27	15	13	51	48	39	49	18	11	9.2	12
22	19	27	12	13	42	43	37	44	389	9.3	8.2	12
23	18	24	9.2	14	37	42	34	50	83	17	7.7	13
24	20	24	10	15	35	37	31	166	40	22	7.9	12
25	19	25	11	14	33	34	30	286	27	12	9.6	12
26	19	25	12	14	30	32	30	161	21	9.7	9.0	12
27	20	32	13	14	27	35	76	84	20	8.6	8.0	12
28	19	30	12	15	29	35	40	47	17	8.9	7.4	12
29	19	27	11	16	---	32	41	36	16	12	7.7	12
30	20	26	10	16	---	29	34	118	16	9.2	8.0	12
31	22	---	11	16	---	28	---	55	---	8.3	8.0	---
TOTAL	611	783	616.2	429	3017	1225	1287	2628	1322	674.8	341.5	371.2
MEAN	19.7	26.1	19.9	13.8	108	39.5	42.9	84.8	44.1	21.8	11.0	12.4
MAX	31	50	27	16	410	93	108	774	389	106	24	30
MIN	15	21	9.2	12	26	24	26	23	16	8.3	7.4	7.4
AC-FT	1210	1550	1220	851	5980	2430	2550	5210	2620	1340	677	736

CAL YR 1990 TOTAL 26002.2 MEAN 71.2 MAX 3230 MIN 9.2 AC-FT 51580
WTR YR 1991 TOTAL 13305.7 MEAN 36.5 MAX 774 MIN 7.4 AC-FT 26390

BIG NEMAHA RIVER BASIN

06815000 BIG NEMAHA RIVER AT FALLS CITY, NE

LOCATION.--Lat 40°02'08", long 95°35'45", in NE1/4SE1/4 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 13 mi upstream from mouth.

DRAINAGE AREA.--1,340 mi².

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 861.24 ft National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 3-9, Dec. 16 to Feb. 19, Feb. 26-28, July 23, July 27 to Aug. 4, and Aug. 14-18. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--47 years, 589 ft³/s, 426,700 acre-ft/yr; median of yearly mean discharges, 405 ft³/s, 293,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,600 ft³/s Oct. 11, 1973, gage height, 31.40 ft; minimum daily discharge, 3.0 ft³/s July 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	0505	*13900	*13.96	No peaks greater than base discharge.			
Minimum daily discharge, 15 ft ³ /s Aug. 30, Sept. 2, 6.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	50	68	40	410	72	174	142	302	55	29	16
2	44	50	66	42	390	110	154	129	709	91	30	15
3	55	61	62	47	480	138	148	125	679	96	35	17
4	55	113	58	42	700	122	146	131	308	65	39	20
5	58	121	56	48	520	102	147	171	212	51	48	17
6	53	96	58	52	480	91	122	280	171	49	60	15
7	48	72	60	60	320	81	109	177	147	48	49	16
8	47	64	62	58	260	72	103	146	133	48	46	34
9	46	61	64	66	240	64	103	131	126	59	49	76
10	46	58	65	74	220	58	98	120	126	852	40	100
11	46	57	66	84	210	55	96	115	127	677	38	86
12	46	57	65	94	195	59	96	113	203	358	37	49
13	46	58	65	88	185	219	308	112	134	174	31	35
14	46	58	64	108	175	136	809	105	106	103	28	29
15	44	57	65	126	170	97	637	103	109	78	28	25
16	45	54	60	120	160	84	341	103	192	65	27	24
17	44	52	62	114	150	159	231	7930	180	55	26	23
18	40	54	64	114	135	458	264	2120	124	46	26	23
19	41	55	41	120	125	304	606	634	96	36	26	21
20	42	57	33	116	118	203	318	386	80	32	26	21
21	43	64	30	102	102	141	211	297	146	36	27	21
22	44	58	26	110	101	114	181	288	479	42	23	21
23	45	62	23	124	97	95	169	233	310	58	20	22
24	47	61	25	120	88	85	153	500	161	76	19	21
25	48	59	28	114	78	75	145	1240	120	59	17	20
26	49	59	31	122	70	70	140	963	90	41	18	22
27	49	78	35	142	60	1830	145	965	76	28	18	20
28	47	82	40	160	64	788	245	1180	67	30	17	20
29	47	93	36	200	---	346	190	448	60	44	16	19
30	46	77	34	430	---	250	157	307	53	35	15	19
31	46	---	38	420	---	201	---	385	---	28	16	---
TOTAL	1446	1998	1550	3657	6303	6679	6746	20079	5826	3515	924	867
MEAN	46.6	66.6	50.0	118	225	215	225	648	194	113	29.8	28.9
MAX	58	121	68	430	700	1830	809	7930	709	852	60	100
MIN	40	50	23	40	60	55	96	103	53	28	15	15
AC-FT	2870	3960	3070	7250	12500	13250	13380	39830	11560	6970	1830	1720
CAL YR 1990	TOTAL 96941	MEAN 266	MAX 13400	MIN 23	AC-FT 192300							
WTR YR 1991	TOTAL 59590	MEAN 163	MAX 7930	MIN 15	AC-FT 118200							

KANSAS RIVER BASIN

205

06821500 ARIKAREE RIVER AT HAIGLER, NE

LOCATION.--Lat 40°01'45", long 101°58'10", in NE1/4NE1/4 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, 1.8 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.--1,640 mi², approximately, of which about 980 mi² 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. WSP 2119: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3,250.98 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharge: Nov. 30 to Dec. 4 and Dec. 19-31. Record fair except for periods of estimated record, which are 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.

AVERAGE DISCHARGE.--60 years, 21.0 ft³/s, 15,210 acre-ft/yr; median of yearly mean discharges, 17 ft³/s, 12,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s May 31, 1935, gage height, 11.2 ft, site and datum then in use, from floodmarks, from rating curve extended above 3,800 ft³/s on basis of slope-area measurement of peak flow; no flow for some periods in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	0645	*473	*8.75	No peaks greater than base discharge.			
Minimum daily discharge, 0.13 ft ³ /s, Oct. 7.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	2.0	8.0	.93	.79	3.5	9.6	9.7	27	2.3	14	1.1
2	.25	.81	7.0	.72	.97	3.4	11	19	26	2.2	10	1.1
3	.33	4.1	6.0	.69	1.1	3.4	16	50	25	2.0	8.4	1.2
4	.22	11	5.0	.74	.88	3.7	12	27	25	2.4	9.0	1.2
5	.17	13	3.8	.71	.97	3.7	11	27	24	1.9	9.9	.79
6	.14	11	2.3	.64	.93	3.5	9.9	21	40	2.2	5.9	.83
7	.13	9.7	1.9	.66	.87	3.3	9.2	18	54	2.3	4.8	.68
8	.23	8.7	1.7	.63	.86	3.4	8.1	15	33	1.7	5.3	.59
9	.23	7.4	1.5	.59	.76	3.8	7.1	13	22	1.7	3.8	.52
10	.22	6.7	1.5	.62	.73	3.7	7.7	11	18	1.8	6.5	.87
11	.22	5.5	1.5	.68	.83	3.6	7.8	9.3	14	25	8.4	1.2
12	1.6	3.6	1.4	.76	.91	3.5	7.1	8.3	10	5.5	71	3.1
13	2.3	2.0	1.3	.94	.98	3.1	7.2	7.2	7.2	4.1	32	2.9
14	2.5	2.5	1.4	.92	.88	3.1	7.5	6.9	5.8	3.8	23	3.6
15	2.3	3.5	1.3	.86	.98	3.7	7.9	6.2	7.1	3.5	17	4.6
16	1.9	5.0	1.3	.81	.97	4.0	7.5	5.8	14	3.1	16	5.0
17	1.7	6.0	1.3	.89	1.0	5.4	7.8	13	18	2.9	13	4.8
18	3.6	6.8	1.2	1.2	1.0	12	8.4	11	13	2.9	12	4.0
19	6.1	8.1	1.2	1.2	.96	6.9	8.4	9.2	32	3.9	7.8	4.5
20	4.3	7.6	1.0	.90	1.0	7.0	8.2	7.2	29	2.8	6.4	4.4
21	6.0	11	.60	.85	1.0	5.7	14	14	23	2.6	5.2	4.0
22	7.9	12	.50	.94	1.1	7.8	25	16	15	2.7	3.5	3.7
23	5.4	12	.50	.78	1.7	10	18	28	14	16	2.7	3.3
24	3.9	13	.80	.93	2.2	8.5	16	55	12	245	2.6	3.6
25	4.4	12	1.0	.79	2.1	8.1	17	50	9.3	91	2.3	3.7
26	4.0	13	.90	.97	2.8	7.7	14	35	11	52	2.6	2.1
27	3.8	15	1.0	.83	3.2	8.2	12	29	7.8	50	1.7	2.4
28	3.7	14	1.3	.77	3.3	14	11	31	3.9	39	1.2	2.9
29	3.2	11	1.0	.78	---	10	11	47	2.7	30	1.1	3.2
30	2.5	9.0	.80	.83	---	10	9.9	44	2.4	21	1.0	3.0
31	2.6	---	.70	.76	---	10	---	32	---	18	1.1	---
TOTAL	76.10	247.01	60.70	25.32	35.77	187.7	327.3	675.8	545.2	661.5	309.2	78.88
MEAN	2.45	8.23	1.96	.82	1.28	6.05	10.9	21.8	18.2	21.3	9.97	2.63
MAX	7.9	15	8.0	1.2	3.3	14	25	55	54	245	71	5.0
MIN	.13	.81	.50	.59	.73	3.1	7.1	5.8	2.4	1.7	1.0	.52
AC-FT	151	490	120	50	71	372	649	1340	1080	1310	613	156

CAL YR 1990 TOTAL 2263.17 MEAN 6.20 MAX 65 MIN .03 AC-FT 4490
WTR YR 1991 TOTAL 3230.48 MEAN 8.85 MAX 245 MIN .13 AC-FT 6410

KANSAS RIVER BASIN

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in SE1/4NW1/4 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 and 9.5 mi upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi², approximately, of which about 100 mi² 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. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel piling control since January 1965. Datum of gage is 3,336.09 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 8 and Jan. 21-31. Records good except for periods of record, which are poor. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres in Colorado and Nebraska.

AVERAGE DISCHARGE.--61 years, 46.3 ft³/s, 33,540 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s Apr. 28, 1947, gage height, 5.92 ft, from rating curve extended above 800 ft³/s on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s and maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 21	0429	(a)	*1.84	No peaks greater than base discharge.			
July 24	0604	*93	1.19				

a Backwater from ice.

Minimum daily discharge, 4.2 ft³/s, July 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	50	44	43	51	55	53	59	32	7.7	16	10
2	44	49	45	46	51	54	53	61	31	7.0	14	10
3	52	44	45	43	52	55	55	77	30	6.1	13	9.7
4	49	44	50	42	52	55	56	72	29	5.9	13	7.9
5	46	45	48	41	52	53	55	70	45	5.4	31	7.6
6	46	45	49	43	52	53	54	66	60	4.2	37	7.4
7	46	42	48	40	52	54	53	64	62	4.2	18	8.5
8	47	42	49	50	52	55	53	62	57	5.4	14	9.3
9	49	42	49	52	52	54	52	61	54	5.0	12	8.7
10	47	42	49	53	51	54	54	59	60	4.3	11	8.8
11	40	41	50	53	51	55	54	57	59	4.8	11	11
12	39	41	49	54	51	54	54	56	54	4.3	29	11
13	40	41	49	53	52	53	55	52	52	3.6	25	11
14	39	33	49	53	52	53	56	49	49	2.5	26	14
15	39	31	49	53	51	53	58	50	38	2.1	24	16
16	40	30	49	52	53	55	60	55	30	1.3	21	14
17	36	29	50	51	54	57	60	59	24	1.1	16	14
18	26	30	51	51	54	58	59	56	24	9.9	15	14
19	41	29	52	52	53	56	59	57	34	8.3	16	17
20	50	27	35	51	54	55	59	26	25	7.1	16	21
21	53	25	23	46	54	54	63	14	23	7.3	14	23
22	52	24	19	38	53	56	70	14	24	8.2	13	22
23	51	23	30	40	53	54	67	15	24	3.8	12	18
24	49	24	40	30	53	51	71	18	21	7.9	10	14
25	49	23	50	31	53	49	74	30	15	6.1	11	14
26	48	22	43	29	54	49	68	31	9.3	4.5	8.9	16
27	48	27	48	29	55	49	62	29	10	4.2	8.8	17
28	49	40	54	31	55	50	61	30	8.1	3.5	9.8	17
29	49	42	45	31	---	52	60	35	8.3	3.0	9.4	17
30	51	44	37	26	---	50	59	39	8.0	2.6	9.7	17
31	51	---	40	40	---	52	---	36	---	2.0	9.7	---
TOTAL	1409	1071	1388	1347	1472	1657	1767	1459	999.7	707.7	494.3	405.9
MEAN	45.5	35.7	44.8	43.5	52.6	53.5	58.9	47.1	33.3	22.8	15.9	13.5
MAX	53	50	54	54	55	58	74	77	62	7.9	37	23
MIN	26	22	19	26	51	49	52	14	8.0	4.2	8.8	7.4
AC-FT	2790	2120	2750	2670	2920	3290	3500	2890	1980	1400	980	805

CAL YR 1990 TOTAL 13120.6 MEAN 35.9 MAX 74 MIN 3.7 AC-FT 26020
WTR YR 1991 TOTAL 14177.6 MEAN 38.8 MAX 79 MIN 4.2 AC-FT 28120

KANSAS RIVER BASIN

06823500 BUFFALO CREEK NEAR HAIGLER, NE

LOCATION.--Lat 40°02'22", long 101°51'57", in SE1/4NW1/4 sec.20, T.1 N., R.40 W., Dundy County, Hydrologic Unit 10250002, on left bank 15 ft upstream from county highway bridge, 0.4 mi upstream from mouth, and 4 mi northeast of Haigler.

DRAINAGE AREA.--260 mi², approximately, of which about 13 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 2119: 1948-50(M), 1957(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,188.90 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1980, at site 0.5 mi upstream at datum 15.67 ft higher.

REMARKS.--Estimated daily discharges: Nov. 28 to Dec. 5, Dec. 15-16, Dec. 19 to Feb. 7, Feb. 15, 25-26, and Mar. 3, 28. Records fair except for periods of estimated record, which are poor. Natural low affected by diversion about 1 mi upstream for irrigation of 880 acres.

AVERAGE DISCHARGE.--51 years, 7.19 ft³/s, 5,210 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 140 ft³/s June 27, 1948, gage height, 4.37 ft, site and datum then in use; maximum gage height, 5.93 ft Jan. 3, 1976, site and datum then in use, backwater from ice; no flow at times in 1955, 1968, 1973-80, 1984, 1987-90.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 6	0530	(a)	*4.08	No peaks greater than base discharge.			
June 6	0309	*13	3.60				

a Backwater from ice.

Minimum daily discharge, 0.01 ft³/s July 7-10, 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.4	6.2	7.4	9.0	7.0	6.5	6.6	7.1	.13	.02	.03
2	.15	5.4	6.0	8.0	11	6.9	6.7	7.3	6.9	.15	.02	.03
3	.22	5.3	6.2	5.6	10	7.0	7.0	11	6.9	.15	.02	.03
4	1.8	6.4	6.8	5.8	10	6.9	6.9	9.2	7.0	.10	.02	.03
5	5.1	6.4	6.4	6.0	10	6.8	6.8	8.4	7.6	.05	.02	.03
6	4.7	6.6	6.0	6.0	11	6.7	6.6	7.5	11	.02	.02	.03
7	4.6	6.6	6.4	5.8	9.0	6.8	6.4	7.4	10	.01	.02	.06
8	4.6	6.4	6.1	6.2	8.4	7.0	6.2	7.0	8.5	.01	.02	1.9
9	5.0	6.3	5.9	6.8	8.3	6.7	6.0	6.7	7.5	.01	.02	1.9
10	3.7	6.3	5.9	7.0	8.2	6.5	5.9	6.4	6.9	.01	.02	.91
11	5.0	6.3	5.9	6.4	8.2	6.5	5.8	6.3	6.5	.02	.02	1.7
12	4.8	6.1	5.8	6.6	8.1	6.5	6.0	6.2	6.2	.02	.02	3.7
13	4.9	6.1	5.8	7.6	8.3	6.2	6.2	6.1	5.9	.02	.02	5.5
14	4.9	6.1	5.8	8.6	8.0	6.2	6.2	6.0	5.6	.02	.02	5.6
15	4.9	6.1	6.0	8.0	8.0	6.1	6.2	5.9	5.4	.02	.02	5.6
16	5.0	5.8	6.0	7.4	8.3	6.3	6.1	6.2	5.4	.02	.02	5.2
17	4.9	5.7	6.0	7.6	8.2	6.9	6.1	7.6	5.6	.01	.02	5.1
18	4.5	5.7	6.0	7.6	8.0	6.9	6.1	8.1	5.6	.01	.02	5.2
19	4.8	5.9	6.0	8.0	8.0	6.6	6.1	7.0	6.9	.02	.02	5.0
20	5.1	5.9	5.8	7.0	7.7	7.5	6.2	6.5	6.4	.02	.02	5.1
21	5.4	5.9	5.4	5.8	7.2	8.6	7.2	6.2	5.5	.02	.02	5.2
22	5.6	5.7	4.6	6.0	7.1	7.5	8.0	6.0	5.1	.02	.02	5.2
23	5.3	5.8	3.5	6.2	7.1	7.2	7.3	6.4	5.2	3.9	.02	5.2
24	5.1	5.8	3.5	5.0	6.9	6.7	7.6	7.2	5.3	7.9	.02	5.2
25	5.2	5.8	4.5	5.6	6.8	6.5	8.4	7.2	5.0	7.1	.02	5.4
26	5.2	5.8	4.0	5.8	7.0	6.5	7.7	6.7	4.5	5.5	.02	5.4
27	5.2	5.7	4.6	6.0	7.2	6.8	7.1	6.5	1.8	3.2	.02	5.6
28	5.2	5.6	5.0	6.0	7.0	7.0	6.7	7.1	.07	1.8	.02	5.7
29	5.2	6.4	4.5	5.8	---	6.9	6.7	8.7	.06	.55	.02	5.6
30	5.3	6.6	4.0	5.4	---	6.7	6.5	9.0	.11	.02	.02	5.8
31	5.3	---	4.7	7.0	---	6.7	---	7.3	---	.02	.03	---
TOTAL	141.27	179.9	169.3	204.0	232.0	211.1	199.2	221.7	171.54	30.85	0.63	106.95
MEAN	4.56	6.00	5.46	6.58	8.29	6.81	6.64	7.15	5.72	1.00	.020	3.56
MAX	5.6	6.6	6.8	8.6	11	8.6	8.4	11	11	7.9	.03	5.8
MIN	.15	5.3	3.5	5.0	6.8	6.1	5.8	5.9	.06	.01	.02	.03
AC-FT	280	357	336	405	460	419	395	440	340	61	1.2	212

CAL YR 1990 TOTAL 1654.73 MEAN 4.53 MAX 9.0 MIN .00 AC-FT 3280
WTR YR 1991 TOTAL 1868.44 MEAN 5.12 MAX 11 MIN .01 AC-FT 3710

KANSAS RIVER BASIN

06824000 ROCK CREEK AT PARKS, NE

LOCATION.--Lat 40°02'30", long 101°43'40", in SW1/4NE1/4 sec.21, T.1 N., R.39 W., Dundys County, Hydrologic Unit 10250002, on right bank at west edge of Parks, 100 ft downstream from county road bridge and 0.5 mi upstream from mouth.

DRAINAGE AREA.--20 mi², approximately, of which about 17 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1630: 1951(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,093.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 6, Jan. 24, 26, 29-31, and Feb. 25-27. Records good 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.

AVERAGE DISCHARGE.--51 years, 13.5 ft³/s, 9,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 493 ft³/s July 5, 1965, gage height, 6.00 ft, from rating curve extended above 40 ft³/s on basis of slope-conveyance study; minimum daily, 2.6 ft³/s Nov. 19, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 28	2154	26	1.89	June 7	2331	*174	*4.00
June 6	2345	40	2.24	July 23	1700	44	2.34

Minimum daily discharge, 7.5 ft³/s Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	8.4	10	15	11	11	12	11	15	8.5	9.8	7.8
2	8.7	8.4	10	21	11	11	12	11	13	8.5	9.8	8.1
3	10	11	10	17	11	11	13	12	13	8.4	10	8.1
4	9.5	11	10	15	11	11	12	12	13	8.1	10	7.9
5	9.0	10	10	13	11	11	12	12	13	7.9	10	8.0
6	8.8	11	10	13	11	11	11	11	26	7.9	10	8.1
7	8.4	10	10	11	11	11	11	12	55	8.3	10	8.0
8	9.5	9.5	10	11	11	11	11	12	83	8.4	10	7.8
9	9.6	9.3	10	11	11	11	11	12	49	8.4	9.7	7.9
10	9.3	9.3	10	10	10	11	11	11	34	9.1	9.8	9.6
11	9.0	9.2	10	10	10	11	10	11	22	9.4	9.7	13
12	8.8	9.2	10	11	10	11	10	11	16	8.9	10	11
13	8.8	9.2	10	11	10	11	10	11	14	8.5	10	11
14	8.8	9.2	10	11	10	11	9.9	11	13	8.2	10	10
15	8.7	9.2	10	11	10	11	9.9	11	12	8.1	10	9.9
16	8.6	9.2	10	11	10	12	10	12	11	8.0	10	9.7
17	8.1	9.5	10	11	9.7	13	10	13	12	7.9	10	9.2
18	7.5	10	10	11	9.9	13	10	13	11	8.0	10	8.9
19	7.6	10	9.4	11	9.9	12	11	12	15	8.2	9.9	9.0
20	8.5	10	9.0	11	9.7	13	11	12	12	8.2	9.9	8.9
21	8.8	10	8.4	11	9.8	13	12	11	11	8.3	9.8	8.7
22	8.8	10	7.6	11	9.9	13	12	11	11	9.0	9.6	8.6
23	8.7	10	9.0	10	9.8	13	11	11	11	24	9.6	8.7
24	8.5	9.7	10	11	9.8	13	11	12	10	21	9.2	8.6
25	8.4	9.7	13	11	9.4	12	12	13	10	13	8.9	8.6
26	8.5	9.7	11	11	9.6	12	12	13	11	12	8.7	8.7
27	8.4	9.6	10	11	10	13	12	13	10	11	8.5	8.8
28	8.4	12	16	11	11	13	11	15	9.6	11	8.4	8.7
29	8.4	10	13	10	---	13	11	19	9.1	10	8.5	8.7
30	8.3	10	11	12	---	13	11	19	8.7	10	8.5	8.7
31	8.4	---	12	11	---	12	---	15	---	10	8.3	---
TOTAL	269.4	293.3	319.4	366	287.5	368	332.8	385	553.4	306.2	296.6	268.7
MEAN	8.69	9.78	10.3	11.8	10.3	11.9	11.1	12.4	18.4	9.88	9.57	8.96
MAX	10	12	16	21	11	13	13	19	83	24	10	13
MIN	7.5	8.4	7.6	10	9.4	11	9.9	11	8.7	7.9	8.3	7.8
AC-FT	534	582	634	726	570	730	660	764	1100	607	588	533

CAL YR 1990 TOTAL 3803.5 MEAN 10.4 MAX 25 MIN 7.5 AC-FT 7540
WTR YR 1991 TOTAL 4046.3 MEAN 11.1 MAX 83 MIN 7.5 AC-FT 8030

KANSAS RIVER BASIN

209

06824500 REPUBLICAN RIVER AT BENKELMAN, NE

LOCATION.--Lat 40°01'55", long 101°32'30", in SE1/4SW1/4 sec.19, T.1 N., R.37 W., Dundy County, Hydrologic Unit 10250002, on left bank at downstream side of bridge on U.S. Highway 34, 0.6 mi south of Burlington Northern Inc. track, 1 mi southwest of Benkelman, 2 mi upstream from South Fork Republican River, and 11 mi downstream from Rock Creek.

DRAINAGE AREA.--4,830 mi², approximately, of which about 1,230 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1894 to September 1895 (published as North Fork Republican River at Benkelman), October 1902 to November 1906, October 1946 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1895. WSP 1919: 1952, 1956. WSP 2119: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,975.34 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1946, nonrecording gages at several sites within 1.5 mi of present site at various datums; Dec. 17, 1946, to May 26, 1972, water-stage recorder at present site and datum and May 27, 1972, to Aug 11, 1978, at site 150 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 9 and Dec. 12 to Feb. 11. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--50 years, 83.7 ft³/s, 60,640 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,040 ft³/s Sept. 7, 1951, gage height, 7.58 ft; maximum gage height, 7.80 ft Aug. 9, 1950; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 13.1 ft May 31, 1935, from elevations furnished by State Highway Department.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25	1617	*390	*4.95	No peaks greater than base discharge.			

Minimum daily discharge, 5.3 ft³/s Sept. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	46	66	70	140	78	88	72	115	17	51	9.0
2	28	45	62	78	130	75	92	75	93	13	45	8.9
3	40	57	58	58	116	74	105	128	86	11	42	8.1
4	34	52	60	64	110	74	107	190	89	10	41	7.1
5	32	54	68	62	100	77	100	148	79	8.4	42	6.5
6	29	57	80	64	98	74	90	132	185	8.5	42	6.4
7	30	62	78	60	110	75	77	118	171	8.5	43	6.0
8	36	63	82	62	120	76	70	86	249	7.4	36	5.3
9	39	63	82	62	106	80	67	78	165	8.4	31	5.6
10	41	64	77	60	100	83	70	71	125	9.5	28	16
11	40	64	77	58	92	81	78	69	108	16	25	32
12	36	65	74	60	100	81	67	66	97	31	31	24
13	31	62	76	66	95	75	68	58	85	23	65	33
14	30	56	76	74	88	70	69	51	79	21	55	25
15	29	50	78	70	77	73	69	49	76	16	40	23
16	30	43	76	66	78	78	68	51	69	13	35	25
17	29	43	78	64	82	88	68	60	70	11	30	24
18	28	53	76	62	84	99	66	66	67	8.3	29	24
19	27	68	74	58	82	95	62	64	91	10	27	25
20	37	74	72	62	81	93	65	60	74	9.1	24	24
21	40	68	66	60	77	96	85	50	64	6.8	22	25
22	39	62	52	62	74	103	108	43	59	24	25	26
23	42	58	45	64	77	99	111	46	54	70	27	28
24	41	56	50	60	74	93	106	54	50	130	21	27
25	36	58	58	62	68	88	109	105	45	260	15	27
26	34	60	54	64	75	88	108	104	39	187	13	25
27	35	56	50	70	76	100	102	104	34	121	12	23
28	38	45	54	84	79	106	93	96	29	110	9.9	22
29	39	50	62	100	---	107	83	128	24	93	11	21
30	34	56	54	94	---	102	73	150	19	77	10	22
31	41	---	45	100	---	100	---	132	---	60	9.5	---
TOTAL	1078	1710	2060	2100	2589	2681	2524	2704	2590	1398.9	937.4	583.9
MEAN	34.8	57.0	66.5	67.7	92.5	86.5	84.1	87.2	86.3	45.1	30.2	19.5
MAX	42	74	82	100	140	107	111	190	249	260	65	33
MIN	27	43	45	58	68	70	62	43	19	6.8	9.5	5.3
AC-FT	2140	3390	4090	4170	5140	5320	5010	5360	5140	2770	1860	1160

CAL YR 1990 TOTAL 20793.85 MEAN 57.0 MAX 168 MIN .00 AC-FT 41240
WTR YR 1991 TOTAL 22956.2 MEAN 62.9 MAX 260 MIN 5.3 AC-FT 45530

KANSAS RIVER BASIN

06827500 SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN, NE

LOCATION.--Lat 40°00'34", long 101°32'32", in NE1/4SW1/4 sec.31, T.1 N., R.37 W., Dundy County, Hydrologic Unit 10250003, on right bank 200 ft downstream (revised) from bridge on State Highway 61, 1 mi downstream from Kansas-Nebraska State line, 2.5 mi southwest of Benkelman, and 4 mi upstream from mouth.

DRAINAGE AREA.--2,740 mi², approximately, of which about 2,190 mi² 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.

GAGE.--Water-stage recorder. Datum of gage is 2,990.91 ft above National Geodetic Vertical Datum of 1929. 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 2.00 ft higher and Sept. 29, 1966, to Mar. 7, 1968, at site 300 ft upstream at datum 2.00 ft higher. Mar. 8, 1968, to May 29, 1991, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 3, Dec. 22 to Feb. 11, and Feb. 15-16, 25-26. 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.

AVERAGE DISCHARGE.--61 years, 46.0 ft³/s, 33,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 19,600 ft³/s Aug. 16, 1958, gage height, 8.70 ft, site and datum then in use, but may have been higher during flood of June 24, 1945; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1923, 10.1 ft May 31, 1935, from floodmarks at site .26 mi downstream, at datum 2.00 ft higher, discharge, 150,000 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 274 ft³/s June 7, gage height, 3.70 ft; maximum gage height, 4.06 ft Feb. 4, backwater from ice; no flow Oct. 1 to Nov. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	20	3.5	27	22	27	21	21	5.2	18	7.3
2	.00	.00	19	4.0	40	21	27	21	19	4.5	16	6.7
3	.00	.00	18	3.0	50	22	29	25	17	4.6	20	5.5
4	.00	.00	18	2.0	45	22	28	27	17	6.7	35	4.3
5	.00	.57	18	1.4	43	22	28	29	16	4.9	45	3.9
6	.00	6.4	15	1.6	60	21	28	29	23	4.1	50	3.3
7	.00	7.8	15	1.1	80	20	26	28	87	3.2	54	2.9
8	.00	11	16	1.8	50	21	25	27	135	2.9	55	2.5
9	.00	11	15	2.5	40	21	24	26	87	3.3	47	2.0
10	.00	12	14	2.8	35	22	24	25	61	3.8	40	3.3
11	.00	12	14	2.7	30	23	29	24	50	3.2	36	7.6
12	.00	12	14	3.5	27	22	28	22	43	2.9	35	22
13	.00	12	13	4.5	26	21	25	20	36	2.9	77	19
14	.00	13	13	6.0	24	21	24	19	31	2.4	101	15
15	.00	13	14	5.6	22	21	23	18	27	1.9	60	11
16	.00	13	15	6.4	24	21	23	18	24	1.5	46	9.0
17	.00	14	14	8.0	23	23	22	21	22	1.2	38	7.5
18	.00	15	15	7.6	23	26	22	21	20	.80	33	6.3
19	.00	15	17	10	22	26	22	20	24	1.0	30	5.7
20	.00	16	11	7.0	21	26	21	20	29	.60	27	5.2
21	.00	16	8.6	8.0	21	25	24	17	50	1.6	24	5.5
22	.00	16	6.4	7.4	21	26	29	16	32	3.2	22	4.8
23	.00	16	7.0	12	20	26	29	17	26	27	20	4.2
24	.00	16	8.0	11	20	25	27	20	21	61	18	3.8
25	.00	16	9.0	11	19	25	26	23	18	98	16	3.7
26	.00	17	7.0	10	22	24	25	24	14	63	14	3.8
27	.00	18	8.0	13	22	27	24	23	11	44	13	3.7
28	.00	14	9.0	18	22	31	23	22	9.4	35	11	3.6
29	.00	13	6.0	22	---	31	23	24	7.9	29	10	3.7
30	.00	21	3.5	19	---	30	22	24	6.3	25	9.6	3.4
31	.00	---	3.0	22	---	29	---	22	---	21	8.6	---
TOTAL	0.00	346.77	383.5	238.4	879	743	757	693	984.6	469.40	1029.2	190.2
MEAN	.000	11.6	12.4	7.69	31.4	24.0	25.2	22.4	32.8	15.1	33.2	6.34
MAX	.00	21	20	22	80	31	29	29	135	98	101	22
MIN	.00	.00	3.0	1.1	19	20	21	16	6.3	.60	8.6	2.0
AC-FT	.00	688	761	473	1740	1470	1500	1370	1950	931	2040	377

CAL YR 1990 TOTAL 5491.88 MEAN 15.0 MAX 43 MIN .00 AC-FT 10890
WTR YR 1991 TOTAL 6714.07 MEAN 18.4 MAX 135 MIN .00 AC-FT 13320

LOCATION.--Lat 40°08'28", long 101°13'42", in SW1/4NW1/4 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, and 19 mi downstream from South Fork Republican River.

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,775.49 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1967, at site 0.3 mi downstream at present datum.

AVERAGE DISCHARGE.--41 years, 119 ft³/s, 86,220 acre-ft/yr; median of yearly mean discharges, 107 ft³/s, 77,500 acre-ft/yr.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred May 31, 1935, discharge, about 200,000 ft³/s, based on slope-area measurement at Max.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

[illegible]

KANSAS RIVER BASIN

06829000 SWANSON LAKE NEAR TRENTON, NE

LOCATION.--Lat 40°10'10", long 101°03'35", in SE1/4NE1/4 sec.5, T.2 N., R.33 W., Hitchcock County, Hydrologic Unit 10250004, in gate-control house at right end of spillway on downstream side of Trenton Dam on Republican River, 2.5 mi west of Trenton.

DRAINAGE AREA.--8,620 mi², approximately, of which about 3,940 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--May 1953 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1953, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began May 4, 1953. Capacity, 110,100 acre-ft between elevations 2,710.0 ft, sill of outlet gates, and 2,752.0 ft, top of storage pool. Top of flood-control pool is at elevation 2,773.0 ft, capacity, 246,300 acre-ft. Top of superstorage flood-control pool at elevation 2,785.0 ft, capacity, 353,900 acre-ft. Dead storage, 2,120 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 Feb. 1984).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 148,900 acre-ft Aug. 2, 3, 1962, elevation, 2,757.42 ft; minimum since operation of reservoir began, 19,950 acre-ft Oct. 24, 1954, elevation, 2,722.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 72,240 acre-ft June 21, elevation, 2,742.88 ft; minimum contents, 36,200 acre-ft Oct. 20, elevation, 2,731.81 ft.

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

2,730	31,690	2,750	102,600
2,735	45,210	2,755	127,700
2,740	61,590	2,760	156,100
2,745	80,700		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36570	36280	37910	39970	42210	47890	54220	60680	68020	67380	49870	38340
2	36620	36230	38040	39970	42390	48100	54490	60890	68240	66270	49240	38340
3	36700	36440	38090	40000	42500	48290	54720	61340	68540	65240	48760	38230
4	36670	36470	38120	40030	42620	48410	54920	61700	68580	64200	48130	38200
5	36650	36490	38260	40050	42740	48700	55180	62050	68660	63260	47640	38150
6	36520	36520	38400	40050	43000	48760	55350	62370	68840	62550	47200	38150
7	36490	36540	38480	40110	43210	48950	55550	62510	69260	61520	46710	38120
8	36540	36620	38620	40160	43360	49050	55620	62830	69750	60780	46280	38090
9	36520	36700	38720	40190	43650	49110	55890	63080	70440	60080	45850	38040
10	36520	36750	38920	40220	43950	49360	55820	63160	70860	59460	45450	38090
11	36470	36810	38970	40250	44220	49550	56190	63410	71200	58810	45030	38090
12	36490	36910	39140	40250	44490	49710	56520	63510	71360	58190	44610	38090
13	36470	36970	39220	40280	44850	49840	56590	63580	71510	57710	44160	38090
14	36440	36990	39360	40390	45090	49930	56830	63770	71590	57130	43650	38090
15	36440	37070	39520	40470	45270	50160	56890	63870	71670	56550	43330	38070
16	36440	37130	39610	40500	45580	50410	56930	64050	71820	55820	42830	38040
17	36310	37210	39660	40530	45820	50610	57200	64270	71860	55080	42390	37880
18	36260	37260	39740	40750	45970	50860	57270	64410	71900	54320	41950	37850
19	36230	37290	39830	40810	46190	51090	57510	64480	71900	53660	41380	37800
20	36410	37450	39830	41010	46430	51470	57610	64670	71940	53000	40730	37770
21	36410	37480	39860	41040	46520	51530	57950	64840	72240	52320	39970	37720
22	36410	37530	39860	41120	46770	51830	58290	64920	72240	51660	39380	37580
23	36410	37530	39860	41320	46830	52090	58570	65210	72240	51660	38940	37530
24	36390	37560	39890	41350	47110	52220	58880	65650	72130	51700	38890	37500
25	36390	37580	39890	41580	47170	52480	59010	65900	72130	51700	38750	37420
26	36390	37660	39910	41640	47420	52610	59390	66130	71670	51730	38640	37370
27	36340	37800	39910	41840	47580	53070	59600	66420	71050	51730	38620	37290
28	36340	37830	39910	41870	47760	53260	59940	66750	70250	51530	38530	37290
29	36310	37830	39940	41920	---	53490	60360	67120	69330	51310	38530	37290
30	36310	37830	39940	42100	---	53830	60540	67500	68390	51050	38420	37240
31	36280	---	39970	42150	---	53920	---	67830	---	50480	38400	---
MEAN	36440	37090	39270	40770	45020	50660	57130	64160	70650	56710	42980	37860
MAX	36700	37830	39970	42150	47760	53920	60540	67830	72240	67380	49870	38340
MIN	36230	36230	37910	39970	42210	47890	54220	60680	68020	50480	38400	37240
(†)	2731.84	2732.42	2733.20	2733.97	2735.83	2737.75	2739.70	2741.72	2741.87	2736.69	2732.63	2732.20
(‡)	-290	+1550	+2140	+2180	+5610	+6160	+6620	+7290	+560	-17910	-12080	-1160
CAL YR 1990	MEAN	59990	MAX	92060	MIN	36230	(†)	-18600				
WTR YR 1991	MEAN	48230	MAX	72240	MIN	36230	(‡)	+670				

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

213

06829500 REPUBLICAN RIVER AT TRENTON, NE

LOCATION.--Lat 40°10'00", long 101°02'40", in SE1/4 sec.4, T.2 N., R.33 W., Hitchcock County, Hydrologic Unit 10250004, on left bank 300 ft upstream from Elm Creek, 0.9 mi downstream from centerline of spillway of Trenton Dam, and 1.5 mi southwest of Trenton.

DRAINAGE AREA.--8,620 mi², approximately, of which about 3,940 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1946 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,671.06 ft above National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to Oct. 1, 1959.

REMARKS.--Estimated daily discharges: Dec. 19-21, 24, and June 19-20. Records fair except for periods of estimated record and discharges below 1.0 cfs, which are poor. Natural flow affected by irrigation development above station, since July 6, 1950, by storage in Bonny Reservoir (station 06826000), since 1953 by storage in Swanson Lake (station 06829000), and since June 1957 by Meeker-Driftwood Canal which diverts directly from Swanson Lake for irrigation of about 16,400 acres.

AVERAGE DISCHARGE.--38 years (1954-91), 50.6 ft³/s, 36,660 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s June 16, 1948, gage height, 5.64 ft, former site and datum; no flow at times in 1947-50, 1952-54.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known since about 1826 occurred May 31, 1935, discharge, about 200,000 ft³/s. Discharge of 21,100 ft³/s was measured July 3, 1946, gage height, 6.0 ft, former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 200 ft³/s June 25, gage height, 4.67 ft; minimum daily, 0.19 ft³/s Apr. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.62	.61	.57	.78	.73	.46	.34	.61	193	96	1.3
2	.53	.55	.61	.70	.80	.70	.48	.54	.58	187	95	1.6
3	.61	.83	.61	.53	.80	.74	.53	.94	.56	182	95	1.7
4	.63	.83	.61	.54	.76	.76	.45	.58	.61	182	93	1.5
5	.56	.70	.65	.71	.76	.78	.40	.48	.58	171	84	1.2
6	.52	.70	.70	.71	.68	.70	.39	.49	.53	165	75	.53
7	.46	.62	.61	.68	.64	.75	.39	.48	.50	163	75	.52
8	.56	.61	.61	.69	.71	.79	.37	.46	.51	146	74	.50
9	.61	.61	.61	.67	.81	.72	.39	.52	.52	131	73	.52
10	.49	.61	.62	.75	.73	.73	.42	.60	.47	131	73	.88
11	.48	.61	.69	.83	.68	.66	3.2	.51	.46	128	73	.63
12	.46	.70	.70	.70	.65	.62	.43	.49	.46	126	73	.53
13	.52	.63	.70	.64	.72	.53	.26	.55	.42	112	72	.53
14	.46	.54	.70	.66	.66	.57	.19	.57	.39	103	71	.46
15	.49	.56	.62	.66	.70	.61	.22	.65	.98	103	71	.45
16	.55	.61	.74	.65	.70	.70	.25	.68	1.2	113	70	.44
17	.61	.54	.60	.57	.71	.79	.25	.77	1.8	124	69	.49
18	.53	.56	.46	.69	.77	.54	.25	.61	2.1	123	69	.46
19	.65	.57	.80	.70	.79	.49	.27	.55	2.1	122	69	.51
20	1.1	.61	.70	.70	.83	.55	.29	.62	2.1	121	69	.51
21	1.1	.89	.60	.68	.83	.43	.62	.64	2.1	120	68	.53
22	.82	.72	.55	.77	.77	.67	.49	.61	1.7	120	56	.53
23	.70	.73	.91	.79	.83	.51	.32	.65	1.7	106	5.6	.53
24	.70	.85	.70	.63	.84	.47	.37	.62	1.9	71	3.8	.50
25	.79	.91	.68	.61	.78	.46	.41	.62	75	46	2.7	.52
26	.91	.90	.46	.61	.75	.46	.38	.58	106	67	2.3	.53
27	.82	.80	.52	.61	.75	.83	.29	.61	103	97	1.8	.35
28	.70	.78	.54	.74	.79	.66	.67	.59	101	96	1.6	.26
29	.73	.61	.78	.65	---	.43	.68	1.1	165	96	1.6	.31
30	.80	.61	.58	.72	---	.46	.43	.57	196	97	1.3	.32
31	.78	---	.51	.70	---	.46	---	.59	---	96	1.3	---
TOTAL	20.29	20.41	19.78	20.86	21.02	19.30	14.55	18.61	770.88	3838	1685.0	19.64
MEAN	.65	.68	.64	.67	.75	.62	.48	.60	25.7	124	54.4	.65
MAX	1.1	.91	.91	.83	.84	.83	3.2	1.1	196	193	96	1.7
MIN	.46	.54	.46	.53	.64	.43	.19	.34	.39	46	1.3	.26
AC-FT	40	40	39	41	42	38	29	37	1530	7610	3340	39

CAL YR 1990 TOTAL 10889.94 MEAN 29.8 MAX 256 MIN .30 AC-FT 21600
WTR YR 1991 TOTAL 6468.34 MEAN 17.7 MAX 196 MIN .19 AC-FT 12830

KANSAS RIVER BASIN

06831500 FRENCHMAN CREEK NEAR IMPERIAL, NE

LOCATION.--Lat 40°25'45", long 101°37'25", in SW1/4NW1/4 sec.3, T.5 N., R.38 W., Chase County, Hydrologic Unit 10250005, on right bank 0.2 mi downstream from bridge on county highway, 5.8 mi upstream from Enders Dam, and 6.1 miles south of Imperial.

DRAINAGE AREA.--880 mi², approximately, of which about 720 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to current year. Published as Frenchman River near Imperial October 1965 to September 1972.

REVISED RECORDS.--WSP 976: 1942(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 7, 1941, nonrecording gage at bridge 0.2 mi upstream at different datum. Mar. 7, 1941, to Sept. 30, 1958, water-stage recorder at site 0.2 mi downstream at datum 4.35 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--51 years, 56.8 ft³/s, 41,150 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,340 ft³/s Mar. 22, 1960, gage height, 8.43 ft; minimum daily, 4.8 ft³/s Mar. 12, 1977, backwater from ice.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 7, 1940, reached a stage of 12.4 ft, from floodmarks, site and datum in use Mar. 7, 1941, to Sept. 30, 1958 (discharge not determined but believed greater than that of Mar. 22, 1960).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 3	1645	*87	*1.83	No peaks greater than base discharge.			
Minimum daily discharge, 8.9 ft ³ /s Aug. 28.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	17	20	17	25	23	26	23	27	15	14	9.2
2	14	17	20	19	23	23	26	24	25	13	13	9.0
3	16	20	19	19	23	23	27	54	24	14	13	9.5
4	16	21	18	20	23	24	25	39	24	14	13	9.1
5	15	20	19	21	23	23	24	30	23	13	13	9.1
6	14	21	19	21	23	23	24	27	23	13	13	9.5
7	14	21	19	21	23	23	23	26	25	13	12	9.4
8	15	21	19	22	23	22	22	24	24	12	12	9.5
9	16	21	19	23	23	22	22	23	23	12	12	9.7
10	16	21	19	23	23	22	21	22	22	16	12	13
11	15	21	19	23	23	22	21	22	21	21	11	17
12	15	21	19	23	23	24	23	21	20	18	13	14
13	15	21	19	25	23	24	23	21	20	17	13	13
14	15	21	19	25	23	23	23	21	21	16	13	18
15	15	20	18	24	22	23	23	21	21	15	12	18
16	16	19	19	24	23	24	22	22	21	14	12	14
17	16	20	19	24	23	27	22	27	21	14	12	13
18	16	20	19	23	23	26	22	30	21	13	12	13
19	15	19	15	24	23	26	23	29	24	13	12	14
20	17	20	20	23	23	26	23	28	24	13	12	14
21	18	20	19	23	22	26	26	26	23	13	11	12
22	18	19	18	23	22	26	31	24	22	14	11	12
23	17	19	17	24	22	26	29	24	22	20	10	12
24	17	19	16	22	22	24	28	24	21	23	10	13
25	17	19	15	23	22	24	29	25	21	21	10	13
26	17	19	15	22	23	24	27	25	19	18	9.6	13
27	17	20	16	23	23	28	26	29	19	17	9.2	13
28	17	19	16	24	23	28	25	32	18	16	8.9	13
29	17	20	17	18	---	27	25	37	18	16	9.1	13
30	17	21	14	23	---	27	24	32	18	15	9.0	13
31	17	---	14	25	---	27	---	27	---	15	9.1	---
TOTAL	494	597	554	694	640	760	735	839	655	477	355.9	372.0
MEAN	15.9	19.9	17.9	22.4	22.9	24.5	24.5	27.1	21.8	15.4	11.5	12.4
MAX	18	21	20	25	25	28	31	54	27	23	14	18
MIN	14	17	14	17	22	22	21	21	18	12	8.9	9.0
AC-FT	980	1180	1100	1380	1270	1510	1460	1660	1300	946	706	738

CAL YR 1990 TOTAL 7410.6 MEAN 20.3 MAX 40 MIN 9.4 AC-FT 14700
WTR YR 1991 TOTAL 7172.9 MEAN 19.7 MAX 54 MIN 8.9 AC-FT 14230

KANSAS RIVER BASIN

215

06832000 ENDERS RESERVOIR NEAR ENDERS, NE

LOCATION.--Lat 40°25'05", long 101°30'55", in NE1/4 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 mi², approximately, of which about 790 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. 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.

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, 24,280 acre-ft June 25, elevation, 3,098.13 ft; minimum, 12,280 acre-ft Oct. 1, Aug. 7, elevation, 3,085.67 ft.

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

3,085	11,770	3,100	26,540
3,090	15,830	3,110	40,660

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12280	13650	15190	16430	17970	19290	20760	21960	23680	22950	13810	13070
2	12360	13680	15240	16470	18030	19320	20820	22130	23710	22510	13400	13100
3	12420	13770	15280	16510	18100	19380	20870	22200	23770	22000	13000	13100
4	12470	13810	15330	16560	18130	19430	20930	22250	23810	21520	12630	13110
5	12510	13870	15380	16600	18180	19460	21020	22310	23840	21060	12430	13120
6	12500	13950	15420	16640	18250	19500	21070	22390	23850	20610	12280	13130
7	12510	14010	15470	16690	18300	19550	21050	22440	23890	20170	12310	13140
8	12580	14060	15510	16760	18350	19570	21080	22490	23970	19750	12330	13140
9	12620	14120	15570	16810	18390	19600	21060	22550	23980	19440	12360	13150
10	12690	14190	15620	16880	18440	19670	21010	22580	24020	19260	12390	13240
11	12710	14240	15660	16910	18490	19720	21120	22650	24050	19040	12420	13320
12	12750	14280	15720	16960	18560	19760	21170	22690	24080	18820	12430	13370
13	12820	14350	15740	17010	18580	19780	21200	22710	24110	18620	12520	13410
14	12850	14400	15820	17080	18610	19840	21220	22740	24130	18420	12600	13440
15	12900	14450	15830	17130	18670	19870	21270	22760	24100	18150	12660	13460
16	12940	14480	15890	17190	18730	19970	21290	22780	24140	17870	12690	13480
17	12960	14550	15920	17240	18780	20030	21310	22830	24160	17580	12750	13500
18	13000	14600	15990	17320	18820	20060	21340	22830	24120	17280	12780	13520
19	13050	14640	15970	17340	18870	20120	21380	22900	24190	16980	12800	13520
20	13100	14720	16000	17390	18930	20190	21410	22970	24220	16670	12850	13560
21	13150	14740	16010	17440	18970	20240	21550	23030	24220	16260	12890	13600
22	13210	14810	16050	17500	19010	20290	21610	23080	24190	15890	12910	13600
23	13250	14830	16110	17550	19050	20350	21650	23160	24200	15700	12930	13600
24	13290	14870	16160	17580	19080	20390	21720	23190	24230	15510	12960	13610
25	13350	14900	16180	17630	19130	20440	21780	23210	24280	15390	12980	13650
26	13400	14930	16230	17700	19170	20500	21840	23310	24180	15290	12980	13680
27	13430	15030	16280	17740	19230	20550	21860	23340	24070	15190	13000	13720
28	13490	15050	16310	17780	19290	20600	21860	23480	23930	15060	13020	13770
29	13520	15090	16310	17820	---	20620	21910	23540	23760	14850	13020	13810
30	13580	15130	16360	17880	---	20690	21920	23600	23380	14590	13060	13790
31	13640	---	16410	17930	---	20730	---	23670	---	14170	13070	---
MEAN	12950	14440	15840	17180	18650	19980	21340	22830	24010	17950	12780	13420
MAX	13640	15130	16410	17930	19290	20730	21920	23670	24280	22950	13810	13810
MIN	12280	13650	15190	16430	17970	19290	20760	21960	23380	14170	12280	13070
(†)	3087.42	3089.20	3090.63	3092.24	3093.60	3094.98	3096.07	3097.61	3097.36	3088.07	3086.71	3087.61
(‡)	+1380	+1490	+1280	+1520	+1360	+1440	+1190	+1750	-290	-9210	-1100	+720
CAL YR 1990	MEAN	18320	MAX	26340	MIN	9977	(†)	-2370				
WTR YR 1991	MEAN	17600	MAX	24280	MIN	12280	(‡)	+1530				

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06832500 FRENCHMAN CREEK NEAR ENDERS, NE

LOCATION.--Lat 40°25'05", long 101°30'35", in NW1/4NW1/4 sec.10, T.5 N., R.37 W., Chase County, Hydrologic Unit 10250005, on left bank 0.2 mi downstream from Enders Dam and 2.5 mi southeast of Enders.

DRAINAGE AREA.--950 mi², approximately, of which about 790 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--February 1946 to current year. Published as Frenchman River near Enders October 1965 to September 1972.

REVISED RECORDS.--WSP 2119: 1956, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,026.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 14, 1948, at site 800 ft upstream at datum 6.03 ft higher. June 14, 1948, to Sept. 14, 1972, at present site at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair except those below 5.0 ft³/s, which are poor. Flow regulated by Enders Reservoir (station 06832000).

AVERAGE DISCHARGE.--45 years, 54.9 ft³/s, 39,780 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 763 ft³/s Aug. 20, 1953, gage height, 11.31 ft, present datum; maximum gage height, 11.65 ft, present datum, July 18, 1958, backwater from downstream tributary; no flow for many days in 1972-85.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 411 ft³/s July 31, gage height, 9.55 ft; minimum daily, .16 ft³/s Mar. 24-31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.71	.31	5.0	.32	.32	.18	.30	.38	229	196	.50
2	.42	3.0	.31	4.9	.33	.26	.20	.37	8.1	251	198	.54
3	.52	7.3	.29	4.7	.33	.23	.18	.37	4.7	268	205	.56
4	.50	7.3	.29	4.7	.55	.23	.18	.27	.39	284	180	.56
5	.50	3.7	.29	4.7	.40	.23	.18	.25	.26	251	128	.56
6	.52	.47	.28	4.7	.31	.23	.20	.24	.24	249	99	1.3
7	.51	.41	.27	4.7	.31	.23	.25	.25	.27	229	15	7.9
8	.50	.41	.27	2.4	.29	.23	.27	.25	.27	200	.45	8.4
9	.50	.41	.27	.25	.28	.23	.31	.26	.25	176	.37	4.9
10	.50	.38	.25	.23	.24	.23	.38	.27	.25	144	.37	.56
11	.50	.37	.25	.23	.23	.23	.41	.27	.24	133	.46	.50
12	.50	.37	.25	.23	.25	.23	.41	.27	.23	119	.51	.40
13	.50	.37	.25	.24	.24	.20	.37	.27	.23	110	.50	.42
14	.61	.37	.25	.25	.24	.20	.33	.29	.27	119	.49	.40
15	.50	.39	.25	.27	.25	.20	.30	.28	.31	135	.45	.37
16	.50	.41	.25	.27	.27	.20	.29	.27	.34	148	.42	.37
17	.51	.41	.25	.27	.26	.20	.29	.25	.38	149	.41	.34
18	.70	.41	.25	.27	.25	.22	.29	.25	.69	154	.41	.33
19	.79	.41	.25	.29	.25	.20	.29	.25	1.9	161	.41	.35
20	.79	.41	.24	.29	.25	.21	.29	.25	1.4	165	.41	.32
21	.65	.41	.23	.29	.25	.20	.30	.25	1.0	203	.42	.38
22	.63	.41	.25	.29	.25	.20	.30	.24	.99	195	.41	.41
23	.63	.41	3.5	.29	.26	.19	.29	.24	.99	167	.41	.36
24	.63	.41	4.7	.29	.27	.16	.29	.25	1.1	130	.44	.37
25	3.5	.41	4.7	.29	.26	.16	.28	.23	1.4	91	.45	5.8
26	.71	.38	4.7	.29	.25	.16	.29	.24	48	68	.48	.29
27	.71	.37	4.7	.29	.25	.16	.31	.24	58	69	.48	.29
28	.71	.37	4.7	.29	.29	.16	.37	.38	75	89	.50	.29
29	.71	.32	4.7	.30	---	.16	.35	.32	96	115	.50	.29
30	.71	.31	4.7	.31	---	.16	.30	.31	172	150	.50	.29
31	.66	---	4.8	.31	---	.16	---	.31	---	213	.50	---
TOTAL	20.99	31.81	47.00	42.13	7.93	6.38	8.68	8.49	475.58	5164	1031.75	38.35
MEAN	.68	1.06	1.52	1.36	.28	.21	.29	.27	15.9	167	33.3	1.28
MAX	3.5	7.3	4.8	5.0	.55	.32	.41	.38	172	284	205	8.4
MIN	.37	.31	.23	.23	.23	.16	.18	.23	.23	68	.37	.29
AC-FT	42	63	93	84	16	13	17	17	943	10240	2050	76

CAL YR 1990 TOTAL 9061.71 MEAN 24.8 MAX 297 MIN .20 AC-FT 17970
WTR YR 1991 TOTAL 6883.09 MEAN 18.9 MAX 284 MIN .16 AC-FT 13650

KANSAS RIVER BASIN

217

06834000 FRENCHMAN CREEK AT PALISADE, NE

LOCATION.--Lat 40°21'12", long 101°07'35", in SW1/4SE1/4 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, and 1.5 mi upstream from Stinking Water Creek.

DRAINAGE AREA.--1,110 mi², approximately, of which about 950 mi² 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.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,743.49 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Nov. 28 to Dec. 5 and Dec. 20 to Feb. 8. 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).

AVERAGE DISCHARGE.--43 years, 76.9 ft³/s, 55,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft³/s June 17, 1956, gage height, 8.79 ft, site and datum then in use; minimum daily, 5.4 ft³/s Sept. 14, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 222 ft³/s July 5, gage height, 5.03 ft; maximum gage height, 5.08 ft Feb. 2, backwater from ice; minimum daily discharge, 6.0 ft³/s Sept. 7-8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	45	25	25	27	26	27	30	102	171	8.3
2	13	20	46	25	25	26	27	28	28	165	172	8.0
3	15	23	46	26	26	27	27	36	27	186	179	7.8
4	15	25	43	26	26	25	27	40	28	197	190	7.1
5	14	25	37	27	28	25	27	34	28	215	183	6.8
6	13	26	25	28	30	25	27	31	26	203	147	6.3
7	12	28	28	28	30	25	26	31	27	202	116	6.0
8	15	28	26	29	31	25	26	29	29	194	83	6.0
9	16	26	25	29	31	25	25	28	27	181	50	6.8
10	16	26	24	29	30	25	25	28	26	173	42	9.4
11	15	26	24	29	30	26	28	28	25	156	36	14
12	16	25	24	28	31	26	28	27	25	139	32	13
13	16	25	23	28	29	26	27	26	23	126	31	12
14	16	26	23	28	27	26	27	25	23	114	28	11
15	16	25	26	27	26	26	27	25	22	116	25	11
16	16	25	27	27	32	27	27	26	22	120	23	11
17	16	25	24	26	27	29	27	30	21	130	21	10
18	16	25	25	26	26	28	27	28	22	130	20	10
19	17	25	26	25	28	26	27	26	23	134	18	11
20	18	25	26	25	28	27	27	25	22	140	17	12
21	19	25	26	25	26	26	29	25	58	141	15	12
22	19	25	26	25	25	29	34	24	38	170	14	13
23	19	26	25	25	27	30	32	25	22	187	13	12
24	18	25	25	25	27	27	31	26	20	179	12	13
25	18	26	25	25	27	26	85	25	19	149	11	13
26	18	26	25	25	28	26	35	26	16	119	9.3	13
27	19	28	24	25	27	30	29	25	17	96	7.9	14
28	19	31	24	25	28	30	30	25	37	86	7.2	13
29	19	37	24	25	---	28	32	31	53	91	7.6	13
30	19	44	25	25	---	27	29	47	63	103	8.5	13
31	19	---	25	25	---	27	---	34	---	129	8.5	---
TOTAL	511	791	867	816	781	828	901	891	847	4573	1698.0	316.5
MEAN	16.5	26.4	28.0	26.3	27.9	26.7	30.0	28.7	28.2	148	54.8	10.5
MAX	19	44	46	29	32	30	85	47	63	215	190	14
MIN	12	19	23	25	25	25	25	24	16	86	7.2	6.0
AC-FT	1010	1570	1720	1620	1550	1640	1790	1770	1680	9070	3370	628

CAL YR 1990 TOTAL 15813.6 MEAN 43.3 MAX 242 MIN 5.4 AC-FT 31370
WTR YR 1991 TOTAL 13820.5 MEAN 37.9 MAX 215 MIN 6.0 AC-FT 27410

KANSAS RIVER BASIN

06835000 STINKING WATER CREEK NEAR PALISADE, NE

LOCATION.--Lat 40°22'10", Long 101°06'50", in SW1/4NW1/4 sec.30, T.5 N., R.33 W., Hayes County, Hydrologic Unit 10250006, on right bank 25 ft downstream from county bridge, 1.2 mi upstream from mouth, and 1.8 mi northwest of Palisade.

DRAINAGE AREA.--1,500 mi², approximately, of which about 380 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 1730: 1952(M). WSP 1919: 1951(P), 1955. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,740.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 28 to Dec. 1, Dec. 21-31, and Jan. 21, 23-26, 28, 30. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--42 years, 37.6 ft³/s, 27,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,030 ft³/s June 17, 1956, gage height, 11.30 ft, from rating curve extended above 1,200 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 6.0 ft³/s Aug. 4, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 30	0300	(a)	*3.76	No peaks greater than base discharge.			
May 5	0600	*54	3.75				

a Backwater from ice.

