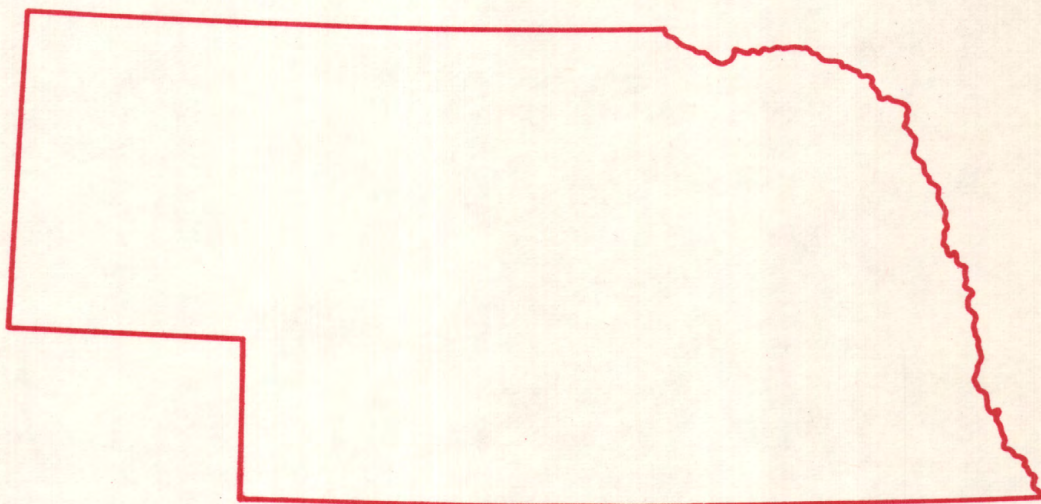
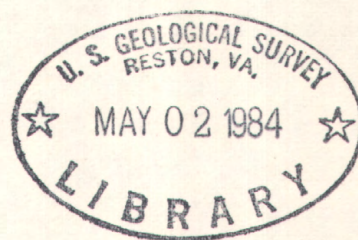




Water Resources Data Nebraska Water Year 1982



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NE-82-1
Prepared in Cooperation with the Nebraska Department of Water
Resources, the Conservation and Survey Division of the University
of Nebraska, the Nebraska Department of Environmental Control,
and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1982

1981

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1982

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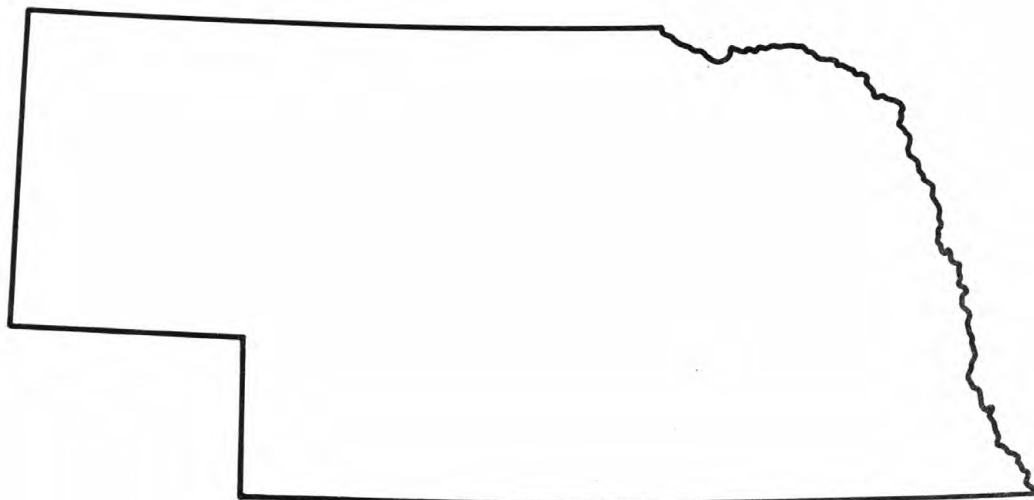
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Water Resources Data Nebraska Water Year 1982

by G. B. Engel, R.A. Engberg, and M.S. Johnson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NE-82-1
Prepared in Cooperation with the Nebraska Department of Water
Resources, the Conservation and Survey Division of the University
of Nebraska, the Nebraska Department of Environmental Control,
and with other State and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

WILLIAM P. CLARK, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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

District Chief, Water Resources Division

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, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

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

E. K. Steele, J. A. Boohar, C. G. Hoy, J. A. Anderson, D. E. Schild, L. G. Loerch, J. C. Beard, N. R. Harmon, and J. E. McKinney of the District Office.

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

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16. Abstract (Limit: 200 words) Water resources data for the 1982 water year for Nebraska consist of both surface water and ground water. This report contains water-discharge records for 157 streamflow gaging stations, 27 partial-record or miscellaneous streamflow stations, and 5 crest-stage, partial-record streamflow stations; stage and content records for 10 lakes and reservoirs; water-quality records for 47 streamflow stations, 29 ungaged streamsites, and 57 wells; and water-level records for 59 observation wells. Additional water-discharge data were collected at various sites, not part of the systematic data-collection program, to determine surface-water/ground-water relationships and are published under low-flow investigations. 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 *Nebraska, *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 c. COSATI Field/Group			
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(b) biological, (m) microbiological, (t) water temperature, and (s) sediment]

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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 for Nebraska."

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 157 streamflow-gaging stations, for 27 partial-record or miscellaneous streamflow stations, and for 5 crest-stage, partial-record streamflow stations; (2) stage and content records for 10 lakes and reservoirs; (3) water-quality records for 47 streamflow-gaging stations, for 29 ungaged streamsites, and for 57 wells; and (4) water-level records for 59 observation wells. Records included for stream stages and for ground-water levels are only a small fraction of those obtained during the water year.

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 Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

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-82-1." 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.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on back of title page or by telephone (402) 471-5082.

Cooperation

The U.S. Geological Survey and agencies of the State of Nebraska have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are: Nebraska Department of Water Resources, J. Michael Jess, Director; Conservation and Survey Division, University of Nebraska-Lincoln, Vincent H. Dreeszen, Director; Nebraska Department of Environmental Control, George H. Ludwig, Acting Director; Big Blue River Compact Administration; Central Platte Natural Resources District; Little Blue Natural Resources District; and City of Lincoln.

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 25 streamflow-gaging stations and 5 crest-stage gages; and by the U.S. Bureau of Reclamation in collecting records for 2 streamflow-gaging stations, 2 lake stations, and in providing elevations or capacity tables for 8 reservoir stations.

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 1982 WATER YEAR

Precipitation data from published reports of the National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, for the eight National Weather Service Divisions in Nebraska are shown in table 1. Precipitation and departures from normal are shown for each one-half of the water year and for the entire 1982 water year.

All divisions had greater-than-normal precipitation for the year. The divisions with the greatest departure from normal were the East Central and the Southeast. The Panhandle had less-than-normal precipitation for the first 6 months of the water year. Percentage of normal precipitation is shown on figure 1 for the eight divisions.

Table 1.--Precipitation and departures from normal, in inches

National Weather Service Division	October - March		April - September		1982 water year October-September	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Panhandle	3.04	-0.53	16.88	3.08	19.92	2.55
North Central	6.01	1.68	16.95	.32	22.96	2.00
Northeast	7.47	1.44	21.81	1.97	29.28	3.41
Central	7.28	2.67	18.97	.56	26.25	3.23
East Central	9.47	2.87	29.03	7.27	38.50	10.14
Southwest	4.39	.48	17.70	2.27	22.09	2.75
South Central	6.62	1.63	19.47	.55	26.09	2.18
Southeast	10.06	2.64	27.08	3.60	37.14	6.24

Streamflow

The greater-than-normal precipitation in many areas of the State, particularly during the latter one-half of the water year, produced higher-than-normal streamflows. Monthly mean discharges during the 1982 water year at representative stations are plotted against the long-term monthly means on figure 1. The period of record used for the long-term mean at some stations is from the implementation of the last known storage structure or from the latest change in streamflow regulation.

Individual station graphs emphasize particular points of interest. The graph for station 06454500, Niobrara River above Box Butte Reservoir, indicates the less-than-normal runoff during the first one-half of the water year and the increase, compared to normal flow, for the second one-half of the year. Although precipitation was slightly greater than normal in southwestern Nebraska, it was not sufficient to produce much runoff as indicated by the graph for station 06841000, Medicine Creek above Harry Strunk Lake.

Station graphs for stations 06462000, Niobrara River near Norden; 06785000, Middle Loup River at St. Paul; 06800500, Elkhorn River at Waterloo; and 06815000, Big Nemaha River at Falls City all indicate the greater-than-normal runoff during the 1982 water year. Snowmelt and ice breakup occurred in February and is reflected in the higher flows for that month. Graphs for stations 06462000 and 06785000 demonstrate the uniform-flow characteristic of streams originating in the Sand Hills Region of Nebraska, where ground-water inflow is the principal source of streamflow. Graphs for these two stations show two distinct high-flow periods during the 1982 water year--one during snowmelt and ice breakup in February-March and one during May and June produced by thunderstorms. All four of these station graphs show decreased streamflow during April, which was unusually dry. Thunderstorms started in May and occurred throughout most of the summer. The Elkhorn River at station 06800500 had greater-than-normal flows for the remainder of the water year. The Big Nemaha River at station 06815000 had extremely high flows again in August.

Monthly mean discharges for station 06686000, North Platte River at Lisco, do not reflect local precipitation patterns as much as they reflect releases from upstream reservoirs in Wyoming. As during 1981, the quantity of snowmelt runoff during 1982 was small, and the graph for the station indicates the striking difference from the normal in the quantity of water released from upstream reservoirs.

Thunderstorms, particularly in May and June, produced significant peak flows on numerous streams. Peak flows for the 1982 water year and for the period of record are shown in table 2 for selected stations.

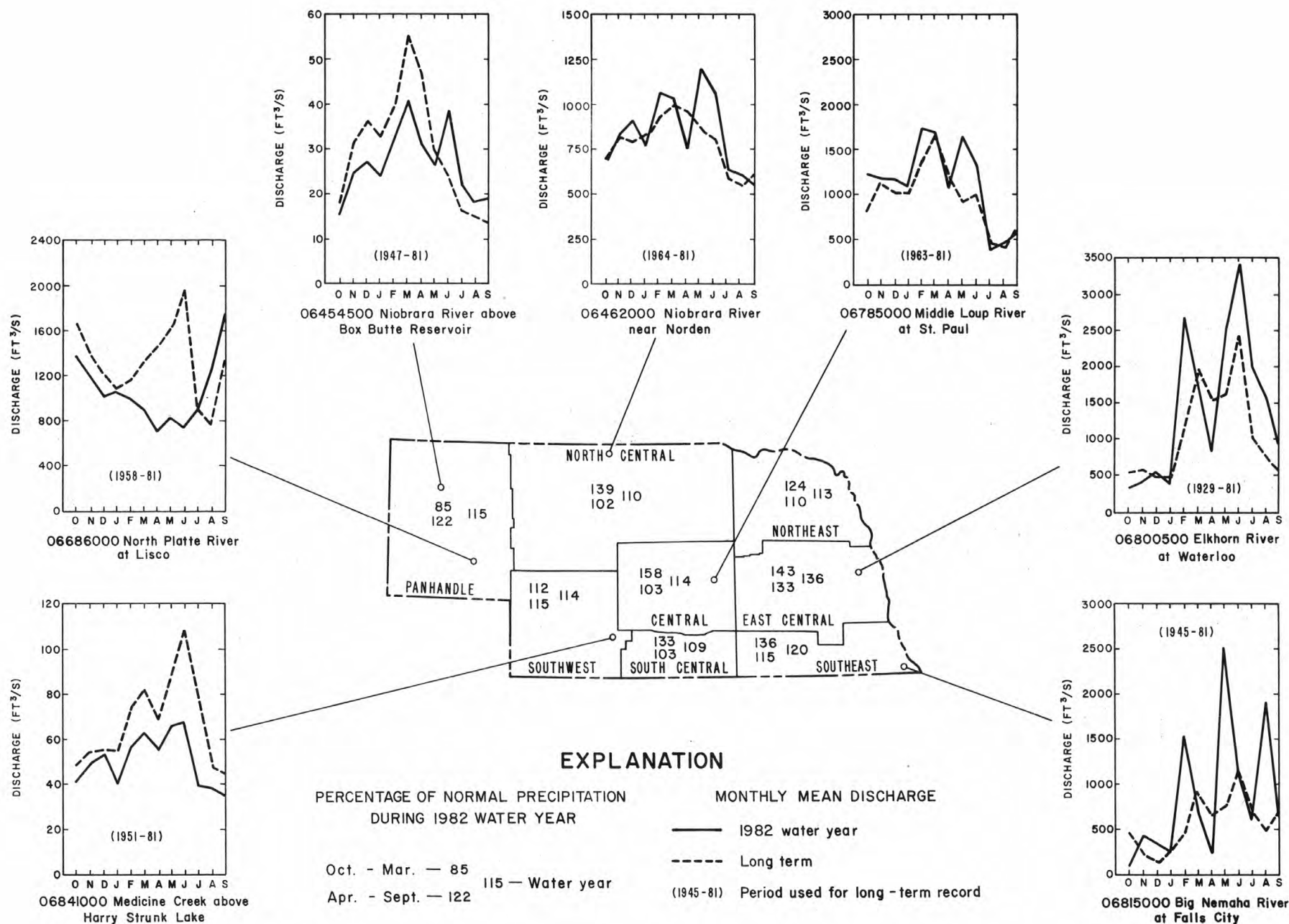


Figure 1.--Comparison of 1982 water-year precipitation and streamflow to long-term means.

Table 2.--Peak discharges for the 1982 water year and for the period of record at selected stations
[mi² = square miles; ft³/s = cubic feet per second]

Station identification	Drainage area (mi ²)	Period of record	Peak discharge period of record		Peak discharge 1982 water year		Recurrence interval (years)
			ft ³ /s	Date	ft ³ /s	Date	
06795500 Shell Creek near Columbus	270	1948-75, 1977	5,970	6-03-50	4,970	5-20-82	15
06799230 Union Creek at Madison	174	1979-	1,800	6-30-81	5,540	5-19-82	--
06800500 Elkhorn River at Waterloo	6,900	1899-1903, 1911-15, 1928-	100,000	6-12-44	19,800	5-20-82	5
06803500 Salt Creek at Lincoln	684	1950-	28,200	6-02-51	17,500	6-15-82	15
06803510 Little Salt Creek near Lincoln	43.6	1969-	3,320	5-02-79	6,520	6-15-82	30
06803520 Stevens Creek near Lincoln	47.8	1969-	3,120	7-22-78	3,820	6-15-82	10
06803530 Rock Creek near Ceresco	119	1970-	4,120	5-01-72	10,800	6-15-82	>50
06803555 Salt Creek at Greenwood	1,051	1952-	41,000	6-24-63	39,900	6-15-82	20
06806500 Weeping Water Creek at Union	241	1950-	60,300	5-09-50	17,400	6-15-82	30
06815000 Big Nemaha River at Falls City	1,340	1944-	71,600	10-11-73	46,000	8-13-82	8
06851500 Thompson Creek at Riverton	279	1948-56, 1962-	12,200	7-09-50	7,480	5-11-82	15
06852000 Elm Creek at Amboy	39.2	1948-53, 1959-	6,000	7-04-59	4,630	5-11-82	50
06853000 Republican River near Guide Rock	22,040	1935, 1950-	About 250,000	6-01-35	11,700	5-12-82	15
06880000 Lincoln Creek near Seward	446	1953-	10,100	6-17-57	3,360	6-16-82	8
06880500 Big Blue River at Seward	1,101	1953-	15,300	6-18-57	6,730	6-16-82	5
06883940 Big Sandy Creek at Alexandria	607	1980-	2,490	8-06-81	6,580	7-02-82	--

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 from sampling stations on five streams. Each station is located at or near the point at which the stream leaves Nebraska.

Specific conductance can be used to approximate the dissolved-solids concentration in water because it is related to the concentrations and types of ions in water. To determine whether significant differences in specific conductance occurred between the 1982 water year and the period of record, a statistical technique called the t-test was used.

The t-test technique requires proving or disproving a hypothesis that the mean specific conductance for the 1982 water year is equal to the mean for the period of record. The procedure for doing this requires computing a "t" statistic and comparing it to a value taken from Student's "t" table. If the absolute value of the computed "t" value (t_c) is less than the tabular "t" value (t_{tab}), the hypothesis that the means are equal is accepted. If the absolute value of t_c is greater than t_{tab} , the hypothesis is rejected and the means are considered not to be equal. In terms of specific conductance, a rejection of the hypothesis means that there is a difference in water quality at a particular site between the 1982 water year and the period of record. A 95-percent level of significance ($\alpha = 0.05$) was used for each t-test, and it was assumed that the data were normally distributed.

Results of the t-tests for the five stations are given in table 3. For three of the stations, 06465500, Niobrara River near Verdel; 06815000, Big Nemaha River at Falls City; and 06884025, Little Blue River at Hollenberg; comparisons of means for the 1982 water year to those for the period of record indicate that the means are not statistically different.

Mean specific conductance for the 1982 water year for the Republican River near Guide Rock (station 06853000) was significantly greater than for the period of record. This difference apparently is not related to environmental factors but rather to the fact that streamflow was about 25 percent less than normal. A larger percentage of the streamflow probably was derived from ground-water seepage, which generally is more mineralized than that part of streamflow derived from overland runoff or reservoir releases.

Mean specific conductance for the 1982 water year for the Platte River at Louisville (station 06805500) was significantly less than for the period of record, because streamflow was about 40 percent greater than normal. A larger percentage of the streamflow was derived from overland runoff or reservoir releases. This water generally is less mineralized than that part of streamflow derived from ground-water seepage.

Table 3.--Results of t-tests comparing specific conductance means for the 1982 water year with means for the period of record for streamflow leaving Nebraska

[Specific conductance in micromhos per centimeter]

Station identification	Specific conductance						Period used	t-test		
	1982 water year			Period of record				t _{tab}	t _c	Hypothesis
	Number of values	Mean	Standard deviation	Number of values	Mean	Standard deviation				
06465500 Niobrara River at Verdel	12	268	33	103	264	25	1967-81	+2.13	0.47	¹ A
06805500 Platte River at Louisville	13	501	93	82	720	247	1972-81	+2.01	-5.83	² R
06815000 Big Nemaha River at Falls City	13	600	199	105	633	160	1973-81	+2.14	- .58	A
06853000 Republican River near Guide Rock	12	636	68	277	572	105	1962-81	+2.14	3.05	R
06884025 Little Blue River at Hollenberg	15	438	144	121	467	181	1972-81	+2.08	- .71	A

¹Accepted.

²Rejected.

Ground-Water Levels

Water-level changes that occurred during the 1982 water year were determined from a statewide network of observation wells measured by numerous Federal, State, and local agencies. The network consists of more than 3,200 wells measured annually, semiannually, or monthly and 65 wells equipped with continuous recorders. The observation wells used as examples in the following discussion are typical of those in the network having similar hydrologic characteristics. (See figure 2.)

The hydrograph of the well in Garden County shows the response of water levels to climate effects in an area where there is little development of ground- or surface-water resources. At the beginning of the water year the water level was slightly below the long-term average, with very little change from the previous year's level. Less-than-normal precipitation during the winter and early spring caused water levels to decline slightly and they remained less than average through the summer despite greater-than-normal rainfall.

The greater-than-normal rainfall during the growing season had a more significant effect on water levels in irrigated areas of the State. Water levels were higher in most areas prior to the irrigation season because the 1981 irrigation season had been shortened by late-summer rains. Most of the State received greater-than-normal rainfall during July and August of 1982, which decreased the need for ground water for irrigation, resulting in less seasonal drawdown of water levels.

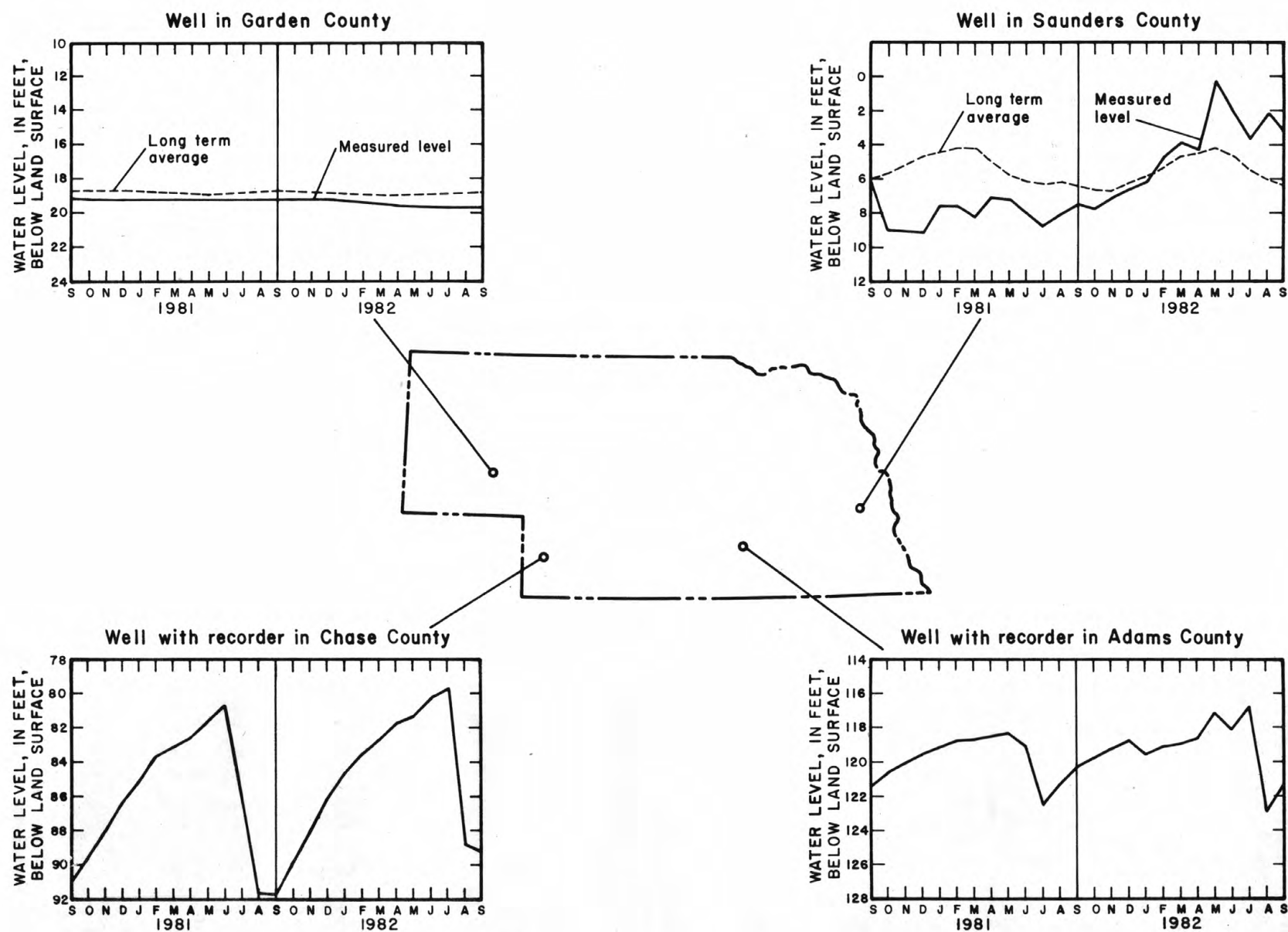


Figure 2.-Hydrographs of representative observation wells, 1981 and 1982.

The hydrograph of a recorder-equipped observation well in an irrigated area of Chase County illustrates these trends. Although the water level in this well had declined progressively since 1966, the level was higher prior to the irrigation season than in 1981, and the decline during the summer was less.

Rainfall was less than normal during July and August of 1982 only in the south-central part of the State, and the effect on water levels is shown by the hydrograph of a recorder-equipped well in Adams County. Before the 1982 irrigation season, the water level was higher than at the same time in 1981, reversing a downward trend that began about 1950. Large withdrawals for irrigation caused the water level to decline below last year's lowest level, and at the end of September the level was about 1 foot below the level of last year.

The key observation well in Saunders County represents a condition common in stream-valley aquifers in Nebraska where water levels reflect a balance maintained between pumpage from the aquifer and induced recharge from a nearby stream. Local precipitation affects the volume of pumpage from the aquifer, and stream stage affects the recharge. Although much below average during 1981, water levels rose through the fall and winter of 1982 and by January were above long-term average. Greater-than-normal rainfall and concomitant increases in streamflow during May raised water levels to several feet above average, and they remained well above average through the end of the water year.

EXPLANATION OF THE RECORDS

The records in this report are for the 1982 water year that began October 1, 1981, and ended September 30, 1982. A calendar of the water year is provided on the inside of the front cover. Records for a given station, whether water discharge or water quality, are presented together, so far as practicable, with those for water discharge presented first. Headings providing information on station locations, drainage areas, and other pertinent items are included for all records except those regarded as miscellaneous or partial.

Station Identification Numbers

All data stations, whether streamsite or well, in this report are assigned an 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 regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous measurements are made.

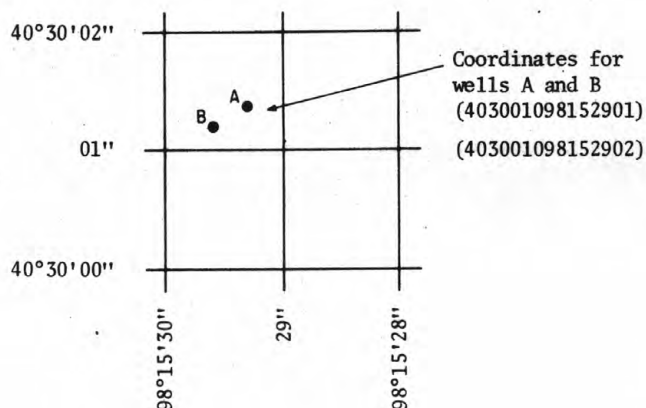
Downstream Order System

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 show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 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 and miscellaneous surface-water sites 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. (See figure below.)



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

Records of Stage and Water Discharge

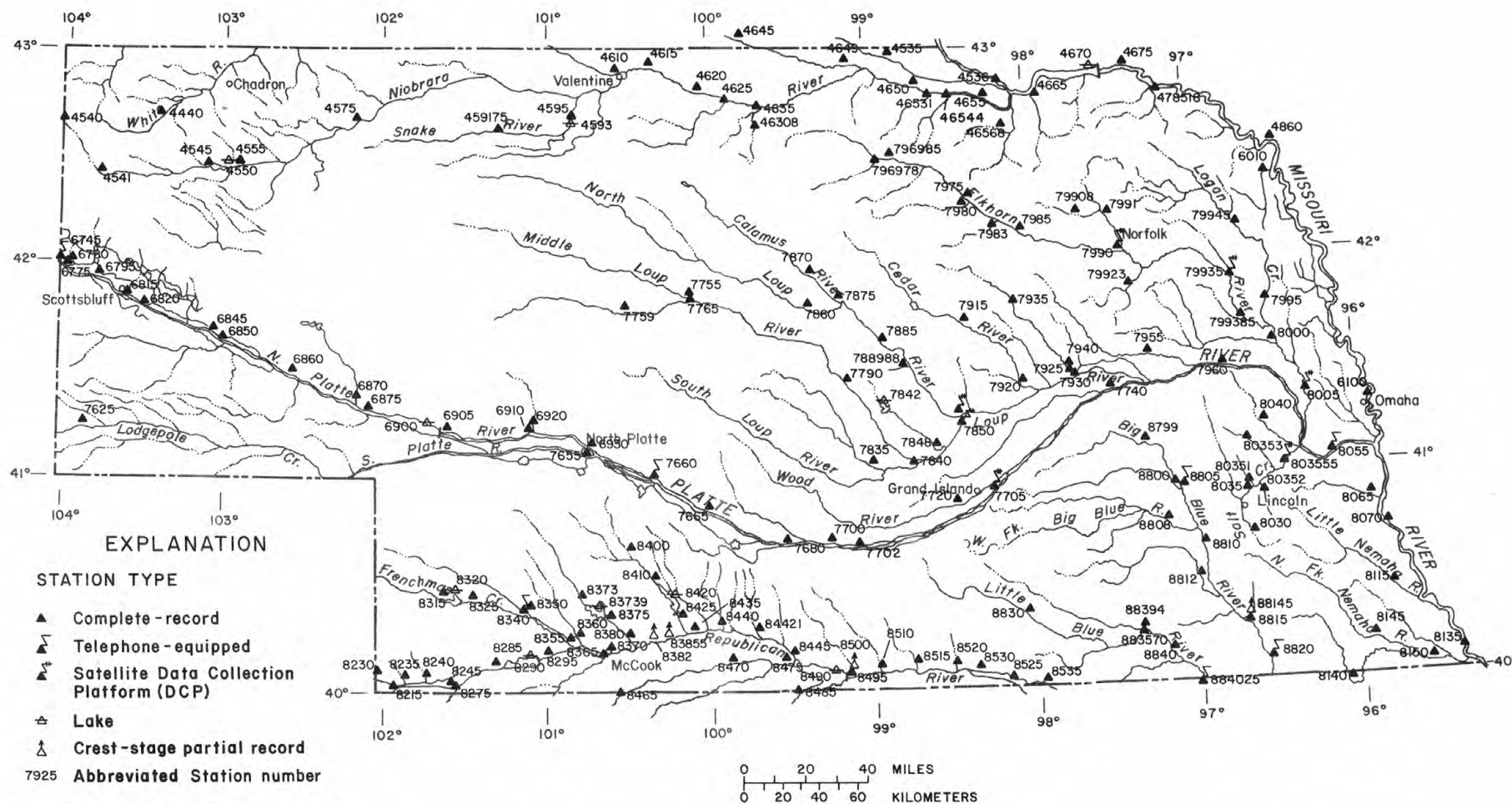
Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete 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 mean daily discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

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



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

Figure 3.-- 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 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.

Data Presentation

Information is provided with each complete record of discharge or lake content. Comments to follow clarify information under the various headings.

LOCATION.--Information on locations is obtained from the most accurate maps available. 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 vary from one drainage basin to another, the accuracy of drainage areas likewise vary. Also, updating of drainage areas is common 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 merged 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 no daily, monthly, or annual figures of discharge were revised, 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.--The remarks contain 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.

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 OUTSIDE PERIOD OF RECORD.--Included here is reliable 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 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 minimum daily discharge and was determined and is reported in the same manner as the maximum.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record. For stations meeting certain criteria, information relative to peak discharges and stages greater than a selected base discharge is presented under this heading. Whereas there can be only one peak discharge for the year, there is a peak discharge for each major rise of the stream. The discharge peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks and are important in many types of detailed hydrologic studies. 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. Minimums for the current water year appear below the table of peak data.

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 where daily contents are given.

The data obtained at partial-record stations follow those for complete-record stations and are presented in three formats. The first presents maximum discharges for crest-stage partial-record stations, of which there are only a few. The second presents discharges measured at miscellaneous sites, that is, at sites other than complete gaging stations or crest-stage partial-record stations. The third presents discharges or indications of zero flow resulting from low-flow investigations. Some of the stations measured in the low-flow investigations are the same as those for which complete records or partial records are published.

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 the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 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. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated.

Other Records Available

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. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are 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 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. Based on measurement frequencies, the records are considered to be continuing, partial, or miscellaneous. "Continuing records" are based on measurements made quarterly or more frequently, "partial records" are based on measurements made less than quarterly but systematically throughout a period of at least several years, and "miscellaneous records" are based on measurements made less than quarterly but not systematically.

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 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 4.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the insitu 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 on p. 17 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

To obtain representative data for a stream, one measurement or sample near the centroid of flow may be adequate if the solutes are mixed homogeneously throughout the stream cross section. If they are not, it is necessary to sample through several verticals across the stream and composite these samples. 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.

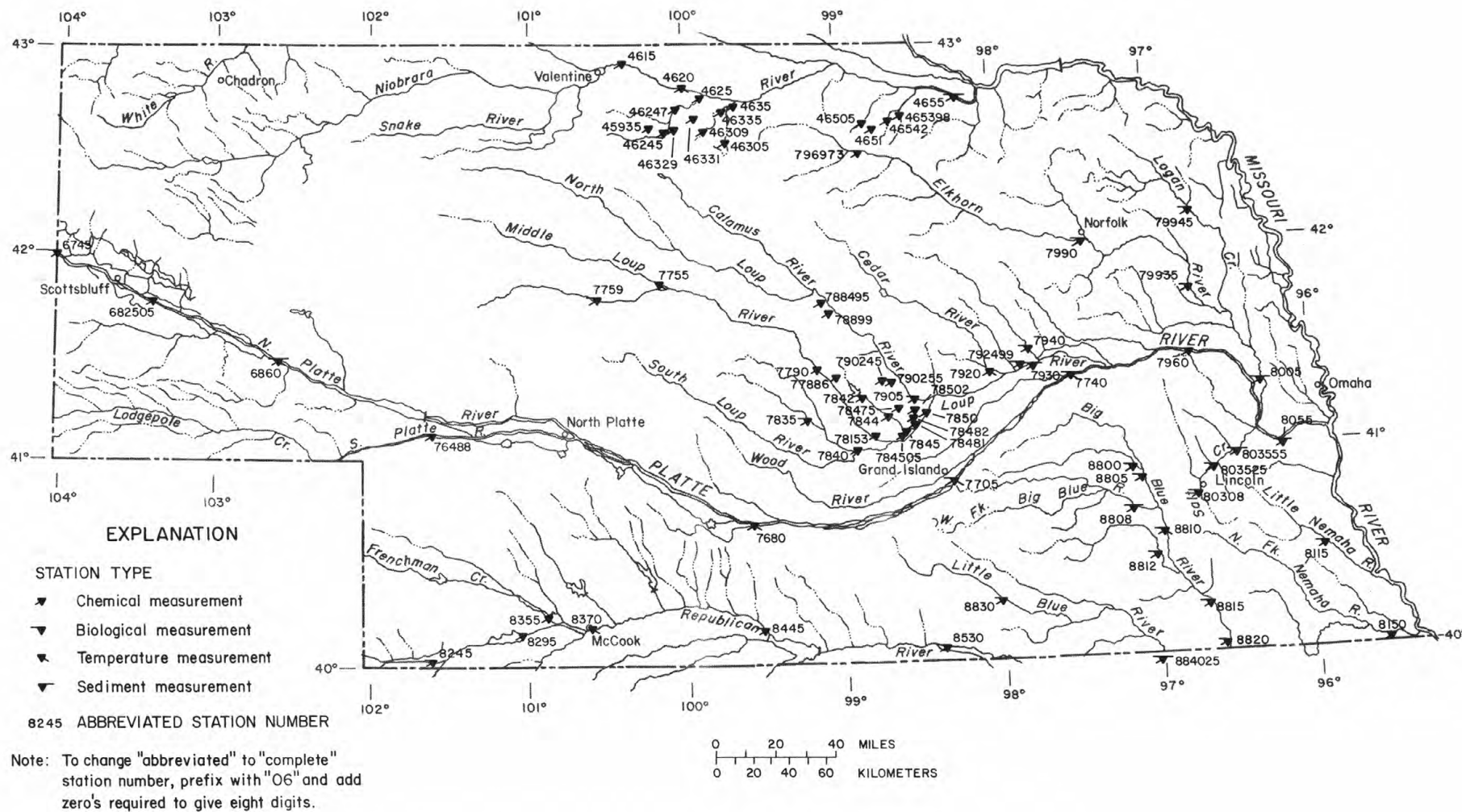


Figure 4.-- Location of active surface-water-quality stations.

Suspended sediment in a stream commonly is not distributed uniformly throughout the stream cross section. To obtain suspended-sediment samples that are representative of the entire stream cross section, it is common practice to use depth-integrating samplers and to obtain the samples from a number of verticals across the stream. In Nebraska, the samples ordinarily are obtained using a method called the "equal transit rate method (ETR)," one in which the proportion of sediment obtained from each vertical is proportioned to the discharge in that vertical. (See Techniques of Water Resources Investigations, Book 3, Chap. C2, p. 54.)

Suspended-sediment samples obtained daily by local observers are taken from one or two verticals. Concentrations of sediment from observers' verticals are compared periodically with those from several verticals so that measurements from the daily samples may be adjusted to reflect more accurately the average concentrations for the entire stream cross section.

During periods in which water discharge and sediment concentrations may be changing rapidly, samples may be collected more frequently than daily. Published mean daily sediment concentrations for these periods may be computed by the subdivided-day method (see Techniques of Water Resources Investigations, Book 3, Chap. C3, p. 47).

At some stations, suspended-sediment samples are collected only periodically. Although data from periodic collections 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.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo., or Doraville, Ga. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

Where water-quality records for a given station are presented in this report depends partly on the nature of the records and partly on the presence of associated records. If, for a given station, complete discharge records are published, the water-quality records are presented immediately following the discharge records for that station. If, however, complete discharge records are not published and the water-quality records are "continuing" in nature, the water-quality records appear in the proper downstream order for that station. Water-quality records that are "partial" only--obtained systematically but less than quarterly--are presented by basins in a single table for the entire State.

For all stations with continuing records, information is provided in descriptive headings preceding tabular data. 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 as listed.

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.

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.--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 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 for both the period of record and for the current water year.

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

Records of Ground-Water Levels

Only water-level data from a national network of 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 5.

Although, in this report, records of water levels are presented for fewer than 100 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.)

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

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

Water-level measurements in this report are given in feet with reference to land-surface datum (lstd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude 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.

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. The quality of ground water ordinarily changes slowly, if at all, so that frequent measuring of the same parameters is not necessary unless one is concerned with a particular problem such as monitoring for trends in nitrate concentration.

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.

All samples were obtained by trained personnel. 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 metals comprising the casings.

Tables of water-quality data are presented by counties arranged in alphabetical order. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations.