Minimum daily discharge, 8.3 ft³/s Aug. 27, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	22	19	32	27	32	29	33	12	11	8.9
2	14	19	23	20	27	27	32	27	32	12	11	9.0
3	15	22	23	22	27	26	31	32	32	12	11	8.9
4	16	21	22	21	27	26	31	41	33	12	11	8.9
5	16	22	23	21	26	27	31	50	31	12	11	8.6
6	15	24	25	22	26	27	30	39	29	11	12	8.6
7	15	25	25	22	27	26	28	36	28	11	11	8.8
8	16	24	24	22	27	25	26	35	29	11	11	8.4
9	16	24	24	22	27	25	25	32	28	12	10	8.4
10	16	23	24	22	27	25	25	30	28	16	10	10
11	17	25	24	23	27	25	27	30	25	15	10	12
12	16	26	24	23	27	26	26	28	25	13	11	13
13	16	25	24	23	27	26	26	27	24	13	12	14
14	16	24	24	24	27	27	26	27	23	13	12	13
15	16	24	24	24	27	27	26	26	21	12	11	15
16	17	23	23	25	26	27	25	27	20	12	11	16
17	16	22	23	25	27	28	25	28	20	11	11	14
18	16	22	25	26	27	30	25	31	20	11	10	13
19	16	22	23	25	27	30	25	33	21	10	10	14
20	18	22	21	26	26	30	25	31	20	10	9.9	14
21	19	22	21	25	27	29	27	30	24	10	9.7	14
22	19	22	20	25	26	30	31	29	28	11	9.6	13
23	20	21	20	25	26	32	33	28	20	15	9.8	13
24	20	22	19	26	27	31	34	28	20	17	9.5	13
25	19	21	19	26	27	30	35	27	18	17	9.1	13
26	19	21	19	26	25	28	33	28	17	16	8.7	13
27	19	22	19	26	27	29	32	27	16	17	8.3	12
28	19	22	19	26	27	30	32	30	16	15	8.4	12
29	19	21	19	27	---	32	32	31	14	14	8.3	12
30	19	21	19	27	---	32	31	36	14	13	8.3	12
31	19	---	19	27	---	32	---	37	---	12	8.7	---
TOTAL	527	673	683	743	753	872	867	970	709	398	315.3	353.5
MEAN	17.0	22.4	22.0	24.0	26.9	28.1	28.9	31.3	23.6	12.8	10.2	11.8
MAX	20	26	25	27	32	32	35	50	33	17	12	16
MIN	13	19	19	19	25	25	25	26	14	10	8.3	8.4
AC-FT	1050	1330	1350	1470	1490	1730	1720	1920	1410	789	625	701

CAL YR 1990 TOTAL 7890.4 MEAN 21.6 MAX 47 MIN 6.5 AC-FT 15650
WTR YR 1991 TOTAL 7863.8 MEAN 21.5 MAX 50 MIN 8.3 AC-FT 15600

KANSAS RIVER BASIN

06835500 FRENCHMAN CREEK AT CULBERTSON, NE

LOCATION.--Lat 40°14'05", long 100°52'40", in SW1/4SE1/4 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 4.5 mi upstream from mouth.

DRAINAGE AREA.--2,770 mi², approximately, of which about 1,470 mi² 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). WSP 2119: Drainage area. WDR NE-84-1: 1979, 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 2,583.44 ft above National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Nov. 2, 1950.

REMARKS.--Estimated daily discharges: Dec. 2, 6 and Dec. 21 to Jan. 12. 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). Principal diversion is by Culbertson Canal, 20,800 acres.

AVERAGE DISCHARGE.--61 years, 95.1 ft³/s, 68,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, estimated, May 31, 1935, gage height, 14.8 ft, from floodmarks, present site and datum; no flow Aug. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft³/s Apr. 1, gage height, 2.86 ft; maximum gage height, 3.50 ft, Jan. 11, backwater from ice; minimum daily, .50 ft³/s Sept. 6-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	40	53	51	53	65	57	25	41	9.6	3.2	1.3
2	6.1	41	54	51	62	64	58	27	36	8.8	6.2	.97
3	7.2	43	54	51	64	63	56	36	30	11	12	.84
4	8.6	43	55	51	65	64	49	53	27	9.2	6.1	.72
5	12	44	55	52	67	64	39	74	26	8.1	6.6	.56
6	12	47	56	52	68	64	32	77	29	9.7	5.9	.50
7	13	47	56	52	69	63	30	68	29	8.4	5.2	.50
8	16	49	56	52	68	63	30	64	29	6.8	4.9	.50
9	17	48	56	53	69	62	29	63	29	6.0	4.3	.50
10	21	48	56	54	68	63	29	44	30	7.5	4.1	.69
11	28	48	56	55	67	63	31	36	30	11	3.7	4.3
12	29	49	56	56	66	63	30	36	31	7.3	3.9	9.2
13	30	49	56	57	66	64	29	34	27	4.7	3.6	14
14	30	49	56	55	65	64	29	31	26	3.8	3.3	15
15	31	49	55	56	64	65	29	30	26	3.8	3.0	13
16	30	49	54	57	64	67	28	30	25	3.2	2.9	14
17	29	49	56	59	66	69	28	29	24	3.1	7.5	16
18	28	49	55	61	66	70	28	31	24	2.8	28	17
19	27	49	55	62	64	63	28	31	22	2.5	19	17
20	33	49	28	62	65	69	27	33	23	2.2	13	18
21	37	49	41	57	64	68	29	29	32	1.6	10	19
22	38	48	48	57	64	69	30	27	30	1.2	7.7	20
23	38	48	50	56	64	67	29	30	27	11	7.4	20
24	39	48	52	59	64	71	28	28	18	31	5.9	20
25	47	48	52	55	63	70	34	28	16	15	4.3	19
26	40	48	52	53	63	52	44	26	14	8.3	2.6	20
27	41	48	52	54	64	45	27	28	13	6.5	1.7	21
28	41	45	52	56	65	54	27	26	13	5.3	1.0	21
29	41	40	52	52	---	54	29	30	11	4.3	.83	21
30	42	44	51	48	---	42	27	31	11	3.5	.79	21
31	41	---	51	50	---	46	---	43	---	3.0	3.2	---
TOTAL	859.6	1405	1631	1696	1817	1930	1000	1178	749	220.2	191.82	346.58
MEAN	27.7	46.8	52.6	54.7	64.9	62.3	33.3	38.0	25.0	7.10	6.19	11.6
MAX	47	49	56	62	69	71	58	77	41	31	28	21
MIN	6.1	40	28	48	53	42	27	25	11	1.2	.79	.50
AC-FT	1710	2790	3240	3360	3600	3830	1980	2340	1490	437	380	687

CAL YR 1990 TOTAL 13544.76 MEAN 37.1 MAX 141 MIN .25 AC-FT 26870
WTR YR 1991 TOTAL 13024.20 MEAN 35.7 MAX 77 MIN .50 AC-FT 25830

KANSAS RIVER BASIN

06836500 DRIFTWOOD CREEK NEAR MCCOOK, NE

LOCATION.--Lat 40°09'41", long 100°39'35", in SE1/4SW1/4 sec.1, T.2 N., R.30 W., Red Willow County, Hydrologic Unit 10250004, on right bank downstream from county road bridge, 3.0 mi downstream from siphon and wasteway on Meeker-Driftwood Canal, 3.5 mi southwest of McCook, and 2.6 miles upstream from mouth.

DRAINAGE AREA.--360 mi², approximately, of which about 350 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--March 1946 to current year.

REVISED RECORDS.--WSP 1210: 1950.

GAGE.--Water-stage recorder. Datum of gage is 2,485.23 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 12, 1962, at site 1.7 mi upstream in old channel at datum 8.55 ft higher, Oct. 12, 1962, to Apr. 11, 1963, at site 1.4 mi upstream at datum 4.80 ft higher, and Apr. 12, 1963 to Apr. 22, 1982 at site 1.9 mi upstream at datum 8.55 ft higher.

REMARKS.--Estimated daily discharges: Nov. 28-29 and Dec. 20 to Jan. 9. Records good except for periods of estimated record, which are poor. Natural flow affected by waste from Meeker-Driftwood Canal and by irrigation development above station.

AVERAGE DISCHARGE.--45 years, 10.0 ft³/s, 7,240 acre-ft/yr; median of yearly mean discharges, 8.2 ft³/s, 5,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,740 ft³/s Aug. 7, 1950, gage height, 25.43 ft, at site then in use, from floodmark, from rating curve extended above 3,000 ft³/s; no flow at times in 1946-50, 1952-56.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 9	1545	*160	*5.82	No peaks greater than base discharge.			

Minimum daily discharge, 2.6 ft³/s, Sept. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	4.7	4.9	5.0	5.6	5.2	5.9	6.0	11	4.6	6.9	3.2
2	5.5	4.7	4.9	6.0	5.4	5.0	5.8	5.7	6.3	4.8	7.1	3.2
3	5.0	5.1	5.0	5.2	5.5	4.6	6.0	5.8	5.5	6.6	8.8	3.2
4	4.5	5.3	4.8	4.5	5.5	4.7	6.0	5.8	5.2	6.5	9.5	3.1
5	4.2	5.1	4.8	4.8	5.5	4.9	5.6	5.9	4.6	8.5	13	3.1
6	3.8	5.0	5.1	4.9	5.1	4.8	5.2	5.4	4.6	7.9	16	3.0
7	3.5	5.0	5.0	4.6	5.0	4.6	5.0	4.8	5.5	9.9	14	2.8
8	3.7	5.1	4.9	5.2	5.0	4.7	4.5	4.7	6.5	11	8.8	2.6
9	3.9	5.3	4.8	6.2	5.1	4.5	4.1	4.7	94	11	8.3	2.9
10	3.7	5.3	4.9	8.4	5.1	4.8	4.7	4.5	47	15	8.5	3.1
11	4.3	5.3	4.9	4.8	5.0	4.9	5.1	4.3	15	15	12	3.7
12	4.2	5.2	4.7	4.2	5.0	4.9	5.5	4.2	9.2	11	14	3.4
13	4.2	4.9	4.6	4.7	5.1	4.6	5.0	3.7	6.8	8.4	12	3.1
14	4.3	5.0	4.8	4.7	5.1	4.7	4.5	4.1	5.7	7.1	12	3.0
15	4.2	4.8	5.0	4.5	5.4	4.8	4.5	3.8	5.1	7.4	9.5	2.8
16	4.3	4.2	4.8	4.3	5.0	5.0	4.7	4.2	4.6	7.0	7.8	2.8
17	4.4	4.5	4.7	4.3	5.1	5.6	4.6	4.9	4.5	7.3	5.3	2.8
18	4.5	4.7	4.3	4.4	5.6	5.5	4.6	4.7	4.4	10	5.1	2.8
19	4.7	4.7	4.8	4.5	5.5	5.3	4.9	4.1	7.7	12	5.6	2.8
20	4.9	4.5	4.3	4.4	5.2	5.7	4.9	3.9	13	12	6.4	2.8
21	5.5	4.5	4.1	5.0	5.3	5.3	5.4	3.9	7.1	10	8.5	2.9
22	5.4	4.3	4.0	6.0	5.4	5.2	6.4	3.7	8.4	9.0	8.2	2.9
23	4.9	4.3	4.0	4.2	5.1	4.9	6.0	23	8.5	13	18	2.7
24	4.7	4.7	4.5	4.9	5.0	4.8	5.2	15	7.7	23	21	2.8
25	4.6	4.7	5.0	4.5	4.9	4.8	5.7	17	6.7	19	5.5	2.9
26	4.8	4.8	4.6	6.6	4.7	5.1	5.7	14	5.3	14	4.0	3.0
27	4.8	5.1	4.8	5.0	5.3	6.3	5.3	8.7	4.1	9.7	3.7	3.0
28	4.6	4.8	5.4	4.2	5.2	7.0	5.2	7.3	3.9	11	3.4	3.1
29	4.9	4.9	5.2	4.7	---	6.7	7.8	8.4	4.6	10	3.2	2.9
30	4.9	4.9	4.5	7.8	---	6.2	8.2	19	5.0	7.6	3.3	2.9
31	4.8	---	4.5	6.8	---	6.0	---	16	---	7.0	3.3	---
TOTAL	143.2	145.4	146.6	159.3	145.7	161.1	162.0	231.2	327.5	316.3	272.7	89.3
MEAN	4.62	4.85	4.73	5.14	5.20	5.20	5.40	7.46	10.9	10.2	8.80	2.98
MAX	7.5	5.3	5.4	8.4	5.6	7.0	8.2	23	94	23	21	3.7
MIN	3.5	4.2	4.0	4.2	4.7	4.5	4.1	3.7	3.9	4.6	3.2	2.6
AC-FT	284	288	291	316	289	320	321	459	650	627	541	177

CAL YR 1990 TOTAL 2396.4 MEAN 6.57 MAX 73 MIN 3.1 AC-FT 4750
WTR YR 1991 TOTAL 2300.3 MEAN 6.30 MAX 94 MIN 2.6 AC-FT 4560

KANSAS RIVER BASIN

221

06837000 REPUBLICAN RIVER AT MCCOOK, NE

LOCATION (REVISED).--Lat 40°11'15", long 100°37'05", in SW1/4NE1/4 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, and 10.5 mi upstream from Red Willow Creek.

DRAINAGE AREA.--12,310 mi², approximately, of which about 6,260 mi² 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.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,456.37 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 10 and Dec. 22 to Feb. 11. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir, Enders Reservoir (station 06832000), and Swanson Lake (station 06829000).

AVERAGE DISCHARGE.--38 years, 164 ft³/s, 119,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft³/s Mar. 21, 1960, gage height, 9.14 ft; no flow for several days in July and August 1931.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred May 31, 1935, discharge, about 245,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 225 ft³/s July 24, gage height, 4.35 ft; minimum daily, 0.99 ft³/s Sept. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	53	68	44	70	90	83	84	83	172	95	5.1
2	13	53	70	47	80	87	92	78	72	177	95	3.3
3	15	62	68	50	90	86	90	89	70	177	116	2.3
4	14	60	68	54	92	85	84	97	61	172	122	1.3
5	13	59	68	56	94	87	77	104	57	171	113	1.2
6	14	60	70	54	90	85	72	109	59	164	116	1.1
7	15	62	72	54	88	83	65	102	78	164	103	1.2
8	19	63	70	62	90	83	62	96	81	158	89	1.1
9	21	65	70	64	92	82	59	93	131	149	86	.99
10	23	65	74	62	94	84	61	87	147	137	84	2.4
11	25	64	73	64	100	85	69	75	87	139	86	4.4
12	28	64	73	70	116	82	63	70	72	128	90	5.1
13	29	65	71	80	114	84	65	66	65	121	86	5.7
14	29	64	72	90	109	83	63	70	59	107	88	6.7
15	30	64	73	84	100	85	64	72	56	96	81	6.1
16	31	62	74	80	102	88	61	73	49	89	77	6.1
17	31	62	72	78	101	92	62	72	49	95	72	5.9
18	31	64	76	76	102	93	61	64	48	111	81	6.5
19	33	64	66	76	99	93	62	63	46	118	96	7.5
20	36	64	75	78	97	94	61	61	57	119	87	7.6
21	43	64	72	76	97	93	68	58	44	117	81	8.0
22	44	63	62	76	97	93	72	59	57	115	77	7.2
23	43	64	58	78	96	94	65	96	57	129	68	8.2
24	45	64	54	72	95	95	66	89	52	197	58	9.8
25	48	65	56	68	91	100	72	83	41	136	27	12
26	50	66	56	68	90	94	80	80	49	95	16	11
27	49	64	46	68	90	87	69	72	90	93	13	11
28	50	60	52	68	91	90	74	69	97	107	9.8	11
29	51	60	46	66	---	88	94	75	101	107	8.8	11
30	52	64	43	60	---	86	85	82	132	102	7.2	10
31	53	---	44	64	---	78	---	88	---	99	6.0	---
TOTAL	990	1873	2012	2087	2667	2729	2121	2476	2147	4061	2234.8	180.79
MEAN	31.9	62.4	64.9	67.3	95.2	88.0	70.7	79.9	71.6	131	72.1	6.03
MAX	53	66	76	90	116	100	94	109	147	197	122	12
MIN	12	53	43	44	70	78	59	58	41	89	6.0	.99
AC-FT	1960	3720	3990	4140	5290	5410	4210	4910	4260	8050	4430	359

CAL YR 1990 TOTAL 29747.7 MEAN 81.5 MAX 216 MIN 1.9 AC-FT 59000
WTR YR 1991 TOTAL 25578.59 MEAN 70.1 MAX 197 MIN .99 AC-FT 50740

KANSAS RIVER BASIN

06837300 RED WILLOW CREEK ABOVE HUGH BUTLER LAKE, NE

LOCATION.--Lat 40°24'05", long 100°46'45", in NE1/4SE1/4 sec.13, T.5 N., R.31 W., Hayes County, Hydrologic Unit 10250007, on right bank 1,000 ft above county road bridge, 7.2 mi upstream from Red Willow Dam, and 12 mi northeast of Culbertson.

DRAINAGE AREA.--600 mi², approximately, of which about 200 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Artificial control since March 1961. Datum of gage is 2,594.80 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 23, 1961, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-17 and Dec. 21, 22. Records good except for period of estimated record, which is poor. Natural flow affected by pump irrigation development above station.

AVERAGE DISCHARGE.--31 years, 26.2 ft³/s, 18,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft³/s June 16, 1972, gage height, 13.27 ft, from rating curve extended above 1,000 ft³/s on basis of slope-conveyance study; minimum daily, 3.1 ft³/s July 12, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 24	1730	*233	*2.78	No other peak greater than base discharge.			
Minimum daily discharge, 4.1 ft ³ /s Aug. 28.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	15	20	13	19	22	26	32	39	11	7.7	5.8
2	10	15	19	13	22	22	24	33	44	9.8	7.7	6.1
3	12	17	19	13	20	22	23	34	61	9.4	6.0	6.3
4	13	17	17	14	21	22	22	46	53	9.1	6.8	6.0
5	14	19	22	15	22	22	21	62	38	8.5	7.4	5.9
6	14	19	20	16	22	22	21	68	31	8.2	7.5	5.7
7	14	21	20	16	24	22	20	53	31	8.5	7.6	5.9
8	15	21	20	16	26	21	19	36	28	8.6	7.4	6.1
9	15	20	19	16	23	21	18	31	26	8.8	7.0	6.5
10	14	20	19	16	23	21	18	28	24	9.3	7.0	6.6
11	14	20	19	16	23	21	19	26	22	10	7.2	8.1
12	14	21	19	16	22	21	19	24	22	9.8	6.2	8.3
13	14	22	20	17	22	21	20	22	21	9.5	6.5	9.7
14	14	22	20	17	22	21	20	21	19	8.9	6.9	13
15	14	21	19	17	25	21	20	19	18	8.6	7.5	10
16	14	20	20	18	28	22	19	19	17	8.1	7.9	9.4
17	14	19	18	19	22	23	19	20	16	7.5	7.2	8.4
18	14	18	19	19	22	26	19	23	15	5.5	6.4	7.8
19	14	18	16	20	21	25	20	36	16	6.1	5.8	7.8
20	15	18	14	19	22	26	20	45	21	6.4	6.1	7.9
21	16	18	13	18	22	26	21	36	20	6.4	6.2	7.9
22	17	18	12	15	22	25	24	28	19	6.9	6.5	7.9
23	17	18	9.8	19	22	26	24	27	18	10	6.8	8.3
24	17	17	13	18	22	25	38	25	17	14	6.2	8.3
25	17	17	13	14	23	26	30	25	16	14	5.4	8.4
26	17	17	14	15	23	27	28	26	16	13	5.0	8.4
27	16	18	15	15	22	26	27	27	14	11	5.0	8.3
28	16	16	15	15	22	26	26	28	14	9.3	4.1	8.3
29	16	19	13	16	---	25	29	29	12	9.4	5.1	8.4
30	16	19	12	16	---	26	31	32	11	9.2	5.7	8.5
31	15	---	14	15	---	27	---	38	---	8.7	5.6	---
TOTAL	451.0	560	522.8	502	629	729	685	999	719	283.5	201.4	234.0
MEAN	14.5	18.7	16.9	16.2	22.5	23.5	22.8	32.2	24.0	9.15	6.50	7.80
MAX	17	22	22	20	28	27	38	68	61	14	7.9	13
MIN	9.0	15	9.8	13	19	21	18	19	11	5.5	4.1	5.7
AC-FT	895	1110	1040	996	1250	1450	1360	1980	1430	562	399	464
CAL YR 1990	TOTAL 6254.1 MEAN 17.1 MAX 44 MIN 3.1 AC-FT 12410											
WTR YR 1991	TOTAL 6515.7 MEAN 17.9 MAX 68 MIN 4.1 AC-FT 12920											

KANSAS RIVER BASIN

223

06837390 HUGH BUTLER LAKE NEAR MCCOOK, NE

LOCATION.--Lat 40°21'35", long 100°39'55", in SW1/4NW1/4 sec.31, T.5 N., R.29 W., Frontier County, Hydrologic Unit 10250007, in gate-control house at outlet tube of Red Willow Dam on Red Willow Creek, 12 mi north of McCook.

DRAINAGE AREA.--730 mi², approximately, of which about 310 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--September 1961 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 10, 1962, nonrecording gage at present datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Sept. 5, 1961. Capacity, 31,470 acre-ft between elevations 2,522.0 ft, sill of outlet works, and 2,581.8 ft, top of irrigation pool. Top of flood-control pool and crest of mean spillway at elevation 2,604.9 ft, capacity, 86,360 acre-ft. Top of superstorage flood control pool at elevation 2,627.8 ft, capacity, 162,600 acre-ft. Dead storage, 6,310 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 41,680 acre-ft July 15, 16, 1967, elevation, 2,584.14 ft; minimum since operation of reservoir began, 16,930 acre-ft Sept. 8, 1978, elevation, 2,565.31 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,580 acre-ft June 14, elevation, 2,575.59 ft; minimum, 19,040 acre-ft Sept. 24, elevation, 2,567.42 ft.

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

2,565	16,630	2,575	27,800
2,570	21,800	2,580	34,910

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20020	20500	21330	21990	22760	23710	24820	25960	27810	26930	23370	19130
2	20060	20520	21370	21990	22790	23700	24870	26060	28050	26720	23140	19140
3	20070	20590	21380	22000	22830	23740	24890	26130	28170	26530	22930	19120
4	20070	20600	21410	22050	22850	23790	24930	26230	28240	26360	22740	19090
5	20090	20640	21450	22060	22880	23830	24980	26340	28280	26220	22560	19070
6	20070	20680	21480	22080	22920	23830	25010	26470	28340	26050	22470	19080
7	20040	20680	21510	22110	22950	23860	25050	26580	28390	25910	22360	19070
8	20060	20720	21550	22150	23010	23880	25030	26620	28430	25720	22230	19090
9	20060	20770	21570	22170	23030	23900	25000	26680	28470	25590	22100	19060
10	20090	20800	21600	22210	23070	23940	25000	26710	28460	25700	21960	19100
11	20110	20830	21650	22230	23100	23970	25060	26770	28490	25620	21800	19110
12	20110	20840	21660	22260	23140	24000	25090	26820	28510	25530	21680	19150
13	20140	20890	21670	22290	23210	24000	25070	26820	28510	25440	21600	19190
14	20140	20920	21760	22320	23210	24010	25090	26820	28550	25310	21490	19190
15	20160	20960	21730	22340	23220	24040	25110	26880	28490	25170	21400	19150
16	20170	20970	21770	22370	23270	24130	25110	26860	28460	25010	21250	19140
17	20170	21010	21790	22410	23320	24170	25130	26880	28420	24860	21050	19130
18	20170	21030	21840	22430	23360	24230	25170	26880	28340	24670	20720	19110
19	20210	21050	21820	22470	23370	24260	25190	26910	28250	24510	20320	19080
20	20250	21110	21800	22500	23420	24330	25210	26970	28220	24370	19960	19070
21	20270	21120	21810	22500	23450	24380	25350	27070	28250	24220	19620	19110
22	20290	21140	21820	22530	23470	24430	25390	27170	28170	24070	19270	19060
23	20320	21150	21840	22550	23520	24450	25410	27350	28100	24140	19200	19060
24	20330	21160	21860	22560	23560	24470	25590	27400	28050	24100	19210	19040
25	20340	21160	21870	22590	23580	24530	25640	27400	28040	24070	19200	19050
26	20380	21190	21880	22610	23590	24590	25720	27520	27950	24010	19190	19050
27	20390	21250	21910	22640	23610	24640	25710	27560	27810	23970	19170	19070
28	20400	21260	21930	22660	23660	24670	25820	27650	27610	23950	19150	19070
29	20430	21270	21930	22680	---	24710	25890	27700	27350	23880	19170	19070
30	20450	21300	21950	22700	---	24750	25920	27720	27130	23760	19150	19080
31	20480	---	21970	22740	---	24790	---	27790	---	23590	19140	---
MEAN	20200	20940	21710	22360	23220	24180	25240	26930	28180	25030	20920	19100
MAX	20480	21300	21970	22740	23660	24790	25920	27790	28550	26930	23370	19190
MIN	20020	20500	21330	21990	22760	23700	24820	25960	27130	23590	19140	19040
(†)	2568.79	2569.55	2570.15	2570.83	2571.63	2572.58	2573.51	2574.99	2574.48	2571.57	2567.52	2567.46
(‡)	+470	+820	+670	+770	+920	+1130	+1130	+1870	-660	-3540	-4450	-60
CAL YR 1990	MEAN	25590	MAX	31420	MIN	19940	(†)	-4550				
WTR YR 1991	MEAN	23170	MAX	28550	MIN	19040	(‡)	-930				

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06837500 RED WILLOW CREEK NEAR MCCOOK, NE

LOCATION.--Lat 40°20'50", long 100°38'35", in SW1/4NW1/4 sec.6, T.4 N., R.29 W., Red Willow County, Hydrologic Unit 10250007, on left bank 45 ft downstream from bridge on U.S. Highway 83, 3 mi downstream from Red Willow Dam and 10 mi north of McCook.

DRAINAGE AREA.--740 mi², approximately, of which about 320 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1940 to September 1947. Annual maximums, water years 1958-60. October 1960 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder, concrete control since Dec. 23, 1965. Datum of gage is 2,485.97 ft above National Geodetic Vertical Datum of 1929. October 1940 to September 1947, water-stage recorder at site 45 ft upstream at datum 9.55 ft higher. Nov. 22, 1957, to Sept. 30, 1960, crest-stage gage, Oct. 1, 1960, to Apr. 5, 1961, nonrecording gage, and Apr. 6, 1961, to Sept. 26, 1974, water-stage recorder at site 45 ft upstream, present datum.

REMARKS.--Estimated daily discharges: Dec. 30 to Jan. 1 and May 26 to June 3, 5. Records good except for period of estimated record, which is poor. Natural flow affected by irrigation development above station and, since Sept. 5, 1961, by storage in Hugh Butler Lake (station 06837390).

AVERAGE DISCHARGE.--30 years (1962-91), 20.0 ft³/s, 14,490 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 22, 1947, gage height, 31.95 ft, present datum, from rating curve extended above 2,500 ft³/s on basis of contracted-opening measurement of peak flow; minimum daily, 0.60 ft³/s Sept. 22, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1935, reached a stage of 33.45 ft, from floodmarks, discharge, 45,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 198 ft³/s Aug. 20, gage height, 10.81 ft; minimum daily, 2.6 ft³/s Oct. 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	3.1	3.7	4.0	3.7	4.0	3.4	4.1	3.8	115	115	3.2
2	2.9	3.0	3.7	3.5	3.7	3.8	3.4	4.1	4.0	100	121	3.2
3	3.0	3.4	3.7	4.6	3.7	3.9	3.5	4.3	4.6	92	103	3.0
4	3.0	2.9	3.7	3.9	3.7	4.0	3.6	4.2	4.0	87	82	3.1
5	2.9	2.9	3.7	3.6	3.7	4.0	3.5	4.2	4.4	77	76	3.1
6	2.8	2.9	3.8	3.1	3.6	3.8	3.5	4.1	4.8	75	66	3.0
7	2.8	2.8	3.6	3.0	3.6	3.8	3.4	4.4	5.5	76	63	3.0
8	3.2	2.9	3.7	3.2	3.7	3.8	3.5	3.5	5.3	74	59	3.0
9	3.0	3.1	3.6	3.2	3.8	3.9	3.4	3.6	5.1	76	54	3.1
10	2.9	3.2	3.6	3.4	3.8	3.9	3.3	3.6	5.1	75	54	3.4
11	3.0	3.2	3.6	3.4	3.8	4.0	3.6	3.6	4.8	64	64	3.3
12	3.0	3.2	3.6	3.5	3.9	3.9	3.4	3.5	4.8	57	68	3.2
13	3.1	3.4	3.6	3.7	3.5	3.8	3.4	3.5	4.7	47	53	3.1
14	3.0	3.5	3.6	3.6	3.5	3.6	3.5	3.9	4.8	46	53	3.2
15	2.9	3.6	3.6	3.6	3.6	3.7	3.5	4.0	4.7	62	53	3.0
16	2.9	3.4	3.6	3.6	3.8	3.8	3.5	4.2	4.7	78	83	3.0
17	2.6	3.5	3.6	3.7	3.8	3.9	3.5	4.2	11	75	97	3.0
18	2.6	3.4	3.6	3.7	3.8	3.8	3.9	4.1	49	85	146	3.1
19	2.9	3.4	3.5	3.7	3.6	3.7	3.6	4.1	51	79	194	3.1
20	3.0	3.5	3.5	3.7	3.9	3.7	3.9	4.1	25	71	192	3.2
21	2.9	3.4	3.5	3.6	4.0	3.6	4.2	4.1	25	73	186	3.3
22	3.0	3.5	3.6	3.7	4.0	3.6	4.1	4.6	25	71	188	3.1
23	3.1	3.5	3.7	3.6	3.8	3.6	3.8	7.3	25	60	60	3.2
24	3.0	3.8	3.8	3.6	3.8	3.6	4.0	4.2	25	37	4.3	3.1
25	3.0	3.7	3.7	3.6	3.9	3.5	4.3	4.4	26	28	3.8	3.0
26	3.1	3.7	3.7	3.6	4.0	3.5	3.8	4.1	36	27	3.5	3.0
27	3.0	3.8	3.8	3.6	4.0	3.8	3.8	4.2	66	27	3.4	3.2
28	3.1	3.6	3.8	3.6	3.9	3.4	4.1	3.9	110	27	3.5	3.2
29	3.2	3.7	3.6	3.5	---	3.4	4.2	4.3	121	37	3.4	3.1
30	3.2	3.7	3.5	3.6	---	3.4	4.1	4.5	122	55	3.4	3.0
31	3.2	---	3.5	3.6	---	3.3	---	4.0	---	87	3.3	---
TOTAL	92.2	100.7	112.8	111.3	105.6	115.5	110.7	128.9	792.1	2040	2258.6	93.5
MEAN	2.97	3.36	3.64	3.59	3.77	3.73	3.69	4.16	26.4	65.8	72.9	3.12
MAX	3.2	3.8	3.8	4.6	4.0	4.0	4.3	7.3	122	115	194	3.4
MIN	2.6	2.8	3.5	3.0	3.5	3.3	3.3	3.5	3.8	27	3.3	3.0
AC-FT	183	200	224	221	209	229	220	256	1570	4050	4480	185

CAL YR 1990 TOTAL 7069.2 MEAN 19.4 MAX 188 MIN 2.6 AC-FT 14020
WTR YR 1991 TOTAL 6061.9 MEAN 16.6 MAX 194 MIN 2.6 AC-FT 12020

KANSAS RIVER BASIN

06838000 RED WILLOW CREEK NEAR RED WILLOW, NE

LOCATION.--Lat 40°14'10", long 100°30'00", in NE1/4NE1/4 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 2.5 mi upstream from mouth.

DRAINAGE AREA.--830 mi², approximately, of which about 410 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--September 1939 to current year.

REVISED RECORDS.--WSP 1510: 1945(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,398.64 ft above National Geodetic Vertical Datum of 1929. 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 present site and datum, and Aug. 3, 1974, to June 27, 1980, on right bank at downstream side of bridge, present datum.

REMARKS.--Estimated daily discharges: Oct. 19 to Nov. 14, Nov. 28 to Dec. 5, Dec. 16, Dec. 19 to Feb. 12, and Feb. 16. Records good except for periods of estimated record, which are 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.

AVERAGE DISCHARGE.--29 years (1963-91), 13.7 ft³/s, 9,926 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s June 22, 1947, gage height, 18.36 ft, from rating curve extended above 6,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.02 ft³/s Aug. 18, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 112 ft³/s Aug. 23, gage height, 6.23 ft; minimum daily, 1.8 ft³/s July 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	5.2	6.2	6.4	6.6	7.5	7.4	8.9	7.3	33	28	2.8
2	3.8	5.4	6.8	7.6	6.4	7.1	7.3	8.8	7.3	17	30	2.8
3	4.9	5.4	6.6	8.0	7.4	7.4	7.7	10	9.6	7.0	37	3.1
4	4.3	5.2	3.5	7.4	8.0	7.3	7.6	9.2	8.1	6.2	21	2.5
5	4.2	5.0	5.0	6.4	9.0	7.5	7.6	9.1	7.5	5.1	19	2.5
6	4.1	5.0	7.9	6.4	9.6	7.4	7.6	8.5	8.2	6.4	11	2.7
7	4.3	5.2	7.3	7.0	10	7.1	7.6	8.3	11	5.2	5.6	2.5
8	5.1	5.1	7.0	7.0	11	7.2	7.6	8.5	9.3	6.8	2.3	2.7
9	5.3	6.0	7.0	7.2	11	7.0	7.6	7.4	8.4	7.1	2.9	2.7
10	4.8	6.0	6.4	7.4	10	7.3	7.3	7.3	8.5	7.4	6.7	3.1
11	5.0	6.0	6.4	7.4	9.2	7.5	8.0	7.3	8.3	7.5	7.0	5.2
12	5.2	6.2	6.4	8.0	8.8	7.0	8.3	7.0	8.1	8.2	25	3.5
13	5.8	6.4	6.2	8.8	7.9	7.3	8.0	6.7	7.8	5.7	9.3	3.7
14	4.9	6.4	6.2	9.0	7.3	7.2	8.0	6.8	7.8	1.8	3.8	2.6
15	4.8	6.0	6.2	9.0	7.2	7.5	8.1	7.0	7.8	3.5	6.0	2.8
16	5.0	5.9	6.2	8.6	7.8	7.8	7.9	8.2	7.7	6.3	8.6	3.0
17	4.9	5.9	6.3	8.4	8.0	8.3	7.9	8.4	5.8	6.6	24	3.1
18	4.6	6.0	6.3	8.4	8.0	7.7	8.0	7.7	25	14	27	2.2
19	4.5	6.0	6.2	8.8	7.4	7.6	9.0	7.6	29	22	83	2.2
20	4.7	6.1	4.5	9.0	7.5	8.0	8.2	7.6	13	15	90	2.9
21	5.0	6.1	4.2	7.8	7.5	7.7	9.4	7.6	6.0	15	78	3.4
22	5.2	6.2	4.5	7.6	7.5	8.3	10	7.5	5.3	16	75	3.5
23	5.2	6.4	5.0	8.0	7.5	7.9	9.3	19	5.4	17	86	3.5
24	5.0	6.4	6.0	8.2	7.2	7.6	9.3	9.5	5.7	23	20	3.8
25	5.0	6.5	6.0	7.8	8.1	7.8	10	8.4	8.0	12	5.6	4.0
26	5.2	6.5	5.6	7.4	7.4	7.7	9.6	8.0	8.3	12	4.4	3.9
27	5.2	5.5	5.8	6.8	7.4	7.7	8.9	8.4	8.3	12	4.4	4.1
28	5.2	5.2	6.2	6.6	7.4	8.3	9.5	7.9	20	11	4.4	4.0
29	5.0	5.0	6.4	7.0	---	7.5	11	8.3	31	11	3.7	4.0
30	5.0	5.4	5.4	7.4	---	7.5	9.5	9.1	35	10	3.3	3.8
31	5.2	---	5.4	7.0	---	7.4	---	8.0	---	8.9	2.7	---
TOTAL	150.2	173.6	185.1	237.8	228.1	234.1	253.2	262.0	338.5	339.7	734.7	96.6
MEAN	4.85	5.79	5.97	7.67	8.15	7.55	8.44	8.45	11.3	11.0	23.7	3.22
MAX	5.8	6.5	7.9	9.0	11	8.3	11	19	35	33	90	5.2
MIN	3.8	5.0	3.5	6.4	6.4	7.0	7.3	6.7	5.3	1.8	2.3	2.2
AC-FT	298	344	367	472	452	464	502	520	671	674	1460	192

CAL YR 1990 TOTAL 3078.29 MEAN 8.43 MAX 103 MIN .02 AC-FT 6110
WTR YR 1991 TOTAL 3233.6 MEAN 8.86 MAX 90 MIN 1.8 AC-FT 6410

KANSAS RIVER BASIN

06840000 FOX CREEK AT CURTIS, NE

LOCATION.--Lat 40°38'00", long 100°29'20", in SE1/4NW1/4 sec.27, T.8 N., R.28 W., Frontier County, Hydrologic Unit 10250008, on left bank 15 ft upstream from bridge on State Highway 23, 0.5 mi upstream from mouth, and 1 mi east of Curtis.

DRAINAGE AREA.--74 mi², approximately.

PERIOD OF RECORD.--March 1951 to September 1958. Annual maximums, water years 1960-70. October 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,519.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good.

COOPERATION.--Records were furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--21 years (1952-58, 1978-91), 6.42 ft³/s, 4,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft³/s May 31, 1951, gage height, 15.35 ft; minimum daily, 0.71 ft³/s July 26, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.3 ft June 21, 1947, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft³/s May 23, gage height, 14.84 ft; minimum daily, 1.3 ft³/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.1	4.3	3.8	4.7	5.6	5.4	6.1	7.3	3.1	1.7	2.6
2	2.8	4.1	4.2	3.9	4.7	5.4	5.3	7.3	7.8	2.9	1.8	3.3
3	3.6	4.4	4.2	4.2	4.8	5.4	5.4	9.4	6.9	2.5	1.6	2.1
4	3.8	4.5	4.1	4.4	4.9	5.5	5.3	7.0	10	2.4	1.7	2.0
5	3.2	4.3	4.5	4.5	5.0	5.7	5.1	6.6	7.0	2.7	1.9	1.4
6	3.0	4.5	4.5	4.6	5.1	5.6	5.1	6.1	11	1.9	1.9	2.6
7	3.1	4.5	4.4	4.6	5.0	5.4	5.1	5.9	27	2.0	1.7	2.7
8	3.4	4.1	4.3	4.7	5.0	5.5	4.9	5.9	7.6	1.7	2.0	3.1
9	3.5	4.2	4.3	5.0	5.0	5.4	4.7	5.9	6.6	1.7	2.1	3.3
10	3.5	4.3	4.4	4.9	5.0	5.5	5.0	5.8	7.9	3.0	1.4	4.6
11	3.5	4.2	4.4	5.0	5.0	5.6	6.0	5.7	6.5	1.8	1.9	6.8
12	3.4	4.1	4.3	5.0	4.9	5.5	6.0	5.5	6.0	1.3	3.8	5.2
13	3.5	4.1	4.3	5.1	5.1	5.5	5.8	5.3	5.9	1.4	2.8	6.3
14	3.6	4.0	4.3	5.3	5.3	5.4	5.8	5.3	5.6	1.4	2.4	4.5
15	3.5	4.0	4.3	5.2	5.3	5.4	5.9	5.3	5.6	1.8	2.3	4.9
16	3.5	3.9	4.2	5.2	5.4	5.4	5.9	5.5	5.2	1.8	2.3	3.5
17	3.5	3.8	4.2	5.1	5.6	5.7	5.9	5.6	5.1	1.6	2.3	3.4
18	3.6	3.8	4.3	5.1	6.0	5.7	5.8	5.5	5.0	1.6	2.3	3.3
19	4.0	3.8	3.4	5.1	5.6	5.5	6.0	5.4	5.3	1.4	2.6	3.2
20	4.5	3.8	3.4	5.0	5.5	5.6	5.8	5.4	5.2	1.5	2.6	3.3
21	5.1	3.9	3.9	4.8	5.6	5.6	6.6	5.4	4.7	2.1	2.3	3.4
22	4.3	3.8	3.5	4.9	5.6	5.5	7.0	5.4	4.5	2.3	1.9	3.3
23	4.1	3.9	3.2	5.0	5.5	5.6	6.2	273	4.4	3.1	1.7	3.3
24	3.8	3.9	3.3	4.9	5.4	5.5	6.0	19	4.4	4.8	2.2	3.3
25	3.9	3.9	3.5	4.8	5.2	5.4	6.1	13	4.4	3.0	2.4	3.3
26	3.9	4.0	3.8	4.4	5.4	5.6	6.0	11	4.1	2.6	2.4	3.3
27	3.9	3.7	4.2	4.8	5.4	6.2	5.8	16	3.8	2.4	2.8	3.3
28	3.9	4.0	4.2	4.8	5.5	6.2	6.5	11	3.5	1.6	2.9	3.2
29	4.0	3.8	4.1	4.4	---	5.9	8.1	13	3.5	2.0	3.8	3.2
30	4.0	4.3	3.9	4.6	---	5.6	7.0	11	3.3	2.4	2.9	3.0
31	4.0	---	3.7	4.7	---	5.5	---	10	---	1.9	2.8	---
TOTAL	114.2	121.7	125.6	147.8	146.5	172.9	175.5	508.3	195.1	67.7	71.2	104.7
MEAN	3.68	4.06	4.05	4.77	5.23	5.58	5.85	16.4	6.50	2.18	2.30	3.49
MAX	5.1	4.5	4.5	5.3	6.0	6.2	8.1	273	27	4.8	3.8	6.8
MIN	2.8	3.7	3.2	3.8	4.7	5.4	4.7	5.3	3.3	1.3	1.4	1.4
AC-FT	227	241	249	293	291	343	348	1010	387	134	141	208

CAL YR 1990 TOTAL 1808.2 MEAN 4.95 MAX 121 MIN 1.5 AC-FT 3590
WTR YR 1991 TOTAL 1951.2 MEAN 5.35 MAX 273 MIN 1.3 AC-FT 3870

06841000 MEDICINE CREEK ABOVE HARRY STRUNK LAKE, NE

LOCATION.--Lat 40°30'10", long 100°19'20", in SW1/4 sec.7, T.6 N., R.26 W., Frontier County, Hydrologic Unit 10250008, on right bank 0.3 mi downstream from top of Harry Strunk Lake flood-control pool, 2.5 mi upstream from top of irrigation pool, 3.8 mi southeast of Stockville, and 13.5 mi upstream from Medicine Creek Dam.

DRAINAGE AREA.--770 mi², approximately, of which about 530 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--January 1950 to current year. Prior to October 1950, published as "above Medicine Creek Reservoir."

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Concrete control since November 1950. Datum of gage is 2,380.94 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 5 and Dec. 20 to Feb. 8. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--41 years, 62.4 ft³/s, 45,210 acre-ft/yr; median of yearly mean discharges, 56 ft³/s, 40,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s June 21, 1967, gage height, 20.05 ft; minimum daily, 9.1 ft³/s Aug. 9, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 24.4 ft June 22, 1947, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 23	2100	*863	*10.88	No peaks greater than base discharge.			

Minimum daily discharge, 13 ft³/s Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	39	42	50	44	50	50	68	69	29	24	13
2	26	39	46	54	46	49	50	62	78	27	25	14
3	28	42	45	46	54	48	49	63	105	25	22	14
4	30	44	44	44	58	49	49	73	81	23	22	14
5	32	46	50	45	58	50	49	82	74	22	21	13
6	31	47	44	47	58	50	49	80	76	23	21	13
7	30	47	45	46	58	50	48	68	148	20	20	15
8	30	48	45	50	70	49	46	59	105	20	20	18
9	31	48	45	54	55	49	45	53	79	21	21	17
10	32	47	45	56	54	49	45	51	72	28	22	17
11	33	47	45	54	53	50	47	49	69	27	20	24
12	33	46	44	50	53	50	49	48	59	23	27	27
13	33	46	44	47	54	49	51	46	53	24	29	34
14	33	45	44	49	53	49	49	45	50	23	28	33
15	33	44	44	47	53	49	48	44	48	22	26	31
16	33	43	44	46	50	48	47	45	46	22	24	28
17	34	42	44	46	51	50	47	47	44	21	22	27
18	33	43	43	49	52	51	47	51	43	18	20	25
19	34	43	43	50	51	53	48	54	44	18	20	25
20	35	43	41	46	51	54	49	54	50	17	20	24
21	36	42	40	47	51	53	51	52	50	18	21	25
22	41	42	40	54	52	52	56	50	46	19	18	25
23	40	42	41	56	52	51	61	469	44	25	16	25
24	40	42	42	48	51	51	56	263	44	37	15	25
25	38	42	45	45	50	52	54	156	46	38	17	25
26	39	42	44	45	49	51	54	108	43	35	16	26
27	39	44	44	45	49	53	52	90	39	31	15	26
28	38	44	44	50	50	52	53	87	36	29	16	26
29	38	40	43	52	---	54	58	75	34	25	14	26
30	38	38	41	45	---	51	73	120	34	25	15	26
31	39	---	43	43	---	51	---	79	---	25	14	---
TOTAL	1056	1307	1354	1506	1480	1567	1530	2691	1809	760	631	681
MEAN	34.1	43.6	43.7	48.6	52.9	50.5	51.0	86.8	60.3	24.5	20.4	22.7
MAX	41	48	50	56	70	54	73	469	148	38	29	34
MIN	26	38	40	43	44	48	45	44	34	17	14	13
AC-FT	2090	2590	2690	2990	2940	3110	3030	5340	3590	1510	1250	1350

CAL YR 1990 TOTAL 15464 MEAN 42.4 MAX 264 MIN 13 AC-FT 30670
WTR YR 1991 TOTAL 16372 MEAN 44.9 MAX 469 MIN 13 AC-FT 32470

KANSAS RIVER BASIN

06842000 HARRY STRUNK LAKE NEAR CAMBRIDGE, NE

LOCATION.--Lat 40°22'40", long 100°13'00", in NE1/4 sec.25, T.5 N., R.26 W., Frontier County, Hydrologic Unit 10250008, near right bank in control house at outlet tube of Medicine Creek Dam on Medicine Creek, 7 mi northwest of Cambridge.

DRAINAGE AREA.--880 mi², approximately, of which about 640 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Aug. 18, 1960, nonrecording gage at present datum.

REMARKS.--Reservoir is formed by earthfill dam; storage began Aug. 8, 1949. Capacity, 31,540 acre-ft between elevation 2,335.0 ft, sill of outlet gates, and 2,366.1 ft, top of storage pool and crest of slot in spillway. Top of flood-control pool and crest of main spillway at elevation 2,386.2 ft, capacity, 88,420 acre-ft. Top of superstorage flood-control pool at elevation 2,400.0 ft, capacity, 146,300 acre-ft. Maximum water-surface elevation, 2,408.9 ft, 194,100 acre-ft. Dead storage, 4,160 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 Oct. 1982).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,750 acre-ft Mar. 23, 1960, elevation, 2,374.10 ft; minimum since operation of reservoir began, 7,840 acre-ft Sept. 7, 1978, elevation, 2,340.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,660 acre-ft June 19, elevation, 2,367.14 ft; minimum, 13,210 acre-ft Sept. 10, elevation, 2,348.55 ft.

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

2,345	10,320	2,360	25,910
2,350	14,500	2,365	33,730
2,355	19,630	2,370	43,470

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14120	15970	18240	20420	22590	25340	28240	31160	36570	33540	21750	13430
2	14200	16010	18350	20460	22690	25340	28320	31370	36640	32900	21390	13410
3	14230	16110	18410	20510	22790	25490	28410	31450	36810	32270	21020	13380
4	14300	16160	18480	20600	22890	25600	28540	31550	36900	31730	20660	13330
5	14370	16260	18590	20650	22980	25710	28660	31710	36980	31240	20310	13320
6	14400	16340	18660	20700	23080	25720	28760	31890	37110	30710	20130	13300
7	14370	16410	18750	20770	23170	25800	28860	32030	37260	30120	19900	13270
8	14430	16500	18850	20830	23300	25980	28830	32180	37470	29590	19560	13310
9	14470	16610	18920	20900	23400	26060	28840	32300	37550	29200	19220	13260
10	14570	16690	19010	20970	23510	26180	28920	32370	37530	28930	18880	13250
11	14630	16790	19100	21040	23620	26290	29000	32580	37600	28690	18550	13300
12	14660	16900	19180	21130	23750	26350	29110	32710	37600	28540	18240	13320
13	14770	16950	19240	21200	23860	26370	29140	32730	37600	28330	17970	13350
14	14810	17050	19340	21270	23940	26460	29180	32820	37580	28080	17690	13380
15	14860	17130	19420	21350	24010	26530	29340	32840	37430	27650	17300	13320
16	14920	17160	19500	21430	24140	26640	29340	32920	37410	27180	16830	13330
17	14960	17250	19550	21520	24270	26740	29420	33020	37600	26630	16380	13320
18	15010	17330	19650	21600	24340	26850	29480	33060	37570	26110	15880	13290
19	15090	17400	19750	21700	24440	26950	29560	33140	37470	25610	15200	13270
20	15110	17500	19800	21780	24550	27070	29650	33250	37470	25180	14540	13260
21	15200	17550	19860	21840	24650	27180	29870	33450	37510	24740	13990	13320
22	15280	17610	19910	21910	24720	27250	30010	33540	37430	24200	13480	13260
23	15360	17710	19970	21990	24800	27320	30150	34390	37300	23770	13430	13260
24	15390	17760	20010	22080	24900	27420	30250	35070	37110	23620	13470	13240
25	15480	17840	20070	22140	25000	27590	30320	35320	36810	23580	13500	13260
26	15570	17920	20130	22230	25060	27690	30480	35710	36310	23470	13510	13260
27	15610	18000	20190	22260	25150	27750	30550	35820	35820	23300	13530	13270
28	15660	18030	20230	22330	25280	27860	30760	36010	35250	23130	13540	13270
29	15750	18090	20290	22400	---	27920	30860	36140	34730	22910	13520	13280
30	15810	18160	20340	22480	---	28020	30990	36320	34190	22600	13510	13260
31	15890	---	20370	22530	---	28120	---	36510	---	22190	13470	---
MEAN	14940	17110	19420	21450	23960	26700	29460	33400	36950	27090	16790	13300
MAX	15890	18160	20370	22530	25280	28120	30990	36510	37600	33540	21750	13430
MIN	14120	15970	18240	20420	22590	25340	28240	31160	34190	22190	13430	13240

(†)	2351.47	2353.67	2355.64	2357.42	2359.53	2361.54	2363.38	2366.53	2365.26	2357.15	2348.85	2348.60
(‡)	+1840	+2270	+2210	+2160	+2750	+2840	+2870	+5520	-2320	-12000	-8720	-210

CAL YR 1990	MEAN	25090	MAX	37680	MIN	13290	(†)	-4340
WTR YR 1991	MEAN	23370	MAX	37600	MIN	13240	(‡)	-790

(†) Elevation, in feet, at end of month.
(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

229

06842500 MEDICINE CREEK BELOW HARRY STRUNK LAKE, NE

LOCATION.--Lat 40°22'20", long 100°13'20", at center of sec.25, T.5 N., R.26 W., Frontier County, Hydrologic Unit 10250008, on right bank 0.5 mi downstream from Medicine Creek Dam and 6.5 mi northwest of Cambridge.

DRAINAGE AREA.--880 mi², approximately, of which about 640 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1950, published as "below Medicine Creek Dam." Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Concrete control since August 1950. Datum of gage is 2,295.26 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Apr. 24, 1950, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No estimated daily discharges. Records good except those below 1.0 ft³/s, which are poor. Flow regulated by Harry Strunk Lake (station 06842000).

AVERAGE DISCHARGE.--42 years, 58.5 ft³/s, 42,380 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s Mar. 23, 1960, gage height, 5.97 ft; no flow Sept. 11-13, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 389 ft³/s Aug. 19, gage height, 2.99 ft; minimum daily, 0.13 ft³/s Oct. 1-2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.35	.30	.28	.18	.40	.45	.39	15	305	242	25
2	.13	.35	.30	.38	.19	.39	.50	.35	15	300	228	24
3	.16	.34	.30	.40	.19	.45	.50	.42	19	294	184	24
4	.16	.30	.30	.40	.20	.48	.56	.44	22	287	180	25
5	.16	.30	.30	.39	.19	.52	.56	.44	21	253	186	25
6	.18	.29	.32	.35	.19	.51	.51	.31	23	258	148	25
7	.20	.26	.31	.35	.19	.51	.52	.30	30	266	146	24
8	.24	.28	.30	.35	.19	.50	.55	.27	35	248	157	24
9	.22	.30	.30	.35	.19	.50	.56	.24	37	222	181	24
10	.22	.30	.32	.35	.19	.51	.53	.22	39	177	188	25
11	.24	.30	.34	.35	.19	.51	.54	.23	40	155	189	24
12	.26	.30	.35	.35	.22	.53	.49	.23	40	97	208	24
13	.29	.30	.38	.35	.20	.46	.50	.26	40	107	186	24
14	.28	.30	.39	.35	.18	.45	.49	.26	40	146	181	24
15	.29	.30	.35	.35	.17	.49	.48	.32	39	223	224	24
16	.30	.30	.35	.35	.19	.47	.46	.44	37	240	256	24
17	.29	.30	.32	.35	.25	.48	.50	.36	37	276	245	24
18	.27	.30	.31	.34	.24	.45	.50	.34	40	279	269	24
19	.31	.30	.31	.34	.21	.45	.48	.35	39	224	373	24
20	.36	.30	.30	.35	.28	.49	.40	.38	38	226	351	24
21	.35	.30	.28	.34	.30	.50	.53	.40	40	230	332	24
22	.35	.30	.30	.34	.29	.51	.46	.42	39	253	279	25
23	.35	.30	.30	.34	.29	.47	.43	1.1	57	245	51	25
24	.35	.30	.32	.35	.29	.48	.49	.43	139	127	.54	25
25	.39	.30	.35	.35	.28	.51	.48	.45	206	59	.48	25
26	.37	.30	.36	.35	.35	.51	.44	.51	265	94	.43	24
27	.35	.30	.35	.35	.40	.63	.41	.49	274	119	.38	25
28	.35	.30	.35	.35	.40	.50	.63	.47	281	118	7.2	25
29	.35	.30	.34	.35	---	.51	.51	1.5	270	136	25	25
30	.35	.30	.30	.36	---	.45	.43	5.5	262	187	25	25
31	.35	---	.29	.19	---	.44	---	10	---	218	25	---
TOTAL	8.60	9.07	9.99	10.75	6.63	15.06	14.89	27.82	2479	6369	5068.03	733
MEAN	.28	.30	.32	.35	.24	.49	.50	.90	82.6	205	163	24.4
MAX	.39	.35	.39	.40	.40	.63	.63	10	281	305	373	25
MIN	.13	.26	.28	.19	.17	.39	.40	.22	15	59	.38	24
AC-FT	17	18	20	21	13	30	30	55	4920	12630	10050	1450

CAL YR 1990 TOTAL 15914.73 MEAN 43.6 MAX 351 MIN .00 AC-FT 31570
WTR YR 1991 TOTAL 14751.84 MEAN 40.4 MAX 373 MIN .13 AC-FT 29260

KANSAS RIVER BASIN

06843500 REPUBLICAN RIVER AT CAMBRIDGE, NE

LOCATION.--Lat 40°17'05", long 100°08'35", in NW1/4SE1/4 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, and 1.3 mi upstream from Cambridge diversion dam.

DRAINAGE AREA.--14,520 mi², approximately, of which about 7,810 mi² contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area. WDR NE-84: 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 2,239.07 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Dec. 22 to Feb. 13 and Aug. 26-28. Records good except for periods of estimated record, which are poor, and Aug. 30 to Sept. 30 which are fair. Natural flow affected by irrigation development above station and since 1949 by regulation from upstream reservoirs.

AVERAGE DISCHARGE.--42 years (water years 1950-91, since storage in Harry Strunk Lake), 254 ft³/s, 184,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft³/s June 22, 1947, gage height, 16.7 ft, from floodmarks, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.07 ft³/s Sept. 27, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 17.6 ft May 31 to June 1, 1935, from information by local resident, discharge, about 280,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 384 ft³/s Aug. 20, gage height, 4.38 ft; maximum gage height, 4.57 ft July 2; minimum daily discharge, 0.13 ft³/s Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	38	95	43	80	109	96	132	137	308	247	23
2	.17	39	95	38	92	112	98	127	137	348	255	23
3	.36	50	81	38	100	113	106	140	124	318	236	22
4	.16	56	83	43	110	111	105	152	124	322	237	23
5	.14	55	83	46	114	110	103	165	115	304	281	23
6	.13	58	92	45	112	110	98	158	109	298	253	23
7	.15	60	83	50	112	110	95	152	155	325	221	24
8	.21	62	80	64	114	109	92	145	177	314	223	25
9	.19	63	76	64	116	109	90	140	161	302	210	24
10	.18	65	77	66	118	110	91	133	169	265	222	26
11	.17	64	79	68	120	111	89	132	198	236	223	31
12	.17	63	77	74	120	111	95	118	150	200	250	26
13	.44	61	78	88	120	110	92	111	134	160	247	25
14	6.1	64	81	100	127	111	91	109	128	172	203	24
15	11	65	87	106	123	110	89	108	126	233	215	24
16	13	65	94	104	112	111	90	125	120	237	260	24
17	14	65	83	100	111	117	88	133	116	246	243	23
18	15	66	84	100	117	115	88	122	134	263	243	22
19	17	67	93	94	109	114	94	111	131	248	353	23
20	19	69	82	90	103	114	94	108	128	233	365	23
21	26	69	79	88	101	113	100	106	130	223	353	23
22	30	71	70	86	102	114	112	104	112	236	296	22
23	31	72	64	100	103	111	106	133	121	285	169	22
24	30	72	68	90	103	109	101	153	169	266	85	23
25	30	73	72	78	105	110	112	148	260	218	61	23
26	32	73	68	80	106	111	111	131	280	187	34	23
27	33	79	60	84	104	116	111	128	306	200	24	22
28	32	87	60	90	107	115	121	118	298	191	23	22
29	34	63	68	80	---	109	147	110	305	200	23	22
30	35	74	64	70	---	106	146	111	277	221	23	22
31	37	---	50	76	---	103	---	113	---	243	23	---
TOTAL	447.74	1928	2406	2343	3061	3444	3051	3976	5031	7802	6101	705
MEAN	14.4	64.3	77.6	75.6	109	111	102	128	168	252	197	23.5
MAX	37	87	95	106	127	117	147	165	306	348	365	31
MIN	.13	38	50	38	80	103	88	104	109	160	23	22
AC-FT	888	3820	4770	4650	6070	6830	6050	7890	9980	15480	12100	1400

CAL YR 1990 TOTAL 45904.30 MEAN 126 MAX 662 MIN .13 AC-FT 91050
WTR YR 1991 TOTAL 40295.74 MEAN 110 MAX 365 MIN .13 AC-FT 79930

KANSAS RIVER BASIN

06844000 MUDDY CREEK AT ARAPAHOE, NE

LOCATION.--Lat 40°18'20", long 99°54'40", in NW1/4NW1/4 sec.22, T.4 N., R.23 W., Furnas County, Hydrologic Unit 10250009, on left bank 10 ft upstream from bridge on U.S. Highways 6 and 34, 0.2 mi west of Arapahoe, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD.--December 1950 to September 1972, and October 1977 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,143.92 ft, above National Geodetic Vertical Datum of 1929. December 1950 to Jan. 11, 1951, nonrecording gage, and Jan. 12, 1951, to Sept. 30, 1972, recording gage at site on left bank 20 ft downstream from bridge at present datum.

REMARKS.--Estimated daily discharges: Nov. 28-29, Dec. 4, 16, Dec. 19 to Jan. 10, Jan. 21-22, 24-26, 29-30, and Feb. 6-8, 15-16. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station and return flow from irrigated areas.