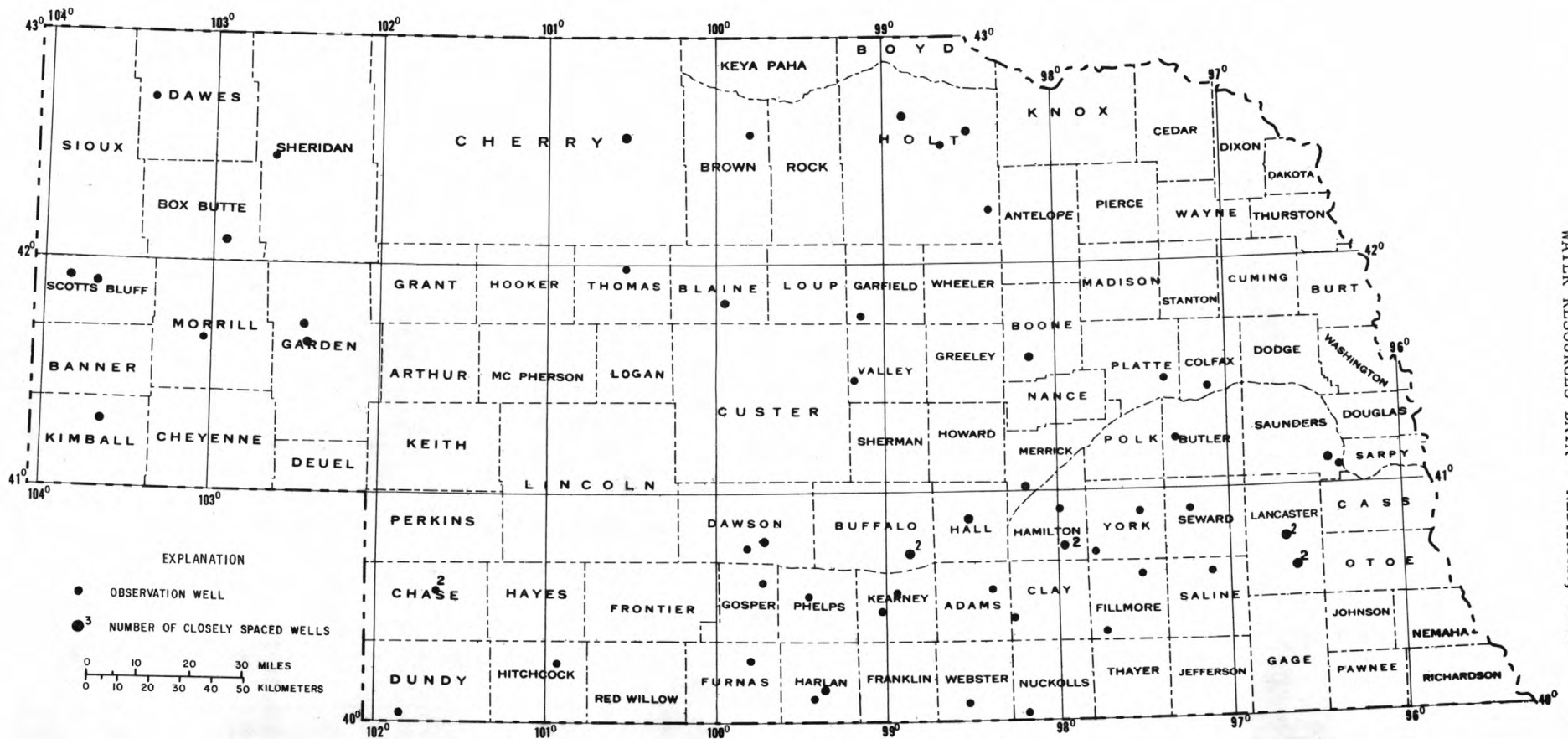


Figure 5.-- Location of observation wells in the national network.

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering 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-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 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 and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 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-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 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.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 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. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greenson, T. A. Ehlike, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 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-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 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-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.

DEFINITION OF TERMS

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

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

Algae are mostly aquatic single-celled, colonial, or multicelled 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.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, 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 + 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 + 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C + 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material 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 weight or amount of residue present after the residue from the dry mass determination has been asked in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in g/m³ (grams per cubic meter), and periphyton and benthic organisms in g/m² (grams per square meter).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

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

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 (cfs, 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.

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.

Dissolved refers to that material in a representative water sample which passes through a 0.45- μm 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.

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

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

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

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge 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 attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

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.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per kilogram ($\mu\text{g}/\text{kg}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (kilogram) of sediment.

Micrograms per liter ($\mu\text{g}/\text{L}$, $\mu\text{g}/\text{L}$) is a unit for expressing the concentration of chemical constituents in solution. It represents one one-thousandth of a milligram of constituent in a liter of solution.

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. Milligrams or micrograms per liter may be converted to milliequivalents per liter by using appropriate factors. Concentrations of suspended sediment also is expressed in mg/L and is based on the mass of sediment per liter of water-sediment mixture. Sediment concentration in milligrams per liter also may be converted to parts per million by using appropriate factors.

National Geodetic Vertical Datum of 1929 (NGVD) 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 data-collection network designed by the Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by eight-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis, and (2) to detect and assess long-term changes in streamflow and stream quality.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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 meters (m^2), acres, or hectares. 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 milliliters (mL) or liters (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 five-digit number assigned to identify, uniquely, a specific constituent or property. The parameter codes used by the Geological Survey are assigned by the U.S. Environmental Protection Agency and are identical to those used in the STORET data system. They are used widely by Federal and State agencies; data listed under a given code by one agency should be comparable to data listed under the same code by other agencies.

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 suspended sediment or bed material 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 growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

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.

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

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 only 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.

Recurrence interval is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years.

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.

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 weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that is discharged 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 quantity of suspended sediment passing a section in a specified period.

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 weight or volume, that passes a section during a given time.

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 reaction with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating land.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it 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 micromhos). This relation is not constant from stream to stream or from well to well, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring 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.

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 would be 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 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.....	Hexagenia
Species.....	Hexagenia limbata

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

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 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, 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 would be 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, 1980, is called the "1980 water year."

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

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

STATION RECORDS, SURFACE WATER

25

WHITE RIVER BASIN

06444000 WHITE RIVER AT CRAWFORD, NE

LOCATION.--Lat 42°41'33"N, long 103°25'03"W, in W1/2 sec.3, T.31 N., R.52 W., Dawes County, Hydrologic Unit 10140201, on right bank 15 ft (5 m) downstream from bridge in city park at Crawford.

DRAINAGE AREA.--313 mi² (811 km²).

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 3,659.95 ft (1,115.522 m) National Geodetic Vertical Datum of 1929. Feb. 25, 1931, to Oct. 2, 1933, nonrecording gage at old highway bridge 0.5 mi (0.8 km) upstream at different datum and Oct. 3, 1933, to Sept. 30, 1943, 1 mi (2 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. Some regulation at low flows by pumps for irrigation and diversion for water supply for town of Crawford.

AVERAGE DISCHARGE.--47 years, 20.1 ft³/s (0.569 m³/s), 14,560 acre-ft/yr (18.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,580 ft³/s (44.7 m³/s) Mar. 15, 1948, gage height, 6.88 ft (2.097 m); maximum gage height, 7.7 ft (2.35 m) July 10, 1958, from floodmarks; minimum daily discharge, 2.7 ft³/s (0.076 m³/s) Aug. 13, 31, Sept. 1, 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 25	2215	ice jam	*4.46 1.359	June 24	1400	*296 8.4	3.91 1.192
May 20	0300	104 2.9	2.46 0.750				

Minimum daily discharge, 11 ft³/s (0.31 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	21	18	23	22	21	19	24	22	15	12
2	19	21	21	20	21	22	21	19	24	21	15	12
3	18	20	21	22	18	21	21	20	26	20	14	12
4	17	19	20	24	16	22	21	19	26	20	15	12
5	18	20	21	22	16	20	21	19	28	20	15	11
6	18	20	22	20	18	25	22	18	24	22	15	13
7	19	20	21	18	20	28	22	18	21	22	15	13
8	19	20	21	16	21	27	23	18	20	21	15	12
9	19	20	21	16	21	28	23	18	20	21	14	12
10	18	21	21	16	21	28	23	18	19	23	20	11
11	18	21	21	16	24	26	23	19	20	22	19	12
12	18	21	21	16	30	26	22	19	19	28	18	15
13	19	21	22	18	36	25	21	22	19	22	17	15
14	19	21	21	20	44	25	21	26	28	20	18	15
15	18	21	21	20	40	25	21	26	46	18	17	15
16	18	21	20	16	43	24	20	24	26	18	16	15
17	19	21	20	18	33	23	18	23	24	18	15	15
18	18	22	20	22	26	23	19	22	22	17	15	15
19	18	23	20	25	22	24	19	25	22	17	15	14
20	18	22	20	30	21	24	19	50	20	17	13	14
21	19	22	19	28	21	23	19	32	20	16	13	14
22	19	22	18	26	21	22	18	28	20	16	14	14
23	19	23	17	22	20	20	19	26	21	17	14	13
24	19	23	16	24	22	22	19	24	99	16	14	13
25	19	22	18	28	22	22	20	24	37	15	14	13
26	19	22	20	30	22	23	21	24	30	16	14	14
27	18	22	18	35	22	22	20	24	26	16	13	14
28	20	21	16	26	22	22	20	24	24	16	13	15
29	17	21	15	24	---	22	20	23	22	19	13	15
30	18	22	14	20	---	22	20	23	23	16	13	15
31	20	---	14	22	---	22	---	23	---	16	13	---
TOTAL	574	636	601	678	686	730	617	717	800	588	469	405
MEAN	18.5	21.2	19.4	21.9	24.5	23.5	20.6	23.1	26.7	19.0	15.1	13.5
MAX	20	23	22	35	44	28	23	50	99	28	20	15
MIN	17	19	14	16	16	20	18	18	19	15	13	11
AC-FT	1140	1260	1190	1340	1360	1450	1220	1420	1590	1170	930	803
CAL YR 1981	TOTAL	6783.9	MEAN 18.6	MAX 86	MIN 7.6	AC-FT 13460						
WTR YR 1982	TOTAL	7501.0	MEAN 20.6	MAX 99	MIN 11	AC-FT 14880						

PONCA CREEK BASIN

06453500 PONCA CREEK AT ANOKA, NE

LOCATION (REVISED).--Lat 42°56'34", long 98°50'25", in NE1/4 sec.9, T.34 N., R.13 W., Boyd County, Hydrologic Unit 10150001, on downstream side of left pier of bridge on State Highway 11, 0.5 mi (0.8 km) southwest of Anoka and 0.5 mi (0.8 km) upstream from Dry Creek.

DRAINAGE AREA.--505 mi² (1,308 km²).

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

REVISED RECORDS.--WSP 2117: Drainage area.

GAGE.--Water-stage recorder for stages above 0.4 ft (0.12 m) and nonrecording gage read once daily. Altitude of gage is 1,630 ft (497 m), from topographic map. Prior to Sept. 13, 1950, nonrecording gage at same site and datum.

REMARKS.--Records good except those for Nov. 9 to Mar. 14, which are poor.

AVERAGE DISCHARGE.--33 years, 43.4 ft³/s (1.229 m³/s), 31,440 acre-ft/yr (38.8 hm³/yr); median of yearly mean discharges, 30 ft³/s (0.850 m³/s), 21,700 acre-ft/yr (26.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 22	----	1200 34.0	*a7.30 2.225
June 14	1000	*1670 47.3	7.37 2.246

a Ice jam.

No flow Oct. 1-12, Jan. 10, 11, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.22	2.0	.80	.30	90	35	18	99	21	7.6	2.8
2	.00	.26	2.2	.70	.20	95	34	16	67	21	6.5	2.2
3	.00	.26	2.4	.50	.20	67	30	15	56	19	5.6	2.2
4	.00	.26	2.7	.50	.10	42	30	14	50	19	5.4	2.2
5	.00	.31	2.3	.30	.10	40	34	14	44	23	5.6	2.2
6	.00	.39	2.3	.22	.30	42	34	13	40	36	5.1	1.8
7	.00	.43	2.5	.30	.40	42	34	13	36	51	4.4	1.6
8	.00	.43	2.3	.30	.40	38	35	12	32	50	3.8	1.6
9	.00	.52	2.5	.20	.30	39	40	12	29	29	3.8	2.1
10	.00	.47	2.3	.00	.40	37	46	11	27	22	4.2	2.1
11	.00	.47	2.5	.00	.50	71	64	11	25	19	3.8	1.8
12	.00	.52	2.4	.10	.80	84	102	12	24	17	3.8	2.8
13	.10	.56	2.2	.10	2.0	81	116	13	21	15	3.8	3.3
14	.13	.60	1.6	.30	3.5	74	77	18	773	14	3.2	2.9
15	.13	.69	1.4	.30	8.0	68	55	106	374	14	3.3	2.9
16	.13	.78	.80	.10	20	61	46	93	126	14	3.3	2.8
17	.14	.96	.40	.20	35	56	38	59	77	12	2.9	3.3
18	.14	1.3	.90	.30	50	52	34	42	99	12	2.9	3.1
19	.13	1.3	1.3	.30	100	55	30	33	169	11	2.8	2.5
20	.11	1.3	1.7	.20	200	73	25	34	259	9.4	8.0	2.1
21	.16	1.3	2.1	.20	500	73	21	117	93	8.7	8.0	2.3
22	.16	1.4	1.8	.20	1140	69	18	184	57	8.7	4.6	2.1
23	.16	1.4	1.4	.00	980	66	16	119	42	8.0	4.0	1.9
24	.16	1.6	1.4	.10	410	60	16	114	37	7.0	4.0	1.8
25	.16	1.6	1.8	.10	190	52	15	126	30	7.0	2.5	1.9
26	.16	1.6	1.5	.10	128	38	16	165	27	7.3	3.3	2.1
27	.18	1.6	1.4	.26	102	37	16	150	25	18	3.3	2.3
28	.18	1.7	1.1	.50	94	37	18	109	23	21	2.9	2.5
29	.18	1.8	.90	.40	---	36	18	340	22	16	2.9	2.8
30	.22	3.0	1.0	.40	---	41	18	230	21	12	2.8	3.1
31	.22	---	.80	.30	---	38	---	170	---	9.4	2.8	---
TOTAL	2.95	29.03	53.90	8.28	3966.50	1754	1111	2383	2804	551.5	132.0	71.1
MEAN	.095	.97	1.74	.27	142	56.6	37.0	76.9	93.5	17.8	4.26	2.37
MAX	.22	3.0	2.7	.80	1140	95	116	340	773	51	8.0	3.3
MIN	.00	.22	.40	.00	.10	36	15	11	21	7.0	2.8	1.6
AC-FT	5.9	58	107	16	7870	3480	2200	4730	5560	1090	262	141

CAL YR 1981	TOTAL	957.98	MEAN	2.62	MAX	91	MIN	.00	AC-FT	1900
WTR YR 1982	TOTAL	12867.26	MEAN	35.3	MAX	1140	MIN	.00	AC-FT	25520

PCNCA CREEK BASIN

27

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 left bank at left downstream end of bridge on State Highway 12, 0.6 mi (1.0 km) east of Verdel and 3.1 mi (5.0 km) upstream from mouth.

DRAINAGE AREA.--812 mi² (2,103 km²).

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 is 1,232.9 ft (375.79 m) National Geodetic Vertical Datum of 1929 (Nebraska Department of Highways reference marks). See WSP 1917 for history of changes prior to Nov. 15, 1962.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--25 years, 67.7 ft³/s (1.917 m³/s), 49,050 acre-ft/yr (60.5 hm³/yr); median of yearly mean discharges, 52 ft³/s (1.473 m³/s), 37,700 acre-ft/yr (46.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s (445 m³/s) Mar. 27, 1960, gage height, 15.10 ft (4.602 m), site and datum then in use; no flow for many days in 1957-60, 1965-72, 1974-77, 1979-81.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	----	Ice jam	*a7.85 2.393	May 30	1000	1670 47.3	6.48 1.975
Feb. 23	----	*1730 49.0	Ice jam	June 15	0130	1300 36.8	5.75 1.753

a Observed.

Minimum daily discharge, 0.30 ft³/s (0.008 m³/s) Jan. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	1.9	4.5	2.0	.90	256	55	30	386	48	17	6.2
2	.64	1.9	4.9	2.0	.80	258	50	28	248	47	14	5.8
3	1.1	2.0	8.6	1.8	.70	226	46	27	183	44	12	4.6
4	1.2	2.1	9.2	1.6	.60	165	43	26	149	41	12	3.8
5	1.2	2.2	7.5	1.0	.60	110	41	26	126	40	16	3.1
6	.92	2.3	7.3	.80	.80	80	40	25	114	43	16	3.4
7	.72	2.3	8.4	1.0	.90	84	45	22	98	48	12	3.6
8	.72	2.3	7.7	1.0	.90	80	47	21	86	91	11	3.5
9	.72	2.4	8.9	.80	.70	80	50	19	78	86	10	3.5
10	.80	2.4	7.4	.40	.80	76	56	17	71	66	11	6.8
11	.92	2.5	8.7	.40	1.0	150	69	15	66	60	9.5	4.1
12	1.2	2.5	8.5	.60	1.2	194	86	32	62	43	9.7	4.9
13	1.3	2.6	7.4	.60	2.5	204	109	22	57	37	10	4.9
14	1.2	2.6	4.4	.80	4.0	173	134	24	82	35	9.9	5.5
15	1.0	2.7	4.0	.80	10	158	109	29	816	37	10	5.9
16	1.0	2.7	3.0	.40	25	136	85	71	358	32	8.7	6.1
17	1.2	2.8	1.8	.60	60	123	71	122	202	28	7.8	6.0
18	1.2	2.9	2.2	.80	90	104	63	87	150	26	7.6	5.4
19	1.2	3.0	2.6	1.0	130	98	56	62	160	27	7.4	4.8
20	1.0	3.0	2.8	.90	250	110	50	76	235	24	6.4	3.9
21	1.2	3.0	3.0	.50	600	118	45	111	289	23	5.9	3.8
22	1.2	3.0	2.7	.60	1200	119	43	406	152	21	6.5	3.6
23	1.3	3.1	2.5	.70	1480	95	39	276	108	19	10	3.1
24	1.3	3.1	2.5	.30	900	93	35	187	88	16	8.1	2.6
25	1.3	3.2	2.7	.40	554	82	33	210	76	16	6.8	2.6
26	1.4	3.2	2.5	.50	350	72	31	341	67	16	5.9	2.8
27	1.4	3.2	2.4	.90	275	64	29	399	61	17	4.9	2.9
28	1.5	3.3	2.2	1.1	287	55	29	256	56	16	4.4	3.8
29	1.6	3.4	2.1	1.0	---	55	31	1090	52	21	5.0	4.5
30	1.8	5.0	2.2	1.0	---	57	31	1100	52	25	5.1	5.0
31	2.0	---	2.0	.90	---	58	---	832	---	21	5.0	---
TOTAL	35.85	82.6	146.6	27.20	6227.40	3733	1651	5989	4728	1114	285.6	130.5
MEAN	1.16	2.75	4.73	.88	222	120	55.0	193	158	35.9	9.21	4.35
MAX	2.0	5.0	9.2	2.0	1480	258	134	1100	816	91	17	6.8
MIN	.61	1.9	1.8	.30	.60	55	29	15	52	16	4.4	2.6
AC-FT	71	164	291	54	12350	7400	3270	11880	9380	2210	566	259

CAL YR 1981 TOTAL 1602.46 MEAN 4.39 MAX 42 MIN .00 AC-FT 3180
WTR YR 1982 TOTAL 24150.75 MEAN 66.2 MAX 1480 MIN .30 AC-FT 47900

NIOBRARA RIVER BASIN

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 (0.3 km) downstream from Van Tassel Creek, 0.3 mi (0.5 km) upstream from Wyoming-Nebraska State line, and 3 mi (5 km) east of Van Tassel, WY.

DRAINAGE AREA.--450 mi² (1,170 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 4,687.70 ft (1,428.811 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions for irrigation of about 4,700 acres (19.0 km²) above station.

AVERAGE DISCHARGE.--27 years, 3.92 ft³/s (0.111 m³/s), 2,840 acre-ft/yr (3.50 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s (60.0 m³/s) Aug. 16, 1977, gage height, 8.28 ft (2.524 m) in gage well, from rating curve extended above 800 ft³/s (22.7 m³/s) on basis of computation of peak flow from slope-area measurement; minimum daily, 0.54 ft³/s (0.015 m³/s) Aug. 9, 10, 12, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8.20 ft³/s (0.23 m³/s) May 15, gage height, 1.90 ft (0.579 m); no peak above base of 20 ft³/s (0.57 m³/s); maximum gage height, 2.17 ft (0.661 m), June 14 backwater from moss growth in channel; minimum daily discharge, 0.74 ft³/s (0.021 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.7	2.2	2.0	2.4	2.4	2.4	2.9	3.7	1.9	1.8	.97
2	2.1	1.9	2.2	2.0	2.4	2.4	2.6	2.9	3.9	1.9	1.4	.86
3	2.0	2.0	2.3	2.0	2.4	2.3	2.5	2.9	3.9	1.9	1.4	.80
4	2.0	2.0	2.1	2.0	2.2	2.3	2.6	3.1	3.9	1.8	1.4	.84
5	1.9	1.9	2.1	2.0	2.3	2.1	2.7	3.1	3.7	1.8	1.4	.74
6	1.9	2.0	2.2	1.9	2.1	2.1	2.8	3.1	3.3	2.0	1.2	.87
7	1.7	2.0	2.1	1.9	2.1	2.2	3.0	3.1	2.9	1.7	1.2	.85
8	1.7	2.0	2.1	1.9	2.1	2.1	3.0	3.1	2.9	1.7	1.2	.85
9	1.7	2.0	2.0	1.8	2.3	2.1	3.0	3.2	2.7	1.6	1.2	.91
10	1.6	2.0	2.0	1.7	2.1	2.1	2.9	3.2	2.5	2.0	1.2	.85
11	1.7	2.0	2.0	1.7	2.0	2.0	2.9	3.4	2.5	1.6	1.2	.91
12	1.8	2.2	2.0	1.6	2.0	2.0	2.9	2.9	2.4	1.6	1.1	1.9
13	1.8	2.2	2.1	1.6	2.0	2.0	2.9	3.3	2.4	2.1	1.0	1.8
14	1.8	2.3	2.1	1.5	2.1	2.0	2.7	3.5	2.7	1.9	1.4	2.4
15	1.6	2.2	2.2	1.5	1.9	2.0	2.7	3.7	3.1	1.6	1.1	2.4
16	1.6	2.1	2.3	1.7	2.0	2.0	2.7	3.2	2.4	1.6	.94	2.1
17	1.6	2.0	2.1	2.0	2.0	2.2	2.7	3.9	2.4	1.4	.83	2.0
18	1.5	2.3	2.0	2.0	2.0	2.2	2.6	3.5	2.4	1.4	.76	1.9
19	1.4	2.3	2.1	2.0	2.0	2.4	2.6	3.7	2.2	1.2	.81	1.6
20	1.4	2.2	2.6	2.0	2.4	2.3	2.5	4.3	2.1	1.3	.92	1.7
21	1.5	2.1	2.6	2.0	2.7	2.3	2.5	3.6	2.3	1.2	.90	1.8
22	1.6	2.2	2.3	2.0	3.0	2.3	2.5	3.4	2.3	1.3	1.1	1.7
23	1.5	2.3	2.1	2.0	2.7	2.3	2.7	3.5	2.1	1.3	1.2	1.7
24	1.7	2.3	2.1	2.0	2.7	2.3	2.9	3.5	2.1	1.5	.97	1.7
25	1.7	2.3	2.1	1.9	2.4	2.3	2.9	3.5	2.1	1.5	.98	1.8
26	1.8	2.3	2.1	2.1	2.5	2.3	2.9	3.7	2.3	1.8	.93	1.7
27	1.7	2.2	2.0	2.2	2.5	2.4	2.9	3.7	2.0	1.8	.99	1.9
28	1.7	2.3	2.0	2.3	2.4	2.4	2.9	3.7	2.0	2.4	.95	4.9
29	1.7	2.3	2.0	2.3	---	2.4	2.9	3.7	2.0	2.6	.89	2.8
30	1.7	2.3	2.0	2.4	---	2.5	2.9	3.7	1.9	2.1	.87	2.4
31	1.7	---	2.0	2.4	---	2.4	---	3.7	---	2.0	.91	---
TOTAL	53.1	63.9	66.1	60.4	63.7	69.1	82.7	105.7	79.1	53.5	34.15	49.65
MEAN	1.71	2.13	2.13	1.95	2.28	2.23	2.76	3.41	2.64	1.73	1.10	1.66
MAX	2.1	2.3	2.6	2.4	3.0	2.5	3.0	4.3	3.9	2.6	1.8	4.9
MIN	1.4	1.7	2.0	1.5	1.9	2.0	2.4	2.9	1.9	1.2	.76	.74
AC-FT	105	127	131	120	126	137	164	210	157	106	68	98

CAL YR 1981 TOTAL 876.30 MEAN 2.40 MAX 20 MIN 1.1 AC-FT 1740
WTR YR 1982 TOTAL 781.10 MEAN 2.14 MAX 4.9 MIN .74 AC-FT 1550

NIOBRARA RIVER BASIN

29

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 (3 m) upstream from timber farm-vehicle bridge, 300 ft (91 m) upstream from bridge on State Highway 29, 0.2 mi (0.3 km) northwest of Agate, and 14.5 mi (23.3 km) upstream from Whistle Creek.

DRAINAGE AREA.--840 mi² (2,180 km²), approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,405 (revised), from topographic map. Prior to Nov. 3, 1960, nonrecording gage at present site and datum.

REMARKS.--Records good. Diversions for irrigation of about 6,700 acres (27.1 km²) above station.

AVERAGE DISCHARGE.--25 years, 14.0 ft³/s (0.396 m³/s), 10,140 acre-ft/yr (12.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s (5.13 m³/s) June 23, 1959, gage height, 5.00 ft (1.524 m), from floodmark; minimum daily, 1.0 ft³/s (0.028 m³/s) Mar. 29, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41 ft³/s (1.16 m³/s) Aug. 8, gage height, 3.26 ft (0.994 m), no other peak above base of 35 ft³/s (0.99 m³/s); minimum daily, 7.1 ft³/s (0.20 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	10	11	13	16	20	14	12	14	18	9.0	9.0
2	9.1	11	12	13	15	20	14	12	16	16	9.5	8.7
3	9.3	11	18	13	15	19	12	12	16	15	8.4	8.6
4	9.3	11	15	13	14	19	12	12	15	14	7.9	8.6
5	9.1	11	17	13	14	18	13	12	14	13	8.0	8.6
6	8.5	11	18	13	13	18	13	11	14	14	7.7	8.7
7	8.6	11	16	12	13	19	13	11	12	14	7.1	8.8
8	9.0	11	17	12	14	19	13	11	12	13	10	8.6
9	9.2	11	16	12	14	18	13	11	11	13	15	8.5
10	8.6	11	16	12	12	18	13	11	10	14	9.5	8.0
11	9.3	12	17	11	14	18	12	12	10	13	9.2	8.8
12	9.0	12	16	11	14	19	12	14	11	13	8.5	11
13	9.2	15	17	12	14	19	12	16	10	12	8.1	11
14	9.6	13	16	12	14	19	12	18	11	13	8.5	11
15	9.4	12	17	12	15	19	12	17	15	12	8.4	12
16	10	12	15	12	18	18	12	18	18	12	7.7	12
17	9.6	12	13	10	19	18	12	19	19	11	7.5	11
18	10	13	13	13	18	15	12	19	24	11	7.6	11
19	9.9	13	13	13	20	16	12	18	20	9.9	7.8	11
20	10	13	16	13	21	15	12	21	16	8.9	7.8	10
21	10	13	18	13	24	14	12	20	15	8.4	7.6	10
22	10	13	16	12	26	14	12	17	14	8.6	8.6	11
23	10	13	14	11	26	15	12	17	15	8.3	17	10
24	11	13	13	11	22	14	12	16	15	7.7	14	9.6
25	11	13	14	12	20	14	12	16	16	8.2	11	9.3
26	11	13	14	13	20	14	12	15	16	7.4	9.7	9.0
27	11	15	14	16	21	14	12	13	20	7.6	9.5	9.1
28	10	15	14	15	20	14	13	13	20	8.4	12	11
29	11	14	12	16	---	14	12	13	19	9.3	10	16
30	10	14	12	16	---	14	12	18	19	10	9.5	16
31	10	---	13	16	---	14	---	16	---	9.7	9.5	---
TOTAL	300.6	372	463	396	486	519	371	451	457	353.4	291.6	305.9
MEAN	9.70	12.4	14.9	12.8	17.4	16.7	12.4	14.9	15.2	11.4	9.41	10.2
MAX	11	15	18	16	26	20	14	21	24	18	17	16
MIN	8.5	10	11	10	12	14	12	11	10	7.4	7.1	8.0
AC-FT	596	738	918	785	964	1030	736	914	906	701	578	607
CAL YR 1981	TOTAL	4165.3	MEAN 11.4	MAX 23	MIN 6.1	AC-FT 8260						
WTR YR 1982	TOTAL	4776.5	MEAN 13.1	MAX 26	MIN 7.1	AC-FT 9470						

NIOBRARA RIVER BASIN

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., Dawas County, Hydrologic Unit 10150002, on right bank 1 mi (2 km) upstream from high-water line of Box Butte Reservoir and 6 mi (10 km) east of Marsland.

DRAINAGE AREA.--1,400 mi² (3,630 km²), 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 (1,223.001 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1949, nonrecording gage at present site and datum.

REMARKS.--Records good. Diversions for irrigation of about 12,800 acres (51.8 km²) above station.

AVERAGE DISCHARGE.--36 years, 29.8 ft³/s (0.844 m³/s), 21,590 acre-ft/yr (26.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,950 ft³/s (140 m³/s) July 28, 1951, gage height, 10.30 ft (3.139 m), from rating curve extended above 230 ft³/s (6.51 m³/s) on basis of step-backwater analysis and slope-area measurement at gage height 9.22 ft (2.810 m); minimum daily, 1.6 ft³/s (0.045 m³/s) Sept. 26, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 19	2000	140 4.0	4.83 1.472
June 6	0430	*181 5.1	*5.49 1.673

Minimum daily discharge, 12 ft³/s (0.34 m³/s) Oct. 1-7, 10-15, May 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	23	27	26	29	48	36	19	33	29	15	16
2	12	23	23	26	27	45	38	19	37	29	14	14
3	12	21	28	28	25	44	36	20	39	27	14	14
4	12	20	25	30	20	43	36	22	39	26	14	14
5	12	20	26	23	25	41	37	20	37	29	15	14
6	12	20	29	22	25	38	38	19	92	29	18	15
7	12	20	29	22	26	41	38	16	44	25	16	15
8	13	21	28	20	27	44	38	12	38	27	15	15
9	13	22	28	25	28	41	38	16	36	26	17	15
10	12	23	29	22	25	42	38	15	33	25	18	15
11	12	23	29	24	28	43	38	15	33	26	18	15
12	12	23	28	28	30	44	37	17	32	25	18	17
13	12	23	29	25	27	43	36	33	31	29	21	17
14	12	23	26	20	25	42	34	28	39	29	25	20
15	12	25	28	25	29	41	30	29	55	26	25	21
16	14	25	27	22	30	41	29	31	48	25	25	22
17	15	25	22	22	33	41	26	31	44	20	22	22
18	14	26	25	23	30	41	26	30	41	19	21	23
19	14	27	27	23	33	41	26	43	39	19	20	23
20	14	27	30	21	38	38	26	44	39	19	20	23
21	14	27	31	21	40	34	26	38	39	18	18	23
22	17	27	28	22	44	37	26	36	39	17	19	23
23	19	27	25	24	48	38	26	36	32	16	19	23
24	19	27	26	25	46	37	26	36	31	16	19	23
25	19	28	28	24	43	37	26	25	32	15	20	22
26	21	28	28	24	40	37	27	24	33	14	19	22
27	22	27	26	26	43	37	26	22	34	16	21	22
28	22	26	24	25	43	37	22	21	34	17	20	23
29	22	26	24	27	---	37	22	21	31	16	19	23
30	23	29	26	25	---	38	19	38	31	16	18	24
31	23	---	26	27	---	36	---	33	---	16	17	---
TOTAL	474	732	835	747	907	1247	927	809	1165	686	580	578
MEAN	15.3	24.4	26.9	24.1	32.4	40.2	30.9	26.1	38.8	22.1	18.7	19.3
MAX	23	29	31	30	48	48	38	44	92	29	25	24
MIN	12	20	22	20	20	34	19	12	31	14	14	14
AC-FT	940	1450	1660	1480	1800	2470	1840	1600	2310	1360	1150	1150

CAL YR 1981 TOTAL 8531.1 MEAN 23.4 MAX 58 MIN 6.0 AC-FT 16920
WTR YR 1982 TOTAL 9687.0 MEAN 26.5 MAX 92 MIN 12 AC-FT 19210

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 (14 km) north of Hemingford.

DRAINAGE AREA.--1,460 mi² (3,780 km²), 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 (37.5 hm³) between elevations 3,969.00 ft (1,209.751 m), sill of outlet gate, and 4,007.00 ft (1,221.334 m), crest of spillway. Dead storage, 640 acre-ft (0.789 hm³). 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 (39.7 hm³) Mar. 26, 1948, elevation, 4,007.70 ft (1,221.547 m); minimum observed since operation of reservoir began, 764 acre-ft (0.942 hm³) Aug. 23 to Sept. 14, 1976, elevation, 3,969.82 ft (1,210.001 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 16,300 acre-ft (20.1 hm³) July 9, elevation, 3,996.09 ft (1,218.008 m); minimum observed, 3,376 acre-ft (4.16 hm³) Oct. 19, elevation, 3,979.28 ft (1,212.885 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Elevation (feet) ^a /	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,978.31	2,950	-
Oct. 31	3,980.50	3,960	+1,010
Nov. 30	3,982.99	5,290	+1,330
Dec. 31	3,985.71	6,960	+1,670
CAL YR 1981			-2,370
Jan. 31	3,987.48	8,210	+1,250
Feb. 28	3,989.42	9,770	+1,560
Mar. 31	3,991.76	11,870	+2,100
Apr. 30	3,992.88	12,950	+1,080
May 31	3,994.14	14,220	+1,270
June 30	3,995.78	15,960	+1,740
July 31	3,988.77	9,220	-6,740
Aug. 31	3,982.90	5,240	-3,980
Sept. 30	3,982.52	5,030	-210
WTR YR 1982	-	-	+2,080

^a Elevations read on or near last day of month.

NIOBRARA RIVER BASIN

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 (0.3 km) downstream from Box Butte Reservoir and 9 mi (14 km) north of Hemingford.

DRAINAGE AREA.--1,460 mi² (3,780 km²), 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 (1,203.984 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow completely regulated by Box Butte Reservoir (station 06455000).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 616 ft³/s (17.4 m³/s) July 2, 1968, gage height, 5.04 ft (1.536 m); minimum daily, 0.10 ft³/s (0.003 m³/s) for many days in 1947, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 194 ft³/s (5.49 m³/s) July 18, gage height, 4.45 ft (1.356 m); minimum daily, 0.58 ft³/s (0.016 m³/s) Dec. 3, 4, 7, 8, Jan. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	.75	.61	.61	.64	.78	.78	1.1	1.2	.86	135	.75
2	.61	.75	.61	.61	.64	.78	.82	.78	1.1	1.0	146	.78
3	.64	.72	.58	.61	.64	.82	.82	.78	1.0	.89	160	.78
4	.64	.72	.58	.61	.64	.82	.86	.78	1.0	.89	174	.78
5	.64	.64	.61	.61	.64	.82	.86	.78	1.0	7.6	168	38
6	.64	.64	.61	.61	.64	.82	.89	.78	1.0	1.2	154	63
7	.64	.64	.58	.58	.64	.83	.89	.78	.92	1.0	148	72
8	.64	.64	.58	.58	.64	.83	.86	.86	.89	1.0	151	81
9	.64	.64	.64	.60	.64	.84	.86	.86	.89	1.8	143	84
10	.64	.64	.64	.63	.64	.84	.82	.82	.89	59	130	73
11	.64	.64	.64	.66	.64	.85	.82	.89	.92	69	118	65
12	.64	.64	.64	.68	.64	.85	.82	.89	.86	106	102	62
13	.68	.64	.64	.75	.64	.86	.78	.89	1.0	135	88	54
14	.64	.64	.64	.82	.64	.86	.78	.89	1.4	138	86	23
15	.61	.64	.64	.89	.64	.86	.78	.89	1.6	151	93	.96
16	.61	.64	.64	.86	.61	.86	.78	.96	1.1	160	108	.92
17	.64	.64	.64	.75	.64	.92	.78	.96	.86	165	121	.89
18	.61	.61	.64	.72	.64	.89	.78	.92	.86	170	121	.86
19	.61	.61	.64	.72	.64	.92	.78	1.3	.82	178	114	.82
20	.68	.61	.64	.72	.64	.86	.82	1.2	.82	184	76	.82
21	.75	.61	.63	.72	.64	.86	.82	1.0	.82	181	62	.78
22	.75	.61	.63	.68	.64	.86	.82	1.0	.82	178	62	.75
23	.75	.61	.63	.68	.72	.86	.82	1.0	.78	181	56	.75
24	.75	.61	.63	.68	.72	.89	.89	.96	.82	174	1.1	.82
25	.75	.61	.63	.68	.78	.89	.96	.96	.86	174	.96	.82
26	.75	.61	.62	.72	.78	.89	1.0	.96	.86	171	.92	.82
27	.75	.61	.62	.72	.78	.89	1.0	.96	.82	168	.89	.82
28	.75	.61	.62	.68	.78	.89	1.0	.96	.82	165	.86	.89
29	.75	.61	.62	.68	---	.89	1.1	1.0	.86	146	.78	.89
30	.75	.61	.61	.68	---	.82	1.1	1.1	1.0	130	.78	.86
31	.75	---	.61	.68	---	.78	---	1.1	---	130	.75	---
TOTAL	20.95	19.19	19.29	21.22	18.61	26.43	25.89	29.11	28.59	3329.24	2723.04	631.56
MEAN	.68	.64	.62	.68	.66	.85	.86	.94	.95	107	87.8	21.1
MAX	.75	.75	.64	.89	.78	.92	1.1	1.3	1.6	184	174	84
MIN	.61	.61	.58	.58	.61	.78	.78	.78	.78	.86	.75	.75
AC-FT	42	38	38	42	37	52	51	58	57	6600	5400	1250
CAL YR 1981	TOTAL	8204.28	MEAN	22.5	MAX	213	MIN	.58	AC-FT	16270		
WTR YR 1982	TOTAL	6893.12	MEAN	18.9	MAX	184	MIN	.58	AC-FT	13670		

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 (76 m) upstream from bridge on State Highway 27, 4 mi (6 km) downstream from Rush Creek, and 11 mi (18 km) south of Gordon.