AVERAGE DISCHARGE.--35 years (1951-72, 1978-91), 14.2 ft³/s, 10,290 acre-ft/yr; median of yearly mean discharges, 10 ft³/s, 7,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s May 8, 1986, gage height, 28.90 ft, observed; no flow Aug. 26 to Sept. 2, 1953, July 23, 29, Aug. 4, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 31 ft occurred June 22, 1947, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	1030	*372	*10.38	No peaks greater than base discharge.			
Minimum daily discharge, 2.8 ft ³ /s July 22.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.5	6.2	6.2	6.9	6.5	6.7	7.9	18	4.9	4.3	4.0
2	4.6	5.6	6.4	7.0	7.0	6.6	6.6	7.3	192	4.8	3.5	4.5
3	4.7	6.0	6.4	7.4	7.0	6.6	6.6	7.3	40	4.9	9.8	4.0
4	5.0	6.2	6.4	6.6	7.1	6.5	6.6	7.5	18	4.5	36	3.9
5	5.1	6.0	6.3	7.4	7.2	6.6	6.6	7.8	15	4.4	8.9	3.8
6	4.7	5.8	6.3	7.4	7.0	6.6	6.6	7.6	14	4.2	6.1	3.7
7	4.6	5.8	6.3	7.0	7.0	6.5	6.4	7.3	12	4.0	5.4	3.7
8	4.6	5.6	6.4	7.4	7.0	6.4	6.3	7.1	16	4.5	5.3	3.7
9	4.6	5.6	6.4	7.2	6.9	6.2	6.2	7.0	21	5.2	5.3	3.9
10	4.7	5.6	6.4	7.4	6.6	6.2	6.3	6.7	16	5.6	4.7	4.3
11	4.8	5.7	6.7	7.4	6.4	6.4	6.3	6.6	18	4.3	5.2	5.4
12	4.7	5.8	6.7	7.2	6.4	6.4	6.4	6.6	15	4.7	6.2	6.0
13	4.7	5.6	6.6	7.2	6.2	6.2	6.4	6.6	11	4.9	6.3	5.2
14	4.7	5.6	6.6	7.3	6.2	6.2	6.4	6.6	9.4	3.9	5.9	4.8
15	4.9	5.6	6.7	7.5	6.2	6.2	6.4	6.4	8.6	3.6	4.6	4.4
16	4.8	5.7	7.0	7.6	6.4	6.2	6.4	6.7	8.2	3.4	4.2	4.2
17	4.6	5.6	6.9	7.5	6.3	6.4	6.4	7.9	7.8	3.4	4.5	4.2
18	4.4	5.7	6.9	7.4	6.4	6.5	6.4	7.7	10	3.7	4.3	4.2
19	4.8	5.8	7.2	7.2	7.0	6.4	6.5	7.0	11	3.9	4.2	4.4
20	5.0	6.0	7.8	7.4	6.9	6.6	6.6	6.9	11	3.3	5.1	4.4
21	5.2	6.0	5.5	7.4	6.4	6.8	6.8	6.8	8.3	2.9	5.6	4.4
22	5.3	6.0	5.3	7.4	6.3	6.8	7.5	6.8	7.3	2.8	4.1	4.4
23	5.3	6.0	5.4	7.6	6.2	6.9	7.5	6.8	7.0	4.4	3.5	4.5
24	5.1	5.8	6.2	7.4	6.2	6.6	7.3	170	6.8	4.7	4.0	4.6
25	5.1	6.0	7.4	7.4	6.4	6.6	7.1	40	6.6	4.9	4.1	4.6
26	5.2	6.2	7.0	7.2	6.1	6.6	6.9	31	6.4	4.6	4.0	4.6
27	5.3	6.2	6.6	7.2	6.4	6.9	6.8	26	6.4	4.5	4.0	4.6
28	5.4	6.0	7.4	6.8	6.4	7.4	7.2	20	6.1	4.3	4.0	4.6
29	5.5	6.2	7.4	7.0	---	7.5	8.6	16	5.8	3.4	3.9	4.5
30	5.5	6.2	7.0	7.4	---	7.1	8.7	20	5.5	3.8	3.6	4.4
31	5.5	---	6.0	7.0	---	6.8	---	13	---	5.0	3.8	---
TOTAL	153.0	175.4	203.8	224.5	184.5	204.2	203.5	498.9	538.2	131.4	184.4	131.9
MEAN	4.94	5.85	6.57	7.24	6.59	6.59	6.78	16.1	17.9	4.24	5.95	4.40
MAX	5.5	6.2	7.8	7.6	7.2	7.5	8.7	170	192	5.6	36	6.0
MIN	4.4	5.5	5.3	6.2	6.1	6.2	6.2	6.4	5.5	2.8	3.5	3.7
AC-FT	303	348	404	445	366	405	404	990	1070	261	366	262
CAL YR 1990	TOTAL 2709.3	MEAN 7.42	MAX 367	MIN 3.4	AC-FT 5370							
WTR YR 1991	TOTAL 2833.7	MEAN 7.76	MAX 192	MIN 2.8	AC-FT 5620							

KANSAS RIVER BASIN

06844210 TURKEY CREEK AT EDISON, NE

LOCATION.--Lat 40°16'15", long 99°44'00", in the center of sec.31, T.4 N., R.21 W., Furnas County, Hydrologic Unit 10250009, on left bank 10 ft downstream from bridge on State Highway 136, 2 mi east of Edison and 5 mi upstream from mouth.

DRAINAGE AREA.--74.9 mi².

PERIOD OF RECORD.--October 1977 to current year.

REVISED RECORDS.--WDR NE-81-1: 1978-80(M). WDR NE-89-1: 1981(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,090 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 17, 19, and Dec. 21 to Mar. 3. Records good except for periods of estimated record, which are poor. Natural flow affected by pump irrigation development above station and by return flow from irrigated areas.

AVERAGE DISCHARGE.--14 years, 7.34 ft³/s, 5,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 795 ft³/s June 25, 1989, gage height, 12.91 ft, from floodmark; minimum daily, .01 ft³/s Sept. 6, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft³/s May 24, gage height, 5.41 ft; minimum daily, .01 ft³/s Sept. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	6.5	7.4	5.8	5.8	9.2	10	12	10	4.2	1.1	.41
2	4.5	6.1	5.9	6.0	6.2	8.8	10	11	37	3.4	.12	.54
3	4.5	6.4	6.7	6.2	6.8	9.0	10	11	24	2.3	1.0	1.1
4	5.2	6.9	6.5	6.8	7.2	9.5	11	12	16	4.5	.91	.33
5	5.2	6.8	7.8	7.6	7.2	9.8	10	13	13	3.1	2.5	.18
6	4.8	6.3	7.5	8.8	7.0	9.8	10	12	11	3.8	3.0	.01
7	4.6	6.2	6.9	9.0	6.8	9.5	10	11	10	3.9	2.5	.64
8	4.8	6.2	6.5	8.8	6.8	9.3	10	11	10	3.4	1.3	1.2
9	4.8	6.0	6.8	8.6	6.8	9.3	10	11	10	4.4	1.1	1.3
10	4.8	6.1	6.6	8.4	7.2	9.3	10	10	9.6	5.6	1.8	1.4
11	4.6	6.2	6.7	8.2	7.6	9.7	10	10	11	3.9	2.0	2.2
12	4.9	6.2	6.6	8.2	8.2	9.7	10	10	9.8	3.3	2.5	2.9
13	5.2	6.4	6.8	8.6	8.6	9.4	10	9.6	9.3	2.6	2.5	2.2
14	5.0	6.2	6.5	7.8	8.2	9.6	10	9.5	9.3	2.0	1.4	1.9
15	5.0	6.1	6.5	7.6	7.8	9.6	10	9.5	9.2	.66	1.4	2.0
16	5.0	6.0	5.8	7.4	8.6	9.7	10	11	8.9	1.2	2.4	1.9
17	4.9	6.0	7.0	7.4	9.0	10	10	12	8.6	.84	2.0	1.5
18	4.7	6.0	6.8	7.2	9.0	10	10	12	9.1	.98	1.5	.48
19	5.1	6.5	7.0	7.0	8.6	10	10	9.9	9.3	3.4	1.3	.52
20	5.6	6.5	6.8	7.0	8.4	10	10	9.6	8.9	3.9	1.8	.56
21	5.9	6.5	5.8	7.4	9.6	11	10	9.6	8.9	4.8	1.6	.57
22	6.5	6.5	5.4	8.0	10	11	11	9.5	8.8	3.7	1.6	.51
23	6.1	6.5	5.6	7.6	10	11	11	10	8.5	2.1	.77	.84
24	6.1	6.5	6.2	7.0	9.0	11	11	66	8.5	2.6	.10	2.2
25	6.0	6.5	6.6	6.0	8.6	10	10	26	8.8	2.8	.06	2.4
26	6.0	6.5	6.2	5.2	8.6	11	11	15	8.5	1.7	.94	2.8
27	6.0	6.6	6.0	6.2	8.8	11	11	13	7.9	2.0	.70	2.9
28	5.8	5.6	6.4	6.8	9.0	12	11	12	7.2	2.2	.11	2.9
29	6.1	7.3	6.0	6.0	---	12	13	11	6.5	2.9	.46	2.9
30	6.2	7.5	5.6	5.4	---	11	14	26	5.6	3.2	.58	2.9
31	6.5	---	5.8	5.6	---	11	---	10	---	2.8	.52	---
TOTAL	164.9	191.6	200.7	223.6	225.4	313.2	314	425.2	323.2	92.18	41.57	44.19
MEAN	5.32	6.39	6.47	7.21	8.05	10.1	10.5	13.7	10.8	2.97	1.34	1.47
MAX	6.5	7.5	7.8	9.0	10	12	14	66	37	5.6	3.0	2.9
MIN	4.5	5.6	5.4	5.2	5.8	8.8	10	9.5	5.6	.66	.06	.01
AC-FT	327	380	398	444	447	621	623	843	641	183	82	88

CAL YR 1990 TOTAL 3572.6 MEAN 9.79 MAX 221 MIN 2.5 AC-FT 7090
WTR YR 1991 TOTAL 2559.74 MEAN 7.01 MAX 66 MIN .01 AC-FT 5080

KANSAS RIVER BASIN

06844500 REPUBLICAN RIVER NEAR ORLEANS, NE

LOCATION.--Lat 40°07'53", long 99°30'08", in NE1/4NE1/4 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, and 23 mi upstream from Harlan County Dam.

DRAINAGE AREA.--15,640 mi², approximately, of which about 8,910 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,972.57 ft above National Geodetic Vertical Datum of 1929. Prior to June 2, 1948, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 4-11 and Dec. 17 to Feb. 13. Records good except for periods of estimated discharge, which are poor. Natural flow affected by irrigation development above station and regulation by upstream reservoirs.

AVERAGE DISCHARGE.--44 years, 273 ft³/s, 197,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,600 ft³/s June 22, 1948, gage height, 11.25 ft, from rating curve extended above 29,000 ft³/s; maximum gage height, 12.60 ft Mar. 22, 1960, backwater from ice; no flow at times in 1952-57, 1963, 1978-80, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1, 1935. Flood of June 23, 1947, reached a stage of 14.00 ft, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 514 ft³/s June 3, gage height, 3.92 ft; no flow Aug. 31 to Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	28	70	48	90	144	140	169	169	27	1.0	.01
2	.96	30	77	48	110	146	137	170	146	18	.73	.00
3	.74	39	58	45	130	142	134	159	357	17	.78	.00
4	.66	42	56	45	155	141	132	158	239	29	3.4	.00
5	.59	44	56	48	150	143	136	180	173	17	71	.00
6	.48	48	60	45	150	139	133	178	146	12	45	.02
7	.41	52	66	44	150	137	130	178	133	12	32	.00
8	.40	52	80	46	155	139	126	174	133	11	16	.00
9	.54	54	100	46	160	138	120	174	170	21	11	.00
10	.64	57	110	45	175	139	116	172	196	25	11	.07
11	.58	60	110	45	200	140	113	161	179	25	12	.11
12	.52	63	109	46	220	138	111	152	185	17	18	.00
13	.63	63	103	47	230	134	107	140	185	12	25	.00
14	.92	64	101	47	228	130	107	130	158	8.5	27	.00
15	1.3	65	101	46	198	128	109	117	141	4.7	27	.00
16	1.7	66	99	48	177	127	105	125	125	3.4	18	.00
17	1.8	67	90	48	170	136	104	157	116	2.6	8.6	.00
18	1.9	71	80	50	170	141	104	165	108	2.5	8.8	.00
19	2.0	70	78	52	166	146	105	161	109	2.4	7.3	.00
20	2.2	72	74	50	166	153	106	145	116	2.6	5.7	.00
21	2.8	72	62	48	160	155	109	130	114	2.7	5.4	.00
22	3.6	69	54	50	155	157	125	120	94	2.0	7.8	.00
23	6.9	72	54	56	154	157	132	114	83	2.1	4.1	.00
24	9.9	72	58	60	149	156	135	115	72	2.4	1.5	.00
25	14	75	62	58	145	157	134	335	57	2.6	.72	.00
26	17	74	56	58	146	153	132	273	52	10	2.7	.00
27	19	74	54	60	141	152	134	225	57	11	1.1	.00
28	20	79	56	68	143	158	132	199	50	12	.20	.00
29	22	52	54	70	---	153	147	177	41	12	.13	.00
30	25	54	48	72	---	147	159	272	29	5.1	.01	.00
31	28	---	45	80	---	142	---	251	---	2.2	.00	---
TOTAL	188.37	1800	2281	1619	4543	4468	3714	5376	3933	333.8	372.97	0.21
MEAN	6.08	60.0	73.6	52.2	162	144	124	173	131	10.8	12.0	.007
MAX	.28	79	110	80	230	158	159	335	357	29	71	.11
MIN	.40	28	45	44	90	127	104	114	29	2.0	.00	.00
AC-FT	374	3570	4520	3210	9010	8860	7370	10660	7800	662	740	.4

CAL YR 1990 TOTAL 38001.87 MEAN 104 MAX 1290 MIN .40 AC-FT 75380
WTR YR 1991 TOTAL 28629.35 MEAN 78.4 MAX 357 MIN .00 AC-FT 56790

KANSAS RIVER BASIN
06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
OCT										
03...	1600	0.78	775	8.4	20.0	703	11.4	63	21	294
DEC										
05...	1200	56	755	7.5	0.5	705	13.2	46	18	293
JAN										
16...	1710	47	772	7.9	0.0	710	10.8	50	16	--
MAR										
05...	1600	145	976	8.0	11.0	690	11.0	46	16	273
APR										
02...	1630	136	644	8.3	12.0	698	9.7	45	16	264
JUN										
05...	1430	172	578	8.0	28.0	710	7.3	37	20	233
25...	1145	58	672	8.1	29.0	625	8.6	41	19	264
AUG										
21...	1130	4.7	588	8.1	26.0	711	9.6	44	21	276

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT										
03...	120	31	0.70	34	--	<0.010	<0.100	0.020	0.070	0.060
DEC										
05...	87	28	0.70	38	1.79	0.010	1.80	0.100	0.110	0.110
JAN										
16...	93	30	0.50	43	2.55	0.050	2.60	0.260	0.210	0.190
MAR										
05...	86	28	0.80	38	2.19	0.010	2.20	0.030	0.130	0.110
APR										
02...	85	28	0.70	35	--	<0.010	1.50	0.040	0.080	0.060
JUN										
05...	34	20	0.70	31	--	--	--	--	--	--
25...	90	25	0.70	36	--	<0.010	0.310	0.070	0.100	0.080
AUG										
21...	79	20	0.60	36	--	<0.010	<0.050	<0.010	0.040	0.030

DATE	TIME	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT				
03...	1600	190	14	120
DEC				
05...	1200	120	14	13
JAN				
16...	1710	140	17	39
MAR				
05...	1600	140	12	9
APR				
02...	1630	140	9	7
JUN				
05...	1430	120	--	7
25...	1145	150	9	8
AUG				
21...	1130	140	<3	99

LOCATION.--Lat 39° 59' 06", long 100° 33' 35", in NW1/4 NE1/4 sec.10, T.1 S., R.29 W., Decatur County, Hydrologic Unit 102500014, on right bank at downstream 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.

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 fair except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1944 reached a stage of 18.16 ft. from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
No peak greater than base discharge.							

No flow entire year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

[illegible]

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1991. BY WATER YEAR (WY)

MEAN	10.3	3.12	2.65	2.24	4.07	13.3	7.70	27.0	43.5	33.1	15.2	17.9
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 1990 CALENDAR YEAR

FOR 1991 WATER YEAR

WATER YEARS 1946 - 1991

ANNUAL MEAN	.19		.00		15.1	
HIGHEST ANNUAL MEAN					106	1951
LOWEST ANNUAL MEAN						1991
HIGHEST DAILY MEAN	25	Jul 27			4560	Jun 11 1960
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Sep 3 1946
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Sep 23 1947
INSTANTANEOUS PEAK FLOW			.00	Oct 1	7940	Jun 11 1960
INSTANTANEOUS PEAK STAGE			.00	Oct 1	18.71	Jun 11 1960
INSTANTANEOUS LOW FLOW			.00	Oct 1	.00	most years
ANNUAL RUNOFF (AC-FT)	140				10930	
10 PERCENT EXCEEDS	.00		.00		26	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

KANSAS RIVER BASIN

06847000 BEAVER CREEK NEAR BEAVER CITY, NE

LOCATION.--Lat 40°07'12", long 99°53'35", in SW1/4SW1/4 sec.23, T.2 N., R.23 W., Furnas County, Hydrologic Unit 10250014, on left bank 400 ft downstream from bridge on U.S. Highway 283, 3.5 mi west of Beaver City, and at mile 24.7.

DRAINAGE AREA.--1,950 mi², approximately, of which about 1,650 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1936 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1340: 1937-38(M), 1939, 1940-41(M), 1943(M). WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,162.96 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1947, nonrecording gages and Aug. 13, 1947, to Nov. 14, 1957, water-stage recorder, at site 400 ft upstream at datum 2.0 ft higher. Nov. 15, 1957, to Sept. 22, 1958, at site 3.6 mi upstream at different datum.

REMARKS.--No estimated daily discharges: Records fair.

AVERAGE DISCHARGE.--55 years, 20.6 ft³/s, 14,920 acre-ft/yr; median of yearly mean discharges, 9.4 ft³/s, 6,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,510 ft³/s June 14, 1983, gage height, 15.68 ft; no flow at times in 1937-40, 1946, 1953-57, 1959, 1969-74, 1976, 1978-81, 1990-1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 4	1345	11	*a3.41	No peaks greater than base discharge.			
May 30	0715	*12	3.29				

a Backwater from debris on control.

Minimum daily discharge, no flow Oct. 1-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.27	.25	.31	.37	.24	.32	.38	1.1	.10	.08	.05
2	.00	.26	.87	.31	.37	.29	.30	.35	.70	.10	.06	.04
3	.00	.42	.14	.30	.37	.28	.38	.36	.46	.10	.23	.06
4	.00	2.2	.17	.32	.35	.30	.34	.42	.39	.09	.12	.06
5	.00	.19	.24	.32	.38	.28	.43	.45	.32	.09	.04	.11
6	.00	.08	.19	.31	.38	.34	.36	.36	.29	.09	.05	.13
7	.00	.21	.27	.30	.36	.27	.35	.35	.32	.08	.04	.12
8	.00	.18	.20	.32	.36	.28	.40	.44	.35	.08	.07	.10
9	.00	.15	.27	.48	.33	.33	.40	.40	.31	.13	.12	.14
10	.00	.13	.25	.41	.33	.36	.37	.31	.47	.15	.09	.22
11	.00	.18	.27	.37	.33	.30	.30	1.0	.31	.14	.12	.63
12	.00	.25	.25	.34	.33	.25	.35	.61	.25	.11	.18	.23
13	.00	.28	.19	.44	.33	.37	.46	.47	.22	.09	.15	.12
14	.00	.20	.25	.38	.29	.36	.38	.43	.23	.09	.11	.09
15	.01	.27	.30	.38	.27	.37	.37	.38	.24	.08	.10	.10
16	.03	.22	.27	.38	.30	.27	.32	.69	.21	.05	.09	.09
17	.04	.22	.27	.37	.33	.40	.29	1.5	.21	.04	.13	.09
18	.04	.26	.29	.38	.35	.23	.32	.67	.27	.03	.14	.07
19	.04	.27	.29	.37	.29	.14	.36	.82	.23	.11	.10	.10
20	.08	.23	.27	.34	.29	.24	.30	.64	.21	.18	.08	.10
21	.11	.45	.24	.35	.28	.27	.45	.47	.21	.20	.07	.09
22	.12	.62	.24	.34	.30	.31	.45	.41	.19	.18	.08	.08
23	.12	.44	.22	.34	.29	.45	.35	.45	.20	.16	.09	.09
24	.12	.26	.35	.34	.30	.43	.38	.57	.21	.14	.07	.09
25	.12	.52	.32	.40	.29	.29	.37	1.3	.20	.15	.07	.10
26	.14	.38	.59	.38	.33	.31	.33	.57	.16	.13	.05	.10
27	.17	.46	.36	.37	.31	.37	.37	.48	.12	1.1	.05	.14
28	.18	.38	.34	.35	.30	.44	.48	.43	.11	.54	.03	.09
29	.18	.32	.33	.36	---	.37	.60	.37	.10	.23	.04	.08
30	.23	.33	.32	.37	---	.43	.39	4.0	.11	.16	.04	.08
31	.29	---	.31	.37	---	.43	---	1.4	---	.11	.04	---
TOTAL	2.02	10.63	9.12	11.10	9.11	10.00	11.27	21.48	8.70	5.03	2.73	3.59
MEAN	.065	.35	.29	.36	.33	.32	.38	.69	.29	.16	.088	.12
MAX	.29	2.2	.87	.48	.38	.45	.60	4.0	1.1	1.1	.23	.63
MIN	.00	.08	.14	.30	.27	.14	.29	.31	.10	.03	.03	.04
AC-FT	4.0	21	18	22	18	20	22	43	17	10	5.4	7.1

CAL YR 1990 TOTAL 93.39 MEAN .26 MAX 6.1 MIN .00 AC-FT 185
WTR YR 1991 TOTAL 104.78 MEAN .29 MAX 4.0 MIN .00 AC-FT 208

KANSAS RIVER BASIN

237

06847500 SAPPA CREEK NEAR STAMFORD, NE

LOCATION.--Lat 40°07'53", long 99°33'15", in NW1/4NW1/4 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 5.5 mi upstream from mouth.

DRAINAGE AREA.--3,740 mi², approximately, of which about 3,280 mi² 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. WSP 2119: Drainage area. WDR NE-71-1: Calendar year totals. WRD NE-82-1: 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 1,981.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--46 years, 48.6 ft³/s, 35,210 acre-ft/yr; median of yearly mean discharges, 19 ft³/s, 13,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s June 24, 1966, gage height, 22.13 ft, from floodmark, from contracted opening and flow-over-road measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 14	1030	*173	*6.22	No peaks greater than base discharge.			
No flow for many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.79	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.37	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	5.0	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	5.2	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	5.6	.00	101	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	3.9	.00	17	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	2.7	.00	1.4	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.04	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.02	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.01	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.72	.00	108	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	47	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	7.6	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	1.4	.00	.28	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.62	.00	.05	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.04	.00
20	.00	.00	.00	.00	.00	.00	.00	13	.08	.00	.02	.00
21	.00	.00	.00	.00	.00	.00	.00	23	.06	.00	.01	.00
22	.00	.00	.00	.00	.00	.00	.00	7.2	.04	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	1.5	.02	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.10	.01	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.50	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.73	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.05	29.44	0.00	282.47	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	1.49	.98	.000	9.11	.000
MAX	.00	.00	.00	.00	.00	.00	.00	23	5.6	.00	108	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	91	58	.00	560	.00

CAL YR 1990 TOTAL 786.17 MEAN 2.15 MAX 180 MIN .00 AC-FT 1560
WTR YR 1991 TOTAL 357.96 MEAN .98 MAX 108 MIN .00 AC-FT 710

KANSAS RIVER BASIN

06848500 PRAIRIE DOG CREEK NEAR WOODRUFF, KS

LOCATION.--Lat 39° 59' 09", long 99° 28' 39", in NW1/4 NW1/4 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 mi².

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. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	e.00	.00	.00	.02	.00	.00	.00	.00
3	e.00	.00	.00	.00	e.00	.00	.00	e.00	.00	.00	.00	.00
4	e.00	.00	.00	.00	e.00	.00	.00	e.00	.00	.00	.00	.00
5	.00	.00	.00	.00	e.00	.00	.00	e.00	.00	.00	.00	.00
6	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.61	.00
13	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	3.6	.00
14	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.04	.00
15	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	e.00	.00	.00	.00	12	.00	.00	.00	.00
28	.00	.00	.00	e.00	.00	.00	.00	2.1	.00	.00	.00	.00
29	.00	.00	.00	e.00	---	.00	.00	.10	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	e.00	---	.00	---	.00	---	.00	.00	---
MEAN	.000	.000	.000	.000	.000	.000	.000	.46	.000	.000	.14	.000
MAX	.00	.00	.00	.00	.00	.00	.00	12	.00	.00	3.6	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	28	.00	.00	8.4	.00

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1991, BY WATER YEAR (WY)

	MEAN	22.0	6.23	4.78	4.65	17.0	17.1	9.96	45.9	98.7	68.5	34.7	25.9
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	.003	.000	.000	.000	.000	.000
(WY)	1955	1956	1956	1956	1957	1957	1985	1986	1984	1984	1959	1960	

SUMMARY STATISTICS

FOR 1990 CALENDAR YEAR

FOR 1991 WATER YEAR

WATER YEARS 1929 - 1991

ANNUAL MEAN	1.42	.051	28.9
HIGHEST ANNUAL MEAN			208
LOWEST ANNUAL MEAN			.051
HIGHEST DAILY MEAN	199	May 27	9700
LOWEST DAILY MEAN	.00	Oct 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00
INSTANTANEOUS PEAK FLOW		May 27	15000
INSTANTANEOUS PEAK STAGE		May 27	21.04
INSTANTANEOUS LOW FLOW		Oct 1	.00
ANNUAL RUNOFF (AC-FT)	1030	37	20920
10 PERCENT EXCEEDS	.75	.00	30
50 PERCENT EXCEEDS	.00	.00	3.7
90 PERCENT EXCEEDS	.00	.00	.00

06849000 HARLAN COUNTY LAKE NEAR REPUBLICAN CITY, NE

LOCATION.--Lat 40°04'10", long 99°12'30", in sec.11, T.1 N., R.17 W., Harlan County, Hydrologic Unit 10250009, at left end of spillway on upstream side of Harlan County Dam on Republican River, 2 mi southeast of Republican City and 8 mi southeast of Alma.

DRAINAGE AREA.--20,750 mi², approximately, of which about 13,530 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--November 1952 to current year. Prior to October 1965 published as Harlan County Reservoir near Republican City.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam with gravity-type concrete spillway section; storage began Nov. 14, 1952. Capacity, 315,100 acre-ft between elevations 1,885.0 ft, sill of outlet gates, and 1,946.0 ft, top of storage pool. Top of flood-control pool at elevation 1,973.5 ft, capacity, 811,810 acre-ft. Top of superstorage flood-control pool at elevation 1,975.5 ft, capacity, 858,700 acre-ft. Figures given herein represent total contents. Water used for irrigation is the Bostwick irrigation project.

COOPERATION.--Capacity table furnished by Corps of Engineers (revised Jan. 1, 1990).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 497,700 acre-ft Apr. 6, 1960, elevation, 1,955.67 ft; minimum since operation of reservoir began, 110,300 acre-ft Oct. 22 to Nov. 6, 1953, elevation, 1,922.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 215,400 acre-ft June 14, elevation, 1,937.43 ft; minimum, 132,800 acre-ft Sept. 30, elevation, 1,928.58 ft.

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

1,928	128,300	1,940	243,100
1,930	144,300	1,945	302,000
1,935	190,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	174200	170500	172200	175000	177700	186500	193800	199700	211700	201500	160000	137500
2	174100	170200	172600	175000	177700	186400	194200	200000	212000	200200	158100	137500
3	174200	170700	172500	175000	177800	186900	194500	200500	212300	198700	156800	137200
4	174000	170700	172500	175000	178000	187100	194900	201300	212900	197100	155300	137100
5	173900	170700	172500	175000	178200	187200	195100	201700	213000	195600	155100	137100
6	173500	170700	172600	175000	178500	187400	195200	201900	213200	194100	154500	136800
7	173300	170700	172600	175100	178800	187800	195400	202300	213500	192500	153800	136500
8	173100	170700	172700	175100	179100	188100	195500	202500	213600	190800	152700	136600
9	172900	170700	172800	175100	179400	188300	195500	202800	213800	189500	151400	136400
10	172600	170800	172900	175200	179800	188400	194500	203300	214300	188500	150200	136400
11	172600	170900	173200	175300	180200	188600	195000	203600	214500	187800	148800	136400
12	172400	170900	173500	175300	180600	189200	196500	203900	214500	186700	148000	136300
13	172200	170900	173500	175300	181200	189100	196400	204000	215100	185500	147800	136300
14	172200	171000	173900	175400	181500	189200	196500	204100	215400	184600	146800	136300
15	172000	171100	174000	175400	181700	189500	196500	204800	215300	183200	145800	136000
16	171800	171100	174000	175600	182200	189800	196400	205300	215300	181300	145000	135800
17	171600	171100	174500	175600	182500	190400	196500	205500	215200	180100	144000	135500
18	171200	171200	174800	175700	182800	190600	196600	205400	215200	178400	142800	135300
19	171100	171300	174700	175900	183200	190600	196900	205700	214900	177200	141900	134800
20	171300	171700	174700	175900	183600	191100	197000	205900	214500	175700	140900	134500
21	171100	171900	174700	176000	183800	191600	197500	206100	214100	174200	139800	134400
22	170900	172100	174700	176100	184100	192100	198000	206400	213400	172600	139300	134200
23	170800	171900	174700	176300	184500	192000	198100	206900	213000	171700	139200	134000
24	170900	172000	174700	176400	184600	192000	198200	207200	212200	170700	139000	133800
25	170900	171900	174700	176600	184900	192200	198200	207900	210900	169200	138800	133600
26	170800	172200	174600	176800	185100	192600	198800	208500	209500	168000	138500	133300
27	170600	172300	174600	177000	185300	192900	198600	208900	208000	166800	138300	133200
28	170300	172400	174800	177300	185700	193000	199500	209500	206000	165600	138000	133100
29	170400	172300	174800	177300	---	193100	199700	210000	204300	164400	138000	133000
30	170500	172200	175000	177500	---	193600	199700	210600	202700	163100	137900	132800
31	170400	---	175000	177600	---	193800	---	211400	---	161500	137900	---
MEAN	172000	171300	173800	175800	181500	190000	196600	205100	212500	181200	145900	135400
MAX	174200	172400	175000	177600	185700	193800	199700	211400	215400	201500	160000	137500
MIN	170300	170200	172200	175000	177700	186400	193800	199700	202700	161500	137900	132800
(†)	1932.90	1933.09	1933.38	1933.65	1934.49	1935.31	1935.90	1937.04	1936.19	1931.95	1929.23	1928.58
(‡)	-4100	+1800	+2800	+2600	+8100	+8100	+5900	+11700	-8700	-41200	-23600	-5100
CAL YR 1990	MEAN	206400	MAX	254600	MIN	170200	(†)	-24,900				
WTR YR 1991	MEAN	178400	MAX	215400	MIN	132800	(‡)	-41,700				

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

06849000 HARLAN COUNTY LAKE NEAR REPUBLICAN CITY, NE

REVISIONS: Capacity table revised effective Jan. 1, 1990. Record of storage for the 1990 water year has been revised starting on Jan. 1, 1990. Table below and extremes paragraph supercede figures published in report for 1990.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 254,700 acre-ft June 22, elevation, 1,941.04 ft; minimum, 174,500 acre-ft Sept. 28-30, elevation, 1,933.33 ft.

Capacity table, Oct. to Dec.

1,935	203,900	1,945	314,600
1,940	255,200	1,950	383,900

Capacity table, Jan. to Sept.

1,928	128,300	1,940	243,100
1,930	144,300	1,945	302,000
1,935	190,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204500	205700	208800	200000	208200	216200	229500	237100	251700	248200	196300	187500
2	204400	205800	208800	200200	208400	216800	229600	237100	251900	246400	196300	186100
3	204200	205800	208900	200500	208700	216900	230100	238400	252200	244200	197000	185000
4	204000	206100	209100	200600	208900	217200	230400	238800	252200	241800	196600	184000
5	204200	206100	209500	200700	209100	217200	230800	238900	252300	239800	195800	182800
6	204200	206300	209700	200900	209400	219200	231000	239100	252500	237200	195000	182000
7	204200	206400	209900	201200	209800	220000	231100	239100	252900	234900	194000	181000
8	204100	206600	210000	201600	210100	220400	231300	239600	253100	232200	193200	180100
9	204200	206600	210400	201700	210500	221100	232100	240900	253200	230500	192000	179200
10	204200	206800	210700	201900	210900	221600	232100	240700	253300	228500	190800	178400
11	204200	206800	210700	202100	211300	222300	232200	241300	253600	226600	190500	177800
12	204200	207000	210900	202300	211800	222800	232500	241700	253700	224400	191900	177400
13	204400	207100	210800	202600	212100	223800	233100	242000	253700	222200	191900	177100
14	204500	207200	210900	203000	212200	223900	233300	242200	253700	220200	193100	176900
15	204600	207300	211000	203300	212400	224400	233500	242600	253800	217900	193100	176600
16	204500	207300	211000	203600	212500	224700	233700	242800	254100	215900	193300	176100
17	204200	207300	211000	203800	212700	224900	233800	242900	254200	214000	193300	175900
18	204200	207300	211300	204000	212800	225200	234100	243200	254400	211700	193900	176000
19	204300	207400	211400	205000	213000	225300	234500	243600	254500	211300	194500	175800
20	204400	207500	211400	205200	213500	225600	234800	245500	254500	209700	195000	175700
21	204400	207800	211400	205300	214000	226100	235200	246700	254600	207800	195200	175700
22	204500	207900	211600	205600	214400	226100	235600	247500	254500	206000	195400	175300
23	204900	207900	211700	205800	214800	226700	235900	247900	254500	204300	195200	175100
24	204900	208200	211700	205900	215000	226700	236400	248600	254400	202600	195100	175100
25	204900	208400	211900	206200	215200	226900	236800	248900	254300	200800	194400	175000
26	205300	208500	212100	206600	215500	227000	237000	249000	254100	200600	193700	174800
27	205500	208700	212100	206900	215600	227400	237200	249300	253200	200400	192900	174600
28	205700	208600	212300	207000	216000	228100	237200	249600	252200	200200	191700	174500
29	206000	208600	212400	207300	---	228300	237200	249800	251000	199700	190700	174500
30	205900	208800	212600	207600	---	228800	237100	250600	249800	198800	189700	174500
31	205900	---	212800	208000	---	229100	---	250800	---	197600	188600	---
MEAN	204600	207300	210900	203800	212100	223600	233600	243700	253300	218600	193600	178000
MAX	206000	208800	212800	208000	216000	229100	237200	250800	254600	248200	197000	187500
MIN	204000	205700	208800	200000	208200	216200	229500	237100	249800	197600	188600	174500
(†)	1935.21	1935.51	1935.92	1936.71	1937.49	1938.72	1939.46	1940.69	1940.60	1935.69	1934.78	1933.33
(‡)	+1400	+2900	+4000	+8100	+8000	+13100	+8000	+13700	-1000	-52200	-9000	-14100
CAL YR 1989	MEAN	236100	MAX	271700	MIN	204000	(‡)	-23,700				
WTR YR 1990	MEAN	215300	MAX	254600	MIN	174500	(‡)	-16,900				

(†) Elevation, in feet, at end of month.

(‡) Change in contents, in acre-feet.

KANSAS RIVER BASIN

241

06849500 REPUBLICAN RIVER BELOW HARLAN COUNTY DAM, NE

LOCATION.--Lat 40°04'45", long 99°10'05", in SW1/4 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, and 2.8 mi downstream from Harlan County Dam.

DRAINAGE AREA.--20,760 mi², approximately, of which about 13,550 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--December 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,863.38 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Dec. 24 to Jan. 15. Records good except for period of estimated record, which is poor. Flow completely regulated by Harlan County Lake (station 06849000) and partially regulated by six upstream reservoirs.

AVERAGE DISCHARGE.--38 years (1953-91), 230 ft³/s, 166,600 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft³/s June 25, 1957, gage height, 8.65 ft; minimum daily, 0.60 ft³/s Feb. 17, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1, 1935, discharge, about 260,000 ft³/s, from slope-area measurement near Bloomington.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 565 ft³/s June 28, gage height, 2.96 ft; minimum daily, 0.60 ft³/s Feb. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.8	3.8	2.2	2.4	2.2	2.3	1.8	7.1	478	463	1.8
2	3.4	3.8	3.8	2.3	2.4	1.6	2.3	1.9	13	440	523	2.1
3	4.9	4.8	3.8	2.1	2.4	1.4	2.8	2.6	9.6	470	516	2.0
4	3.9	4.0	3.8	2.2	2.9	1.5	2.3	3.1	4.2	449	513	2.0
5	3.8	3.8	3.8	2.2	2.9	3.1	2.2	6.0	112	433	346	2.1
6	3.9	3.8	3.8	2.1	2.9	3.3	2.4	3.8	4.0	448	202	2.3
7	3.7	3.8	3.8	2.1	3.8	3.1	2.6	3.5	1.1	457	298	2.8
8	3.3	3.8	3.8	2.1	3.8	3.3	2.9	3.1	1.1	440	374	2.4
9	3.3	3.8	3.8	2.2	3.8	3.2	3.3	3.4	1.2	417	363	3.0
10	3.5	4.0	3.5	2.2	3.8	3.3	3.8	3.3	1.4	377	335	3.4
11	4.1	3.8	3.3	2.3	3.8	3.3	4.7	3.3	1.6	305	330	4.3
12	4.7	3.8	3.6	2.5	4.4	3.4	13	3.7	1.5	259	272	3.6
13	4.9	3.8	3.8	2.5	5.1	3.4	15	3.7	1.4	255	253	4.1
14	4.8	3.8	3.8	2.6	4.4	2.8	4.4	3.3	3.0	275	292	3.3
15	5.1	3.8	3.5	2.6	4.3	3.1	3.6	4.8	6.9	316	314	3.6
16	5.1	3.8	3.3	2.8	2.8	2.8	2.7	7.2	5.2	362	273	4.0
17	5.1	3.8	3.3	2.8	.60	3.8	3.5	9.9	99	391	229	3.5
18	4.8	3.8	3.3	2.7	.64	3.4	3.8	7.0	169	405	222	2.9
19	4.1	3.8	3.1	2.9	.71	3.1	4.6	5.8	167	432	199	2.6
20	4.0	3.8	2.4	2.4	.84	2.9	5.0	6.0	198	442	177	2.6
21	3.8	3.8	2.3	2.0	1.0	3.1	6.0	7.3	213	458	176	2.1
22	3.8	3.8	2.0	2.4	1.1	3.3	7.3	12	254	470	101	2.6
23	3.8	3.8	2.0	2.2	1.2	2.8	3.8	17	310	445	3.3	2.4
24	3.8	3.8	2.0	2.2	1.1	2.8	1.0	19	334	392	1.8	2.7
25	3.8	3.8	2.2	2.3	1.2	3.0	1.0	25	376	352	1.8	3.2
26	3.8	3.8	2.1	2.1	1.3	2.9	1.1	23	442	334	2.2	3.9
27	3.8	3.8	2.1	2.4	1.3	3.2	1.1	34	507	331	2.1	4.2
28	3.8	3.8	2.3	2.0	1.4	3.1	1.5	45	549	344	2.4	3.6
29	3.8	3.8	2.3	1.8	---	2.4	2.0	104	552	358	2.7	2.8
30	3.8	3.8	2.0	1.8	---	2.3	1.4	33	549	381	2.4	2.7
31	3.8	---	2.0	2.4	---	2.3	---	9.8	---	404	2.0	---
TOTAL	125.0	115.4	94.4	71.4	68.29	89.2	113.4	416.3	4893.3	12120	6791.7	88.6
MEAN	4.03	3.85	3.05	2.30	2.44	2.88	3.78	13.4	163	391	219	2.95
MAX	5.1	4.8	3.8	2.9	5.1	3.8	15	104	552	478	523	4.3
MIN	2.8	3.8	2.0	1.8	.60	1.4	1.0	1.8	1.1	255	1.8	1.8
AC-FT	248	229	187	142	135	177	225	826	9710	24040	13470	176

CAL YR 1990 TOTAL 31590.93 MEAN 86.6 MAX 757 MIN .75 AC-FT 62660
WTR YR 1991 TOTAL 24986.99 MEAN 68.5 MAX 552 MIN .60 AC-FT 49560

KANSAS RIVER BASIN

06851000 CENTER CREEK AT FRANKLIN, NE

LOCATION.--Lat 40°06'12", long 98°58'45", in NW1/4NE1/4 sec.35, T.2 N., R.15 W., Franklin County, Hydrologic Unit 10250016, on right bank at downstream side of bridge on State Highway 136, 1 mi northwest of Franklin and 3 mi upstream from mouth.

DRAINAGE AREA.--177 mi² approximately, of which about 56 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--April 1948 to September 1956. Annual maximums and occasional low-flow measurements, water years 1961-68. October 1968 to September 1975, October 1977 to current year.

REVISED RECORDS.--WSP 2119: 1963(M), 1965(M), drainage area. WRD NE-83: 1981-82(P).

GAGE.--Water-stage recorder. Datum of gage is 1,858.34 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Dec. 19, 1952, nonrecording gage at site 1.5 mi downstream at datum 30.27 ft lower and Dec. 19, 1952, to Sept. 30, 1956, at present site at datum 0.84 ft higher. Sept. 7, 1961, to Sept. 30, 1968, crest-stage gage and Oct. 1, 1968, to Sept. 30, 1975, recording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 20-25 and Jan. 26, 30. Records good except for periods of estimated record, which are poor. Two small diversions above station for irrigation.

AVERAGE DISCHARGE.--29 years (1948-56, 1968-75, 1978-91) 8.01 ft³/s, 5,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,150 ft³/s Sept. 20, 1950, gage height, 6.8 ft, from floodmark, site and datum then in use, from rating curve extended above 420 ft³/s on basis of slope-area measurement of peak flow; no flow at times during 1948-50.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 25	2000	127	2.34	June 4	2100	206	2.91
May 30	2000	*302	*3.51				

Minimum daily discharge, 2.6 ft³/s July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	7.2	5.5	5.9	6.1	6.6	7.1	6.9	16	4.1	13	5.2
2	5.8	6.9	5.6	5.5	6.3	6.1	7.0	7.0	39	3.5	6.3	6.4
3	6.2	7.1	5.6	9.7	6.1	6.2	6.9	6.9	20	3.4	5.7	6.8
4	6.2	6.7	5.5	5.7	6.3	6.3	7.3	6.6	21	3.4	5.6	6.3
5	6.3	6.6	5.7	5.7	6.3	6.3	7.5	7.3	19	3.6	7.6	6.0
6	6.2	6.6	5.7	5.7	6.2	6.1	7.8	6.9	6.9	3.0	5.7	5.8
7	6.2	6.4	5.5	5.8	6.2	6.1	7.9	6.8	6.5	3.1	5.2	5.7
8	6.2	6.4	5.5	6.0	6.2	6.1	7.7	7.0	6.5	3.5	4.8	5.6
9	6.2	6.4	5.7	6.2	6.2	6.1	7.5	6.9	6.3	3.7	4.7	5.4
10	6.2	6.4	5.7	6.4	6.1	6.3	7.6	7.0	6.2	3.7	3.1	5.5
11	6.2	6.5	5.7	6.3	6.3	6.5	9.9	7.1	6.1	3.5	3.3	5.5
12	6.2	6.5	5.4	6.2	6.3	6.4	12	7.3	6.7	3.5	4.8	5.3
13	6.2	6.5	5.4	6.5	6.3	6.2	8.3	7.3	6.2	2.7	4.4	5.3
14	6.2	6.8	5.6	6.7	6.3	6.3	7.6	7.2	5.7	3.3	4.2	5.3
15	6.5	6.9	5.5	6.7	6.4	6.3	7.4	7.0	5.4	3.3	4.2	5.1
16	6.8	6.5	5.5	6.5	6.6	6.1	7.3	7.4	5.2	2.6	4.0	5.1
17	6.5	6.4	5.8	6.5	6.6	6.7	7.2	7.2	5.2	2.9	3.9	5.2
18	6.7	6.5	5.5	6.4	6.5	6.4	7.1	7.0	5.6	3.5	3.6	5.2
19	7.1	6.5	5.4	6.5	6.3	6.5	7.0	7.0	4.9	4.8	2.8	5.2
20	6.9	6.7	5.2	6.5	6.5	6.7	6.8	7.0	4.9	4.8	3.0	5.2
21	6.9	6.5	5.2	6.1	6.5	6.7	7.1	7.2	4.8	4.3	3.6	5.4
22	7.1	6.2	5.2	6.2	6.5	6.5	7.4	7.1	4.4	4.6	4.1	5.2
23	7.2	6.5	5.4	6.4	6.4	6.3	7.1	7.6	4.4	19	3.8	5.2
24	6.9	6.5	5.6	6.3	6.2	6.4	7.0	10	4.5	6.5	3.8	5.1
25	6.9	6.3	5.7	6.4	6.2	6.8	7.1	27	3.2	5.5	3.8	5.2
26	6.9	6.3	5.9	6.2	6.2	7.0	7.4	14	2.7	7.9	4.4	5.3
27	7.0	6.0	5.8	6.3	6.3	6.8	7.2	8.1	3.4	6.4	4.1	5.3
28	7.0	5.9	5.5	6.3	6.4	6.9	7.2	7.1	4.8	5.5	5.5	5.1
29	7.2	5.7	5.4	6.3	---	6.8	7.1	6.8	3.4	5.8	5.2	5.3
30	7.2	5.6	5.2	6.2	---	6.7	6.9	109	3.6	7.9	5.0	5.1
31	7.2	---	5.4	6.2	---	6.8	---	90	---	9.4	5.3	---
TOTAL	203.9	194.0	171.3	196.3	176.8	200.0	226.4	434.7	242.5	152.7	148.5	163.3
MEAN	6.58	6.47	5.53	6.33	6.31	6.45	7.55	14.0	8.08	4.93	4.79	5.44
MAX	7.2	7.2	5.9	9.7	6.6	7.0	12	109	39	19	13	6.8
MIN	5.6	5.6	5.2	5.5	6.1	6.1	6.8	6.6	2.7	2.6	2.8	5.1
AC-FT	404	385	340	389	351	397	449	862	481	303	295	324

CAL YR 1990 TOTAL 2670.6 MEAN 7.32 MAX 153 MIN 2.8 AC-FT 5300
WTR YR 1991 TOTAL 2510.4 MEAN 6.88 MAX 109 MIN 2.6 AC-FT 4980

06851500 THOMPSON CREEK AT RIVERTON, NE

LOCATION.--Lat 40°05'21", long 98°45'38", in NW1/4NW1/4 sec.2, T.1 N., R.13 W., Franklin County, Hydrologic Unit 10250016, on left bank at downstream side of bridge on State Highway 136, at west edge of Riverton, 240 ft upstream from Burlington Northern Inc. bridge, and 0.5 mi upstream from mouth.

DRAINAGE AREA.--279 mi², of which about 190 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--April 1948 to September 1956, October 1968 to September 1975. Annual maximums, water years 1962-68 and occasional low-flow measurements, water years 1961-68. October 1977 to current year.

REVISED RECORDS.--WRD Nebr. 1972: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,753.38 ft above National Geodetic Vertical Datum of 1929. Apr. 1 to Oct. 1, 1948, nonrecording gage 240 ft downstream at datum 2.32 ft higher. Oct. 1, 1948, to July 11, 1950, water-stage recorder at present site at datum 1.32 ft higher, July 12, 1950, to Sept. 30, 1956, and Oct. 1, 1968, to Sept. 30, 1975, at present site and datum. Sept. 7, 1961, to Sept. 30, 1968, crest-stage gage at present site and datum. Non-recording gage only, June 27, 1983 to Mar. 29, 1984 at site 240 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 12, Jan. 21, 26, 27, 30, and June 26 to July 9. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--29 years (1948-56, 1968-75, 1978-91), 30.6 ft³/s, 22,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s July 9, 1950, gage height, 13.22 ft, present datum, by slope-area measurement; minimum daily, 8.1 ft³/s Dec. 19, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0200	556	6.82	June 1	1630	688	7.20
May 25	0430	488	6.61	June 5	0800	*1560	*a9.16
May 30	0230	740	7.34				

a From floodmark.

Minimum daily discharge, 11 ft³/s Aug. 31, Sept. 4-10, 15-18, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	21	19	18	24	22	20	23	278	21	14	12
2	18	20	19	24	23	20	19	23	305	17	14	13
3	19	21	19	18	23	20	19	23	146	16	17	12
4	17	20	19	18	23	21	19	22	56	15	17	11
5	17	19	20	20	22	21	20	23	629	15	32	11
6	17	19	19	21	22	22	20	22	102	15	19	11
7	16	19	19	25	21	21	20	22	38	16	15	11
8	16	20	20	22	21	22	19	22	28	16	15	11
9	16	20	20	20	23	21	19	22	28	16	16	11
10	17	20	19	20	23	22	19	22	30	16	15	11
11	17	20	20	20	23	22	27	22	28	17	13	13
12	17	20	20	20	22	21	103	22	32	15	69	12
13	19	21	20	21	22	20	19	21	25	15	20	12
14	18	21	20	19	21	20	20	21	20	18	12	12
15	18	22	20	20	26	20	22	20	20	15	12	11
16	19	21	20	19	22	20	23	22	21	14	13	11
17	18	20	22	19	21	23	23	21	21	13	13	11
18	17	20	21	18	20	20	23	20	23	14	13	11
19	18	20	21	19	21	20	23	19	19	20	14	12
20	18	21	20	19	21	20	24	20	18	13	14	12
21	17	21	19	18	21	20	26	21	17	14	14	12
22	18	20	17	22	20	20	26	20	17	17	14	11
23	18	20	16	21	21	21	25	21	17	19	14	12
24	18	20	16	22	20	21	25	20	16	17	14	13
25	18	19	19	21	20	21	25	203	15	16	13	13
26	18	19	20	20	20	21	25	99	15	15	12	13
27	18	18	19	22	20	20	23	59	15	16	13	13
28	18	19	23	23	21	20	24	29	15	16	13	13
29	19	19	22	22	---	20	24	38	16	14	13	13
30	19	20	19	21	---	20	22	426	16	13	12	13
31	20	---	17	25	---	20	---	315	---	14	11	---
TOTAL	551	600	604	637	607	642	746	1683	2026	488	510	357
MEAN	17.8	20.0	19.5	20.5	21.7	20.7	24.9	54.3	67.5	15.7	16.5	11.9
MAX	20	22	23	25	26	23	103	426	629	21	69	13
MIN	16	18	16	18	20	20	19	19	15	13	11	11
AC-FT	1090	1190	1200	1260	1200	1270	1480	3340	4020	968	1010	708

CAL YR 1990 TOTAL 8381 MEAN 23.0 MAX 349 MIN 13 AC-FT 16620
WTR YR 1991 TOTAL 9451 MEAN 25.9 MAX 629 MIN 11 AC-FT 18750

KANSAS RIVER BASIN

06852000 ELM CREEK AT AMBOY, NE

LOCATION.--Lat 40°05'20", long 98°26'07", in NE1/4NW1/4 sec.3, T.1 N., R.10 W., Webster County, Hydrologic Unit 10250016, on left bank at downstream side of bridge on State Highway 136 at east edge of Amboy, 2.5 mi upstream from mouth, and 4.5 mi east of Red Cloud.

DRAINAGE AREA.--39.2 mi².

PERIOD OF RECORD.--April 1948 to December 1953. Annual maximums, water years 1959, 1961-77 and occasional low flow measurements, water years 1954-77. October 1977 to current year.

REVISED RECORDS.--WRD NE-83: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 1,659.07 ft above National Geodetic Vertical Datum of 1929. Prior to July 17, 1952, nonrecording gage at upstream side of bridge at datum 7.26 ft higher, July 17, 1952, to Jan. 4, 1954, water-stage recorder, present site, at datum 6.26 ft higher, and Sept. 6, 1961, to Sept. 30, 1977, crest-stage gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 20-23, 29-31. Record good except for periods of estimated record, which is fair. Natural flow affected by pump irrigation development above station.

AVERAGE DISCHARGE.--19 years (water years 1949-53, 1978-91), 21.1 ft³/s, 15,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,800 ft³/s Sept. 29, 1983, gage height, 16.96 ft, from floodmark, from rating curve extended above 6,400 ft³/s on basis of velocity-area study; maximum gage height, 17.05 ft July 4, 1959; minimum daily discharge, 6.2 ft³/s Aug. 28, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	2230	499	12.38	June 13	0820	*1390	*13.77
June 2	0900	342	11.70				

Minimum daily discharge, 6.9 ft³/s Aug. 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	15	12	12	12	13	14	12	75	47	8.4	9.0
2	11	15	12	11	12	13	14	13	210	17	8.1	9.1
3	13	16	12	11	12	12	15	14	46	13	7.8	9.7
4	12	14	12	11	12	12	14	14	21	12	8.4	9.3
5	12	14	12	11	12	13	14	15	19	11	9.9	9.5
6	12	14	12	12	13	13	14	14	19	11	11	9.4
7	12	13	12	12	13	13	14	14	16	12	10	9.5
8	12	13	12	12	12	13	13	14	16	10	10	9.7
9	12	13	12	12	12	13	13	14	16	11	10	9.8
10	12	13	12	12	12	13	13	13	16	11	9.6	9.8
11	12	13	12	12	12	13	13	13	15	12	9.1	10
12	12	13	12	12	12	14	17	13	17	11	11	11
13	12	13	12	13	12	14	104	13	483	9.6	10	11
14	12	13	12	13	13	14	22	13	35	9.4	9.9	11
15	12	13	12	13	13	14	13	13	22	10	10	10
16	13	12	12	13	14	14	12	13	16	10	9.6	9.9
17	13	12	13	13	14	18	12	14	15	9.8	9.5	10
18	14	12	13	13	14	15	11	13	15	9.7	9.4	10
19	14	12	12	13	13	14	12	13	13	9.0	8.2	10
20	15	12	11	14	13	15	12	13	13	9.4	7.1	10
21	15	12	10	14	13	14	12	13	12	9.7	6.9	11
22	15	12	10	13	13	14	13	13	11	9.5	7.4	11
23	15	12	11	13	13	14	12	73	12	11	8.5	11
24	15	12	11	13	13	14	12	41	12	11	8.7	11
25	15	12	11	13	13	14	12	19	11	11	7.6	10
26	14	12	11	13	13	14	12	17	11	9.9	7.8	10
27	14	12	11	13	13	14	12	24	11	9.0	7.7	11
28	14	12	11	13	13	14	12	16	11	10	8.1	11
29	14	12	10	13	---	14	13	54	12	10	8.5	11
30	15	12	10	12	---	14	12	197	12	9.2	8.8	11
31	15	---	10	12	---	14	---	143	---	8.4	9.0	---
TOTAL	409	385	357	387	356	427	488	878	1213	363.6	276.0	305.7
MEAN	13.2	12.8	11.5	12.5	12.7	13.8	16.3	28.3	40.4	11.7	8.90	10.2
MAX	15	16	13	14	14	18	104	197	483	47	11	11
MIN	11	12	10	11	12	12	11	12	11	8.4	6.9	9.0
AC-FT	811	764	708	768	706	847	968	1740	2410	721	547	606

CAL YR 1990 TOTAL 8165.0 MEAN 22.4 MAX 756 MIN 6.2 AC-FT 16200
WTR YR 1991 TOTAL 5845.3 MEAN 16.0 MAX 483 MIN 6.9 AC-FT 11590

245

LOCATION.--Lat 40°00'15", long 98°07'55", in SW1/4SE1/4 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.

GAGE.--Water-stage recorder and concrete Parshall flume. Datum of gage is 1,612.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: Nov. 28-30, Dec. 3-8, 16-21, and Mar. 6-14. Records good except for periods of 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 781 ft³/s Sept. 2, 1973, gage height, 5.05 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 347 ft³/s July 1; no flow for many days.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	87	94	.00	.00	.00	80	88	105	347	174	38
2	92	87	88	.00	.00	.00	78	84	103	335	193	43
3	98	89	70	.00	.00	.00	89	88	94	245	248	41
4	93	94	56	.00	.00	.00	89	85	84	228	285	33
5	87	92	58	.00	.00	.00	83	97	55	241	329	39
6	82	93	70	.00	.00	40	78	86	48	237	279	38
7	75	87	78	.00	.00	82	75	86	38	221	224	36
8	75	87	84	.00	.00	82	73	91	42	224	227	36
9	80	88	94	.00	.00	82	70	88	44	219	226	33
10	83	89	94	.00	.00	82	67	84	55	218	199	22
11	87	89	92	.00	.00	82	69	79	61	193	187	38
12	85	89	92	.00	.00	84	102	77	65	138	213	46
13	84	88	91	.00	.00	85	275	71	73	100	253	40
14	84	88	89	.00	.00	85	292	65	69	105	202	37
15	81	88	88	.00	.00	88	161	65	83	106	173	37
16	82	87	74	.00	.00	92	70	74	76	140	177	34
17	81	84	54	.00	.00	111	11	82	73	167	137	31
18	74	85	30	.00	.00	120	92	91	62	179	93	30
19	76	87	1.8	.00	.00	117	90	90	63	184	82	29
20	81	90	1.1	.00	.00	111	88	80	62	203	78	31
21	80	93	.80	.00	.00	104	90	77	63	212	97	32
22	82	86	.00	.00	.00	102	102	74	72	210	144	33
23	85	85	.00	.00	.00	98	106	82	93	216	164	31
24	85	86	.00	.00	.00	94	97	99	129	233	164	31
25	84	88	.00	.00	.00	94	89	100	166	230	117	31
26	85	89	.00	.00	.00	93	89	110	206	208	147	31
27	85	87	.00	.00	.00	91	82	111	214	195	120	31
28	82	62	.00	.00	.00	87	77	109	228	193	50	31
29	82	68	.00	.00	---	82	85	203	250	196	43	31
30	84	76	.00	.00	---	81	86	242	263	194	42	29
31	85	---	.00	.00	---	81	---	145	---	187	37	---
TOTAL	2591	2588	1399.70	0.00	0.00	2350.00	2935	3003	3039	6304	5104	1023
MEAN	83.6	86.3	45.2	.0000	.0000	75.8	97.8	96.9	101	203	165	34.1
MAX	98	94	94	.00	.00	120	292	242	263	347	329	46
MIN	74	62	.00	.00	.00	.00	11	65	38	100	37	22
AC-FT	5140	5130	2780	.00	.00	4660	5820	5960	6030	12500	10120	2030
CAL YR 1990	TOTAL 39379.20			MEAN 108	MAX 462	MIN .00	AC-FT 78110					
WTR YR 1991	TOTAL 30336.70			MEAN 83.1	MAX 347	MIN .00	AC-FT 60170					

KANSAS RIVER BASIN

06853020 REPUBLICAN RIVER AT GUIDE ROCK, NE

LOCATION.--Lat 40°03'49", long 98°19'53", in NE1/4SE1/4 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.

DRAINAGE AREA.--22,090 mi², approximately, of which about 14,600 mi² 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.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,616.15 ft above National Geodetic Vertical Datum of 1929, 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.

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 5, Feb. 15-16, and Mar. 9-12. 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).

AVERAGE DISCHARGE.--41 years, 303 ft³/s, 219,500 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,200 ft³/s June 16, 1957, gage height, 20.73 ft, at site and datum then in use; minimum daily, 0.1 ft³/s May 26, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1 or 2, 1935, discharge, about 250,000 ft³/s, from slope-area measurements near Bloomington and Hardy.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,420 ft³/s May 31, gage height, 7.69 ft; minimum daily, .76 ft³/s Sept. 28-29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.6	3.8	44	94	115	6.6	4.9	601	145	8.0	4.8
2	3.4	3.5	3.8	50	98	122	6.6	4.9	839	93	8.4	3.6
3	3.7	4.0	3.8	47	104	121	6.5	5.1	468	32	25	4.9
4	3.5	4.3	3.8	50	120	119	6.1	5.6	271	76	47	5.5
5	3.2	4.1	3.8	54	135	82	5.7	5.6	307	71	76	2.6
6	3.0	4.1	3.9	56	122	26	5.8	5.7	847	43	279	2.3
7	3.0	4.1	3.9	54	121	19	5.9	6.5	350	27	100	2.1
8	3.0	4.1	3.9	58	123	15	5.8	6.6	198	43	25	2.0
9	3.0	4.1	3.9	62	137	13	5.5	5.5	146	52	30	2.8
10	3.1	4.1	3.9	66	135	11	5.6	5.5	110	43	33	5.0
11	3.3	3.9	3.9	70	127	10	6.0	5.8	87	49	17	4.4
12	3.2	3.7	4.0	72	120	9.8	54	5.3	66	74	57	1.9
13	3.3	3.6	4.3	76	116	9.6	211	5.0	493	70	186	1.5
14	3.3	3.8	4.5	78	110	9.4	14	4.9	139	32	25	1.3
15	3.2	3.8	4.7	80	85	9.2	8.2	5.1	55	33	13	1.3
16	3.3	3.7	5.2	90	90	9.0	5.6	5.6	33	26	37	1.1
17	3.3	3.6	5.4	90	116	9.4	5.3	6.4	22	7.3	63	1.0
18	3.3	3.6	47	90	116	8.8	5.1	6.1	15	5.6	59	.99
19	3.5	3.6	60	90	103	8.1	5.1	6.1	13	5.6	33	.92
20	3.6	3.7	47	82	105	8.0	5.0	5.8	8.1	9.3	27	.91
21	3.6	3.8	44	72	108	7.8	4.7	5.6	6.7	21	25	.89
22	3.6	3.8	42	84	109	8.8	5.0	4.8	8.5	24	9.5	.92
23	3.6	3.8	45	80	108	8.5	5.1	130	11	112	7.9	.88
24	3.3	3.8	49	76	107	8.5	4.7	96	15	132	6.0	.84
25	3.4	3.8	52	76	105	8.4	4.7	48	22	84	5.3	.90
26	3.5	3.8	56	82	105	7.7	4.8	757	19	53	4.8	.78
27	3.4	3.8	54	88	106	7.5	4.8	338	6.4	40	4.6	.77
28	3.5	3.7	58	92	108	7.4	4.9	154	33	27	6.4	.76
29	3.6	3.6	60	96	---	7.2	4.9	302	17	21	6.4	.76
30	3.6	3.6	46	90	---	7.1	4.9	426	14	21	6.5	.77
31	3.6	---	42	90	---	6.8	---	995	---	9.4	6.6	---
TOTAL	104.4	114.5	772.5	2285	3133	820.0	427.9	3368.4	5220.7	1481.2	1237.4	59.19
MEAN	3.37	3.82	24.9	73.7	112	26.5	14.3	109	174	47.8	39.9	1.97
MAX	3.7	4.3	60	96	137	122	211	995	847	145	279	5.5
MIN	3.0	3.5	3.8	44	85	6.8	4.7	4.8	6.4	5.6	4.6	.76
AC-FT	207	227	1530	4530	6210	1630	849	6680	10360	2940	2450	117

CAL YR 1990 TOTAL 38696.1 MEAN 106 MAX 2550 MIN 3.0 AC-FT 76750
WTR YR 1991 TOTAL 19024.19 MEAN 52.1 MAX 995 MIN .76 AC-FT 37730

06853500 REPUBLICAN RIVER NEAR HARDY, NE

LOCATION.--Lat 39° 59' 33", long 97° 55' 53", in NE1/4 NE1/4 SE1/4 sec.1, T.1 S., R.6 W., in Kansas, Republic County, Hydrologic Unit 10250016, on right bank at upstream side of highway bridge, 1.2 mi southwest of Hardy and at mile 141.2.

DRAINAGE AREA.--22,401 mi², of which about 7,500 mi² does not contribute 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).

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 ft³/s, based on records for upstream stations.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	35	35	e40	e100	134	34	37	770	10	12	18
2	36	35	34	e60	e110	134	34	32	671	56	7.4	20
3	44	40	35	e45	e120	134	37	40	763	91	4.8	19
4	40	42	34	e40	e130	135	37	42	407	51	13	18
5	35	41	38	e35	e140	132	35	53	274	62	67	18
6	33	39	37	e35	e150	115	33	47	678	77	131	17
7	32	39	34	e35	e170	77	32	43	600	56	218	15
8	34	39	34	e35	198	66	31	42	329	50	131	15
9	36	39	34	e35	209	60	30	40	232	61	59	16
10	36	39	33	e35	205	57	31	34	192	77	58	14
11	36	37	33	e37	196	54	32	32	162	84	69	17
12	34	37	34	e40	181	54	33	32	143	143	70	21
13	35	37	33	e45	175	50	36	31	150	143	75	17
14	35	36	34	e70	162	48	138	28	423	111	152	16
15	34	35	34	e90	151	47	69	27	196	83	102	16
16	34	34	35	e80	145	48	46	53	115	60	58	15
17	33	34	37	e80	149	70	42	77	83	47	58	14
18	33	35	39	e80	151	68	37	67	66	24	67	13
19	34	34	37	e100	148	59	34	50	53	12	92	14
20	33	34	e30	e100	141	56	33	45	41	8.4	77	14
21	35	33	e25	e90	139	51	32	41	54	9.8	63	14
22	35	33	e25	e80	140	45	36	36	48	11	53	13
23	35	33	e25	e70	138	41	33	43	39	14	37	13
24	35	34	e35	e65	134	38	31	81	36	41	26	13
25	35	34	e60	e60	132	36	31	156	30	78	22	14
26	35	34	e45	e60	130	36	31	125	24	70	20	13
27	34	34	e35	e70	128	51	29	521	13	40	16	13
28	34	33	e40	e90	128	49	30	309	8.2	40	13	13
29	35	35	e45	e99	---	44	44	215	7.1	35	14	13
30	34	36	e30	e90	---	38	43	281	5.6	23	15	12
31	34	---	e25	e90	---	35	---	570	---	15	18	---
MEAN	34.9	36.0	35.0	63.9	150	66.5	39.1	104	220	54.3	58.7	15.3
MAX	44	42	60	100	209	135	138	570	770	143	218	21
MIN	32	33	25	35	100	35	29	27	5.6	8.4	4.8	12
AC-FT	2150	2140	2150	3930	8330	4090	2330	6410	13120	3340	3610	908

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1991, BY WATER YEAR (WY)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
MEAN	269	201	188	190	320	414	469	491	545	476	314	316																						
MAX	1970	1304	668	636	968	1079	2415	2523	2031	2795	1800	1455																						
(WY)	1966	1966	1966	1966	1966	1963	1960	1960	1960	1962	1962	1973																						
MIN	34.9	36.0	35.0	63.9	96.2	66.5	39.1	34.1	55.7	54.3	58.7	15.3																						
(WY)	1991	1991	1991	1991	1990	1991	1991	1989	1988	1991	1991	1991																						

SUMMARY STATISTICS

	FOR 1990 CALENDAR YEAR	FOR 1991 WATER YEAR	WATER YEARS 1958 - 1991
ANNUAL MEAN	145	72.5	349
HIGHEST ANNUAL MEAN			800
LOWEST ANNUAL MEAN			72.5
HIGHEST DAILY MEAN	2960	770	15000
LOWEST DAILY MEAN	25	4.8	4.8
ANNUAL SEVEN-DAY MINIMUM	31	13	13
INSTANTANEOUS PEAK FLOW		1110	225000
INSTANTANEOUS PEAK STAGE		5.50	19.40
INSTANTANEOUS LOW FLOW		3.1	.00
ANNUAL RUNOFF (AC-FT)	105100	52500	252900
10 PERCENT EXCEEDS	167	144	750
50 PERCENT EXCEEDS	94	39	170
90 PERCENT EXCEEDS	34	16	70

KANSAS RIVER BASIN

06879900 BIG BLUE RIVER AT SURPRISE, NE

LOCATION.--Lat 41°06'05", long 97°18'35", in NW1/4NW1/4 sec.15, T.13 N., R.1 E., Butler County, Hydrologic Unit 10270201, on left bank 50 ft downstream from bridge on county road at south edge of Surprise.

DRAINAGE AREA.--345 mi².

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1965, published as North Branch Big Blue River at Surprise.

GAGE.--Water-stage recorder and concrete broad-crested weir control. Elevation of gage is 1,522.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 24 to Feb. 1. Records good except for periods of estimated record and those below 5 ft³/s which are poor.

AVERAGE DISCHARGE.--27 years, 29.0 ft³/s, 21,010 acre-ft/yr; median of yearly mean discharges, 25 ft³/s, 18,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s July 19, 1965, gage height, 11.52 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 13	1058	997	5.79	June 14	1030	1200	6.65
May 26	1110	1040	5.88	June 16	0759	1130	6.35
May 31	0330	646	4.26	July 9	1350	1210	6.74
June 4	0130	*3000	*9.58				

Minimum daily discharge, 0.10 ft³/s Oct. 10, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.12	.15	1.0	2.5	3.9	3.7	7.3	536	7.6	19	5.6
2	1.1	.40	.20	.90	4.0	6.5	2.8	6.3	1180	6.6	20	5.8
3	1.2	1.1	.74	.80	16	7.5	2.3	4.6	1960	6.1	18	5.1
4	.59	1.1	.89	1.0	28	8.3	2.3	12	2550	6.5	18	3.8
5	.45	.20	.89	1.2	25	9.4	1.9	25	1700	8.4	23	3.0
6	.53	.13	.89	.90	16	3.0	1.8	43	881	8.8	19	3.5
7	.53	.44	1.1	.80	8.3	1.4	2.0	22	186	18	19	5.3
8	.47	.44	1.2	1.0	4.2	1.7	1.8	13	154	16	22	3.3
9	.37	.41	1.2	1.2	3.6	1.8	1.6	7.6	79	1020	19	2.5
10	.10	.26	1.1	1.1	2.6	.93	.42	6.1	44	1150	17	1.8
11	.13	.65	.89	1.0	2.5	.88	.24	4.6	32	1010	13	3.8
12	.49	.98	.77	.90	2.3	1.8	189	3.9	25	451	9.4	2.9
13	1.0	.82	.73	1.4	2.3	6.2	707	3.8	24	140	8.8	2.0
14	1.2	.11	.73	1.8	2.3	10	330	3.7	1060	57	8.2	2.5
15	.28	.22	.73	1.7	2.1	8.8	89	3.1	942	38	10	2.6
16	.39	.60	.64	1.6	2.0	5.5	42	2.9	800	29	8.6	.93
17	.39	1.7	.58	1.6	2.1	4.1	24	46	88	23	6.9	.74
18	.40	1.2	.58	2.4	2.2	3.3	16	33	41	22	6.9	.51
19	.63	.58	.58	2.2	3.5	2.5	9.5	9.3	25	24	9.1	.32
20	1.2	.51	.73	2.0	4.4	2.1	7.9	4.7	19	25	7.1	.33
21	1.8	.32	.18	1.9	3.2	2.3	5.1	3.7	32	19	8.8	.35
22	.38	.32	.10	2.3	2.5	2.1	4.5	3.8	41	18	13	.44
23	.45	.32	.15	2.1	2.0	2.1	3.6	2.8	41	25	9.1	.44
24	.91	.32	.60	1.8	2.3	2.1	3.0	6.8	109	36	6.7	.70
25	1.3	.32	.40	1.4	1.2	2.3	2.7	179	29	34	6.9	1.0
26	.41	.28	.40	1.2	1.8	3.2	2.5	780	17	40	7.8	1.2
27	.46	.16	.80	2.2	1.7	15	2.5	215	12	39	6.9	1.8
28	.73	.15	.80	2.3	2.4	5.6	2.1	116	9.5	38	12	2.1
29	1.1	.15	.40	2.2	---	7.2	2.0	75	9.0	39	10	2.5
30	1.7	.15	.20	1.8	---	8.0	3.4	399	8.0	31	7.0	2.3
31	.38	---	.60	2.3	---	4.3	---	450	---	26	6.2	---
TOTAL	21.81	14.46	19.95	48.00	153.0	143.81	1466.66	2493.0	12633.5	4412.0	376.4	69.16
MEAN	.70	.48	.64	1.55	5.46	4.64	48.9	80.4	421	142	12.1	2.31
MAX	1.8	1.7	1.2	2.4	.28	.15	707	780	2550	1150	23	5.8
MIN	.10	.11	.10	.80	1.2	.88	.24	2.8	8.0	6.1	6.2	.32
AC-FT	43	29	40	95	303	285	2910	4940	25060	8750	747	137

CAL YR 1990 TOTAL 7999.33 MEAN 21.9 MAX 1690 MIN .10 AC-FT 15870
WTR YR 1991 TOTAL 21851.75 MEAN 59.9 MAX 2550 MIN .10 AC-FT 43340

KANSAS RIVER BASIN

249

06880000 LINCOLN CREEK NEAR SEWARD, NE

LOCATION.--Lat 40°54'57", long 97°08'43", in NW1/4NE1/4 sec.24, T.11 N., R.2 E., Seward County, Hydrologic Unit 10270201, on left bank at downstream side of county road bridge, 2 mi west of Seward, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--446 mi².

PERIOD OF RECORD.--October 1953 to September 1973, March 1974 to current year. Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,429.27 ft above National Geodetic Vertical Datum of 1929. June 27, 1984 to June 2, 1985 at temporary site upstream from county road at same datum.

REMARKS.--Estimated daily discharges: Nov. 28, 29, Dec. 3-5, and Dec. 17 to Feb. 10. Records good except for periods of estimated record, which are poor. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--37 years, (1953-73, 1975-91) 53.1 ft³/s, 38,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s June 17, 1957, gage height, 20.53 ft; minimum daily, 1.3 ft³/s July 31, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 14	0430	508	10.61	June 5	1040	*1680	*16.16
May 27	1400	407	10.24	July 9	2300	351	9.09

Minimum daily discharge, 8.4 ft³/s Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	18	20	15	25	24	29	22	310	32	33	16
2	15	18	20	16	30	24	27	22	685	31	36	15
3	16	19	19	15	40	24	25	25	843	33	32	13
4	16	20	18	14	60	24	24	24	1270	38	31	11
5	15	19	20	14	120	23	24	27	1650	42	39	11
6	15	20	20	13	100	23	23	46	1580	36	45	9.7
7	15	20	20	12	80	23	22	56	999	36	39	10
8	14	20	20	12	74	23	22	47	335	34	39	9.5
9	14	20	20	13	98	23	21	31	208	179	32	9.1
10	14	20	20	13	38	23	20	28	244	277	28	8.6
11	14	20	20	13	28	23	20	27	134	176	25	9.1
12	14	20	20	15	26	24	36	26	76	114	22	8.9
13	15	20	20	18	25	25	266	25	61	59	23	8.8
14	15	20	20	19	25	24	359	24	89	48	21	8.9
15	15	20	20	18	25	23	88	23	112	39	21	8.8
16	15	20	20	17	25	23	57	41	69	33	21	8.6
17	15	20	19	16	25	25	88	108	65	30	21	8.7
18	16	20	19	18	24	25	44	35	45	28	22	8.5
19	16	20	18	19	24	24	32	25	37	29	24	8.4
20	16	20	17	17	25	25	28	23	35	34	25	8.7
21	17	21	15	15	24	25	26	28	102	38	25	8.7
22	17	20	13	17	24	26	25	38	79	43	22	8.7
23	17	20	11	17	24	25	24	30	39	44	20	8.6
24	17	20	12	16	24	24	23	38	37	45	21	8.9
25	17	20	14	13	24	23	23	155	35	42	21	8.9
26	17	20	15	19	24	23	22	237	34	41	19	8.9
27	17	20	16	20	24	132	22	432	33	42	18	9.1
28	17	19	16	22	24	83	22	310	31	42	18	9.2
29	18	20	16	21	---	48	22	149	32	37	22	9.0
30	18	20	14	22	---	36	22	122	30	32	19	9.0
31	18	---	14	23	---	32	---	150	---	31	17	---
TOTAL	490	594	546	512	1109	952	1486	2374	9299	1765	801	289.3
MEAN	15.8	19.8	17.6	16.5	39.6	30.7	49.5	76.6	310	56.9	25.8	9.64
MAX	18	21	20	23	120	132	359	432	1650	277	45	16
MIN	14	18	11	12	24	23	20	22	30	28	17	8.4
AC-FT	972	1180	1080	1020	2200	1890	2950	4710	18440	3500	1590	574

CAL YR 1990 TOTAL 22451 MEAN 61.5 MAX 1700 MIN 11 AC-FT 44530
WTR YR 1991 TOTAL 20217.3 MEAN 55.4 MAX 1650 MIN 8.4 AC-FT 40100

KANSAS RIVER BASIN

06880500 BIG BLUE RIVER AT SEWARD, NE

LOCATION.--Lat 40°54'10", long 97°06'40", in SE1/4SW1/4 sec.20, T.11 N., R.3 E., Seward County, Hydrologic Unit 10270201, at downstream end of right abutment of bridge on U.S. Highway 34 at west edge of Seward, 1.7 mi upstream from Plum Creek and 0.2 mi downstream from Lincoln Creek.

DRAINAGE AREA.--1,099 mi².

PERIOD OF RECORD.--October 1953 to current year. Monthly discharge only for some periods, published in WSP 1730.

REVISED RECORDS.--WSP 1919: Drainage area. WDR NE-80-1: 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 1,421.49 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1969, at present site and datum. Dec. 19, 1969 to Nov. 7, 1983 at site 1.2 mi downstream at datum 6.33 ft lower.

REMARKS.--Estimated daily discharges: Dec. 18 to Feb. 19. Records good except for period of estimated record, which is poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--38 years, 132 ft³/s, 95,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s June 18, 1957, gage height, 22.34 ft; maximum gage height, 22.83 ft June 16, 1967; from stage readings during 1967 flood, gage height at downstream site and datum was approximately 25.66 ft; no flow July 30, 31, 1955, result of irrigation pumping.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 15	1900	1410	10.85	June 17	1230	1810	11.97
May 28	0115	1070	9.04	July 11	1115	2210	13.94
June 6	0015	*4620	*18.14				

Minimum daily discharge, 11 ft³/s Sept. 23, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	28	28	25	26	39	62	44	843	41	67	35
2	20	30	28	26	27	41	55	44	1840	38	67	32
3	22	30	28	24	30	39	50	46	1860	36	62	29
4	23	33	26	26	43	39	47	54	2410	37	56	26
5	21	33	32	26	110	42	46	56	3950	42	62	24
6	21	33	29	25	210	42	44	81	4500	36	76	22
7	21	33	28	22	140	40	41	111	3370	33	72	22
8	20	33	28	23	100	39	38	131	1280	32	68	22
9	20	34	28	25	70	39	35	87	442	595	63	20
10	20	33	28	27	66	37	35	81	423	2100	55	19
11	20	32	28	27	62	40	35	56	298	2180	54	20
12	19	32	28	28	55	47	53	54	229	1880	49	20
13	19	32	29	31	50	53	410	49	172	1030	42	19
14	19	31	29	32	45	50	1070	50	240	317	38	17
15	19	31	30	30	42	47	1320	50	1220	170	33	17
16	20	30	31	27	40	52	722	92	1630	126	30	17
17	20	29	32	28	39	61	258	277	1790	98	30	16
18	22	29	31	26	38	62	163	90	1240	79	31	14
19	23	30	28	28	37	57	126	164	328	67	32	14
20	24	30	26	26	39	55	107	114	172	64	33	13
21	24	29	24	24	41	54	81	77	192	65	35	12
22	24	28	22	22	41	52	71	86	234	69	33	12
23	26	29	19	27	40	54	65	71	306	65	30	11
24	29	28	23	26	40	51	56	65	238	68	31	12
25	26	28	22	25	40	49	54	188	186	66	36	12
26	25	28	24	26	39	46	53	270	162	68	34	12
27	26	28	26	26	38	208	51	781	93	72	31	12
28	26	28	28	27	39	225	45	822	65	79	29	12
29	27	27	26	26	---	159	43	376	54	80	34	11
30	27	29	24	25	---	98	44	272	43	70	36	11
31	27	---	23	25	---	74	---	303	---	66	35	---
TOTAL	700	908	836	811	1587	1991	5280	5042	29810	9769	1384	535
MEAN	22.6	30.3	27.0	26.2	56.7	64.2	176	163	994	315	44.6	17.8
MAX	29	34	32	32	210	225	1320	822	4500	2180	76	35
MIN	19	27	19	22	26	37	35	44	43	32	29	11
AC-FT	1390	1800	1660	1610	3150	3950	10470	10000	59130	19380	2750	1060
CAL YR 1990	TOTAL 38400	MEAN 105	MAX 2390	MIN 19	AC-FT 76170							
WTR YR 1991	TOTAL 58653	MEAN 161	MAX 4500	MIN 11	AC-FT 116300							

KANSAS RIVER BASIN

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE
(National water-quality assessment station)

LOCATION.--Lat 40°43'52", long 97°10'38", in SW1/4SW1/4 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 19 mi upstream from mouth.

DRAINAGE AREA.--1,206 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1958 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,403.48 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1970, on bridge pier 60 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 4, 5 and Dec. 16 to Feb. 5. Records good 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.

AVERAGE DISCHARGE.--33 years, 185 ft³/s, 134,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s July 1, 1986, gage height, 22.62 ft; minimum daily, 12 ft³/s Dec. 31, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1950, reached a stage of 24.8 ft, present datum, from floodmarks, discharge, 49,400 ft³/s, from contracted-opening and flow-over-road measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	0310	1840	12.01	June 4	1225	*6420	*19.21
May 27	1730	1670	11.43				

Minimum daily discharge, 29 ft³/s Sept. 25-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	60	58	52	70	70	109	86	869	131	102	67
2	56	63	58	54	90	72	98	87	1860	156	104	66
3	62	64	58	50	110	73	92	94	2050	151	109	60
4	68	65	52	54	140	75	81	97	5500	156	117	52
5	69	65	50	56	180	75	76	113	5070	158	151	54
6	64	67	55	54	271	71	72	114	3520	151	159	46
7	60	68	57	50	185	70	69	135	2170	156	157	44
8	60	68	59	52	139	69	67	164	1030	160	150	44
9	61	66	59	54	127	67	66	154	472	163	141	40
10	63	64	59	56	123	67	67	129	322	171	119	39
11	64	62	59	58	108	67	67	112	271	173	104	48
12	62	60	57	58	100	67	68	99	233	174	92	44
13	60	59	57	60	94	72	125	89	203	166	82	40
14	59	57	56	58	90	73	133	81	182	162	79	38
15	56	57	57	59	88	75	356	77	166	145	80	37
16	55	57	56	60	84	74	701	249	154	132	83	37
17	55	57	54	60	79	75	443	928	143	120	87	36
18	54	58	54	62	76	78	213	242	131	121	88	36
19	55	58	52	60	77	77	150	326	123	125	82	34
20	56	58	49	58	74	76	124	364	116	132	76	34
21	56	58	46	58	71	75	108	212	240	152	71	35
22	57	58	44	56	70	74	99	140	873	152	76	35
23	59	57	40	54	69	73	93	116	594	131	83	35
24	59	57	44	52	69	72	89	104	519	132	88	32
25	59	57	46	48	69	70	85	323	330	135	99	29
26	59	57	48	47	68	69	82	1370	216	132	117	29
27	59	57	50	52	69	72	82	1590	160	132	106	29
28	59	58	49	56	69	117	78	1420	132	133	96	30
29	60	58	48	50	---	110	77	1240	119	127	82	30
30	60	58	45	52	---	131	80	697	118	125	73	31
31	60	---	48	58	---	143	---	630	---	111	71	---
TOTAL	1842	1808	1624	1708	2859	2449	4050	11582	27886	4465	3124	1211
MEAN	59.4	60.3	52.4	55.1	102	79.0	135	374	930	144	101	40.4
MAX	69	68	59	62	271	143	701	1590	5500	174	159	67
MIN	54	57	40	47	68	67	66	77	116	111	71	29
AC-FT	3650	3590	3220	3390	5670	4860	8030	22970	55310	8860	6200	2400
CAL YR 1990	TOTAL 82303	MEAN 225	MAX 5720	MIN 39	AC-FT 163200							
WTR YR 1991	TOTAL 64608	MEAN 177	MAX 5500	MIN 29	AC-FT 128100							

KANSAS RIVER BASIN
06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued
WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-70, 1973 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: May 1988 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily, 9,760 mg/L June 15, 1990; minimum daily, 4 mg/L

Nov. 3, 1989.

SEDIMENT LOADS: Maximum daily, 29,700 tons June 4, 1991; minimum daily, 0.61 tons Dec. 30, 1991.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily, 6,000 mg/L June 21; minimum daily, 5 mg/L on several days.

SEDIMENT LOADS: Maximum daily, 29,700 tons June 4; minimum daily, 0.61 tons Dec. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG 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 CaCO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
OCT 17...	0930	55	594	8.2	14.0	716	16	11.2	230	14	69
DEC 14...	1045	56	--	7.3	3.0	736	3.5	17.5	250	14	77
FEB 11...	1415	106	490	7.9	4.5	728	39	17.6	170	14	51
APR 17...	1330	398	138	7.6	12.0	723	22	10.6	39	0	11
JUN 07...	1300	2110	95	7.5	23.5	731	500	6.9	29	1	8.3
AUG 13...	1240	82	554	8.4	20.5	729	61	10.8	220	27	66

DATE	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)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)
OCT 17...	13	37	1	8.3	212	0	259	61	23	0.20	27
DEC 14...	13	37	1	7.5	232	0	283	65	22	0.30	21
FEB 11...	9.1	28	0.9	12	151	0	184	39	22	0.30	23
APR 17...	2.8	12	0.8	11	61	0	74	9.7	12	0.30	14
JUN 07...	1.9	2.8	0.2	9.3	28	0	34	5.3	1.8	0.20	13
AUG 13...	13	28	0.8	12	191	10	214	62	23	0.40	22

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 17...	365	378	0.50	54.2	2.26	0.040	2.30	0.030	0.80	0.520	0.440
DEC 14...	379	395	0.52	57.3	2.57	0.030	2.60	0.050	<0.20	0.490	0.290
FEB 11...	303	289	0.41	86.7	2.17	0.030	2.20	1.40	3.0	1.10	0.710
APR 17...	215	119	0.29	231	1.55	0.050	1.60	0.880	4.8	1.80	0.290
JUN 07...	80	66	0.11	456	0.820	0.090	0.910	0.300	2.7	0.850	0.340
AUG 13...	336	352	0.46	74.4	--	<0.010	1.90	<0.010	0.70	0.550	0.350

KANSAS RIVER BASIN

253

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 17...	0930	20	6	170	0.7	0.060	1.0	<1	<3	2
DEC 14...	1045	<10	4	170	<0.5	0.080	<1.0	<1	<3	1
FEB 11...	1415	120	4	120	<0.5	0.040	<1.0	<1	<3	4
APR 17...	1330	80	3	65	<0.5	0.17	<1.0	<1	<3	8
JUN 07...	1300	900	4	58	<0.5	--	<1.0	<1	<3	9
AUG 13...	1240	20	5	190	0.7	0.060	3.0	1	<3	6

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)
OCT 17...	8	<1	21	100	<0.1	<10	2	5	<1.0	340
DEC 14...	7	<1	21	190	<0.1	<10	2	<1	<1.0	370
FEB 11...	97	<1	16	170	<0.1	<10	4	<1	<1.0	230
APR 17...	650	2	6	18	<0.1	<10	4	<1	<1.0	66
JUN 07...	430	2	5	20	<0.1	<10	7	<1	<1.0	45
AUG 13...	10	2	15	45	<0.1	<10	3	4	<1.0	330

DATE	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	PRO- PAZINE TOTAL (UG/L) (39024)	TRI- FLURA- LIN TOTAL RECOVER (UG/L) (39030)	SIME- TRYNE TOTAL (UG/L) (39054)	SIMA- ZINE TOTAL (UG/L) (39055)	PROME- TONE TOTAL (UG/L) (39056)
OCT 17...	7	7	<1	3.2	1.4	<0.10	<0.10	<0.1	<0.10	<0.1
DEC 14...	<6	4	<1	2.8	0.8	--	--	--	--	--
FEB 11...	<6	12	<1	--	--	--	--	--	--	--
APR 17...	8	21	<1	7.2	--	--	--	--	--	--
JUN 07...	10	19	<1	6.1	>5.0	--	--	--	--	--
AUG 13...	10	15	<1	4.4	4.8	--	--	--	--	--

DATE	PROME- TRYNE TOTAL (UG/L) (39057)	ATRA- ZINE TOTAL (UG/L) (39630)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	CYAN- AZINE TOTAL (UG/L) (81757)	AME- TRYNE TOTAL (82184)	METRI- BUZIN WATER WHOLE TOT REC (UG/L) (82611)	METOLA- CHLOR WATER WHOLE TOT REC (UG/L) (82612)	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 17...	<0.1	0.30	<0.10	<0.10	<0.10	<0.1	<0.1	77	11	80
DEC 14...	--	--	--	--	--	--	--	33	5.0	97
FEB 11...	--	--	--	--	--	--	--	142	41	94
APR 17...	--	--	--	--	--	--	--	2970	3190	100
JUN 07...	--	--	--	--	--	--	--	1150	6550	98
AUG 13...	--	--	--	--	--	--	--	218	48	98

KANSAS RIVER BASIN
06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991												
DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	55	8.3	40	6.5	8	1.3	e10	1.4	e14	2.6	47	8.9
2	63	9.5	54	9.2	e6	.94	e7	1.0	e40	9.7	e76	15.3
3	116	19	e40	6.0	e6	.94	e5	.67	e70	21	e32	6.3
4	92	17	20	3.5	e8	1.1	e6	.87	e250	94	e27	5.5
5	70	13	19	3.3	9	1.2	e7	1.1	e600	292	e44	8.9
6	58	10	79	14	14	2.1	e6	.87	e450	329	36	6.9
7	48	7.8	48	8.8	21	3.2	e5	.67	e400	200	30	5.7
8	30	4.9	20	3.7	12	1.9	e8	1.1	380	143	25	4.7
9	24	4.0	21	3.7	8	1.3	e10	1.5	330	113	30	5.4
10	61	10	16	2.8	10	1.6	e10	1.5	193	64	39	7.1
11	47	8.1	15	2.5	10	1.6	e12	1.9	146	43	43	7.8
12	38	6.4	e20	3.2	15	2.3	e12	1.9	178	48	e55	9.9
13	42	6.8	48	7.6	e18	2.8	e16	2.6	95	24	e49	9.5
14	62	9.9	28	4.3	18	2.7	e16	2.5	87	21	e31	6.1
15	80	12	32	4.9	12	1.8	e12	1.9	e81	19	20	4.0
16	85	13	19	2.9	10	1.5	e13	2.1	50	11	27	5.4
17	72	11	18	2.8	e14	2.0	e10	1.6	45	9.6	39	7.9
18	42	6.1	18	2.8	16	2.3	e10	1.7	46	9.4	42	8.8
19	35	5.2	15	2.3	e20	2.8	e12	1.9	40	8.3	42	8.7
20	40	6.0	17	2.7	e12	1.6	e10	1.6	34	6.8	53	11
21	34	5.1	35	5.5	e10	1.2	e8	1.3	45	8.6	130	26
22	38	5.8	40	6.3	e8	.95	e10	1.5	45	8.5	80	16
23	28	4.5	29	4.5	e6	.65	e12	1.7	40	7.5	53	10
24	29	4.6	23	3.5	e6	.71	e9	1.3	33	6.1	44	8.6
25	28	4.5	14	2.2	e8	.99	e5	.65	27	5.0	60	11
26	27	4.3	22	3.4	e9	1.2	e5	.63	23	4.2	68	13
27	31	4.9	e26	4.0	e8	1.1	e6	.84	33	6.1	72	14
28	25	4.0	e25	3.9	e7	.93	e10	1.5	23	4.3	430	136
29	24	3.9	24	3.8	e7	.91	e5	.67	---	---	535	159
30	42	6.8	10	1.6	e5	.61	e6	.84	---	---	620	219
31	33	5.3	---	---	e6	.78	e8	1.3	---	---	730	282
TOTAL	---	241.7	---	137.1	---	47.01	---	42.61	---	1518.7	---	1048.1

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991												
DAY	MEAN CONC TRAT (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN TRATIO (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN TRATIO (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN TRATIO (MG/L)	LOAD (TON DAY)	MEAN CONCE TRATI (MG/L)	LOAD (TON DAY)	MEAN CONCE TRATI (MG/L)	LOA (TON DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1130	333	240	56	3000	7040	440	156	310	85	205	37
2	800	212	270	63	3500	17600	530	223	295	83	202	36
3	500	124	300	76	2500	13800	540	220	282	83	210	34
4	460	101	295	77	2000	29700	588	248	230	73	170	24
5	480	98	340	104	1300	17800	577	246	315	128	170	25
6	490	95	395	122	1120	10600	550	224	500	215	175	22
7	400	75	800	292	1160	6800	377	159	340	144	275	33
8	400	72	1020	452	1490	4140	350	151	318	129	185	22
9	355	63	1100	457	1020	1300	345	152	328	125	400	43
10	240	43	1200	418	830	722	385	178	230	74	260	27
11	125	23	880	266	660	483	e400	187	210	59	240	31
12	155	28	700	187	550	346	388	182	220	55	230	27
13	540	182	620	149	500	274	360	161	220	49	210	23
14	920	330	500	109	420	206	388	170	170	36	260	27
15	3000	2880	390	81	380	170	390	153	130	28	190	19
16	4600	8710	390	262	310	129	370	132	135	30	390	39
17	3180	3800	4600	11500	260	100	380	123	140	33	295	29
18	2560	1470	2000	1310	230	81	378	123	125	30	170	17
19	1800	729	3050	2680	265	88	345	116	200	44	190	17
20	1300	435	3800	3730	240	75	272	97	170	35	540	50
21	1020	297	2000	1140	6000	3890	320	131	118	23	320	30
22	810	217	1300	491	5350	12600	360	148	180	37	128	12
23	620	156	1000	313	3800	6090	330	117	248	56	160	15
24	515	124	900	253	4000	5610	325	116	288	68	346	30
25	420	96	1800	1570	3250	2900	335	122	390	104	235	18
26	390	86	2800	10400	2100	1220	305	109	355	112	272	21
27	360	80	2200	9440	2800	1210	240	86	328	94	175	14
28	320	67	2200	8430	2100	748	300	108	335	87	135	11
29	275	57	2000	6700	660	212	310	106	230	51	570	46
30	205	44	2000	3760	495	158	304	103	218	43	150	13
31	---	---	2300	3910	---	---	308	92	286	55	---	---
TOTAL	---	21027	---	68798	---	146092	---	4639	---	2268	---	792
YEAR	246651.22											

e Estimated

06881000 BIG BLUE RIVER NEAR CRETE, NE

LOCATION.--Lat 40°35'47", long 96°57'33", in SW1/4SE1/4 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, and 3.6 mi upstream from Squaw Creek.

DRAINAGE AREA.--2,716 mi².

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.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,311.7 ft above National Geodetic Vertical Datum of 1929. Prior 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.

REMARKS.--Estimated daily discharges: Dec. 17 to Feb. 3 and Feb. 15. 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.

AVERAGE DISCHARGE.--38 years (1953-91), 396 ft³/s, 286,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft³/s July 10, 1950, gage height, 28.74 ft; maximum gage height, 29.86 ft July 3, 1986, from floodmark; minimum daily discharge, 6.0 ft³/s Aug. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 6	1428	*8420	*23.93	No other peak greater than base discharge.			

Minimum daily discharge, 63 ft³/s Sept. 23, 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	106	108	106	98	145	250	177	1060	250	178	107
2	103	105	108	96	104	147	212	178	2680	249	172	106
3	125	114	112	90	120	148	196	191	4480	253	181	105
4	114	114	100	96	163	143	186	196	4640	245	190	101
5	113	114	124	98	216	143	173	207	6850	246	204	91
6	113	115	118	90	334	140	164	217	8290	243	243	88
7	109	116	118	84	440	137	161	230	7780	238	258	86
8	106	116	121	88	451	132	156	271	6230	239	267	83
9	106	112	122	98	360	129	150	317	2480	241	243	78
10	106	112	122	100	291	128	144	282	1150	1260	225	76
11	108	113	125	100	266	126	143	240	945	2680	199	81
12	106	112	123	102	235	128	148	217	758	2570	184	102
13	105	113	123	104	227	133	252	202	602	2190	163	87
14	103	112	124	106	202	146	731	188	519	1180	143	78
15	101	111	123	102	170	146	1210	176	786	561	127	74
16	100	110	119	100	176	145	1710	176	1510	369	121	69
17	100	109	115	104	193	153	1350	1010	1780	281	116	67
18	99	108	110	98	182	158	696	1520	1900	224	114	66
19	97	108	100	104	167	164	430	507	1300	205	123	65
20	98	109	90	100	166	159	327	564	553	191	113	68
21	101	110	86	94	157	152	282	516	393	196	101	69
22	99	109	80	98	155	151	253	337	945	218	99	66
23	101	107	76	100	152	147	232	268	1270	216	100	63
24	101	107	90	96	148	146	220	235	966	198	107	64
25	101	108	88	94	145	145	210	227	816	196	110	64
26	102	108	90	96	144	142	209	1110	574	200	124	64
27	102	108	100	98	141	147	221	1940	457	190	146	64
28	101	109	110	100	139	343	191	2560	339	206	140	63
29	101	108	100	96	---	411	184	2190	273	217	125	63
30	103	108	94	92	---	313	179	1500	246	208	117	63
31	104	---	86	94	---	266	---	1030	---	194	107	---
TOTAL	3232	3311	3305	3024	5742	5213	10970	18979	62572	16154	4840	2321
MEAN	104	110	107	97.5	205	168	366	612	2086	521	156	77.4
MAX	125	116	125	106	451	411	1710	2560	8290	2680	267	107
MIN	97	105	76	84	98	126	143	176	246	190	99	63
AC-FT	6410	6570	6560	6000	11390	10340	21760	37640	124100	32040	9600	4600

CAL YR 1990 TOTAL 139065 MEAN 381 MAX 5810 MIN 76 AC-FT 275800
WTR YR 1991 TOTAL 139663 MEAN 383 MAX 8290 MIN 63 AC-FT 277000

KANSAS RIVER BASIN

06881200 TURKEY CREEK NEAR WILBER, NE

LOCATION.--Lat 40°28'48", Long 97°00'43", in NE1/4NE1/4 sec.19, T.6 N., R.4 E., Saline County, Hydrologic Unit 10270204, on left bank near downstream side of bridge on State Highway 41, 2.8 mi west of Wilber.

DRAINAGE AREA.--460 mi².

PERIOD OF RECORD.--October 1959 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,322.00 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1970, at site 0.2 mile downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 26-28, Dec. 2-5, Dec. 12 to Feb. 9, Feb. 14, 15, 19, and Sept. 10-30. Records good except for periods of estimated record, which are poor. Many diversions above station for irrigation.

AVERAGE DISCHARGE.--32 years, 92.0 ft³/s, 66,650 acre-ft/yr; median of yearly mean discharges, 60.8 ft³/s, 44,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s June 13, 1984, gage height, 21.43 ft, from highwater mark; no flow Sept. 20, 21, 24, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 3	1300	*1260	*11.72	No other peak greater than base discharge.			
Minimum daily discharge, 0.01 ft ³ /s Aug. 16, 23.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	8.9	5.6	2.1	4.0	10	8.2	8.4	657	2.3	.55	.03
2	2.1	10	5.8	2.5	4.0	11	7.8	10	818	2.8	.25	.03
3	2.6	12	5.6	2.4	4.5	11	8.6	12	1130	4.3	.20	.03
4	1.6	9.0	5.6	2.6	5.8	13	9.1	12	525	6.2	.17	.03
5	1.6	4.8	5.8	3.0	10	8.0	9.9	17	249	8.2	2.0	.04
6	1.7	6.9	6.1	3.3	30	7.5	9.9	13	148	6.2	4.2	.04
7	1.8	5.6	6.5	2.5	45	7.6	9.8	13	79	2.7	.84	.04
8	2.3	4.6	6.7	3.5	35	8.0	10	13	52	1.3	.39	.04
9	1.1	4.0	6.4	4.0	30	7.2	9.1	14	37	2.2	.35	.04
10	.85	4.2	6.5	4.5	23	7.7	8.6	14	30	2.5	.25	.04
11	.82	3.5	6.3	4.5	16	8.0	8.3	12	22	3.3	.12	.04
12	1.3	3.8	5.6	4.8	20	7.9	8.6	12	17	4.4	.12	.04
13	1.6	3.8	5.4	5.4	15	9.0	13	11	13	3.2	.13	.04
14	1.9	4.6	5.4	6.0	12	10	16	12	13	3.7	.07	.05
15	2.3	4.3	5.0	5.6	9.0	12	17	11	10	4.9	.03	.04
16	2.8	4.1	4.6	5.8	5.6	11	12	15	8.4	6.3	.01	.04
17	3.5	3.9	4.8	5.8	5.9	12	11	49	7.4	5.1	.02	.04
18	2.2	5.3	5.4	6.6	9.9	13	9.9	270	6.4	2.5	.02	.04
19	2.1	4.8	3.1	7.0	8.0	15	9.5	83	5.8	2.3	.02	.03
20	2.2	3.9	2.4	6.4	6.3	13	11	42	5.0	1.9	.02	.04
21	2.3	4.9	1.9	4.7	8.5	11	10	33	4.3	1.4	.02	.04
22	2.3	4.6	1.7	4.9	7.0	11	11	23	3.8	1.5	.02	.04
23	3.3	6.4	1.5	4.4	5.0	11	9.8	15	4.2	5.1	.01	.04
24	4.2	6.7	1.5	4.1	5.5	9.9	9.9	12	3.0	4.0	.02	.04
25	4.8	5.6	1.6	3.7	8.2	9.7	10	25	1.8	2.2	.02	.04
26	5.1	4.3	1.8	3.8	4.9	9.7	14	207	2.9	2.0	.03	.04
27	7.7	4.9	1.8	3.9	6.1	12	70	361	3.1	.71	.03	.04
28	3.9	5.4	1.8	4.0	8.4	11	17	132	2.9	.77	.03	.04
29	3.0	5.8	1.8	3.9	---	9.9	10	77	2.1	.83	.03	.05
30	3.7	6.0	1.7	3.8	---	10	8.4	52	2.1	1.1	.02	.04
31	7.8	---	1.8	3.9	---	8.7	---	366	---	.39	.03	---
TOTAL	86.57	166.6	127.5	133.4	352.6	315.8	377.4	1946.4	3863.2	96.30	10.02	1.17
MEAN	2.79	5.55	4.11	4.30	12.6	10.2	12.6	62.8	129	3.11	.32	.039
MAX	7.8	12	6.7	7.0	45	15	70	366	1130	8.2	4.2	.05
MIN	.82	3.5	1.5	2.1	4.0	7.2	7.8	8.4	1.8	.39	.01	.03
AC-FT	172	330	253	265	699	626	749	3860	7660	191	20	2.3

CAL YR 1990 TOTAL 17428.71 MEAN 47.7 MAX 2540 MIN .59 AC-FT 34570
WTR YR 1991 TOTAL 7476.96 MEAN 20.5 MAX 1130 MIN .01 AC-FT 14830

KANSAS RIVER BASIN

257

06881500 BIG BLUE RIVER AT BEATRICE, NE

LOCATION.--Lat 40°15'22", long 96°44'47", in SW1/4NW1/4 sec.3, T.3 N., R.6 E., Gage County, Hydrologic Unit 10270202, at left upstream corner of 6th Street and U.S. Highway 77 bridge in Beatrice, 0.7 mi south of the intersection of U.S. Highways 136 and 77, 1.2 mi downstream from Indian Creek, and 3.1 mi upstream from Bear Creek.

DRAINAGE AREA.--3,900 mi², of which about 3,830 mi² contributes directly to surface runoff.

PERIOD OF RECORD.--October 1910 to September 1915, (monthly discharge only for some periods, published in WSP 1310), 1954, 1960-65, 1967-69, 1971-74 (discharge measurements only), October 1974 to current year. Gage-height records collected 1905-10, 1916-74, are in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,219.90 ft above National Geodetic Vertical Datum of 1929. October 1910 to September 1915, non-recording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 20 and Dec. 22 to Feb. 12. Records good except for periods of estimated record, which are poor.

AVERAGE DISCHARGE.--22 years (water years 1911-15, 1975-91), 742 ft³/s, 537,600 acre-ft/yr; median of yearly mean discharges, 588 ft³/s, 426,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,100 ft³/s June 14, 1984, gage height, 31.27 ft; minimum daily, 20 ft³/s Aug. 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1902, 55,100 ft³/s June 14, 1984; maximum gage height, 33.02 ft Oct. 12, 1973, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 8	2133	*7320	*14.48	No other peak greater than base discharge.			

Minimum daily discharge, 81 ft³/s Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	135	147	140	270	215	357	189	1510	332	196	132
2	140	136	144	165	293	243	342	177	1640	292	170	127
3	186	169	150	130	349	223	311	193	3150	271	156	125
4	169	161	148	150	499	218	272	194	4480	261	175	121
5	172	158	152	160	485	210	255	218	4320	264	278	121
6	155	152	145	145	531	220	240	224	4800	248	303	121
7	150	151	162	150	564	218	224	228	6020	261	276	121
8	148	152	158	145	705	205	213	226	7120	253	298	115
9	140	157	158	170	762	197	207	253	7030	245	310	113
10	136	158	158	180	678	193	189	291	3230	288	293	105
11	138	151	158	185	570	188	176	302	1360	1080	267	109
12	140	151	156	190	481	195	196	260	1120	2690	244	101
13	140	154	155	195	379	207	246	231	939	2710	212	107
14	139	155	154	195	327	205	282	328	764	2390	187	122
15	137	156	155	185	264	206	644	270	649	1450	166	108
16	136	160	155	170	286	211	1220	206	809	748	162	98
17	135	152	159	180	271	260	1730	198	1580	491	188	91
18	127	150	157	185	292	251	1470	827	1920	357	178	86
19	120	149	161	185	263	244	804	1720	2080	275	137	85
20	121	152	146	190	249	235	500	668	1550	235	124	84
21	123	159	133	170	236	236	368	639	769	220	123	83
22	126	156	130	150	237	229	317	643	583	222	107	85
23	127	152	130	160	231	225	280	517	916	350	95	86
24	129	150	135	160	217	211	258	397	1480	330	97	84
25	127	150	170	170	218	210	235	534	1130	259	98	83
26	127	155	160	150	211	210	249	1220	954	229	106	83
27	127	167	170	140	198	226	351	1420	667	237	113	84
28	127	152	180	190	200	230	673	2050	522	236	131	82
29	126	150	170	170	---	276	286	2280	398	229	155	82
30	127	149	140	190	---	515	208	2050	314	219	157	81
31	129	---	120	230	---	441	---	1510	---	217	142	---
TOTAL	4267	4599	4716	5275	10266	7353	13103	20463	63804	17889	5644	3025
MEAN	138	153	152	170	367	237	437	660	2127	577	182	101
MAX	186	169	180	230	762	515	1730	2280	7120	2710	310	132
MIN	120	135	120	130	198	188	176	177	314	217	85	81
AC-FT	8460	9120	9350	10460	20360	14580	25990	40590	126600	35480	11190	6000

CAL YR 1990 TOTAL 204697 MEAN 561 MAX 8100 MIN 120 AC-FT 406000
WTR YR 1991 TOTAL 160404 MEAN 439 MAX 7120 MIN 81 AC-FT 318200

KANSAS RIVER BASIN

06882000 BIG BLUE RIVER AT BARNESTON, NE
(National stream-quality accounting network station)
(National water-quality assessment station)

LOCATION.--Lat 40°02'40", long 96°35'12", in NE1/4NW1/4 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 mi², of which about 4,370 mi² contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 20 to Feb. 1, Feb. 15, 16, and June 20-30. Records fair 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.

AVERAGE DISCHARGE.--59 years, 833 ft³/s, 603,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,700 ft³/s June 9, 1941, gage height, 34.3 ft; minimum daily, 1 ft³/s Nov. 30, 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 8	unknown	*6910	*a13.02	No peaks greater than base discharge.			
a From floodmark.							
Minimum daily discharge, 78 ft ³ /s Sept. 28.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	149	164	165	450	251	378	278	1570	363	196	127
2	146	149	162	185	560	288	342	264	1800	330	185	127
3	169	149	170	150	666	260	328	281	2790	286	163	124
4	174	163	168	165	748	250	282	285	4550	272	138	115
5	171	168	167	180	729	250	258	305	4600	262	205	112
6	167	165	166	175	670	247	246	319	4900	258	318	112
7	149	163	164	170	668	233	232	329	5340	255	306	125
8	144	162	176	175	775	218	220	340	6800	262	302	133
9	141	164	177	190	785	219	213	352	6710	245	314	133
10	137	168	174	200	730	215	204	400	4990	269	314	120
11	139	170	176	200	636	210	192	450	2030	553	282	121
12	135	170	173	205	525	211	192	415	1550	2410	255	118
13	139	168	172	215	494	215	545	370	1380	2650	226	113
14	137	175	172	205	410	214	385	366	1180	2480	220	115
15	135	173	172	200	400	211	486	518	1020	1810	188	127
16	139	167	175	190	360	221	1100	376	964	986	168	121
17	140	168	181	200	327	273	1560	440	1580	632	179	104
18	128	168	183	195	351	278	1620	411	1970	444	190	93
19	140	164	177	190	335	279	1050	1940	3000	334	176	84
20	140	172	160	220	323	271	697	1000	1600	249	144	84
21	138	172	155	190	288	266	514	790	1120	223	128	87
22	141	164	150	170	277	251	434	793	820	226	105	88
23	144	162	150	190	269	236	383	710	1000	258	95	85
24	144	162	165	180	258	220	340	547	1600	389	85	86
25	142	157	190	180	247	211	308	487	1130	286	82	86
26	152	162	180	170	240	213	301	1330	970	236	85	82
27	147	166	195	205	245	219	406	1300	680	220	88	83
28	140	172	200	215	237	223	810	2330	540	226	96	78
29	146	165	185	195	---	228	530	2490	420	220	114	81
30	145	168	165	240	---	423	325	2540	340	214	134	83
31	145	---	145	350	---	462	---	1900	---	208	138	---
TOTAL	4498	4945	5309	6060	13003	7766	14881	24656	68944	18056	5619	3147
MEAN	145	165	171	195	464	251	496	795	2298	582	181	105
MAX	174	175	200	350	785	462	1620	2540	6800	2650	318	133
MIN	128	149	145	150	237	210	192	264	340	208	82	78
AC-FT	8920	9810	10530	12020	25790	15400	29520	48910	136800	35810	11150	6240

CAL YR 1990 TOTAL 240708 MEAN 659 MAX 12000 MIN 128 AC-FT 477400
WTR YR 1991 TOTAL 176884 MEAN 485 MAX 6800 MIN 78 AC-FT 350800

KANSAS RIVER BASIN

259

06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-69, October 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to September 1969.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C on several days in summer periods; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 16...	1200	168	783	8.9	9.5	741	21	14.7	<10	K43	260
JAN 15...	1100	200	888	7.6	0.5	728	2.6	--	830	120	280
MAR 05...	1030	249	708	8.3	6.0	712	19	11.6	80	100	240
MAY 17...	1130	485	573	8.3	22.5	727	58	9.6	1100	2900	190
JUL 11...	1300	553	604	8.4	25.5	732	43	9.1	--	--	190
SEP 06...	1015	114	711	8.6	24.0	737	10	8.6	K33	K81	220

K Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	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)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 16...	10	78	16	69	2	9.0	251	24	257	73	56
JAN 15...	17	86	17	66	-2	7.5	267	0	326	76	60
MAR 05...	36	71	14	57	2	7.9	199	10	223	68	53
MAY 17...	13	56	11	38	1	11	172	0	210	51	37
JUL 11...	12	55	12	43	1	13	174	10	193	55	42
SEP 06...	9	63	15	63	2	11	210	5	246	63	58

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NOV 16...	0.30	21	488	479	0.66	221	1.14	--	--	1.20	1.20
JAN 15...	0.40	28	524	524	0.71	283	4.26	4.16	0.040	4.30	4.20
MAR 05...	0.20	21	423	429	0.58	284	2.90	2.90	0.300	3.20	3.20
MAY 17...	0.10	20	356	344	0.48	466	3.04	3.10	0.100	3.20	3.20
JUL 11...	0.60	24	362	367	0.49	541	3.22	3.28	0.020	3.30	3.30
SEP 06...	0.40	8.1	418	410	0.57	129	0.140	0.160	0.030	0.180	0.190

06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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, 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)
NOV 16...	0.090	0.020	--	--	<0.20	--	--	--	0.680	0.420	0.090
JAN 15...	0.890	0.910	0.11	--	1.0	--	5.3	--	0.860	0.800	0.830
MAR 05...	0.180	0.210	0.72	--	0.90	--	4.1	--	0.770	0.590	0.580
MAY 17...	0.150	0.130	1.4	--	1.6	--	4.8	--	0.670	0.510	0.540
JUL 11...	0.110	0.100	0.89	0.60	1.0	0.70	4.3	4.0	0.720	0.540	0.580
SEP 06...	0.160	0.300	1.3	--	1.5	--	1.7	--	0.510	0.420	0.390

[illegible]

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 16...	80	<0.1	<10	3	2	<1.0	420	<6	4	77	35	99
JAN 15...	--	--	--	--	--	--	--	--	--	5	2.7	100
MAR 05...	150	<0.1	<10	2	3	<1.0	380	<6	4	56	38	99
MAY 17...	22	<0.1	<10	3	3	<1.0	280	11	5	120	157	92
JUL 11...	9	<0.1	10	3	3	<1.0	300	11	16	88	131	99
SEP 06...	--	--	--	--	--	--	--	--	--	33	10	97

KANSAS RIVER BASIN

261

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE

LOCATION.--Lat 40°19'58", long 98°04'00", in SW1/4NW1/4 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, and 6 mi northwest of Angus.

DRAINAGE AREA.--979 mi².

PERIOD OF RECORD.--February 1953 to September 1972, October 1974 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder and peak-stage indicator gage.. Datum of gage is 1,632.67 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 19, Jan. 21 to Feb. 2, and Feb. 15. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--36 years (water years 1954-72, 1975-91), 144 ft³/s, 108,300 acre-ft/yr; median of yearly mean discharges, 127 ft³/s, 92,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,100 ft³/s Aug. 31, 1969, gage height, 18.57 ft; minimum daily, 3.2 ft³/s Aug. 11, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1951, reached a stage of 14.9 ft, from information by local residents, discharge, 16,000 ft³/s, based on records for former station at Angus.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	2250	*2410	*6.90	June 3	0952	1780	6.05

Minimum daily discharge, 4.5 ft³/s Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	54	53	45	60	71	58	68	1130	61	19	5.0
2	49	53	52	48	66	69	59	68	1520	58	16	5.4
3	52	56	57	47	68	67	63	72	1640	47	17	5.7
4	47	56	54	47	68	68	61	71	885	47	21	5.0
5	46	54	57	48	70	67	60	82	862	45	29	4.5
6	45	53	55	50	70	66	61	74	566	39	42	4.9
7	42	52	55	54	69	65	61	71	346	39	21	4.9
8	44	52	56	54	68	64	60	71	225	40	14	4.9
9	45	53	55	54	69	63	57	69	174	39	11	4.6
10	46	52	56	56	68	63	56	68	150	41	9.5	5.1
11	47	52	57	58	68	65	59	67	126	40	8.0	8.5
12	47	52	56	60	68	66	333	67	111	36	16	7.1
13	48	53	55	64	69	64	771	66	105	34	32	6.3
14	49	53	56	66	66	61	325	66	97	37	23	6.7
15	47	54	56	72	64	61	143	65	89	34	18	7.6
16	48	52	56	74	69	61	109	67	81	28	14	7.7
17	48	51	62	70	68	66	97	85	76	30	8.8	8.3
18	47	52	60	70	67	62	91	79	72	31	7.2	8.7
19	48	52	59	70	66	58	85	79	70	30	5.8	9.7
20	49	52	54	65	68	60	81	72	64	30	5.0	12
21	50	53	47	58	68	61	80	68	56	28	8.8	14
22	49	51	43	60	67	62	80	65	54	24	15	15
23	49	52	39	64	67	60	77	127	56	20	19	16
24	51	52	38	60	67	58	75	303	55	18	11	16
25	49	53	38	54	66	59	74	295	54	21	8.6	18
26	50	53	40	50	65	59	73	653	49	27	7.6	19
27	50	52	42	54	67	62	71	748	46	29	6.3	21
28	50	55	45	60	68	60	70	389	43	25	5.1	21
29	52	56	44	58	---	59	74	318	43	20	4.6	23
30	54	55	43	54	---	58	70	1290	42	15	4.8	24
31	54	---	43	54	---	59	---	1970	---	16	5.0	---
TOTAL	1500	1590	1583	1798	1884	1944	3434	7653	8887	1029	433.1	319.6
MEAN	48.4	53.0	51.1	58.0	67.3	62.7	114	247	296	33.2	14.0	10.7
MAX	54	56	62	74	70	71	771	1970	1640	61	42	24
MIN	42	51	38	45	60	58	56	65	42	15	4.6	4.5
AC-FT	2980	3150	3140	3570	3740	3860	6810	15180	17630	2040	859	634

CAL YR 1990 TOTAL 33705 MEAN 92.3 MAX 1530 MIN 32 AC-FT 66850
WTR YR 1991 TOTAL 32054.7 MEAN 87.8 MAX 1970 MIN 4.5 AC-FT 63580

KANSAS RIVER BASIN

06883570 LITTLE BLUE RIVER NEAR ALEXANDRIA, NE

LOCATION.--Lat 40°12'25", long 97°23'18", in SE1/4SE1/4 sec.23, T.3 N., R.1 W., Thayer County, Hydrologic Unit 10270206, on left bank 10 ft upstream from bridge on State Highway 53, 2.7 mi south of Alexandria, 9.8 mi downstream from Dry Creek, and 5.7 mi upstream from Big Sandy Creek.

DRAINAGE AREA.--1,557 mi².