DRAINAGE AREA.--4,290 mi² (11,100 km²), 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 (1,046.223 m) National Geodetic Vertical Datum of 1929. Aug. 24, 1928, to June 30, 1932, nonrecording gage at bridge 4 mi (6 km) downstream at different datum. Dec. 3, 1945, to Mar. 24, 1970, water-stage recorder at datum 2.0 ft (0.61 m) higher, Mar. 25, 1970, to July 28, 1982, at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except those for winter period, which are fair. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,130 ft³/s (259 m³/s) May 21, 1962, gage height, 5.25 ft (1.600 m); minimum daily, 16 ft³/s (0.45 m³/s) Dec. 20, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft³/s (143 m³/s) June 5, gage height, 3.28 ft (1.000 m); minimum daily discharge, 70 ft³/s (1.98 m³/s) Aug. 4.

 DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	102	109	84	130	108	104	121	97	106	78	90
2	96	103	109	90	130	122	100	112	119	106	74	86
3	93	100	106	90	110	136	109	109	136	106	72	84
4	89	102	91	90	90	145	117	102	206	106	70	82
5	88	100	83	90	80	132	138	96	1660	110	72	80
6	101	100	88	90	74	135	133	95	368	116	72	78
7	106	100	115	90	74	123	135	91	190	120	74	76
8	97	94	117	88	74	122	137	98	170	120	74	75
9	116	95	116	86	74	115	128	93	160	114	78	77
10	135	98	115	84	74	113	129	86	155	110	84	77
11	128	97	115	80	74	108	125	92	150	104	84	77
12	108	97	115	80	80	98	125	106	145	100	84	80
13	98	97	116	78	90	91	121	204	140	96	80	80
14	103	93	116	82	100	111	113	250	135	92	80	80
15	106	93	110	86	120	120	111	246	130	92	80	83
16	109	94	100	86	150	122	106	236	130	92	80	83
17	108	95	90	86	150	145	107	209	125	88	80	83
18	110	95	80	86	200	146	107	172	122	88	80	80
19	109	101	80	86	220	146	103	128	120	88	96	77
20	107	102	110	86	150	140	106	239	118	88	100	75
21	119	105	140	82	106	118	109	231	114	88	100	77
22	124	109	140	80	115	129	109	97	112	88	100	83
23	126	107	140	78	110	129	109	130	110	88	100	85
24	119	106	140	80	103	126	109	511	140	88	798	85
25	115	102	120	90	100	130	109	86	130	88	272	85
26	112	100	110	110	98	128	115	80	120	94	156	85
27	108	100	100	130	99	122	115	80	116	100	124	83
28	108	113	90	130	102	114	122	76	114	82	112	83
29	104	105	80	130	---	108	118	75	110	86	106	83
30	104	104	84	130	---	114	122	97	106	84	100	88
31	106	---	84	130	---	113	---	108	---	80	94	---
TOTAL	3349	3009	3309	2888	3077	3809	3491	4456	5748	3008	3654	2440
MEAN	108	100	107	93.2	110	123	116	144	192	97.0	118	81.3
MAX	135	113	140	130	220	146	138	511	1660	120	798	90
MIN	88	93	80	78	74	91	100	75	97	80	70	75
AC-FT	6640	5970	6560	5730	6100	7560	6920	8840	11400	5970	7250	4840
CAL YR 1981	TOTAL	47259	MEAN 129	MAX 576	MIN 49	AC-FT 93740						
WTR YR 1982	TOTAL	42238	MEAN 116	MAX 1660	MIN 70	AC-FT 83780						

NIOBRARA RIVER BASIN

06459175 SNAKE RIVER AT DOUGHBOY, NE

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 (6 m) downstream from centerline of Doughboy bridge, 24 mi (39 km) southwest of Menzel.

DRAINAGE AREA.--405 mi² (1,050 km²), approximately, of which about 26 mi² (67 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--October 1981 to September 1982. Discharge measurements only, July 1963, April 1980, May-September 1981.

GAGE.--Water stage recorder. Datum of gage is 3098.94 ft (944.557 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 358 ft³/s (10.1 m³/s) Aug. 18, gage height, 1.84 ft (0.561 m); minimum gage height, 2.90 ft (0.884 m) Jan. 7, backwater from ice; minimum daily discharge, 116 ft³/s (3.29 m³/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	149	158	160	154	153	165	142	191	159	139	139
2	145	150	153	160	148	149	163	142	212	156	137	140
3	155	152	157	155	136	144	157	137	223	154	137	137
4	170	155	156	155	125	144	165	144	231	151	148	138
5	180	153	164	150	130	141	173	137	240	148	171	141
6	170	150	168	155	130	145	168	133	240	157	159	142
7	174	151	168	155	130	142	167	131	240	166	148	145
8	169	151	165	155	125	144	166	133	224	158	144	141
9	164	149	161	155	116	146	167	133	194	165	153	140
10	162	152	161	150	120	153	164	131	176	156	157	138
11	160	153	158	160	120	153	170	131	195	152	153	144
12	170	154	157	170	125	153	168	144	188	148	150	169
13	180	153	156	160	135	149	162	264	176	150	148	157
14	170	157	157	170	155	150	158	309	175	147	148	158
15	160	155	153	170	167	150	155	338	168	145	150	158
16	160	155	161	160	173	154	151	303	166	146	146	158
17	160	155	158	165	187	154	151	281	166	141	144	164
18	155	151	161	155	193	152	150	281	170	143	162	159
19	155	150	165	145	198	160	148	244	165	143	176	152
20	155	142	170	135	193	164	145	227	158	141	161	150
21	158	151	174	135	188	159	146	204	156	138	147	148
22	163	157	171	130	184	158	146	196	155	140	143	149
23	163	155	161	125	171	159	146	181	157	145	142	147
24	167	157	163	130	158	158	148	191	180	141	160	145
25	166	159	160	125	153	158	146	169	199	139	169	147
26	164	154	159	130	151	162	142	164	191	137	161	149
27	162	146	156	135	151	163	144	146	190	138	149	149
28	163	146	156	150	152	164	146	142	178	140	141	147
29	163	150	158	159	---	168	144	142	165	143	138	147
30	157	158	160	155	---	172	143	186	162	142	139	146
31	153	---	157	150	---	164	---	181	---	139	138	---
TOTAL	5043	4570	4982	4664	4268	4785	4664	5787	5631	4568	4658	4444
MEAN	163	152	161	150	152	154	155	187	188	147	150	148
MAX	180	159	174	170	198	172	173	338	240	166	176	169
MIN	145	142	153	125	116	141	142	131	155	137	137	137
AC-FT	10000	9060	9880	9250	8470	9490	9250	11480	11170	9060	9240	8810
WTR YR 1982	TOTAL	58064	MEAN	159	MAX	338	MIN	116	AC-FT	115200		

NIOBRARA RIVER BASIN

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06459300 HERRITT 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 Herritt Dam, 8.1 mi (13.0 km) southwest of Burge and 23 mi (37 km) southwest of Valentine.

DRAINAGE AREA.--640 mi² (1,660 km²), approximately, of which about 44 mi² (110 km²) 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 (89.9 hm³) between elevations 2,875.0 ft (876.30 m), sill of canal outlet works, and 2,945.0 ft (897.94 m), crest of spillway. Dead and inactive storage, 1,614 acre-ft (1.99 hm³) below elevation 2,875.0 ft (876.30 m). 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 (96.2 hm³) May 21, 1982, elevation 2,947.2 ft (898.31 m); minimum since appreciable storage was attained, 20,060 acre-ft (24.7 hm³) Oct. 1, 1968, elevation, 2,916.1 ft (888.83 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 78,040 acre-ft (96.2 hm³) May 21, elevation, 2,947.2 ft (898.31 m); minimum observed, 45,820 ft³/s (1,300 m³/s) Aug. 23-24, elevation, 2,934.3 ft (894.37 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.	30	2,938.7	55,310	-
Oct.	31	2,943.2	66,660	+11,350
Nov.	30	2,944.0	68,830	+2,170
Dec.	31	2,944.1	69,110	+280
CAL YR 1981		-	-	+280
Jan.	31	2,943.8	68,290	-820
Feb.	28	2,944.2	69,390	+1,100
Mar.	31	2,944.0	68,830	-560
Apr.	30	2,946.5	75,960	+7,130
May	31	2,946.8	76,840	+880
June	30	2,946.1	74,780	-2,060
July	31	2,940.5	59,660	-15,120
Aug.	31	2,934.8	46,810	-12,850
Sept.	30	2,937.3	52,110	+5,300
WTR YR 1982		-	-	-3,200

NIOBRARA RIVER BASIN

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 (46 m) downstream from Nebraska National Forest boundary, 2.1 mi (3.4 km) downstream from Merritt Dam, 6.5 mi (10.5 km) southwest of Burge, and 22 mi (35 km) southwest of Valentine.

DRAINAGE AREA.--660 mi² (1,710 km²), approximately, of which about 44 mi² (110 km²) 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 (855.074 m) National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation).

REMARKS.--Records good. Natural flow affected by storage in Merritt Reservoir (station 06459300) 2.1 mi (3.4 km) upstream.

AVERAGE DISCHARGE.--19 years (1963-82), 148 ft³/s (4.191 m³/s), 107,200 acre-ft/yr (0.132 km³/yr), since storage and diversion began.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,170 ft³/s (89.8 m³/s) Feb. 7, 1963, gage height, 6.96 ft (2.121 m), release of storage behind temporary construction dike, from rating curve extended above 520 ft³/s (14.7 m³/s) on basis of slope-area measurement at gage height 5.39 ft (1.643 m); minimum daily, 5.8 ft³/s (0.16 m³/s) May 24-27, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 426 ft³/s (12.1 m³/s) May 20, gage height, 2.54 ft (0.774 m); minimum daily discharge, 10 ft³/s (0.28 m³/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	54	229	238	214	277	233	170	255	217	22	22
2	57	54	239	238	214	277	200	178	251	212	22	22
3	57	54	241	238	214	277	184	184	254	165	22	22
4	57	54	241	231	214	277	184	192	257	128	25	22
5	57	130	241	226	214	277	172	193	263	97	24	22
6	56	187	241	226	214	277	146	196	272	57	24	24
7	55	189	241	233	214	277	124	196	261	40	24	20
8	55	190	240	238	214	277	101	198	270	43	24	10
9	55	190	238	239	214	277	84	200	271	40	24	11
10	55	190	238	241	214	277	80	203	256	39	24	20
11	55	190	238	239	214	277	80	194	264	39	24	24
12	55	190	238	239	214	277	75	194	254	39	25	23
13	56	190	238	241	214	259	53	232	238	35	25	23
14	55	177	235	240	214	247	43	294	234	36	25	23
15	55	208	235	238	214	247	43	356	223	37	24	24
16	55	208	237	238	225	247	45	377	225	36	24	24
17	55	209	238	238	237	247	44	384	223	36	24	24
18	55	211	231	236	241	247	45	377	222	36	26	24
19	55	211	226	235	260	247	44	370	219	35	25	25
20	55	209	226	235	274	247	45	418	211	35	25	25
21	55	208	226	235	274	247	45	414	217	35	25	25
22	55	214	234	226	275	247	47	392	215	35	25	25
23	55	218	240	217	277	248	64	370	209	35	25	25
24	55	217	238	214	277	248	71	366	202	35	25	25
25	55	217	238	211	277	249	84	353	220	35	24	25
26	55	217	238	211	277	249	101	331	225	35	24	25
27	55	217	238	211	277	247	119	316	219	35	24	25
28	54	217	238	214	277	247	135	295	222	28	25	25
29	54	217	238	214	---	248	152	284	227	22	24	26
30	54	220	238	214	---	250	159	286	221	22	22	26
31	54	---	238	214	---	251	---	275	---	22	22	---
TOTAL	1713	5457	7335	7108	6658	8043	3002	8788	7100	1741	747	686
MEAN	55.3	182	237	229	238	259	100	283	237	56.2	24.1	22.9
MAX	57	220	241	241	277	277	233	418	272	217	26	26
MIN	54	54	226	211	214	247	43	170	202	22	22	10
AC-FT	3400	10820	14550	14100	13210	15950	5950	17430	14080	3450	1480	1360
CAL YR 1981	TOTAL	49682	MEAN	136	MAX	241	MIN	17	AC-FT	98540		
WTR YR 1982	TOTAL	58378	MEAN	160	MAX	418	MIN	10	AC-FT	115800		

NIOBRARA RIVER BASIN

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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 (152 m) downstream from powerplant in city park at north edge of Valentine and 4 mi (6 km) upstream from mouth.

DRAINAGE AREA.--390 mi² (1,010 km²), approximately, of which about 200 mi² (520 km²) contributes directly to surface runoff.

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

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

GAGE.--Water-stage recorder. Altitude of gage is 2,470 ft (753 m), from topographic map.

REMARKS.--Records good. Flow regulated by powerplant 500 ft (152 m) above station.

AVERAGE DISCHARGE.--34 years (1948-82), 33.7 ft³/s (0.954 m³/s), 24,420 acre-ft/yr (30.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) Mar. 22, 1960, gage height, 8.00 ft (2.438 m); minimum daily, 2.6 ft³/s (0.074 m³/s) Feb. 22, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 262 ft³/s (7.42 m³/s) Feb. 22, gage height, 3.36 ft (1.024 m); minimum daily, 6.6 ft³/s (0.19 m³/s) Jan. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	24	18	21	32	47	50	29	61	28	17	18
2	22	25	18	24	33	51	41	35	61	28	10	15
3	18	25	30	25	25	36	41	20	69	29	10	13
4	26	28	31	22	23	36	47	31	71	29	11	13
5	38	29	33	28	39	46	54	26	82	18	27	18
6	34	29	38	30	31	35	35	23	70	22	11	14
7	40	26	38	22	27	25	54	28	69	51	15	13
8	29	29	43	27	23	37	43	26	69	27	19	13
9	29	23	34	24	28	55	45	26	67	30	6.7	14
10	33	25	30	21	34	30	46	25	62	31	29	14
11	32	26	35	23	28	46	51	24	48	27	18	15
12	32	23	37	20	28	40	44	31	53	33	25	39
13	33	38	37	20	28	45	39	66	54	26	15	40
14	37	24	36	24	25	50	54	103	45	22	18	32
15	36	27	35	34	27	41	40	115	43	46	13	33
16	40	22	19	35	36	52	34	104	39	56	21	25
17	34	21	8.4	23	76	37	44	127	33	31	15	29
18	34	29	31	29	60	45	29	129	37	31	19	26
19	36	28	38	21	93	55	34	120	52	26	34	30
20	28	29	41	29	119	39	33	102	62	15	20	22
21	26	28	43	26	160	58	34	101	38	25	19	28
22	33	27	39	28	196	37	32	95	32	18	19	24
23	28	26	30	40	129	55	33	87	37	20	31	25
24	28	31	25	6.6	96	38	31	96	33	20	13	23
25	27	31	29	42	70	54	28	92	33	14	19	22
26	30	31	37	17	59	48	32	87	49	26	26	21
27	34	30	40	28	60	46	33	88	22	24	15	20
28	26	23	28	23	53	36	33	77	34	25	15	20
29	27	32	22	30	---	59	25	72	34	16	13	26
30	31	28	21	33	---	42	34	70	29	17	14	18
31	29	---	35	30	---	42	---	66	---	17	14	---
TOTAL	957	817	979.4	805.6	1638	1363	1173	2121	1488	828	551.7	663
MEAN	30.9	27.2	31.6	26.0	58.5	44.0	39.1	68.4	49.6	26.7	17.8	22.1
MAX	40	38	43	42	196	59	54	129	82	56	34	40
MIN	18	21	8.4	6.6	23	25	25	20	22	14	6.7	13
AC-FT	1900	1620	1940	1600	3250	2700	2330	4210	2950	1640	1090	1320
CAL YR 1981	TOTAL	10087.8	MEAN 27.6	MAX 102	MIN 8.4	AC-FT	20010					
WTR YR 1982	TOTAL	13384.7	MEAN 36.7	MAX 196	MIN 6.6	AC-FT	26550					

NIOBRARA RIVER BASIN

06461500 NIOBRARA RIVER NEAR SPARKS, NE

LOCATION.--Lat 42°54'10"N, long 100°21'40"W, in SE1/4 sec.22, T.34 N., R.26 W., Cherry County, Hydrologic Unit 10150004, on left bank 18 ft (5 m) downstream from highway bridge, 2.2 mi (3.5 km) downstream from Big Beaver Creek, 5.5 mi (8.8 km) downstream from Minnechaduz Creek, and 6.5 mi (10.5 km) southwest of Sparks.

DRAINAGE AREA.--8,090 mi² (21,000 km²), approximately.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1209: 1947(M), 1948-50(P). WDR NE-67: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,287.57 ft (697.251 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. 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.--37 years, 772 ft³/s (21.86 m³/s), 559,300 acre-ft/yr (0.690 km³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s (289 m³/s) Mar. 5, 1949, gage height, 6.73 ft (2.051 m), from rating curve extended above 3,800 ft³/s (108 m³/s); maximum gage height recorded, 10.06 ft (3.066 m) Feb. 7, 1973, ice jam; minimum daily discharge, 100 ft³/s (2.83 m³/s) Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,780 ft³/s (135 m³/s) June 6, gage height, 5.14 ft (1.567 m), minimum daily, 400 ft³/s (11.3 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	629	860	450	1000	1010	851	647	970	697	462	486
2	520	580	860	599	900	1040	806	667	993	676	448	484
3	520	580	860	656	840	978	806	637	1060	656	436	478
4	546	600	860	666	700	938	740	677	1030	599	452	483
5	637	640	860	676	550	962	783	677	993	561	516	499
6	658	720	900	676	580	931	772	687	2490	589	489	513
7	615	720	868	500	620	910	750	647	1620	589	476	517
8	606	720	900	608	600	929	750	657	1140	535	453	497
9	560	731	920	530	540	957	687	657	993	535	451	491
10	580	740	793	400	580	959	657	657	921	561	499	480
11	627	731	793	500	660	965	637	697	981	535	476	516
12	610	740	770	640	740	992	637	718	933	526	489	739
13	682	740	770	740	800	973	647	1020	981	517	488	623
14	680	720	760	780	880	919	627	1490	874	508	487	524
15	620	700	718	900	860	921	589	1380	921	850	497	601
16	600	814	666	950	900	936	608	1310	850	535	497	560
17	642	808	458	1000	1200	920	608	1320	839	500	493	621
18	620	830	708	1050	1500	933	571	1320	969	491	497	562
19	580	780	862	1050	1430	980	571	1200	885	474	584	569
20	560	780	981	1000	1300	980	589	1390	828	466	488	556
21	671	760	851	950	1230	900	580	1570	793	466	490	529
22	680	780	816	900	1170	860	571	1570	760	458	500	528
23	632	779	770	700	1010	840	571	1230	739	458	528	527
24	635	760	739	750	1010	840	580	1440	805	450	516	519
25	642	768	728	900	920	840	589	1620	976	442	896	514
26	656	800	739	1100	934	840	608	1350	897	474	1190	525
27	660	780	760	1250	984	820	627	1140	816	466	628	524
28	600	780	697	1300	1000	840	677	1020	760	466	547	522
29	580	800	618	1250	---	800	677	972	739	475	520	532
30	600	860	544	1150	---	840	708	1140	739	469	511	515
31	620	---	552	1100	---	840	---	1110	---	460	506	---
TOTAL	18959	22170	23981	25721	25438	28393	19874	32617	29295	16484	16510	16034
MEAN	612	739	774	830	909	916	662	1052	977	532	533	534
MAX	682	860	981	1300	1500	1040	851	1620	2490	850	1190	739
MIN	520	580	458	400	540	800	571	637	739	442	436	478
AC-FT	37610	43970	47570	51020	50460	56320	39420	64700	58110	32700	32750	31800
CAL YR 1981	TOTAL	242796	MEAN 665	MAX 1000	MIN 300	AC-FT	481600					
WTR YR 1982	TOTAL	275476	MEAN 755	MAX 2490	MIN 400	AC-FT	546400					

NIOBRARA RIVER BASIN

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06461500 NIOBRARA RIVER NEAR SPARKS, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANFOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAY									
04...	1015	618	202	8.0	18.0	5	86	.00	28
JUN									
24...	1035	712	220	8.1	21.0	10	96	.00	31
JUL									
29...	0910	464	226	8.1	23.0	15	98	.00	32
AUG									
26...	0910	1050	230	7.8	19.5	160	91	.00	29
SEP									
20...	1430	509	242	7.9	17.0	30	92	.00	30

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- LINEITY LAB (MG/L AS CAC03) (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)
MAY									
04...	3.9	9.2	.4	6.5	110	6.0	1.3	.3	51
JUN									
24...	4.4	11	.5	7.2	114	9.0	1.5	.4	54
JUL									
29...	4.3	10	.5	7.1	127	7.0	1.2	.4	60
AUG									
26...	4.4	11	.5	6.3	--	10	2.4	.3	44
SEP									
20...	4.2	8.8	.4	6.3	109	7.0	1.6	.3	56

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC=FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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)
MAY									
04...	172	.23	287	<.10	.940	.060	20	18	<3
JUN									
24...	187	.25	359	<.10	.160	.080	30	39	3
JUL									
29...	198	.20	248	<.10	.150	.040	30	23	2
AUG									
26...	185	.25	524	.75	.990	.090	30	53	5
SEP									
20...	182	.25	250	.49	.610	.070	--	28	2

06462000 NIOBRARA RIVER NEAR NORDEN, NE

LOCATION.--Lat 42°47'13", long 100°02'06", in N1/2SW1/4 sec.33, T.33 N., R.23 W., Keya Paha County, Hydrologic Unit 10150004, on left bank 60 ft (18 m) downstream from county road bridge, 1.5 mi (2.4 km) downstream from Fairfield Creek, and 6 mi (10 km) south of Norden.

DRAINAGE AREA.--8,390 mi² (21,700 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,108.93 ft (642.802 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 5, 1979, at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records poor. Flow affected by regulation at powerplants, diversions for irrigation, return flow from irrigated areas, storage in Box Butte Reservoir (station 06455000), and since May 1964 storage in Merritt Reservoir (station 06459300).

AVERAGE DISCHARGE.--30 years, 857 ft³/s (24.27 m³/s), 620,900 acre-ft/yr (0.766 km³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,380 ft³/s (209 m³/s) July 1, 1962, gage height, 8.10 ft (2.469 m) present datum, backwater from bridge in channel; maximum gage height, 11.24 ft (3.426 m) present datum, Mar. 11, 1966, ice jam and backwater from bridge in channel; minimum daily discharge, 130 ft³/s (3.68 m³/s) Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,000 ft³/s (113 m³/s) June 6, gage height, 5.06 ft (1.542 m); maximum gage height, 5.40 ft (1.646 m) Feb. 10, backwater from ice; minimum daily discharge, 482 ft³/s (13.7 m³/s) Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	607	695	983	740	1150	1080	976	768	1200	844	546	536
2	587	666	1000	780	1050	1090	914	747	1170	844	532	482
3	608	666	992	820	1000	1070	996	787	1200	808	510	518
4	647	682	989	840	880	1080	826	738	1220	749	505	510
5	760	736	995	850	750	1080	906	826	1150	672	615	505
6	785	830	1030	820	660	1090	914	849	2060	688	585	518
7	710	834	1040	700	700	1060	836	826	1880	710	575	575
8	688	818	1080	800	680	1040	862	702	1300	645	536	574
9	654	848	1070	730	640	1110	812	781	1180	640	546	510
10	661	847	1020	670	680	1120	775	819	1030	650	575	492
11	658	824	1020	600	780	1090	753	874	1050	640	580	532
12	657	849	1070	720	920	1100	793	928	1010	635	560	826
13	806	854	1080	780	980	1080	712	1210	1050	645	575	716
14	788	834	1090	880	1060	1050	703	1710	892	645	570	635
15	718	810	1020	1000	1000	1030	654	1600	958	1060	570	610
16	685	883	843	1080	1200	1020	709	1470	940	727	570	650
17	731	872	785	1150	1400	1030	695	1430	940	640	546	590
18	713	871	825	1180	1600	998	660	1410	1090	600	541	585
19	673	906	1050	1180	1650	1120	656	1300	1050	580	640	605
20	633	895	1080	1120	1550	1120	659	1440	964	570	595	645
21	711	878	1170	1060	1470	1040	649	1800	892	546	790	496
22	726	889	1060	1000	1430	996	597	1800	886	541	570	555
23	736	882	980	950	1360	955	618	1430	862	555	570	575
24	698	883	920	900	1320	971	645	1550	862	532	575	590
25	706	897	870	1050	1280	956	685	1500	1050	523	555	580
26	702	914	880	1250	1150	976	697	1630	946	550	1480	575
27	688	897	900	1400	1150	924	697	1330	952	565	832	565
28	686	897	860	1400	1140	964	759	1240	880	550	656	560
29	670	917	780	1350	---	906	766	1210	868	570	590	560
30	686	980	740	1300	---	976	773	1300	886	565	565	580
31	703	---	720	1230	---	1000	---	1330	---	550	570	---
TOTAL	21481	25254	29942	30330	30630	32122	22697	37335	32418	20039	19025	17250
MEAN	693	842	966	978	1094	1036	757	1204	1081	646	614	575
MAX	806	980	1170	1400	1650	1120	996	1800	2060	1060	1480	826
MIN	587	666	720	600	640	906	597	702	862	523	505	482
AC-FT	42610	50090	59390	60160	60750	63710	45020	74050	64300	39750	37740	34220
CAL YR 1981	TOTAL	272400	MEAN 746	MAX 1550	MIN 340	AC-FT 540300						
WTR YR 1982	TOTAL	318523	MEAN 873	MAX 2060	MIN 482	AC-FT 631800						

NIOBRARA RIVER BASIN

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06462000 NIOBRARA RIVER NEAR NORDEN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-66, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1974 to current year.

WATER TEMPERATURES: August 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 489 micromhos June 29, 1976; minimum daily, 106 micromhos May 30, 1981.

WATER TEMPERATURES: Maximum, 30.0°C July 17, 1978; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 277 micromhos June 18; minimum daily, 127 micromhos Apr. 10.

WATER TEMPERATURES: Maximum, 24.5°C Aug. 3; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT									
22...	1035	728	224	7.8	4.5	5	97	.00	32
NOV									
19...	1055	909	208	7.5	1.5	5	91	.00	30
DEC									
10...	1020	973	207	7.5	3.0	5	91	.00	30
JAN									
14...	1035	826	226	7.4	.5	5	100	.00	33
FEB									
18...	1025	1320	187	7.3	.5	5	77	.00	25
MAR									
10...	1040	1100	220	7.6	7.5	10	92	.00	30
APR									
07...	1015	855	218	7.4	1.5	5	87	.00	28
MAY									
06...	1330	875	218	7.9	16.5	<1	92	.00	30
JUN									
04...	0945	1260	237	7.8	16.0	30	100	.00	33
JUL									
29...	1135	572	227	8.3	27.5	15	99	.00	33
AUG									
26...	1315	1210	252	7.7	26.5	80	100	.00	30
SEP									
23...	0945	589	252	7.7	16.0	10	98	.00	32

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 LAB (MG/L AS CAC03) (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)
OCT									
22...	4.1	9.3	.4	5.4	110	5.0	1.8	.3	54
NOV									
19...	3.8	8.5	.4	5.4	97	<5.0	1.2	.3	52
DEC									
10...	3.8	8.2	.4	6.1	100	5.0	1.1	.4	52
JAN									
14...	4.3	9.2	.4	6.7	120	<5.0	1.5	.4	59
FEB									
18...	3.6	7.0	.4	5.5	96	5.0	1.7	.3	47
MAR									
10...	4.1	8.6	.4	7.1	110	5.0	1.5	.4	53
APR									
07...	4.2	9.1	.4	6.2	110	5.0	1.4	.4	49
MAY									
06...	4.1	9.6	.5	6.1	110	6.0	1.5	.3	52
JUN									
04...	4.7	10	.4	7.2	123	8.0	1.7	.5	49
JUL									
29...	4.1	10	.5	7.4	126	7.0	1.2	.4	59
AUG									
26...	6.6	10	.5	5.3	115	10	2.2	.4	--
SEP									
23...	4.3	9.3	.4	6.6	122	7.0	1.6	.3	55

NIOBRARA RIVER BASIN

06462000 NIOBRARA RIVER NEAR NORDEN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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 22...	192	.26	377	3.2	.120	.110	20	21	4
NOV 19...	170	.23	417	5.1	.150	.060	20	15	1
DEC 10...	169	.23	444	.56	.070	.070	20	20	2
JAN 14...	194	.26	433	.59	--	.090	20	16	3
FEB 18...	155	.21	552	.53	.140	.090	20	28	2
MAR 10...	178	.24	529	.43	.130	.050	20	17	2
APR 07...	171	.23	395	.41	.120	.060	30	23	<3
MAY 06...	176	.24	416	.12	.130	.090	20	22	<3
JUN 04...	190	.26	646	.34	.140	.150	30	25	3
JUL 29...	198	.20	306	1.0	.170	.050	30	12	1
AUG 26...	--	--	477	.51	.590	.070	30	74	4
SEP 23...	191	.26	304	.44	.080	.080	20	16	6

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	228	216	197	224	225	257	254	247	197	252	246
2	236	245	222	210	227	220	128	222	245	225	242	245
3	182	233	223	219	219	229	223	219	247	233	245	257
4	236	248	225	217	211	182	233	229	245	237	248	247
5	224	239	197	221	225	231	234	269	247	234	226	244
6	220	228	215	211	229	195	145	213	237	233	246	253
7	201	226	229	228	203	231	218	193	272	227	246	247
8	180	231	230	226	223	198	223	268	246	242	237	253
9	221	234	227	241	209	195	218	248	254	241	238	247
10	200	218	204	246	211	208	127	226	256	246	238	246
11	220	221	227	251	225	203	219	187	256	235	242	253
12	207	222	222	253	209	174	233	243	252	227	237	247
13	219	229	225	238	204	215	237	235	243	235	232	258
14	233	218	219	230	235	218	222	254	248	233	235	245
15	200	231	228	202	209	238	219	218	236	232	258	253
16	231	208	245	221	209	228	144	241	237	244	242	254
17	171	232	212	230	209	237	186	272	263	237	244	247
18	242	226	237	229	155	218	220	249	277	237	236	247
19	236	221	217	244	151	208	178	253	244	233	234	248
20	226	220	235	224	210	202	222	224	242	237	243	255
21	235	230	232	273	235	225	225	255	265	235	242	256
22	234	229	216	272	208	181	177	265	266	237	244	266
23	240	210	225	247	209	215	245	245	246	253	248	246
24	239	221	219	231	206	272	162	258	248	233	245	248
25	241	224	229	271	221	208	235	255	258	243	244	251
26	232	240	225	229	223	212	212	265	247	238	262	252
27	241	221	212	235	201	235	157	241	262	237	267	247
28	241	223	227	222	208	229	266	250	246	235	264	267
29	234	221	239	241	---	190	243	220	264	228	237	262
30	241	224	222	225	---	239	247	249	237	238	242	251
31	189	---	242	229	---	209	---	240	---	235	244	---

06462000 NIOBRARA RIVER NEAR NORDEN, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	6.0	4.0	1.0	.0	1.0	7.0	16.0	19.0	21.0	22.0	21.0
2	12.0	6.0	3.0	.0	.0	3.0	6.0	16.0	19.0	21.0	21.0	20.0
3	16.0	9.0	.0	.0	.0	3.0	5.0	17.0	19.0	21.0	24.5	21.0
4	15.0	6.0	.0	.0	.0	2.0	6.0	17.0	18.0	20.0	23.0	20.0
5	17.0	7.0	.5	.0	.0	.0	6.0	16.0	19.0	22.0	23.0	21.0
6	15.0	5.0	1.0	.0	.0	2.5	6.0	18.0	20.0	21.0	22.0	21.0
7	14.0	8.0	1.5	.0	.0	7.0	4.0	17.0	17.0	22.0	23.0	20.0
8	12.0	6.0	1.5	.0	.0	3.0	8.0	18.0	19.0	21.0	21.0	21.0
9	12.0	5.0	1.0	.0	.0	7.0	7.0	17.0	20.0	23.0	22.0	20.0
10	13.0	5.5	1.0	.0	.0	4.0	7.0	18.0	20.0	22.0	21.0	20.0
11	13.0	7.0	.0	.0	.0	4.0	8.0	19.0	19.0	22.5	23.0	21.0
12	12.0	7.5	.0	.0	.0	6.0	12.0	17.0	19.0	23.0	21.5	20.0
13	11.0	7.0	.0	.0	.0	6.0	12.0	17.0	20.0	19.0	24.0	19.0
14	11.0	6.0	.0	.0	.0	6.0	11.0	16.0	20.0	21.0	22.0	19.0
15	10.0	4.5	.0	.0	1.0	7.0	12.0	14.0	19.0	21.0	21.0	18.0
16	11.0	5.0	.0	.0	1.0	5.0	12.0	19.0	20.0	21.0	21.0	20.0
17	9.0	5.5	.0	.0	1.0	4.0	6.0	18.0	19.0	21.0	20.0	21.0
18	7.0	3.5	.0	.0	.0	7.0	9.0	19.0	19.0	22.0	21.0	21.0
19	8.0	3.0	.0	.0	1.0	7.0	11.0	18.0	19.0	23.0	21.0	19.0
20	5.0	2.0	.0	.0	.0	7.0	7.0	16.0	20.0	21.0	21.5	20.0
21	4.0	2.0	.5	.0	2.0	3.0	8.0	16.0	19.0	21.0	23.5	18.0
22	6.0	2.5	.0	.0	.0	5.0	6.0	20.0	21.0	21.0	21.0	19.0
23	7.0	2.0	.0	.0	.0	8.0	10.0	20.0	19.0	21.0	21.0	17.0
24	5.0	2.0	.0	.0	2.0	7.0	12.0	17.0	19.0	23.0	20.0	20.0
25	5.0	2.0	.0	.0	1.0	10.0	10.0	16.0	20.0	21.0	21.0	15.0
26	5.0	3.0	.0	.0	1.0	10.0	11.0	17.0	19.0	22.0	18.0	16.0
27	4.0	3.0	.0	.0	2.0	10.0	12.0	19.0	19.0	21.0	18.0	18.0
28	7.0	3.0	.0	.0	1.0	10.0	12.0	18.0	20.0	21.0	20.0	15.0
29	10.0	3.0	3.0	.0	---	8.0	11.0	18.0	20.0	21.5	17.0	12.0
30	9.0	3.5	1.0	.0	---	7.0	11.0	18.0	21.0	21.0	18.0	10.0
31	10.0	---	1.0	.0	---	11.0	---	18.0	---	22.0	20.0	---

NIOBRARA RIVER BASIN

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 (0.6 km) upstream from county road bridge, 1 mi (2 km) upstream from mouth, 1 mi (2 km) southwest of Meadville, and 17 mi (27 km) north of Ainsworth.

DRAINAGE AREA.--600 mi² (1,550 km²), approximately, of which about 340 mi² (880 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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. Altitude of gage is 2,033 ft (619.7 m), from topographic map. Prior to Nov. 25, 1962, at site 6.5 mi (10.5 km) upstream at different datum. Nov. 25, 1962, to Nov. 14, 1966, at present site at datum 3.0 ft (0.91 m) higher. Nov. 15, 1966, to Oct. 2, 1979, at present site at datum 2.0 ft (0.61 m) higher. Oct. 3, 1979 to June 3, 1982, at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--33 years (1948-75, 1976-82), 108 ft³/s (3.059 m³/s), 78,250 acre-ft/yr (96.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,070 ft³/s (58.6 m³/s) Sept. 18, 1967, gage height, 5.98 ft (1.823 m) present datum; maximum gage height observed, 8.54 ft (2.603 m) Dec. 6, 1964, backwater from ice, present datum; minimum daily discharge, 15 ft³/s (0.42 m³/s) Feb. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 8	----	Ice jam	*3.48 1.061	May 17	0530	367 10.4	2.14 0.652
May 23	1130	*525 14.9	a2.65 0.808				

a From CSI gage.

Minimum daily discharge, 78 ft³/s (2.21 m³/s) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	93	115	97	100	125	120	101	237	136	78	82
2	110	95	102	98	100	115	122	102	224	138	87	82
3	106	94	102	96	98	115	119	102	232	131	87	85
4	124	97	107	97	102	117	113	99	221	123	83	86
5	118	96	104	97	106	115	120	98	219	112	86	88
6	110	94	102	96	106	112	124	96	216	112	93	88
7	109	94	107	96	102	115	123	94	208	121	90	89
8	106	93	109	95	100	112	125	94	199	112	85	87
9	101	92	107	95	100	112	127	89	188	108	85	85
10	96	95	107	100	102	112	131	89	179	108	103	85
11	95	91	109	104	100	112	140	86	174	102	103	87
12	96	93	107	106	100	115	147	89	171	108	96	102
13	120	94	104	108	100	117	146	172	162	105	90	108
14	124	95	104	108	104	117	137	208	166	102	85	100
15	110	95	104	110	110	120	129	242	163	126	84	96
16	106	99	104	106	116	120	124	304	152	129	85	94
17	99	97	104	108	128	120	120	341	148	110	81	92
18	97	99	104	108	128	117	117	289	150	105	81	92
19	94	99	102	108	159	133	112	242	143	106	82	94
20	97	96	104	106	174	156	111	232	136	104	89	94
21	59	94	112	106	180	169	109	315	129	98	94	96
22	95	96	109	106	172	154	109	424	131	87	124	98
23	96	99	107	106	161	161	108	481	123	86	98	96
24	97	99	102	108	154	161	107	429	128	91	108	95
25	97	99	100	106	138	144	106	405	123	88	103	93
26	97	102	102	108	128	133	105	375	126	87	97	92
27	97	99	99	110	122	129	104	307	126	87	89	98
28	94	99	99	110	125	129	107	299	126	88	85	95
29	96	99	98	104	---	125	107	242	126	84	89	93
30	97	102	98	100	---	125	106	242	134	80	93	92
31	96	---	98	100	---	121	---	237	---	83	85	---
TOTAL	3187	2889	3232	3203	3415	3928	3575	6925	4960	3257	2818	2764
MEAN	103	96.3	104	103	122	127	119	223	165	105	90.9	92.1
MAX	124	102	115	110	180	169	147	481	237	138	124	108
MIN	94	91	98	95	98	112	104	86	123	80	78	82
AC-FT	6320	5730	6410	6350	6770	7790	7090	13740	9840	6460	5590	5480
CAL YR 1981	TOTAL	36340	MEAN	99.6	MAX	204	MIN	63	AC-FT	72080		
WTR YR 1982	TOTAL	44153	MEAN	121	MAX	481	MIN	78	AC-FT	87580		

NIORRARA RIVER BASIN

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06462500 PLUM CREEK AT MEADVILLE, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
JUN 02...	1015	213	325	8.5	14.5	120	.00	37	7.3
AUG 10...	1100	102	178	7.7	18.0	74	.00	24	3.3

DATE	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 CAC03) (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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
JUN 02...	18	.7	9.1	164	<5.0	4.0	.7	53	.41
AUG 10...	7.6	.4	5.5	92	<5.0	1.4	.3	56	.75

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 1015C004, on right bank 4.9 mi (7.9 km) upstream from Bone Creek and 7 mi (11 km) north of Long Pine.