PERIOD OF RECORD.--July 1959 to September 1972 (published as "near Gilead"), April 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,359.29 ft above National Geodetic Vertical Datum of 1929. July 1959 to Sept. 30, 1972, at site 2.3 mi upstream at datum 12.0 ft higher. Apr. 23, 1974 to Aug. 7, 1984, at site 750 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 2-7 and Dec. 19 to Feb. 17. Records good except for periods of estimated record, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--30 years (water years 1960-72, 1975-91), 240 ft³/s, 173,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft³/s Mar. 28, 1960, gage height, 17.30 ft, site and datum then in use; maximum gage height, 19.15 ft Aug. 5, 1985; minimum daily discharge, 2.9 ft³/s Aug. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	1600	2350	10.70	June 5	0800	*3240	*11.75
June 1	2400	2950	11.45				

Minimum daily discharge, 4.6 ft³/s Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	56	74	50	76	83	75	84	2470	53	19	14
2	41	55	68	54	78	92	75	78	2210	52	16	14
3	53	63	60	52	86	88	77	85	2110	63	15	20
4	54	67	50	52	110	86	77	82	2080	64	17	11
5	48	65	50	56	130	86	78	88	2200	58	28	9.3
6	42	63	60	58	140	82	76	94	1580	46	48	8.4
7	40	62	78	60	135	79	75	96	987	47	39	8.0
8	42	61	77	62	140	78	74	86	645	46	33	7.7
9	45	61	76	64	140	76	72	83	480	46	28	7.6
10	46	61	72	66	140	77	71	78	318	63	21	7.0
11	47	62	71	68	140	77	71	78	258	71	18	7.5
12	48	63	72	70	135	80	75	77	218	64	19	6.8
13	49	61	70	74	130	86	123	74	308	53	23	5.8
14	48	64	70	78	96	84	888	997	277	45	18	5.8
15	49	63	70	82	76	81	598	736	191	42	18	6.2
16	49	61	71	86	72	81	289	244	157	37	20	5.5
17	46	60	73	80	90	105	171	295	137	32	18	5.1
18	45	59	76	80	126	102	130	209	119	27	15	4.8
19	46	60	70	78	96	95	107	177	105	23	14	4.6
20	47	68	64	78	90	92	93	128	91	23	12	5.4
21	50	70	56	70	88	87	86	116	80	23	12	5.9
22	52	67	52	72	86	85	85	99	72	22	13	5.3
23	53	65	47	76	83	81	83	108	65	39	55	5.4
24	53	65	46	76	79	80	80	105	62	217	86	5.2
25	55	66	48	74	79	78	78	298	70	89	28	5.5
26	57	68	50	68	76	77	79	412	64	43	20	5.8
27	55	70	52	72	76	143	75	795	55	28	15	6.0
28	53	63	54	74	77	122	70	1120	54	22	13	6.2
29	54	63	52	72	---	93	91	739	47	22	11	6.3
30	54	74	49	68	---	80	91	657	45	22	11	5.6
31	54	---	47	72	---	76	---	1760	---	20	11	---
TOTAL	1512	1906	1925	2142	2870	2712	4113	10078	17555	1502	714	221.7
MEAN	48.8	63.5	62.1	69.1	102	87.5	137	325	585	48.5	23.0	7.39
MAX	57	74	78	86	140	143	888	1760	2470	217	86	20
MIN	37	55	46	50	72	76	70	74	45	20	11	4.6
AC-FT	3000	3780	3820	4250	5690	5380	8160	19990	34820	2980	1420	440

CAL YR 1990 TOTAL 53079 MEAN 145 MAX 1780 MIN 30 AC-FT 105300
WTR YR 1991 TOTAL 47250.7 MEAN 129 MAX 2470 MIN 4.6 AC-FT 93720

KANSAS RIVER BASIN

263

06883940 BIG SANDY CREEK AT ALEXANDRIA, NE

LOCATION.--Lat 40°14'06", long 97°23'20", in SE1/4SE1/4 sec.11, T.3 N., R.1 W., Thayer County, Hydrologic Unit 10270206, on right bank 15 ft upstream from bridge on State Highway 53, 0.8 mi south of Alexandria.

DRAINAGE AREA.--607 mi².

PERIOD OF RECORD.--October 1979 to current year.

REVISED RECORDS.--WRD NE-82-1: 1981(M).

GAGE.--Water stage recorder. Elevation of gage is 1,395 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 21-27, Dec. 30 to Jan. 6. Records good except for periods of estimated record, which are poor. Natural flow of stream affected by ground-water withdrawals and return flow from irrigated areas.

AVERAGE DISCHARGE.--12 years, 100 ft³/s, 72,450 acre-ft/yr; median of yearly mean discharges, 75 ft³/s, 54,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,900 ft³/s June 13, 1984, gage height, 16.71 ft; minimum daily, 15 ft³/s Sept. 10-13, 19, 20, 22, 23, 1991.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	1200	*676	*5.98	No peaks greater than base discharge.			
Minimum daily discharge, 15 ft ³ /s Sept. 10-13, 19, 20, 22, 23.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	22	21	17	21	24	23	20	237	34	59	17
2	29	22	20	17	22	26	24	20	307	41	58	17
3	32	24	20	17	30	23	26	23	213	47	58	17
4	30	24	20	17	31	23	25	20	187	45	60	17
5	27	21	21	17	24	23	26	20	272	45	72	16
6	23	20	21	17	23	23	25	20	300	52	73	16
7	22	20	21	18	23	23	25	20	158	53	46	16
8	22	20	21	19	22	22	25	20	104	53	36	16
9	22	20	20	19	22	22	24	19	69	52	32	16
10	22	19	20	19	22	22	23	19	56	64	30	15
11	21	19	21	19	22	23	24	19	48	76	28	15
12	22	19	21	19	22	23	25	18	44	61	32	15
13	21	19	21	19	22	25	25	18	39	57	38	15
14	21	20	21	19	22	23	22	204	35	56	36	16
15	21	20	21	19	22	22	22	96	32	52	30	16
16	21	20	21	19	22	22	21	57	28	43	26	16
17	21	20	22	19	22	25	24	115	25	42	27	16
18	21	20	22	19	22	24	21	52	21	41	24	16
19	20	20	22	20	22	23	20	36	19	45	21	15
20	21	20	21	20	22	23	20	29	19	50	19	15
21	20	20	19	20	22	23	20	26	25	48	22	16
22	21	20	17	20	22	23	20	23	23	45	28	15
23	21	20	17	20	23	22	19	23	30	77	42	15
24	21	20	18	19	23	22	19	22	34	110	93	16
25	21	20	19	19	23	23	19	34	33	63	65	16
26	21	20	20	20	22	24	19	39	33	53	48	16
27	22	20	21	20	22	30	19	33	30	54	31	16
28	20	20	22	20	22	24	20	33	32	61	22	16
29	20	20	20	20	---	23	20	35	33	102	20	16
30	20	21	19	21	---	22	19	50	35	83	18	16
31	22	---	17	21	---	23	---	151	---	66	17	---
TOTAL	697	610	627	589	639	723	664	1314	2521	1771	1211	476
MEAN	22.5	20.3	20.2	19.0	22.8	23.3	22.1	42.4	84.0	57.1	39.1	15.9
MAX	32	24	22	21	31	30	26	204	307	110	93	17
MIN	20	19	17	17	21	22	19	18	19	34	17	15
AC-FT	1380	1210	1240	1170	1270	1430	1320	2610	5000	3510	2400	944

CAL YR 1990 TOTAL 22754 MEAN 62.3 MAX 2040 MIN 17 AC-FT 45130
WTR YR 1991 TOTAL 11842 MEAN 32.4 MAX 307 MIN 15 AC-FT 23490

KANSAS RIVER BASIN

06884000 LITTLE BLUE RIVER NEAR FAIRBURY, NE

LOCATION.--Lat 40°06'54", long 97°10'13", in NW1/4NE1/4 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, and 5.2 mi upstream from Rose Creek.

DRAINAGE AREA.--2,350 mi².

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 National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Estimated daily discharges: Sept. 25, 1957 to Aug. 20, 1991, recording gage Dec. 3-6, Dec. 20 to Feb. 2, and Feb. 15-18 at datum 5.00 ft higher at present site. 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.

AVERAGE DISCHARGE.--70 years, 377 ft³/s, 273,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,900 ft³/s June 13, 1984, gage height, 16.98 ft; maximum gage height, 18.96 ft Oct. 12, 1973; minimum daily discharge, 14 ft³/s Nov. 22, 1929, discharge measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	1000	*3570	*6.77	June 5	1700	3100	6.29

Minimum daily discharge, 22 ft³/s Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	87	92	78	94	135	104	121	2820	111	68	35
2	74	88	93	84	100	151	100	109	2950	109	61	34
3	100	100	88	76	138	137	106	123	2430	112	61	35
4	98	110	68	76	183	135	107	125	2640	121	68	41
5	90	102	70	80	184	134	109	118	2440	116	111	34
6	84	99	90	82	183	127	104	121	2110	101	126	30
7	78	95	98	88	185	123	105	134	1270	110	118	28
8	75	95	103	90	191	120	105	127	925	106	86	30
9	76	94	103	94	184	120	100	122	618	113	75	29
10	78	93	103	96	184	115	95	117	466	130	62	28
11	79	93	103	98	172	116	94	122	344	153	53	29
12	81	93	103	102	174	115	102	127	286	157	49	29
13	81	93	103	106	162	119	128	151	270	129	55	26
14	81	92	103	108	152	122	624	299	382	110	58	25
15	82	92	102	112	100	122	738	1270	255	97	50	26
16	80	92	97	116	98	121	396	400	208	84	46	25
17	79	92	101	110	122	146	246	394	177	67	55	25
18	69	92	103	110	148	148	210	336	159	60	50	23
19	72	92	108	108	144	135	166	234	152	55	44	22
20	77	92	94	108	132	128	143	201	149	57	39	24
21	79	101	86	96	131	123	127	169	145	63	39	26
22	82	94	80	100	128	118	124	147	159	59	41	27
23	83	92	76	106	126	114	116	147	147	65	46	26
24	84	92	70	114	126	111	109	153	150	176	106	27
25	84	92	72	102	126	111	104	258	144	212	125	27
26	85	93	78	94	124	115	127	520	131	119	80	33
27	87	99	82	96	125	193	585	597	120	82	60	30
28	83	90	84	98	125	181	143	1250	110	79	48	29
29	84	90	82	92	---	135	119	809	106	89	39	29
30	85	88	76	86	---	117	130	738	86	111	35	29
31	86	---	72	90	---	109	---	1250	---	89	35	---
TOTAL	2530	2817	2783	2996	4041	3996	5566	10789	22349	3242	1989	861
MEAN	81.6	93.9	89.8	96.6	144	129	186	348	745	105	64.2	28.7
MAX	100	110	108	116	191	193	738	1270	2950	212	126	41
MIN	69	87	68	76	94	109	94	109	86	55	35	22
AC-FT	5020	5590	5520	5940	8020	7930	11040	21400	44330	6430	3950	1710

CAL YR 1990 TOTAL 94482 MEAN 259 MAX 6840 MIN 54 AC-FT 187400
WTR YR 1991 TOTAL 63959 MEAN 175 MAX 2950 MIN 22 AC-FT 126900

KANSAS RIVER BASIN

265

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS

LOCATION.--Lat 39°58'48", long 97°00'16", NE1/4SW1/4 sec.8, T.1 S., R.4 E., Washington County, Hydrologic Unit 10270207, on right bank and 2 ft downstream from bridge on county road, 0.6 mi west of Hollenberg, and 1.75 mi downstream from Nebraska-Kansas State line.

DRAINAGE AREA.--2,752 mi².

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 19 to Feb. 11 and Feb. 14-17. 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.

AVERAGE DISCHARGE.--17 years, 503 ft³/s, 364,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,600 ft³/s June 13, 1984, gage height, 21.00 ft; minimum daily, 27 ft³/s Sept. 19, 25-26, 28-30, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 12, 1973, reached a stage of 23.07 ft, present datum, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 2	1425	*3390	*7.38	No other peak greater than base discharge.			
Minimum daily discharge, 27 ft ³ /s Sept. 19, 25, 26, 28-30.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	100	120	96	150	156	130	178	2410	122	84	35
2	96	101	123	106	200	176	127	179	2860	96	61	35
3	125	114	125	102	230	163	135	163	2280	99	55	36
4	127	144	119	102	250	155	134	178	2380	113	60	39
5	121	131	106	104	270	155	133	175	2100	112	99	43
6	112	120	126	104	270	151	130	177	2130	107	135	35
7	96	115	124	106	260	143	125	170	1490	100	157	31
8	91	111	129	110	270	143	123	158	986	105	133	39
9	92	109	128	114	260	140	126	144	661	112	98	35
10	91	108	128	118	270	138	127	134	499	149	79	31
11	95	108	130	120	270	133	125	137	401	155	61	46
12	92	109	128	125	214	140	155	133	334	174	55	35
13	91	111	125	130	210	160	252	138	308	158	57	34
14	92	111	124	135	190	158	248	154	381	131	61	33
15	89	110	125	145	160	152	776	1620	326	116	58	32
16	89	109	124	150	140	150	524	811	250	100	48	30
17	87	108	128	145	160	229	343	442	217	81	54	29
18	81	110	135	145	203	231	272	432	189	67	55	28
19	77	110	130	140	189	187	224	309	162	60	50	27
20	81	113	125	140	162	171	192	253	156	58	46	28
21	82	114	118	130	159	158	173	213	140	64	43	29
22	89	122	112	125	149	147	166	191	152	67	41	29
23	89	116	102	130	143	144	162	202	155	66	41	28
24	89	116	96	135	146	139	150	192	151	96	50	28
25	96	116	98	130	143	137	147	242	147	251	159	27
26	94	117	100	125	143	136	325	430	140	177	136	27
27	94	130	108	130	143	140	636	584	124	117	88	31
28	94	122	110	135	143	262	289	1000	108	86	64	27
29	94	117	106	125	---	186	197	955	108	88	47	27
30	94	117	100	125	---	143	181	722	111	111	38	27
31	96	---	90	130	---	132	---	660	---	109	34	---
TOTAL	2932	3439	3642	3857	5497	4955	6827	11476	21856	3447	2247	961
MEAN	94.6	115	117	124	196	160	228	370	729	111	72.5	32.0
MAX	127	144	135	150	270	262	776	1620	2860	251	159	46
MIN	77	100	90	96	140	132	123	133	108	58	34	27
AC-FT	5820	6820	7220	7650	10900	9830	13540	22760	43350	6840	4460	1910

CAL YR 1990	TOTAL	126282	MEAN	346	MAX	9540	MIN	77	AC-FT	250500
WTR YR 1991	TOTAL	71136	MEAN	195	MAX	2860	MIN	27	AC-FT	141100

DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

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 1991

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Kansas River basin							
06838200	Coon Creek at Indianola, NE	Lat 40°14'03", long 100°25'37", in NW1/4NE1/4 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.	a69	1961-91	--	--	<5
06838550	Dry Creek at Bartley, NE	Lat 40°15'02", long 100°19'02", in SW1/4SE1/4 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.	a42	1961-91	--	--	<5
06850000	Turkey Creek at Naponee, NE	Lat 40°04'34", long 99°08'17", in SW1/4SW1/4 sec.4, T.1 N., R.16 W., Franklin County, on downstream side of county bridge at east side of Naponee.	129	1948-53 [‡] , 1954-61b, 1962-77c, 1978-89b, 1991-	--	--	<50
06881450	Indian Creek at Beatrice, NE	Lat 40°17'08", long 96°44'47", in SE1/4NE1/4 sec.28, T.4 N., R.6 E., Gage County, at bridge on U.S. Highway 77 at north edge of Beatrice.	74.7	1960-89, 1991-	06-08-91	6.71	300

‡ Operated as a continuous-record gaging station.

a Approximate.

b Discharge measurements published in table for miscellaneous sites.

c Discharge measurements published in table for low flow partial record sites.

DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

267

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 1991

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Platte River basin						
Dane Creek (06788495) ¹	North Loup River	Lat 41°36'31", long 98°56'36", in NE1/4NE1/4 sec.20, T.19 N., R.14 W., Valley County, at bridge on State Highway 11 at northwest edge of Ord.	--	1962a 1977-90	11-19-90 05-23-91	.54 19
Mira Creek (06788990) ¹	North Loup River	Lat 41°29'54", long 98°46'46", in SE1/4SW1/4 sec.26, T.18 N., R.13 W., Valley County, at bridge on State Highway 11 at west edge of North Loup.	--	1977-90	11-19-90 05-23-91	.42 27
Kansas River basin						
Republican River (06851090)	Kansas River	Lat 40°05'26", long 98°46'03", in SE1/4SE1/4 sec.34, T.2 N., R.13 W., Franklin County, at bridge on county road 0.5 mile west of Riverton.	21300	1963-67, 1970-78, 1980, 1983, 1985, 1989-90	05-07-91 07-10-91 08-07-91	55 363 231

¹ Also published with additional data elsewhere in this report.
a Gage heights, or gage heights and discharge measurements only.

[illegible]

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SEDIMENT STATIONS

269

WATER_QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70326)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70327)	
06693000 NORTH PLATTE RIVER AT NORTH PLATTE, NEBR. (LAT 41 09 13N LONG 100 45 16W)													
JUN 1991 07...	2015	369	19.	74	74	56	75	96	100	--	--	--	
06764880 SOUTH PLATTE RIVER AT ROSCOE NEBR (LAT 41 07 33N LONG 101 34 35W)													
JUN 1991 07...	1240	362	18.	602	588	--	--	--	--	--	--	--	
07...	1540	504	18.	1060	1440	--	--	--	--	--	--	--	
07...	2030	818	20.	820	1810	93	94	98	100	--	50	61	
08...	0520	1410	18.	519	1980	53	55	73	100	--	--	--	
08...	0950	1700	18.	280	1290	63	65	78	99	100	--	--	
06768000 PLATTE RIVER NEAR OVERTON, NEBR. (TOTFLO) (LAT 40 40 57N LONG 099 32 24W)													
MAY 23...	1630	3870	--	935	9770	--	--	--	--	--	--	--	
23...	1840	3420	--	1010	9330	--	--	--	--	--	--	--	
24...	1235	4370	--	627	7400	75	77	86	98	100	52	57	
06770500 PLATTE RIVER NEAR GRAND ISLAND, NEBR. (LAT 40 52 28N LONG 098 16 54W)													
MAY 1991 24...	0950	936	20.	183	462	--	--	--	--	--	--	--	
24...	2010	1880	22.	358	1820	83	90	99	100	--	--	--	
25...	0645	3200	20.	356	3080	71	82	96	100	--	--	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70328)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70329)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70331)	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)
06693000 NORTH PLATTE RIVER AT NORTH PLATTE, NEBR. (LAT 41 09 13N LONG 100 45 16W)													
JUN 1991 07...	--	--	--	0	1	11	43	63	82	97	100	--	
06764880 SOUTH PLATTE RIVER AT ROSCOE NEBR (LAT 41 07 33N LONG 101 34 35W)													
JUN 1991 07...	--	--	96	--	0	2	21	42	64	88	98	100	
07...	--	--	98	--	0	6	31	58	81	95	100	--	
07...	66	80	--	--	0	4	25	49	74	92	100	--	
08...	--	--	--	--	0	4	37	65	84	96	100	--	
08...	--	--	--	--	0	4	31	62	83	93	100	--	
06768000 PLATTE RIVER NEAR OVERTON, NEBR. (TOTFLO) (LAT 40 40 57N LONG 099 32 24W)													
MAY 23...	--	--	85	--	0	5	37	62	80	92	98	100	
23...	--	--	68	--	--	0	7	44	68	84	94	100	
24...	59	63	--	--	0	3	30	58	77	91	99	100	
06770500 PLATTE RIVER NEAR GRAND ISLAND, NEBR. (LAT 40 52 28N LONG 098 16 54W)													
MAY 1991 24...	--	--	78	--	0	11	51	77	90	98	100	--	
24...	--	--	--	--	0	1	9	42	77	93	99	100	
25...	--	--	--	--	0	14	41	69	88	97	100	--	

LOW-FLOW INVESTIGATIONS

KANSAS RIVER BASIN

Low-flow investigations were made in the Big Blue and Little Blue River basins in Nebraska during water year 1991 to obtain data on ground-water/surface-water relationships.

BIG BLUE RIVER BASIN

Location	Observation of zero flow or measured discharge in cubic feet per second October 16, 1990
Big Blue River 1.5 miles north of DeWitt in SW1/4NE1/4 sec. 12, T.5 N., R.4 E.-----	120
Clatonia Creek 1 mile northeast of DeWitt in NW1/4NW1/4 sec. 17, T.5 N., R.5 E.-----	0
Turkey Creek 1.5 miles west of DeWitt in SE1/4NW1/4 sec. 15, T.5 N., R.4 E.-----	6.0
Turkey Creek 0.5 miles south of DeWitt in SE1/4NW1/4 sec. 24, T.5 N., R.4 E.-----	7.0
Turkey Creek 1.5 miles southeast of DeWitt in NW1/4SW1/4 sec. 29, T.5 N., R.5 E.-----	7.7
Big Blue River 2.5 miles southeast of DeWitt in NW1/4NE1/4 sec. 33, T.5 N., R.5 E.-----	121
Soap Creek 3.5 miles southeast of DeWitt in SE1/4SW1/4 sec. 27, T.5 N., R.5 E.-----	.02
Unnamed tributary to Big Blue River 1 mile north of Hoag in NW1/4NE1/4 sec. 10, T.4 N., R.5 E.-----	0
Snake Creek 2 miles northeast of Hoag in NW1/4NW1/4 sec. 1, T.4 N., R.5 E.-----	0
Big Blue River 1 mile east of Hoag in NE1/4NW1/4 sec. 13, T.4 N., R.5 E.-----	132
Cub Creek 2 miles south of Hoag in SW1/4SW1/4 sec. 24, T.4 N., R.5 E.-----	.26
Bottle Creek 1.5 miles northwest of Beatrice in NW1/4SW1/4 sec. 30, T.4 N., R.6 E.-----	.04
Unnamed tributary to Big Blue River 0.5 miles northwest of Beatrice in SW1/4SW1/4 sec. 29, T.4 N., R.6 E.---	.09
Indian Creek at Beatrice in SE1/4SE1/4 sec. 28, T.4 N., R.6 E.-----	.49
Big Blue River at Beatrice in SW1/4NW1/4 sec. 3, T.3 N., R.6 E. (Gage)-----	134

LITTLE BLUE RIVER BASIN

Little Blue River 2.7 miles south of Alexandria in SE1/4SE1/4 sec. 23, T.3 N., R.1 W. (Gage)-----	51
Big Sandy Creek 0.8 miles south of Alexandria in SE1/4SE1/4 sec. 11, T.3 N., R.1 W. (Gage)-----	21
Big Sandy Creek 1.2 miles west of Powell in SE1/4SE1/4 sec. 16, T.3 N., R.1 E.-----	26
Little Blue River 1.2 miles southwest of Powell in SE1/4SE1/4 sec. 22, T.3 N., R.1 E.-----	75
Little Sandy Creek 2.0 miles east of Powell in NW1/4NE1/4 sec. 19, T.3 N., R.2 E.-----	.47
Whiskey Creek 2.1 miles northwest of Fairbury in SW1/4SE1/4 sec. 33, T.3 N., R.2 E.-----	.06
Little Blue River 1.3 miles northwest of Fairbury in NW1/4NE1/4 sec. 9, T.2 N., R.2 E.-----	79
Trib. to Little Blue River 0.8 miles southwest of Fairbury in NE1/4SW1/4 sec. 22, T.2 N., R.2 E.-----	0
Little Blue River 0.8 miles south of Fairbury in NW1/4NE1/4 sec. 26, T.2 N., R.2 E. (Gage)-----	81
Brawner Creek 0.4 miles southeast of Fairbury in SE1/4NE1/4 sec. 23, T.2 N., R.2 E.-----	0
Rose Creek 4.0 miles southwest of Endicott in NW1/4NW1/4 sec. 12, T.1 N., R.2 E.-----	7.9
Smith Creek 0.2 miles northwest of Endicott in NW1/4SE1/4 sec. 5, T.1 N., R.3 E.-----	.05
Little Blue River 0.3 miles south of Endicott in SE1/4SW1/4 sec. 4, T.1 N., R.3 E.-----	83
Rock Creek 0.3 miles southeast of Endicott in SE1/4SE1/4 sec. 4, T.1 N., R.3 E.-----	.23
Coon Creek 2.6 miles northwest of Steele City in NW1/4NE1/4 sec. 15, T.1 N., R.3 E.-----	.04
Little Blue River 0.5 miles south of Steele City in NW1/4NW1/4 sec. 30, T.1 N., R.4 E.-----	94
Little Blue River 0.6 miles west of Hollenberg in NE1/4SW1/4 sec. 8, T.1 S., R.4 E. (Gage)-----	90

LOW-FLOW INVESTIGATIONS

271

PLATTE RIVER BASIN

Wahoo Creek Basin

Discharge measurements were made during water year 1991 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.

Location	Discharge in cubic feet per second on indicated dates.					
	10-23	11-26	12-18	1-28	2-25	3-26
Wahoo Creek at SW corner of NOP NW1/4 NW1/4 sec. 2, T.13 N., R.8 E.	25	26	26	32	33	33
Wahoo Cr below confluence with Silver Creek NE1/4 NW1/4 sec. 20, T.13 N., R.9 E.	30	38	45	45	42	45
Wahoo Creek at Ashland (Gage site 06804700) SE1/4 NE1/4 sec. 35, T.13 N., R.9 E.	35	41	50	44	46	47
Silver Creek near Ashland NW1/4 NE1/4 sec. 35, T.13 N., R.9 E.	.15	.65	1.6	2.7	1.5	2.2
Johnson Creek north of NOP SW1/4 SW1/4 sec. 5, T.14 N., R.9 E.	0	.06	.08	0	.05	.12
Johnson Creek below dam outlet SW1/4 SE1/4 sec. 16, T.14 N., R.9 E.	0	0	0	0	0	0
Johnson Creek near Memphis (1 mi above Clear Creek) (Gage site 06804900) NW1/4 NW1/4 sec. 35, T.14 N., R.9 E.	1.2	1.3	1.5	1.6	1.5	1.9
Clear Creek near Memphis NW1/4 NW1/4 sec. 14, T.13 N., R.9 E.	8.1	8.4	9.9	10	13	17

Location	Discharge in cubic feet per second on indicated dates.					
	4-23	5-28	6-24	7-29	8-27	9-24
Wahoo Creek at SW corner of NOP NW1/4 NW1/4 sec. 2, T.13 N., R.8 E.	42	38	93	47	20	19
Wahoo Cr below confluence with Silver Creek NE1/4 NW1/4 sec. 20, T.13 N., R.9 E.	60	48	126	69	28	28
Wahoo Creek at Ashland (Gage site 06804700) SE1/4 NE1/4 sec. 35, T.13 N., R.9 E.	68	55	138	82	27	29
Silver Creek near Ashland NW1/4 NE1/4 sec. 35, T.13 N., R.9 E.	1.8	1.2	10.4	3.2	1.3	.44
Johnson Creek north of NOP SW1/4 SW1/4 sec. 5, T.14 N., R.9 E.	.15	.20	.67	<.05	0	.05
Johnson Creek below dam outlet SW1/4 SE1/4 sec. 16, T.14 N., R.9 E.	0	0	.39	0	0	0
Johnson Creek near Memphis (1 mi above Clear Creek) (Gage site 06804900) NW1/4 NW1/4 sec. 35, T.14 N., R.9 E.	1.9	1.5	2.4	1.1	.75	1.1
Clear Creek near Memphis NW1/4 NW1/4 sec. 14, T.13 N., R.9 E.	15	15	20	6.6	6.3	5.7

LOW-FLOW INVESTIGATIONS

PLATTE RIVER BASIN

Wahoo Creek Basin--continued

Location	Date	Observation of zero flow or measured discharge in cubic feet per second per centimeter	Specific conductance in microsiemens
Wahoo Creek at Ithaca (gage) NW1/4 NW1/4 sec. 33, T.14 N., R.8 E.	8-27	16	961
Wahoo Creek at SW corner of NOP NW1/4 NW1/4 sec. 2, T.13 N., R.8 E.	8-27	20	1150
Mosquito Creek near Memphis NW1/4 SW1/4 sec. 23, T.13 N., R.8 E.	8-27	0	---
Mosquito Creek near Memphis NW1/4 NW1/4 sec. 19, T.14 N., R.9 E.	8-27	0	---
Wahoo Creek above confluence with Silver Creek NW1/4 NE1/4 sec. 18, T.13 N., R.9 E.	8-27	25	1342
Silver Creek near Ithaca NW1/4 NW1/4 sec. 34, T.13 N., R.8 E.	8-27	4.6	625
Silver Creek tributary near Ithaca NE1/4 NE1/4 sec. 34, T.14 N., R.8 E.	8-27	0	---
Silver Creek near south boundary of NOP SW1/4 SW1/4 sec. 36, T.14 N., R.8 E.	8-27	4.6	610
Silver Creek near Memphis NW1/4 NE1/4 sec. 18, T.13 N., R.9 E.	8-27	3.5	572
Wahoo Creek below confluence with Silver Creek NE1/4 NW1/4 sec. 20, T.13 N., R.9 E.	8-27	28	1300
Wahoo Creek near Ashland NW1/4 NE1/4 sec. 34, T.13 N., R.9 E.	8-27	27	1226
Wahoo Creek at Ashland SW1/4 NW1/4 sec. 36, T.13 N., R.9 E.	8-27	28	1220
Silver Creek below Memphis Lake SW1/4 SE1/4 sec. 17, T.13 N., R.9 E.	8-27	.14	430
Silver Creek near Memphis NW1/4 NW1/4 sec. 27, T.13 N., R.9 E.	8-27	2.3	753
Silver Creek near Ashland NW1/4 NE1/4 sec. 35, T.13 N., R.9 E.	8-27	1.3	638
Clear Creek northeast of NOP NE1/4 NW1/4 sec. 13, T.14 N., R.9 E.	8-27	1.9	635
Clear Creek tributary northeast of NOP NE1/4 NE1/4 sec. 17, T.14 N., R.9 E.	8-27	.01	1030
Clear Creek east of NOP NE1/4 NE1/4 sec. 26, T.14 N., R.9 E.	8-27	2.0	658
Clear Creek above Johnson Creek SW1/4 SW1/4 sec. 35, T.14 N., R.9 E.	8-27	3.0	713
Johnson Creek north of NOP NW1/4 NE1/4 sec. 6, T.14 N., R.9 E.	8-27	.04	1107
Johnson Creek tributary north of NOP SW1/4 SW1/4 sec. 5, T.14 N., R.9 E.	8-27	0	---

LOW-FLOW INVESTIGATIONS

273

PLATTE RIVER BASIN

Wahoo Creek Basin--continued

Location	Date	Observation of zero flow or measured discharge in cubic feet per second per centimeter	Specific conductance in microsiemens
Johnson Creek north of NOP SW1/4 SW1/4 sec. 5, T.14 N., R.9 E.	8-27	0	---
Johnson Creek tributary north of NOP NE1/4 NE1/4 sec. 7, T.14 N., R.9 E.	8-27	0	---
Johnson Creek tributary north of NOP SW1/4 NW1/4 sec. 8, T.14 N., R.9 E.	8.27	0	---
Johnson Creek east of National Guard Training SE1/4 SE1/4 sec. 8, T.14 N., R.9 E.	8.27	0	---
Johnson Creek tributary east of National Guard Training SW1/4 SW1/4 sec. 9, T.14 N., R.9 E.	8-27	0	---
Johnson Creek below dam outlet SW1/4 SE1/4 sec. 16, T.14 N., R.9 E.	8-27	0	---
Johnson Creek tributary at NE corner of NOP NW1/4 NW1/4 sec. 21, T.14 N., R.9 E.	8-27	0	---
Johnson Creek tributary at NE corner of NOP SE1/4 NE1/4 sec. 21, T.14 N., R.9 E.	8-27	0	---
Johnson Creek east of NOP NE1/4 NE1/4 sec. 27, T.14 N., R.9 E.	8-27	<.01	514
Johnson Creek near Memphis NW1/4 NW1/4 sec. 35, T.14 N., R.9 E.	8-27	.75	544
Clear Creek tributary near SE corner of NOP NW1/4 SW1/4 sec. 33, T.13 N., R.9 E.	8-27	0	---
Clear Creek tributary near SE corner of NOP NW1/4 NE1/4 sec. 3, T.13 N., R.9 E.	8-27	0	---
Clear Creek 1 mi below Johnson Creek NW1/4 NW1/4 sec. 11, T.13 N., R.9 E.	8-27	6.2	652
Clear Creek tributary SE of NOP NE1/4 NW1/4 sec. 11, T.13 N., R.9 E.	8-27	0	---
Clear Creek tributary near Memphis NW1/4 NW1/4 sec. 14, T.13 N., R.9 E.	8-27	6.3	648
Clear Creek near Memphis NE1/4 NW1/4 sec. 23, T.13 N., R.9 E.	8-27	6.4	634
Clear Creek near Ashland NE1/4 NE1/4 sec. 26, T.13 N., R.9 E.	8-27	7.5	614
Clear Creek near Ashland NE1/4 NE1/4 sec. 35, T.13 N., R.9 E.	8-27	7.3	606

GROUND-WATER LEVELS

ADAMS COUNTY

403403098244001. Local number 7N-10W-23AB.

LOCATION.--Lat 40°34'03", long 98°24'40", NW1/4NE1/4 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; and January 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 99.95 ft below land-surface datum, Jan. 22, 1935; lowest, 128.82 ft below land-surface datum, July 10, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	119.86	118.84	116.38	115.70	115.50	115.15	115.19	114.66	.....	.....	.....	.....
10	118.21	118.25	116.70	115.74	115.42	115.16	.....	.....	.....	.....	.....	.....
15	119.71	118.85	116.12	115.67	117.22	117.20	116.95	.....	.....	.....	.....	.....
20	118.62	117.90	115.94	115.60	115.31	114.96	116.76	.....	.....	.....	124.07	.....
25	119.23	116.35	115.85	115.52	116.45	115.18	115.08	.....	.....	.....	123.10	.....
EOM	119.14	117.68	115.75	115.53	115.18	115.20	115.08	.....	.....	.....	.....	.....

WTR YEAR 1991 MAX 114.50 APR 26, 1991 MIN 124.43 AUG 22, 1991

BLAINE COUNTY

414958100061501. Local number 22N-24W-33CA.

LOCATION.--Lat 41°49'58", long 100°06'15", NE1/4SW1/4 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 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	4.20	DEC 18	3.68	FEB 12	3.59	APR 2	3.33	JUN 5	2.61	AUG 6	4.85
NOV 20	3.71	JAN 16	3.60	MAR 14	3.60	MAY 9	2.36	JUL 2	3.93	AUG 27	5.10

GROUND-WATER LEVELS

275

BOONE COUNTY

413323098074501. Local number 18N-7W-4CA.

LOCATION.--Lat 41°33'23", long 98°07'45", NE1/4SW1/4 sec.4, T.18 N., R.7 W., Hydrologic Unit 10210010, at junction of State Highways 52 and 56 approximately 1 mi east of Cedar Rapids. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

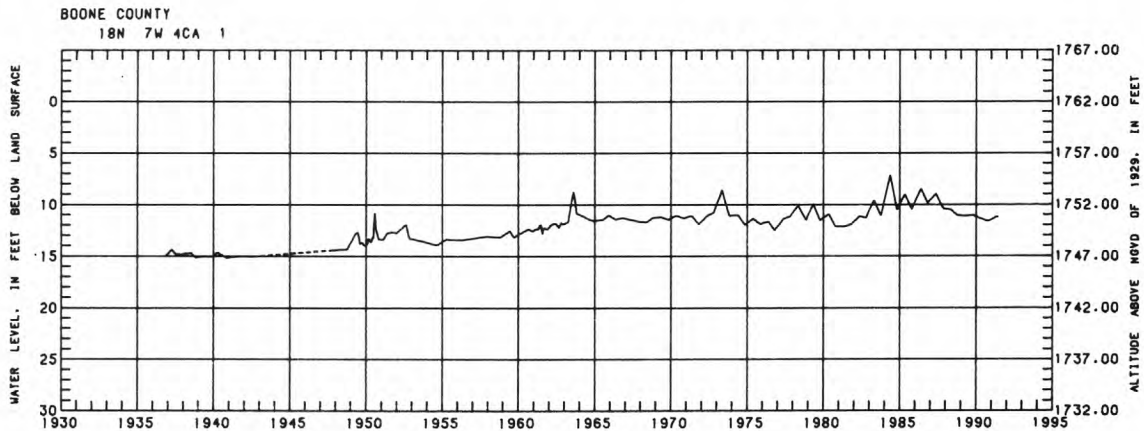
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 22 ft, screened 20 to 22 ft.

DATUM.--Altitude of land-surface datum is 1,762 ft. Measuring point: Top of casing 2.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1936 to October 1942; April 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.15 ft below land-surface datum, May 17, 1984; lowest, 15.17 ft below land-surface datum, Oct. 26, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991	
DATE	WATER LEVEL
OCT 9	11.64
MAY 31	11.19



GROUND-WATER LEVELS

BOX BUTTE COUNTY

420945102551501. Local number 25N-48W-4DDD.

LOCATION.--Lat 42°09'45", long 102°55'15", SE1/4SE1/4SE1/4 sec.4, T.25 N., R.48 W., Hydrologic Unit 10150003, approximately 3.6 mi south and 2.8 mi east of Berea. Owner: U.S. Geological Survey.

AQUIFER.--Marsland Formation of Miocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 204 ft, screened 190 to 193 ft.

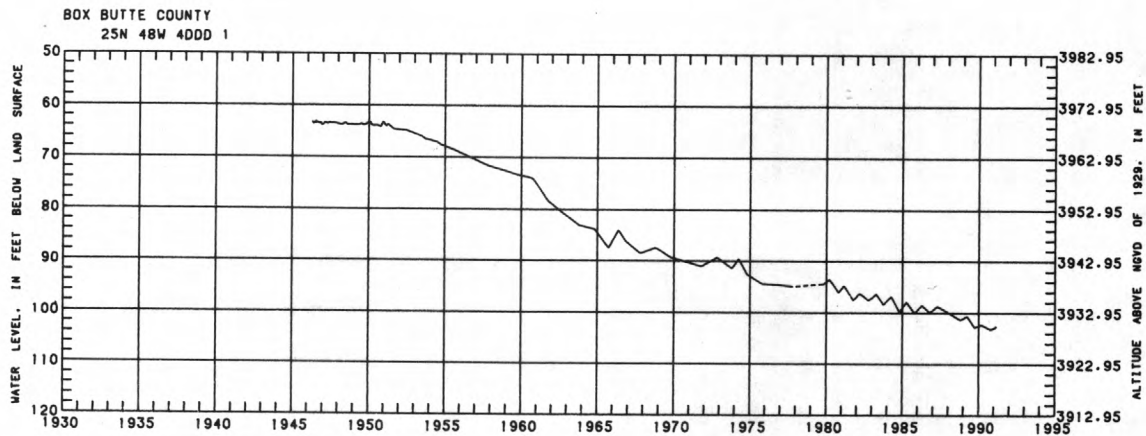
DATUM.--Altitude of land-surface datum is 4,032.95 ft. Measuring point: Top of pipe 2.00 ft above land-surface datum.

REMARKS.--Water levels in vicinity of well are affected by large withdrawals of ground water for irrigation use. Casing was broken off below the land surface during the summer of 1986. Well was cleaned and repaired during the spring of 1988.

PERIOD OF RECORD.--April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.14 ft below land-surface datum, Jan. 25, 1950; lowest, 103.26 ft below land-surface datum, Oct. 30, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	103.26	MAR 21	102.66



GROUND-WATER LEVELS

277

BROWN COUNTY

423307099494501. Local number 30N-21W-19CC.

LOCATION.--Lat 42°33'07", long 99°49'45", SW1/4SW1/4 sec.19, T.30 N., R.21 W., Hydrologic Unit 10150004, 1.2 mi east of junction of U.S. Highway 20 and Route 7 in Ainsworth. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 52 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,511.44 ft. Measuring point: Top of casing 0.20 ft above land-surface datum.

REMARKS.--Water levels in well are affected by pumpage of ground water for irrigation and seepage losses from nearby irrigation project.

PERIOD OF RECORD.--November 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.91 ft below land-surface datum, Nov. 3, 1988; lowest, 40.96 ft below land-surface datum, Sept. 7, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	35.02	34.66	34.56	34.64	34.71	34.79	34.87	34.99	34.99	35.04	35.24	35.05
10	34.94	34.64	34.55	34.63	34.74	34.80	34.87	34.98	34.97	35.14	35.19	35.04
15	34.86	34.62	34.56	34.63	34.76	34.82	34.89	34.99	34.93	35.20	35.06	34.99
20	34.80	34.57	34.58	34.68	34.76	34.80	34.91	35.00	34.93	35.24	35.06	34.92
25	34.78	34.56	34.60	34.70	34.79	34.84	34.93	35.00	34.92	35.28	35.09	34.82
EQM	34.72	34.56	34.62	34.69	34.77	34.85	34.97	34.97	34.93	35.30	35.12	34.76

WTR YEAR 1991 MAX 34.53 DEC 4 AND 5, 1990 MIN 35.33 JUL 30, 1991

BUFFALO COUNTY

404618098504401. Local number 9N-14W-1DC.

LOCATION.--Lat 40°46'18", long 98°50'44", SW1/4SE1/4 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, 15.36 ft below land-surface datum, June 11, 1952; lowest, 29.22 ft below land-surface datum, Aug. 10, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	21.74	21.53	21.46	21.41	21.20	21.51	21.32	21.24	21.00	23.30	25.07	25.28
10	21.71	21.54	21.44	21.39	21.22	21.53	21.32	21.17	20.95	23.40	25.26	24.96
15	21.68	21.53	21.44	21.36	21.32	21.50	21.28	21.12	20.93	23.48	24.90	24.72
20	21.65	21.46	21.46	21.45	21.30	21.34	21.34	21.18	20.86	23.96	25.10	24.59
25	21.63	21.46	21.46	21.46	21.37	21.35	21.25	21.10	22.06	24.43	25.47	24.44
EQM	21.57	21.49	21.42	21.18	21.26H	21.38	21.27	21.01	22.67	24.77	25.75	24.31

WTR YEAR 1991 MAX 20.84 JUN 20 AND 21, 1991 MIN 25.78 SEP 1, 1991

H TAPE MEASUREMENT

GROUND-WATER LEVELS

BUFFALO COUNTY

404345098560001. Local number 9N-14W-19DD.

LOCATION.--Lat 40°43'45", long 98°56'00", SE1/4SE1/4 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.

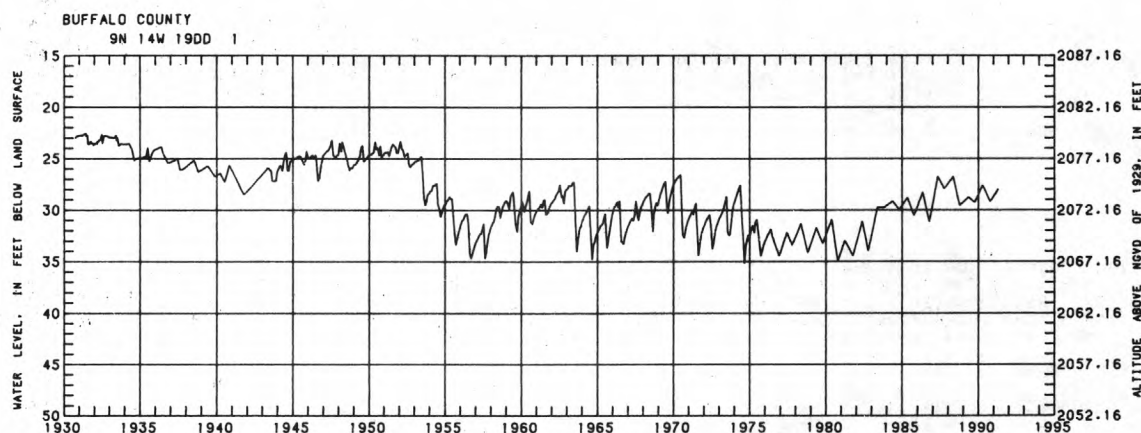
DATUM.--Altitude of land-surface datum is 2,102.16 ft. Measuring point: Hole in pump base 0.70 ft above land-surface datum.

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 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 9	29.20	APR 26	27.94				



BUTLER COUNTY

411420097173002. Local number 15N-1E-27DD2.

LOCATION.--Lat 41°14'20", long 97°17'30", SE1/4SE1/4 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, 96.49 ft below land-surface datum, May 10, 1988; lowest, 174.50 ft below land-surface datum, Aug. 3, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05		104.98		102.39	101.89	101.37		101.04	100.70			
10	109.10	104.55	103.02	102.27	101.82	101.47	101.25	101.03	100.71			
15			102.75	102.00	101.63	101.38	101.09	100.99	100.66		151.33H	
20			102.55	101.95	101.58	101.40	101.19	101.09	100.67			
25			102.58	101.97	101.67	101.30	101.10	100.94	100.68			
EOM	105.49		102.43	101.87	101.55		100.95	100.67				

WTR YEAR 1991 MAX 100.64 JUN 2, 1991 MIN 151.33 AUG 15, 1991

H TAPE MEASUREMENT

GROUND-WATER LEVELS

279

CHASE COUNTY

403220101384001. Local number 7N-38W-28CC.

LOCATION.--Lat 40°32'20", long 101°38'40", SW1/4SW1/4 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.

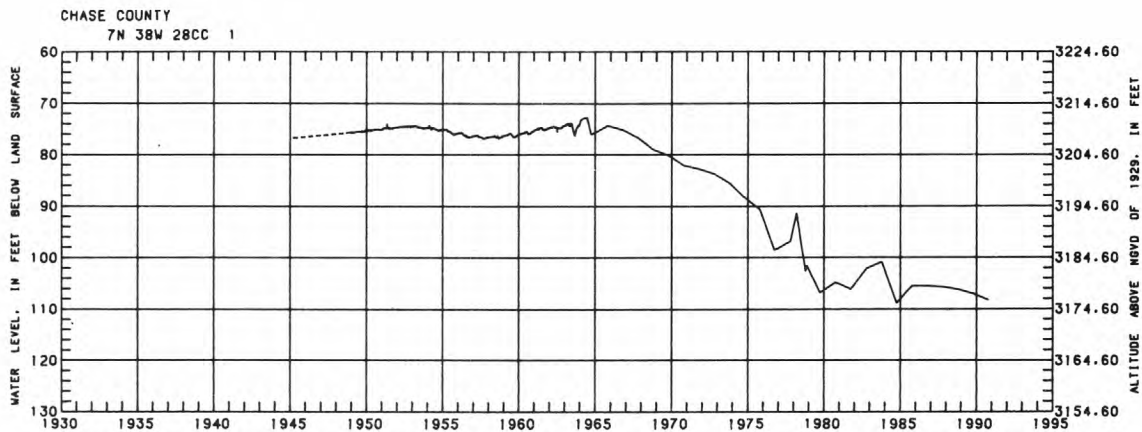
DATUM.--Altitude of land-surface datum is 3,284.6 ft. Measuring point: Top of casing 0.30 ft above land-surface datum.

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, 108.91 ft below land-surface datum, Oct. 3, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	108.35								



GROUND-WATER LEVELS

CHASE COUNTY

403235101395501. Local number 7N-38W-29CBB.

LOCATION.--Lat 40°32'35", long 101°39'55", NW1/4NW1/4SW1/4 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.

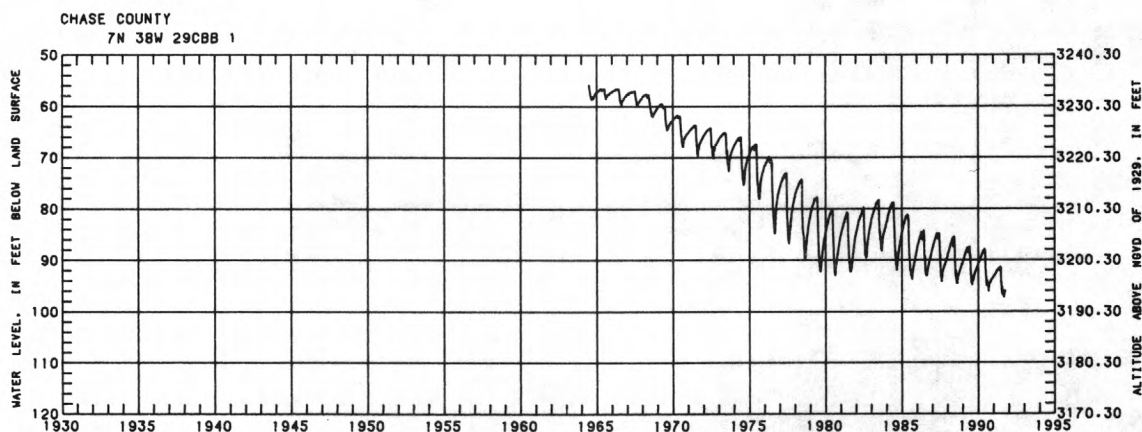
PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.87 ft below land-surface datum, July 4, 1964; lowest, 97.48 ft below land-surface datum, Aug. 29, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	94.55	93.92	93.64	93.27	92.86	92.39	92.02	91.77	91.49	94.20	96.49	97.27
10	94.37	93.97	93.55	93.12	92.75	92.29	91.97	91.63	91.48	95.21	96.38	96.49
15	94.40	93.98	93.56	93.08	92.78	92.31	91.94	92.07	91.42	95.83	96.90	96.25
20	94.41	93.76	93.49	93.11	92.61	92.17	92.00	91.74	91.43	96.48	95.95	96.10
25	94.17	93.71	93.39	93.04	92.63	92.11	91.77	91.68	91.43	95.13	96.52	96.00
EOM	94.11	93.63	93.30	92.93	92.40	92.14	91.82	91.48	94.50	96.78	96.60	96.08

WTR YEAR 1991 MAX 91.40 JUNE 11, 12, 13, 14, AND 15, 1991 MIN 97.48 AUG 29, 1991



GROUND-WATER LEVELS

DAWES COUNTY

424100103243501. Local number 31N-52W-3DC.

LOCATION.--Lat 42°41'00", long 103°24'35", SW1/4SE1/4 sec.3, T.31 N., R.52 W., Hydrologic Unit 10140201, behind house at 312 Annin Street in Crawford. Owner: T. P. Moody.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

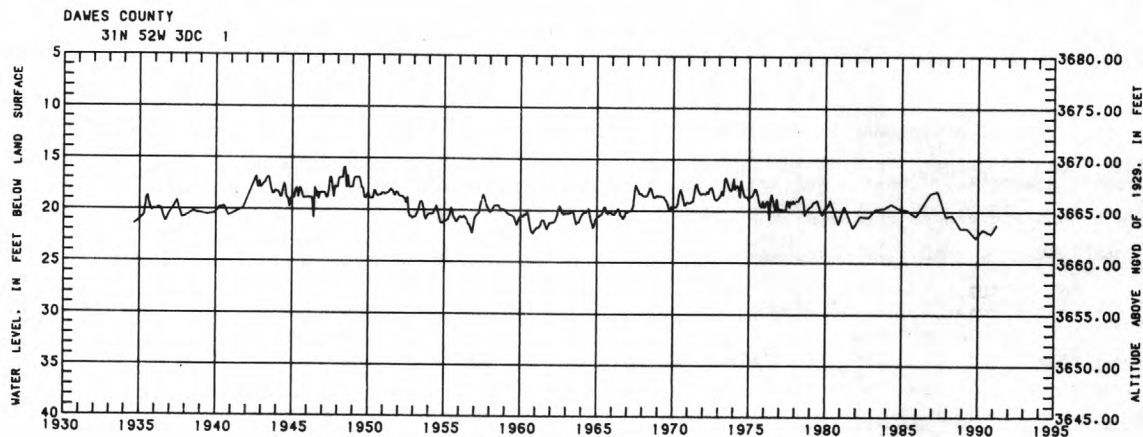
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 39 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,685 ft. Measuring point: Edge of iron plate 1.07 ft above land-surface datum.

PERIOD OF RECORD.--August 1934 to current year.

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.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991	
DATE	WATER LEVEL
NOV 12	22.19
MAR 18	21.27



DAWSON COUNTY

405250099445501. Local number 10N-21W-18DDD.

LOCATION.--Lat 40°52'50", long 99°44'55", SE1/4SE1/4 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, 6.71 ft below land-surface datum, Aug. 19, 1991; lowest, 21.50 ft below land-surface datum, July 16, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	11.30	11.72	12.03	.....	12.53	12.62	12.66	12.53	9.58	11.09	9.45	8.96
10	11.38	11.79	12.04	.....	12.56	12.64	12.66	12.36	9.47	10.97	9.15	7.61
15	11.45	11.86	12.10	.....	12.62	12.68	12.67	12.17	9.35	10.54	7.92	8.16
20	11.59	11.85	12.17	.....	12.58	12.62	12.69	11.94	9.24	9.81	7.18	8.36
25	11.60	11.93	12.18	.....	12.63	12.64	12.63	10.54	9.12	8.87	8.02	8.64
EOM	11.67	11.97	12.23	12.53	12.57	12.70	12.63	9.70	9.95	9.41	9.04	8.87

WTR YEAR 1991 MAX 6.71 AUG 19, 1991 MIN 12.73 MAR 29 AND 30, 1991

GROUND-WATER LEVELS

283

DAWSON COUNTY

404850099503501. Local number 10N-22W-29AA.

LOCATION.--Lat 40°48'50", long 99°50'35", NE1/4NE1/4 sec.29, T.10 N., R.22 W., Hydrologic Unit 10200101, 2 mi east of Dorr. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 12 ft, screened 10 to 12 ft.

DATUM.--Altitude of land-surface datum is 2,435.14 ft. Measuring point: Top of casing 1.80 ft above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby wells during irrigation season. No well reading was made in 1983 water year.

PERIOD OF RECORD.--October 1931 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.52 ft below land-surface datum, July 12, 1947; lowest, 8.88 ft below land-surface datum, Oct. 19, 1972.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	6.84										

DUNDY COUNTY

400155101521302. Local number 1N-40W-29BB2.

LOCATION.--Lat 40°01'55", long 101°52'13", NW1/4NW1/4 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, 20.97 ft below land-surface datum, Sept. 12, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
 LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	19.61	18.69	18.28	17.94	17.67	17.47	17.30	17.53	17.35	17.88	18.70	19.60
10	19.33	18.61	18.23	17.90	17.63	17.44	17.27	17.30	17.27	18.09	18.95	19.73
15	19.14	18.54	18.16	17.85	17.60	17.41	17.25	17.24	17.20	18.28	19.09	19.48
20	19.01	18.46	18.12	17.80	17.57	17.37	17.24	17.62	17.16	18.51	18.84	19.24
25	18.92	18.41	18.06	17.75	17.54	17.36	17.25	17.56	17.21	18.44	19.38	19.11
EOM	18.79	18.34	18.01	17.71	17.50	17.34	17.35	17.38	17.50	18.39	19.45	19.51

WTR YEAR 1991 MAX 17.12 JUN 24 AND 25, 1991 MIN 19.77 SEP 12, 1991

GROUND-WATER LEVELS

FILLMORE COUNTY

402504097432201. Local number 5N-4W-12BDC.

LOCATION.--Lat 40°25'04", long 97°43'22", SW1/4SE1/4NW1/4 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, 90.85 ft below land-surface datum, June 8, 1978; lowest, 101.53 ft below land-surface datum, Sept. 9, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	98.69	98.54	98.45	98.17	97.81	97.65	97.21	97.98	96.77	98.40	100.50	101.39
10	98.65	98.64	98.30	98.06	97.83	97.38	97.24	96.95	96.73	98.85	100.68	100.50
15	98.77	98.61	98.43	98.03	97.84	97.49	97.23	96.87	96.96	99.29	100.74	101.45
20	98.91	98.36	98.35	98.12	97.62	97.36	97.14	96.78	97.23	99.73	100.85	101.36
25	98.66	98.56	98.40	98.10	97.67	97.25	96.97	96.75	97.60	100.00	101.05	101.38
EOM	98.65	98.40	98.20	97.97	97.47	97.37	97.28	96.80	98.09	100.42	101.36	101.44

WTR YEAR 1991 MAX 96.44 MAY 30, 1991 MIN 101.53 SEP 9, 1991

FILLMORE COUNTY

403800097300701. Local number 8N-2W-26AD.

LOCATION.--Lat 40°38'00", long 97°30'07", SE1/4NE1/4 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 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	8.86	9.50	9.93	10.34	10.72	10.87	11.01	11.05	.....	8.07	9.56	11.34
10	9.04	9.56	10.00	10.42	10.72	11.00	11.04	10.64	7.64	8.27	9.73	11.65
15	9.13	9.62	10.00	10.43	10.76	11.04	11.06	10.45	7.70	8.44	9.92	11.87
20	9.20	9.65	10.12	10.55	10.80	10.97	11.15	10.23	7.78	8.69	10.23	12.10
25	9.37	9.74	10.23	10.63	10.90	10.93	11.12	10.02	7.75	8.95	10.58	12.19
EOM	9.42	9.88	10.30	10.70	10.85	11.01	11.14	.....	7.87	9.25	11.04	12.35

WTR YEAR 1991 MAX 7.63 JUN 8,9,10,11,12,13,14, AND 15, 1991 MIN 12.81 SEP 30, 1991

GROUND-WATER LEVELS

285

FURNAS COUNTY

401718099491001. Local number 4N-22W-29AD.

LOCATION.--Lat 40°17'18", long 99°49'10", SE1/4NE1/4 sec.29, T.4 N., R.22 W., Hydrologic Unit 10250009, 2 mi west and 0.5 mi north of Edison. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 23 ft, screened 21 to 23 ft.

DATUM.--Altitude of land-surface datum is 2,134 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.60 ft below land surface datum, Aug. 22, 1978; lowest, 17.69 ft below land-surface datum, Feb. 8, 1946.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	10.1	MAR 1	12.7	JUN 12	12.4	AUG 29	11.9				

GARDEN COUNTY

414124102230101. Local number 20N-44W-22CB.

LOCATION.--Lat 41°41'24", long 102°23'01", NW1/4SW1/4 sec.22, T.20 N., R.44 W., Hydrologic Unit 10180009, 5.8 mi southeast of refuge headquarters. Owner: Crescent Lake Migratory Bird Refuge.

AQUIFER.--Sand deposits of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.50 in, depth 22.1 ft below land-surface datum.

DATUM.--Altitude of land-surface datum is 3783.16 ft. Measuring point: Top of casing 1.61 ft above land-surface datum.

PERIOD OF RECORD.--August 1934-39; 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.57 ft below land-surface datum, Oct. 7, 1934; lowest, 20.92 ft below land-surface datum, Mar. 27, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	18.50	JAN 4	18.92	MAR 7	19.06						

GROUND-WATER LEVELS

287

HALL COUNTY

405315098304302. Local number 11N-11W-25CC2.

LOCATION.--Lat 40°53'15", long 98°30'43", SW1/4SW1/4 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, 13.83 ft below land-surface datum, June 27, 1987; lowest, 25.98 ft below land-surface datum, Aug. 31, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	19.18	19.04	19.02	19.02	19.03	19.00	19.04	19.00	17.95	18.07	19.09	20.29
10	19.16	19.04	19.00	19.01	19.02	19.05	19.03	18.96	17.62	18.22	19.28	20.32
15	19.12	19.04	19.01	18.97	19.07	19.06	19.01	18.96	17.60	17.93	19.49	20.28
20	19.12	18.99	19.04	19.04	19.03	18.99	19.04	18.92	17.56	18.16	19.64	20.26
25	19.10	19.00	19.04	19.04	19.07	19.03	18.99	18.89	17.59	18.43	19.83	20.18
EOM	19.05	19.01	19.02	19.02	18.99	19.07	19.01	18.65	17.82	18.81	20.11	20.16

WTR YEAR 1991 MAX 17.54 JUN 14 AND 20, 1991 MIN 20.32 SEP 9, 1991

HAMILTON COUNTY

404836097584101 Local number 10N-6W-27ACAA.

LOCATION.--Lat 40°48'36", long 97°58'41", SE1/4NE1/4 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, 91.31 ft below land-surface datum, June 5, 1988; lowest, 107.40 ft below land-surface datum, Aug. 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	97.82	97.09	96.53	.....	95.36	94.97	94.48	94.16	93.85	96.18	99.51	100.12
10	97.73	97.05	96.38	.....	95.30	94.82	94.50	94.11	93.74	96.75	99.71	100.15
15	97.63	96.99	96.38	95.69	95.31	94.83	94.40	94.04	93.78	97.27	99.50	100.07
20	97.57	96.71	.....	95.74	94.99	94.70	94.36	93.98	94.02	98.13	99.97	99.85
25	97.36	96.72	.....	95.63	95.19	94.60	94.21	93.88	93.97	98.62	100.13	99.69
EOM	97.20	96.60	.....	95.47	95.18	94.67	94.29	93.85	95.30	99.32	100.08	99.61

WTR YEAR 1991 MAX 93.53 JUN 14, 1991 MIN 100.15 SEP 10, 1991

GROUND-WATER LEVELS

HAMILTON COUNTY

405514097573901. Local number 11N-6W-13CB.

LOCATION.--Lat 40°55'14", long 97°57'39", NW1/4SW1/4 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, 90.04 ft below land-surface datum, Sept. 29, 1934; lowest, 117.18 ft below land-surface datum, Nov. 15, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991	
DATE	WATER LEVEL
OCT 31	99.50
APR 17	97.09

HARLAN COUNTY

400920099215501. Local number 2N-18W-9BCC.

LOCATION.--Lat 40°09'20", long 99°21'55", SW1/4SW1/4NW1/4 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 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	92.60	92.09	91.84	91.65	91.49	91.21	91.23	91.16	91.05	105.91	99.83	95.51H
10	92.50	92.11	91.80	91.58	91.41	91.29	91.29	91.10	90.99	105.44	101.78	95.05
15	92.47	92.08	91.81	91.52	91.51	91.28	91.25	91.40	91.13	105.58	99.81	94.79
20	92.43	91.94	91.81	91.64	91.38	91.05	91.26	91.15	94.20	104.44	103.19	94.70
25	92.34	91.91	91.76	91.57	91.43	91.20	91.17	91.08	102.44	103.87	103.98	94.53
EOY	92.20	91.91	91.73	91.51	91.23	91.92	91.23	91.00	104.10	106.11	98.67	94.55

WTR YEAR 1991 MAX 90.87 MAY 30, 1991 MIN 106.29 JUL 7, 1991

H TAPE MEASUREMENT

GROUND-WATER LEVELS

289

HARLAN COUNTY

400620099274001. Local number 2N-19W-28DD.

LOCATION.--Lat 40°06'20", long 99°27'40", SE1/4SE1/4 sec.28, T.2 N., R.19 W., Hydrologic Unit 10250009, 1.8 mi south of Orleans. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

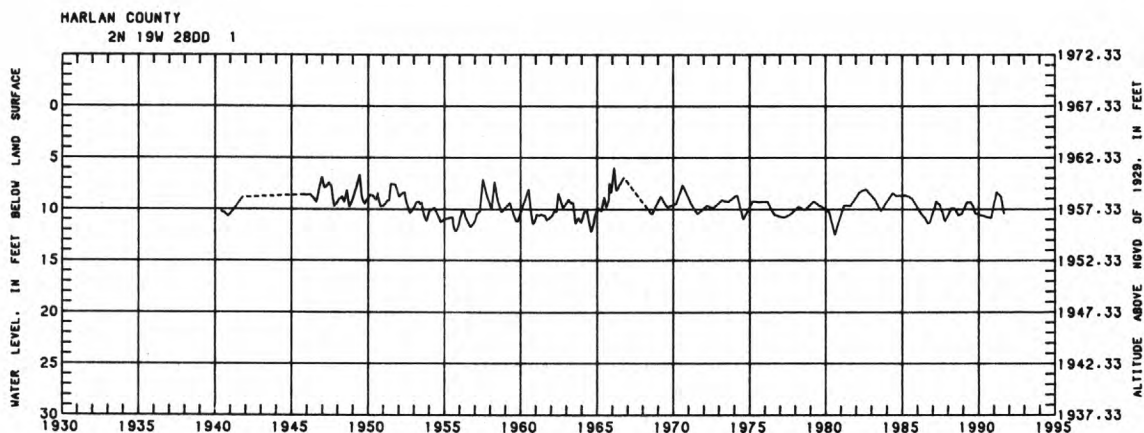
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 22 ft, screened 20 to 22 ft.