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

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

GAGE.--Water-stage recorder. Altitude of gage is 2,080 ft (634 m), from topographic map.

REMARKS.--Records good. Minor diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 395 ft³/s (11.2 m³/s) Aug. 5, 1981, gage height, 4.38 ft (1.335 m), from floodmark; minimum daily, 77 ft³/s (2.18 m³/s) Sept. 5, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 159 ft³/s (4.50 m³/s) May 22, gage height, 2.16 ft (0.658 m), from floodmark; minimum daily, 78 ft³/s (2.21 m³/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	98	101	96	93	95	96	91	97	92	82	86
2	98	100	98	96	93	95	96	91	100	92	82	82
3	101	99	97	94	93	94	96	89	103	87	81	81
4	102	97	96	95	93	94	97	88	99	88	84	81
5	103	96	99	95	96	93	100	89	95	87	87	85
6	100	95	99	94	98	94	97	89	96	93	82	87
7	100	96	99	94	97	94	97	90	92	93	80	87
8	99	95	100	94	98	95	97	90	92	92	78	87
9	100	94	99	93	96	96	97	91	92	89	80	86
10	98	94	99	90	97	99	103	90	91	86	87	82
11	98	95	97	90	96	96	99	89	91	89	85	83
12	95	95	97	86	98	95	96	94	89	91	84	98
13	101	96	98	90	98	94	95	107	91	89	83	92
14	97	96	97	96	98	95	95	120	95	92	86	89
15	96	95	97	95	98	95	95	113	92	97	87	89
16	98	95	97	95	112	96	96	97	91	92	84	88
17	101	95	97	96	129	96	94	93	93	89	81	89
18	99	96	99	96	116	95	94	93	110	89	83	88
19	99	97	99	95	108	105	93	92	97	89	81	88
20	98	96	100	96	106	103	92	101	97	88	86	87
21	99	97	102	95	103	97	91	134	93	87	90	88
22	99	98	101	96	103	96	91	139	88	86	89	89
23	98	98	100	96	99	95	92	117	87	88	86	88
24	99	98	99	97	96	94	93	115	88	88	89	83
25	100	97	99	96	96	93	92	109	94	88	86	83
26	99	97	99	97	96	94	91	106	92	92	85	84
27	99	96	98	98	96	93	91	101	92	92	85	85
28	97	97	97	96	96	94	94	98	90	87	86	85
29	97	96	97	94	---	95	92	99	89	85	87	87
30	98	103	96	93	---	96	92	101	90	84	87	86
31	98	---	96	92	---	96	---	100	---	84	86	---
TOTAL	3065	2897	3049	2926	2798	2962	2844	3116	2806	2765	2619	2593
MEAN	98.9	96.6	98.4	94.4	99.9	95.5	94.8	101	93.5	89.2	84.5	86.4
MAX	103	103	102	98	129	105	103	139	110	97	90	98
MIN	95	94	96	86	93	93	91	88	87	84	78	81
AC-FT	6080	5750	6050	5800	5550	5880	5640	6180	5570	5480	5190	5140
CAL YR 1981	TOTAL	35680	MEAN	97.8	MAX	218	MIN	86	AC-FT	70770		
WTR YR 1982	TOTAL	34440	MEAN	94.4	MAX	139	MIN	78	AC-FT	68310		

NIOBRARA RIVER BASIN

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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 right bank 10 ft (3 m) downstream from county road bridge, 1 mi (2 km) downstream from Bone Creek, and 5.5 mi (8.8 km) southwest of Riverview.

DRAINAGE AREA.--390 mi² (1,010 km²), 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 (604.522 m) National Geodetic Vertical Datum of 1929, (levels by Bureau of Reclamation) Prior to Dec. 7, 1962, at site 100 ft (30 m) upstream at present datum. Dec. 7, 1962, to Sept. 20, 1978, at site 3 ft (0.9 m) upstream at present datum.

REMARKS.--Records good except those above 250 ft³/s (7.08 m³/s), which are poor. Flow includes return water from Ainsworth Irrigation District since 1965.

AVERAGE DISCHARGE.--33 years (1948-53, 1954-82), 139 ft³/s (3.936 m³/s), 100,700 acre-ft/yr (0.124 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,650 ft³/s (273 m³/s) July 1, 1962, gage height, 15.68 ft (4.779 m), backwater from fallen bridge, from rating curve extended above 3,600 ft³/s (102 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 44 ft³/s (1.25 m³/s) Jan. 10, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 400 ft³/s (11.3 m³/s) May 22 at 0700, gage height, 4.43 ft (1.350 m), no other peak above base of 400 ft³/s (11.3 m³/s); minimum daily, 104 ft³/s (2.95 m³/s) Feb. 9, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	152	144	150	109	131	150	157	178	154	156	161
2	134	160	145	148	106	134	144	154	176	152	155	156
3	144	162	153	150	106	133	133	154	189	140	153	154
4	158	161	151	150	106	135	161	150	194	140	157	155
5	161	154	154	140	105	131	166	147	171	140	178	151
6	155	154	156	140	105	134	152	144	166	160	170	156
7	150	156	159	135	107	137	157	143	159	176	167	164
8	142	152	163	135	106	139	157	145	150	166	165	165
9	142	151	164	135	104	142	158	146	148	168	164	172
10	142	153	169	130	105	158	184	143	145	164	170	157
11	142	155	167	140	104	157	198	130	149	161	167	148
12	147	154	164	145	108	156	186	141	149	165	174	187
13	166	154	164	144	108	147	170	175	152	175	175	184
14	155	153	159	152	114	147	166	252	154	172	171	172
15	152	154	155	148	133	150	163	282	149	202	169	158
16	152	155	155	140	169	153	155	197	147	189	165	155
17	155	155	153	140	246	150	153	161	147	170	162	154
18	147	151	158	139	213	148	154	143	154	152	161	153
19	150	150	155	129	182	173	145	147	148	158	162	154
20	147	148	153	118	168	192	143	152	149	151	151	149
21	152	151	160	119	161	165	143	290	141	155	167	153
22	150	153	158	114	152	160	141	370	134	162	194	158
23	146	153	155	110	143	156	149	250	134	173	178	161
24	149	152	152	116	132	153	149	231	134	157	179	154
25	148	148	153	110	129	145	150	214	145	151	165	149
26	152	147	152	114	128	144	145	200	140	145	163	154
27	153	145	152	121	131	143	145	183	145	157	156	152
28	156	145	152	122	132	143	154	169	146	154	163	149
29	157	144	148	114	---	149	152	171	142	158	158	142
30	156	157	149	110	---	151	155	175	141	152	156	133
31	152	---	148	107	---	146	---	186	---	164	158	---
TOTAL	4649	4579	4820	4065	3712	4602	4678	5702	4576	4983	5129	4710
MEAN	150	153	155	131	133	148	156	184	153	161	165	157
MAX	166	162	169	152	246	192	198	370	194	202	194	187
MIN	134	144	144	107	104	131	133	130	134	140	151	133
AC-FT	9220	9080	9560	8060	7360	9130	9280	11310	9080	9880	10170	9340
CAL YR 1981	TOTAL	57351	MEAN 157	MAX 1030	MIN 122	AC-FT 113800						
WTR YR 1982	TOTAL	56205	MEAN 154	MAX 370	MIN 104	AC-FT 111500						

NIOBRARA RIVER BASIN

06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT									
22...	1420	150	181	7.7	8.5	10	74	.00	24
NOV									
19...	1400	153	173	7.5	4.0	0	71	.00	23
DEC									
10...	1405	166	179	7.6	6.0	10	71	.00	23
JAN									
14...	1330	151	177	7.3	4.0	0	74	.00	24
FEB									
18...	1310	204	167	7.4	7.5	35	62	.00	20
MAR									
10...	1420	160	184	7.6	12.0	10	74	.00	24
APR									
07...	1340	158	177	7.4	4.5	10	76	.00	25
MAY									
06...	0950	140	176	7.5	11.0	<1	72	.00	23
JUN									
04...	1320	202	198	7.9	19.0	50	79	.00	25
JUL									
15...	0850	178	169	7.3	19.0	30	68	.00	22
AUG									
11...	0925	156	185	7.9	15.0	--	73	.00	23
11...	0930	156	185	7.9	16.5	30	72	.00	23
SEP									
23...	1340	161	184	7.7	17.0	10	69	.00	22

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 LAB (MG/L AS CAC03) (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 SI02) (00955)
OCT									
22...	3.4	7.7	.4	5.3	85	<5.0	3.0	.3	57
NOV									
19...	3.2	7.1	.4	5.3	80	5.0	2.3	.3	55
DEC									
10...	3.4	7.8	.4	6.4	82	5.0	2.4	.3	53
JAN									
14...	3.3	7.3	.4	5.6	83	5.0	2.3	.3	58
FEB									
18...	3.0	6.5	.4	9.7	78	6.0	3.1	.2	41
MAR									
10...	3.4	7.6	.4	6.4	87	<5.0	3.1	.3	54
APR									
07...	3.3	7.6	.4	5.7	84	5.0	2.9	.3	52
MAY									
06...	3.5	8.7	.5	4.9	83	6.0	2.6	.2	55
JUN									
04...	3.9	8.9	.5	6.1	94	<5.0	2.8	.3	52
JUL									
15...	3.1	6.6	.4	5.9	81	<5.0	1.7	.2	51
AUG									
11...	3.7	7.2	.4	6.1	87	5.0	2.4	.3	53
11...	3.5	7.5	.4	6.8	88	6.0	2.4	.3	53
SEP									
23...	3.3	7.1	.4	5.6	84	5.0	2.0	.3	53

NIOBRARA RIVER BASIN

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06463500 LONG PINE CREEK NEAR RIVERVIEW, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DTS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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 22...	157	.21	63.6	<.09	.230	.210	10	27	3
NOV 19...	156	.21	64.4	1.6	.320	.160	20	16	2
DEC 10...	157	.21	70.4	1.5	.210	.190	20	50	1
JAN 14...	163	.22	66.5	1.7	--	.010	20	23	2
FEB 18...	141	.19	77.7	1.1	.460	.360	20	57	1
MAR 10...	--	--	--	1.5	.220	.160	20	29	3
APR 07...	159	.22	67.8	1.5	.230	.200	20	18	<3
MAY 06...	159	.22	60.1	1.2	.190	.170	20	28	<3
JUN 04...	--	--	--	.94	.340	.200	20	45	3
JUL 15...	--	--	--	.95	--	.110	20	96	4
AUG 11...	162	.22	68.2	2.1	--	--	--	--	--
11...	162	.22	68.2	1.5	.260	.230	20	44	3
SEP 23...	154	.21	66.9	1.1	.170	.170	20	34	3

NIOBRARA RIVER BASIN

06464500 KEYA PAHA RIVER AT WEWELA, SD

LOCATION.--Lat 43°01'42", long 99°46'45", in SE1/4 sec.24, T.9S N., R.76 W., Tripp County, Hydrologic Unit 10150006, on left bank 13 ft (4 m) downstream from bridge on U.S. Highway 183, 1.0 mi (1.6 km) north of Wewela, 4.5 mi (7.2 km) upstream from Holt Creek, and 11.5 mi (18.5 km) downstream from Lost Creek.

DRAINAGE AREA.--1,070 mi² (2,770 km²), 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 (624.773 m) National Geodetic Vertical Datum of 1929. Prior to June 21, 1957, nonrecording gage at site 13 ft (4.0 m) upstream at same datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, Oct. 16 to Nov. 18, which are poor.

AVERAGE DISCHARGE.--37 years (water years 1939-40, 1948-82), 67.0 ft³/s (1.897 m³/s), 48,540 acre-ft/yr (59.8 hm³/yr); median of yearly mean discharges, 58 ft³/s (1.643 m³/s), 42,000 acre-ft/yr (51.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Mar. 31, 1952, gage height, 13.08 ft (3.987 m); maximum gage height, 13.5 ft (4.11 m) 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 above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1315	1000 28.3	a*6.82 2.079	May 24	0230	418 11.8	3.24 0.988
May 16	0345	524 14.8	3.56 1.085	June 16	0345	*1700 48.1	6.20 1.890

a Backwater from ice.

Minimum daily discharge, 9.0 ft³/s (0.25 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	21	22	16	11	197	70	50	192	87	51	50
2	17	22	24	15	11	178	71	50	190	95	47	45
3	18	22	25	15	11	168	74	48	169	109	45	40
4	21	22	25	14	10	141	73	48	148	89	43	40
5	22	23	25	14	10	119	73	47	136	81	44	38
6	23	23	25	13	10	101	74	47	126	83	44	38
7	24	23	26	12	11	83	74	47	114	96	44	37
8	23	22	26	11	11	83	73	45	106	94	42	37
9	22	22	27	9.5	11	91	73	45	103	92	40	38
10	22	23	27	9.0	12	97	85	44	106	98	40	40
11	21	24	25	9.5	13	111	105	45	109	94	39	50
12	21	24	23	10	14	115	110	52	97	87	38	70
13	24	24	23	11	15	99	102	87	85	81	40	75
14	25	24	22	12	25	91	116	303	290	71	37	75
15	25	24	21	12	40	92	91	449	1310	113	35	70
16	25	23	16	11	60	140	75	489	1390	120	33	65
17	24	24	17	12	90	128	70	356	690	85	31	60
18	23	24	20	11	150	113	70	258	421	79	30	56
19	23	24	21	11	250	116	75	194	341	90	30	54
20	23	24	22	11	400	100	70	183	301	83	31	50
21	23	23	22	10	850	89	65	271	259	74	32	50
22	24	24	21	10	800	81	65	357	219	70	35	48
23	24	25	21	10	600	76	60	366	182	66	40	45
24	25	25	20	11	450	73	60	361	156	63	60	45
25	25	24	20	12	350	74	60	308	137	63	56	44
26	24	23	19	13	291	76	55	298	128	62	46	43
27	24	23	18	13	244	96	55	254	119	61	43	43
28	23	22	18	12	223	84	55	214	110	60	39	43
29	21	21	17	12	---	66	50	171	103	56	37	42
30	20	20	17	12	---	73	50	157	95	54	35	42
31	21	---	17	11	---	71	---	169	---	53	35	---
TOTAL	697	692	672	365.0	4973	3222	2199	5813	7932	2509	1242	1473
MEAN	22.5	23.1	21.7	11.8	178	104	73.3	188	264	80.9	40.1	49.1
MAX	25	25	27	16	850	197	116	489	1390	120	60	75
MIN	17	20	16	9.0	10	66	50	44	85	53	30	37
AC-FT	1380	1370	1330	724	9860	6390	4360	11530	15730	4980	2460	2920

CAL YR 1981 TOTAL 11073.3 MEAN 30.3 MAX 600 MIN 8.7 AC-FT 21960
WTR YR 1982 TOTAL 31789.0 MEAN 87.1 MAX 1390 MIN 9.0 AC-FT 63050

NIOBRARA RIVER BASIN

51

06464900 KEYS 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 bank 70 ft (21 m) upstream from highway bridge, 3.3 mi (5.3 km) south of Napier, and 8.6 mi (13.8 km) upstream from mouth.

DRAINAGE AREA.--1,630 mi² (4,220 km²), approximately.

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

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

GAGE.--Water-stage recorder. Altitude of gage is 1,680 ft (512 m), from topographic map. Prior to May 2, 1958, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--25 years, 125 ft³/s (3.540 m³/s), 90,560 acre-ft/yr (0.112 km³/yr); median of yearly mean discharges, 113 ft³/s (3.200 m³/s), 81,900 acre-ft/yr (0.101 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,280 ft³/s (263 m³/s) July 1, 1962, gage height, 10.91 ft (3.325 m); maximum gage height, 13.34 ft (4.066 m) Mar. 23, 1960, backwater from ice; no flow July 22-30, Aug. 10, 11, 1976, Aug. 3, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	----	Ice jam	*a10.99 3.350	June 14	0730	1480 41.9	7.16 2.182
Feb. 22	----	1200 34.0	Ice jam	June 16	1600	*2180 61.7	7.56 2.304
May 28	2400	972 27.5	6.83 2.082				

a From flood mark.

Minimum daily discharge, 22 ft³/s (0.62 m³/s) Dec. 17, Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	50	40	46	30	375	222	104	315	186	50	51
2	26	51	70	45	28	421	234	104	330	170	47	49
3	29	52	70	44	24	299	222	102	310	164	43	56
4	40	53	51	43	27	228	202	98	295	155	46	50
5	52	53	56	40	24	193	214	94	265	143	51	47
6	51	54	67	36	25	210	210	94	242	194	46	46
7	45	55	75	32	25	186	222	90	210	178	42	47
8	46	52	68	35	24	170	226	90	178	143	39	47
9	45	50	79	33	22	155	222	88	167	134	41	48
10	44	51	80	28	23	186	255	82	155	125	47	49
11	44	53	89	31	24	214	355	78	155	128	47	47
12	43	52	94	32	26	242	406	86	161	131	47	64
13	63	54	95	30	30	242	385	102	146	128	49	92
14	110	55	77	34	45	170	300	178	481	113	46	101
15	97	54	30	37	52	178	270	315	601	131	43	110
16	92	55	26	31	48	167	255	310	1860	128	43	107
17	84	54	22	36	58	182	214	315	1080	155	41	103
18	76	52	25	39	80	186	186	285	610	125	38	95
19	68	56	32	42	130	226	167	315	655	100	36	86
20	63	57	42	30	300	340	161	355	516	94	40	81
21	59	54	48	24	700	335	164	530	406	98	39	78
22	58	49	52	27	1100	242	155	562	355	91	48	74
23	59	54	50	24	900	218	146	414	305	85	50	74
24	60	55	48	29	720	222	134	406	270	77	56	69
25	60	60	50	28	620	194	122	390	242	68	77	68
26	60	63	48	29	520	178	116	430	218	84	74	68
27	61	57	46	31	450	182	113	395	206	112	60	64
28	60	52	45	33	398	214	116	412	190	103	53	62
29	59	49	45	31	---	210	113	566	186	87	49	61
30	58	45	47	29	---	230	108	502	202	68	47	61
31	53	---	45	26	---	222	---	295	---	55	49	---
TOTAL	1790	1601	1712	1035	6453	7017	6215	8187	11312	3753	1484	2045
MEAN	57.7	53.4	55.2	33.4	230	226	207	264	377	121	47.9	68.2
MAX	110	63	95	46	1100	421	406	566	1860	194	77	110
MIN	25	45	22	24	22	155	108	78	146	55	36	46
AC-FT	3550	3180	3400	2050	12800	13920	12330	16240	22440	7440	2940	4060
CAL YR 1981	TOTAL	21395.7	MEAN	58.6	MAX	725	MIN	7.8	AC-FT	42440		
WTR YR 1982	TOTAL	52604.0	MEAN	144	MAX	1860	MIN	22	AC-FT	104300		

NIOBRARA RIVER BASIN

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 1015C007, at Spencer powerplant dam 5 mi (8 km) southeast of Spencer.

DRAINAGE AREA.--12,100 mi² (31,300 km²), approximately.

WATER-DISCHARGE RECORDS

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 RECCRDS.--WDR NE-67: Drainage area.

GAGE.--Water-stage recorder and hourly log of powerplant operation. Datum of gage is 1,473.67 ft (449.175 m) National Geodetic Vertical Datum of 1929. Elevation of taintor gate sill, 1,491.12 ft (454.493 m) National Geodetic Vertical Datum of 1929. Prior to December 1908, nonrecording gage on former highway bridge 275 ft (83.8 m) downstream and Aug. 1, 1913, to Sept. 30, 1915, nonrecording gage at highway bridge 10 mi (16 km) 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 (83.8 m) downstream at datum 4.98 ft (1.518 m) higher, and Nov. 11, 1954, to Sept. 30, 1957, at site 0.3 mi (0.5 km) downstream at datum 9.78 ft (2.981 m) 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 (68.6 m) downstream at present datum. Aug. 14, 1963, gage moved to present site with discharge computed as flow through powerhouse and over dam.

REMARKS.--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 discharge, head, and gate openings.

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

AVERAGE DISCHARGE.--52 years (1913-14, 1927-36, 1940-82), 1,394 ft³/s (39.48 m³/s), 1,010,000 acre-ft/yr (1.25 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s (776 m³/s) Mar. 12, 1955, gage height, 12.16 ft (3.706 m), site and datum then in use; minimum daily, 5 ft³/s (0.14 m³/s) Nov. 14, Dec. 18, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,390 ft³/s (124 m³/s) Feb. 23; minimum daily, 263 ft³/s (7.45 m³/s) Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	1200	1270	876	1480	2910	1620	1320	2590	1440	734	1090
2	982	1480	1390	811	1450	2690	1630	1290	2900	1350	699	1100
3	1020	1170	1750	824	1410	1980	1690	1230	2810	1320	679	908
4	1240	1240	1410	889	1420	1740	1680	1230	2080	1190	678	793
5	1400	1090	1330	911	1320	1770	1660	1260	2230	1180	825	840
6	1470	1180	1450	992	1140	1600	1690	1400	2160	1200	738	861
7	1280	1170	1410	973	1060	1500	1740	1300	2590	1540	814	868
8	1150	1330	1510	925	1050	1590	1680	1200	2640	1260	787	821
9	1150	1300	1490	925	1140	1840	1640	1140	2120	1120	783	866
10	1070	1340	1480	798	1190	2420	1660	1250	2010	1140	961	890
11	1070	1310	1540	644	1210	2830	1670	1310	1780	1090	992	823
12	1090	1310	1540	662	1220	3160	1760	1530	1710	1020	928	1010
13	1300	1320	1530	739	1270	2710	1900	1560	1770	993	915	1590
14	1630	1340	1180	854	1320	2240	1280	2150	2700	1040	815	1460
15	1440	1340	986	954	1390	2110	1400	3120	2510	1230	859	1410
16	1250	1310	496	972	1410	1950	1570	2930	2740	1240	819	1140
17	1310	1330	317	1080	1580	1910	1570	2830	2640	1600	773	1250
18	1290	1390	263	1120	1830	1820	1360	2710	2300	1120	748	1120
19	1200	1270	412	1120	2200	2010	1310	2480	2190	924	734	1100
20	1130	1320	782	1130	2430	2410	1280	2640	1930	855	856	1390
21	1220	1300	974	1250	2860	1920	1220	3430	1740	894	1020	1100
22	1220	1390	1220	1320	3990	2120	1240	3690	1640	849	1000	1150
23	1170	1440	1530	1220	4390	1870	1160	3280	1530	801	1320	944
24	1190	1320	1680	1120	3640	1900	1110	2500	1530	830	958	965
25	1160	1370	1500	1080	2780	1870	1110	3380	1590	812	998	994
26	1170	1390	1260	1060	2560	1790	1220	3490	1560	809	967	976
27	1130	1230	1160	1060	2670	1710	1290	3160	1550	959	1640	894
28	1140	1370	1140	1150	2870	1730	1410	2660	1480	965	1280	929
29	1140	1310	1130	1320	---	1640	1500	3470	1500	915	973	956
30	1170	1650	1080	1440	---	1640	1470	2710	1570	867	905	1010
31	1220	---	1030	1480	---	1700	---	2780	---	799	975	---
TOTAL	37442	39510	37240	31699	54280	63080	44520	70430	62090	33352	28173	31248
MEAN	1208	1317	1201	1023	1939	2035	1484	2272	2070	1076	909	1042
MAX	1630	1650	1750	1480	4390	3160	1900	3690	2900	1600	1640	1590
MIN	982	1090	263	644	1050	1500	1110	1140	1480	799	678	793
AC-FT	74270	78370	73870	62870	107700	125100	88310	139700	123200	66150	55880	61980
CAL YR 1981	TOTAL	446442	MEAN	1223	MAX	4000	MIN	263	AC-FT	885500		
WTR YR 1982	TOTAL	533064	MEAN	1460	MAX	4390	MIN	263	AC-FT	1057000		

NIOBRARA RIVER BASIN

53

06465310 EAGLE CREEK NEAR REDBIRD, NE

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 1015C007, on left bank 12 ft (4 m) downstream from bridge on the county road, 7 mi (11 km) west of Redbird.

DRAINAGE AREA.--206 mi² (534 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1,463.90 ft (446.197 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. No gage height record Jan. 7 to Feb. 10, Feb. 12-22, and Feb. 24 to Mar. 23, during winter period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft³/s (94.3 m³/s) Aug. 5, 1981, gage height, 8.55 ft (2.606 m); minimum daily, 1.9 ft³/s (0.054 m³/s) Aug. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 747 ft³/s (21.2 m³/s) Sept. 9, gage height, 6.47 ft (1.972 m) from floodmark; minimum daily, 18 ft³/s (0.51 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	34	45	44	30	66	57	104	104	45	19	52
2	28	37	45	42	28	70	55	96	96	42	20	41
3	30	41	46	41	25	60	49	41	91	39	19	32
4	36	38	46	40	28	56	58	40	79	36	20	31
5	34	36	47	39	26	50	57	42	70	34	24	30
6	34	34	47	36	29	50	50	42	68	36	19	29
7	33	36	49	33	28	52	49	40	59	34	18	29
8	31	35	49	35	27	54	49	59	59	32	19	31
9	32	35	47	32	23	56	47	39	56	29	22	91
10	32	36	46	25	27	60	52	39	55	31	28	40
11	32	37	45	31	29	76	50	38	54	32	25	30
12	33	37	45	32	32	78	50	50	52	31	25	31
13	36	37	45	30	40	70	48	45	51	30	26	32
14	35	37	40	40	47	62	46	56	222	28	24	33
15	33	38	42	40	52	60	48	54	114	30	24	34
16	34	38	32	27	54	58	46	47	59	28	24	33
17	35	38	20	41	70	56	45	43	51	25	23	35
18	33	39	22	45	78	54	43	42	50	25	22	34
19	33	42	27	43	86	60	44	41	49	25	20	33
20	33	40	37	33	96	70	41	53	47	23	28	31
21	33	41	45	31	150	56	42	84	47	22	33	33
22	32	43	50	35	220	54	42	64	46	22	30	32
23	33	44	47	25	179	52	42	51	22	22	28	31
24	34	43	45	29	150	47	41	73	46	22	29	30
25	33	42	48	31	130	49	42	92	43	22	26	31
26	34	41	45	33	100	47	40	136	42	23	26	31
27	34	40	45	36	70	46	41	95	43	27	26	31
28	34	41	42	34	50	46	44	83	41	22	27	31
29	35	42	40	32	---	46	43	272	43	20	26	30
30	35	47	44	29	---	54	43	402	45	20	26	31
31	34	---	43	27	---	55	---	268	---	19	27	---
TOTAL	1027	1169	1316	1071	1904	1770	1404	2631	1904	876	753	1043
MEAN	33.1	39.0	42.5	34.5	68.0	57.1	46.8	84.9	63.5	28.3	24.3	34.8
MAX	36	47	50	45	220	78	58	402	222	45	33	91
MIN	28	34	20	25	23	46	40	38	22	19	18	29
AC-FT	2040	2320	2610	2120	3780	3510	2780	5220	3780	1740	1490	2070
CAL YR 1981	TOTAL	13472.9	MEAN 36.9	MAX 716	MIN 9.9	AC-FT 26720						
WTR YR 1982	TOTAL	16868.0	MEAN 46.2	MAX 402	MIN 18	AC-FT 33460						

LOCATION.--Lat 42°45'43"N, long 98°26'32"W, in NE1/4 sec. 11, T.32 N., R.10 W., Holt County, Hydrologic Unit 10150007, on right bank 10 ft (3 m) downstream from county road bridge at Redbird, 0.9 mi (1.4 km) upstream from mouth and 4.6 mi (7.4 km) south-southeast of Lynch.

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

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 545 ft³/s (15.4 m³/s) May 29, 1982, gage height, 4.31 ft (1.314 m); maximum gage height, 4.87 ft (1.484 m) Feb. 21, 1982, backwater from ice, but may have been higher during period of no gage-height record Jan. 10 to Feb. 10, 1982; minimum daily discharge, 3.8 ft³/s (0.11 m³/s) July 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 545 ft³/s (15.4 m³/s) May 29, gage height, 4.31 ft (1.314 m); maximum gage height recorded, 4.87 ft (1.484 m) Feb. 21, backwater from ice, but may have been higher during period of no gage-height record Jan. 10 to Feb. 10; minimum daily discharge, 7.9 ft³/s (0.22 m³/s) Aug. 8.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	21	28	25	17	50	35	27	98	28	11	33
2	17	25	29	23	15	53	34	28	65	28	8.8	28
3	16	27	31	22	13	44	26	27	59	24	8.4	22
4	18	26	33	20	15	41	36	25	51	26	8.8	16
5	18	23	37	19	14	34	45	28	47	22	12	16
6	18	22	33	17	16	34	39	30	48	25	12	15
7	17	22	32	16	15	35	38	28	43	26	11	15
8	16	21	34	18	14	36	33	25	42	24	7.9	15
9	16	21	33	16	12	37	35	24	42	21	8.4	20
10	17	22	32	13	17	45	45	29	42	24	17	60
11	16	22	31	15	19	60	45	27	41	26	16	28
12	17	22	31	15	22	63	41	56	42	25	13	24
13	19	23	32	14	27	54	35	54	43	22	15	23
14	22	24	30	19	37	47	31	68	130	16	15	23
15	21	24	29	19	42	44	32	54	104	20	16	24
16	21	24	17	15	44	43	32	94	65	22	17	24
17	21	25	10	20	54	40	30	49	51	20	13	24
18	21	25	13	23	62	39	27	38	45	19	12	23
19	21	27	18	22	68	46	26	32	40	18	11	20
20	21	28	23	18	80	57	24	39	36	17	14	17
21	20	27	28	16	120	42	26	69	33	15	14	17
22	20	27	32	19	170	38	26	58	31	15	16	20
23	21	29	30	13	145	37	26	45	30	15	15	21
24	21	30	28	15	110	35	26	54	29	13	12	19
25	21	28	30	17	94	33	25	70	30	15	12	19
26	21	26	27	18	76	31	26	140	29	15	11	21
27	21	26	27	19	51	32	25	111	29	19	9.8	21
28	22	24	24	18	36	33	26	66	27	18	9.8	20
29	22	24	22	17	---	34	29	281	27	14	14	20
30	22	31	25	16	---	36	29	242	29	12	17	20
31	20	---	24	15	---	35	---	207	---	14	15	---
TOTAL	601	746	853	552	1405	1288	953	2125	1428	618	392.9	668
MEAN	19.4	24.9	27.5	17.8	50.2	41.5	31.8	68.5	47.6	19.9	12.7	22.3
MAX	22	31	37	25	170	63	45	281	130	28	17	60
MIN	16	21	10	13	12	31	24	24	27	12	7.9	15
AC-FT	1190	1480	1690	1090	2790	2550	1890	4210	2830	1230	779	1320
CAL YR 1981	TOTAL	7966.0	MEAN 21.8	MAX 107	MIN 3.8	AC-FT 15800						
WTR YR 1982	TOTAL	11629.9	MEAN 31.9	MAX 281	MIN 7.9	AC-FT 23070						

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE
National stream-quality accounting network station

LOCATION.--Lat 42°44'25", long 98°12'45", near center of N1/2 sec.23, T.32 N., R.8 W., Knox County, Hydrologic Unit 10150007, on left bank 4 ft (1 m) downstream from Pishelville Bridge, 6 mi (10 km) south of Verdel, and 7 mi (11 km) upstream from Verdigr Creek.

DRAINAGE AREA.--12,600 mi² (32,600 km²), approximately.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,308.12 ft (398.715 m) National Geodetic Vertical Datum of 1929. Apr. 25, 1938, to June 16, 1939, nonrecording gage at same site and datum. June 17, 1939, to June 13, 1940, nonrecording gage 250 ft (76 m) downstream at present datum.

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

AVERAGE DISCHARGE.--25 years, 1,511 ft³/s (42.79 m³/s), 1,095,000 acre-ft/yr (1.35 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s (1,100 m³/s) Mar. 27, 1960, gage height, 10.10 ft (3.078 m); maximum gage height, 10.62 ft (3.237 m) Mar. 12, 1966, backwater from ice; minimum daily discharge, 104 ft³/s (2.95 m³/s) Nov. 30, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,950 ft³/s (140 m³/s) Feb. 23; maximum gage height, 8.41 ft (2.563 m) Feb. 23, backwater from ice; minimum daily discharge, 339 ft³/s (9.60 m³/s) Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	1280	1600	1010	1550	3100	1730	1580	2930	1600	791	1080
2	1080	1380	1380	908	1520	3070	1750	1480	3040	1490	754	1310
3	1050	1470	1730	906	1470	2320	1520	1330	2980	1380	717	1010
4	1170	1260	1630	946	1480	1910	2070	1280	2440	1320	706	871
5	1530	1270	1500	975	1440	1850	1820	1380	2390	1230	797	913
6	1500	1210	1660	1050	1250	1830	1800	1430	2400	1170	847	904
7	1470	1270	1380	1050	1130	1640	1820	1430	2240	1680	805	947
8	1240	1390	1610	1010	1100	1660	1830	1370	3140	1370	873	892
9	1210	1340	1620	996	1160	1830	1740	1310	2420	1250	788	993
10	1170	1410	1550	922	1240	2300	1790	1250	2150	1120	975	1040
11	1130	1420	1670	739	1280	2930	1790	1320	1990	1280	1070	915
12	1110	1390	1650	709	1300	3360	1850	1620	1790	1100	974	964
13	1270	1390	1640	760	1340	2950	2100	1690	1940	1040	1000	1510
14	1730	1430	1450	893	1420	2590	1560	2080	2570	1130	882	1620
15	1540	1440	1110	1020	1510	2330	1510	3010	3200	1260	902	1500
16	1420	1380	766	1020	1530	2110	1540	3230	2760	1310	896	1280
17	1340	1410	352	1120	1670	2070	1710	2930	2940	1640	836	1330
18	1390	1460	339	1190	1900	1980	1520	2910	2460	1210	799	1270
19	1300	1430	367	1220	2250	2030	1420	2570	2370	1050	785	1220
20	1220	1420	757	1200	2650	2540	1390	2720	2150	936	856	1330
21	1260	1340	1030	1260	2950	2190	1280	3370	1930	926	1040	1190
22	1280	1480	1200	1420	4060	2230	1350	3930	1760	931	1090	1340
23	1260	1550	1580	1310	4950	2040	1290	3440	1670	858	1360	938
24	1280	1440	1740	1200	4380	1990	1210	2930	1600	869	1050	1020
25	1250	1460	1700	1160	3200	2000	1170	3310	1680	879	1030	1070
26	1240	1460	1430	1130	2900	1950	1270	3850	1610	814	1050	1080
27	1240	1330	1270	1130	2770	1820	1350	3750	1730	1000	1500	970
28	1210	1460	1240	1190	2900	1840	1450	2750	1610	1020	1470	991
29	1210	1410	1240	1330	---	1770	1600	4200	1510	984	1070	1020
30	1240	1630	1180	1460	---	1730	1600	3640	1670	922	972	1060
31	1270	---	1160	1540	---	1850	---	3550	---	872	1030	---
TOTAL	40030	42010	40531	33774	58300	67810	47830	76640	67070	35641	29715	33578
MEAN	1291	1400	1307	1089	2082	2187	1594	2472	2236	1150	959	1119
MAX	1730	1630	1740	1540	4950	3360	2100	4200	3200	1680	1500	1620
MIN	1050	1210	339	709	1100	1640	1170	1250	1510	814	706	871
AC-FT	79400	83330	80390	66990	115600	134500	94870	152000	133000	70690	58940	66600
CAL YR 1981	TOTAL	477103	MEAN	1307	MAX	4090	MIN	339	AC-FT	946300		
WTR YR 1982	TOTAL	572929	MEAN	1570	MAX	4950	MIN	339	AC-FT	1136000		

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 current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1971 to September 1981.

INSTRUMENTATION.--Temperature recorder since June 14, 1958.