DATUM.--Altitude of land-surface datum is 1,967.53 ft. Measuring point: Top of casing 1.20 ft above land-surface datum.

PERIOD OF RECORD.--May 1940 to October 1941; March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.90 ft below land-surface datum, Feb. 15, 1966; lowest, 12.50 ft below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	10.9	MAR 1	8.3
JUN 13	8.7	AUG 29	10.4



GROUND-WATER LEVELS

HOLT COUNTY

421605098203001. Local number 27N-9W-34DA.

LOCATION.--Lat 42°16'05", long 98°20'30", NE1/4SE1/4 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.

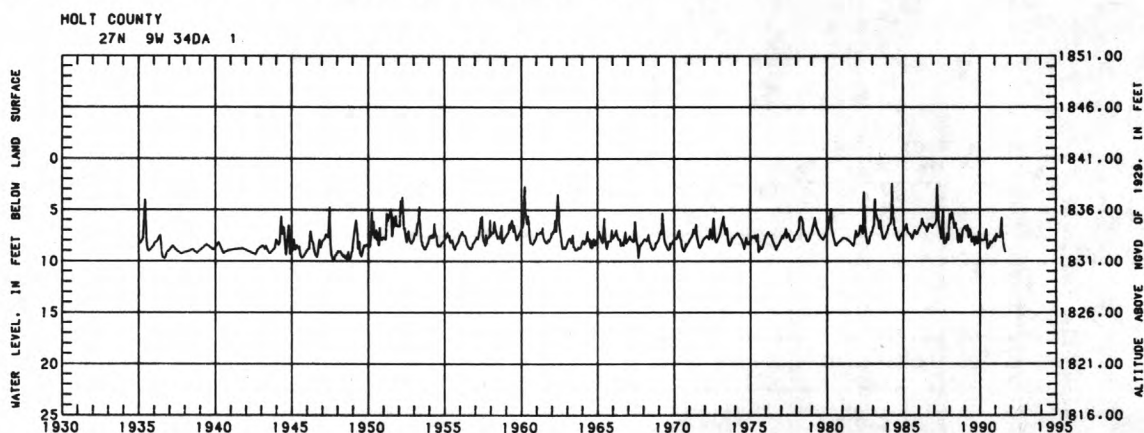
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in, depth 17 ft, screened 15 to 17 ft.

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 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	8.28	DEC 5	7.81
NOV 7	8.11	JAN 10	7.51
		FEB 5	7.30
		MAY 10	6.65
		JUN 26	7.26
		SEP 9	9.07



HOLT COUNTY

423148098300601. Local number 30N-10W-32DAA.

LOCATION.--Lat 42°31'48", long 98°30'06", NE1/4NE1/4SE1/4 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, 53.73 ft below land-surface datum, Sept. 17, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991												
LOWEST WATER LEVEL FOR THE DAY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	49.09	49.21	49.27	49.23	49.16	49.07	48.99	48.94	48.88	49.05	49.83	50.60
10	49.13	49.25	49.26	49.20	49.14	49.07	48.99	48.91	48.86	49.17	49.96	50.69
15	49.15	49.28	49.26	49.17	49.14	49.07	48.97	48.90	48.86	49.30	50.07	50.77
20	49.18	49.23	49.26	49.20	49.10	49.02	48.97	48.91	48.83	49.42	50.19	50.82
25	49.20	49.26	49.27	49.19	49.11	49.02	48.93	48.88	48.86	49.54	50.32	50.87
EOY	49.20	49.26	49.23	49.17	49.06	49.03	48.95	48.87	48.93	49.69	50.48	50.91

WTR YEAR 1991 MAX 48.82 JUN 20, 1991 MIN 50.91 SEP 29 AND 30, 1991

GROUND-WATER LEVELS

291

HOLT COUNTY

423730098560001. Local number 31N-14W-27DDD.

LOCATION.--Lat 42°37'30", long 98°56'00", SE1/4SE1/4SE1/4 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.

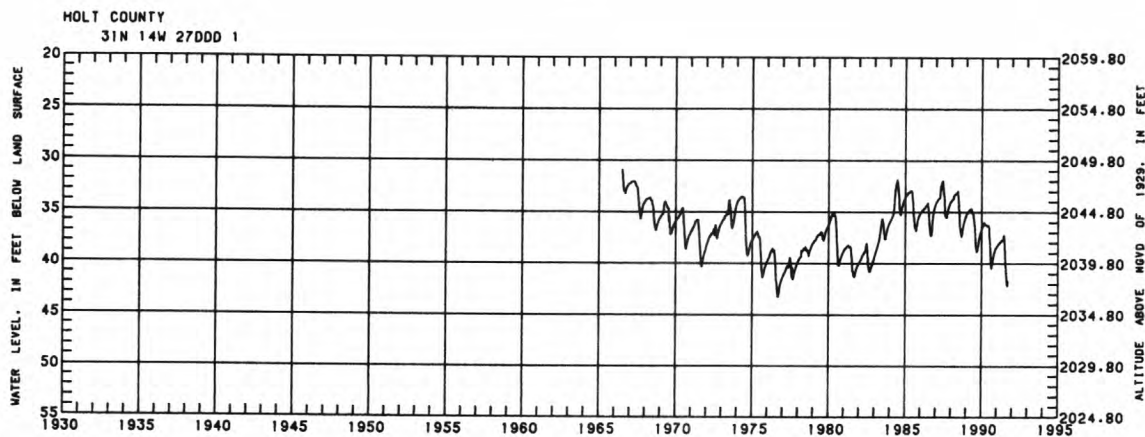
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.91 ft below land-surface datum, July 7, 1966; lowest, 43.30 ft below land-surface datum, Sept. 10, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	39.51	38.91	38.59	38.34	38.15	37.98	37.86	37.74	37.55	37.93	40.58	42.14
10	39.38	38.85	38.55	38.32	38.12	37.99	37.85	37.70	37.44	38.35	40.88	42.22
15	39.25	38.77	38.48	38.27	38.10	37.96	37.81	37.80	37.29	38.79	41.15	42.12
20	39.15	38.72	38.45	38.26	38.06	37.92	37.80	37.82	37.27	39.25	41.36	41.98
25	39.07	38.67	38.42	38.21	38.05	37.91	37.77	37.73	37.23	39.69	41.62	41.85
EOY	38.98	38.63	38.38	38.17	38.02	37.89	37.76	37.66	37.57	40.17	41.96	41.74

WTR YEAR 1991 MAX 37.19 JUN 19, 1991

MIN 42.22 SEP 8, 9 AND 10, 1991



GROUND-WATER LEVELS

KEARNEY COUNTY

402625098594501. Local number 6N-15W-34DC.

LOCATION.--Lat 40°26'25", long 98°59'45", SW1/4SE1/4 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, 70.91 ft below land-surface datum, June 8, 1988; lowest, 119.43 ft below land-surface datum, Aug. 27, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	79.34	78.35	77.36	76.55	75.96	75.39	75.42	74.67	74.06	118.48	101.18	84.99
10	79.04	78.14	77.21	76.48	75.78	75.58	75.08	74.43	73.91	117.94	91.10	83.07
15	79.08	77.92	77.03	76.10	76.13	75.42	74.83	74.49	73.76	117.90	85.97	82.25
20	79.12	77.62	77.02	76.31	76.02	74.96	74.98	74.47	82.34	118.71	84.59	82.19
25	79.20	77.47	76.93	76.20	76.10	75.12	74.61	74.11	108.81	119.05	84.07	81.89
EOM	78.77	77.65	76.82	76.03	75.64	75.60	74.68	73.81	114.71	118.61	83.44	81.95

WTR YEAR 1991 MAX 73.53 JUN 14, 1991

MIN 119.08 JUL 26, 1991

KEARNEY COUNTY

403354098553702. Local number 7N-14W-20BA2.

LOCATION.--Lat 40°33'54", long 98°55'37", NE1/4NW1/4 sec.20, T.7 N., R.14 W., Hydrologic Unit 10270206, 1.4 mi east and 4.5 mi north of intersection of U.S. Highway 6 and State Highway 10 in Minden. Owner: Gary Dornhoff.

AQUIFER.--Sand deposits of Pleistocene age.

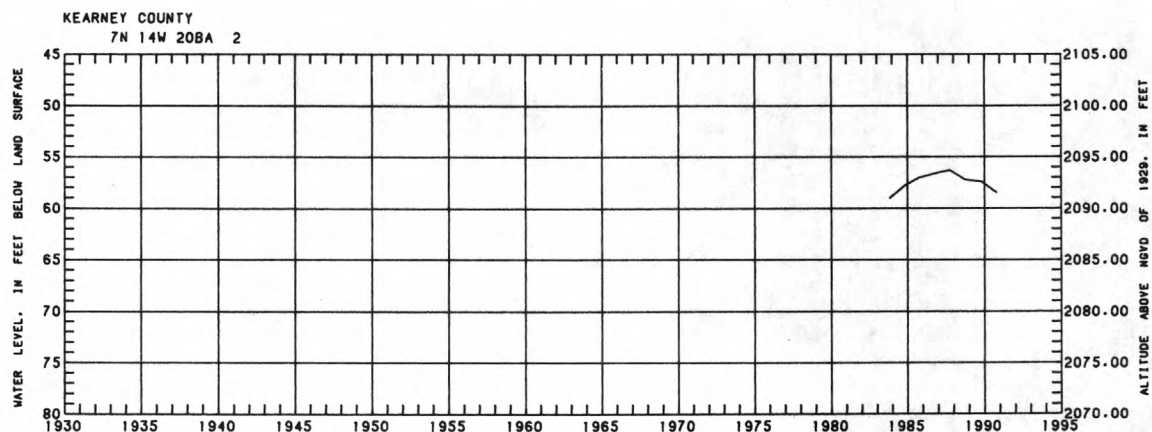
WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 16 in, depth 214 ft.

DATUM.--Altitude of land-surface datum is 2,150 ft. Measuring point: 0.30 ft above land-surface datum.

PERIOD OF RECORD.--October 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.27 ft below land-surface datum, Oct. 2, 1987; lowest, 59.06 ft below land surface datum, Oct. 24, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	58.45										



GROUND-WATER LEVELS

293

KIMBALL COUNTY

411416103361101. Local number 15N-55W-26CCC.

LOCATION.--Lat 41°14'18", long 103°36'15", SW1/4SW1/4 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.

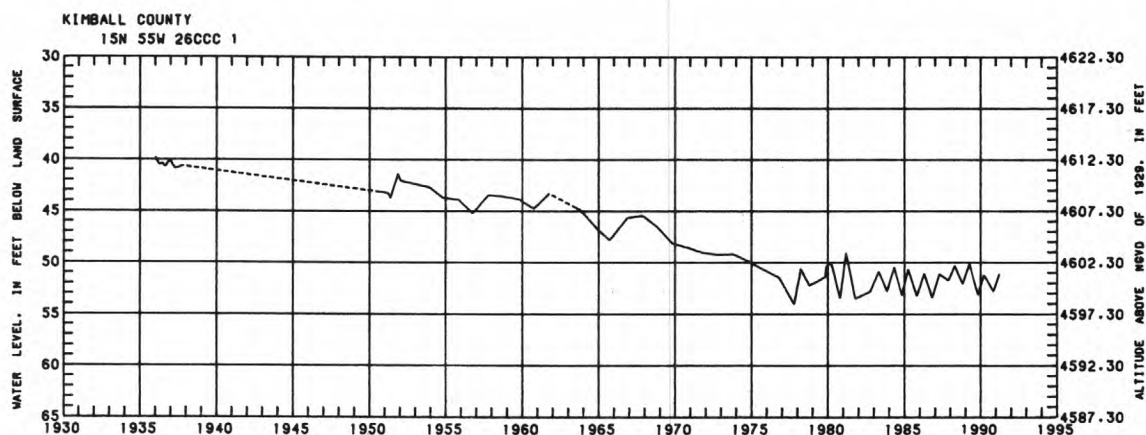
DATUM.--Altitude of land-surface datum is 4,652.3 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

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, 54.07 ft below land-surface datum, Oct. 18, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 8	52.80	MAR 27	51.12



LANCASTER COUNTY

403929096401001. Local number 8N-7E-18DDB.

LOCATION.--Lat 40°39'29", long 96°40'10", NW1/4SE1/4SE1/4 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, 13.44 ft below land-surface datum, Oct. 11, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	13.44		

LANCASTER COUNTY

404706096413001. Local number 10N-6E-36CDD.

LOCATION.--Lat 40°47'06", long 96°41'30", SE1/4SE1/4SW1/4 sec.36, T.10 N., R.6 E., Hydrologic Unit 10200203, in Irvingdale Park on the north side of Van Dorn Street between 19th and 20th Streets in Lincoln. Owner: City of Lincoln.

AQUIFER.--Dakota Formation of Lower Cretaceous age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in, depth 170 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,200 ft. Measuring point: Top of casing 1.00 ft above land-surface datum.

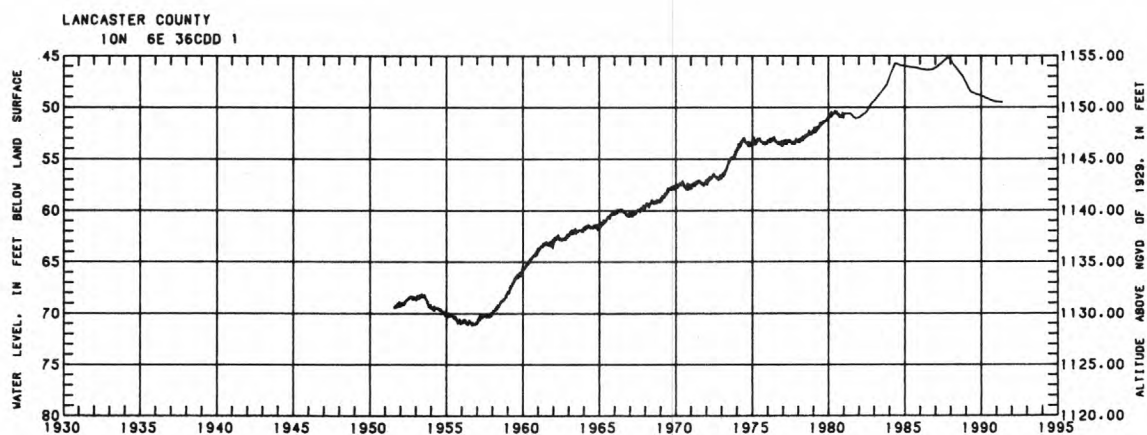
REMARKS.--Recorder removed in January 1983. Well measured in spring and fall thereafter.

PERIOD OF RECORD.--August 1951 to current year.

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 LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	49.40	MAY 17	49.49								



GROUND-WATER LEVELS

SALINE COUNTY

403855097072501. Local number 8N-3E-19ADA.

LOCATION.--Lat 40°38'55", long 97°07'25", NE1/4SE1/4NE1/4 sec.19, T.8 N., R.3 E., Hydrologic Unit 10270202, west edge of Dorchester, on west side of Route 15 between U.S. Highway and Route 33. Owner: U.S. Geological Survey.

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.

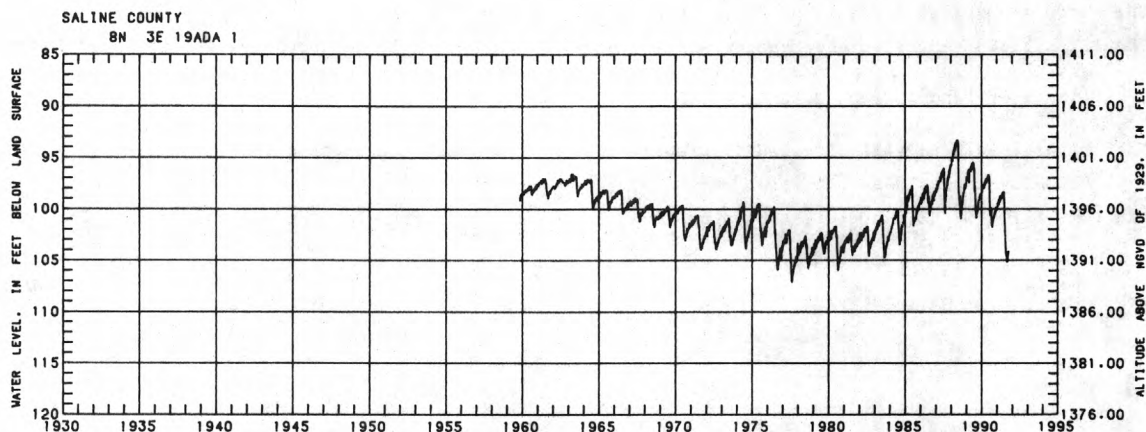
PERIOD OF RECORD.--October 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 93.32 ft below land-surface datum, May 31, 1988; lowest, 107.15 ft below land-surface datum, Aug. 25, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	100.95	100.23	99.85	.....	99.41	98.77	98.83	98.77	98.62	101.44	.....	104.75
10	100.86	100.36	99.90	99.66	99.32	99.22	99.04	98.62	98.36	102.06	104.40	104.75
15	100.82	100.22	99.95	99.41	99.61	99.24	98.78	98.46	98.57	102.70	104.17	104.56
20	100.70	100.39	100.18	99.75	99.33	98.68	98.97	98.68	99.10	103.52	105.00	104.46
25	100.71	100.05	.....	99.64	99.36	98.99	98.70	98.47	99.58	.....	105.10	104.11
EOB	100.38	100.06	.....	99.53	98.79	99.08	98.93	98.32	100.92	.....	105.20	104.19

WTR YEAR 1991 MAX 98.13 JUN 14, 1991 MIN 105.20 AUG 31, 1991



SARPY COUNTY

410308096190701. Local number 13N-10E-32DBBA.

LOCATION.--Lat 41°03'08", long 96°19'07", NE1/4NW1/4NW1/4SE1/4 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.

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.

PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.68 ft below land-surface datum, June 18, 1990; lowest, 6.81 ft below land-surface datum, Sept. 9, 1988.

WATER LEVEL, IN FEET BELOW MEASURING POINT, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	5.01	4.59	5.23	3.73	2.69	3.95	4.08	.....	.....	4.87	.....	.....
10	4.87	4.33	4.08	3.43	1.97	4.15	4.29	.....	.....	4.83	.....	.....
15	4.79	4.56	4.17	3.11	1.78	4.10	3.74	.....	.....	4.57	.....	.....
20	4.84	4.59	4.13	2.71	2.18	3.94	4.26	.....	.....	5.30	5.45H	.....
25	4.37	4.50	3.89	2.56	3.65	4.18	.....	.....	.....	5.47	.....	.....
EOB	4.59	4.83	3.77	2.74	3.92	4.25	.....	.....	.....	5.31	.....	.....

WTR YEAR 1991 MAX 1.58 FEB 15, 1991 MIN 5.77 JUL 29, 1991

H TAPE MEASUREMENT

SAUNDERS COUNTY

410426096220401. Local number 13N-9E-24CC.

LOCATION.--Lat 41°04'26", long 96°22'04", SW1/4SW1/4 sec.24, T.13 N., R.9 E., Hydrologic Unit 10200202, 2 mi north of Ashland. Owner: City of Lincoln.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 12 ft, screened 10 to 12 ft.

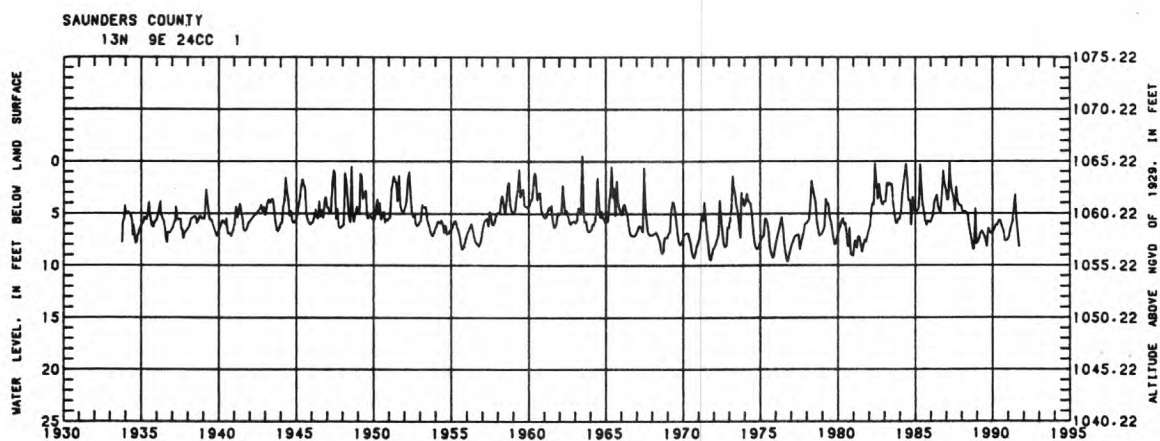
DATUM.--Altitude of land-surface datum is 1,065.22 ft. Measuring point: Top of casing 4.50 ft above land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wells in City of Lincoln well field and high water in the Platte River.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.30 ft above land-surface datum, Apr. 25, 1985; lowest, 9.65 ft below land-surface datum, Oct. 18, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	7.70	DEC 25	7.56
NOV 25	7.66	JAN 25	7.32
		FEB 25	6.65
		APR 25	5.76
		MAY 25	4.32
		JUN 25	3.15
		JUL 25	5.43
		AUG 25	6.90
		SEP 25	8.28



SAUNDERS COUNTY

411005096281502. Local number 14N-8E-24ACD2.

LOCATION.--Lat 41°10'05", long 96°28'15", SE1/4SW1/4NE1/4 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, 39.26 ft below land-surface datum, Apr. 4, 1988; lowest, 46.98 ft below land-surface datum, Sept. 25, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	42.45	42.11	42.31	42.23	42.19	41.89	42.41	42.28	42.56	41.88	42.28	42.47
10	42.53	42.40	42.21	42.19	42.13	42.28	42.50	42.34	42.40	42.05	42.45	42.67
15	42.43	42.38	42.21	41.89	42.23	42.36	42.42	42.22	41.99	42.10	42.33	42.82
20	42.42	42.16	42.23	42.23	42.00	42.08	42.52	42.35	41.17	41.90	42.38	42.91
25	42.45	42.25	42.40	42.25	42.32	42.30	42.36	42.23	40.55	42.01	.....	42.70
EQM	42.21	42.32	42.23	42.18	41.97	42.50	42.45	42.73	40.33	42.16	.....	42.84

WTR YEAR 1991 MAX 40.23 JUN 30, 1991 MIN 42.91 SEP 19 AND 20, 1991

GROUND-WATER LEVELS

SCOTTS BLUFF COUNTY

415325103392801. Local number 22N-55W-11DDC.

LOCATION.--Lat 41°53'25", long 103°39'28", SW1/4NE1/4 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.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 32 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,953 ft. Measuring point: Top of casing 0.00 ft above land-surface datum.

REMARKS.--Recorder removed in January 1984. Well measured monthly thereafter.

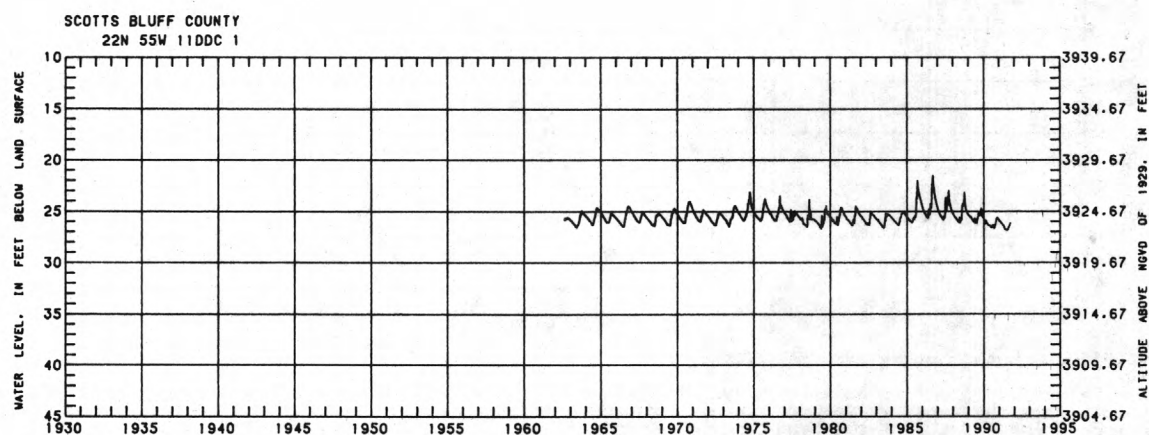
PERIOD OF RECORD.--August 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.27 ft below land-surface datum, Sept. 9, 1986;
 lowest, 26.87 ft below land-surface datum, July 17, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
 LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	26.31	25.74	25.70	25.89	26.05	26.15	26.31	26.54	26.78	26.80	26.70	26.40
10	26.25	25.67	25.73	25.92	26.07	26.17	26.33	26.60	26.79	26.82	26.64	26.36
15	26.15	25.65	25.75	25.95	26.09	26.20	26.36	26.65	26.78	26.86	26.61	26.28
20	26.05	25.65	25.78	25.95	26.10	26.23	26.40	26.67	26.79	26.84	26.54	26.23
25	25.86	25.65	25.80	25.97	26.13	26.25	26.43	26.73	26.79	26.82	26.51	26.18
EOM	25.77	25.68	25.84	25.98	26.14	26.29	26.48	26.78	26.79	26.79	26.47	26.15

WTR YEAR 1991 MAX 25.64 NOV 23, 1990 MIN 26.87 JUL 17, 1991



GROUND-WATER LEVELS

301

SCOTTS BLUFF COUNTY

420000103511501. Local number 23N-56W-6ABAB.

LOCATION.--Lat 42°00'01", long 103°51'51", NW1/4NE1/4NW1/4NE1/4 sec.6, T.23 N., R.56 W., Hydrologic Unit 10180009, 4 mi north and 2 mi west of intersection of U.S. Highway 26 and State Highway 29 in Mitchell. Owner: Carl Gompert.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 6 in, depth 118 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 4,087.7 ft. Measuring point: Hole in pump base 0.7 ft above land-surface datum.

REMARKS.--Local number formerly listed as 23N-56W-6AA. Water levels affected by withdrawals during irrigation season.

PERIOD OF RECORD.--November 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.24 ft below land-surface datum, Oct. 26, 1949; lowest, 44.48 ft below land-surface datum, Mar. 8, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 9	42.40	MAR 18	43.50								

SEWARD COUNTY

405406097115001. Local number 11N-2E-21DD.

LOCATION.--Lat 40°54'06", long 97°11'50", SE1/4SE1/4 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, 73.25 ft below land-surface datum, May 31 1988; lowest, 90.17 ft below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	80.35	79.38H	79.07	78.67	78.29	77.84	77.99	77.80	77.55	80.55	84.10	.....
10	78.90	78.59	78.22	78.13	77.87	77.76	77.61	81.25	83.85	83.95
15	78.65	78.17	78.18	78.06	77.75	77.58	77.36	81.27	.....	83.50
20	78.95H	78.69	78.37	78.09	77.91	77.90	77.81	77.54	82.44	.....	83.64
25	78.83	78.81	78.44	78.24	77.87	77.67	77.61	77.88	83.46	.....	83.17
EOH	79.23	78.70	78.34	77.96	78.05	77.64	77.36	79.22	83.86	.....	82.88

WTR YEAR 1991 MAX 77.28 JUN 15, 1991 MIN 84.13 AUG 5, 1991

H TAPE MEASUREMENT

GROUND-WATER LEVELS

SHERIDAN COUNTY

423034102415001. Local number 29N-46W-10AA.

LOCATION.--Lat 42°30'34", long 102°41'50", NE1/4NE1/4 sec.10, T.29 N., R.46 W., Hydrologic Unit 10150003, at Mirage Flats project headquarters, 11.5 mi south of Hay Springs. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 100 ft, casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,794.5 ft. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Water levels affected by seepage losses from nearby irrigation canal and laterals and by withdrawals from nearby irrigation wells.

PERIOD OF RECORD.--September 1953 to current year.

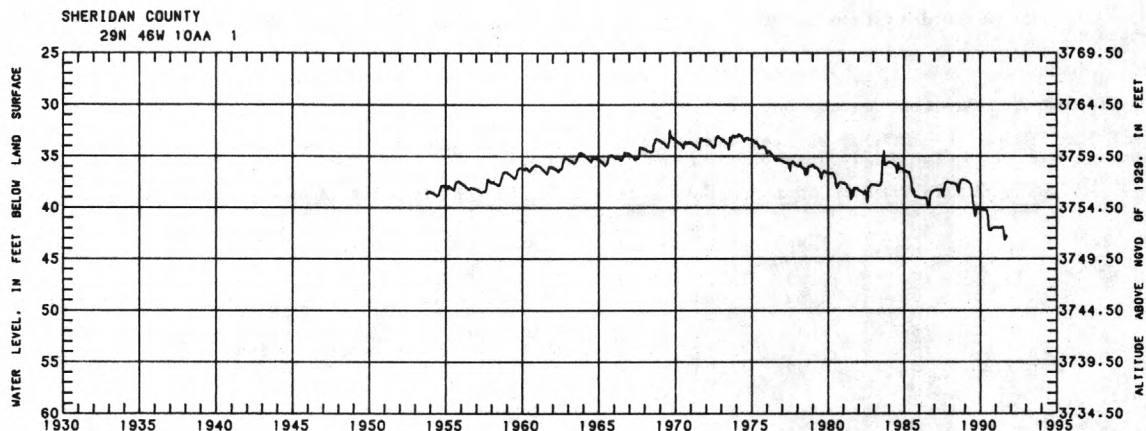
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.47 ft below land-surface datum, Aug. 25, 1969; lowest, 43.20 ft below land-surface datum, Aug. 6, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	42.08	41.97	41.97	41.94	41.95	41.98	41.96	41.97	41.99	.....	.....	42.97
10	42.04	41.98	41.95	41.94	41.95	41.96	41.94	41.95	41.93	.....	43.12	42.67
15	42.04	41.97	41.95	41.94	41.94	41.97	41.95	41.94	41.84	.....	43.11	42.81
20	42.03	41.92	41.95	41.96	41.96	41.95	41.95	41.93	41.87	.....	43.16	42.84
25	42.01	41.94	41.95	41.95	41.98	41.96	41.92	41.94	.....	.....	42.93	42.86
EOM	41.99	41.96	41.93	41.94	41.96	41.99	41.96	41.92	.....	.....	42.88	42.85

WTR YEAR 1991 MAX 41.78 JUN 16, 1991

MIN 43.20 AUG 6, 1991



GROUND-WATER LEVELS

303

THOMAS COUNTY

415845100334001. Local number 23N-28W-9DA.

LOCATION.--Lat 41°58'45", long 100°33'40", NE1/4SE1/4 sec.9, T.23 N., R.28 W., Hydrologic Unit 10210001, 1 mi east of courthouse in Thedford. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

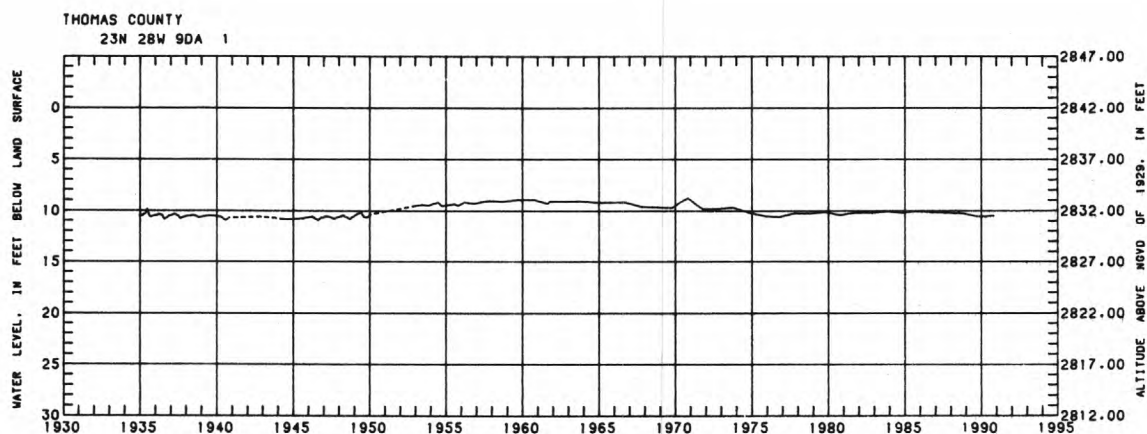
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 15 ft, screened from 13 to 15 ft.

DATUM.--Altitude of land-surface datum is 2,842 ft. Measuring point: Top of pipe 2.3 ft above land-surface datum.

PERIOD OF RECORD.--December 1934 to November 1942; August 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.73 ft below land-surface datum, Oct. 16, 1970; lowest, 10.98 ft below land-surface datum, July 23, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	10.52								



GROUND-WATER LEVELS

VALLEY COUNTY

412955099123201. Local number 18N-16W-30CC.

LOCATION.--Lat 41°29'55", long 99°12'32", SW1/4SW1/4 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.

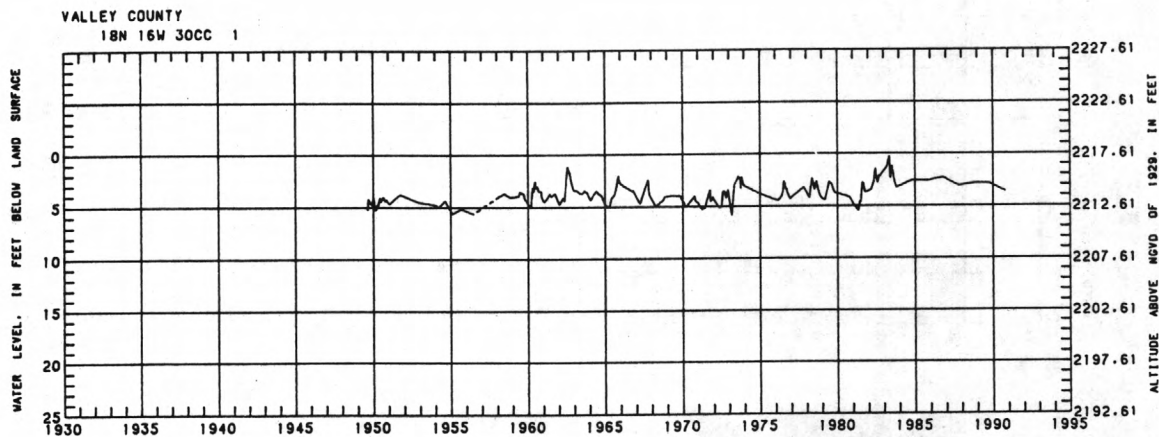
REMARKS.--Water levels in well affected by evapotranspiration.

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 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	3.64										



GROUND-WATER LEVELS

305

WEBSTER COUNTY

400423098314001. Local number 1N-11W-11AB.

LOCATION.--Lat 40°04'23", long 98°31'40", NW1/4NE1/4 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, 1.34 ft below land-surface datum, July 11, 1951; lowest, 10.56 ft below land-surface datum, Apr. 5, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991		WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991	
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	6.78	MAY 28	7.05								

YORK COUNTY

404618097482201. Local number 9N-4W-5CCC.

LOCATION.--Lat 40°46'18", long 97°48'22", SW1/4SW1/4 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, 75.74 ft below land-surface datum, May 18, 1988; lowest, 87.52 ft below land-surface datum, Aug. 20, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	80.44	79.84	79.63	79.27	78.81	78.58	78.19	78.05	77.82	79.27	82.02	82.94
10	80.32	80.11	79.49	79.02	78.80	78.41	78.26	77.98	77.77	79.87	82.05	82.97
15	80.26	80.04	79.55	79.00	78.88	78.45	78.20	77.97	77.93	80.38	82.00	82.95
20	79.91	79.75	79.48	79.15	78.65	78.30	78.21	77.86	78.11	80.94	82.60	82.63
25	79.95	79.79	79.47	79.04	78.70	78.22	78.08	77.80	78.01	81.47	83.17	82.63
EOM	80.04	79.57	79.22	78.93	78.44	78.35	78.22	77.82	78.66	82.12	83.11	82.61

WTR YEAR 1991 MAX 77.59 MAY 30 AND JUN 13, 1991 MIN 83.15 AUG 29, 1991

GROUND-WATER LEVELS

YORK COUNTY

405305097351503. Local number 11N-2W-31BA3.

LOCATION.--Lat 40°53'05", long 97°35'15", NE1/4NW1/4 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.

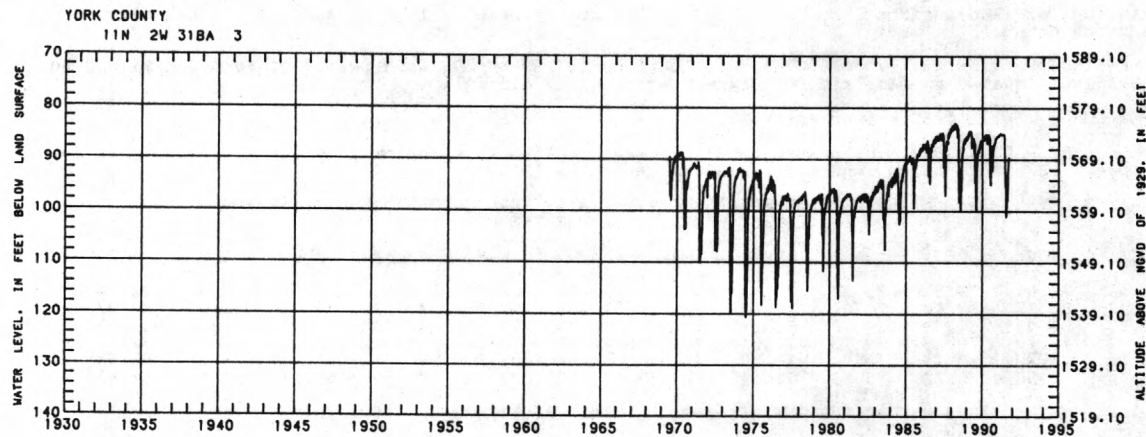
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 83.00 ft below land-surface datum, Apr. 10, 1988; lowest, 120.81 ft below land-surface datum, July 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	87.47	86.61	85.78	85.60	85.31	84.95	85.14	85.05	.....	.....	99.13	92.57
10	87.22	86.25	85.65	85.48	85.19	85.08	85.21	85.02	.....	95.34	92.97	91.58
15	86.96	85.91	85.64	85.33	85.25	85.00	85.13	.....	.....	95.13	94.64	90.70
20	87.21	85.94	85.69	85.53	85.11	85.12	85.08	.....	.....	100.41	97.96	90.32
25	86.85	85.97	85.58	85.36	85.14	85.22	85.24	.....	.....	101.16	98.00	89.68
EOM	86.77	85.91	85.65	85.32	85.04	85.18	85.13	.....	.....	99.57	94.83	89.74

WTR YEAR 1991 MAX 84.95 MAY 11, 1991

MIN 102.55 AUG 2, 1991



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 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- IFIER	LAT- ITUDE	LONG- ITUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
ADAMS COUNTY									
403508098182601	7N	9W11CDA 1	40 35 08 N	098 18 26 W	112SDGV	08-07-91	1635	203.00	690
ANTELOPE COUNTY									
415955098061901	23N	7W 3AADD1	41 59 55 N	098 06 19 W	112SDGV	08-20-91	1800	260.00	574
420100097563401	24N	5W31BAAB1	42 01 00 N	097 56 34 W	112SDGV	08-20-91	1700	120.00	487
BANNER COUNTY									
412450103433401	17N	56W25CAAA1	41 24 50 N	103 43 34 W	121OGLL	07-09-91	1310	210.00	--
412732103522701	17N	57W10ADDC1	41 27 32 N	103 52 27 W	121OGLL	07-09-91	1410	370.00	--
412406103531001	17N	57W34BDCB1	41 24 06 N	103 53 10 W	121OGLL	07-13-91	1200	396.00	--
413402103414501	18N	55W 5BBBB1	41 34 02 N	103 41 45 W	123BRUL	07-17-91	1435	90.00	--
413650103283801	19N	53W18CDCA1	41 36 50 N	103 28 38 W	123BRUL	07-10-91	1250	100.00	--
413604103255901	19N	53W21DCAB1	41 36 04 N	103 25 59 W	112SDGV	07-13-91	1400	70.00	--
413534103260801	19N	53W28ACBC1	41 35 34 N	103 26 08 W	123BRUL	07-13-91	1345	95.00	--
413632103295501	19N	54W24EBDD1	41 36 32 N	103 29 55 W	110SDGV	06-19-91	1005	80.00	--
413746103424201	19N	55W 7CCAA1	41 37 46 N	103 42 42 W	112SDGV	07-10-91	1116	75.00	--
413448103402701	19N	55W33EBDB1	41 34 48 N	103 40 27 W	211LNCE	06-19-91	1130	870.00	1940
413907103461101	19N	56W 3EBDD1	41 39 07 N	103 46 11 W	112SDGV	07-17-91	1545	68.00	--
413910103485701	19N	56W 6AACA1	41 39 10 N	103 48 57 W	123BRUL	07-18-91	1150	95.00	--
413444103495801	19N	56W31BBCC1	41 34 44 N	103 49 58 W	123BRUL	07-13-91	1000	100.00	--
413907103544201	19N	57W 5AADD1	41 39 07 N	103 54 42 W	112SDGV	07-09-91	1645	60.00	--
413853103563201	19N	57W 6BDCC1	41 38 53 N	103 56 32 W	123BRUL	07-18-91	1045	220.00	--
413824103554801	19N	57W 8BBBB1	41 38 24 N	103 55 48 W	123BRUL	07-10-91	0935	180.00	--
414015103571601	20N	58W25DCCA1	41 40 15 N	103 57 16 W	123BRUL	07-13-91	1630	135.00	--
414017104000701	20N	58W27CC 1	41 40 17 N	104 00 07 W	123BRUL	07-09-91	1020	80.00	--
413931103584901	20N	58W35C 1	41 39 31 N	103 58 49 W	123BRUL	07-18-91	1010	103.00	--
BURT COUNTY									
414714096302801	21N	8E28CCDB1	41 47 14 N	096 30 28 W	112SDGV	08-22-91	1110	307.00	--
415710096283101	23N	8E24BD 1	41 57 10 N	096 28 31 W	112SDGV	08-21-91	1540	86.00	674
CLAY COUNTY									
403634097504301	7N	5W 2AA 1	40 36 34 N	097 50 43 W	112SDGV	08-07-91	1345	215.00	535
403739098054801	8N	7W27DC 1	40 37 39 N	098 05 48 W	112SDGV	08-07-91	1515	204.00	487
COLFAX COUNTY									
413343097111401	18N	2E 4ADDD1	41 33 43 N	097 11 14 W	112SDGV	09-16-91	1430	170.00	590
413356097135601	18N	2E 5BBCC1	41 33 56 N	097 13 56 W	112SDGV	09-10-91	1500	65.00	800
413257097124601	18N	2E 9BCBC1	41 32 57 N	097 12 46 W	112SDGV	08-16-91	1430	146.00	610
413241097103201	18N	2E10DADA1	41 32 41 N	097 10 32 W	112SDGV	09-09-91	1400	235.00	590
413136097133401	18N	2E17CDCA1	41 31 36 N	097 13 34 W	112SDGV	08-13-91	1230	130.00	680
413136097133901	18N	2E17CDCH1	41 31 36 N	097 13 39 W	112SDGV	07-30-91	1415	130.00	650
413145097143501	18N	2E18CADD1	41 31 45 N	097 14 35 W	112SDGV	08-16-91	1220	134.00	610
413129097133901	18N	2E20EABB1	41 31 29 N	097 13 39 W	112SDGV	07-30-91	1510	123.00	600
413116097104501	18N	2E22ADBB1	41 31 16 N	097 10 45 W	112SDGV	08-13-91	1140	--	605
413103097091701	18N	2E24CBBB1	41 31 03 N	097 09 17 W	112SDGV	08-16-91	1045	116.00	790
412948097093501	18N	2E26DDCC1	41 29 48 N	097 09 35 W	112SDGV	08-13-91	1430	--	550
413014097123801	18N	2E28BCDC1	41 30 14 N	097 12 38 W	112SDGV	07-30-91	1240	--	575
413017097133401	18N	2E29BDDA1	41 30 17 N	097 13 34 W	112SDGV	08-19-91	1445	129.00	420
412935097115901	18N	2E33ABDD1	41 29 35 N	097 11 59 W	112SDGV	08-22-91	1500	137.00	550
412907097104701	18N	2E34D 1	41 29 07 N	097 10 47 W	112SDGV	08-19-91	1405	--	465

DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
ADAMS COUNTY												
8-07-91	--	15.5	--	270	88	12	36	1	7.0	178	120	30
ANTELOPE COUNTY												
8-20-91	7.6	14.0	--	260	83	14	10	0.3	15	296	9.6	3.7
8-20-91	7.6	13.0	--	220	69	11	8.9	0.3	8.8	235	14	3.9
BANNER COUNTY												
7-09-91	7.9	14.0	6.1	--	--	--	--	--	--	--	--	--
7-09-91	7.8	14.5	6.6	120	33	9.0	13	0.5	4.7	126	11	3.5
7-13-91	8.1	13.5	12.1	--	--	--	--	--	--	--	--	--
7-17-91	7.9	15.0	5.8	--	--	--	--	--	--	--	--	--
7-10-91	7.5	13.0	6.5	210	64	13	47	1	7.9	201	41	31
7-13-91	7.9	12.5	10.6	--	--	--	--	--	--	--	--	--
7-13-91	7.9	13.0	12.1	--	--	--	--	--	--	--	--	--
6-19-91	7.7	9.5	13.0	--	--	--	--	--	--	--	--	--
7-10-91	7.7	12.5	7.1	180	48	14	41	1	6.5	208	22	13
6-19-91	8.8	19.5	1.1	19	4.6	1.7	510	52	5.5	739	3.1	250
7-17-91	7.6	11.0	6.3	--	--	--	--	--	--	--	--	--
7-18-91	8.1	14.0	5.5	--	--	--	--	--	--	--	--	--
7-13-91	7.9	12.5	12.6	--	--	--	--	--	--	--	--	--
7-09-91	7.6	12.0	7.1	--	--	--	--	--	--	--	--	--
7-18-91	8.0	15.0	6.7	--	--	--	--	--	--	--	--	--
7-10-91	7.8	12.5	7.2	120	33	8.4	61	2	6.8	178	29	16
7-13-91	7.7	13.0	12.2	--	--	--	--	--	--	--	--	--
7-09-91	7.6	12.5	6.7	160	46	11	35	1	4.6	184	20	15
7-18-91	7.7	12.5	7.5	--	--	--	--	--	--	--	--	--
BURT COUNTY												
8-22-91	7.5	12.0	--	770	230	47	180	3	27	206	680	130
8-21-91	7.3	14.0	--	330	95	23	21	0.5	3.7	318	43	9.1
CLAY COUNTY												
8-07-91	--	15.0	--	210	69	9.6	29	0.9	5.0	222	28	13
8-07-91	--	13.5	--	190	62	9.5	20	0.6	5.7	154	59	21
COLFAX COUNTY												
9-16-91	7.2	15.0	--	--	--	--	--	--	--	--	--	--
9-10-91	6.5	14.0	--	--	--	--	--	--	--	--	--	--
8-16-91	7.2	12.0	--	--	--	--	--	--	--	--	--	--
9-09-91	7.1	13.0	--	--	--	--	--	--	--	--	--	--
8-13-91	7.3	12.0	--	--	--	--	--	--	--	--	--	--
7-30-91	7.2	11.5	--	--	--	--	--	--	--	--	--	--
8-16-91	7.3	12.0	--	--	--	--	--	--	--	--	--	--
7-30-91	7.0	11.5	--	--	--	--	--	--	--	--	--	--
8-13-91	7.2	12.0	--	--	--	--	--	--	--	--	--	--
8-16-91	7.2	12.0	--	--	--	--	--	--	--	--	--	--
8-13-91	7.3	12.0	--	--	--	--	--	--	--	--	--	--
7-30-91	6.9	11.5	--									

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO ₂) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO ₂ +NO ₃ TOTAL (MG/L AS N) (00630)	NITRO- GEN NO ₂ +NO ₃ 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)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO ₄) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
ADAMS COUNTY												
08-07-91	0.40	30	465	0.63	<0.010	--	7.70	<0.010	0.170	0.52	--	--
ANTELOPE COUNTY												
08-20-91	0.30	35	354	0.48	<0.010	--	1.30	<0.010	0.170	0.52	--	--
08-20-91	0.30	37	306	0.42	<0.010	--	2.70	<0.010	0.180	0.55	--	--
BANNER COUNTY												
07-09-91	--	--	--	--	--	--	3.90	--	--	--	--	--
07-09-91	0.50	60	221	0.30	--	--	2.30	--	--	--	7	120
07-13-91	--	--	--	--	--	--	3.40	--	--	--	--	--
07-17-91	--	--	--	--	--	--	5.10	--	--	--	--	--
07-10-91	0.50	57	427	0.58	--	--	10.0	--	--	--	11	230
07-13-91	--	--	--	--	--	--	5.30	--	--	--	--	--
07-13-91	--	--	--	--	--	--	5.10	--	--	--	--	--
06-19-91	--	--	--	--	--	--	4.80	--	--	--	--	--
07-10-91	0.40	58	360	0.49	--	--	6.90	--	--	--	12	200
06-19-91	1.2	14	1240	1.68	--	--	<0.050	--	--	--	2	63
07-17-91	--	--	--	--	--	--	5.00	--	--	--	--	--
07-18-91	--	--	--	--	--	--	5.80	--	--	--	--	--
07-13-91	--	--	--	--	--	--	3.80	--	--	--	--	--
07-09-91	--	--	--	--	--	--	9.80	--	--	--	--	--
07-18-91	--	--	--	--	--	--	7.30	--	--	--	--	--
07-10-91	0.50	61	352	0.48	--	--	6.40	--	--	--	13	120
07-13-91	--	--	--	--	--	--	3.50	--	--	--	--	--
07-09-91	0.30	60	319	0.43	--	--	3.50	--	--	--	7	220
07-18-91	--	--	--	--	--	--	4.40	--	--	--	--	--
BURT COUNTY												
08-22-91	1.8	7.5	1440	1.96	<0.010	--	<0.050	0.780	<0.010	--	--	--
08-21-91	0.30	26	416	0.57	<0.010	--	<0.050	0.610	0.020	0.06	--	--
CLAY COUNTY												
08-07-91	0.30	35	344	0.47	<0.010	--	4.90	<0.010	0.240	0.74	--	--
08-07-91	0.30	31	315	0.43	<0.010	--	3.00	<0.010	0.150	0.46	--	--
COLFAX COUNTY												
09-16-91	--	--	--	--	--	--	0.053	--	--	--	--	--
09-10-91	--	--	--	--	--	--	69.0	--	--	--	--	--
08-16-91	--	--	--	--	--	--	6.30	--	--	--	--	--
09-09-91	--	--	--	--	--	--	<0.050	--	--	--	--	--
08-13-91	--	--	--	--	--	--	2.20	--	--	--	--	--
07-30-91	--	--	--	--	--	--	2.40	--	--	--	--	--
08-16-91	--	--	--	--	--	--	5.30	--	--	--	--	--
07-30-91	--	--	--	--	--	--	3.40	--	--	--	--	--
08-13-91	--	--	--	--	--	--	1.50	--	--	--	--	--
08-16-91	--	--	--	--	--	--	5.70	--	--	--	--	--
08-13-91	--	--	--	--	--	--	5.20	--	--	--	--	--
07-30-91	--	--	--	--	--	--	3.20	--	--	--	--	--
08-19-91	--	--	--	--	--	--	5.80	--	--	--	--	--
08-22-91	--	--	--	--	--	--	7.40	--	--	--	--	--
08-19-91	--	--	--	--	--	--	10.0	--	--	--	--	--

DATE	BERYL- LITHIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
------	--	---	--	--	---	---	---	---	---	--	---	--

08-07-91	--	110	--	--	--	--	4	--	<1	--	--	--
----------	----	-----	----	----	----	----	---	----	----	----	----	----

08-20-91	--	20	--	--	--	--	<3	--	<1	--	--	--
08-20-91	--	40	--	--	--	--	<3	--	<1	--	--	--

[illegible]

08-22-91	--	580	--	--	--	9400	--	160	--	--	--
08-21-91	--	50	--	--	--	2400	--	710	--	--	--

08-07-91	--	40	--	--	--	--	<3	--	1	--	--	--
08-07-91	--	30	--	--	--	--	<3	--	<1	--	--	--

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

[illegible]

[illegible]

[illegible]

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- IFIER	LAT- ITUDE	LONG- ITUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
COLFAX COUNTY									
412905097085101	18N	2E36CDAB1	41 29 05 N	097 08 51 W	112SDGV	08-14-91	1240	167.00	439
413105097072001	18N	3E19ACDD1	41 31 05 N	097 07 20 W	112SDGV	08-19-91	1215	196.00	485
413000097040601	18N	3E27DBCC1	41 30 00 N	097 04 06 W	112SDGV	08-12-91	1300	73.00	675
413029097053201	18N	3E28BACB1	41 30 29 N	097 05 32 W	112SDGV	08-19-91	1130	134.00	429
412947097072001	18N	3E30DCDD1	41 29 47 N	097 07 20 W	112SDGV	08-12-91	1430	120.00	575
412904097060201	18N	3E32DDBA1	41 29 04 N	097 06 02 W	112SDGV	08-12-91	1330	138.00	590
412911097045801	18N	3E33DACE1	41 29 11 N	097 04 58 W	112SDGV	08-26-91	1445	133.00	600
412930097013001	18N	3E36ADBE1	41 29 30 N	097 01 30 W	112SDGV	08-19-91	1035	67.00	488
413847097114101	19N	2E 4DADA1	41 38 47 N	097 11 41 W	112SDGV	09-09-91	1210	250.00	775
413854097150601	19N	2E 6CBBB1	41 38 54 N	097 15 06 W	112SDGV	09-09-91	1335	30.00	1200
413801097140101	19N	2E 7DAAA1	41 38 01 N	097 14 01 W	112SDGV	08-01-91	1530	--	590
413751097130401	19N	2E 8DACC1	41 37 51 N	097 13 04 W	112SDGV	09-04-91	1500	260.00	580
413805097115901	19N	2E 9ACDD1	41 38 05 N	097 11 59 W	112SDGV	08-12-91	1245	333.00	600
413725097134301	19N	2E17BBDD1	41 37 25 N	097 13 43 W	112SDGV	08-12-91	1110	334.00	525
413604097133001	19N	2E20CDAB1	41 36 04 N	097 13 30 W	112SDGV	08-20-91	1435	345.00	520
413633097103601	19N	2E22AADC1	41 36 33 N	097 10 36 W	112SDGV	09-10-91	1145	50.00	900
413547097124601	19N	2E28BBBC1	41 35 47 N	097 12 46 W	112SDGV	09-09-91	1450	--	550
413547097140501	19N	2E30AAAC1	41 35 47 N	097 14 05 W	112SDGV	09-09-91	1230	260.00	600
413422097125101	19N	2E32DADD1	41 34 22 N	097 12 51 W	112SDGV	09-10-91	1045	150.00	590
413445097112401	19N	2E34BCAA1	41 34 45 N	097 11 24 W	112SDGV	09-10-91	1400	200.00	520
CUMING COUNTY									
414646096483001	21N	5E23AD 1	41 46 46 N	096 48 30 W	112SDGV	08-22-91	0735	90.00	597
415442096501301	22N	5E 3BDD1	41 54 42 N	096 50 13 W	112SDGV	08-21-91	1255	80.00	744
414956096445101	22N	6E33CCB 1	41 49 56 N	096 44 51 W	112SDGV	08-21-91	1655	80.00	712
415752096585101	23N	4E16CB 1	41 57 52 N	096 58 51 W	112SDGV	08-21-91	1120	75.00	508
DODGE COUNTY									
412629096224201	17N	9E14CA 1	41 26 29 N	096 22 42 W	110SDGV	08-23-91	0940	24.00	943
412958096273501	18N	9E30CB 1	41 29 58 N	096 27 35 W	110SDGV	08-22-91	1615	37.00	402
413844096482501	19N	5E 1CB 1	41 38 44 N	096 48 25 W	112SDGV	08-22-91	0825	70.00	1050
413857096405301	19N	6E 1AC 1	41 38 57 N	096 40 53 W	112SDGV	08-22-91	0910	86.00	545
413909096334001	19N	7E 1AA 1	41 39 09 N	096 33 40 W	112SDGV	08-22-91	1450	100.00	557
414424096373801	20N	7E 4BB 1	41 44 24 N	096 37 38 W	112SDGV	08-22-91	1020	90.00	830
414147096325501	20N	8E20ABBD1	41 41 47 N	096 32 55 W	112SDGV	08-22-91	1350	127.00	--
DOUGLAS COUNTY									
412236096185801	16N	10E 8AB 1	41 22 36 N	096 18 58 W	112SDGV	08-23-91	1045	15.00	723
FILLMORE COUNTY									
403145097360901	7N	3W36DB 1	40 31 45 N	097 36 09 W	112SDGV	08-07-91	1205	196.00	578
403843097270602	8N	1W20DB 2	40 38 43 N	097 27 06 W	112SDGV	08-07-91	1100	306.00	605
GARDEN COUNTY									
411724102070601	15N	42W10ABCD1	41 17 24 N	102 07 06 W	110SDGV	06-21-91	1400	50.00	--
411538102343801	15N	46W22ACBA1	41 15 38 N	102 34 38 W	121OGLL	07-08-91	1050	205.00	--
412006102100301	16N	42W29BBBC1	41 20 06 N	102 10 03 W	112SDGV	07-08-91	1449	91.00	--
411949102095001	16N	42W29BCDA1	41 19 49 N	102 09 50 W	112SDGV	07-08-91	--	102.00	--
412314102233001	16N	44W 5 BDC1	41 23 14 N	102 23 30 W	110SDGV	06-24-91	1322	98.00	--