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 micromhos Dec. 22, 1976; minimum daily, 110 micromhos 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 (385,000 tonnes) Mar. 19, 1979; minimum daily, 60 tons (55 tonnes) Dec. 7, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 35.5°C July 16, 25; minimum, 0.0°C Jan. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CTIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, 4F AGAR (COLS. PER 100 ML) (31673)
OCT										
06...	1535	1350	229	7.9	17.5	--	9.0	65	--	2000
NOV										
03...	1055	1260	250	7.9	11.5	110	9.9	77	340	580
DEC										
08...	1455	1770	242	7.6	5.0	--	12.2	44	81	5100
JAN										
26...	1350	1040	290	7.0	.5	7.5	10.7	15	K42	92
FEB										
23...	1245	4430	237	7.4	.5	--	14.3	26	110	7000
MAR										
23...	1335	1980	296	7.6	6.5	190	7.1	56	K23	780
APR										
27...	1120	1240	279	8.0	11.0	--	10.0	18	K33	K43
MAY										
18...	1240	2930	279	7.8	18.5	140	8.0	47	1200	800
JUN										
16...	1045	3500	347	7.9	25.5	--	8.0	--	K2900	3600
JUL										
21...	1035	891	261	8.4	32.0	57	7.7	38	K240	220
AUG										
10...	1250	973	259	8.3	24.5	--	9.0	19	220	580
SEP										
08...	1000	945	247	8.4	20.5	52	9.3	32	160	380

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

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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- SURP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 06...	99	--	33	4.1	--	--	--	--	<5.0
NOV 03...	100	.00	34	4.5	8.8	.4	6.1	110	6.0
DEC 08...	110	--	37	4.4	--	--	--	--	5.0
JAN 26...	140	.00	45	5.8	11	.4	--	140	5.0
FEB 23...	99	--	32	4.6	--	--	--	--	15
MAR 23...	120	8.0	39	5.5	11	.4	7.6	120	19
APR 27...	120	--	41	5.2	--	--	--	--	7.0
MAY 18...	110	.00	38	4.8	12	.5	8.4	130	6.0
JUN 16...	150	--	47	7.3	--	--	--	--	42
JUL 21...	110	.00	37	4.7	11	.5	8.9	124	17
AUG 10...	110	--	36	5.2	--	--	--	--	14
SEP 08...	100	.00	33	4.5	9.4	.4	6.9	111	13

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 06...	1.7	--	--	--	--	--	--	392	.62
NOV 03...	2.9	.3	49	187	178	.25	636	235	.88
DEC 08...	1.6	--	--	--	--	--	--	203	.96
JAN 26...	1.8	.4	57	219	210	.30	615	235	.90
FEB 23...	1.9	--	--	--	--	--	--	--	.61
MAR 23...	2.5	.4	46	216	206	.29	1160	1080	.80
APR 27...	2.2	--	--	--	--	--	--	--	.47
MAY 18...	2.0	.6	44	198	195	.27	1570	597	.44
JUN 16...	2.7	--	--	--	--	--	--	--	1.2
JUL 21...	2.4	.4	51	202	207	.27	486	405	<.10
AUG 10...	1.9	--	--	--	--	--	--	--	<.10
SEP 08...	2.0	.3	51	195	187	.27	498	357	<.10

06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, GFN, 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, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 06...	--	.200	--	1.0	1.20	1.8	.210	--	8.0
NOV 03...	.72	.130	<.060	.97	1.10	2.0	.200	.080	12
DEC 08...	--	.090	--	.65	.74	1.7	.130	--	6.9
JAN 26...	.91	.170	.130	.51	.68	1.6	.120	.100	3.6
FEB 23...	--	.160	--	.94	1.10	1.7	.170	--	6.5
MAR 23...	.79	.170	.060	.54	.71	1.5	.190	.110	20
APR 27...	--	.100	--	.81	.91	1.4	.160	--	4.5
MAY 18...	.44	--	.130	--	1.20	1.6	.370	.090	14
JUN 16...	--	--	--	--	--	--	.490	--	--
JUL 21...	<.10	.120	.120	2.8	2.90	.09	.220	.040	12
AUG 10...	--	.130	--	1.7	1.80	--	.190	--	9.1
SEP 08...	<.10	.160	.080	1.3	1.50	--	.310	.010	12

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 03...	1055	7	2	5	200	100	100	1	<1	10
MAR 23...	1335	8	3	5	300	200	110	3	<1	20
MAY 18...	1240	7	1	6	200	90	110	1	<3	10
JUL 21...	1035	9	1	8	<100	--	93	1	<1	10

DATE	CHROMIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01035)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01041)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
NOV 03...	10	2	<3	13	12	1	6400	6400	29	5
MAR 23...	<10	5	<1	24	22	2	12000	12000	71	10
MAY 18...	<10	3	1	12	9	3	6300	6200	66	6
JUL 21...	<10	1	<1	9	5	4	2700	--	<3	2

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGANESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGANESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI) (01066)
NOV 03...	<1	350	350	3	.1	.0	.3	8	7
MAR 23...	<1	590	580	12	.1	--	<.1	20	18
MAY 18...	2	500	490	6	<.1	--	<.1	9	5
JUL 21...	<1	250	250	4	.2	.0	.2	7	6

NIOBRARA RIVER BASIN

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06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 03...	1	2	1	1	<1	<1	40	40	5
MAR 23...	2	3	2	1	<1	<1	70	60	15
MAY 18...	4	2	1	1	<1	<1	40	20	22
JUL 21...	1	<1	--	1	<1	<1	30	10	16

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)
NOV 03...	1055	1260	10.0	1400	4760	13	18	--
MAR 23...	1335	1980	7.0	1800	9620	17	21	22
APR 27...	1120	1240	12.0	976	3270	--	--	--
JUN 16...	1045	3500	21.0	1880	17800	23	28	30
JUL 21...	1035	891	28.5	353	849	28	32	--
SEP 08...	1000	945	20.5	423	1080	19	21	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	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 .062 MM (70331)
NOV 03...	27	33	36	50	91	100	--
MAR 23...	27	37	48	86	100	--	--
APR 27...	--	--	--	--	--	--	19
JUN 16...	32	39	54	84	99	100	--
JUL 21...	36	44	56	95	100	--	--
SEP 08...	24	26	38	91	99	100	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)
NOV 03...	1055	1260	5	--	0	34	91	99	99	100
MAR 23...	1335	1980	5	0	1	19	81	97	99	100
APR 27...	1120	1240	5	1	6	38	92	98	99	100
JUL 21...	1035	891	5	0	3	40	92	98	99	100

NIOBRARA RIVER BASIN

06465500 NIOBRARA RIVER NEAR VERDEL, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	18.5	11.0	9.5	7.0	3.0	3.0	.5	.5	1.0	1.0	.5	.5
2	16.5	9.5	9.5	9.0	3.0	2.0	.5	.5	1.5	1.0	1.0	1.0
3	17.0	11.5	10.5	10.0	4.0	2.0	.5	.5	1.5	1.5	1.0	1.0
4	16.0	15.0	14.5	9.5	3.0	2.0	.5	.0	1.5	1.5	1.0	1.0
5	15.5	11.5	11.0	7.0	3.5	2.0	.5	.5	1.5	1.0	1.5	1.0
6	18.0	9.0	10.0	5.0	4.0	2.0	1.0	.5	1.5	.5	1.5	1.5
7	15.0	10.0	13.0	6.0	5.0	2.0	1.5	.5	1.0	.5	1.5	1.0
8	16.0	10.0	9.5	5.5	5.0	4.0	1.0	.5	1.5	1.0	1.5	1.0
9	18.0	13.0	7.0	4.0	4.0	1.5	1.5	1.0	1.5	1.0	1.5	1.0
10	18.0	10.5	9.5	4.0	1.5	1.5	1.5	1.5	1.5	.5	1.0	.5
11	15.0	11.5	10.0	5.0	3.0	1.5	1.5	1.0	1.0	.5	1.0	.5
12	15.5	14.0	11.5	6.0	3.5	2.0	1.0	1.0	1.0	.5	1.0	1.0
13	15.5	11.0	11.5	7.0	2.0	1.0	1.0	.5	1.0	.5	1.0	1.0
14	11.0	10.5	11.5	7.0	1.5	1.0	1.0	.5	.5	.5	1.0	1.0
15	14.5	8.0	13.0	9.0	1.0	1.0	1.0	.5	.5	.5	1.5	1.0
16	14.0	10.5	11.0	7.0	1.5	1.0	1.5	1.5	.5	.5	4.0	2.0
17	13.5	9.5	11.0	7.0	2.0	1.0	1.5	.5	.5	.5	4.5	3.5
18	9.0	6.5	9.5	5.5	2.0	1.0	.5	.5	.5	.5	5.0	4.5
19	14.0	5.5	5.5	3.0	1.5	1.0	1.0	.5	.5	.5	5.0	4.5
20	13.0	8.5	3.0	3.0	1.0	1.0	1.0	1.0	.5	.5	4.5	4.0
21	9.5	6.0	3.0	3.0	1.0	1.0	1.0	1.0	.5	.5	4.0	3.0
22	6.0	4.5	3.5	3.0	1.0	1.0	1.0	1.0	.5	.5	6.5	3.0
23	7.0	3.0	6.5	3.5	.5	.5	1.5	1.0	.5	.5	8.0	6.0
24	9.5	4.5	6.0	4.5	.5	.5	1.5	1.0	.5	.5	6.0	5.0
25	10.5	5.5	5.0	4.5	.5	.5	1.0	1.0	1.0	.5	6.0	3.0
26	11.5	5.0	5.0	3.0	.5	.5	.5	.5	.5	.5	8.0	3.0
27	14.0	7.0	3.5	2.0	.5	.5	.5	.5	.5	.5	9.5	3.5
28	14.5	9.5	4.5	3.0	.5	.5	1.0	.5	.5	.5	7.0	5.0
29	15.0	10.5	5.0	3.0	1.0	.5	1.0	.5	---	---	8.5	6.5
30	15.0	11.0	5.0	3.0	1.0	.5	1.0	1.0	---	---	8.5	6.0
31	13.0	8.0	---	---	1.0	.5	1.0	1.0	---	---	13.0	4.5
MONTH	18.5	3.0	14.5	2.0	5.0	.5	1.5	.0	1.5	.5	13.0	.5
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	15.0	7.0	21.5	11.0	21.5	13.0	28.5	19.0	35.0	24.5	30.5	23.0
2	14.0	3.0	21.5	13.5	19.0	15.5	29.5	22.0	32.0	23.5	26.5	21.0
3	7.0	2.0	25.0	15.5	19.0	13.5	33.5	23.5	34.0	25.0	29.0	19.5
4	7.0	2.0	24.5	18.0	21.5	15.0	33.5	24.5	35.0	25.0	28.0	20.0
5	5.5	2.0	19.0	14.0	19.0	16.5	30.5	23.5	35.0	26.0	24.0	21.5
6	6.0	2.0	18.5	11.5	24.0	16.5	26.0	22.0	34.0	26.0	25.5	20.5
7	4.0	1.5	19.5	12.0	24.5	16.0	30.0	19.5	35.0	25.0	26.0	20.5
8	5.0	1.5	21.5	11.5	21.5	18.5	26.0	22.0	31.0	24.0	28.0	20.5
9	9.5	2.0	24.0	16.0	20.0	15.0	31.0	22.0	25.5	20.5	24.5	21.0
10	9.5	4.5	24.0	16.0	24.5	15.0	26.5	22.0	28.0	19.0	28.5	20.0
11	14.0	6.0	19.0	14.5	26.0	19.0	31.0	20.0	25.0	19.0	24.5	20.0
12	18.0	10.5	17.0	13.0	24.0	19.0	33.5	22.0	22.0	19.5	20.0	16.5
13	20.0	11.5	18.5	15.0	26.0	18.5	29.5	24.5	30.5	21.0	16.5	15.5
14	20.5	12.0	20.0	15.0	23.0	19.0	31.5	23.5	26.0	23.0	16.0	14.5
15	23.5	15.0	20.0	16.5	23.5	18.5	33.0	24.0	26.0	23.0	16.5	13.0
16	18.5	10.5	22.0	15.5	25.0	18.0	35.5	26.0	30.5	22.0	16.0	14.0
17	17.0	8.0	19.0	17.0	25.0	20.0	30.0	23.5	31.0	23.5	19.5	15.0
18	19.5	9.0	24.0	15.0	24.0	20.0	31.5	22.0	29.0	23.5	21.0	13.0
19	15.0	9.0	21.0	18.5	25.0	17.0	33.0	23.5	34.5	23.5	20.5	15.0
20	14.5	6.5	21.5	18.5	26.0	18.5	35.0	26.0	30.5	24.0	18.0	13.0
21	14.0	8.0	20.0	15.0	28.5	19.0	34.5	24.5	25.5	21.5	20.0	11.5
22	18.5	6.5	17.0	14.0	27.0	18.5	33.5	25.0	28.5	21.5	20.5	13.0
23	19.0	9.0	20.5	16.0	29.0	19.5	30.0	24.5	30.0	21.5	21.0	15.5
24	20.5	11.0	19.0	17.0	25.0	21.0	34.0	23.5	26.5	21.0	19.5	14.5
25	20.0	13.5	17.0	15.5	28.0	19.5	35.5	25.0	25.5	18.5	19.0	11.5
26	18.5	10.0	17.0	15.0	27.0	19.5	30.0	25.0	30.0	19.5	21.5	14.0
27	14.5	11.0	21.5	16.0	30.5	20.0	29.5	24.0	24.0	18.5	20.5	15.0
28	12.0	10.0	20.5	19.0	31.5	22.0	29.5	23.5	24.0	18.5	24.0	16.0
29	13.5	8.5	22.0	17.0	27.0	21.0	31.5	24.0	27.0	21.0	22.0	16.0
30	20.0	9.0	20.0	16.0	23.0	19.0	32.0	21.5	25.5	21.5	18.0	13.5
31	---	---	16.0	14.0	---	---	32.0	23.0	31.0	23.0	---	---
MONTH	23.5	1.5	25.0	11.0	31.5	13.0	35.5	19.0	35.0	18.5	30.5	11.5

NIOBRARA RIVER BASIN

61

06465680 NORTH BRANCH VERDIGRE CREEK NEAR VERDIGRE, NE 1981

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 (5 m) downstream from bridge on paved county road 5 mi (8 km) west of Verdigre.

DRAINAGE AREA.--137 mi² (355 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,468 ft (447.4 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Minor diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220 ft³/s (6.23 m³/s) June 14, 1981, gage height, 5.54 ft (1.689 m), from floodmark; minimum daily, 2.5 ft³/s (0.071 m³/s) Jan. 6, 7, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 144 ft³/s (4.08 m³/s) May 29, gage height, 4.38 ft (1.335 m), maximum gage height, 5.54 ft (1.689 m) Feb. 18, backwater from ice; minimum daily, 7.4 ft³/s (0.21 m³/s) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	20	18	17	13	37	20	22	53	20	7.4	26
2	18	22	22	16	13	35	20	23	50	21	8.9	23
3	18	22	23	16	12	34	18	23	49	18	10	21
4	18	21	22	15	11	33	23	23	46	14	12	21
5	18	20	22	15	11	30	23	24	45	16	19	21
6	19	20	21	14	10	28	21	23	43	44	16	20
7	19	21	21	12	12	27	21	22	40	27	17	20
8	18	20	21	13	12	26	21	21	39	24	17	18
9	19	20	21	12	11	28	22	21	38	21	16	20
10	19	20	20	10	12	30	22	22	36	22	18	23
11	19	21	20	11	14	29	22	21	35	21	18	21
12	19	21	21	11	16	27	22	24	33	20	16	22
13	21	21	21	10	19	25	21	23	33	19	17	21
14	20	21	21	12	24	24	21	27	40	18	17	20
15	20	21	21	13	23	24	23	25	34	20	18	21
16	19	21	17	11	22	24	21	24	30	18	17	21
17	20	21	11	13	27	23	21	23	29	15	14	21
18	19	20	12	15	29	23	21	23	29	14	15	20
19	19	21	13	15	33	25	21	23	28	9.8	15	20
20	20	21	17	13	40	24	21	29	27	11	15	19
21	20	21	23	12	48	22	21	33	26	12	17	19
22	20	21	25	13	41	22	21	29	26	12	18	20
23	20	21	23	12	38	22	22	26	24	11	19	20
24	20	21	21	14	35	22	22	29	23	8.9	15	19
25	20	20	22	15	32	21	22	34	23	10	18	19
26	20	20	20	16	34	21	21	40	23	9.8	17	20
27	20	20	20	17	35	21	21	34	23	13	18	19
28	20	20	19	15	36	21	22	32	20	13	15	20
29	21	20	18	14	---	21	23	74	19	13	16	19
30	21	27	19	13	---	21	23	86	20	12	17	18
31	20	---	18	12	---	21	---	66	---	9.2	20	---
TOTAL	601	626	613	417	663	791	643	949	984	516.7	493.3	612
MEAN	19.4	20.9	19.8	13.5	23.7	25.5	21.4	30.6	32.8	16.7	15.9	20.4
MAX	21	27	25	17	48	37	23	86	53	44	20	26
MIN	17	20	11	10	10	21	18	21	19	8.9	7.4	18
AC-FT	1190	1240	1220	827	1320	1570	1280	1880	1950	1020	978	1210
CAL YR 1981	TOTAL	6640.7	MEAN	18.2	MAX	75	MIN	7.0	AC-FT	13170		
WTR YR 1982	TOTAL	7909.0	MEAN	21.7	MAX	86	MIN	7.4	AC-FT	15690		

BAZILE CREEK BASIN

06466500 BAZILE CREEK NEAR NIOBRARA, NE

LOCATION.--Lat 42°45'26", long 97°56'50", in SW1/4 sec.17, T.32 N., R.5 W., Knox County, Hydrologic Unit 10170101, on left bank 60 ft (18 m) shoreward and 20 ft (6 m) downstream from centerline of bridge on State Highway 12, 2.5 mi (4.0 km) upstream from mouth and 4.5 mi (7.2 km) east of Niobrara.

DRAINAGE AREA.--440 mi² (1,140 km²), 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 and nonrecording gage read at least twice weekly. Datum of gage is 1,210.81 ft (369.055 m) 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 (1.28 m), at present site at datum 4 ft (1.2 m) higher. June 17, 1957, to Sept. 14, 1958, water-stage recorder above 8.2 ft (2.50 m) at present datum. Sept. 15, 1958, to Oct. 17, 1978, water-stage recorder at downstream end of left pier, above 4.3 ft (1.31 m), at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Minor diversions for irrigation above station.

AVERAGE DISCHARGE.--30 years, 78.7 ft³/s (2.229 m³/s), 57,020 acre-ft/yr (70.3 hm³/yr); median of yearly mean discharges, 68 ft³/s (1.926 m³/s), 49,300 acre-ft/yr (60.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,600 ft³/s (1,940 m³/s) June 16, 1957, gage height, 19.96 ft (6.084 m), present datum, from high point on surge, from rating curve extended above 6,500 ft³/s (184 m³/s) on basis of contracted-opening measurements at gage heights 15.36 ft (4.682 m) and 19.96 ft (6.084 m), present datum; maximum gage height, 20.25 ft (6.172 m) 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 (4.682 m), present datum, from floodmarks, discharge, 24,400 ft³/s (691 m³/s) on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft³/s (58.1 m³/s) May 30, gage height, 16.73 ft (5.099 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); maximum gage height, 18.43 ft (5.617 m) Feb. 21, ice jam; minimum daily discharge, 18 ft³/s (0.51 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	29	73	33	22	74	56	45	317	84	30	42
2	23	30	50	32	22	77	55	43	249	80	27	32
3	22	36	51	32	21	68	55	42	199	84	25	24
4	22	36	53	30	19	62	58	40	159	55	24	20
5	24	37	51	29	19	54	62	43	133	49	499	20
6	25	34	51	26	18	49	62	46	115	74	188	22
7	25	32	48	22	20	45	63	43	91	84	72	23
8	24	30	48	24	20	40	63	43	82	69	49	22
9	24	28	47	22	19	50	63	43	77	55	36	24
10	25	28	46	19	20	100	67	51	74	50	36	26
11	23	29	44	21	23	109	70	57	73	51	33	22
12	24	30	43	21	29	103	68	136	72	49	28	23
13	28	30	44	20	37	76	64	117	67	49	30	24
14	30	31	45	22	46	69	61	63	90	60	28	25
15	31	31	54	23	43	65	169	63	225	54	28	27
16	30	30	38	21	41	63	80	67	111	49	29	27
17	31	31	28	23	56	61	66	57	81	44	24	29
18	33	31	32	25	90	61	58	52	74	42	22	28
19	31	35	37	26	150	73	51	47	66	155	22	26
20	28	31	40	23	320	130	44	376	63	67	30	25
21	29	31	38	22	480	109	44	798	60	54	21	26
22	30	31	36	23	590	76	45	325	58	43	21	26
23	29	34	33	21	500	69	44	206	58	39	21	25
24	29	37	32	23	420	65	43	139	58	39	21	23
25	30	38	35	24	330	61	43	176	54	38	22	22
26	30	38	34	26	220	58	41	330	54	37	21	22
27	29	37	34	27	140	58	42	336	54	38	21	22
28	29	35	32	25	104	57	43	245	54	34	21	21
29	29	35	31	24	---	58	45	482	54	33	21	22
30	30	47	35	22	---	58	46	937	254	33	20	24
31	29	---	34	21	---	56	---	794	---	33	21	---
TOTAL	849	992	1297	752	3819	2154	1771	6242	3176	1725	1491	744
MEAN	27.4	33.1	41.8	24.3	136	69.5	59.0	201	106	55.6	48.1	24.8
MAX	33	47	73	33	590	130	169	937	317	155	499	42
MIN	22	28	28	19	18	40	41	40	54	33	20	20
AC-FT	1680	1970	2570	1490	7570	4270	3510	12380	6300	3420	2960	1480
CAL YR 1981	TOTAL	13324.5	MEAN	36.5	MAX	866	MIN	9.5	AC-FT	26430		
WTR YR 1982	TOTAL	25012.0	MEAN	68.5	MAX	937	MIN	18	AC-FT	49610		

MISSOURI RIVER MAIN STEM

63

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, Nebraska, Hydrologic Unit 10170101, in powerhouse of Gavins Point Dam on Missouri River, 3.75 mi (6.03 km) southwest of Yankton, 13.6 mi (21.9 km) upstream from James River, 32.5 mi (52.3 km) downstream from Niobrara River, and at mi 811.0 (1,304.9 km).

DRAINAGE AREA.--279,500 mi² (723,900 km²), 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 (0.621 km³) below elevation 1,210.0 ft (368.81 m), top of spillway gates. Normal maximum, 443,000 acre-ft (0.546 km³) below elevation 1,208.0 ft (368.20 m). Inactive storage, 157,000 acre-ft (0.194 km³) below elevation 1,195.0 ft (364.24 m). Dead storage, 23,000 acre-ft (28.4 km³) below elevation 1,180.0 ft (359.66 m), crest of spillway. Figures given herein represent elevations at powerhouse and total contents adjusted for wind effect.

The spillway consists of 14 taintor gates, each 40 ft (12 m) wide by 30 ft (9 m) high; spillway capacity, 280,000 ft³/s (7,930 m³/s) at pool elevation 1,210.0 ft (368.81 m). Crest of spillway is at elevation 1,180 ft (360 m). Normal releases are through 3 power units, installation completed in January 1957; maximum release through power units is 35,000 ft³/s (991 m³/s) at pool elevation 1,210.0 ft (368.81 m). Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Elevations and contents furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 565,000 acre-ft (0.697 km³) Apr. 1, 1960, affected by wind; minimum since initial filling, 61,950 acre-ft (76.4 km³) Apr. 23, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 453,000 ft³/s (12,800 m³/s) Oct. 14; minimum, 340,000 ft³/s (9,630 m³/s) Mar. 24.

MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.	30	1,208.22	447,000	-
Oct.	31	1,208.19	448,000	+1,000
Nov.	30	1,208.18	440,000	-8,000
Dec.	31	1,207.75	435,000	-5,000
CAL YR 1981		-	-	-40,000
Jan.	31	1,207.87	439,000	+4,000
Feb.	28	1,205.57	375,000	-64,000
Mar.	31	1,205.46	372,000	-3,000
Apr.	30	1,205.41	370,000	-2,000
May	31	1,207.90	440,000	+70,000
June	30	1,206.35	394,000	-46,000
July	31	1,207.34	423,000	+29,000
Aug.	31	1,208.17	446,000	+23,000
Sept.	30	1,208.10	447,000	+1,000
WTR YR 1982		-	-	0

NOTE.--Reservoir frozen over Dec. 10 to Mar. 30.

MISSOURI RIVER MAIN STEM

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 (8.4 km) downstream from Gavins Point Dam, 6.0 mi (9.7 km) upstream from James River, and at mi 805.8 (1.296.5 km).

DRAINAGE AREA.--279,500 mi² (723,900 km²), 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 date (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 (347.374 m) 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 (6.10 m) higher.

REMARKS.--Records good. Flow completely regulated by Lewis and Clark Lake 5.2 mi (8.4 km) upstream since July 1955 (see station 06467000). Many diversions for irrigation and water supply above station. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 26,380 ft³/s (747.1 m³/s), 19,110,000 acre-ft/yr (23.6 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s (13,600 m³/s) Apr. 13, 1952; maximum gage height, 35.5 ft (10.82 m) Apr. 13, 14, 1952 (present datum); minimum daily discharge, 2,700 ft³/s (76.5 m³/s) Nov. 15, 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 50.5 ft (15.39 m) Apr. 5, 1881 (ice jam), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,800 ft³/s (957 m³/s) at 1900 hours, Sept. 28, gage height, 17.67 ft (5.386 m); maximum gage height, 19.48 ft (5.938 m) Jan. 23 (backwater from ice); minimum daily discharge, 9,900 ft³/s (0.28 m³/s) Mar. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31900	32200	14500	13600	15000	12000	28100	28400	22000	30500	31600	31200
2	32000	31800	14500	13400	15000	11000	27800	28400	23500	30000	32000	31100
3	32000	31100	13900	13500	15300	10000	27700	28600	23400	30500	31800	31000
4	31900	30300	13700	13500	15500	10000	28100	28800	25300	30500	31800	31100
5	31900	27800	13700	13100	16000	10000	28000	28800	26300	30500	32200	30900
6	31700	25200	13600	14000	16000	10000	28200	28700	26900	30500	31100	31100
7	31500	22700	13700	14000	16000	10000	28500	28800	26900	30000	30500	31100
8	31600	19900	13600	14000	15400	10000	28300	29000	27100	29500	30500	31100
9	31500	17300	13600	14000	15000	10000	27700	29400	26800	29500	30800	31000
10	31400	15400	13700	14000	15000	10000	27700	29300	27000	30000	31400	31200
11	31900	15100	13500	14000	15000	9900	27800	29200	26400	30000	31100	31300
12	31900	15000	13600	14000	15000	10000	27800	28900	25300	29500	30600	31500
13	31700	15000	13600	14000	15000	10000	27900	28200	25700	30300	30500	31000
14	31700	15000	13600	14000	15000	11000	28000	27900	26500	30300	30400	30500
15	31700	14900	13600	14500	15000	13900	28000	28300	26500	30600	30400	30500
16	31800	14900	13600	14700	15000	15900	28000	28400	25500	30600	30500	30500
17	31600	14900	13600	14700	14500	18500	28000	28100	25600	30500	30600	30500
18	31400	14800	13600	15000	14000	21300	28100	27800	27800	30500	30800	31000
19	31600	14600	13600	15000	13000	23600	27900	28000	28900	30600	30700	31000
20	31500	14600	13800	15000	13000	23800	28000	27500	29400	30700	30900	31500
21	31000	14600	13500	15000	13000	23900	28000	24800	29600	30700	31100	32500
22	31000	14700	13400	15000	13000	25000	27900	24400	29900	30600	31700	32500
23	31100	14600	13400	15000	13000	25600	28000	26500	30900	30200	32000	32700
24	31000	14700	13400	15000	13000	25700	28000	27100	31000	30200	32200	32800
25	31000	14600	13400	15000	12500	25900	28000	27500	30900	30200	32200	32900
26	31000	14400	13400	15000	12000	26800	27900	26800	30800	30200	32300	33000
27	31400	14500	13400	15000	12000	27200	28100	25900	30900	30700	32300	33200
28	31600	14600	13400	15000	12000	27100	28400	24700	31000	31200	32200	33400
29	32200	14600	13800	15000	---	27800	28300	24100	30500	31200	32100	33400
30	32100	14700	13600	15000	---	27900	28300	21600	30500	31500	32100	33500
31	32200	---	13500	15000	---	28000	---	20300	---	31700	31800	---
TOTAL	979800	548500	422800	447000	399200	551800	840500	844200	828800	943500	972200	950000
MEAN	31610	18280	13640	14420	14260	17800	28020	27230	27630	30440	31360	31670
MAX	32200	32200	14500	15000	16000	28000	28500	29400	31000	31700	32300	33500
MIN	31000	14400	13400	13100	12000	9900	27700	20300	22000	29500	30400	30500
AC-FT	1943000	1088000	838600	886600	791800	1094000	1667000	1674000	1644000	1871000	1928000	1884000
CAL YR 1981	TOTAL	9407900	MEAN	25780	MAX	36300	MIN	11000	AC-FT	18660000		
WTR YR 1982	TOTAL	8728300	MEAN	23910	MAX	33500	MIN	9900	AC-FT	17310000		

BOW CREEK BASIN

65

06478518 BOW CREEK NEAR ST. JAMES, NE

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 (0.40 km) west of intersection of St. James road and State Highway 12, 0.7 mi (1.1 km) south of St. James.

DRAINAGE AREA.--304 mi² (787 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1,180.88 ft (359.932 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,840 ft³/s (137 m³/s) Aug. 19, 1979, gage height, 9.38 ft (2.859 m); minimum daily, 7.4 ft³/s (0.21 m³/s) Jan. 15, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,640 ft³/s (74.8 m³/s) May 30, gage height, 7.31 ft (2.228 m); maximum gage height, 7.39 ft (2.252 m) from highwater mark, sometime during period Feb. 17-22, backwater from ice; minimum daily discharge, 11 ft³/s (0.31 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	21	38	22	17	54	35	41	121	53	24	19
2	15	23	27	22	14	51	37	41	103	52	23	19
3	14	24	29	21	13	43	35	41	98	52	21	19
4	15	23	28	21	13	40	39	39	92	46	22	18
5	15	21	27	22	12	35	45	41	83	46	78	17
6	16	21	26	20	11	34	39	44	85	58	100	19
7	16	23	27	17	13	34	38	42	76	51	30	19
8	15	23	28	18	15	38	36	40	69	44	27	20
9	15	22	28	19	14	40	36	40	69	43	24	21
10	15	22	28	17	16	67	40	40	64	42	23	23
11	15	23	27	15	17	76	40	41	63	41	22	20
12	15	22	27	13	19	63	40	54	61	41	22	21
13	16	22	27	15	22	56	38	38	59	39	24	21
14	19	23	25	17	25	54	35	35	70	38	23	22
15	20	23	20	16	27	48	37	52	114	49	23	22
16	18	22	17	19	30	45	44	42	70	39	22	22
17	20	23	15	23	40	45	41	36	61	37	20	23
18	19	23	14	26	60	44	38	34	58	37	20	20
19	20	23	19	23	90	53	37	40	56	42	21	19
20	20	24	21	21	250	63	38	299	56	39	19	19
21	18	25	23	21	450	47	37	874	55	41	18	20
22	18	25	25	22	350	44	37	118	53	36	17	20
23	18	25	27	22	230	41	38	84	52	33	19	20
24	19	25	26	21	112	40	39	75	49	34	20	19
25	20	24	25	22	72	40	40	92	49	31	19	20
26	19	23	24	23	65	40	39	364	48	31	18	20
27	20	23	23	25	58	39	39	150	50	32	18	19
28	20	23	24	24	58	38	38	93	50	30	19	19
29	21	23	24	25	---	37	38	367	47	29	21	21
30	21	25	25	22	---	40	41	720	192	28	21	22
31	21	---	23	20	---	37	---	386	---	27	19	---
TOTAL	548	692	767	634	2113	1426	1154	4403	2173	1241	797	603
MEAN	17.7	23.1	24.7	20.5	75.5	46.0	38.5	142	72.4	40.0	25.7	20.1
MAX	21	25	38	26	450	76	45	874	192	58	100	23
MIN	14	21	14	13	11	34	35	34	47	27	17	17
AC-FT	1090	1370	1520	1260	4190	2830	2290	8730	4310	2460	1580	1200
CAD YR 1981	TOTAL	9645.0	MEAN	26.4	MAX	603	MIN	7.9	AC-FT	19130		
WTR YR 1982	TOTAL	16551.0	MEAN	45.3	MAX	874	MIN	11	AC-FT	32830		

MISSOURI RIVER MAIN STEM

06486000 MISSOURI RIVER AT SIOUX CITY, IA
(National stream-quality accounting network station)

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 10230001, on right bank on upstream side of bridge on U.S. Highway 20 and 77 at South Sioux City, NE, 1.9 mi (3.1 km) downstream from Big Sioux River, and at mi 732.3 (1,178.3 km). Prior to Jan. 31, 1981, at site 227 ft (69 m) downstream.

DRAINAGE AREA.--314,600 mi² (814,800 km²), approximately.

PERIOD OF RECORD.--October 1897 to current year in reports of 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 the National Weather Service.

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

GAGE.--Water-stage recorder. Datum of gage is 1,056.98 ft (322.168 m) National Geodetic Vertical Datum of 1929. Sept. 2, 1878, to Dec. 31, 1905, nonrecording gages at various locations within 1.7 mi (2.7 km) 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 (69.2 m) downstream at datum 19.98 ft (6.090 m) higher, and Oct. 1, 1969 to Sept. 30, 1970 at datum 20.00 ft (6.096 m) higher. Oct. 1, 1970 to Jan. 30, 1981, water-stage recorder at site 227 ft (69.2 m) downstream at present datum.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. National Weather Service gage height telemeter at station. Corps of Engineers rain-gage and gage-height satellite telemeter at station.

AVERAGE DISCHARGE.--85 years, 31,960 ft³/s (905.1 m³/s), 23,160,000 acre-ft/yr (28.6 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 441,000 ft³/s (12,500 m³/s) Apr. 14, 1952, gage height, 24.28 ft (7.401 m), datum then in use; minimum, 2,500 ft³/s (70.8 m³/s) Dec. 29, 1941; minimum gage height, 9.00 ft (2.743 m), Jan. 8, 1980, based on gage readings at site 14 mi (23 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,700 ft³/s (1,010 m³/s) Oct. 14, maximum gage height, 19.81 ft (6.038 m) July 6; minimum daily discharge, 10,000 ft³/s (283 m³/s) Jan. 10; minimum gage height, 11.51 ft (3.508 m) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34400	35000	16900	14400	15200	17000	29900	30500	28400	31800	33000	33300
2	35300	35000	16300	14400	15000	17000	31100	30000	28700	31500	32600	32600
3	34900	34600	16400	14000	14800	17000	31900	30500	30000	31200	32500	33100
4	34600	34000	16000	13500	14800	15600	30200	31000	29300	30900	32700	33300
5	34000	33600	15500	14000	15000	14800	30300	31500	30200	31300	32700	33500
6	33700	31600	15700	14500	15200	13900	30800	32500	30800	31300	32800	33000
7	33600	29000	15800	15000	16000	13400	31400	32000	30800	31700	32400	32700
8	33500	26500	15800	15000	17000	12500	31800	31500	30400	33300	32100	33000
9	33700	23800	15800	14500	16800	12900	31600	30500	30400	33300	31200	32900
10	33800	21000	15700	10000	16500	12900	31400	31000	30100	33400	31200	32900
11	33700	18900	15700	10500	16300	15100	31300	32100	29900	33600	31400	32600
12	34200	18400	15700	13000	16300	14000	31700	32500	29100	32400	31100	32700
13	34800	18400	15800	14000	16500	15400	32200	32500	27100	31600	30500	33400
14	35200	18100	15900	14500	16700	15100	32500	31800	27000	31800	30600	33100
15	35000	17700	15500	15000	16700	15500	33000	31300	27600	32100	30800	32200
16	34500	17300	15500	14000	16700	16500	33100	31400	27700	32000	30900	32000
17	35000	16900	14500	13000	16700	18600	32600	31600	27000	31900	31100	32000
18	34900	16800	14000	12000	16700	20800	31900	31600	27600	31800	31300	31700
19	34200	16800	13500	13500	16700	24100	31900	31100	28600	31500	31500	31900
20	34100	16500	13000	15500	17500	26800	31600	32000	30200	32200	31200	31900
21	34200	16300	15500	16000	18500	27700	31300	32700	30500	33100	31300	32000
22	33900	16300	17000	15500	20000	28300	31400	31300	30500	33300	31500	32900
23	33600	16400	16500	14000	23000	29600	31400	27600	30700	33400	32100	33400
24	33600	16300	16000	13000	21500	29100	31200	29600	31600	32800	32500	33600
25	33500	16300	15500	14500	17500	29100	30900	31000	32100	32300	32500	33500
26	33300	16400	15500	16000	17000	29000	30500	32400	31600	32100	32100	33600
27	33500	16200	15500	16500	17000	29000	29900	32300	31300	32200	32300	33100
28	33900	16100	15500	16200	17000	29200	30600	31100	31100	32500	32500	33500
29	34400	16100	15500	16000	---	28900	31600	29800	30900	33300	32800	33900
30	34900	16400	15500	15800	---	29100	32100	30400	31600	33600	32900	34100
31	35200	---	15200	15500	---	30200	---	30500	---	33400	33000	---
TOTAL	1061100	642700	482200	443300	474600	648100	943100	967600	892800	1002600	989100	987400
MEAN	34230	21420	15550	14300	16950	20910	31440	31210	29760	32340	31910	32910
MAX	35300	35000	17000	16500	23000	30200	33100	32700	32100	33600	33000	34100
MIN	33300	16100	13000	10000	14800	12500	29900	27600	27000	30900	30500	31700
AC-FT	2105000	1275000	956400	879300	941400	1286000	1871000	1919000	1771000	1989000	1962000	1959000
CAL YR 1981 TOTAL	9768200			26760		37000		11000		19380000		
WTR YR 1982 TOTAL	9534600			26120		35300		10000		18910000		

OMAHA CREEK BASIN

67

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 (24 m) downstream from bridge on main street of Homer.

DRAINAGE AREA.--168 mi² (435 km²).

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.--Water-stage recorder. Datum of gage is 1,082.45 ft (329.931 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 4, 1952, at bridge 0.5 mi (0.8 km) downstream at datum 8.03 ft (2.448 m) lower. Aug. 4, 1952, to Nov. 3, 1966, at site 80 ft (24 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--37 years, 32.8 ft³/s (0.929 m³/s), 23,760 acre-ft/yr (29.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) Feb. 19, 1971, gage height, 26.47 ft (8.068 m), from floodmark, from rating curve extended above 3,700 ft³/s (105 m³/s) on basis of slope-area measurements at gage heights 16.38 ft (4.993 m) and 23.62 ft (7.199 m); minimum daily, 0.1 ft³/s (0.003 m³/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 32.5 ft (9.91 m), present site and datum, discharge estimated as 51,000 ft³/s (1,440 m³/s) at site 2.5 mi (4.0 km) upstream from present site.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	----	2500 70.8	Ice jam	May 25	2115	1390 39.4	7.78 2.371
May 11	0430	1230 34.8	7.20 2.195	July 6	0700	*3740 106	a14.97 4.563
May 21	0700	1490 42.2	8.12 2.475	July 26	2145	1020 28.9	6.37 1.942

a From floodmark.