DATE	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
	(00400)	(00010)	(00300)	(00900)	(00915)	(00925)	(00930)	(00931)	(00935)	(90410)	(00945)	(00940)

[illegible]

08-22-91	7.3	17.0	--	270	82	16	25	0.7	3.8	324	9.6	3.7
08-21-91	7.4	15.0	--	350	88	31	29	0.7	7.4	350	65	4.2
08-21-91	7.3	15.0	--	330	96	23	29	0.7	5.0	340	45	9.1
08-21-91	7.3	13.0	--	230	67	15	8.7	0.3	6.1	151	86	14

08-23-91	7.1	14.5	--	440	130	27	28	0.6	5.6	331	110	10
08-22-91	7.1	14.0	--	160	45	12	16	0.5	5.7	167	23	4.2
08-22-91	7.4	13.5	--	430	120	32	64		14.3	192	230	11.6
08-22-91	7.1	13.0	--	220	69	12	25	0.7	4.3	287	2.4	1.6
08-22-91	7.4	13.0	--	240	72	14	17	0.5	10	244	39	4.0
08-22-91	7.2	14.0	--	420	120	29	26	0.6	5.5	403	44	7.4
08-22-91	7.3	13.0	--	360	110	21	34	0.8	8.9	363	45	1.9

08-23-91	7.3	14.5	--	350	110	18	20	0.5	4.5	250	120	12
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08-07-91	--	13.5	--	220	70	12	36	1	4.4	212	67	18
08-07-91	--	14.0	--	260	79	15	24	0.6	4.8	233	92	11

06-21-91	7.9	13.0	6.0	--	--	--	--	--	--
07-08-91	7.6	14.0	6.4	150	49	7.7	18	0.6	8.8
07-08-91	7.5	13.5	0.5	130	45	5.2	12	0.5	9.8
07-08-91	7.5	12.5	0.5	--	--	--	--	--	--
06-24-91	7.5	14.0	6.7	--	--	--	--	--	--

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN NO2+NO3 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)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
COLFAX COUNTY												
08-14-91	--	--	--	--	--	--	2.60	--	--	--	--	--
08-19-91	--	--	--	--	--	--	0.091	--	--	--	--	--
08-12-91	--	--	--	--	--	--	4.10	--	--	--	--	--
08-19-91	--	--	--	--	--	--	1.60	--	--	--	--	--
08-12-91	--	--	--	--	--	--	4.80	--	--	--	--	--
08-12-91	--	--	--	--	--	--	7.10	--	--	--	--	--
08-26-91	--	--	--	--	--	--	5.90	--	--	--	--	--
08-19-91	--	--	--	--	--	--	0.830	--	--	--	--	--
09-09-91	--	--	--	--	--	--	<0.050	--	--	--	--	--
09-09-91	--	--	--	--	--	--	16.0	--	--	--	--	--
08-01-91	--	--	--	--	--	--	0.063	--	--	--	--	--
09-04-91	--	--	--	--	--	--	0.056	--	--	--	--	--
08-12-91	--	--	--	--	--	--	<0.050	--	--	--	--	--
08-12-91	--	--	--	--	--	--	<0.050	--	--	--	--	--
08-20-91	--	--	--	--	--	--	0.210	--	--	--	--	--
09-10-91	--	--	--	--	--	--	17.0	--	--	--	--	--
09-09-91	--	--	--	--	--	--	3.10	--	--	--	--	--
09-09-91	--	--	--	--	--	--	0.140	--	--	--	--	--
09-10-91	--	--	--	--	--	--	1.60	--	--	--	--	--
09-10-91	--	--	--	--	--	--	<0.050	--	--	--	--	--
CUMING COUNTY												
08-22-91	0.40	27	366	0.50	--	<0.010	--	0.490	0.110	0.170	0.52	--
08-21-91	0.30	32	468	0.64	--	<0.010	--	<0.050	0.590	0.020	0.06	--
08-21-91	0.30	27	439	0.60	--	<0.010	--	<0.050	<0.010	0.120	0.37	--
08-21-91	0.30	33	324	0.44	--	<0.010	--	<0.050	0.650	0.230	0.71	--
DODGE COUNTY												
08-23-91	0.50	14	582	0.79	13.0	0.030	--	13.0	<0.010	0.010	0.03	--
08-22-91	0.20	31	265	0.36	--	<0.010	--	6.00	<0.010	0.350	1.1	--
08-22-91	0.60	12	600	0.82	--	<0.010	--	<0.050	0.660	<0.010	--	--
08-22-91	0.40	28	319	0.43	--	<0.010	--	<0.050	0.670	0.250	0.77	--
08-22-91	0.60	42	350	0.48	--	<0.010	--	0.300	0.930	0.300	0.92	--
08-22-91	0.40	26	515	0.70	--	<0.010	--	3.20	0.010	0.030	0.09	--
08-22-91	0.60	25	469	0.64	--	<0.010	--	<0.050	1.20	<0.010	--	--
DOUGLAS COUNTY												
08-23-91	0.40	41	478	0.65	--	<0.010	--	<0.050	0.040	<0.010	--	--
FILLMORE COUNTY												
08-07-91	0.40	29	376	0.51	--	<0.010	--	2.50	<0.010	0.190	0.58	--
08-07-91	0.40	32	400	0.54	--	<0.010	--	0.220	0.010	0.240	0.74	--
GARDEN COUNTY												
06-21-91	--	--	--	--	--	--	--	2.20	--	--	--	--
07-08-91	0.50	59	279	0.38	--	--	--	2.90	--	--	--	8
07-08-91	0.60	52	237	0.32	--	--	--	1.80	--	--	--	12
07-08-91	--	--	--	--	--	--	--	1.30	--	--	--	--
06-24-91	--	--	--	--	--	--	--	4.20	--	--	--	--

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
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08-22-91	--	--	60	--	--	--	11	--	1100	--	--
08-21-91	--	--	320	--	--	--	45	--	120	--	--
08-21-91	--	--	80	--	--	--	93	--	62	--	--
08-21-91	--	--	60	--	--	--	910	--	490	--	--

08-23-91	--	--	50	--	--	--	9	--	400	--	--
08-22-91	--	--	--	--	--	--	8	--	10	--	--
08-22-91	--	--	120	--	--	--	680	--	77	--	--
08-22-91	--	--	70	--	--	--	1200	--	1000	--	--
08-22-91	--	--	80	--	--	--	590	--	490	--	--
08-22-91	--	--	90	--	--	--	3	--	330	--	--
08-22-91	--	--	130	--	--	--	2300	--	890	--	--

08-23-91	--	--	40	--	--	--	--	1400	--	450	--	--
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08-07-91	--	--	50	--	--	--	8	--	9	--	--
08-07-91	--	--	50	--	--	--	16	--	680	--	--

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

[illegible]

[illegible]

	1-NAPH- THOL WATER WHOLE REC	URANIUM DIS- SOLVED EXTRAC- TION	GROSS ALPHA, DIS- SOLVED (UG/L AS	GROSS BETA, DIS- SOLVED (PC/L AS SR	CARBO- FURAN WATER WHOLE TOT REC	RADON 222 TOTAL (PC/L)	3-HYDRX CARBO- FURAN WATER WHOLE TOT REC	ALDICAR SULF WATER WHOLE TOT REC	ALDI- CARE SULFONE OXYMYL WATER WHOLE TOT REC	ALDI- CARE WATER WHOLE TOT REC	METRI- BUZIN SENCOR WATER DISSOLV	
DATE	(MG/L) (77441)	(UG/L) (80020)	U-NAT) (80030)	YT-90) (80050)	(UG/L) (82615)	(82303)	(UG/L) (82584)	(UG/L) (82586)	(UG/L) (82587)	(UG/L) (82613)	(UG/L) (82619)	(UG/L) (82630)

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CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- IFIER	LAT- ITUDE	LONG- ITUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
GARDEN COUNTY									
412433102194101	17N	43W30CCCC1	41 24 33 N	102 19 41 W	110SDGV	06-24-91	1150	115.00	--
412426102194101	17N	43W31BBBC1	41 24 26 N	102 19 41 W	112SDGV	07-08-91	1400	106.00	--
412620102263001	17N	44W18CCCA1	41 26 20 N	102 26 30 W	112SDGV	07-08-91	1100	70.00	--
412620102264201	17N	45W13DDDB1	41 26 20 N	102 26 42 W	112SDGV	07-08-91	1238	100.00	--
412829102371401	17N	46W 4ADDD1	41 28 29 N	102 37 14 W	110SDGV	06-24-91	1600	200.00	--
413232102301701	18N	45W 9DDBB1	41 32 32 N	102 30 17 W	121OGLL	07-16-91	1200	512.00	--
413417102324801	19N	45W31DCAB1	41 34 17 N	102 32 48 W	121OGLL	07-16-91	1300	440.00	--
413446102350901	19N	46W35A 1	41 34 46 N	102 35 09 W	121OGLL	07-08-91	1600	400.00	183
HAMILTON COUNTY									
404633098091202	9N	7W 6DAD 2	40 46 33 N	098 09 12 W	112SDGV	08-08-91	0840	190.00	834
405147098004501	10N	6W 4CB 1	40 51 47 N	098 00 45 W	112SDGV	08-08-91	0945	248.00	643
MADISON COUNTY									
414518097313401	21N	2W34AA 1	41 45 18 N	097 31 34 W	112SDGV	08-20-91	1115	108.00	731
414901097395801	21N	3W 4DCCA1	41 49 01 N	097 39 58 W	112SDGV	08-20-91	1215	160.00	559
415125097285702	22N	1W30BB 2	41 51 25 N	097 28 57 W	112SDGV	08-20-91	1302	166.00	592
420010097314501	23N	2W 3ABAA1	42 00 10 N	097 31 45 W	112SDGV	08-20-91	1450	73.00	298
420205097322601	24N	2W22CC 1	42 02 05 N	097 32 26 W	111ALVM	08-20-91	1420	40.00	707
420046097442201	24N	4W35AD 1	42 00 46 N	097 44 22 W	112SDGV	08-20-91	1600	105.00	431
MORRILL COUNTY									
412631102594801	17N	49W17CACC1	41 26 31 N	102 59 48 W	121OGLL	07-11-91	1110	480.00	--
412631103101701	17N	51W14C 1	41 26 31 N	103 10 17 W	121OGLL	06-20-91	1130	350.00	--
412641103163701	17N	52W14ACDD1	41 26 41 N	103 16 37 W	121OGLL	07-17-91	1325	385.00	--
412654103214401	17N	52W18BACD1	41 26 54 N	103 21 44 W	110SDGV	06-20-91	1010	120.00	--
413300102522901	18N	48W 8BDBB1	41 33 00 N	102 52 29 W	121OGLL	07-12-91	1215	156.00	--
413145102482101	18N	48W14DADD1	41 31 45 N	102 48 21 W	112SDGV	07-12-91	1045	200.00	--
413255103043201	18N	50W10BDBC1	41 32 55 N	103 04 32 W	112SDGV	07-10-91	1500	110.00	--
413130103024601	18N	50W14DDCC1	41 31 30 N	103 02 46 W	121OGLL	07-17-91	1045	205.00	--
413038103045001	18N	50W22CCCC1	41 30 38 N	103 04 50 W	112SDGV	07-10-91	1545	97.00	--
413147103134001	18N	51W17CACC1	41 31 47 N	103 13 40 W	123BRUL	07-17-91	1225	125.00	--
413303103160201	18N	52W12BBDD1	41 33 03 N	103 16 02 W	110SDGV	07-16-91	1310	84.00	--
413153103172001	18N	52W14CBBA1	41 31 53 N	103 17 20 W	112SDGV	07-16-91	1130	76.00	--
413127103162401	18N	52W23AAAB1	41 31 27 N	103 16 24 W	123BRUL	07-16-91	1220	140.00	--
413121103165401	18N	52W23BADA1	41 31 21 N	103 16 54 W	123BRUL	06-25-91	1100	150.00	--
412958103200401	18N	52W29DBDD1	41 29 58 N	103 20 04 W	112SDGV	07-16-91	1040	78.00	--
413750102512601	19N	48W 9CBDD1	41 37 50 N	102 51 26 W	112SDGV	07-12-91	1515	60.00	--
413526102494901	19N	48W27ACDC1	41 35 26 N	102 49 49 W	110SDGV	06-26-91	1146	106.00	--
413500102524601	19N	48W29CCCC1	41 35 00 N	102 52 46 W	112SDGV	07-12-91	1320	70.00	--
413500102534301	19N	48W30CDDC1	41 35 00 N	102 53 43 W	112SDGV	07-10-91	1715	80.00	--
413839103010401	19N	49W 6CCAA1	41 38 39 N	103 01 04 W	112SDGV	07-13-91	1108	100.00	--
413740102570701	19N	49W10DCCA1	41 37 40 N	102 57 07 W	112SDGV	07-12-91	1642	66.00	--
413708102584301	19N	49W16CBAA1	41 37 08 N	102 58 43 W	112SDGV	06-20-91	1350	40.00	--
413645103010401	19N	49W18CCDD1	41 36 45 N	103 01 04 W	112SDGV	07-11-91	1232	125.00	--
413553102564601	19N	49W22DDDC1	41 35 53 N	102 56 46 W	112SDGV	07-12-91	0925	56.00	--
413523102551001	19N	49W25CABB1	41 35 23 N	102 55 10 W	123CDRN	07-17-91	0925	475.00	--
413840103062101	19N	50W 5D 1	41 38 40 N	103 06 21 W	110SDGV	06-19-91	1115	150.00	--
413749103014001	19N	50W12DBDD1	41 37 49 N	103 01 40 W	112SDGV	07-15-91	1313	60.00	--
413717103015801	19N	50W13BDAD1	41 37 17 N	103 01 58 W	112SDGV	06-20-91	1300	100.00	--
413511103024801	19N	50W26D 1	41 35 11 N	103 02 48 W	110SDGV	06-25-91	0845	100.00	--
413433103063601	19N	50W32ACCC1	41 34 33 N	103 06 36 W	112SDGV	07-16-91	1530	90.00	--

DATE	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
	(00400)	(00010)	(00300)	(00900)	(00915)	(00925)	(00930)	(00931)	(00935)	(90410)	(00945)	(00940)

06-24-91	7.6	14.5	7.4	160	51	7.6	33	1	9.2	181	28	7.7
07-08-91	7.6	13.0	9.5	--	--	--	--	--	--	--	--	--
07-08-91	7.3	12.5	3.7	310	95	17	95	2	18	230	130	33
07-08-91	7.8	13.5	10.2	--	--	--	--	--	--	--	--	--
06-24-91	7.8	14.0	6.0	140	42	7.6	18	0.7	9.9	150	15	5.8
07-16-91	7.6	15.0	7.6	--	--	--	--	--	--	--	--	--
07-16-91	8.0	15.5	9.8	--	--	--	--	--	--	--	--	--
07-08-91	7.8	14.5	9.9	77	24	4.0	5.6	0.3	5.8	79	3.5	0.50

08-08-91	--	13.0	--	340	110	17	36	0.8	7.2	241	90	50
08-08-91	--	13.0	--	260	83	13	30	0.8	5.2	228	64	16

08-20-91	7.4	13.5	--	340	100	22	21	0.5	7.7	289	84	5.0
08-20-91	7.3	13.5	--	270	90	12	8.7	0.2	3.4	288	12	5.7
08-20-91	7.4	13.0	--	290	92	15	10	0.3	6.2	303	17	4.7
08-20-91	7.2	13.0	--	120	40	5.8	8.7	0.3	3.8	120	28	3.2
08-20-91	7.4	15.0	--	320	98	19	20	0.5	10	317	54	5.7
08-20-91	7.2	13.0	--	200	64	8.8	8.0	0.2	7.7	215	12	3.5

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CHEMICAL ANALYSES OF GROUND WATER

323

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)
GARDEN COUNTY												
06-24-91	0.50	58	323	0.44	--	4.20	--	--	--	7	150	0.6
07-08-91	--	--	--	--	--	14.0	--	--	--	--	--	--
07-08-91	0.50	51	663	0.90	--	19.0	--	--	--	8	110	0.5
07-08-91	--	--	--	--	--	2.90	--	--	--	--	--	--
06-24-91	0.60	61	262	0.36	--	2.70	--	--	--	6	160	0.5
07-16-91	--	--	--	--	--	2.80	--	--	--	--	--	--
07-16-91	--	--	--	--	--	2.60	--	--	--	--	--	--
07-08-91	0.30	54	158	0.21	--	2.80	--	--	--	9	87	<0.5
HAMILTON COUNTY												
08-08-91	0.30	31	536	0.73	<0.010	11.0	0.010	0.270	0.83	--	--	--
08-08-91	0.40	28	413	0.56	<0.010	8.10	<0.010	0.210	0.64	--	--	--
MADISON COUNTY												
08-20-91	0.30	34	449	0.61	<0.010	0.050	0.470	<0.010	--	--	--	--
08-20-91	0.20	49	359	0.49	<0.010	1.10	<0.010	0.060	0.18	--	--	--
08-20-91	0.20	40	373	0.51	<0.010	1.40	<0.010	0.130	0.40	--	--	--
08-20-91	0.30	38	202	0.27	<0.010	<0.050	0.140	0.040	0.12	--	--	--
08-20-91	0.30	40	456	0.62	<0.010	4.10	<0.010	0.100	0.31	--	--	--
08-20-91	0.30	40	279	0.38	<0.010	1.20	<0.010	0.190	0.58	--	--	--
MORRILL COUNTY												
07-11-91	0.60	50	258	0.35	--	1.60	--	--	--	5	110	0.5
06-20-91	--	--	--	--	--	2.40	--	--	--	--	--	--
07-17-91	--	--	--	--	--	2.30	--	--	--	--	--	--
06-20-91	--	--	--	--	--	3.30	--	--	--	--	--	--
07-12-91	--	--	--	--	--	6.00	--	--	--	--	--	--
07-12-91	--	--	--	--	--	1.50	--	--	--	--	--	--
07-10-91	--	--	--	--	--	5.30	--	--	--	--	--	--
07-17-91	--	--	--	--	--	3.00	--	--	--	--	--	--
07-10-91	--	--	--	--	--	3.10	--	--	--	--	--	--
07-17-91	--	--	--	--	--	3.40	--	--	--	--	--	--
07-16-91	--	--	--	--	--	10.0	--	--	--	--	--	--
07-16-91	--	--	--	--	--	3.20	--	--	--	--	--	--
07-16-91	--	--	--	--	--	4.20	--	--	--	--	--	--
06-25-91	0.50	56	274	0.37	--	4.10	--	--	--	6	170	<0.5
07-16-91	0.40	54	387	0.53	--	3.80	--	--	--	4	360	<0.5
07-12-91	--	--	--	--	--	1.20	--	--	--	--	--	--
06-26-91	0.60	58	556	0.76	--	4.50	--	--	--	9	98	0.7
07-12-91	--	--	--	--	--	6.00	--	--	--	--	--	--
07-10-91	--	--	--	--	--	8.20	--	--	--	--	--	--
07-13-91	--	--	--	--	--	6.00	--	--	--	--	--	--
07-12-91	--	--	--	--	--	2.90	--	--	--	--	--	--
06-20-91	--	--	--	--	--	3.70	--	--	--	--	--	--
07-11-91	0.60	49	532	0.72	--	7.50	--	--	--	12	220	<0.5
07-12-91	--	--	--	--	--	5.60	--	--	--	--	--	--
07-17-91	0.90	12	911	1.24	--	<0.050	--	--	--	59	21	<0.5
06-19-91	--	--	--	--	--	4.10	--	--	--	--	--	--
07-15-91	--	--	--	--	--	2.90	--	--	--	--	--	--
06-20-91	--	--	--	--	--	2.80	--	--	--	--	--	--
06-25-91	0.50	49	287	0.39	--	2.00	--	--	--	6	220	0.7
07-16-91	--	--	--	--	--	3.00	--	--	--	--	--	--

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
------	---	--	--	---	---	---	---	---	--	---	--	---

06-24-91	90	<1.0	<5	<3	<10	6	<10	<1	<10	<10	3	<1.0
07-08-91	--	--	--	--	--	--	--	--	--	--	--	--
07-08-91	220	<1.0	<5	<3	<10	<3	<10	130	<10	<10	3	<1.0
07-08-91	--	--	--	--	--	--	--	--	--	--	--	--
06-24-91	60	<1.0	<5	<3	<10	3	<10	<1	<10	<10	1	<1.0
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-08-91	20	<1.0	<5	<3	<10	5	<10	<1	<10	<10	<1	<1.0

08-08-91	40	--	--	--	--	3	--	12	--	--	--	--
08-08-91	40	--	--	--	--	5	--	<1	--	--	--	--

08-20-91	120	--	--	--	--	820	--	150	--	--	--	--
08-20-91	50	--	--	--	--	^3	--	1	--	--	--	--
08-20-91	50	--	--	--	--	^3	--	^1	--	--	--	--
08-20-91	30	--	--	--	--	1200	--	380	--	--	--	--
08-20-91	80	--	--	--	--	^3	--	^1	--	--	--	--
08-20-91	30	--	--	--	--	^3	--	3	--	--	--	--

[illegible]

DATE	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DISS. ISOTOPE RATIO (U-234/ U-238) (28013)	METHIO- CARB WATER WHOLE RECOV. (UG/L) (30282)	PROPO- XUR WATER WHOLE RECOV. (UG/L) (30296)	AMETRYN WATER, DISS, REC (UG/L) (38401)	PROP- AZINE SED, BOT MAT REC (UG/L) (38535)	METHO- MYL TOTAL (UG/L) (39051)	PROPHAM TOTAL (UG/L) (39052)
GARDEN COUNTY												
06-24-91	340	15	5	11	0.11	1.60	--	--	--	--	--	--
07-08-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-08-91	640	13	8	32	0.16	1.70	<0.5	<0.5	<0.05	<0.05	<0.5	<0.5
07-08-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
06-24-91	330	19	12	12	0.13	2.00	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-08-91	160	20	7	4.8	0.11	2.70	--	--	--	--	--	--
HAMILTON COUNTY												
08-08-91	--	--	--	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--	--	--	--
MADISON COUNTY												
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--	--
MORRILL COUNTY												
07-11-91	420	16	6	8.3	0.21	1.90	<0.5	<0.5	--	--	<0.5	<0.5
06-20-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-10-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
06-25-91	450	16	<3	9.0	0.13	1.70	--	--	<0.05	<0.05	--	--
07-16-91	640	12	6	10	0.19	1.70	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
06-26-91	910	22	6	19	0.15	1.80	--	--	<0.05	<0.05	--	--
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-10-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-13-91	--	--	--	--	--	--	<0.5	<0.5	<0.05	<0.05	<0.5	<0.5
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-11-91	600	32	9	25	0.29	1.80	<0.5	<0.5	<0.05	<0.05	<0.5	<0.5
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-17-91	340	<6	7	8.2	0.17	15.0	<0.5	<0.5	--	--	<0.5	<0.5
06-19-91												

DATE	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	SEVIN, TOTAL (UG/L) (39750)	ALA- CHLOR (LASSO) WATER DISSOLV (UG/L) (46342)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (UG/L) (75986)	ALPHA, COUNT, 2 SIGMA WAT DIS AS TH-230 (PCI/L) (75987)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCI/L) (75988)	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCI/L) (75989)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	RA-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	1-NAPH- THOL WATER WHOLE REC (MG/L) (77441)
GARDEN COUNTY											
06-24-91	--	--	--	--	3.6	5.3	1.4	2.6	0.020	25	--
07-08-91	<0.05	0.05	--	<0.05	--	--	--	--	--	--	--
07-08-91	<0.05	0.31	<0.50	<0.05	10	20	3.8	5.1	0.030	27	<0.5
07-08-91	<0.05	0.08	--	<0.05	--	--	--	--	--	--	--
06-24-91	--	--	--	--	2.9	6.1	1.4	2.7	0.020	24	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-08-91	--	--	--	--	0.90	1.0	0.80	1.3	0.020	26	--
HAMILTON COUNTY											
08-08-91	--	--	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--	--	--
MADISON COUNTY											
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
MORRILL COUNTY											
07-11-91	--	--	<0.50	--	3.3	7.1	1.1	2.0	0.040	27	<0.5
06-20-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	--	--	--
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
06-25-91	<0.05	<0.05	--	<0.05	3.3	7.9	2.4	2.1	0.020	30	--
07-16-91	--	--	--	--	4.4	10	1.6	2.1	0.030	27	--
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
06-26-91	--	--	--	--	6.8	12	2.5	3.3	0.030	25	--
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-10-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-13-91	<0.05	<0.05	<0.50	<0.05	--	--	--	--	--	--	<0.5
07-12-91	--	--	--	--	--	--	--	--	--	--	--
06-20-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-11-91	<0.05	0.15	<0.50	<0.05	8.8	23	3.0	3.9	0.050	29	<0.5
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-17-91	--	--	<0.50	--	6.2	0.70	2.0	2.6	0.030	26	<

DATE	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	CARBO- FURAN WATER WHOLE TOT.REC (UG/L) (82615)	RADON 222 TOTAL (PC/L) (82303)	3-HYDRX CARBO- FURAN WATER WHOLE TOT.REC (UG/L) (82584)	ALDICAR SULF- OXIDE WATER WHOLE TOT.REC (UG/L) (82586)	ALDI- CARB SULFONE WATER WHOLE TOT.REC (UG/L) (82587)	OXYAMYL WATER WHOLE TOT.REC (UG/L) (82613)	ALDI- CARB WATER WHOLE TOT.REC (UG/L) (82619)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
GARDEN COUNTY											
06-24-91	7.0	7.5	7.7	--	330	--	--	--	--	--	--
07-08-91	--	--	--	--	--	--	--	--	--	--	--
07-08-91	22	28	24	<0.5	390	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
07-08-91	--	--	--	--	--	--	--	--	--	--	<0.05
06-24-91	5.0	8.2	8.7	--	140	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-08-91	1.3	1.4	3.8	--	450	--	--	--	--	--	--
HAMILTON COUNTY											
08-08-91	--	--	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--	--	--
MADISON COUNTY											
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--	--	--
MORRILL COUNTY											
07-11-91	6.4	9.7	6.0	<0.5	350	<0.5	<0.5	<0.5	<0.5	<0.5	--
06-20-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-17-91	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-10-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-16-91	--	--	--	--	--	--	--	--	--	--	--
06-25-91	6.2	10	6.5	--	1200	--	--	--	--	--	<0.05
07-16-91	10	14	7.6	--	880	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
06-26-91	14	17	14	--	450	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-10-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-13-91	--	--	--	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
07-12-91	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-11-91	21	30	19	<0.5	310	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-17-91	0.80	1.0	6.2	<0.5	530	<0.5	<0.5	<0.5	<0.5	<0.5	--
06-19-91	--	--	--	--	--	--	--	--	--	--	--
07-15-91	--	--	--	--	--	--	--	--	--	--	--
06-20-91	--	--	--	--	--	--	--	--	--	--	--
06-25-91	9.5	11	8.8	--	410	--	--	--	--		

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)
MORRILL COUNTY								
413504103084901	19N	51W25DCCC1	41 35 04 N	103 08 49 W	112SDGV	07-15-91	1520	83.00
413516103134201	19N	51W29C 1	41 35 16 N	103 13 42 W	110SDGV	06-19-91	1420	70.00
413534103151901	19N	52W25ADBD1	41 35 34 N	103 15 19 W	110SDGV	06-19-91	1240	92.00
413511103195901	19N	52W29DDBB1	41 35 11 N	103 19 59 W	112SDGV	07-16-91	1435	55.00
413428103161501	19N	52W36CBBC1	41 34 28 N	103 16 15 W	112SDGV	07-16-91	1350	85.00
414036103072801	20N	50W30DABB1	41 40 36 N	103 07 28 W	112SDGV	07-08-91	1715	65.00
413954103053901	20N	50W33BDBD1	41 39 54 N	103 05 39 W	112SDGV	07-15-91	1110	125.00
413927103060101	20N	50W33CCBC1	41 39 27 N	103 06 01 W	112SDGV	07-13-91	1210	65.00
414429103124901	20N	51W 4BBCC1	41 44 29 N	103 12 49 W	112SDGV	07-16-91	0930	140.00
414732103162801	21N	51W18DBCA1	41 47 32 N	103 16 28 W	123BRUL	06-18-91	1600	120.00
414651103141701	21N	51W21BDDD1	41 46 51 N	103 14 17 W	112SDGV	07-13-91	1305	125.00
414520103144701	21N	51W33BBCC1	41 45 20 N	103 14 47 W	112SDGV	07-10-91	1245	169.00
414534103200701	21N	52W27CDDA1	41 45 34 N	103 20 07 W	112SDGV	07-10-91	0945	80.00
414527103172901	21N	52W36ABAA1	41 45 27 N	103 17 29 W	112SDGV	07-13-91	1655	117.00
415049103023301	22N	49W30DCCC1	41 50 49 N	103 02 33 W	121OGLL	07-11-91	1418	85.00
415850103145201	23N	51W 8DAAA1	41 58 50 N	103 14 52 W	122ARKR	06-25-91	1353	200.00
NUCKOLLS COUNTY								
400101097503601	1N	5W26DDCC1	40 01 01 N	097 50 36 W	112SDGV	07-02-91	1847	155.00
					112SDGV	08-06-91	1750	155.00
					112SDGV	08-21-91	1115	155.00
					112SDGV	09-04-91	1755	155.00
400125097534601	1N	5W28CBBB1	40 01 25 N	097 53 46 W	112SDGV	07-10-91	1541	63.00
					112SDGV	08-02-91	2010	63.00
					110SDGV	08-21-91	1450	63.00
					110SDGV	09-05-91	1010	63.00
400101097553501	1N	5W30CDDC1	40 01 01 N	097 55 35 W	112SDGV	07-10-91	1650	40.00
					112SDGV	08-06-91	1610	40.00
					112SDGV	08-21-91	1515	40.00
					112SDGV	09-05-91	1210	40.00
400008097545301	1N	5W32CCC 1	40 00 08 N	097 54 53 W	112SDGV	07-01-91	1530	33.00
					112SDGV	08-01-91	1035	33.00
					112SDGV	08-19-91	1400	33.00
					112SDGV	09-05-91	1110	33.00
400035097513201	1N	5W34ADDD1	40 00 35 N	097 51 32 W	112SDGV	07-10-91	1451	148.00
					112SDGV	08-02-91	1520	148.00
					112SDGV	08-21-91	1310	148.00
					112SDGV	09-05-91	0916	148.00
400009097503601	1N	5W35DDCC1	40 00 09 N	097 50 36 W	112SDGV	07-02-91	2018	124.00
					112SDGV	08-02-91	1130	124.00
					112SDGV	08-21-91	1228	124.00
					112SDGV	09-04-91	1630	124.00
400213098011601	1N	6W20CAAC1	40 02 13 N	098 01 16 W	112SDGV	07-09-91	1525	57.00
					112SDGV	08-02-91	1805	57.00
					112SDGV	08-21-91	1750	57.00
					112SDGV	09-06-91	1030	57.00
400127097574701	1N	6W26BDDD1	40 01 27 N	097 57 47 W	112SDGV	07-10-91	2135	18.00
					112SDGV	08-02-91	1310	18.00
					112SDGV	08-21-91	1623	18.00
					112SDGV	09-05-91	1430	18.00
400101098012901	1N	6W29CCDD1	40 01 01 N	098 01 29 W	112SDGV	07-02-91	0810	38.00
					112SDGV	07-31-91	1756	38.00
					112SDGV	08-19-91	1825	38.00
					112SDGV	09-06-91	0910	38.00
400101098012902	1N	6W29CCDD2			112SDGV	07-02-91	1208	38.00
					112SDGV	07-31-91	1820	38.00
					112SDGV	08-19-91	1840	38.00
					112SDGV	09-06-91	0926	38.00

CHEMICAL ANALYSES OF GROUND WATER

329

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
MORRILL COUNTY											
07-15-91	--	7.6	12.0	5.9	230	71	12	25	0.7	6.7	216
06-19-91	--	7.6	12.5	4.8	--	--	--	--	--	--	--
06-19-91	--	7.5	11.5	5.1	--	--	--	--	--	--	--
07-16-91	--	7.4	12.5	2.2	--	--	--	--	--	--	--
07-16-91	--	7.7	13.0	7.0	--	--	--	--	--	--	--
07-08-91	--	7.6	12.0	6.4	--	--	--	--	--	--	--
07-15-91	--	7.4	12.5	0.2	340	100	22	170	4	10	379
07-13-91	--	7.5	13.0	7.4	--	--	--	--	--	--	--
07-16-91	--	7.9	15.0	11.7	--	--	--	--	--	--	--
06-18-91	--	7.9	15.0	--	--	--	--	--	--	--	--
07-13-91	--	7.7	13.0	4.9	--	--	--	--	--	--	--
07-10-91	--	8.2	16.0	8.9	300	92	18	55	1	11	216
07-10-91	--	7.6	15.5	7.5	400	120	24	86	2	14	283
07-13-91	--	7.5	13.0	4.6	--	--	--	--	--	--	--
07-11-91	--	7.3	12.0	2.3	230	67	14	44	1	15	283
06-25-91	--	7.9	15.0	5.2	140	41	7.9	11	0.4	5.9	144
NUCKOLLS COUNTY											
07-02-91	630	7.2	13.5	6.8	--	--	--	--	--	--	--
08-06-91	732	7.2	13.5	7.7	--	--	--	--	--	--	--
08-21-91	740	7.2	13.5	7.1	--	--	--	--	--	--	--
09-04-91	713	6.6	13.0	6.7	--	--	--	--	--	--	--
07-10-91	959	6.8	15.0	8.4	--	--	--	--	--	--	--
08-02-91	1040	6.7	13.5	5.4	--	--	--	--	--	--	--
08-21-91	1050	6.9	13.5	5.4	--	--	--	--	--	--	--
09-05-91	1050	6.7	13.0	5.3	--	--	--	--	--	--	--
07-10-91	592	7.2	14.0	13.0	--	--	--	--	--	--	--
08-06-91	582	7.2	15.0	6.1	--	--	--	--	--	--	--
08-21-91	1060	7.3	14.5	5.2	--	--	--	--	--	--	--
09-05-91	1090	7.2	13.0	4.9	--	--	--	--	--	--	--
07-01-91	950	6.9	13.5	3.1	--	--	--	--	--	--	--
08-01-91	1010	7.3	12.0	0.1	--	--	--	--	--	--	--
08-19-91	984	7.0	12.5	0.3	--	--	--	--	--	--	--
09-05-91	966	7.0	12.5	0.3	--	--	--	--	--	--	--
07-10-91	964	7.2	14.0	11.1	--	--	--	--	--	--	--
08-02-91	658	7.0	13.5	6.8	--	--	--	--	--	--	--
08-21-91	658	7.2	13.5	6.8	--	--	--	--	--	--	--
09-05-91	666	7.1	13.0	6.4	--	--	--	--	--	--	--
07-02-91	805	7.8	17.0	6.5	--	--	--	--	--	--	--
08-02-91	408	7.4	17.0	5.9	--	--	--	--	--	--	--
08-21-91	906	7.5	14.0	6.6	--	--	--	--	--	--	--
09-04-91	915	6.4	13.0	6.4	--	--	--	--	--	--	--
07-09-91	308	6.6	13.5	7.5	--	--	--	--	--	--	--
08-02-91	749	6.8	13.0	4.7	--	--	--	--	--	--	--
08-21-91	763	7.1	13.0	4.3	--	--	--	--	--	--	--
09-06-91	797	7.0	12.5	4.4	--	--	--	--	--	--	--
07-10-91	709	7.1	13.5	10.2	--	--	--	--	--	--	--
08-02-91	1300	6.9	13.5	4.9	--	--	--	--	--	--	--
08-21-91	1340	6.8	14.0	4.4	--	--	--	--	--	--	--
09-05-91	1320	6.8	13.5	3.4	--	--	--	--	--	--	--
07-02-91	710	7.1	12.5	5.3	--	--	--	--	--	--	--
07-31-91	791	7.4	12.5	5.4	--	--	--	--	--	--	--
08-19-91	790	7.1	12.5	5.5	--	--	--	--	--	--	--
09-06-91	795	7.3	12.5	5.2	--	--	--	--	--	--	--
07-02-91	700	7.1	13.0	4.9	--	--	--	--	--	--	--
07-31-91	775	7.4	12.5	5.1	--	--	--	--	--	--	--
08-19-91	769	7.1	12.5	5.1	--	--	--	--	--	--	--
09-06-91	770	7.3	12.5	4.8	--	--	--	--	--	--	--

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SULFATE DIS- SOLVED (MG/L AS SO ₄) (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 ₂) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)
MORRILL COUNTY											
07-15-91	20	16	<0.10	54	359	0.49	5.40	7	290	<0.5	70
06-19-91	--	--	--	--	--	--	5.70	--	--	--	--
06-19-91	--	--	--	--	--	--	6.00	--	--	--	--
07-16-91	--	--	--	--	--	--	1.80	--	--	--	--
07-16-91	--	--	--	--	--	--	3.60	--	--	--	--
07-08-91	--	--	--	--	--	--	0.830	--	--	--	--
07-15-91	270	40	0.40	28	908	1.24	8.90	2	56	<0.5	290
07-13-91	--	--	--	--	--	--	3.20	--	--	--	--
07-16-91	--	--	--	--	--	--	12.0	--	--	--	--
06-18-91	--	--	--	--	--	--	6.80	--	--	--	--
07-13-91	--	--	--	--	--	--	2.40	--	--	--	--
07-10-91	180	15	0.60	49	576	0.78	5.70	7	82	0.9	130
07-10-91	240	23	0.40	54	773	1.05	9.10	14	73	0.7	200
07-13-91	--	--	--	--	--	--	12.0	--	--	--	--
07-11-91	26	8.3	0.70	55	408	0.55	1.70	18	190	0.5	80
06-25-91	13	1.6	0.60	56	235	0.32	2.60	7	120	0.6	40
NUCKOLLS COUNTY											
07-02-91	--	--	--	--	--	--	6.90	--	--	--	--
08-06-91	--	--	--	--	--	--	8.10	--	--	--	--
08-21-91	--	--	--	--	--	--	8.30	--	--	--	--
09-04-91	--	--	--	--	--	--	9.60	--	--	--	--
07-10-91	--	--	--	--	--	--	24.0	--	--	--	--
08-02-91	--	--	--	--	--	--	24.0	--	--	--	--
08-21-91	--	--	--	--	--	--	24.0	--	--	--	--
09-05-91	--	--	--	--	--	--	25.0	--	--	--	--
07-10-91	--	--	--	--	--	--	10.0	--	--	--	--
08-06-91	--	--	--	--	--	--	6.90	--	--	--	--
08-21-91	--	--	--	--	--	--	7.10	--	--	--	--
09-05-91	--	--	--	--	--	--	6.90	--	--	--	--
07-01-91	--	--	--	--	--	--	13.0	--	--	--	--
08-01-91	--	--	--	--	--	--	12.0	--	--	--	--
08-19-91	--	--	--	--	--	--	11.0	--	--	--	--
09-05-91	--	--	--	--	--	--	9.90	--	--	--	--
07-10-91	--	--	--	--	--	--	9.90	--	--	--	--
08-02-91	--	--	--	--	--	--	9.30	--	--	--	--
08-21-91	--	--	--	--	--	--	9.40	--	--	--	--
09-05-91	--	--	--	--	--	--	9.00	--	--	--	--
07-02-91	--	--	--	--	--	--	5.90	--	--	--	--
08-02-91	--	--	--	--	--	--	5.00	--	--	--	--
08-21-91	--	--	--	--	--	--	6.40	--	--	--	--
09-04-91	--	--	--	--	--	--	6.00	--	--	--	--
07-09-91	--	--	--	--	--	--	4.50	--	--	--	--
08-02-91	--	--	--	--	--	--	4.50	--	--	--	--
08-21-91	--	--	--	--	--	--	5.10	--	--	--	--
09-06-91	--	--	--	--	--	--	4.70	--	--	--	--
07-10-91	--	--	--	--	--	--	4.60	--	--	--	--
08-02-91	--	--	--	--	--	--	4.00	--	--	--	--
08-21-91	--	--	--	--	--	--	5.80	--	--	--	--
09-05-91	--	--	--	--	--	--	5.30	--	--	--	--
07-02-91	--	--	--	--	--	--	10.0	--	--	--	--
07-31-91	--	--	--	--	--	--	8.60	--	--	--	--
08-19-91	--	--	--	--	--	--	11.0	--	--	--	--
09-06-91	--	--	--	--	--	--	10.0	--	--	--	--
07-02-91	--	--	--	--	--	--	9.50	--	--	--	--
07-31-91	--	--	--	--	--	--	10.0	--	--	--	--
08-19-91	--	--	--	--	--	--	10.0	--	--	--	--
09-06-91	--	--	--	--	--	--	9.60	--	--	--	--

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07-15-91	660	18	<3	13	0.23	2.00	--	--	--	--	--
06-19-91	--	--	--	--	--	--	--	--	--	--	--
06-19-91	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05
07-16-91	--	--	--	--	--	--	--	--	--	--	--
07-08-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05
07-15-91	770	<6	4	35	0.10	1.70	--	--	--	--	--
07-13-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05
07-16-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	0.16	<0.05
06-18-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05
07-13-91	--	--	--	--	--	--	--	--	--	--	--
07-10-91	720	18	14	22	0.09	1.50	<0.05	<0.05	<0.05	<0.05	<0.05
07-10-91	1100	18	41	31	0.11	1.80	<0.05	<0.05	<0.05	<0.05	<0.05
07-13-91	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05
07-11-91	510	20	4	25	0.10	1.60	<0.05	<0.05	<0.05	0.20	<0.05
06-25-91	340	29	<3	8.7	0.06	2.00	<0.05	<0.05	<0.05	<0.05	<0.05

07-02-91	--	--	--	--	--	--	--	--
08-06-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-04-91	--	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--
08-02-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-05-91	--	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--
08-06-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-05-91	--	--	--	--	--	--	--	--
07-01-91	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--
08-19-91	--	--	--	--	--	--	--	--
09-05-91	--	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--
08-02-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-05-91	--	--	--	--	--	--	--	--
07-02-91	--	--	--	--	--	--	--	--
08-02-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-04-91	--	--	--	--	--	--	--	--
07-09-91	--	--	--	--	--	--	--	--
08-02-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-06-91	--	--	--	--	--	--	--	--
07-10-91	--	--	--	--	--	--	--	--
08-02-91	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--
09-05-91	--	--	--	--	--	--	--	--
07-02-91	--	--	--	--	--	--	--	--
07-31-91	--	--	--	--	--	--	--	--
08-19-91	--	--	--	--	--	--	--	--
09-06-91	--	--	--	--	--	--	--	--
07-02-91	--	--	--	--	--	--	--	--
07-31-91	--	--	--	--	--	--	--	--
08-19-91	--	--	--	--	--	--	--	--
09-06-91	--	--	--	--	--	--	--	--

[illegible]

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE
NUCKOLLS COUNTY						
400101098012903	1N	6W29CCDD3	40 01 01 N	098 01 29 W	112SDGV	07-02-91
					112SDGV	07-31-91
					112SDGV	08-19-91
					112SDGV	09-06-91
400031098003401	1N	6W33CBBB1	40 00 31 N	098 00 34 W	112SDGV	07-10-91
					112SDGV	08-01-91
					112SDGV	08-20-91
					112SDGV	09-05-91
400032097595901	1N	6W33DBBB1	40 00 32 N	097 59 59 W	112SDGV	07-01-91
					112SDGV	08-01-91
					112SDGV	08-20-91
					112SDGV	09-05-91
400041097574301	1N	6W35ACBC1	40 00 41 N	097 57 43 W	112SDGV	07-10-91
					112SDGV	08-01-91
					112SDGV	08-20-91
					112SDGV	09-05-91
400041097574302	1N	6W35ACBC2			112SDGV	09-05-91
					112SDGV	07-10-91
					112SDGV	08-01-91
					112SDGV	08-20-91
					112SDGV	09-05-91
400041097574303	1N	6W35ACBC3			112SDGV	07-10-91
					112SDGV	08-01-91
					112SDGV	08-20-91
					112SDGV	09-05-91
400045097560901	1N	6W36ADAB1	40 00 45 N	097 56 09 W	112SDGV	07-01-91
					112SDGV	08-02-91
					112SDGV	08-21-91
					112SDGV	09-05-91
400130098030501	1N	7W25ADC 1	40 01 30 N	098 03 05 W	112SDGV	07-09-91
					112SDGV	08-02-91
					112SDGV	08-21-91
					112SDGV	09-06-91
400019098040201	1N	7W35DDAA1	40 00 19 N	098 04 02 W	112SDGV	07-10-91
					112SDGV	07-31-91
					112SDGV	08-20-91
					112SDGV	09-06-91
400042098032001	1N	7W36ACBD1	40 00 42 N	098 03 20 W	112SDGV	07-10-91
					112SDGV	07-31-91
					112SDGV	08-20-91
					112SDGV	09-06-91
PLATTE COUNTY						
413351097162401	18N	1E 2ADAC1	41 33 51 N	097 16 24 W	112SDGV	08-08-91
413400097171201	18N	1E 2BEDA1	41 34 00 N	097 17 12 W	112SDGV	08-08-91
413331097210601	18N	1E 6DACD1	41 33 31 N	097 21 06 W	112SDGV	08-08-91
413302097211501	18N	1E 7ACAA1	41 33 02 N	097 21 15 W	112SDGV	08-07-91
413315097181801	18N	1E 9BAAB1	41 33 15 N	097 18 18 W	112SDGV	08-19-91
413302097164601	18N	1E11ACBA1	41 33 02 N	097 16 46 W	112SDGV	08-08-91
413200097172501	18N	1E14BCCC1	41 32 00 N	097 17 25 W	112SDGV	08-23-91
413143097185201	18N	1E16DDBB1	41 31 43 N	097 18 52 W	112SDGV	08-07-91
413133097214501	18N	1E18CDCC1	41 31 33 N	097 21 45 W	112SDGV	08-20-91
413041097193101	18N	1E21CCDD1	41 30 41 N	097 19 31 W	112SDGV	07-30-91
413130097181301	18N	1E22BABA1	41 31 30 N	097 18 13 W	112SDGV	07-30-91
413114097153601	18N	1E24ACBD1	41 31 14 N	097 15 36 W	112SDGV	08-21-91
413028097163301	18N	1E26AACC1	41 30 28 N	097 16 33 W	112SDGV	07-30-91
413031097194401	18N	1E28BBBC1	41 30 31 N	097 19 44 W	112SDGV	07-31-91
413002097214501	18N	1E30CACC1	41 30 02 N	097 21 45 W	112SDGV	07-30-91
413354097232901	18N	1W 2ADBB1	41 33 54 N	097 23 29 W	112SDGV	08-19-91
413325097244701	18N	1W 4DDBC1	41 33 25 N	097 24 47 W	112SDGV	08-08-91
413239097273201	18N	1W 8CACC1	41 32 39 N	097 27 32 W	112SDGV	08-01-91
413305097253101	18N	1W10BBCC1	41 33 05 N	097 25 31 W	112SDGV	08-23-91
413236097244701	18N	1W10DCAB1	41 32 36 N	097 24 47 W	112SDGV	08-08-91

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NUCKOLLS COUNTY								
07-02-91	1237	33.00	740	7.2	12.5	5.6	--	12.0
07-31-91	1845	33.00	808	7.3	12.5	5.6	--	10.0
08-19-91	1854	33.00	836	7.1	12.5	5.7	--	13.0
09-06-91	0948	33.00	833	7.3	12.5	5.4	--	12.0
07-10-91	1223	20.00	878	7.1	14.0	8.3	--	18.0
08-01-91	0815	20.00	914	7.3	13.0	5.4	--	19.0
08-20-91	1430	20.00	911	7.0	13.5	5.3	--	20.0
09-05-91	1900	20.00	913	7.2	13.5	5.2	--	19.0
07-01-91	1927	28.00	800	7.0	12.5	3.6	--	11.0
08-01-91	0920	28.00	872	7.3	12.5	3.2	--	9.50
08-20-91	1620	28.00	850	7.1	12.5	2.8	--	9.90
09-05-91	1750	28.00	828	7.1	12.5	5.2	--	9.20
07-10-91	2046	36.00	811	7.3	14.0	9.4	--	11.0
08-01-91	1200	36.00	795	7.3	13.0	0.8	--	8.80
08-20-91	2030	36.00	850	7.1	13.0	1.3	--	12.0
09-05-91	1530	36.00	807	7.0	13.5	1.1	--	10.0
07-10-91	2027	36.00	486	7.0	14.0	2.5	--	9.30
08-01-91	1220	36.00	748	7.3	13.0	0.5	--	7.10
08-20-91	2015	36.00	737	7.1	13.0	0.7	--	7.50
09-05-91	1550	36.00	715	7.0	13.0	1.9	--	5.60
07-10-91	2029	24.00	505	7.0	13.5	3.6	--	25.0
08-01-91	1240	24.00	1120	7.3	13.0	2.4	--	26.0
08-20-91	1940	24.00	1120	7.3	13.0	2.3	--	25.0
09-05-91	1610	24.00	1160	7.1	13.0	2.5	--	29.0
07-01-91	1750	45.00	800	6.7	13.0	2.4	--	7.20
08-02-91	1850	45.00	832	6.7	13.0	2.7	--	6.50
08-21-91	1545	45.00	823	7.0	12.5	3.0	--	6.60
09-05-91	1300	45.00	832	6.8	12.5	2.6	--	6.30
07-09-91	1120	66.00	643	7.3	14.5	10.2	--	2.40
08-02-91	1720	66.00	653	7.1	14.0	6.2	--	1.90
08-21-91	1700	66.00	652	7.0	14.0	6.1	--	2.10
09-06-91	1130	66.00	654	7.2	14.0	5.9	--	2.30
07-10-91	1035	36.00	941	7.3	13.0	1.2	--	0.660
07-31-91	1505	36.00	980	7.8	13.0	0.1	--	0.670
08-20-91	0908	36.00	946	7.3	13.0	0.1	--	<0.050
09-06-91	1435	36.00	953	7.2	13.0	0.3	--	0.300
07-10-91	1140	32.00	1120	7.1	15.0	2.2	--	19.0
07-31-91	1630	32.00	1180	8.4	14.5	0.1	--	24.0
08-20-91	1153	32.00	1180	7.1	14.0	0.4	--	27.0
09-06-91	1240	32.00	1180	7.2	14.0	0.3	--	29.0
PLATTE COUNTY								
08-08-91	1100	103.00	615	6.8	11.0	--	2.00	--
08-08-91	1150	101.00	590	6.7	11.0	--	0.360	--
08-08-91	1540	188.00	510	7.0	11.5	--	4.80	--
08-07-91	1656	132.00	650	7.0	11.5	--	0.800	--
08-19-91	1150	117.00	425	7.2	11.0	--	<0.050	--
08-08-91	1020	--	680	6.8	11.0	--	4.80	--
08-23-91	1540	180.00	600	7.1	12.5	--	<0.050	--
08-07-91	1755	95.00	605	7.0	11.0	--	3.50	--
08-20-91	1535	110.00	410	7.0	11.5	--	1.30	--
07-30-91	1200	170.00	500	7.4	12.0	--	2.60	--
07-30-91	1500	116.00	620	7.3	12.0	--	3.40	--
08-21-91	1440	107.00	720	7.1	12.0	--	2.20	--
07-30-91	1100	164.00	490	7.4	12.0	--	1.20	--
07-31-91	0945	110.00	500	7.4	12.0	--	3.40	--
07-30-91	1345	142.00	495	7.6	12.5	--	0.200	--
08-19-91	1500	238.00	460	7.0	11.5	--	1.90	--
08-08-91	1045	163.00	440	--	--	--	0.230	--
08-01-91	1130	230.00	405	7.3	12.0	--	3.00	--
08-23-91	1325	181.00	550	7.2	11.5	--	0.340	--
08-08-91	1000	201.00	405	7.2	12.5	--	5.10	--

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- IFIER	LAT- ITUDE	LONG- ITUDE	GEO- LOGIC UNIT	DATE	TIME
PLATTE COUNTY							
413252097224601	18N	1W12BDDC1	41 32 52 N	097 22 46 W	112SDGV	08-08-91	1130
413230097221001	18N	1W12DD 1	41 32 30 N	097 22 10 W	112SDGV	08-20-91	0940
413223097231201	18N	1W13BBBB1	41 32 23 N	097 23 12 W	112SDGV	08-20-91	1055
413153097284601	18N	1W18CBAD1	41 31 53 N	097 28 46 W	112SDGV	08-20-91	1320
413104097260501	18N	1W21DBBB1	41 31 04 N	097 26 05 W	112SDGV	08-22-91	1350
413104097244301	18N	1W22DBAA1	41 31 04 N	097 24 43 W	112SDGV	07-31-91	--
413118097230801	18N	1W24BCBA1	41 31 18 N	097 23 08 W	112SDGV	08-17-91	1415
413035097235101	18N	1W26BAAD1	41 30 35 N	097 23 51 W	112SDGV	07-31-91	1400
413022097245601	18N	1W27ACBC1	41 30 22 N	097 24 56 W	112SDGV	07-31-91	1300
413844097154101	19N	1E 1DBCD1	41 38 44 N	097 15 41 W	112SDGV	08-14-91	1200
413909097200301	19N	1E 5A 1	41 39 09 N	097 20 03 W	112SDGV	08-20-91	1215
413752097215801	19N	1E 7CBDD1	41 37 52 N	097 21 58 W	112SDGV	08-21-91	1245
413809097350101	19N	1E 9BCDB1	41 38 09 N	097 35 01 W	112SDGV	08-08-91	1445
413828097172501	19N	1E11BBBB1	41 38 28 N	097 17 25 W	112SDGV	08-14-91	1325
413752097152301	19N	1E12DACC1	41 37 52 N	097 15 23 W	112SDGV	08-20-91	1345
413723097160201	19N	1E13BCAA1	41 37 23 N	097 16 02 W	112SDGV	08-07-91	1451
413729097194401	19N	1E16BBBC1	41 37 29 N	097 19 44 W	112SDGV	08-07-91	1500
413657097215001	19N	1E18CCAA1	41 36 57 N	097 21 50 W	112SDGV	09-10-91	1205
413621097195301	19N	1E20ADDC1	41 36 21 N	097 19 53 W	112SDGV	08-12-91	1430
413558097182101	19N	1E22CCDA1	41 35 58 N	097 18 21 W	112SDGV	09-10-91	1315
413604097151901	19N	1E24DDBA1	41 36 04 N	097 15 19 W	112SDGV	07-25-91	1545
413548097172001	19N	1E26BBBD1	41 35 48 N	097 17 20 W	112SDGV	08-21-91	1200
413515097185601	19N	1E28BDD1	41 35 15 N	097 18 56 W	112SDGV	08-27-91	1140
413502097211501	19N	1E30DCDD1	41 35 02 N	097 21 15 W	112SDGV	07-25-91	1445
413433097213201	19N	1E31CAAA1	41 34 33 N	097 21 32 W	112SDGV	08-07-91	1157
413426097183001	19N	1E34CBCA1	41 34 26 N	097 18 30 W	112SDGV	07-25-91	1215
413433097162801	19N	1E35DABA1	41 34 33 N	097 16 28 W	112SDGV	08-07-91	1552
413842097232901	19N	1W 2DDBB1	41 38 42 N	097 23 29 W	112SDGV	08-07-91	1400
413858097254801	19N	1W 4ADCC1	41 38 58 N	097 25 48 W	112SDGV	08-13-91	1205
413842097281101	19N	1W 6DCAA1	41 38 42 N	097 28 11 W	112SDGV	08-07-91	1620
413819097273601	19N	1W 8BDD1	41 38 19 N	097 27 36 W	112SDGV	08-07-91	1545
413819097244301	19N	1W10ABDD1	41 38 19 N	097 24 43 W	112SDGV	08-13-91	1440
413816097221501	19N	1W12BDBB1	41 38 16 N	097 22 15 W	112SDGV	08-07-91	1445
413710097240801	19N	1W14CBAA1	41 37 10 N	097 24 08 W	112SDGV	08-23-91	1420
413710097261001	19N	1W16CAAA1	41 37 10 N	097 26 10 W	112SDGV	08-08-91	1500
413652097285201	19N	1W18CC 1	41 36 52 N	097 28 52 W	112SDGV	08-07-91	1700
413631097265701	19N	1W20ADBB1	41 36 31 N	097 26 57 W	112SDGV	08-01-91	1430
413641097244301	19N	1W22ABAD1	41 36 41 N	097 24 43 W	112SDGV	08-01-91	1500
413605097222401	19N	1W24DCCA1	41 36 05 N	097 22 24 W	112SDGV	08-01-91	1530
413545097240401	19N	1W26BACB1	41 35 45 N	097 24 04 W	112SDGV	08-19-91	1530
413549097260501	19N	1W28ABBC1	41 35 49 N	097 26 05 W	112SDGV	08-08-91	1430
413516097282001	19N	1W30DBCD1	41 35 16 N	097 28 20 W	112SDGV	08-20-91	1415
413420097281101	19N	1W31DCAA1	41 34 20 N	097 28 11 W	112SDGV	08-01-91	1300
413420097273601	19N	1W32CCAA1	41 34 20 N	097 27 36 W	112SDGV	08-01-91	1345
413447097243901	19N	1W34ADBB1	41 34 47 N	097 24 39 W	112SDGV	08-08-91	1230
413420097222001	19N	1W36DDBB1	41 34 20 N	097 22 20 W	112SDGV	08-13-91	1345
414005097312401	20N	2W34AAD 1	41 40 05 N	097 31 24 W		08-20-91	1040
POLK COUNTY							
410434097471102	13N	4W21CCD 2	41 04 34 N	097 47 11 W	112SDGV	08-08-91	1145
411145097254601	14N	1W 9DAC 1	41 11 45 N	097 25 46 W	112SDGV	08-08-91	1515

CHEMICAL ANALYSES OF GROUND WATER

337

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
PLATTE COUNTY									
08-08-91	130.00	410	7.1	12.0	--	--	--	--	--
08-20-91	120.00	685	7.2	15.0	340	110	17	17	0.4
08-20-91	135.00	440	7.0	11.0	--	--	--	--	--
08-20-91	104.00	410	7.0	11.0	--	--	--	--	--
08-22-91	124.00	500	6.9	11.5	--	--	--	--	--
07-31-91	105.00	475	7.5	12.0	--	--	--	--	--
08-17-91	152.00	455	6.9	11.0	--	--	--	--	--
07-31-91	91.00	490	7.5	11.5	--	--	--	--	--
07-31-91	126.00	475	7.9	12.5	--	--	--	--	--
08-14-91	198.00	600	7.3	11.5	--	--	--	--	--
08-20-91	193.00	590	7.3	12.0	--	--	--	--	--
08-21-91	166.00	560	7.3	12.0	--	--	--	--	--
08-08-91	166.00	510	6.9	11.0	--	--	--	--	--
08-14-91	151.00	600	7.0	11.0	--	--	--	--	--
08-20-91	280.00	575	7.2	12.0	--	--	--	--	--
08-07-91	324.00	605	7.2	12.0	--	--	--	--	--
08-07-91	324.00	--	--	--	--	--	--	--	--
09-10-91	100.00	525	7.0	13.0	--	--	--	--	--
08-12-91	226.00	600	7.1	11.5	--	--	--	--	--
09-10-91	70.00	525	7.0	14.0	--	--	--	--	--
07-25-91	234.00	485	7.1	11.5	--	--	--	--	--
08-21-91	272.00	520	7.6	12.0	--	--	--	--	--
08-27-91	175.00	550	7.2	11.5	--	--	--	--	--
07-25-91	179.00	550	7.1	11.0	--	--	--	--	--
08-07-91	259.00	585	7.3	11.5	--	--	--	--	--
07-25-91	259.00	525	6.8	11.0	--	--	--	--	--
08-07-91	205.00	560	7.3	12.0	--	--	--	--	--
09-09-91	140.00	600	7.1	13.0	--	--	--	--	--
08-07-91	129.00	620	6.8	11.5	--	--	--	--	--
08-07-91	198.00	--	--	--	--	--	--	--	--
08-13-91	264.00	550	7.1	12.0	--	--	--	--	--
08-07-91	251.00	750	7.2	12.5	--	--	--	--	--
08-07-91	254.00	790	7.4	12.0	--	--	--	--	--
08-13-91	221.00	525	6.8	11.0	--	--	--	--	--
08-07-91	210.00	600	7.4	11.5	--	--	--	--	--
08-23-91	208.00	470	6.9	11.5	--	--	--	--	--
08-08-91	293.00	580	7.4	12.5	--	--	--	--	--
08-07-91	260.00	480	7.2	12.5	--	--	--	--	--
08-01-91	300.00	700	7.3	12.5	--	--	--	--	--
08-01-91	279.00	625	7.2	12.5	--	--	--	--	--
08-01-91	297.00	540	7.4	12.0	--	--	--	--	--
08-19-91	266.00	432	7.1	11.5	--	--	--	--	--
08-08-91	248.00	500	7.3	12.0	--	--	--	--	--
08-20-91	251.00	430	7.0	12.0	--	--	--	--	--
08-01-91	225.00	405	7.3	12.5	--	--	--	--	--
08-01-91	195.00	550	7.3	12.5	--	--	--	--	--
08-08-91	260.00	495	7.2	12.0	--	--	--	--	--
08-13-91	213.00	700	7.2	12.0	--	--	--	--	--
08-20-91	--	1060	7.3	13.0	460	120	38	55	1