Minimum daily discharge, 0.60 ft³/s (0.017 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	1.6	11	2.8	3.5	23	9.2	7.2	23	49	9.4	153
2	.66	3.9	7.3	2.9	2.6	22	9.2	7.1	19	13	8.9	21
3	.66	5.9	5.5	2.8	2.4	9.6	9.3	6.9	19	12	8.5	9.1
4	.88	3.9	5.5	2.6	2.7	8.0	11	6.8	18	10	8.1	7.2
5	1.6	2.1	5.5	2.2	2.4	8.2	14	8.5	16	22	9.0	6.6
6	.60	1.6	4.7	1.8	2.1	6.6	13	10	15	1530	12	6.6
7	.80	2.2	4.6	1.7	2.7	5.6	14	9.7	15	73	9.7	6.9
8	.80	1.8	4.1	2.3	3.4	5.0	11	7.9	13	35	8.9	6.9
9	.98	1.8	4.1	2.1	3.2	4.3	12	6.9	15	32	7.9	7.0
10	.88	2.2	4.3	1.8	3.5	18	14	14	14	232	8.1	8.1
11	.88	2.4	3.3	2.2	3.4	125	14	356	12	41	8.2	8.6
12	1.4	2.2	3.2	2.4	3.6	41	13	20	11	19	7.1	24
13	1.4	2.3	3.4	2.9	3.9	38	11	36	11	13	15	28
14	3.7	2.6	3.7	3.4	4.3	30	9.3	42	11	12	9.9	12
15	6.1	2.8	3.0	4.2	4.6	23	8.9	30	14	170	10	7.7
16	2.7	2.4	3.2	4.3	4.8	21	9.0	37	13	29	11	7.0
17	2.5	2.9	2.8	3.8	5.0	18	9.5	20	11	14	9.3	6.8
18	2.8	2.6	2.0	4.7	30	15	8.5	28	19	18	8.8	6.9
19	2.2	3.0	3.0	4.3	250	110	7.3	10	18	37	7.8	7.0
20	1.3	3.4	2.6	4.1	1500	68	6.4	139	11	41	6.5	6.1
21	1.1	3.4	2.3	4.2	900	22	6.1	499	9.7	13	6.3	5.7
22	.98	3.5	2.3	4.0	600	19	6.5	52	9.0	9.8	6.7	5.2
23	.98	3.6	2.5	3.5	220	17	6.7	22	8.5	8.7	6.7	5.5
24	1.1	4.4	2.8	3.7	23	15	6.6	16	8.4	8.4	11	5.5
25	1.3	4.8	3.2	3.6	20	13	6.5	352	18	7.8	14	5.1
26	1.6	4.5	3.2	4.2	25	11	6.5	309	12	132	7.1	5.6
27	1.6	4.0	3.1	4.7	20	12	5.8	58	8.6	157	5.6	5.6
28	1.9	3.7	3.4	4.5	22	13	5.7	38	8.1	18	4.8	5.4
29	2.0	3.0	3.0	4.6	---	11	6.4	32	7.9	12	5.2	11
30	1.6	5.3	3.2	3.5	---	12	7.5	43	77	11	26	326
31	1.5	---	3.0	3.3	---	11	---	47	---	9.7	8.9	---
TOTAL	49.16	93.8	118.8	103.1	3668.1	755.3	277.9	2271.0	465.2	2789.4	286.4	727.1
MEAN	1.59	3.13	3.83	3.33	131	24.4	9.26	73.3	15.5	90.0	9.24	24.2
MAX	6.1	5.9	11	4.7	1500	125	14	499	77	1530	26	326
MIN	.60	1.6	2.0	1.7	2.1	4.3	5.7	6.8	7.9	7.8	4.8	5.1
AC-FT	98	186	236	204	7280	1500	551	4500	923	5530	568	1440

CAL YR 1981 TOTAL 2038.75 MEAN 5.59 MAX 111 MIN .55 AC-FT 4040
WTR YR 1982 TOTAL 11605.26 MEAN 31.8 MAX 1530 MIN .60 AC-FT 23020

MISSOURI RIVER MAIN STEM

06610000 MISSOURI RIVER AT OMAHA, NE

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 (84 m) downstream from Interstate 480 Highway Bridge in Omaha, and at mi 615.9 (991.0 km).

DRAINAGE AREA.--322,800 mi² (836,100 km²), approximately.

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 National Weather Service.

REVISED RECORDS.--WSP 761: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 958.24 ft (292.072 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Sept. 30, 1936.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years, 29,860 ft³/s (845.6 m³/s), 21,630,000 acre-ft/yr (26.7 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 396,000 ft³/s (11,200 m³/s) Apr. 18, 1952, gage height, 30.20 ft (9.205 m); minimum, about 2,200 ft³/s (62.3 m³/s) Jan. 6, 1937; minimum gage height observed, -2.77 ft (-0.844 m) Jan 10, 1957, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 63,000 ft³/s (1,780 m³/s) Feb. 23, maximum gage height, 11.24 ft (3.426 m) May 29; minimum daily discharge, 10,000 ft³/s (283 m³/s) Jan. 12; minimum gage height, -1.85 ft (-0.564 m) Jan. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36400	36900	18900	15300	17600	26300	35200	34800	41200	37700	35800	35400
2	36400	36500	19000	15100	16900	25900	35600	33800	39400	37600	35800	37200
3	37200	36600	19200	14300	16800	25600	35500	33300	39300	36000	35900	35900
4	37100	36100	18900	14700	16600	23900	36000	34200	36100	35600	36300	35500
5	36600	36000	18700	15600	16100	20800	34500	35100	36000	35700	39400	36500
6	36000	35900	17900	15800	16600	19500	34600	36600	34800	41200	38100	36800
7	35400	34400	17200	15900	16800	18900	35400	36300	35800	53000	37100	36400
8	35300	32500	17100	15400	17400	18800	35500	34900	36300	48000	35900	35600
9	34500	23200	17100	15000	18800	17700	35200	33300	35800	42200	35300	35700
10	34000	27800	17200	14000	18700	17100	35000	32500	34700	43400	36000	35900
11	34000	24600	17100	12200	18100	17400	34600	34700	34000	46900	35200	35900
12	33500	21900	17000	10000	17700	21200	33900	41500	34200	47200	36200	45500
13	33800	19900	17100	11800	17700	22500	34600	40200	33900	43200	36400	47500
14	34500	19400	16800	13400	17800	20000	34500	37300	33400	40400	36000	41100
15	35200	19100	16800	14000	18100	19700	36100	36100	40700	40400	35100	38100
16	35700	19200	16400	14600	18200	19100	39100	34900	40400	42800	33900	37300
17	35800	18900	16200	13700	18600	19200	38200	35200	36200	41700	34200	37100
18	35700	18800	15000	12800	18700	20200	37700	37000	33800	43000	34300	37100
19	36200	18700	14500	14300	19200	27600	37000	38400	33000	49300	34300	37300
20	36400	18700	14000	16600	23100	32200	36500	39100	33700	44600	34200	37700
21	36200	18700	13500	17400	31500	33600	36400	43700	36200	41900	34200	38200
22	35800	18500	15000	17300	32300	33300	36400	43100	36200	43900	33200	38000
23	35900	18300	15800	16700	38500	33000	35800	37500	35200	42200	33100	38100
24	36300	18200	17400	15000	37300	33800	35000	32400	34300	39000	34500	38700
25	36100	18300	16900	13600	28300	34200	34600	33800	36200	37600	36700	38300
26	35800	18200	16300	14200	26100	33800	34400	40800	37400	36900	37400	37500
27	35300	18300	16200	14700	25400	33600	35100	49800	37300	36400	36800	36900
28	35900	18500	16200	16800	25800	33600	35700	49700	37100	36900	36100	37100
29	36900	18200	16300	18300	---	33800	36000	50200	36300	36400	35700	37800
30	36900	18600	16200	18200	---	34100	35500	44300	36900	36200	38100	39200
31	36200	---	15800	18100	---	34400	---	40600	---	36100	37700	---
TOTAL	1107000	724900	517700	464800	604700	804800	1069600	1185100	1085800	1273400	1108900	1135300
MEAN	35710	24160	16700	14990	21600	25960	35650	38230	36190	41080	35770	37840
MAX	37200	36900	19200	18300	38500	34400	39100	50200	41200	53000	39400	47500
MIN	33500	18200	13500	10000	16100	17100	33900	32400	33000	35600	33100	35400
AC-FT	2196000	1438000	1027000	921900	1199000	1596000	2122000	2351000	2154000	2526000	2200000	2252000
CAL YR 1981	TOTAL	10546100	MEAN	28890	MAX	47200	MIN	12900	AC-FT	20920000		
WTR YR 1982	TOTAL	11082000	MEAN	30360	MAX	53000	MIN	10000	AC-FT	21980000		

PLATTE RIVER BASIN

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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, Nebraska, Hydrologic Unit 10180009, on right bank 650 ft (198 m) upstream from bridge on Nebraska State Highway 86, 700 ft (213 m) downstream from Wyoming-Nebraska State line, and 0.5 mi (0.8 km) south of Henry, NE.

DRAINAGE AREA.--22,218 mi² (57,545 km²), of which 1,929 mi² (4,996 km²), is probably noncontributing.

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 (1,225.707 m), National Geodetic Vertical Datum of 1929. Prior to Nov. 6, 1929, nonrecording gage and Nov. 6, 1929, to Sept. 30, 1959, water-stage recorder, at site 0.5 mi (0.8 km) upstream at datum 4.42 ft (1.347 m) higher. Oct. 7, 1959 to Feb. 22, 1972, water-stage recorder, at site 0.5 mi (0.8 km) upstream at datum 3.42 ft (1.042 m) higher.

REMARKS.--Records 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 (1.3 km) upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 17,900 ft³/s (507 m³/s) June 2, 1929, gage height, 7.04 ft (2.146 m), site and datum then in use; minimum daily, 13 ft³/s (0.37 m³/s) May 12, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,980 ft³/s (56.1 m³/s) Aug. 23, gage height, 3.97 ft (1.210 m); minimum daily, 23 ft³/s (0.65 m³/s) May 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	484	331	252	192	157	148	130	23	283	609	1580	791
2	474	324	249	189	157	148	130	91	335	572	1640	799
3	450	316	249	189	150	151	133	176	331	572	1580	807
4	426	312	245	186	146	148	136	235	301	572	1580	824
5	421	305	245	182	142	148	142	283	269	635	1550	824
6	416	301	242	181	139	148	139	350	262	920	1500	833
7	426	301	238	180	136	148	139	402	252	1070	1570	833
8	426	298	235	180	135	148	142	397	238	1090	1660	816
9	445	294	232	179	136	148	142	426	235	1130	1650	799
10	464	294	232	174	138	145	145	499	245	1230	1590	766
11	445	290	232	173	140	145	151	561	235	1330	1540	766
12	430	287	228	171	148	145	154	598	222	1410	1420	858
13	416	287	225	170	160	139	154	774	215	1370	1350	956
14	407	283	202	169	160	139	151	742	215	1370	1410	1030
15	402	276	205	169	163	139	142	577	242	1330	1290	920
16	393	273	208	157	163	136	145	469	198	1380	1260	833
17	397	269	210	173	163	142	154	421	173	1390	1240	766
18	393	273	210	169	157	139	166	370	169	1470	1320	710
19	384	269	210	169	154	139	173	358	166	1560	1380	657
20	375	266	211	166	151	139	173	375	166	1550	1810	627
21	366	266	211	166	151	136	160	379	166	1550	1550	627
22	362	262	212	154	151	139	163	358	202	1630	1450	635
23	358	259	213	133	151	136	182	335	208	1670	1830	609
24	362	262	218	189	148	136	182	339	222	1660	1410	604
25	358	262	208	169	145	136	166	335	218	1650	1190	593
26	354	259	205	163	145	136	148	324	228	1770	1070	598
27	350	256	205	163	148	133	139	305	249	1760	1010	657
28	350	256	202	160	148	133	136	287	309	1800	984	742
29	350	256	200	160	---	133	110	273	430	1920	956	627
30	346	256	195	160	---	130	130	287	535	1710	911	627
31	335	---	192	157	---	130	---	256	---	1650	867	---
TOTAL	12365	8443	6821	5292	4182	4360	4457	11605	7519	41330	43148	22534
MEAN	399	281	220	171	149	141	149	374	251	1333	1392	751
MAX	484	331	252	192	163	151	182	774	535	1920	1830	1030
MIN	335	256	192	133	135	130	110	23	166	572	867	593
AC-FT	24530	16750	13530	10500	8290	8650	8840	23020	14910	81980	85580	44700

CAL YR 1981 TOTAL 174546 MEAN 478 MAX 2110 MIN 14 AC-FT 346200
WTR YR 1982 TOTAL 172056 MEAN 471 MAX 1920 MIN 23 AC-FT 341300

PLATTE RIVER BASIN

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

WATER QUALITY RECORDS

LOCATION.--Daily water temperatures and sampling for specific conductance collected at Farmers Canal diversion dam 1.0 mi (1.6 km) downstream from discharge station.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCTI- VANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	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												
06...	1445	284	900	7.7	13.5	10.8	12	290	60	81	21	85
NOV												
03...	1530	311	1000	8.2	11.0	11.4	K10	300	54	81	23	110
DEC												
14...	1445	202	920	7.6	5.0	11.7	--	300	65	85	21	90
FEB												
02...	1430	150	975	8.1	5.0	11.2	K4	300	--	85	21	100
MAR												
16...	1400	142	980	8.1	13.0	11.5	0	290	--	81	21	110
APR												
21...	1430	163	970	8.1	13.5	10.6	K2	300	--	81	23	110
MAY												
02...	1430	342	820	7.6	13.5	8.1	<1	250	--	70	19	89
JUN												
14...	1500	1380	750	8.2	23.0	8.7	88	250	--	66	22	64
JUL												
14...	1500	1380	750	8.2	23.0	8.7	88	250	--	66	22	64
AUG												
30...	1525	928	760	8.0	23.0	8.2	60	280	--	73	23	76
SEP												
28...	1500	668	880	8.1	16.0	7.4	K1000	280	--	76	22	82

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

DATE	SODIUM AD- SURP- TION PATI0 (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITI FIELD (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLU- 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 AS (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
OCT												
06...	2.2	7.8	230	210	20	.6	23	590	.80	452	1.8	.050
NOV												
03...	2.8	8.7	250	240	21	.6	23	660	.90	554	3.3	.070
DEC												
14...	2.3	8.1	--	220	19	1.3	29	620	.84	338	2.4	.080
FEB												
02...	2.5	8.6	--	260	21	.7	27	640	.87	259	3.1	.030
MAR												
16...	2.8	9.0	--	240	21	.8	25	660	.90	253	2.7	.030
APR												
21...	2.8	9.5	--	220	24	.4	24	650	.88	286	2.5	.060
MAY												
02...	2.4	8.7	--	210	18	.7	16	560	.76	517	1.5	.860
JUN												
14...	1.7	6.0	--	190	16	.5	4.7	460	.63	1710	.30	.020
JUL												
14...	1.7	6.0	--	190	16	.5	4.7	460	.63	1710	.30	.020
AUG												
30...	2.0	4.4	--	220	15	.6	13	530	.72	1330	.60	.060
SEP												
28...	2.1	7.1	--	220	20	.5	15	560	.76	1010	2.3	.240

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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 (3 m) upstream from county highway bridge, 1.8 mi (2.9 km) upstream from mouth, 2.2 mi (3.5 km) downstream from Owl Creek, and 3.2 mi (5.1 km) northeast of Lyman.

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 (1,217.018 m), National Geodetic Vertical Datum of 1929 (levels by private engineering firm). See WSP 2118 for history of changes prior to Apr. 17, 1967.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--51 years, 68.9 ft³/s (1.951 m³/s), 49,920 acre-ft/yr (61.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,110 ft³/s (145 m³/s) June 6, 1967, gage height, 10.82 ft (3.298 m), from rating curve extended above 1,900 ft³/s (53.8 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.4 ft³/s (0.011 m³/s) Feb. 1, 2, 1949.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 533 ft³/s (15.1 m³/s) Aug. 23, gage height, 4.90 ft (1.494 m); minimum daily, 6.5 ft³/s (0.18 m³/s) Jan. 17.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	46	30	18	12	19	14	14	52	109	105	184
2	174	46	28	18	12	19	13	11	74	180	108	169
3	155	46	31	18	12	18	12	11	57	208	109	166
4	142	46	29	18	12	18	13	81	48	242	107	163
5	137	44	31	18	12	17	15	186	56	233	108	161
6	134	44	30	17	12	18	15	207	44	222	108	175
7	94	44	30	16	13	18	15	181	41	190	103	196
8	86	42	28	15	14	18	14	135	39	181	107	213
9	82	43	28	12	14	18	14	132	36	181	112	222
10	79	42	28	9.5	15	18	14	138	35	205	118	221
11	76	42	28	7.5	20	17	13	145	34	240	116	245
12	74	42	27	7.5	22	16	12	186	33	219	117	287
13	75	42	27	7.5	24	16	12	290	33	184	142	340
14	74	41	28	7.5	27	17	12	367	32	139	233	438
15	71	39	30	7.5	22	17	12	299	71	112	161	439
16	69	39	28	7.0	22	17	12	199	43	77	147	420
17	68	39	25	6.5	22	17	10	155	36	66	140	405
18	66	39	25	10	22	16	10	144	41	53	133	394
19	64	39	30	14	21	16	9.8	151	32	55	135	357
20	64	37	30	14	22	16	10	196	31	48	198	350
21	62	37	28	14	22	16	10	196	30	45	173	357
22	61	36	26	10	22	17	10	179	29	45	168	358
23	60	35	23	13	21	16	10	200	29	45	385	333
24	61	36	23	16	18	17	10	224	39	43	285	307
25	60	34	23	18	18	16	10	193	29	47	279	314
26	57	33	22	16	20	17	10	114	39	49	252	310
27	54	33	22	14	21	16	10	80	30	52	255	301
28	51	33	22	12	20	15	10	65	26	70	264	307
29	51	32	22	12	---	14	10	54	24	235	232	232
30	49	31	22	12	---	13	9.8	50	49	127	214	227
31	47	---	20	12	---	13	---	47	---	105	203	---
TOTAL	2590	1182	824	397.5	514	516	351.6	4630	1192	4007	5317	8591
MEAN	83.5	39.4	26.6	12.8	18.4	16.6	11.7	149	39.7	129	172	286
MAX	193	46	31	18	27	19	15	367	74	242	385	439
MIN	47	31	20	6.5	12	13	9.8	11	24	43	103	161
AC-FT	5140	2340	1630	788	1020	1020	697	9180	2360	7950	10550	17040

CAL YR 1981	TOTAL	27169.5	MEAN 74.4	MAX 812	MIN 9.5	AC-FT	53890
WTR YR 1982	TOTAL	30112.1	MEAN 82.5	MAX 439	MIN 6.5	AC-FT	59730

PLATTE RIVER BASIN

06678000 SHEEP CREEK NEAR MORRILL, NE

LOCATION.--Lat 41°57'50"N, long 103°56'20"W, in NW1/4SW1/4 sec.16, T.23 N., R.57 W., Scotts Bluff County, Hydrologic Unit 10180009, on right bank 40 ft (12 m) upstream from Burlington Northern Inc. bridge, 50 ft (15 m) downstream from bridge on U.S. Highway 26, 1 mi (2 km) west of Morrill, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--362 mi² (938 km²), of which about 25 mi² (65 km²) 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 (1,217.688 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1940, nonrecording gage at site 20 ft (6 m) upstream at same datum.

REMARKS.--Records good. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--51 years, 55.0 ft³/s (1.558 m³/s), 39,850 acre-ft/yr (49.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 516 ft³/s (14.6 m³/s) July 21, 1978, gage height, 6.62 ft (2.018 m); maximum gage height, 6.75 ft (2.057 m) Aug. 2, 1932, from floodmark, due to break in Interstate Canal (discharge not determined); minimum daily discharge, 0.1 ft³/s (0.003 m³/s) Dec. 16, 23, 1956, Jan. 18, Mar. 12, 1957, result of diversion for construction upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 149 ft³/s (4.22 m³/s) Sept. 26, gage height, 2.89 ft (0.881 m); minimum daily, 2.4 ft³/s (0.068 m³/s) May 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	97	90	79	75	67	64	58	3.6	3.6	3.8	4.8
2	101	97	86	79	74	67	64	58	3.6	3.6	3.8	4.6
3	101	97	84	79	74	68	64	33	3.6	3.4	3.8	4.1
4	101	95	85	79	74	68	63	2.4	3.4	3.4	3.8	4.1
5	101	94	85	80	72	67	65	2.4	3.4	3.6	3.8	3.6
6	101	94	85	79	72	68	64	2.4	3.4	3.4	3.8	3.6
7	100	94	85	79	72	68	63	2.6	3.4	3.2	3.8	3.6
8	101	94	85	80	71	67	62	2.7	3.4	3.2	4.1	3.6
9	102	93	85	80	71	67	62	3.2	4.6	3.2	4.1	3.4
10	102	94	84	82	71	67	62	3.8	10	3.4	4.1	3.4
11	102	93	83	82	70	67	62	3.8	9.0	3.4	4.1	3.8
12	102	92	82	81	69	67	62	4.1	8.2	3.6	3.8	3.8
13	104	92	80	81	65	67	62	4.1	7.9	3.6	7.0	4.6
14	106	92	82	81	64	67	62	3.6	7.3	3.6	17	4.3
15	105	91	79	81	62	67	62	3.2	9.8	3.6	4.1	3.8
16	105	90	78	79	63	67	62	3.2	7.2	3.6	4.1	3.8
17	105	90	77	75	63	66	62	3.0	7.2	3.4	4.3	3.6
18	102	91	76	75	63	66	62	2.9	6.8	3.6	4.1	3.4
19	101	89	77	75	62	66	62	3.0	6.8	3.4	5.1	3.4
20	100	89	78	75	62	65	61	2.9	6.5	3.4	5.1	3.4
21	100	89	79	74	63	65	61	3.0	6.5	3.8	5.1	3.4
22	100	90	78	75	63	65	61	3.4	5.9	4.3	5.1	3.2
23	100	91	78	75	66	65	62	3.8	9.5	4.1	5.1	3.4
24	101	90	78	75	68	65	62	3.6	3.8	3.4	4.8	3.4
25	99	91	78	75	68	65	62	3.4	3.8	3.6	4.8	4.1
26	99	90	78	76	68	65	62	3.4	3.6	3.4	4.8	80
27	98	90	78	75	67	65	62	3.0	3.6	3.4	4.8	114
28	98	91	78	75	67	63	62	3.0	3.6	14	4.8	118
29	98	91	78	75	---	64	61	3.2	3.6	34	5.1	114
30	98	92	78	75	---	63	59	3.4	3.6	3.8	5.1	114
31	97	---	78	75	---	64	---	3.4	---	3.8	4.8	---
TOTAL	3131	2763	2505	2406	1899	2048	1866	238.9	166.6	150.8	151.9	634.2
MEAN	101	92.1	80.8	77.6	67.8	66.1	62.2	7.71	5.55	4.86	4.90	21.1
MAX	106	97	90	82	75	68	65	58	10	34	17	118
MIN	97	89	76	74	62	63	59	2.4	3.4	3.2	3.8	3.2
AC-FT	6210	5480	4970	4770	3770	4060	3700	474	330	299	301	1260
CAL YR 1981	TOTAL	19264.7	MEAN	52.8	MAX	106	MIN	2.1	AC-FT	38210		
WTR YR 1982	TOTAL	17960.4	MEAN	49.2	MAX	118	MIN	2.4	AC-FT	35620		

PLATTE RIVER BASIN

73

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 on downstream side of bridge on State Highway 29, 0.5 mi (0.8 km) south of Mitchell.

DRAINAGE AREA.--24,300 mi² (62,900 km²), approximately, of which about 22,300 mi² (57,800 km²) 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 (1,197.65 m) 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 (0.305 m) higher.

REMARKS.--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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft³/s (779 m³/s) June 3, 1909, gage height, 6.45 ft (1.966 m), datum then in use, from graph based on gage readings, from rating curve extended above 17,000 ft³/s (481 m³/s); minimum daily observed, 25 ft³/s (0.71 m³/s) Sept. 25-29, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft³/s (32.6 m³/s) Sept. 28, gage height, 3.27 ft (0.997 m); minimum daily, 110 ft³/s (3.12 m³/s) June 14, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	854	628	513	430	406	379	356	271	140	151	660	487
2	865	619	513	426	406	379	352	244	165	274	645	430
3	829	615	508	422	398	379	352	271	140	454	644	422
4	783	610	504	406	386	379	364	213	132	426	606	422
5	768	601	508	422	298	379	375	291	138	438	560	422
6	738	596	508	402	341	379	375	356	132	473	519	426
7	748	596	504	383	386	379	375	334	132	422	528	455
8	719	587	500	426	406	379	375	271	132	415	568	487
9	714	583	491	434	367	379	375	232	120	399	592	496
10	748	574	491	383	390	367	375	241	114	393	562	481
11	738	570	491	371	394	367	371	248	114	402	552	475
12	724	565	491	383	394	360	367	284	117	425	512	619
13	724	561	483	418	398	360	367	513	117	406	459	783
14	724	556	479	466	398	360	364	748	110	403	632	594
15	724	547	483	466	398	364	364	690	174	364	554	1050
16	724	543	479	418	398	356	364	500	163	313	503	966
17	719	539	466	454	390	356	364	426	180	301	475	912
18	719	547	454	438	386	345	367	371	148	299	436	923
19	719	539	458	438	379	349	367	390	132	328	450	860
20	719	534	466	430	371	341	375	360	120	315	683	824
21	709	534	466	426	371	338	367	323	114	261	690	821
22	694	534	458	410	367	338	360	320	120	239	596	796
23	685	526	450	386	367	338	375	305	117	274	934	737
24	694	526	442	426	367	349	386	320	125	296	918	682
25	690	526	442	442	367	341	379	291	117	301	719	674
26	675	526	442	418	371	341	356	225	127	357	642	714
27	666	521	442	418	379	345	341	180	110	390	562	813
28	661	521	430	410	379	345	345	163	110	474	552	1030
29	656	517	422	410	---	345	305	140	112	860	542	1070
30	642	517	434	410	---	352	268	135	120	792	534	1090
31	633	---	430	410	---	360	---	125	---	684	521	---
TOTAL	22405	16758	14648	12982	10658	11128	10826	9781	3892	12329	18350	21361
MEAN	723	559	473	419	381	359	361	316	130	398	592	712
MAX	865	628	513	466	406	379	386	748	180	860	934	1090
MIN	633	517	422	371	298	338	268	125	110	151	436	422
AC-FT	44440	33240	29050	25750	21140	22070	21470	19400	7720	24450	36400	42370
CAL YR 1981	TOTAL	154713	MEAN	424	MAX	1210	MIN	122	AC-FT	306900		
WTR YR 1982	TOTAL	165118	MEAN	452	MAX	1090	MIN	110	AC-FT	327500		

PLATTE RIVER BASIN

06681500 GERIING DRAIN NEAR GERIING, NE

LOCATION (REVISED).--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 (61 m) downstream from county road bridge, 0.2 mi (0.3 km) downstream from bridge on State Highway 92, 1 mi (2 km) upstream from mouth, and 2 mi (3 km) 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 3,852.62 ft (1,174.279 m) 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 4.0 ft (1.22 m) higher, Oct. 28, 1970, to Dec. 8, 1975, at datum 2.0 ft (0.61 m) higher, Dec. 9, 1975, to Sept. 30, 1980, at datum 1.0 ft (0.30 m) higher, all at site 200 ft (60 m) upstream.

REMARKS.--Records good. Base flow is mainly return water from land irrigated by Fort Laramie Canal.

AVERAGE DISCHARGE.--48 years, 47.4 ft³/s (1.342 m³/s), 34,340 acre-ft/yr (42.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft³/s (271 m³/s) June 8, 1958, gage height, 16.0 ft (4.88 m), present datum, from floodmarks, from rating curve extended above 2,200 ft³/s (62.3 m³/s) on basis of slope-area measurements at gage heights 14.67 ft (4.471 m) and 16.0 ft (4.88 m) present datum; minimum daily, 5 ft³/s (0.14 m³/s) Aug. 13, 16, 19, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 900 ft³/s (25.5 m³/s) July 29, gage height, 4.60 ft (1.402 m); minimum daily, 20 ft³/s (0.57 m³/s) Mar. 31, Apr. 5, 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	36	32	30	27	26	23	23	27	24	149	124
2	81	36	32	28	26	27	23	23	39	76	122	119
3	47	36	32	28	25	27	22	32	26	143	103	123
4	46	35	32	28	24	27	22	32	24	154	99	123
5	45	35	32	28	24	26	21	28	23	153	96	129
6	45	35	30	28	24	27	20	108	23	146	93	146
7	44	35	30	27	26	26	21	106	21	134	100	148
8	44	35	30	26	26	27	21	68	22	134	102	154
9	42	35	30	24	26	27	22	67	22	109	106	153
10	41	34	30	24	26	25	22	88	21	131	116	150
11	42	35	30	27	26	25	22	94	22	136	111	158
12	42	35	30	24	26	25	21	114	21	120	107	177
13	40	35	30	26	26	25	21	202	21	110	152	192
14	40	35	30	27	27	24	22	193	70	103	205	219
15	40	32	30	25	27	26	21	175	278	88	143	238
16	40	32	30	25	27	25	21	155	30	76	124	223
17	40	32	30	28	26	26	22	157	126	64	115	213
18	39	35	30	28	26	26	22	146	61	68	113	213
19	40	32	30	28	25	27	20	162	34	69	114	213
20	39	32	32	28	26	25	20	194	32	65	132	213
21	39	32	32	27	25	25	21	137	32	64	135	219
22	39	32	30	24	26	26	21	137	50	67	139	229
23	37	32	30	24	26	25	22	116	57	70	206	224
24	38	38	30	30	26	25	23	83	47	68	162	219
25	37	32	30	28	26	25	22	42	32	80	167	216
26	37	32	30	28	26	25	22	28	84	113	153	215
27	35	32	30	28	26	24	23	27	23	78	147	212
28	36	32	30	27	26	24	23	32	22	226	146	178
29	36	32	30	27	---	23	22	26	22	311	150	156
30	36	32	30	27	---	21	22	26	22	172	150	123
31	35	---	30	27	---	20	---	27	---	159	139	---
TOTAL	1356	1013	944	834	723	782	650	2848	1334	3511	4096	5419
MEAN	43.7	33.8	30.5	26.9	25.8	25.2	21.7	91.9	44.5	113	132	161
MAX	114	38	32	30	27	27	23	202	278	311	206	238
MIN	35	32	30	24	24	20	20	23	21	24	93	119
AC-FT	2690	2010	1870	1650	1430	1550	1290	5650	2650	6960	8120	10750

CAL YR 1981 TOTAL 21179 MEAN 58.0 MAX 197 MIN 21 AC-FT 42010
WTR YR 1982 TOTAL 23510 MEAN 64.4 MAX 311 MIN 20 AC-FT 46630

PLATTE RIVER BASIN

75

06682C00 NORTH PLATTE RIVER NEAR MINATARE, NE

LOCATION.--Main channel gage: Lat 41°47'26", long 103°31'11", in NE1/4SE1/4 sec.13, T.21 N., R.54 W., Scotts Bluff County, Hydrologic Unit 10180009, on left bank 220 ft (67 m) upstream from bridge on State Highway 326 and 1.8 mi (2.9 km) 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 (15 m) upstream from bridge on State Highway 326 and 750 ft (229 m) north of main channel bridge.

DRAINAGE AREA.--24,700 mi² (64,000 km²), approximately, of which about 22,700 mi² (58,800 km²) (revised) 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.

GAGE.--Main channel: Water-stage recorder. Datum of gage is 3,810.7 ft (1,161.50 m) National Geodetic Vertical Datum of 1929. Nov. 2, 1966, to July 13, 1976, water-stage recorder at datum 1.00 ft (0.305 m) 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 (1,161.99 m) National Geodetic Vertical Datum of 1929. See WDR NE-72 for history of changes prior to Aug. 25, 1971.

REMARKS.--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. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s (552 m³/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 (0.31 m³/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, 2,050 ft³/s (58.1 m³/s) July 29; minimum daily, 265 ft³/s (7.50 m³/s) June 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	1010	788	700	658	598	537	364	288	310	1040	816
2	1190	1000	788	699	650	594	539	372	466	384	972	778
3	1130	996	785	699	612	590	526	402	364	573	901	768
4	1090	978	789	688	590	583	523	392	339	645	840	768
5	1090	953	793	708	540	580	546	409	332	644	791	776
6	1060	953	787	704	520	580	550	526	329	651	718	810
7	1050	929	783	690	550	578	550	586	316	676	720	839
8	1040	908	779	680	560	578	553	525	309	660	752	886
9	1030	906	776	664	540	600	552	471	289	638	819	898
10	1030	891	778	643	546	594	556	464	276	641	824	904
11	1040	879	770	560	585	594	558	445	265	664	789	940
12	1030	871	770	600	598	590	556	467	271	660	790	1060
13	1040	862	782	620	609	582	549	677	302	657	784	1250
14	1050	851	774	651	628	577	546	916	328	630	1250	1460
15	1050	840	778	664	633	580	560	984	1190	545	941	1640
16	1040	826	767	616	646	579	551	867	537	488	875	1590
17	1040	815	746	638	633	584	551	774	476	429	802	1560
18	1030	821	730	660	616	572	553	698	532	390	755	1540
19	1030	819	727	649	614	577	530	628	443	359	729	1490
20	1030	807	736	649	622	561	520	765	425	343	934	1410
21	1020	792	731	647	632	550	521	675	404	299	968	1350
22	1020	792	726	625	630	550	513	644	393	275	1030	1290
23	1010	781	717	588	618	556	500	581	375	285	1210	1250
24	1020	782	709	594	585	556	491	584	362	290	1280	1190
25	1010	785	716	662	571	551	478	509	357	288	1140	1160
26	1010	782	715	651	583	547	455	456	459	530	1060	1160
27	1020	784	714	643	598	536	449	403	379	540	1000	1220
28	1020	784	705	647	601	532	433	389	357	725	953	1320
29	1020	786	704	649	---	544	392	364	348	1570	938	1480
30	1020	786	708	652	---	538	358	338	336	1310	917	1490
31	1020	---	707	654	---	527	---	322	---	1170	860	---
TOTAL	32500	25769	23278	20194	16768	17658	15496	16997	11847	18269	28382	35093
MEAN	1048	859	751	651	599	570	517	548	395	589	916	1170
MAX	1220	1010	793	708	658	600	560	984	1190	1570	1280	1640
MIN	1010	781	704	560	520	527	358	322	265	275	718	768
AC-FT	64460	51110	46170	40050	33260	35020	30740	33710	23500	36240	56300	69610
CAL YR 1981	TOTAL	242801	MEAN	665	MAX	1320	MIN	164	AC-FT	481600		
WTR YR 1982	TOTAL	262251	MEAN	718	MAX	1640	MIN	265	AC-FT	520200		

PLATTE RIVER BASIN

06682505 NORTH PLATTE RIVER AT MC GREW, NE

LOCATION.--Lat 41°45'42", long 103°25'02", in SW1/4 sec.25, T.21 N., R.53 W., Scotts Bluff County, Hydrologic Unit 10180009, at bridge on county road 1.2 mi (1.9 km) north of State Highway 92, 0.3 mi (0.5 km) downstream from Ninemile Creek and 0.9 mi (1.4 km) north of McGrew.

PERIOD OF RECORD.--Chemical analyses: June 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
19...	1230	1170	955	8.2	11.0	10.0	32	K210	1100	310	87	22
NOV												
16...	0900	1010	950	8.0	8.5	10.1	41	230	7100	310	89	22
DEC												
14...	0930	869	940	8.2	4.0	11.5	51	140	1100	300	83	23
JAN												
18...	0930	794	965	8.0	4.0	11.3	18	670	3800	350	97	25
FEB												
16...	0945	700	960	8.2	6.5	10.9	16	290	1700	320	87	26
MAR												
15...	0930	653	970	8.3	8.0	10.4	<12	190	1100	330	91	24
APR												
19...	0930	593	930	8.2	7.0	10.4	49	45	380	420	23	88
MAY												
17...	0930	960	920	8.1	12.0	9.2	31	830	K10000	290	78	23
JUN												
14...	0930	281	990	8.1	16.5	8.8	19	K620	K1600	390	110	29
JUL												
19...	0945	366	930	7.6	19.0	8.2	30	700	1400	300	84	23
AUG												
16...	0900	1050	913	7.6	21.5	7.5	150	K1500	3500	270	74	21
SEP												
20...	0930	1670	890	8.4	13.5	9.0	30	320	4800	300	80	24

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

DATE	SULFATE DIS- SOLVED (MG/L AS S(04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
19...	240	23	--	786	2.6	.000	1.0	1.00	3.6	.080	5.4
NOV											
16...	230	20	--	704	3.2	.220	1.1	1.30	4.5	.060	3.3
DEC											
14...	250	22	--	698	3.3	.190	1.1	1.30	4.6	.050	2.1
JAN											
18...	230	25	--	726	3.4	.330	1.2	1.50	4.9	.070	5.0
FEB											
16...	240	32	55	--	3.4	.130	1.3	1.40	4.8	.100	5.3
MAR											
15...	220	27	36	--	3.0	.060	.81	.87	3.9	.070	4.5
APR											
19...	250	21	45	--	3.0	.090	.79	.88	3.9	.020	4.0
MAY											
17...	250	22	185	--	1.5	.160	1.3	1.50	3.0	.230	6.1
JUN											
14...	230	24	62	--	2.6	<.060	--	1.50	4.1	.080	4.0
JUL											
19...	220	23	237	--	2.2	.110	2.0	2.10	4.3	.150	9.4
AUG											
16...	220	19	310	--	1.9	.110	2.6	2.70	4.6	.300	10
SEP											
20...	230	20	167	--	1.9	.120	1.1	1.20	3.1	.130	6.0

PLATTE RIVER BASIN

77

06682505 NORTH PLATTE RIVER AT MC GREW, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CAC03) (90410)	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)
NOV 16...	0900	63	98	2.4	11	250	.5	34	655	.89	1780
FEB 16...	0945	54	110	2.7	12	270	.6	40	725	.99	1370
MAR 15...	0930	--	--	--	--	--	--	--	--	--	--
MAY 17...	0930	70	97	2.7	10	220	.5	23	643	.87	1670
AUG 16...	0900	41	89	2.5	9.2	230	.5	29	609	.83	1730

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 16...	3.1	.060	3.2	.040	8	100	160	<1	<10	280	1600
FEB 16...	--	--	3.4	.060	--	--	160	--	--	--	--
MAR 15...	3.0	.040	--	--	--	--	--	--	--	--	--
MAY 17...	--	--	1.5	.080	6	<100	150	<1	30	180	3100
AUG 16...	--	--	1.9	.050	--	--	150	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 16...	1500	100	14	80	70	10	.5	4	<1	70
FEB 16...	--	30	--	--	--	20	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--
MAY 17...	--	74	13	180	--	23	.4	4	<1	90
AUG 16...	--	4	--	--	--	4	--	--	--	--

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 (0.5 km) upstream from bridge on U.S. Highway 26, 0.8 mi (1.3 km) 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 left bank 0.2 mi (0.3 km) upstream from culvert on U.S. Highway 26 and 0.8 mi (1.3 km) north of Bridgeport.