POLK COUNTY

08-08-91	150.00	872	--	13.5	350	110	18	41	1
08-08-91	270.00	514	--	13.0	200	65	10	23	0.7

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
PLATTE COUNTY									
08-08-91	--	--	--	--	--	--	--	--	--
08-20-91	6.0	309	64	5.5	0.20	45	455	0.62	--
08-20-91	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--
08-22-91	--	--	--	--	--	--	--	--	--
07-31-91	--	--	--	--	--	--	--	--	--
08-17-91	--	--	--	--	--	--	--	--	--
07-31-91	--	--	--	--	--	--	--	--	--
07-31-91	--	--	--	--	--	--	--	--	--
08-14-91	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--
08-14-91	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
09-10-91	--	--	--	--	--	--	--	--	--
08-12-91	--	--	--	--	--	--	--	--	--
09-10-91	--	--	--	--	--	--	--	--	--
07-25-91	--	--	--	--	--	--	--	--	--
08-21-91	--	--	--	--	--	--	--	--	--
08-27-91	--	--	--	--	--	--	--	--	--
07-25-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
07-25-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
09-09-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-13-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-13-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-23-91	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--
08-07-91	--	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--	--
08-19-91	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--
08-20-91	--	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--	--
08-01-91	--	--	--	--	--	--	--	--	--
08-08-91	--	--	--	--	--	--	--	--	--
08-13-91	--	--	--	--	--	--	--	--	--
08-20-91	10	356	230	7.1	0.30	32	708	0.96	0.080

POLK COUNTY

08-08-91	8.2	368	35	24	0.30	38	549	0.75	--
08-08-91	7.9	204	28	11	0.30	44	341	0.46	--

CHEMICAL ANALYSES OF GROUND WATER

339

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN NO2+NO3 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)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
PLATTE COUNTY									
08-08-91	--	6.90	--	--	--	--	--	--	--
08-20-91	<0.010	--	1.10	<0.010	0.180	0.55	60	<3	4
08-20-91	--	3.30	--	--	--	--	--	--	--
08-20-91	--	2.90	--	--	--	--	--	--	--
08-22-91	--	6.10	--	--	--	--	--	--	--
07-31-91	--	<0.050	--	--	--	--	--	--	--
08-17-91	--	<0.050	--	--	--	--	--	--	--
07-31-91	--	0.530	--	--	--	--	--	--	--
07-31-91	--	6.30	--	--	--	--	--	--	--
08-14-91	--	0.140	--	--	--	--	--	--	--
08-20-91	--	<0.050	--	--	--	--	--	--	--
08-21-91	--	<0.050	--	--	--	--	--	--	--
08-08-91	--	0.069	--	--	--	--	--	--	--
08-14-91	--	0.083	--	--	--	--	--	--	--
08-20-91	--	<0.050	--	--	--	--	--	--	--
08-07-91	--	<0.050	--	--	--	--	--	--	--
08-07-91	--	0.062	--	--	--	--	--	--	--
09-10-91	--	<0.050	--	--	--	--	--	--	--
08-12-91	--	<0.050	--	--	--	--	--	--	--
09-10-91	--	<0.050	--	--	--	--	--	--	--
07-25-91	--	<0.050	--	--	--	--	--	--	--
08-21-91	--	5.60	--	--	--	--	--	--	--
08-27-91	--	0.077	--	--	--	--	--	--	--
07-25-91	--	0.260	--	--	--	--	--	--	--
08-07-91	--	1.00	--	--	--	--	--	--	--
07-25-91	--	1.00	--	--	--	--	--	--	--
08-07-91	--	2.50	--	--	--	--	--	--	--
09-09-91	--	<0.050	--	--	--	--	--	--	--
08-07-91	--	0.470	--	--	--	--	--	--	--
08-07-91	--	0.840	--	--	--	--	--	--	--
08-13-91	--	0.420	--	--	--	--	--	--	--
08-07-91	--	0.200	--	--	--	--	--	--	--
08-07-91	--	1.10	--	--	--	--	--	--	--
08-13-91	--	2.10	--	--	--	--	--	--	--
08-07-91	--	9.20	--	--	--	--	--	--	--
08-23-91	--	0.590	--	--	--	--	--	--	--
08-08-91	--	0.450	--	--	--	--	--	--	--
08-07-91	--	2.30	--	--	--	--	--	--	--
08-01-91	--	0.770	--	--	--	--	--	--	--
08-01-91	--	1.30	--	--	--	--	--	--	--
08-01-91	--	0.098	--	--	--	--	--	--	--
08-19-91	--	0.770	--	--	--	--	--	--	--
08-08-91	--	5.50	--	--	--	--	--	--	--
08-20-91	--	2.90	--	--	--	--	--	--	--
08-01-91	--	0.480	--	--	--	--	--	--	--
08-01-91	--	0.420	--	--	--	--	--	--	--
08-08-91	--	1.30	--	--	--	--	--	--	--
08-13-91	--	0.810	--	--	--	--	--	--	--
08-20-91	0.060	--	0.140	1.10	<0.010	--	50	210	190

POLK COUNTY

08-08-91	<0.010	--	12.0	<0.010	0.310	0.95	50	<3	<1
08-08-91	<0.010	--	6.30	<0.010	0.420	1.3	40	4	2

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	GEOLOGIC UNIT	DATE	TIME	DEPTH OF WELL TOTAL (FEET) (72008)	SPECIFIC CONDUCTANCE (US/CM) (00095)
SALINE COUNTY								
403902097064901	8N 3E20BAD 1	40 39 02 N	097 06 49 W	112SDGV	08-07-91	0930	190.00	756
SCOTTS BLUFF COUNTY								
414408103310501	20N 54W 2CBAA1	41 44 08 N	103 31 05 W	123BRUL	07-10-91	1548	80.00	--
414342103554801	20N 57W 5CCCC1	41 43 42 N	103 55 48 W	123BRUL	07-15-91	1530	90.00	--
414207103560601	20N 57W18DCAA1	41 42 07 N	103 56 06 W	123BRUL	06-18-91	1145	65.00	--
414854103232001	21N 52W 7ABAA1	41 48 54 N	103 23 20 W	112SDGV	07-15-91	0915	120.00	895
414847103301301	21N 53W 7ABAA1	41 48 47 N	103 30 13 W	112SDGV	07-18-91	0900	105.00	--
414842103430801	21N 55W 8AACA1	41 48 42 N	103 43 08 W	123CDRNB	06-17-91	1630	555.00	1860
414757103435201	21N 55W17BBAA1	41 47 57 N	103 43 52 W	123CDRN	06-25-91	1345	505.00	289
414918104002801	21N 58W 1BCCA1	41 49 18 N	104 00 28 W	123CDRN	06-18-91	1605	305.00	1170
414918104004201	21N 58W 2ADDB1	41 49 18 N	104 00 42 W	211FXHL	06-18-91	1515	230.00	1120
415359103272901	22N 53W10BBBA1	41 53 59 N	103 27 29 W	112SDGV	07-18-91	1500	90.00	--
415031103300901	22N 53W31AABB1	41 50 31 N	103 30 09 W	112SDGV	07-17-91	1330	70.00	--
415031103271601	22N 53W34BABB1	41 50 31 N	103 27 16 W	110SDGV	06-26-91	1525	109.00	--
415324103405401	22N 55W10DBDD1	41 53 24 N	103 40 54 W	112SDGV	07-15-91	1705	60.00	--
415308103382301	22N 55W13AABA1	41 53 08 N	103 38 23 W	112SDGV	07-18-91	1100	100.00	822
415052103393901	22N 55W26DACB1	41 50 52 N	103 39 39 W	112SDGV	06-26-91	1413	87.00	944
415214103521101	22N 56W19BABC1	41 52 14 N	103 52 11 W	123BRUL	07-18-91	0910	110.00	--
415009103452101	22N 56W36DAAA1	41 50 09 N	103 45 21 W	123CDRN	06-18-91	1300	430.00	--
415714103425401	23N 55W21BCBB1	41 57 14 N	103 42 54 W	123CDRN	06-25-91	1020	445.00	1220
415543103412101	23N 55W34BABA1	41 55 43 N	103 41 21 W	110SDGV	06-18-91	0930	50.00	--
415911103511701	23N 56W 8BBBB1	41 59 11 N	103 51 17 W	110SDGV	06-26-91	1015	151.00	--
415838103511701	23N 56W 8CBCB1	41 58 38 N	103 51 17 W	123CDRN	07-17-91	1030	290.00	--
415845103485301	23N 56W10CBBB1	41 58 45 N	103 48 53 W	112SDGV	07-15-91	1100	78.00	--
415642103484401	23N 56W22CCDB1	41 56 42 N	103 48 44 W	110SDGV	06-26-91	1107	70.00	--
415811103545201	23N 57W14BBCB1	41 58 11 N	103 54 52 W	112SDGV	07-11-91	1200	73.00	--
415758103544301	23N 57W14BCDB1	41 57 58 N	103 54 43 W	110SDGV	06-19-91	1600	68.00	--
415805103553201	23N 57W15BDAA1	41 58 05 N	103 55 32 W	110SDGV	06-17-91	1050	100.00	--
420000104030201	23N 58W 4AAAA1	42 00 00 N	104 03 02 W	112SDGV	07-15-91	1300	35.00	--
415741104015401	23N 58W15DADC1	41 57 41 N	104 01 54 W	112SDGV	07-12-91	1700	50.00	--
415639104014501	23N 58W23CCCB1	41 56 39 N	104 01 45 W	112SDGV	07-17-91	1500	110.00	--
415544104025701	23N 58W27CCCC1	41 55 44 N	104 02 57 W	112SDGV	07-18-91	1130	85.00	--
415455104025701	23N 58W34CCCB1	41 54 55 N	104 02 57 W	110SDGV	06-17-91	1230	60.00	1450
SEWARD COUNTY								
405402097202301	11N 1E29BAAD1	40 54 02 N	097 20 23 W	112SDGV	08-09-91	1100	241.00	--
405330097204801	11N 1E29BC 1	40 53 30 N	097 20 48 W	112SDGV	08-09-91	1015	254.00	653
405343097093906	11N 2E26AD 6	40 53 43 N	097 09 39 W	112SDGV	08-09-91	1205	117.00	748
SIOUX COUNTY								
420355103485301	24N 56W10CBBB1	42 03 55 N	103 48 53 W	123BRUL	07-11-91	1100	95.00	--
420355103470501	24N 56W11DBBB1	42 03 55 N	103 47 05 W	123BRUL	07-15-91	0945	115.00	308
420449103565701	24N 57W 4BDC1	42 04 49 N	103 56 57 W	112SDGV	07-12-91	1200	167.00	--
420436103570601	24N 57W 4CBDC1	42 04 36 N	103 57 06 W	112SDGV	07-12-91	1315	150.00	--
420027103563901	24N 57W33DBBB1	42 00 27 N	103 56 39 W	112SDGV	07-16-91	1630	71.00	--
420354104015401	24N 58W10DAAB1	42 03 54 N	104 01 54 W	112SDGV	07-09-91	1400	70.00	--
420203104021201	24N 58W22DBDB1	42 02 03 N	104 02 12 W	112SDGV	07-12-91	1430	100.00	--
420141104010401	24N 58W26ABBD1	42 01 41 N	104 01 04 W	112SDGV	07-11-91	1430	117.00	--
420903104021801	25N 58W12DBBA1	42 09 03 N	104 02 18 W	123BRUL	07-11-91	1330	100.00	--
421422103443901	26N 55W 9BDD1	42 14 22 N	103 44 39 W	122ARKR	07-17-91	0900	270.00	--
421423104022201	26N 58W12ACCB1	42 14 23 N	104 02 22 W	123BRUL	07-09-91	1200	90.00	--

CHEMICAL ANALYSES OF GROUND WATER

341

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
SALINE COUNTY												
08-07-91	--	14.0	--	310	97	16	44	1	4.9	230	160	7.8
SCOTTS BLUFF COUNTY												
07-10-91	7.4	14.0	6.4	--	--	--	--	--	--	--	--	--
07-15-91	7.8	12.0	7.6	--	--	--	--	--	--	--	--	--
06-18-91	7.9	10.5	10.4	140	39	11	30	1	4.6	157	30	17
07-15-91	7.5	14.5	5.0	320	92	22	77	2	19	228	240	22
07-18-91	7.8	12.0	2.2	--	--	--	--	--	--	--	--	--
06-17-91	8.0	21.0	0.1	32	8.2	2.7	440	34	9.1	619	0.20	320
06-25-91	8.6	18.5	1.4	35	9.3	2.7	58	4	3.7	132	22	7.4
06-18-91	9.1	13.5	0.6	11	3.0	0.84	290	38	5.5	655	1.5	15
06-18-91	8.6	13.5	6.4	12	3.2	0.87	270	35	5.5	617	12	15
07-18-91	7.7	14.0	2.2	--	--	--	--	--	--	--	--	--
07-17-91	8.3	14.5	11.6	--	--	--	--	--	--	--	--	--
06-26-91	7.5	14.5	7.6	--	--	--	--	--	--	--	--	--
07-15-91	7.4	12.5	4.8	360	100	26	78	2	17	253	280	25
07-18-91	8.1	15.0	11.2	--	--	--	--	--	--	--	--	--
06-26-91	7.7	14.0	0.5	330	92	23	98	2	9.0	220	240	22
07-18-91	7.9	16.0	6.0	--	--	--	--	--	--	--	--	--
06-18-91	8.0	14.0	1.9	35	9.1	2.8	460	34	9.2	597	<0.10	350
06-25-91	8.3	19.0	0.6	16	4.0	1.3	350	39	5.7	598	<0.10	92
06-18-91	7.6	13.0	6.0	--	--	--	--	--	--	--	--	--
06-26-91	7.5	13.0	7.5	--	--	--	--	--	--	--	--	--
07-17-91	8.8	18.5	0.4	36	9.7	2.7	220	16	4.1	472	22	26
07-15-91	7.6	14.0	6.7	330	85	27	62	2	8.6	246	200	18
06-26-91	7.6	15.0	5.2	--	--	--	--	--	--	--	--	--
07-11-91	7.8	14.0	7.4	--	--	--	--	--	--	--	--	--
06-19-91	7.5	9.0	4.2	--	--	--	--	--	--	--	--	--
06-17-91	7.4	14.5	0.5	--	--	--	--	--	--	--	--	--
07-15-91	7.6	11.5	10.4	350	100	24	56	1	13	246	240	20
07-12-91	8.6	13.0	6.0	--	--	--	--	--	--	--	--	--
07-17-91	8.5	13.5	6.3	--	--	--	--	--	--	--	--	--
07-18-91	7.9	15.0	1.2	--	--	--	--	--	--	--	--	--
06-17-91	7.5	14.0	1.3	300	83	22	210	5	11	396	350	32
SEWARD COUNTY												
08-09-91	--	13.0	--	290	95	14	21	0.5	5.6	261	60	13
08-09-91	--	13.0	--	270	85	13	31	0.8	5.8	271	33	11
08-09-91	--	13.0	--	270	84	15	47	1	7.5	219	130	9.5
SIOUX COUNTY												
07-11-91	7.9	16.5	7.6	--	--	--	--	--	--	--	--	--
07-15-91	7.9	14.5	11.9	140	41	9.1	16	0.6	4.5	133	15	6.6
07-12-91	8.1	13.5	15.1	--	--	--	--	--	--	--	--	--
07-12-91	8.7	15.5	10.9	--	--	--	--	--	--	--	--	--
07-16-91	7.8	18.0	--	--	--	--	--	--	--	--	--	--
07-09-91	7.4	14.0	6.1	260	74	18	50	1	10	187	170	12
07-12-91	8.4	13.5	7.2	--	--	--	--	--	--	--	--	--
07-11-91	8.1	14.5	9.8	280	84	18	50	1	7.8	194	180	13
07-11-91	7.9	13.0	10.6	--	--	--	--	--	--	--	--	--
07-17-91	8.4	15.5	10.1	150	43	9.2	11	0.4	5.1	149	4.7	3.8
07-09-91	7.5	12.5	14.6	180	59	8.5	27	0.9	9.1	204	22	10

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)
SALINE COUNTY												
08-07-91	0.30	33	529	0.72	<0.010	6.20	<0.010	0.150	0.46	--	--	--
SCOTTS BLUFF COUNTY												
07-10-91	--	--	--	--	--	12.0	--	--	--	--	--	--
07-15-91	--	--	--	--	--	4.70	--	--	--	--	--	--
06-18-91	0.40	58	303	0.41	--	4.10	--	--	--	4	130	0.5
07-15-91	0.60	47	689	0.94	--	7.20	--	--	--	4	51	<0.5
07-18-91	--	--	--	--	--	5.00	--	--	--	--	--	--
06-17-91	1.6	14	1170	1.59	--	<0.050	--	--	--	14	180	2
06-25-91	0.70	54	242	0.33	--	0.980	--	--	--	11	79	<0.5
06-18-91	1.6	8.7	720	0.98	--	<0.050	--	--	--	6	59	<0.5
06-18-91	1.8	9.8	690	0.94	--	0.230	--	--	--	8	63	<0.5
07-18-91	--	--	--	--	--	14.0	--	--	--	--	--	--
07-17-91	--	--	--	--	--	6.70	--	--	--	--	--	--
06-26-91	--	--	--	--	--	6.70	--	--	--	--	--	--
07-15-91	0.50	48	749	1.02	--	4.80	--	--	--	4	59	<0.5
07-18-91	--	--	--	--	--	6.60	--	--	--	--	--	--
06-26-91	0.50	31	660	0.90	--	2.50	--	--	--	4	90	<0.5
07-18-91	--	--	--	--	--	9.60	--	--	--	--	--	--
06-18-91	1.7	12	--	--	--	<0.050	--	--	--	11	160	2
06-25-91	2.4	11	--	--	--	<0.050	--	--	--	<1	55	<0.5
06-18-91	--	--	--	--	--	3.00	--	--	--	--	--	--
06-26-91	--	--	--	--	--	9.00	--	--	--	--	--	--
07-17-91	2.3	13	584	0.79	--	0.140	--	--	--	3	92	<0.5
07-15-91	0.30	59	630	0.86	--	4.60	--	--	--	6	93	<0.5
06-26-91	--	--	--	--	--	4.40	--	--	--	--	--	--
07-11-91	--	--	--	--	--	1.60	--	--	--	--	--	--
06-19-91	--	--	--	--	--	1.30	--	--	--	--	--	--
06-17-91	--	--	--	--	--	6.40	--	--	--	--	--	--
07-15-91	0.80	40	666	0.91	--	5.40	--	--	--	4	130	<0.5
07-12-91	--	--	--	--	--	7.30	--	--	--	--	--	--
07-17-91	--	--	--	--	--	8.90	--	--	--	--	--	--
07-18-91	--	--	--	--	--	3.40	--	--	--	--	--	--
06-17-91	1.3	49	1020	1.38	--	4.50	--	--	--	19	55	0.5
SEWARD COUNTY												
08-09-91	0.30	36	403	0.55	<0.010	<0.050	0.060	0.110	0.34	--	--	--
08-09-91	0.30	38	420	0.57	<0.010	9.00	<0.010	0.310	0.95	--	--	--
08-09-91	0.30	34	508	0.69	<0.010	11.0	<0.010	0.220	0.67	--	--	--
SIOUX COUNTY												
07-11-91	--	--	--	--	--	1.10	--	--	--	--	--	--
07-15-91	0.30	58	259	0.35	--	6.30	--	--	--	3	140	<0.5
07-12-91	--	--	--	--	--	5.60	--	--	--	--	--	--
07-12-91	--	--	--	--	--	5.80	--	--	--	--	--	--
07-16-91	--	--	--	--	--	9.20	--	--	--	--	--	--
07-09-91	0.40	57	518	0.70	--	2.90	--	--	--	11	87	0.5
07-12-91	--	--	--	--	--	4.30	--	--	--	--	--	--
07-11-91	0.50	50	535	0.73	--	3.20	--	--	--	6	140	<0.5
07-11-91	--	--	--	--	--	4.30	--	--	--	--	--	--
07-17-91	0.60	56	237	0.32	--	3.20	--	--	--	5	89	<0.5
07-09-91	0.60	56	328	0.45	--	2.80	--	--	--	11	100	<0.5

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
SALINE COUNTY												
08-07-91	60	--	--	--	--	8	--	18	--	--	--	--
SCOTTS BLUFF COUNTY												
07-10-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	--	--	--	--	--	--	--	--	--	--	--	--
06-18-91	70	<1.0	<5	3	<10	8	<10	1	<10	<10	6	2.0
07-15-91	150	<1.0	<5	<3	<10	6	<10	<1	<10	<10	3	<1.0
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-17-91	1800	<3.0	<20	<9	<30	39	<30	12	<30	<30	<1	6.0
06-25-91	90	<1.0	<5	<3	<10	34	<10	2	<10	<10	1	<1.0
06-18-91	450	2.0	<5	4	<10	8	<10	4	20	<10	<1	<1.0
06-18-91	410	<1.0	<5	<3	<10	12	<10	4	20	<10	<1	<1.0
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	140	<1.0	<5	<3	<10	6	<10	<1	<10	<10	4	<1.0
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	160	<1.0	<5	<3	<10	13	<10	12	<10	<10	2	<1.0
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-18-91	1900	<3.0	<20	<9	<30	12	<30	4	<30	<30	<1	<3.0
06-25-91	800	<1.0	<5	<3	<10	14	<10	3	<10	<10	<1	<1.0
06-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	590	<1.0	<5	<3	<10	4	<10	4	10	<10	<1	<1.0
07-15-91	140	<1.0	<5	<3	<10	10	<10	14	<10	<10	3	<1.0
06-26-91	--	--	--	--	--	--	--	--	--	--	--	--
07-11-91	--	--	--	--	--	--	--	--	--	--	--	--
06-19-91	--	--	--	--	--	--	--	--	--	--	--	--
06-17-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	80	<1.0	<5	<3	<10	10	<10	<1	<10	<10	3	<1.0
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-17-91	270	<1.0	<5	<3	<10	5	<10	34	10	<10	3	<1.0
SEWARD COUNTY												
08-09-91	50	--	--	--	--	630	--	360	--	--	--	--
08-09-91	40	--	--	--	--	48	--	28	--	--	--	--
08-09-91	60	--	--	--	--	16	--	4	--	--	--	--
SIOUX COUNTY												
07-11-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	40	<1.0	<5	<3	<10	<3	<10	<1	<10	<10	2	<1.0
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-16-91	--	--	--	--	--	--	--	--	--	--	--	--
07-09-91	100	<1.0	<5	<3	<10	<3	<10	<1	<10	<10	4	<1.0
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-11-91	100	<1.0	<5	<3	<10	<3	<10	1	<10	<10	4	<1.0
07-11-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	40	<1.0	<5	<3	<10	<3	<10	<1	<10	<10	<1	<1.0
07-09-91	60	<1.0	<5	<3	<10	4	<10	<1	<10	<10	2	<1.0

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	STRONTIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANADIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DISS. ISOTOPE RATIO (U-234/ U-238) (28013)	METHIO- CARB WATER WHOLE RECOV. (UG/L) (30282)	PROPO- XUR WATER WHOLE RECOV. (UG/L) (30296)	AMETRYN WATER, DISS. REC (UG/L) (38401)	PROP- AZINE SED, BOT MAT REC (UG/L) (38535)	METHO- MYL TOTAL (UG/L) (39051)	PROPHAM TOTAL (UG/L) (39052)
SALINE COUNTY												
08-07-91	--	--	--	--	--	--	--	--	--	--	--	--
SCOTTS BLUFF COUNTY												
07-10-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-15-91	--	--	--	--	--	--	--	--	--	--	--	--
06-18-91	670	9	7	13	0.10	2.00	--	--	--	--	--	--
07-15-91	1000	10	<3	27	0.13	1.70	<0.5	<0.5	--	--	<0.5	<0.5
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-17-91	320	<18	<9	13	0.04	2.40	--	--	--	--	--	--
06-25-91	230	<6	9	8.2	0.20	1.70	--	--	<0.05	<0.05	--	--
06-18-91	100	<6	6	8.0	0.09	11.0	--	--	--	--	--	--
06-18-91	100	<6	16	7.0	0.05	8.90	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-15-91	990	11	7	28	0.17	1.60	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	910	<6	29	24	0.19	1.60	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-18-91	430	<18	<9	9.7	0.21	4.80	--	--	--	--	--	--
06-25-91	230	<6	11	6.3	0.07	1.80	--	--	--	--	--	--
06-18-91	--	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	240	<6	6	7.3	0.08	2.00	--	--	--	--	--	--
07-15-91	1600	11	11	18	0.10	2.00	<0.5	<0.5	<0.05	<0.05	<0.5	<0.5
06-26-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-11-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
06-19-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
06-17-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	880	8	12	19	0.21	1.40	<0.5	<0.5	--	--	<0.5	<0.5
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
06-17-91	840	29	16	30	0.05	1.80	--	--	--	--	--	--
SEWARD COUNTY												
08-09-91	--	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--	--
SIOUX COUNTY												
07-11-91	--	--	--	--	--	--	--	--	--	--	--	--
07-15-91	450	10	6	5.3	0.10	1.90	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-16-91	--	--	--	--	--	--	--	--	<0.05	<0.05	--	--
07-09-91	1200	17	9	16	0.12	2.10	<0.5	<0.5	<0.05	<0.05	<0.5	<0.5
07-12-91	--	--	--	--	--	--	--	--	--	--	--	--
07-11-91	780	14	4	16	0.21	1.80	--	--	--	--	--	--
07-11-91	--	--	--	--	--	--	--	--	--	--	--	--
07-17-91	350	15	<3	5.8	0.04	2.30	<0.5	<0.5	--	--	<0.5	<0.5
07-09-91	440	22	7	13	0.11	2.00	--	--	--	--	--	--

CHEMICAL ANALYSES OF GROUND WATER

345

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	SEVIN, TOTAL (UG/L) (39750)	ALA- CHLOR (LASSO) WATER DISSOLV (UG/L) (46342)	ALPHA, COUNT, 2 SIGMA WAT DIS AS (UG/L) (75986)	ALPHA, COUNT, 2 SIGMA WAT DIS AS (PCI/L) (75987)	BETA, 2 SIGMA WATER, DISS, AS SR90 (PCI/L) (75988)	BETA, 2 SIGMA WATER, DISS, AS (PCI/L) (75989)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	RA-222 2 SIGMA WATER, TOTAL, (PCI/L) (76002)	1-NAPH- THOL WATER WHOLE REC (MG/L) (77441)
SALINE COUNTY											
08-07-91	--	--	--	--	--	--	--	--	--	--	--
SCOTTS BLUFF COUNTY											
07-10-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-15-91	--	--	--	--	--	--	--	--	--	--	--
06-18-91	--	--	--	--	5.7	17	1.6	2.2	0.020	30	--
07-15-91	--	--	<0.50	--	1.1	2.1	3.2	4.2	0.030	28	<0.5
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-17-91	--	--	--	--	4.0	<0.60	2.9	3.9	0.010	23	--
06-25-91	<0.05	<0.05	--	<0.05	6.1	20	1.1	2.0	0.040	40	--
06-18-91	--	--	--	--	6.8	9.1	1.9	2.5	0.020	27	--
06-18-91	--	--	--	--	7.2	13	1.7	2.2	0.010	30	--
07-18-91	<0.05	0.47	--	<0.05	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	<0.05	0.05	--	<0.05	--	--	--	--	--	--	--
07-15-91	--	--	--	--	10	23	3.4	4.5	0.030	27	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	11	20	3.1	4.1	0.030	26	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-18-91	--	--	--	--	3.6	<0.60	2.6	3.5	0.040	39	--
06-25-91	--	--	--	--	4.2	<0.60	1.7	2.2	0.020	29	--
06-18-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	2.5	2.0	1.6	2.1	0.020	28	--
07-15-91	<0.05	<0.05	<0.50	<0.05	10	23	2.5	3.4	0.020	27	<0.5
06-26-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-11-91	--	--	--	--	--	--	--	--	--	--	--
06-19-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
06-17-91	--	--	--	--	--	--	--	--	--	--	--
07-15-91	--	--	<0.50	--	6.7	10	2.6	3.5	0.040	27	<0.5
07-12-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
07-18-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
06-17-91	--	--	--	--	15	32	4.0	5.3	0.010	25	--
SEWARD COUNTY											
08-09-91	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--
SIOUX COUNTY											
07-11-91	--	--	--	--	--	--	--	--	--	--	--
07-15-91	--	--	--	--	3.0	6.4	0.90	1.4	0.020	28	--
07-12-91	--	--	--	--	--	--	--	--	--	--	--
07-12-91	<0.05	<0.05	--	<0.05	--	--	--	--	--	--	--
07-16-91	<0.05	<0.05	--	0.11	--	--	--	--	--	--	--
07-09-91	<0.05	<0.05	<0.50	<0.05	7.5	15	2.1	2.8	0.020	26	<0.5
07-12-91	--	--	--	--	7.8	19	2.1	2.8	0.040	25	--
07-11-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	<0.50	--	2.8	5.4	0.90	1.6	0.010	25	<0.5
07-09-91	--	--	--	--	4.0	7.0	1.8	2.3	0.020	28	--

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)	GROSS ALPHA, DIS- SOLVED (UG/L U-NAT) (80030)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	CARBO- FURAN WATER WHOLE TOT. REC (UG/L) (82615)	RADON 222 TOTAL (PC/L) (82303)	3-HYDRX CARBO- FURAN WATER WHOLE TOT. REC (UG/L) (82584)	ALDICAR SULF- OXIDE WATER WHOLE TOT. REC (UG/L) (82586)	ALDI- CARB SULFONE WATER WHOLE TOT. REC (UG/L) (82587)	OXYAMYL WATER WHOLE TOT. REC (UG/L) (82613)	ALDI- CARB WATER WHOLE TOT. REC (UG/L) (82619)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
SALINE COUNTY											
08-07-91	--	--	--	--	--	--	--	--	--	--	--
SCOTTS BLUFF COUNTY											
07-10-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-15-91	--	--	--	--	--	--	--	--	--	--	--
06-18-91	19	23	9.5	--	1400	--	--	--	--	--	--
07-15-91	25	3.3	20	<0.5	290	<0.5	<0.5	<0.5	<0.5	<0.5	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-17-91	0.20	<0.6	9.4	--	200	--	--	--	--	--	--
06-25-91	13	28	6.1	--	1300	--	--	--	--	--	<0.05
06-18-91	1.2	14	6.0	--	1000	--	--	--	--	--	--
06-18-91	2.6	18	5.3	--	1300	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-17-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-15-91	22	31	21	--	370	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	30	31	18	--	550	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	--
06-18-91	0.06	<0.6	7.2	--	1200	--	--	--	--	--	--
06-25-91	8.2	<0.6	4.7	--	1100	--	--	--	--	--	--
06-18-91	--	--	--	--	--	--	--	--	--	--	--
06-26-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	0.80	2.6	5.5	--	650	--	--	--	--	--	--
07-15-91	22	32	14	<0.5	450	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
06-26-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-11-91	--	--	--	--	--	--	--	--	--	--	<0.05
06-19-91	--	--	--	--	--	--	--	--	--	--	--
06-17-91	--	--	--	--	--	--	--	--	--	--	--
07-15-91	12	14	14	<0.5	740	<0.5	<0.5	<0.5	<0.5	<0.5	--
07-12-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	--	--	--	--	--	--	--	--	--	--	--
07-18-91	--	--	--	--	--	--	--	--	--	--	<0.05
06-17-91	38	46	23	--	580	--	--	--	--	--	--
SEWARD COUNTY											
08-09-91	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--
08-09-91	--	--	--	--	--	--	--	--	--	--	--
SIOUX COUNTY											
07-11-91	--	--	--	--	--	--	--	--	--	--	--
07-15-91	8.5	8.8	3.9	--	1000	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	--
07-12-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-16-91	--	--	--	--	--	--	--	--	--	--	<0.05
07-09-91	18	21	12	<0.5	340	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05
07-12-91	--	--	--	--	--	--	--	--	--	--	--
07-11-91	15	25	12	--	380	--	--	--	--	--	--
07-11-91	--	--	--	--	--	--	--	--	--	--	--
07-17-91	5.5	7.6	4.2	<0.5	280	<0.5	<0.5	<0.5	<0.5	<0.5	--
07-09-91	7.6	11	10	--	960	--	--	--	--	--	--

CHEMICAL ANALYSES OF GROUND WATER

347

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)			
STANTON COUNTY												
415928097024501	23N 3E 2DC 1		41 59 28 N	097 02 45 W	111ALVM	08-21-91	1015	30.00	486			
THURSTON COUNTY												
420604096412201	25N 6E26DAD 1		42 06 04 N	096 41 22 W	112SDGV	08-21-91	1410	--	689			
WASHINGTON COUNTY												
413315096211601	18N 9E 1DC 1		41 33 15 N	096 21 16 W	110SDGV	08-23-91	0845	70.00	936			
YORK COUNTY												
404646097485101	9N 4W 6AC 1		40 46 46 N	097 48 51 W	112SDGV	08-08-91	1245	171.00	648			
405242097352403	11N 2W31CA 3		40 52 42 N	097 35 24 W	112SDGV	08-09-91	0840	368.00	652			
410137097241302	12N 1W11BC 2		41 01 37 N	097 24 13 W	112SDGV	08-08-91	1620	156.00	727			
DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
STANTON COUNTY												
08-21-91	7.5	15.0	220	70	12	8.4	0.2	6.6	226	33	4.5	0.20
THURSTON COUNTY												
08-21-91	7.1	14.5	290	72	27	36	0.9	4.6	267	66	3.8	0.20
WASHINGTON COUNTY												
08-23-91	7.2	13.0	430	120	31	45	0.9	5.2	363	120	9.3	0.50
YORK COUNTY												
08-08-91	--	13.5	270	88	13	27	0.7	5.5	254	42	21	0.40
08-09-91	--	13.5	260	83	13	37	1	6.9	288	37	12	0.30
08-08-91	--	15.0	300	97	14	33	0.8	5.9	313	22	19	0.30

CHEMICAL ANALYSES OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN NO ₂ +NO ₃ 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)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO ₄) (00660)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
STANTON COUNTY												
08-21-91	33	305	0.41	--	<0.010	0.300	<0.010	0.080	0.25	30	150	61
THURSTON COUNTY												
08-21-91	25	398	0.54	--	<0.010	<0.050	0.170	0.020	0.06	70	2100	690
WASHINGTON COUNTY												
08-23-91	13	564	0.77	--	<0.010	<0.050	0.440	<0.010	--	150	1100	240
YORK COUNTY												
08-08-91	33	411	0.56	--	<0.010	6.30	<0.010	0.230	0.71	40	4	<1
08-09-91	35	416	0.57	4.19	0.010	4.20	<0.010	0.250	0.77	50	6	4
08-08-91	40	462	0.63	--	<0.010	9.50	<0.010	0.230	0.71	50	12	2

SAUNDERS COUNTY GROUND WATER STUDY

349

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDE	LONG- I- TUDE	GEO- LOGIC UNIT	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)			
SAUNDERS COUNTY												
410707096220601	13N 9E 2DDDD1		41 07 07 N	096 22 06 W	110QRNR	09-27-91	1300	130.00	789			
410612096220601	13N 9E14AAAA1		41 06 12 N	096 22 06 W	110QRNR	09-27-91	1100	98.00	886			
410703096205301	13N 10E 7BBBB1		41 07 03 N	096 20 53 W	110QRNR	09-27-91	1400	96.00	475			
410427096202501	13N 10E19CDD1		41 04 27 N	096 20 25 W	112SDGV	09-27-91	1000	--	468			
410303096192901	13N 10E32CABC1		41 03 03 N	096 19 29 W	112SDGV	09-27-91	0900	86.00	497			
DATE	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
SAUNDERS COUNTY												
09-27-91	7.1	13.5	0.2	230	57	20	75	2	10	246	150	12
09-27-91	7.1	12.5	0.1	250	75	14	82	2	10	221	170	49
09-27-91	7.3	14.0	0.2	190	57	11	23	0.7	5.3	165	74	10
09-27-91	7.4	25.0	0.2	170	48	12	25	0.8	12	171	50	11
09-27-91	7.3	12.5	0.2	180	52	13	33	1	8.1	173	71	12
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
SAUNDERS COUNTY												
09-27-91	0.60	34	510	0.69	<1	3	50	<0.5	140	1.0	<5	<3
09-27-91	0.70	30	568	0.77	<1	5	59	<0.5	240	<1.0	<5	<3
09-27-91	0.30	31	312	0.42	<1	3	89	<0.5	40	1.0	<5	<3
09-27-91	0.40	33	295	0.40	<1	7	97	<0.5	60	<1.0	<5	<3
09-27-91	0.30	30	324	0.44	1	7	93	<0.5	70	1.0	<5	<3
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
SAUNDERS COUNTY												
09-27-91	<10	2500	20	350	1.1	<10	<10	<1	<1.0	550	<6	12
09-27-91	<10	2900	<10	250	<0.1	<10	<10	<1	<1.0	890	<6	9
09-27-91	<10	26	<10	590	<0.1	<10	<10	<1	<1.0	390	<6	6
09-27-91	<10	20	10	10	<0.1	<10	<10	<1	<1.0	350	9	<3
09-27-91	<10	9	10	40	<0.1	<10	<10	<1	1.0	380	6	5
DATE	DI- CHLORO- BROMO- METHANE TOTAL (UG/L) (32101)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L) (32102)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L) (32103)	BROMO- FORM TOTAL (UG/L) (32104)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L) (32105)	CHLORO- FORM TOTAL (UG/L) (32106)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	ACE- NAPHTH- YLENE TOTAL (UG/L) (34200)	ACE- NAPHTH- ENE TOTAL (UG/L) (34205)	ANTHRA- CENE TOTAL (UG/L) (34220)	BENZO B FLUOR- AN- THENE TOTAL (UG/L) (34230)
SAUNDERS COUNTY												
09-27-91	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0	<10.0
09-27-91	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0	<10.0
09-27-91	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0	<10.0
09-27-91	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0	<10.0
09-27-91	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0	<10.0

SAUNDERS COUNTY GROUND WATER STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	BENZO K FLUOR- AN- THENE TOTAL (UG/L) (34242)	BENZO- A- PYRENE TOTAL (UG/L) (34247)	BIS 2- CHLORO- ETHYL ETHER TOTAL (UG/L) (34273)	BIS (2- CHLORO- ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS (2- CHLORO- ISO- PROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHAL- ATE TOTAL (UG/L) (34292)	CHLORO- BENZENE TOTAL (UG/L) (34301)	CHLORO- ETHANE TOTAL (UG/L) (34311)	CHRY- SENE TOTAL (UG/L) (34320)	DIETHYL PHTHAL- ATE TOTAL (UG/L) (34336)	DI- METHYL PHTHAL- ATE TOTAL (UG/L) (34341)	ETHYL- BENZENE TOTAL (UG/L) (34371)
SAUNDERS COUNTY												
09-27-91	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<0.20	<0.20	<10.0	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<0.20	<0.20	<10.0	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<0.20	<0.20	<10.0	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<0.20	<0.20	<10.0	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<0.20	<0.20	<10.0	<5.0	<5.0	<0.20

DATE	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ENE TOTAL (UG/L) (34381)	HEXA- CHLORO- CYCLO- PENT- ADIENE TOTAL (UG/L) (34386)	HEXA- CHLORO- ETHANE TOTAL (UG/L) (34396)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	ISO- PHORONE TOTAL (UG/L) (34408)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- ENE CHLO- RIDE TOTAL (UG/L) (34423)	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L) (34428)	N-NITRO -SODI- PHENY- LAMINE TOTAL (UG/L) (34433)	N-NITRO -SODI- METHY- LAMINE TOTAL (UG/L) (34438)
SAUNDERS COUNTY												
09-27-91	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0
09-27-91	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0
09-27-91	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0
09-27-91	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0
09-27-91	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<0.20	<0.20	<0.20	<5.0	<5.0	<5.0

DATE	NITRO- BENZENE TOTAL (UG/L) (34447)	PARA- CHLORO- META CRESOL TOTAL (UG/L) (34452)	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L) (34501)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	1,1,2,2 TETRA- CHLORO- ETHANE TOTAL (UG/L) (34516)
SAUNDERS COUNTY											
09-27-91	<5.0	<30.0	<5.0	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
09-27-91	<5.0	<30.0	<5.0	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
09-27-91	<5.0	<30.0	<5.0	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
09-27-91	<5.0	<30.0	<5.0	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
09-27-91	<5.0	<30.0	<5.0	<5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	BENZO A ANTHRAC ENE1,2- BENZANT HRACENE TOTAL (UG/L) (34526)	1,2-DI- CHLORO- BENZENE TOTAL (UG/L) (34536)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L) (34541)	1,2- TRANSDI CHLORO- ETHENE TOTAL (UG/L) (34546)	1,2,4- TRI- CHLORO- BENZENE TOTAL (UG/L) (34551)	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34561)	1,3-DI- CHLORO- BENZENE TOTAL (UG/L) (34566)	1,4-DI- CHLORO- BENZENE TOTAL (UG/L) (34571)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)
SAUNDERS COUNTY											
09-27-91	<10.0	<10.0	<5.0	<0.20	<0.20	<5.0	<10.0	<0.20	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<0.20	<0.20	<5.0	<10.0	<0.20	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<0.20	<0.20	<5.0	<10.0	<0.20	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<0.20	<0.20	<5.0	<10.0	<0.20	<5.0	<5.0	<0.20
09-27-91	<10.0	<10.0	<5.0	<0.20	<0.20	<5.0	<10.0	<0.20	<5.0	<5.0	<0.20

DATE	2- CHLORO- NAPH- THALENE TOTAL (UG/L) (34581)	2- CHLORO- PHENOL TOTAL (UG/L) (34586)	2- NITRO- PHENOL TOTAL (UG/L) (34591)	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L) (34596)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L) (34601)	2,4-DI- METHYL- PHENOL TOTAL (UG/L) (34606)	2,4-DI- NITRO- TOLUENE TOTAL (UG/L) (34611)	2,4- DI- NITRO- PHENOL TOTAL (UG/L) (34616)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L) (34621)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L) (34626)	3,3'- DI- CHLORO- BENZIL- DINE TOTAL (UG/L) (34631)
SAUNDERS COUNTY											
09-27-91	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0
09-27-91	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0
09-27-91	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0
09-27-91	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0
09-27-91	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<20.0

SAUNDERS COUNTY GROUND WATER STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	4-BROMO-PHENYL ETHER TOTAL (UG/L) (34636)	4-CHLORO-PHENYL ETHER TOTAL (UG/L) (34641)	4-NITRO-PHENOL TOTAL (UG/L) (34646)	4,6-DINITRO-ORTHOCRESOL TOTAL (UG/L) (34657)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	PHENOL (C6H5OH) TOTAL (UG/L) (34694)	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	CIS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	AMETRYN WATER, DISS, REC (UG/L) (38401)	PROP-AZINE SED, BOT MAT REC (UG/L) (38535)
SAUNDERS COUNTY											
09-27-91	<5.0	<5.0	<30.0	<30.0	<0.20	<5.0	<5.0	<0.20	<0.20	<0.05	<0.05
09-27-91	<5.0	<5.0	<30.0	<30.0	<0.20	<5.0	<5.0	<0.20	<0.20	<0.05	<0.05
09-27-91	<5.0	<5.0	<30.0	<30.0	<0.20	<5.0	<5.0	<0.20	<0.20	<0.05	<0.05
09-27-91	<5.0	<5.0	<30.0	<30.0	<0.20	<5.0	<5.0	<0.20	<0.20	<0.05	<0.05
09-27-91	<5.0	<5.0	<30.0	<30.0	<0.20	<5.0	<5.0	<0.20	<0.20	0.11	0.06
DATE	PENTA-CHLORO-PHENOL TOTAL (UG/L) (39032)	BIS(2-ETHYL-HEXYL) PHTHALATE TOTAL (UG/L) (39100)	DI-N-BUTYL PHTHALATE TOTAL (UG/L) (39110)	BENZI-DINE TOTAL (UG/L) (39120)	VINYL-CHLORIDE TOTAL (UG/L) (39175)	TRI-CHLORO-ETHYLENE TOTAL (UG/L) (39180)	METO-LACHLOR WATER DISSOLV TOTAL (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	HEXA-CHLORO-BENZENE TOTAL (UG/L) (39700)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	2,4-D, DIS-SOLVED (UG/L) (39732)
SAUNDERS COUNTY											
09-27-91	<30.0	<5.0	<5.0	<40.0	<0.20	<0.2	<0.05	<0.05	<5.0	<5.0	<0.01
09-27-91	<30.0	<5.0	<5.0	<40.0	<0.20	<0.2	<0.05	<0.05	<5.0	<5.0	<0.01
09-27-91	<30.0	<5.0	<5.0	<40.0	<0.20	<0.2	<0.05	<0.05	<5.0	<5.0	<0.01
09-27-91	<30.0	<5.0	<5.0	<40.0	<0.20	<0.2	<0.05	0.37	<5.0	<5.0	<0.01
09-27-91	<30.0	<5.0	<5.0	<40.0	<0.20	<0.2	<0.20	2.3	<5.0	<5.0	<0.01
DATE	2,4,5-T DIS-SOLVED (UG/L) (39742)	SILVEX, DIS-SOLVED (UG/L) (39762)	ALA-CHLOR (LASSO) WATER DISSOLV (UG/L) (46342)	STYRENE TOTAL (UG/L) (77128)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	TNT TOTAL (UG/L) (81360)	RDX TOTAL (UG/L) (81364)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L) (81551)	2,4-DP DISSOLV (UG/L) (82356)	1,2-DI-PHENYL-HYDRA-ZINE WATER TOT REC (UG/L) (82626)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
SAUNDERS COUNTY											
09-27-91	<0.01	<0.01	<0.05	<0.2	<0.2	<2.0	<2.0	<0.2	<0.01	<5.0	<0.05
09-27-91	<0.01	<0.01	<0.05	<0.2	<0.2	<2.0	<2.0	<0.2	<0.01	<5.0	<0.05
09-27-91	<0.01	<0.01	<0.05	<0.2	<0.2	<2.0	<2.0	<0.2	<0.01	<5.0	<0.05
09-27-91	<0.01	<0.01	<0.05	<0.2	<0.2	--	--	<0.2	<0.01	<5.0	<0.05
09-27-91	<0.01	<0.01	<0.05	<0.2	<0.2	--	--	<0.2	<0.01	<5.0	0.10

- Access to WAITSTORE Data.....24
 Acre-foot, definition of.....25
 Algae, definition of.....25
 Aquifer, definition of.....25
 Arikaree River at Haigler.....205
 Artesian, definition of.....25
 Artificial substrate, definition of.....29
 Ash mass, definition of.....25
- Bacteria, definition of.....25
 Bazile Creek near Niobrara.....85
 Bazile Creek basin, gaging-station records in.....85
 Beaver Creek (tributary to Loup River), at Genoa.....163
 at Loretto.....162
 Beaver Creek (tributary to Sappa Creek), at
 Cedar Bluffs, KS.....235
 near Beaver City.....236
 Bed load, definition of.....29
 Bed load discharge, definition of.....29
 Bed material, definition of.....25
 Big Blue River, at Barneston.....258-260
 at Beatrice.....257
 at Seward.....250
 at Surprise.....248
 near Crete.....255
 West Fork, near Dorchester.....251-254
 Big Nemaha River, at Falls City.....204
 North Fork, at Humboldt.....203
 Big Nemaha River basin, gaging-station
 records in.....202-204
 Big Sandy Creek at Alexandria.....263
 Biochemical oxygen demand, definition of.....25
 Biomass, definition of.....25
 Birdwood Creek near Hershey.....110
 Blue Creek near Lewellen.....105
 Blue-green algae, definition of.....28
 Bottom material, definition of.....25
 Bow Creek near St. James.....88
 Bow Creek basin, gaging-station records in.....88
 Box Butte Reservoir near Hemingford.....58
 Buffalo Creek near Haigler.....207
- Calamus Reservoir, near Burwell.....149
 Calamus River, near Burwell.....150
 near Harrop.....148
 Cedar River, near Fullerton.....156-159
 near Spalding.....155
 Center Creek at Franklin.....242
 Chemical oxygen demand, definition of.....26
 Chlorophyll, definition of.....26
 Clearwater Creek near Clearwater.....169
 Contents, definition of.....26
 Control, definition of.....26
 Coon Creek at Indianola.....266
 Cooperation.....1
 Courtland Canal at Nebraska-Kansas State line.....245
 Cubic foot per second, definition of.....26
 Cubic foot per second day, definition of.....26
- Dane Creek at Ord.....268
 Definition of terms.....25-31
 Diatoms, definition of.....28
 Discharge, at partial-record stations
 and miscellaneous sites.....266-267
 Discharge, definition of.....26
 Discontinued surface-water gaging stations.....35-37
 Discontinued surface-water crest-stage stations.....38-41
 Discontinued water-quality stations.....42-51
 Dismal River, at Dunning.....138
 near Thedford.....134-137
 Dissolved, definition of.....26
 Dissolved solids concentration, definition of.....26
 Downstream order system.....11
 Drainage area, definition of.....26
 Drainage basin, definition of.....26
 Driftwood Creek near McCook.....220
 Dry Creek at Bartley.....266
 Dry mass, definition of.....25
- Eagle Creek, near Redbird.....78-79
 Elkhorn River, at Ewing.....167
 at Neligh.....170
 at Norfolk.....171
 at Waterloo.....180-182
 at Westpoint.....175
 near Atkinson.....166
 North Fork, near Pierce.....173
 South Fork, near Ewing.....168
- Elm Creek at Amboy.....244
 Enders Reservoir near Enders.....215
 Explanation of records.....11-23
- Fecal coliform bacteria, definition of.....25
 Fecal streptococcal bacteria, definition of.....25
 Fox Creek at Curtis.....226
 Frenchman Creek, at Culbertson.....219
 at Palisade.....217
 near Enders.....216
 near Imperial.....214
- Gage height, definition of.....26
 Gaging station, definition of.....26
 Gering Drain near Gering.....98
 Green algae, definition of.....28
 Ground-water, chemical analyses of.....307-351
 Ground-water records, by counties
- | | |
|-------------------|------------------|
| Adams..... | 274, 307-313 |
| Antelope..... | 307-313 |
| Banner..... | 307-313 |
| Blaine..... | 274 |
| Boone..... | 275 |
| Box Butte..... | 276 |
| Brown..... | 277 |
| Buffalo..... | 277-278 |
| Burt..... | 307-313 |
| Butler..... | 278 |
| Chase..... | 279-280 |
| Cherry..... | 281 |
| Clay..... | 281, 307-313 |
| Colfax..... | 281, 307-320 |
| Cuming..... | 314-320 |
| Dawes..... | 282 |
| Dawson..... | 282-283 |
| Dodge..... | 314-320 |
| Douglas..... | 314-320 |
| Dundy..... | 283 |
| Fillmore..... | 284, 314-320 |
| Furnas..... | 285 |
| Garden..... | 285, 314-327 |
| Garfield..... | 286 |
| Gosper..... | 286 |
| Hall..... | 287 |
| Hamilton..... | 287-288, 321-327 |
| Harlan..... | 288-289 |
| Holt..... | 290-291 |
| Kearney..... | 292 |
| Kimball..... | 293 |
| Lancaster..... | 293-295 |
| Madison..... | 321-327 |
| Merrick..... | 296 |
| Morrill..... | 296, 321-333 |
| Nuckolls..... | 297, 328-335 |
| Phelps..... | 297 |
| Platte..... | 297, 334-339 |
| Polk..... | 336-339 |
| Saline..... | 298, 340-346 |
| Sarpy..... | 298 |
| Saunders..... | 299, 349-351 |
| Scotts Bluff..... | 300-301, 340-346 |
| Seward..... | 301, 340-346 |
| Sheridan..... | 302 |
| Sioux..... | 340-346 |
| Stanton..... | 347-348 |
| Thomas..... | 303 |
| Thurston..... | 347-348 |
| Valley..... | 304 |
| Washington..... | 347-348 |
| Webster..... | 305 |
| York..... | 305-306, 347-348 |
- Hardness of water, definition of.....26
 Harlan County Lake near Republican City.....239-240
 Harry Strunk Lake near Cambridge.....228
 Horse Creek near Lyman.....95
 Hugh Butler Lake near McCook.....223
 Hydrologic bench-mark network, definition of.....11, 26
 Hydrologic unit, definition of.....27
- Indian Creek at Beatrice.....266
 Instantaneous discharge, definition of.....26
 Introduction.....1
- Johnson Creek near Memphis.....194
- Kansas River basin, discharge measurements at
 miscellaneous sites in.....266-267

	PAGE		PAGE
Kansas River basin, continued		North Platte River, continued	
gaging-station records in.....	205-265	at Lisco.....	102-104
water-quality records in.....	234-260	at Mitchell.....	97
Keya Paha River, at Wewela, SD.....	75	at North Platte.....	111,269
near Naper.....	76	at Wyoming-Nebraska State line.....	93-94
Lake McConaughy near Keystone.....	107	near Keystone.....	108
Lakes and reservoirs:		near Minatare.....	99
Box Butte Reservoir near Hemingford.....	58	near Sutherland.....	109
Calamus Reservoir near Burwell.....	149	Omaha Creek at Homer.....	90
Enders Reservoir near Enders.....	215	Omaha Creek basin, gaging-station records in.....	90
Harlan County Lake near Republican City.....	239-240	Organic mass, definition of.....	25
Harry Strunk Lake near Cambridge.....	228	Organism, definition of.....	27
Hugh Butler Lake near McCook.....	223	Organism count/area, definition of.....	27
Lewis and Clark Lake near Yankton, SD.....	86	Organism count/volume, definition of.....	27
McConaughy, Lake, near Keystone.....	107	Overview of 1991 water year.....	2-8
Merritt Reservoir near Burge.....	62	Chemical quality of streamflow.....	5-6
Sherman Reservoir near Loup City.....	143	Ground-water levels.....	6-8
Swanson Lake near Trenton.....	212	Streamflow.....	5
Land-surface datum, definition of.....	27	Parameter code, definition of.....	27
Latitude-longitude system.....	12	Partial-record stations, analyses of samples.....	268-269
Lewis and Clark Lake near Yankton, SD.....	86	discharge measurements at.....	266-267
Lincoln Creek near Seward.....	249	definition of.....	27
Little Blue River, at Hollenberg, KS.....	265	Particle size, definition of.....	27
near Alexandria.....	262	Particle-size classification, definition of.....	28
near Deweese.....	261	Percent composition.....	28
near Fairbury.....	264	Pebble Creek at Scribner.....	176
Little Nemaha River at Auburn.....	200	Periphyton, definition of.....	28
Little Nemaha River basin, gaging-station		Pesticides, definition of.....	28
records in.....	200	Phytoplankton, definition of.....	28
Little Salt Creek near Lincoln.....	186	Picocurie, definition of.....	28
Lodgepole Creek at Bushnell.....	112	Plankton, definition of.....	28
Logan Creek, at Pender.....	177	Platte River, near Ashland.....	183
near Uehling.....	178	at Brady.....	116
Long Pine Creek, near Long Pine.....	70	at Louisville.....	195-197
near Riverview.....	71-73	at North Bend.....	165
Loup River near Genoa.....	161	near Cozad.....	117
Loup River power canal near Genoa.....	160	near Duncan.....	130-132
Low flow investigations,		near Grand Island.....	125,269
Kansas River basin.....	270	near Kearney.....	124
Platte River basin.....	271-273	near Odesa.....	123
Maple Creek near Nickerson.....	179	near Overton.....	118-122,269
Mean concentration, definition of.....	29	Platte River basin,	
Mean discharge, definition of.....	26	discharge measurements at miscellaneous sites	
Measuring point, definition of.....	27	in.....	267
Medicine Creek, above Harry Strunk Lake.....	227	gaging-station records in.....	93-195
below Harry Strunk Lake.....	229	water-quality records in.....	94-197
Merritt Reservoir near Burge.....	62	Plum Creek at Meadville.....	69
Methylene blue active substance, definition of.....	27	Ponca Creek, at Anoka.....	53
Micrograms per gram, definition of.....	27	at Verdel.....	54
Micrograms per liter, definition of.....	27	Ponca Creek basin, gaging-station records in.....	53-54
Middle Loup River, at Arcadia.....	139	Prairie Dog Creek near Woodruff, KS.....	238
at Dunning.....	133	Prairie Creek near Ovina.....	128
at St. Paul.....	145-146	Publications on Techniques of Water Resources	
Milligrams per liter, definition of.....	27	Investigations.....	32-34
Minnehaduzza Creek at Valentine.....	64	Pumpkin Creek near Bridgeport.....	101
Mira Creek, at North Loup.....	267-268	Radiochemical program, definition of.....	11,28
near North Loup.....	152	Records, explanation of.....	11-23
Missouri River, at Decatur.....	91	Ground-water levels.....	20-22
at Nebraska City.....	199	data collection and computation.....	20,22
at Omaha.....	92	data presentation.....	22
at Rulo.....	201	Ground-water quality.....	22
at Sioux City, IA.....	89	data collection and computation.....	23
at Yankton, SD.....	87	data presentation.....	23
Mud Creek near Sweetwater.....	140	Stage and water discharge.....	12-17
Muddy Creek at Arapahoe.....	231	accuracy.....	16
National Geodetic Vertical Datum of 1929.....	27	data collection and computation.....	12-14
National stream-quality accounting network.....	11,27	data presentation.....	14-16
Natural substrate, definition of.....	29	identifying estimated discharge.....	16
Niobrara River, above Box Butte Reservoir.....	57	other records available.....	16
at Agate.....	56	Surface-water quality.....	16-20
at Wyoming-Nebraska State line.....	55	arrangement of records.....	17
below Box Butte Reservoir.....	59	classification of records.....	17
near Gordon.....	60	data presentation.....	19-20
near Mariaville.....	74	laboratory measurements.....	19
near Sparks.....	65-68	onsite measurements and sample collection.....	17
near Spencer.....	77	remark codes.....	20
near Verdel.....	81-83	sediment.....	19
Niobrara River basin, discharge measurements		water temperature.....	19
gaging-station records in.....	55-84	Recoverable from bottom material,	
water-quality records in.....	66-83	definition of.....	28
North Loup River, at Ord.....	151	Redbird Creek, at Redbird.....	80
at Taylor.....	147	Red Willow Creek (Kansas River basin),	
near St. Paul.....	153-154	above Hugh Butler Lake.....	222
North Platte River, at Bridgeport.....	100	near McCook.....	224
at Lewellen.....	106	near Red Willow.....	225

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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