DRAINAGE AREA.--25,300 mi² (65,500 km²), approximately, of which about 23,300 mi² (60,300 km²) 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 (1,114.391 m) National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 7, 1927. Browns Creek channel: Water-stage recorder. Datum of gage is 3,663.51 ft (1,116.638 m) National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to June 1, 1943.

REMARKS.--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. River flows in two independently rated channels for which separate records are computed; figures herein represent combined discharge.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s (705 m³/s) June 26, 1899, gage height, 5.39 ft (1.643 m), site and datum then in use, from graph based on gage readings; minimum daily, 55 ft³/s (1.56 m³/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, 2,680 ft³/s (75.9 m³/s) July 29; minimum daily, 337 ft³/s (9.54 m³/s) June 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1360	1200	913	839	816	772	744	530	484	684	1700	1060
2	1340	1180	936	840	807	754	763	522	565	738	1520	999
3	1320	1170	922	874	810	744	754	515	586	850	1250	940
4	1300	1140	922	854	800	772	744	515	559	909	1070	962
5	1370	1130	958	853	740	763	744	465	531	887	976	1050
6	1350	1120	967	840	740	763	716	500	514	935	977	1150
7	1370	1110	940	796	760	763	689	627	484	1010	955	1220
8	1370	1100	922	835	780	763	689	735	451	1080	993	1260
9	1370	1090	914	864	780	754	698	754	414	916	1070	1350
10	1380	1110	911	798	780	735	698	689	369	890	1100	1310
11	1380	1110	897	640	780	744	680	668	349	936	1080	1320
12	1380	1110	890	710	780	763	680	706	337	901	1050	1500
13	1360	1110	892	818	800	754	680	1030	364	1010	955	1690
14	1380	1110	899	835	840	772	689	1410	358	1360	1290	1890
15	1360	1090	907	844	880	763	680	1570	1370	1140	1500	2020
16	1350	1090	929	825	801	763	644	1540	1340	1030	1310	2100
17	1320	1100	947	833	791	801	635	1290	914	900	1130	2070
18	1300	1110	968	837	791	763	644	951	916	852	1020	2070
19	1260	1090	968	864	782	754	644	816	756	738	920	2020
20	1220	1060	982	900	782	716	644	767	693	600	1030	1880
21	1210	1060	993	1040	791	698	644	768	650	507	1180	1770
22	1190	1050	959	954	782	707	618	751	585	444	1270	1700
23	1160	1030	931	955	772	707	601	733	582	378	1350	1600
24	1180	1030	895	1040	763	735	601	703	560	350	1630	1590
25	1220	1030	898	1120	763	735	584	666	581	343	1680	1520
26	1190	1010	888	1170	772	726	584	634	801	404	1530	1530
27	1200	973	880	1010	782	698	567	597	789	519	1400	1600
28	1210	954	845	940	791	707	545	599	691	673	1360	1690
29	1240	938	825	905	---	716	545	553	635	2160	1260	1750
30	1230	932	837	870	---	716	545	499	614	2160	1220	1760
31	1230	---	822	843	---	726	---	499	---	1900	1140	---
TOTAL	40100	32337	28357	27346	22056	23047	19693	23602	18842	28204	37916	46371
MEAN	1294	1078	915	882	788	743	656	761	628	910	1223	1546
MAX	1380	1200	993	1170	880	801	763	1570	1370	2160	1700	2100
MIN	1160	932	822	640	740	698	545	465	337	343	920	940
AC-FT	79540	64140	56250	54240	43750	45710	39060	46810	37370	55940	75210	91980
CAL YR 1981	TOTAL	294210	MEAN	806	MAX	1680	MIN	206	AC-FT	583600		
WTR YR 1982	TOTAL	347871	MEAN	953	MAX	2160	MIN	337	AC-FT	690000		

PLATTE RIVER BASIN

79

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 (revised) bank 250 ft (76 m) downstream from bridge on U.S. Highway 385 and State Highway 92, 0.5 mi (0.8 km) upstream from mouth, and 4 mi (6 km) southeast of Bridgeport.

DRAINAGE AREA.--1,020 mi² (2,640 km²), 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 (1,108.250 m) National Geodetic Vertical Datum of 1929. Prior to June 25, 1934, nonrecording gage on downstream side of bridge 240 ft (73 m) upstream and June 25, 1934, to May 18, 1936, water-stage recorder at upstream side of bridge 260 ft (79 m) upstream, both at datum 0.29 ft (0.088 m) 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 (76 m) downstream from bridge at present datum.

REMARKS.--Records good. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--51 years, 28.5 ft³/s (0.807 m³/s), 20,650 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,880 ft³/s (223 m³/s) June 9, 1965, gage height, 9.98 ft (3.042 m), from floodmark, from rating curve extended above 3,500 ft³/s (99.1 m³/s) on basis of rating extension for main channel and determination of flow over road; no flow July 22, 24-26, Aug. 5-8, 1975; July 9, 11, 22, 23, 28, 29, 1976; July 2-6, Aug. 2, 1977; June 25-July 22, Aug. 2-7, 1981; July 26, 27, Aug. 7-11, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62 ft³/s (1.76 m³/s) May 8, gage height, 2.12 ft (0.646 m); maximum gage height, 2.52 ft (0.768 m) Jan. 22, backwater from ice; no flow July 26, 27, Aug. 7-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	8.1	10	12	11	10	9.9	9.1	12	23	38	.80
2	25	9.1	9.0	11	10	10	10	9.1	13	25	34	1.8
3	26	9.0	11	9.0	10	10	10	9.1	15	22	30	1.5
4	27	9.2	12	9.0	10	11	10	9.1	9.6	24	13	1.6
5	31	9.1	10	10	10	10	10	9.1	9.1	23	.24	1.3
6	26	9.1	10	9.5	10	10	9.8	9.6	8.7	21	.02	1.5
7	9.1	9.1	10	9.0	10	10	10	7.9	8.7	21	.00	1.6
8	8.3	8.3	10	9.5	10	10	10	13	7.9	11	.00	5.6
9	8.3	8.3	10	10	10	10	10	22	7.9	6.4	.00	15
10	8.3	9.1	10	9.0	9.0	10	10	18	7.5	6.4	.00	15
11	8.3	9.6	10	8.5	9.0	10	10	38	7.5	9.1	.00	15
12	8.3	9.6	10	8.7	9.0	10	10	50	7.5	17	5.5	21
13	7.9	9.6	10	8.7	11	10	10	41	8.3	10	4.6	29
14	7.9	9.6	10	9.0	12	10	9.1	29	19	29	2.4	29
15	8.3	9.6	10	10	13	11	9.1	23	24	17	1.5	29
16	8.3	9.5	10	10	13	10	9.1	31	21	15	1.5	28
17	7.9	9.3	9.5	12	10	10	8.7	32	20	13	1.2	27
18	7.9	9.9	9.5	12	9.1	10	8.7	15	19	12	.93	26
19	8.3	11	9.5	12	9.1	10	8.7	26	10	7.1	.66	26
20	8.3	10	10	13	9.1	10	8.7	15	9.1	2.0	5.3	26
21	7.9	10	10	13	9.6	10	8.7	20	8.3	.80	11	28
22	7.9	10	10	14	10	9.7	8.7	11	8.3	.21	14	30
23	7.9	11	9.5	15	10	9.7	8.7	12	8.3	.17	17	31
24	8.1	11	9.0	15	10	9.7	8.7	19	10	.17	17	30
25	8.3	11	9.0	15	11	9.9	8.7	17	9.6	.10	23	31
26	8.3	11	9.0	16	11	9.7	8.7	14	21	.00	26	30
27	8.3	11	9.5	14	11	10	10	12	32	.00	26	27
28	8.3	11	11	10	11	10	11	12	29	.09	15	26
29	7.5	11	12	10	---	9.9	9.1	12	26	22	14	26
30	7.9	11	12	10	---	9.7	9.1	12	19	40	5.6	26
31	7.9	---	12	10	---	9.8	---	12	---	39	.39	---
TOTAL	364.7	294.1	313.5	343.9	287.9	310.1	283.2	569.0	416.3	416.54	307.84	586.70
MEAN	11.8	9.80	10.1	11.1	10.3	10.0	9.44	18.4	13.9	13.4	9.93	19.6
MAX	31	11	12	16	13	11	11	50	32	40	38	31
MIN	7.5	8.1	9.0	8.5	9.0	9.7	8.7	7.9	7.5	.00	.00	.80
AC-FT	723	583	622	682	571	615	562	1130	826	826	611	1160

CAL YR 1981 TOTAL 4626.31 MEAN 12.7 MAX 46 MIN .00 AC-FT 9180
WTR YR 1982 TOTAL 4493.78 MEAN 12.3 MAX 50 MIN .00 AC-FT 8910

PLATTE RIVER BASIN

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

LOCATION.--Lat 41°29'18", long 102°37'25", in NW1/4SE1/4 sec.33, T.18 N., R.46 W., Garden County, Hydrologic Unit 10180009, near right bank on downstream side of pier of highway bridge, 0.5 mi (0.8 km) south of Lisco.

DRAINAGE AREA.--26,700 mi² (69,200 km²), approximately, of which about 24,700 mi² (64,000 km²) 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 (1,059.03 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 8, 1931, nonrecording gage at present site at different datum and Sept. 8, 1931, to May 3, 1932, at present site at datum 1.0 ft (0.30 m) higher. May 4, 1932, to May 28, 1974, water-stage recorder at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft³/s (569 m³/s) June 27, 29, 1917, from graph based on daily gage readings, from rating curve extended above 15,000 ft³/s (425 m³/s); minimum daily, 8 ft³/s (0.23 m³/s) Aug. 4, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,560 ft³/s (72.5 m³/s) July 30, gage height, 3.00 ft (0.914 m); maximum gage height, 3.32 ft (1.012 m) Jan. 6, backwater from ice; minimum daily discharge, 324 ft³/s (9.18 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1450	1260	1130	1090	1100	918	788	600	537	680	1940	1090
2	1380	1280	1120	1160	1100	930	822	600	620	733	1780	1020
3	1380	1330	1100	982	1000	982	766	591	650	777	1520	982
4	1380	1300	1010	956	800	982	722	610	660	870	1230	930
5	1700	1260	995	1030	800	969	733	640	650	894	1070	982
6	1470	1230	1010	940	800	969	766	582	610	906	982	1100
7	1450	1230	1020	800	800	930	777	620	537	956	870	1230
8	1410	1170	1060	800	800	930	788	744	502	995	810	1310
9	1380	1170	1090	760	840	943	777	788	462	1050	858	1410
10	1280	1190	1100	720	860	969	766	766	446	930	982	1410
11	1340	1170	1070	640	880	930	722	690	462	894	1050	1410
12	1360	1160	1050	600	900	930	711	680	486	906	1050	1560
13	1380	1140	1070	600	1000	894	690	969	462	1050	1060	1660
14	1340	1090	1060	700	1200	894	700	1230	486	1340	1120	1980
15	1360	1130	1010	800	1300	918	711	1490	555	1540	1410	2240
16	1400	1130	1070	880	1400	943	711	1500	1770	1300	1340	2420
17	1540	1160	1040	940	1230	918	700	1470	1380	1090	1250	2480
18	1430	1190	1000	1160	1140	918	722	1220	1130	943	1070	2460
19	1360	1280	980	1300	995	918	722	1020	1030	799	995	2360
20	1300	1250	980	1350	956	882	670	906	858	690	1030	2240
21	1220	1300	969	1350	982	799	670	870	777	564	1020	2120
22	1200	1300	943	1300	1090	777	680	788	766	470	1220	2060
23	1160	1330	906	1200	1030	788	670	810	722	395	1380	1900
24	1250	1280	858	1250	982	777	660	834	766	342	1520	1740
25	1310	1220	969	1350	943	799	660	777	711	330	1820	1700
26	1360	1170	943	1400	943	822	660	744	906	330	1780	1660
27	1380	1140	995	1450	969	822	755	680	969	324	1580	1700
28	1410	1140	969	1300	956	834	650	660	810	381	1430	1720
29	1330	1140	918	1250	---	870	620	650	722	1250	1340	1840
30	1330	1200	982	1200	---	858	610	591	700	2360	1310	2000
31	1300	---	1120	1100	---	822	---	555	---	2140	1220	---
TOTAL	42340	36340	31537	32358	27796	27635	21399	25675	22142	28229	39037	50714
MEAN	1366	1211	1017	1044	993	891	713	828	738	911	1259	1690
MAX	1700	1330	1130	1450	1400	982	822	1500	1770	2360	1940	2480
MIN	1160	1090	858	600	800	777	610	555	446	324	810	930
AC-FT	83980	72080	62550	64180	55130	54810	42440	50930	43920	55990	77430	100600
CAL YR 1981 TOTAL	329514			903	MAX 1900	MIN 141	AC-FT 653600					
WTR YR 1982 TOTAL	385202			MEAN 1055	MAX 2480	MIN 324	AC-FT 764000					

PLATTE RIVER BASIN

81

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 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 micromhos Feb. 11, 1981; minimum daily, 275 micromhos 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
20...	1230	1320	928	8.8	11.0	--	9.8	69	530	2100
NOV										
18...	1010	1190	910	7.9	7.0	12	6.9	23	80	1500
DEC										
15...	1100	1010	970	8.2	2.5	--	5.7	44	250	1500
JAN										
19...	1150	1310	930	7.8	.5	8.5	11.7	12	73	740
FEB										
17...	1020	1200	--	8.1	2.5	--	11.8	15	740	260
MAR										
16...	0930	940	910	8.3	8.0	10	10.6	<12	41	290
APR										
20...	1030	670	930	8.3	5.0	--	11.8	48	K6	140
MAY										
18...	1245	1280	924	8.3	19.0	72	8.6	36	240	8000
JUN										
15...	1320	587	780	8.5	19.5	--	7.9	21	K630	1200
JUL										
20...	1100	695	850	--	25.0	--	7.9	60	340	400
AUG										
17...	1045	1290	878	8.2	23.0	--	5.6	<10	510	1000
SEP										
21...	1215	2120	935	8.3	15.0	48	9.4	14	390	780

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

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)
OCT									
20...	300	--	83	22	--	--	--	--	230
NOV									
18...	320	90	92	22	93	2.3	10	230	220
DEC									
15...	330	--	95	23	--	--	--	--	220
JAN									
19...	300	44	87	21	92	2.3	11	260	210
FEB									
17...	270	--	77	19	--	--	--	--	200
MAR									
16...	310	60	88	22	100	2.5	11	250	210
APR									
20...	300	--	81	23	--	--	--	--	230
MAY									
18...	290	65	78	22	87	2.4	9.7	220	220
JUN									
15...	310	--	85	24	--	--	--	--	190
JUL									
20...	280	61	77	21	86	2.4	11	218	200
AUG									
17...	290	--	81	22	--	--	--	--	210
SEP									
21...	280	58	79	21	91	2.5	9.3	226	210

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, 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)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 20...	23	--	--	--	--	--	--	754	2.3
NOV 18...	19	.5	40	632	635	.86	2030	627	2.6
DEC 15...	20	--	--	--	--	--	--	691	3.2
JAN 19...	21	.5	39	640	638	.87	2260	667	3.1
FEB 17...	18	--	--	--	--	--	--	--	2.8
MAR 16...	25	.5	39	648	646	.88	1650	674	2.7
APR 20...	24	--	--	--	--	--	--	--	2.2
MAY 18...	21	.4	24	620	622	.84	2140	1000	1.5
JUN 15...	19	--	--	--	--	--	--	--	1.7
JUL 20...	22	.5	34	601	583	.82	1130	991	1.6
AUG 17...	21	--	--	--	--	--	--	--	1.7
SEP 21...	21	.5	34	744	602	1.0	4260	1130	1.8

DATE	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 20...	--	.080	--	--	<.21	--	.080	--	4.7
NOV 18...	2.6	.140	.130	1.1	1.20	3.8	.020	.020	4.3
DEC 15...	--	.100	--	1.1	1.20	4.4	.030	--	3.2
JAN 19...	3.1	.260	.380	.74	1.00	4.1	.060	.050	4.1
FEB 17...	--	.110	--	2.6	2.70	5.5	.060	--	6.2
MAR 16...	2.7	.110	.100	.72	.83	3.5	.050	.030	4.1
APR 20...	--	.060	--	5.3	5.40	7.6	.010	--	4.5
MAY 18...	1.4	.090	.080	2.4	2.50	4.0	.250	.050	8.5
JUN 15...	--	.090	--	1.5	1.60	3.3	.160	--	6.2
JUL 20...	1.6	<.060	.100	--	1.80	3.4	.130	.020	11
AUG 17...	--	.160	--	2.3	2.50	4.2	.190	--	11
SEP 21...	2.0	.060	.060	1.2	1.30	3.1	.200	.030	6.7

PLATTE RIVER BASIN

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06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CHROMIUM,		CHROMIUM,	
		TOTAL (UG/L AS AS) (01002)	SUS- PENDE TOTAL (UG/L AS AS) (01001)	DIS- SOLVED (UG/L AS AS) (01000)	TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	SUS- PENDE RECOV- ERABLE (UG/L AS BA) (01006)	DIS- SOLVED (UG/L AS BA) (01005)	TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	DIS- SOLVED (UG/L AS CD) (01025)	TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01031)				
NOV 18...	1010	7	0	8	100	0	100	1	1	20	0				
MAR 16...	0930	7	0	9	100	0	100	<1	<1	20	0				
MAY 18...	1245	6	0	7	100	0	100	<1	<3	30	0				
JUL 20...	1100	8	0	8	200	80	120	1	<1	30	10				

DATE	CHROMIUM,		COBALT,		COPPER,		IRON,		IRON,	
	TOTAL RECOV- ERABLE (UG/L AS CR) (01030)	SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01037)	DIS- SOLVED (UG/L AS CR) (01036)	TOTAL RECOV- ERABLE (UG/L AS CR) (01035)	SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01042)	DIS- SOLVED (UG/L AS CR) (01041)	TOTAL RECOV- ERABLE (UG/L AS FE) (01040)	SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01045)	DIS- SOLVED (UG/L AS FE) (01044)	TOTAL RECOV- ERABLE (UG/L AS FE) (01046)
NOV 18...	20	2	1	1	26	21	5	2200	2100	60
MAR 16...	20	2	0	3	24	18	6	1500	1500	30
MAY 18...	30	2	1	1	37	29	8	4500	4500	11
JUL 20...	20	2	--	<1	47	42	5	7800	7800	9

DATE	LEAD,		MANGANESE,		MANGANESE,		MERCURY		NICKEL,	
	TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	SUS- PENDE RECOV- ERABLE (UG/L AS PB) (01050)	DIS- SOLVED (UG/L AS PB) (01049)	TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	DIS- SOLVED (UG/L AS MN) (01056)	TOTAL RECOV- ERABLE (UG/L AS HG) (01900)	SUS- PENDE RECOV- ERABLE (UG/L AS HG) (01895)	DIS- SOLVED (UG/L AS HG) (01890)	TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
NOV 18...	5	0	8	130	--	<10	1.6	1.3	.3	5
MAR 16...	6	5	1	80	70	10	2.1	1.5	.6	3
MAY 18...	6	5	1	240	230	7	.5	--	<.1	6
JUL 20...	9	--	<1	250	250	3	.2	--	<.1	19

DATE	NICKEL,		SELENIUM,		SILVER,		ZINC,		ZINC,	
	TOTAL RECOV- ERABLE (UG/L AS NI) (01066)	SUS- PENDE RECOV- ERABLE (UG/L AS NI) (01065)	DIS- SOLVED (UG/L AS SE) (01147)	TOTAL RECOV- ERABLE (UG/L AS SE) (01146)	SUS- PENDE RECOV- ERABLE (UG/L AS SE) (01145)	DIS- SOLVED (UG/L AS AG) (01077)	TOTAL RECOV- ERABLE (UG/L AS AG) (01075)	SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01092)	DIS- SOLVED (UG/L AS ZN) (01091)	TOTAL RECOV- ERABLE (UG/L AS ZN) (01090)
NOV 18...	2	3	3	0	3	<1	1	20	10	10
MAR 16...	1	2	4	0	4	<1	<1	30	0	30
MAY 18...	0	6	4	0	4	<1	<1	40	0	<3
JUL 20...	--	<1	3	0	3	<1	<1	50	40	10

PLATTE RIVER BASIN

06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	PER- THANE TOTAL (UG/L) (39034)	PER- THANE IN BOTTOM MATERIAL (UG/KG) (R1886)	PCB, TOTAL (UG/L) (39516)	PCB, IN BOT- TOM MA- TERIAL (UG/KG) (39519)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL (UG/L) (39330)	ALDRIN, IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DANE, IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)
NOV 18...	1010	--	.00	--	0	--	.0	--	.0	--	.0	--
MAR 16...	0930	<.10	--	<.10	--	<.10	--	<.01	--	<.10	--	<.01

DATE	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39365)	DDE, IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL (UG/L) (39370)	DDT, IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDU- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39388)	ENDU- SULFAN, IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39390)	ENDRIN, IN BOT- TOM MA- TERIAL (UG/KG) (39393)
NOV 18...	.1	--	.1	--	.0	--	--	.0	--	.0	--	.0
MAR 16...	--	<.01	--	<.01	--	.01	<.01	--	<.01	--	<.01	--

DATE	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOT. IN MATH. (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METH- OXY- CHLOR, TOT. IN BOTTOM MATH. (UG/KG) (39481)	METHYL PARA- THION, TOTAL (UG/L) (39600)
NOV 18...	--	--	.0	--	.0	--	.0	--	--	.0	--
MAR 16...	.00	<.01	--	<.01	--	<.01	--	.05	<.01	--	.00

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TOXA- PHENE, TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2, 4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	MIREX, TOTAL (UG/L) (39755)	MIREX, IN BOT- TOM MA- TERIAL (UG/KG) (39758)	SILVEX, TOTAL (UG/L) (39760)
NOV 18...	--	--	--	.0	--	--	--	--	--	.0	--
MAR 16...	.00	.00	<1	--	.00	<.01	<.01	<.01	<.01	--	<.01

PLATTE RIVER BASIN

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06686000 NORTH PLATTE RIVER AT LISCO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)
NOV							
18...	1010	1190	7.0	409	1310	--	--
JAN							
19...	1150	1310	.5	206	729	--	--
MAR							
16...	0930	940	8.0	1050	2660	--	--
MAY							
18...	1245	1280	23.5	392	1350	33	40
JUL							
20...	1100	696	28.5	402	755	51	67
SEP							
21...	1215	2120	15.0	440	2520	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	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)
NOV						
18...	--	10	13	19	40	89
JAN						
19...	--	11	17	50	65	80
MAR						
16...	--	5	8	12	24	90
MAY						
18...	53	82	91	98	100	--
JUL						
20...	83	96	99	100	--	--
SEP						
21...	--	56	76	90	99	100

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	RED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	RED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	RED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	RED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	RED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	RED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	RED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	RED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)	RED MAT. FALL DIAM. % FINER THAN 16.0 MM (80172)
NOV												
18...	1010	1190	5	--	0	10	36	62	81	95	99	100
MAR												
16...	0930	940	5	--	0	7	33	65	81	95	100	--
MAY												
18...	1245	1280	5	--	0	5	27	57	81	96	99	100
JUL												
20...	1100	696	5	0	1	12	45	74	91	98	99	100

PLATTE RIVER BASIN

06687000 BLUE CREEK NEAR LEWELLEN, NE

LOCATION.--Lat 41°20'07", long 102°10'21", in NE1/4 sec.30, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on right bank 130 ft (40 m) downstream from county highway bridge, 0.5 mi (0.8 km) downstream from bridge on U.S. Highway 26, 0.8 mi (1.3 km) upstream from mouth, and 1.5 mi (2.4 km) west of Lewellen.

DRAINAGE AREA.--1,190 mi² (3,082 km²), revised, approximately, of which about 80 mi² (207 km²) 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 (1,008.900 m) National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Apr. 10, 1958.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--52 years, 69.4 ft³/s (1.965 m³/s), 50,280 acre-ft/yr (62.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 720 ft³/s (20.4 m³/s) May 20, 1938, gage height, 6.46 ft (1.969 m), present datum, from rating curve extended above 500 ft³/s (14.2 m³/s); maximum gage height, 6.93 ft (2.112 m), present datum, Dec. 21, 1945, backwater from ice; no flow for short periods in 1940, 1947, 1957, 1960-61, 1963, 1971, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft³/s (4.96 m³/s) June 23, gage height, 4.52 ft (1.378 m); maximum gage height, 6.14 ft (1.871 m) Jan. 9, backwater from ice; minimum daily discharge, 0.14 ft³/s (0.004 m³/s) July 20-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	89	99	90	102	96	89	90	60	72	21	9.6
2	23	91	99	90	97	97	87	90	76	64	13	8.7
3	29	95	103	90	95	97	90	89	76	61	9.4	2.3
4	30	96	100	90	90	92	92	91	71	62	5.2	4.1
5	53	95	101	90	80	90	90	101	66	56	.95	.17
6	43	94	104	90	80	90	100	94	61	52	.86	1.0
7	46	96	104	84	78	94	107	90	53	51	.93	6.3
8	56	96	103	80	76	95	104	90	46	32	.54	4.5
9	64	94	102	80	74	95	96	88	45	19	.32	3.4
10	70	96	101	80	74	101	86	87	37	12	.66	5.4
11	69	98	103	80	84	96	86	87	43	5.2	4.5	17
12	70	98	102	74	94	92	84	87	40	2.1	13	62
13	70	100	102	78	107	92	86	113	48	.57	6.7	61
14	72	100	102	86	120	90	88	112	41	2.1	19	56
15	75	102	103	98	115	91	88	106	35	1.4	26	60
16	77	103	100	110	113	91	86	94	32	.53	24	55
17	77	103	100	120	110	92	84	91	30	.43	23	54
18	72	102	94	124	106	91	84	91	29	.26	22	48
19	77	100	90	128	103	92	77	89	28	.26	18	39
20	86	98	110	130	103	90	88	95	29	.14	16	34
21	88	101	108	130	103	87	87	88	28	.14	16	34
22	87	101	106	120	100	88	78	85	31	.14	15	44
23	87	101	99	110	105	89	82	82	97	.70	9.0	11
24	87	100	103	100	97	89	86	85	52	.26	2.0	8.0
25	90	99	100	108	94	89	88	85	35	.21	1.4	8.1
26	89	98	96	116	93	90	86	85	50	.21	1.3	7.9
27	89	96	90	112	95	98	99	84	55	.21	1.0	11
28	90	97	88	108	97	89	107	83	38	.29	.94	15
29	92	98	96	104	---	93	97	84	33	29	1.0	18
30	90	102	90	100	---	96	91	85	77	44	1.1	19
31	88	---	90	100	---	90	---	71	---	33	3.1	---
TOTAL	2152	2939	3088	3100	2685	2852	2693	2792	1442	602.15	276.90	703.78
MEAN	69.4	98.0	99.6	100	95.9	92.0	89.8	90.1	48.1	19.4	8.93	23.5
MAX	92	103	110	130	120	101	107	113	97	72	26	62
MIN	16	89	88	74	74	87	77	71	28	.14	.32	.17
AC-FT	4270	5830	6130	6150	5330	5660	5340	5540	2860	1190	549	1400

CAL YR 1981 TOTAL 25487.92 MEAN 69.8 MAX 155 MIN .00 AC-FT 50560
WTR YR 1982 TOTAL 25325.83 MEAN 69.4 MAX 130 MIN .14 AC-FT 50230

PLATTE RIVER BASIN

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06687500 NORTH PLATTE RIVER AT LEWELLEN, NE

LOCATION.--Lat 41°18'37", long 102°09'00", in SE1/4NW1/4 sec.33, T.16 N., R.42 W., Garden County, Hydrologic Unit 10180009, on right bank 28 ft (9 m) upstream from county highway bridge, 1 mi (2 km) south of Lewellen, and approximately 1.5 mi (2.4 km) upstream from high-water line of Lake McConaughy.

DRAINAGE AREA.--28,600 mi² (74,100 km²), approximately, of which about 25,400 mi² (65,800 km²) 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 3,290.16 ft (1,002.841 m) National Geodetic Vertical Datum of 1929. July to September 1931, nonrecording gage near present site at different datum. December 1940 to Sept. 19, 1973, water-stage recorders on two channels at site 0.9 mi (1.4 km) downstream at datum approximately 6 ft (1.8 m) lower.

REMARKS.--Records good except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s (382 m³/s) June 4, 1971; minimum daily, 44 ft³/s (1.25 m³/s) July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,830 ft³/s (80.1 m³/s) July 31, gage height, 6.21 ft (1.893 m); maximum gage height, 7.89 ft (2.405 m) Dec. 20, backwater from ice; minimum daily discharge, 282 ft³/s (7.99 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	1440	1250	1200	1300	1010	816	732	718	926	2200	1130
2	1480	1460	1210	1300	1250	1060	942	732	830	816	1730	1080
3	1550	1370	1190	1350	1150	1130	926	732	788	788	1520	958
4	1550	1310	1040	1240	1000	1120	862	718	802	830	1310	894
5	1640	1310	1120	1200	900	1080	862	760	816	910	1170	910
6	1640	1270	1150	1120	850	1010	830	704	788	942	958	990
7	1480	1290	1210	1100	900	1030	862	630	690	926	974	1080
8	1520	1290	1190	1040	950	1080	862	678	630	910	958	1150
9	1500	1310	1190	1000	1050	1040	894	788	570	926	894	1230
10	1460	1290	1190	1000	1200	1010	894	846	474	942	878	1310
11	1440	1290	1190	1000	1200	958	926	846	474	846	990	1310
12	1480	1290	1190	960	1250	990	927	802	462	878	1040	1520
13	1610	1310	1210	960	1350	974	910	1030	486	958	1040	1610
14	1610	1310	1210	1000	1500	974	894	1150	450	1060	1370	1810
15	1610	1330	1170	1100	1700	1010	846	1480	534	1390	1330	1990
16	1660	1290	1160	1140	1700	1100	830	1570	703	1350	1690	2260
17	1690	1290	1140	1200	1650	1080	788	1590	1500	1150	1570	2460
18	1610	1310	1120	1350	1600	1060	802	1480	1150	974	1390	2460
19	1520	1350	1160	1400	1500	1130	830	1270	990	862	1190	2370
20	1480	1290	1200	1350	1400	1060	830	1190	910	704	1210	2260
21	1390	1290	1250	1300	1250	974	802	1030	802	618	1370	2090
22	1350	1290	1300	1250	1200	974	774	1030	788	534	1390	2040
23	1370	1290	1200	1100	1150	974	746	942	1120	440	1570	1960
24	1390	1290	1100	940	1120	958	718	958	830	342	1460	1860
25	1440	1250	1000	1030	1080	942	690	990	802	308	1520	1780
26	1370	1170	1100	1200	1080	926	732	974	1040	290	1690	1730
27	1350	1210	1150	1300	1060	878	910	910	1190	282	1550	1690
28	1410	1230	1130	1500	1030	894	862	862	974	474	1390	1590
29	1480	1270	1040	1580	---	910	732	816	816	718	1290	1640
30	1460	1330	1100	1480	---	958	732	830	1350	1920	1190	1810
31	1440	---	1200	1350	---	862	---	788	---	2640	1230	---
TOTAL	46460	39020	36060	37040	34370	31156	25031	29858	24477	27654	41062	48972
MEAN	1499	1301	1163	1195	1228	1005	834	963	816	892	1325	1632
MAX	1690	1460	1300	1580	1700	1130	942	1590	1500	2640	2200	2460
MIN	1350	1170	1000	940	850	862	690	630	450	282	878	894
AC-FT	92150	77400	71520	73470	68170	61800	49650	59220	48550	54850	81450	97140
CAL YR 1981	TOTAL	371744	MEAN	1018	MAX	2090	MIN	132	AC-FT	737400		
WTR YR 1982	TOTAL	421160	MEAN	1154	MAX	2640	MIN	282	AC-FT	835400		

PLATTE RIVER BASIN

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 (7.2 km) west of Keystone.

DRAINAGE AREA.--29,300 mi² (75,900 km²), approximately, of which about 25,800 mi² (66,800 km²) 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 (2.40 km³) between elevations 3,130.0 ft (954.02 m), sill of outlet gates, and 3,270.0 ft (996.70 m), top of morning-glory spillway gates. Elevation of crest of morning-glory spillway is 3,254.0 ft (991.82 m). 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 (2.37 km³) July 12-16, 1971, elevation, 3,269.1 ft (996.42 m); minimum observed since operation of reservoir began, 32,860 acre-ft (40.5 km³) Sept. 29, 1941, elevation, 3,153.4 ft (961.16 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,658,000 acre-ft (2.04 km³) June 30 to July 6, elevation, 3,260.5 ft (993.80 m); minimum observed, 1,421,000 acre-ft (1.75 km³) Sept. 13-18, elevation, 3,251.9 ft (991.18 m).

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.	30	3,252.0	1,424,000	-
Oct.	31	3,254.0	1,477,000	+53,000
Nov.	30	3,254.8	1,499,000	+22,000
Dec.	31	3,255.5	1,518,000	+19,000
CAL YR 1981		-	-	+17,000
Jan.	31	3,256.0	1,531,000	+13,000
Feb.	28	3,257.2	1,565,000	+34,000
Mar.	31	3,258.4	1,598,000	+33,000
Apr.	30	3,259.1	1,618,000	+20,000
May	31	3,260.2	1,650,000	+32,000
June	30	3,260.5	1,658,000	+8,000
July	31	3,255.7	1,523,000	-135,000
Aug.	31	3,252.6	1,440,000	-83,000
Sept.	30	3,252.5	1,437,000	-3,000
WTR YR 1982		-	-	+13,000

PLATTE RIVER BASIN

89

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 (0.3 km) downstream from diversion dam of Sutherland Reservoir supply canal and 2.5 mi (4.0 km) southwest of Keystone.

DRAINAGE AREA.--29,300 mi² (75,900 km²), approximately, of which about 25,800 mi² (66,800 km²) 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 RECCRDS.--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 (946.584 m) 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.--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 (0.3 km) upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) June 30, 1917, from graph based on daily gage readings; no flow for many days in 1975-82.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,540 ft³/s (71.9 m³/s) July 13, gage height, 4.23 ft (1.289 m); maximum gage height, 4.58 ft (1.396 m) occurred Oct. 7 before control was breached; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	448	13	.00	.00	1.3	.00	.00	3.0	168	1820	482
2	181	385	10	.00	.00	2.4	.00	.00	3.0	270	1930	472
3	260	288	7.6	.00	.00	1.2	.00	.00	3.0	400	1850	468
4	298	177	.17	.00	.00	.50	.00	.00	40	520	1850	468
5	373	62	.00	.00	.00	.00	.00	.00	74	828	1840	458
6	454	53	.00	.00	.00	.00	.00	.00	74	1030	1860	454
7	430	64	.00	.00	.00	.00	.00	.00	74	1420	2070	449
8	413	19	.00	.00	.00	.00	.00	.00	74	2120	2130	450
9	507	.67	.00	.00	.00	.00	.00	.00	73	2330	1990	451
10	489	.33	.00	.00	.00	.00	.00	3.2	73	2340	1700	444
11	471	.00	3.8	.00	.00	.00	.00	3.2	78	2190	1570	445
12	454	.00	.25	.00	.00	.00	.00	3.1	76	2180	1520	449
13	477	.00	.00	.00	.00	.00	.00	3.0	76	2330	1430	444
14	482	.00	.00	.00	.00	.00	.00	2.9	40	2440	1230	444
15	475	.00	.00	.00	.00	.00	.00	2.8	.00	2450	864	444
16	477	.00	12	.00	.00	.00	.00	2.7	.00	2470	705	445
17	474	.00	.50	.00	.00	.00	.00	2.7	.00	2470	610	594
18	480	.98	.00	.00	.00	.00	.00	2.7	.00	2420	454	666
19	479	.83	.00	.00	.00	.00	.00	2.8	.00	2440	449	772
20	480	.16	.00	.00	.00	.00	.00	2.9	.00	2450	444	876
21	474	.00	.00	.00	.00	.00	.00	3.0	.00	2400	444	906
22	474	.20	.00	.00	.00	.00	.00	3.1	.00	2300	435	996
23	474	2.4	2.9	.00	.00	.00	.00	3.2	.00	2240	440	1120
24	475	.17	1.4	.00	.00	.00	.00	3.2	100	2240	440	948
25	475	.00	.42	.00	.00	.00	.00	3.2	194	2380	440	941
26	484	.00	.67	.00	.00	.00	.00	3.2	168	2480	463	984
27	461	.00	.50	.00	.00	.00	.00	3.2	201	2300	472	921
28	293	.00	.00	.00	.00	.00	.00	3.1	214	2120	477	733
29	409	.00	.00	.00	---	.00	.00	3.1	261	1900	482	150
30	517	10	.00	.00	---	.00	.00	3.0	241	1730	477	50
31	461	---	.00	.00	---	.00	---	3.0	---	1720	482	---
TOTAL	13277	1511.74	53.21	.00	.00	5.40	.00	66.30	2140.00	59076	33368	17924
MEAN	428	50.4	1.72	.000	.000	.17	.000	2.14	71.3	1906	1076	597
MAX	517	448	13	.00	.00	2.4	.00	3.2	261	2480	2130	1120
MIN	126	.00	.00	.00	.00	.00	.00	.00	.00	168	435	50
AC-FT	26330	3000	106	.00	.00	11	.00	132	4240	117200	66190	35550
CAL YR 1981	TOTAL	93847.87	MEAN 257	MAX 2350	MIN .00	AC-FT 186100						
WTR YR 1982	TOTAL	127421.65	MEAN 349	MAX 2480	MIN .00	AC-FT 252700						

PLATTE RIVER BASIN

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 (24 m) downstream from bridge on county road, 2.5 mi (4.0 km) upstream from Birdwood Creek, and 3.5 mi (5.6 km) north of Sutherland.

DRAINAGE AREA.--29,800 mi² (77,200 km²), approximately, of which about 26,120 mi² (67,700 km²) 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. Altitude of gage is 2,920 ft (890 m), 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 (24 m) upstream at present datum.

REMARKS.--Records good except those above 1,000 ft³/s (28.3 m³/s) and those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) June 29, 1917, from discharge graph based on daily gage readings, from rating curve extended above 16,000 ft³/s (453 m³/s); no flow July 24-28, 30, 31, 1931, Aug. 7, 1934, July 20-28, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,240 ft³/s (63.4 m³/s) July 20, gage height, 3.46 ft (1.055 m); minimum daily, 18 ft³/s (0.51 m³/s) May 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	618	176	120	120	128	110	31	36	152	1240	130
2	146	661	163	114	100	130	110	23	46	92	1310	128
3	190	584	158	112	80	120	112	21	46	58	1350	106
4	239	444	147	110	76	130	112	18	41	75	1300	146
5	293	321	141	104	76	140	110	54	40	103	1310	196
6	400	235	136	90	76	145	110	69	39	284	1320	215
7	500	220	137	80	106	143	109	55	35	550	1380	220
8	500	220	135	80	130	139	112	43	36	880	1650	229
9	518	193	129	90	130	137	112	36	33	1250	1790	222
10	564	177	126	92	145	155	112	27	33	1710	1740	221
11	570	174	123	90	150	186	110	22	34	1880	1470	246
12	570	168	123	100	155	181	102	22	44	1830	1380	369
13	564	159	122	102	155	174	92	115	64	1800	1310	392
14	584	155	119	104	165	162	47	276	94	1840	1320	410
15	608	146	120	110	170	149	34	222	131	1940	1070	399
16	636	137	120	112	175	143	88	165	88	2080	710	406
17	640	140	125	118	175	143	92	124	80	2170	560	434
18	612	134	130	120	175	143	71	89	84	2190	415	496
19	584	134	120	125	161	155	54	59	82	2170	284	555
20	577	131	140	120	154	152	49	56	77	2200	279	643
21	577	128	160	120	151	143	46	56	75	2160	249	758
22	577	126	135	114	148	140	43	48	81	2080	222	815
23	593	121	120	110	146	137	36	43	87	1940	200	905
24	613	119	108	114	142	131	32	48	93	1840	176	968
25	627	115	130	120	138	128	29	45	77	1800	156	834
26	629	115	130	125	135	126	27	38	102	1880	131	867
27	647	110	135	130	129	123	38	33	152	1950	88	898
28	605	110	125	130	128	123	52	39	112	1860	101	807
29	421	110	118	130	---	123	51	41	98	1730	98	611
30	577	157	120	125	---	123	45	40	158	1530	99	366
31	654	---	120	125	---	114	---	38	---	1320	117	---
TOTAL	15930	6362	4091	3436	3791	4366	2247	1996	2198	45344	24825	13992
MEAN	514	212	132	111	135	141	74.9	64.4	73.3	1463	801	466
MAX	654	661	176	130	175	186	112	276	158	2200	1790	968
MIN	115	110	108	80	76	114	27	18	33	58	88	106
AC-FT	31600	12620	8110	6820	7520	8660	4460	3960	4360	89940	49240	27750
CAL YR 1981	TOTAL	102730	MEAN	281	MAX	2480	MIN	28	AC-FT	203800		
WTR YR 1982	TOTAL	128578	MEAN	352	MAX	2200	MIN	18	AC-FT	255000		

PLATTE RIVER BASIN

91

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 (18 m) downstream from bridge on county road, 1 mi (2 km) upstream from mouth, and 5 mi (8 km) northwest of Hershey.

DRAINAGE AREA.--940 mi² (2,435 km²), approximately, of which about 80 mi² (207 km²) 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. Altitude of gage is 2,920 ft (890 m), 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 (15 m) upstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--51 years, 152 ft³/s (4.305 m³/s), 110,100 acre-ft/yr (0.136 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s (50.1 m³/s) Apr. 1, 1949, gage height, 4.35 ft (1.326 m), from rating curve extended above 680 ft³/s (19.3 m³/s); maximum gage height, 5.12 ft (1.561 m) Dec. 15, 1940, backwater from ice; minimum daily discharge, 61 ft³/s (1.73 m³/s) Jan. 19, 1935, Apr. 7, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 269 ft³/s (7.62 m³/s) May 13, gage height, 1.18 ft (0.360 m); maximum gage height, 3.79 ft (1.155 m) Jan. 25, backwater from ice; minimum daily discharge, 97 ft³/s (2.75 m³/s) July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	140	165	130	139	137	144	169	133	128	103	101
2	137	144	158	135	138	141	149	169	143	126	119	100
3	137	144	160	149	134	135	133	166	138	121	133	100
4	137	145	160	145	140	138	137	170	135	116	132	100
5	132	146	162	145	100	139	139	180	137	112	117	106
6	132	146	172	148	120	140	141	159	139	111	101	111
7	139	146	165	100	130	139	137	165	132	108	103	111
8	137	146	163	120	130	141	135	161	136	111	104	111
9	134	146	158	130	130	144	134	160	134	112	105	110
10	133	146	160	120	130	152	140	153	130	114	107	108
11	134	146	158	120	130	150	142	145	131	112	105	108
12	146	147	162	120	140	153	149	140	129	112	107	113
13	146	146	160	120	137	148	148	196	128	109	107	110
14	135	146	157	150	146	153	148	182	126	103	122	122
15	138	146	157	150	158	150	151	210	124	102	116	124
16	145	146	158	120	161	148	184	158	119	101	110	123
17	143	148	155	150	168	155	143	143	121	100	109	130
18	134	148	150	170	163	150	148	142	124	98	108	122
19	135	142	140	160	152	151	145	139	119	98	106	122
20	138	140	145	140	153	146	126	182	119	97	104	125
21	140	144	143	175	151	146	128	141	119	97	103	122
22	139	149	138	150	153	145	130	132	121	100	107	121
23	141	157	143	130	144	151	133	132	135	105	114	127
24	143	155	140	140	136	150	132	184	124	104	114	126
25	141	152	136	170	136	141	132	136	124	104	113	126
26	143	143	136	160	135	139	127	134	125	105	111	125
27	143	149	139	150	136	141	132	132	123	106	109	128
28	143	157	136	133	137	141	130	136	123	106	108	132
29	143	164	134	139	---	148	123	135	119	114	108	131
30	143	171	136	137	---	150	149	141	133	107	106	130
31	140	---	131	139	---	137	---	134	---	103	106	---
TOTAL	4307	4445	4677	4345	3927	4499	4189	4826	3843	3342	3417	3525
MEAN	139	148	151	140	140	145	140	156	128	108	110	118
MAX	146	171	172	175	168	155	184	210	143	128	133	132
MIN	132	140	131	100	100	135	123	132	119	97	101	100
AC-FT	8540	8820	9280	8620	7790	8920	8310	9570	7620	6630	6780	6990
CAL YR 1981 TOTAL	51369		MEAN 141	MAX 225	MIN 107	AC-FT 101900						
WTR YR 1982 TOTAL	49342		MEAN 135	MAX 210	MIN 97	AC-FT 97870						

PLATTE RIVER BASIN

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 (46 m) downstream from bridge on U.S. Highway 83, 0.5 mi (0.8 km) north of city of North Platte, and 4.5 mi (7.2 km) upstream from confluence with South Platte River.

DRAINAGE AREA.--30,900 mi² (80,000 km²), approximately, of which about 26,300 mi² (68,100 km²) 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 (851.044 m) 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.--Records good except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 29,600 ft³/s (838 m³/s) June 11, 1909, discharge measurement; minimum daily, 20 ft³/s (0.57 m³/s) Sept. 20, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,290 ft³/s (64.9 m³/s) July 19, gage height, 5.05 ft (1.539 m); minimum daily, 174 ft³/s (4.93 m³/s) May 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	326	842	370	310	370	320	326	204	257	388	1610	298
2	320	879	412	300	360	326	320	224	308	332	1600	279
3	338	905	391	280	360	367	315	193	354	266	1730	273
4	381	789	358	230	360	374	315	174	318	219	1640	296
5	428	681	362	230	300	378	315	206	284	233	1640	356
6	472	563	367	250	300	349	315	262	278	254	1630	397
7	594	479	372	260	310	345	315	272	254	529	1620	409
8	678	472	368	260	320	341	315	262	241	711	1740	398
9	636	428	362	300	330	342	315	257	242	1180	1940	411
10	706	401	348	300	330	380	315	248	240	1790	2060	406
11	732	381	358	300	330	442	315	234	262	2010	1930	423
12	762	369	368	310	330	457	309	234	270	2060	1750	530
13	770	360	378	320	340	420	303	339	280	1960	1680	637
14	758	353	367	340	350	419	288	699	330	1900	1680	671
15	770	350	326	350	360	383	277	701	426	1970	1630	697
16	801	346	350	350	370	375	304	569	364	2070	1240	675
17	855	336	350	350	370	373	282	422	321	2150	961	696
18	843	324	300	360	380	386	298	368	323	2180	840	751
19	844	337	300	360	390	446	256	319	325	2240	659	813
20	864	351	350	360	400	451	260	336	299	2210	594	894
21	875	332	400	350	401	391	256	342	297	2210	566	989
22	864	334	440	360	388	376	240	312	293	2130	547	1050
23	833	336	400	360	388	367	230	278	330	2050	491	1090
24	815	333	380	360	375	373	222	426	339	1930	412	1160
25	824	341	370	370	356	362	224	365	311	1860	352	1110
26	824	343	350	370	344	350	215	291	296	1900	333	1070
27	833	337	330	370	320	338	239	260	361	2010	297	1080
28	842	323	330	370	320	332	295	277	320	2030	305	1070
29	725	318	350	380	---	326	249	285	277	2020	309	951
30	699	310	330	380	---	344	217	298	332	1940	280	734
31	842	---	310	370	---	338	---	294	---	1700	286	---
TOTAL	21854	13253	11147	10160	9852	11571	8445	9951	9132	48432	34352	20614
MEAN	705	442	360	328	352	373	282	321	304	1562	1108	687
MAX	875	905	440	380	401	457	326	701	426	2240	2060	1160
MIN	320	310	300	230	300	320	215	174	240	219	280	273
AC-FT	43350	26290	22110	20150	19540	22950	16750	19740	18110	96060	68140	40890
CAL YR 1981	TOTAL	182201		MEAN 499	MAX 2360	MIN 200	AC-FT 361400					
WTR YR 1982	TOTAL	208763		MEAN 572	MAX 2240	MIN 174	AC-FT 414100					

PLATTE RIVER BASIN

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06762500 LODGEPOLE CREEK AT BUSHNELL, NE

LOCATION.--Lat 41°13'50"N, long 103°53'28"W, in sec.32, T.15 N., R.57 W., Kimball County, Hydrologic Unit 10190016, on right bank 0.1 mi (0.2 km) south of Bushnell at south end of highway bridge on State Highway 53c.

DRAINAGE AREA.--1,350 mi² (3,497 km²).

PERIOD OF RECORD.--October 1931 to current year. Records for March to September 1931 at site 1.5 mi (2.4 km) 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 (1,476.850 m) 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 (2.7 km) downstream from present site at datum 33.01 ft (10.061 m) lower.

REMARKS.--Records good. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas. Diversions for irrigation of about 12,600 acres (51.0 km²) above station.

AVERAGE DISCHARGE.--51 years, 10.8 ft³/s (0.306 m³/s), 7,820 acre-ft/yr (9.64 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s (467 m³/s) Sept. 15, 1950, gage height, 9.98 ft (3.042 m), from rating curve extended above 2,700 ft³/s (76.5 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 10.06 ft (3.066 m) July 2, 1981, from highwater mark, site and datum then in use; minimum daily discharge, 0.09 ft³/s (0.003 m³/s) July 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 387 ft³/s (11.0 m³/s) June 25, gage height, 2.72 ft (0.829 m), from highwater mark; minimum daily, 1.9 ft³/s (0.054 m³/s) July 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.6	4.3	3.8	4.0	4.7	4.8	4.6	4.3	5.2	2.5	2.5
2	3.0	4.7	4.9	3.6	4.0	5.3	4.8	4.4	4.5	4.8	2.5	2.4
3	3.0	4.9	4.4	3.5	3.9	5.3	4.6	4.4	4.7	4.5	2.5	2.4
4	3.0	4.9	4.3	3.5	4.3	5.3	5.0	4.4	5.2	4.3	2.5	2.4
5	3.1	4.5	4.5	4.4	4.0	5.6	4.8	4.3	5.3	4.0	2.5	2.5
6	2.9	4.6	4.5	4.2	3.6	5.5	5.2	4.3	4.0	3.8	2.6	2.7
7	3.0	4.7	4.4	4.2	3.6	5.5	5.1	4.3	3.6	3.7	2.9	17
8	3.0	4.5	4.4	4.1	3.4	5.5	5.1	4.3	3.3	3.6	2.8	4.1
9	2.9	4.6	4.5	4.2	3.4	5.5	4.8	4.3	3.2	3.4	3.0	3.1
10	3.1	4.7	4.6	3.8	3.6	5.5	5.0	4.1	3.2	3.4	3.1	3.1
11	3.4	4.8	4.7	3.9	3.4	5.4	5.0	4.1	3.3	3.3	3.0	3.1
12	3.4	4.8	4.7	3.6	3.3	5.4	4.7	4.2	3.3	3.3	3.0	3.3
13	3.4	4.8	4.7	3.6	3.3	5.4	4.5	4.6	3.2	3.2	2.8	3.4
14	3.4	4.8	4.6	3.6	3.2	5.4	4.6	4.6	3.2	3.2	3.0	3.6
15	3.5	4.8	4.6	3.4	3.4	5.4	4.5	4.5	3.1	3.2	3.0	3.4
16	3.5	4.9	4.5	3.6	4.4	5.3	4.3	4.5	3.2	3.0	3.0	3.4
17	3.9	4.8	4.4	3.8	8.0	5.3	4.3	4.5	3.4	2.4	3.0	3.2
18	4.6	4.6	4.5	3.6	6.4	5.3	4.4	4.4	4.4	2.4	2.9	3.3
19	4.6	4.4	4.7	3.6	6.0	5.3	4.2	4.3	3.8	2.5	2.7	3.3
20	4.6	4.5	4.8	3.6	7.2	4.6	4.5	4.2	3.7	2.2	2.6	3.3
21	4.8	4.6	4.4	3.6	7.2	4.4	4.7	4.2	3.7	2.0	2.5	3.3
22	4.8	4.5	4.3	3.6	7.6	4.0	4.7	4.2	3.6	2.0	2.8	3.3
23	4.8	4.2	4.1	4.3	8.0	3.6	6.0	4.3	4.4	2.0	4.0	3.3
24	4.8	4.3	4.0	4.0	6.0	4.2	6.0	4.4	4.0	1.9	2.2	3.4
25	4.8	4.4	4.1	3.6	5.6	3.8	6.0	4.6	27	1.9	2.2	3.5
26	4.9	4.3	4.0	4.0	4.7	4.4	6.0	4.6	78	2.1	2.2	3.6
27	4.9	4.4	4.0	4.0	4.7	4.7	5.6	4.4	12	2.2	2.3	3.6
28	4.8	4.4	3.8	4.0	5.0	4.7	6.3	4.3	7.2	2.5	2.3	3.6
29	4.9	4.4	3.6	4.0	---	5.0	5.8	4.6	5.5	3.1	2.4	3.6
30	4.8	4.3	3.9	4.0	---	4.7	4.9	4.6	5.0	2.8	2.4	3.6
31	4.5	---	3.8	4.0	---	4.7	---	4.4	---	2.5	2.5	---
TOTAL	121.1	137.7	135.0	118.7	135.2	154.7	150.2	135.9	226.3	94.4	83.7	110.3
MEAN	3.91	4.59	4.35	3.83	4.83	4.99	5.01	4.38	7.54	3.05	2.70	3.68
MAX	4.9	4.9	4.9	4.4	8.0	5.6	6.3	4.6	78	5.2	4.0	17
MIN	2.9	4.2	3.6	3.4	3.2	3.6	4.2	4.1	3.1	1.9	2.2	2.4
AC-FT	240	273	268	235	268	307	298	270	449	187	166	219

CAL YR 1981 TOTAL 3460.25 MEAN 9.48 MAX 1000 MIN .75 AC-FT 6860
WTR YR 1982 TOTAL 1603.20 MEAN 4.39 MAX 78 MIN 1.9 AC-FT 3180

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, at bridge on access road between U.S. Highway 30 and Interstate 80, about 0.5 mi (0.8 km) southeast of Roscoe.

PERIOD OF RECORD.--July 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
21...	1145	93	1990	8.1	7.5	11.3	55	2000	K15000	740	190	64
NOV												
17...	1115	89	1950	8.1	8.0	12.3	45	510	K12000	700	180	61
DEC												
16...	1045	172	2050	8.0	.5	10.5	29	1200	4400	880	230	73
JAN												
20...	1140	200	2150	8.0	.5	10.8	14	870	800	830	220	68
FEB												
18...	1200	881	1620	7.9	1.0	12.5	19	120	460	620	160	53
MAR												
17...	1130	171	2050	8.0	10.5	10.2	14	42	230	800	210	66
APR												
21...	1130	12	2160	8.3	12.0	10.6	67	K20	45	810	210	69
MAY												
19...	1130	135	2050	8.3	21.0	9.0	31	K4	62	710	180	63
JUN												
16...	1130	444	1490	8.3	20.5	8.2	45	K3100	5800	610	160	50
JUL												
21...	1115	56	1620	8.2	26.0	9.6	17	160	60	580	150	50
AUG												
18...	1030	105	--	8.0	28.0	11.1	40	430	200	590	150	52
SEP												
22...	1200	527	1800	8.4	18.0	9.4	35	1000	1800	650	160	60

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARRON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
21...	770	94	--	1640	.94	.170	.83	1.00	1.9	.100	6.2
NOV											
17...	760	90	--	1570	.81	.310	.56	.87	1.7	.070	5.0
DEC											
16...	930	97	--	1840	2.1	.170	.93	1.10	3.2	.100	3.3
JAN											
20...	920	94	--	1820	2.5	.380	.82	1.20	3.7	.690	4.8
FEB											
18...	600	65	19	--	2.6	.430	1.5	1.90	4.5	.210	8.5
MAR											
17...	750	89	25	--	2.2	.120	.69	.81	3.0	.120	4.7
APR											
21...	870	99	4	--	1.4	.140	1.6	1.70	3.1	.080	5.0
MAY											
19...	820	110	43	--	.54	.110	1.6	1.70	2.2	.160	8.4
JUN											
16...	560	62	309	--	1.1	.140	1.8	1.90	3.0	.430	10
JUL											
21...	590	75	8	--	.10	<.060	--	1.20	1.3	.140	4.5
AUG											
18...	710	78	105	--	.23	.090	2.4	2.50	2.7	.310	13
SEP											
22...	680	75	124	--	6.3	.060	3.2	3.30	9.6	.200	9.5

PLATTE RIVER BASIN

06764880 SOUTH PLATTE RIVER AT ROSCOE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 17...	1115	530	180	3.0	15	170	.7	12	1400	1.9	338
FEB 18...	1200	410	160	2.8	14	210	.8	16	1210	1.7	2880
APR 21...	1130	--	--	--	--	--	--	--	--	--	--
MAY 19...	1130	530	220	3.6	20	180	.7	14	1540	2.1	561
AUG 18...	1030	440	160	3.1	17	150	.7	21	1280	1.7	363

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 17...	.77	.040	.81	.060	2	100	290	<1	<10	18
FEB 18...	--	--	2.6	.160	--	--	250	--	--	--
APR 21...	1.4	.030	--	--	--	--	--	--	--	--
MAY 19...	--	--	.44	.060	3	<100	320	<1	20	380
AUG 18...	--	--	.23	.080	--	--	300	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 17...	320	<10	8	60	40	20	.9	2	<1	30
FEB 18...	--	50	--	--	--	20	--	--	--	--
APR 21...	--	--	--	--	--	--	--	--	--	--
MAY 19...	1300	80	28	100	--	20	.4	3	<1	90
AUG 18...	--	8	--	--	--	10	--	--	--	--

PLATTE RIVER BASIN

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 (15 m) downstream from bridge on U.S. Highway 83, 0.5 mi (0.8 km) north of intersection of U.S. Highway 83 and Interstate 80 south of North Platte, and 4.5 mi (7.2 km) upstream from confluence with North Platte River.

DRAINAGE AREA.--24,300 mi² (62,900 km²), 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 (849.700 m) 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 (15 m) upstream at same datum. Mar. 30, 1973, to Aug. 12, 1981, at site 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Records good except those for winter period or no gage height 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. South Platte canal diverts around station; diversion began Nov. 13, 1946.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 37,100 ft³/s (1,050 m³/s) June 3, 1935, gage height, 14.02 ft (4.273 m), present datum; no flow at times in summers of most years prior to 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 522 ft³/s (14.8 m³/s) July 9, gage height, 2.40 ft (0.732 m); maximum gage height, 2.88 ft (0.878 m) Feb. 3, backwater from ice; minimum daily discharge, 103 ft³/s (2.92 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	134	137	125	165	156	137	178	210	237	214	141
2	145	144	123	125	165	150	134	162	224	238	221	133
3	153	150	125	125	160	159	134	159	224	216	193	146
4	142	146	126	130	155	153	130	155	215	216	195	146
5	157	141	125	125	155	148	129	174	217	207	175	146
6	137	136	130	110	150	145	126	190	223	183	173	161
7	119	135	132	110	160	145	123	164	205	210	171	159
8	103	132	132	112	160	145	123	150	206	296	160	153
9	112	130	134	120	155	145	118	145	201	421	151	156
10	112	134	132	130	155	153	122	134	194	391	157	156
11	126	132	134	130	150	159	119	129	199	313	156	159
12	124	132	133	135	150	162	117	137	201	309	167	168
13	121	128	132	140	160	162	116	200	199	252	173	174
14	121	131	124	140	170	162	119	258	215	221	185	177
15	114	133	121	145	200	150	128	279	275	203	185	187
16	117	132	126	150	214	150	131	263	221	225	190	193
17	139	129	126	160	187	148	138	247	217	245	199	193
18	150	129	125	170	187	148	138	243	210	245	203	217
19	162	128	125	170	207	162	139	233	196	226	222	232
20	174	126	125	180	239	156	135	243	187	204	220	200
21	175	128	137	170	270	145	126	228	180	186	217	191
22	175	127	133	150	243	153	127	215	177	171	213	190
23	172	129	131	135	207	153	127	206	187	163	208	174
24	159	122	129	150	190	153	126	268	174	166	190	169
25	142	121	126	160	177	156	131	253	180	164	178	166
26	137	119	124	165	177	154	125	224	188	155	175	164
27	135	113	124	170	168	148	134	214	213	160	167	163
28	136	119	124	170	162	148	149	219	210	164	156	160
29	138	119	117	175	---	142	162	230	211	173	146	160
30	140	142	117	175	---	139	175	228	231	183	150	146
31	135	---	124	170	---	141	---	227	---	190	148	---
TOTAL	4314	3921	3953	4522	5038	4690	3938	6355	6190	6933	5658	5060
MEAN	139	131	128	146	180	151	131	205	206	224	183	169
MAX	175	150	137	180	270	162	175	279	275	421	222	232
MIN	103	113	117	110	150	139	116	129	174	155	146	133
AC-FT	8560	7780	7840	8970	9990	9300	7810	12610	12280	13750	11220	10040
CAL YR 1981	TOTAL	59219	MEAN 162	MAX 458	MIN 90	AC-FT	117500					
WTR YR 1982	TOTAL	60572	MEAN 166	MAX 421	MIN 103	AC-FT	120100					

PLATTE RIVER BASIN

97

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 (0.8 km) and 2.5 mi (4.0 km), respectively, south of Brady and 18 mi (29 km) downstream from confluence of North Platte and South Platte Rivers.

DRAINAGE AREA.--56,200 mi² (145,600 km²), approximately, of which about 51,400 mi² (133,100 km²) 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 (804.425 m) and on south channel, 2,641.66 ft (805.178 m) 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 (0.3 m) higher.

REMARKS.--Records good except those for winter period, 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 (56.6 m³/s), diverts 18 mi (29 km) above station; diversion started Nov. 26, 1940. River flows in two channels for which separate records are computed; figures given herein represent combined discharge.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,600 ft³/s (527 m³/s) May 14, 1973; no flow Aug. 22-24, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) July 21; minimum daily, 85 ft³/s (2.41 m³/s) Jan. 11-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	135	141	95	133	157	142	155	238	357	999	362
2	130	153	202	100	127	158	138	142	277	382	1060	344
3	112	260	201	115	121	128	133	134	291	368	1060	334
4	99	295	168	118	118	123	130	131	283	312	1060	320
5	98	279	170	115	110	122	126	139	251	195	987	300
6	114	271	173	105	105	140	122	156	227	182	986	312
7	106	208	177	95	105	183	126	155	202	284	1000	322
8	119	158	175	100	105	177	124	146	183	453	993	323
9	123	138	170	100	110	182	123	141	237	653	842	306
10	140	146	167	90	120	203	119	130	237	950	965	274
11	126	162	156	85	135	219	123	123	277	1180	1070	258
12	133	233	151	85	140	215	126	130	241	1350	1160	265
13	144	205	150	85	159	205	113	173	213	1360	1120	271
14	134	191	146	100	206	189	120	273	232	1250	1230	286
15	148	166	142	115	250	184	135	351	234	1130	1180	280
16	155	163	131	110	242	188	139	325	220	1170	993	258
17	184	186	130	115	267	188	133	278	228	1270	790	268
18	174	205	125	120	246	188	133	250	214	1380	730	258
19	159	190	125	130	236	192	126	219	191	1610	707	259
20	149	153	145	123	225	198	156	267	165	1560	671	257
21	139	163	167	120	211	187	133	286	158	1630	659	257
22	129	153	164	110	201	175	130	260	165	1580	665	264
23	124	149	151	100	181	166	121	247	181	1720	700	275
24	128	161	123	105	173	162	117	265	183	1710	678	276
25	117	180	134	110	162	156	119	337	181	1640	678	275
26	113	192	141	120	157	158	112	317	177	1600	670	279
27	125	153	146	130	158	155	136	294	200	1600	642	279
28	127	142	129	137	159	154	171	285	207	1460	515	279
29	182	138	117	140	---	157	183	314	203	1470	408	279
30	191	181	105	140	---	152	167	324	260	1410	387	271
31	155	---	100	134	---	141	---	280	---	1210	382	---
TOTAL	4218	5509	4622	3447	4662	5302	3976	7027	6556	34426	25987	8591
MEAN	136	184	149	111	167	171	133	227	219	1111	838	286
MAX	191	295	202	140	267	219	183	351	291	1720	1230	362
MIN	98	135	100	85	105	122	112	123	158	182	382	257
AC-FT	8370	10930	9170	6840	9250	10520	7890	13940	13000	68280	51550	17040
CAL YR 1981	TOTAL	90197	MEAN 247	MAX 2650	MIN 70	AC-FT 178900						
WTR YR 1982	TOTAL	114323	MEAN 313	MAX 1720	MIN 85	AC-FT 226800						

LOCATION.--North Channel gage: Lat 40°50'08", long 99°59'13" in S1/2 sec.18, T.10 N., R.23 W., Dawson County, Hydrologic Unit 10200101, on left bank 30 ft (9 m) upstream from highway bridge, 1.5 mi (2.4 km) south of Cozad. South Channel gage: Lat 40°49'47", long 99°59'18" in S1/2 sec.18, T.10 N., R.23 W., Dawson County, on right bank on upstream side (revised) of highway bridge, 1.5 mi (2.4 km) south of Cozad.

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.

GAGE.--Two water-stage recorders. Datum of gage on south channel is 2,473.07 ft (753.792 m) and on north channel, 2,475.72 ft (754.599 m) 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 (0.305 m) higher and May 11, 1976, to June 16, 1977, at present datum, both at downstream side of highway bridge 30 ft (9 m) downstream. South channel gage: May 10, 1966, to July 17, 1980, at downstream side of highway bridge at present datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/s) May 29, 1973; no flow at times in 1937-40.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	231	300	236	230	251	277	242	99	87	68	38
2	188	211	268	228	220	250	274	215	102	59	39	31
3	197	250	296	218	220	260	252	207	110	56	50	28
4	186	300	294	209	210	256	235	194	100	66	49	33
5	180	309	290	209	189	259	235	207	94	65	52	30
6	167	299	297	203	179	256	227	241	86	74	42	29
7	170	280	310	198	179	256	222	229	58	80	44	32
8	166	250	309	199	188	265	220	200	48	36	50	42
9	184	249	306	178	198	268	215	181	50	23	74	35
10	176	252	306	163	208	275	220	160	38	46	129	24
11	182	248	302	158	207	282	227	114	46	90	115	24
12	202	268	295	148	198	292	233	90	100	108	91	24
13	218	318	290	137	195	285	224	93	61	50	91	54
14	216	320	282	148	209	292	215	119	68	27	171	84
15	218	310	287	157	253	292	212	159	214	48	261	88
16	222	290	283	147	296	275	198	219	131	44	231	134
17	222	288	264	168	298	282	204	205	118	49	127	231
18	220	309	264	169	299	282	220	162	106	57	40	295
19	220	329	260	180	288	311	210	110	79	61	38	327
20	222	319	255	190	288	310	192	89	59	45	33	313
21	230	269	258	190	278	288	201	102	47	32	30	312
22	210	260	267	179	279	292	194	102	57	31	40	315
23	189	230	252	168	268	295	188	88	45	43	73	294
24	169	229	246	169	268	285	178	48	41	64	56	283
25	170	266	231	190	262	278	190	43	43	76	30	287
26	160	273	240	190	261	278	184	48	40	65	33	298
27	160	257	245	230	260	282	185	59	37	118	66	302
28	179	244	242	310	251	278	222	70	35	125	92	301
29	199	241	237	230	---	275	228	155	33	138	50	303
30	230	300	231	220	---	272	241	128	58	184	43	302
31	260	---	234	230	---	272	---	111	---	123	37	---
TOTAL	6093	8199	8441	5949	6679	8594	6523	4390	2203	2170	2345	4893
MEAN	197	273	272	192	239	277	217	142	73.4	70.0	75.6	163
MAX	260	329	310	310	299	311	277	242	214	184	261	327
MIN	160	211	231	137	179	250	178	43	33	23	30	24
AC-FT	12090	16260	16740	11800	13250	17050	12940	8710	4370	4300	4650	9710
CAL YR 1981	TOTAL	70143	MEAN 192	MAX 2450	MIN 14	AC-FT 139100						
WTR YR 1982	TOTAL	66479	MEAN 182	MAX 329	MIN 23	AC-FT 131900						

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LOCATION.--Lat 40°40'57"N, long 99°32'19"W, in NW1/4NE1/4 sec.12, T.8 N., R.20 W., Dawson County, Hydrologic Unit 10200101, on left bank 600 ft (183 m) downstream from county highway bridge, 4 mi (6 km) south of Overton and 4 mi (6 km) downstream from Plum Creek.

WATER-DISCHARGE RECORDS

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

REMARKS.--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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,520 ft³/s (71.4 m³/s) Mar. 9, gage height, 2.34 ft (0.713 m); maximum gage height, 4.05 ft (1.234 m) Jan. 10, backwater from ice; minimum daily discharge, 88 ft³/s (2.49 m³/s) July 25.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	920	1350	1000	1600	1600	1290	847	366	357	356	221
2	1440	978	1260	940	1400	1680	1280	833	365	513	268	194
3	1250	880	1280	940	1300	1790	1150	807	362	551	200	172
4	879	960	1240	960	1200	1740	998	735	368	411	172	172
5	793	1000	1450	1000	1150	1270	1040	756	369	322	186	172
6	982	967	1380	1100	1100	1110	998	755	390	297	172	172
7	1320	793	1400	1050	1100	1270	923	704	405	285	159	172
8	807	724	1660	1000	1150	1760	1030	686	400	276	159	159
9	850	618	1700	900	1200	2230	967	669	362	206	186	159
10	793	513	1080	800	1300	1770	1030	619	314	202	232	125
11	923	530	957	700	1350	1850	923	620	284	172	285	115
12	937	539	1190	640	1350	1720	879	427	268	219	285	210
13	807	777	1330	640	1400	1440	879	424	297	259	244	450
14	724	772	1340	660	1400	1440	807	467	325	227	369	474
15	893	823	1200	700	1450	1480	793	505	526	183	395	759
16	765	826	1000	760	1550	1570	807	553	628	207	751	1200
17	710	982	800	840	1810	1790	779	544	585	183	1320	1290
18	710	1040	900	940	1950	1720	821	570	561	204	879	1170
19	751	1090	1100	920	1850	1740	793	538	541	226	450	1350
20	908	1160	1300	900	1790	1660	690	850	530	230	289	1420
21	982	1200	1700	900	1810	1660	720	879	531	194	256	1430
22	923	1290	1470	960	1870	1660	712	879	539	133	232	1450
23	807	1160	1450	1000	1930	1760	698	488	545	140	244	1430
24	932	1030	1450	1100	1890	1950	681	422	523	115	244	1370
25	981	908	1400	1100	1890	1830	692	382	327	88	172	1380
26	1030	872	1350	1200	1950	1330	685	395	277	159	115	1350
27	911	1010	1300	1300	1760	1490	695	344	259	243	132	1740
28	943	1070	1200	1350	1590	1290	803	332	221	266	170	2080
29	976	1150	1100	1400	---	1290	825	487	172	245	243	1830
30	985	1300	1100	1500	---	1350	828	566	161	292	233	1960
31	908	---	1100	1550	---	1230	---	437	---	359	237	---
TOTAL	29060	27882	39537	30750	43090	49470	26216	18520	11801	7764	9635	26176
MEAN	937	929	1275	992	1539	1596	874	597	393	250	311	873
MAX	1440	1300	1700	1550	1950	2230	1290	879	628	551	1320	2080
MIN	710	513	800	640	1100	1110	681	332	161	88	115	115
AC-FT	57640	55300	78420	60990	85470	98120	52000	36730	23410	15400	19110	51

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.

INSTRUMENTATION.--Temperature recorder from Apr. 5, 1967 to Aug. 2, 1976; Mar. 21, 1978 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,480 micromhos May 15, 1966 (south chan.); minimum daily, 214 micromhos July 23, 1968 (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, 1,030 micromhos July 25 (north chan.); minimum daily, 675 micromhos Feb. 19, 20 (north chan.).

WATER TEMPERATURES: Maximum daily, 32.0°C July 26; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SURFACE FLOW, INSTANTANEOUS (CFS) (000611)	SPECIFIC CONDUCTANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS (MG/L AS CALCO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
OCT											
08...	0900	410	865	8.0	10.0	10.5	36	K100	200	300	82
NOV											
04...	1000	530	800	7.9	11.0	11.5	43	190	410	280	75
DEC											
04...	0945	640	780	8.0	.0	13.7	36	200	5200	260	78
JAN											
06...	1000	400	960	7.9	.0	13.0	<12	700	2800	350	96
FEB											
03...	0945	500	850	7.9	.0	12.4	14	2500	3200	300	84
MAR											
03...	1015	600	785	8.0	.0	13.2	18	2400	K9200	270	75
APR											
07...	1000	470	800	8.1	2.0	13.0	--	700	1200	290	80
MAY											
05...	1015	370	810	8.0	13.0	9.6	20	460	5400	300	82
JUN											
03...	0930	300	895	7.9	13.0	10.0	24	3300	44000	310	87
JUL											
13...	2000	180	860	8.1	30.0	7.6	33	K140	300	280	74
AUG											
04...	0920	140	970	8.1	24.0	7.8	25	200	240	320	85
SEP											
02...	0930	195	950	8.1	20.0	9.1	58	200	620	310	83

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

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT											
08...	24	220	30	--	657	--	--	1.0	.120	--	.56
NOV											
04...	22	190	25	--	602	--	--	1.3	.080	.080	.69
DEC											
04...	21	180	25	--	584	--	--	1.6	.210	--	.89
JAN											
06...	26	220	39	--	654	--	--	2.0	.300	--	.90
FEB											
03...	23	190	29	6	--	--	--	1.9	.280	--	1.0
MAR											
03...	20	170	20	42	--	--	--	1.5	.090	--	9.2
APR											
07...	22	190	23	23	--	--	--	1.5	.110	--	.60
MAY											
05...	23	200	30	42	--	<.020	<.020	1.2	.130	.070	1.2
JUN											
03...	23	220	28	37	--	--	--	1.6	.090	--	1.3
JUL											
13...	23	230	29	88	--	--	--	.60	<.060	<.060	--
AUG											
04...	26	240	32	54	--	--	--	1.0	.130	--	2.5
SEP											
02...	26	240	38	29	--	--	--	1.0	<.060	--	--

PLATTE RIVER BASIN

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06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	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)	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)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)
OCT										
04...	.68	1.7	.120	7	200	0	10	7	440	--
NOV										
04...	.77	2.1	.110	--	--	--	--	--	--	--
DEC										
04...	1.10	2.7	.130	--	--	--	--	--	--	--
JAN										
06...	1.20	3.2	.140	6	--	--	--	--	--	--
FEB										
03...	1.30	3.2	.080	--	--	--	--	--	--	--
MAR										
03...	9.30	11	.110	--	--	--	--	--	--	--
APR										
07...	.71	2.2	.070	6	<100	<1	<10	9	610	--
MAY										
05...	1.30	2.5	.260	--	--	--	--	--	--	--
JUN										
03...	1.40	3.0	.220	--	--	--	--	--	--	--
JUL										
13...	1.20	1.8	.170	6	<100	<1	30	11	1100	1100
AUG										
04...	2.60	3.6	.240	--	--	--	--	--	--	--
SEP										
02...	1.60	2.6	.440	--	--	--	--	--	--	--

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI) (01132)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SELE- NIUM, TOTAL RECOV- ERABLE (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)
OCT										
04...	<10	4	110	80	70	12	2	0	20	4.1
NOV										
04...	<10	--	--	--	--	8	--	--	--	4.3
DEC										
04...	<10	--	--	--	--	11	--	--	--	--
JAN										
06...	<10	--	--	--	--	11	2	--	--	3.1
FEB										
03...	<10	--	--	--	--	22	--	--	--	3.5
MAR										
03...	<10	--	--	--	--	18	--	--	--	3.2
APR										
07...	<9	8	--	150	140	12	3	<1	20	--
MAY										
05...	27	--	--	--	--	25	--	--	--	6.6
JUN										
03...	<9	--	--	--	--	13	--	--	--	5.8
JUL										
13...	6	5	--	260	250	7	2	<1	30	7.7
AUG										
04...	5	--	--	--	--	12	--	--	--	7.1
SEP										
02...	10	--	--	--	--	9	--	--	--	6.1

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)
OCT 08...	0900	84	77	2.1	5.5	220	.6	38
NOV 04...	1000	78	67	1.9	13	200	.6	38
DEC 04...	0945	81	65	1.8	14	200	.5	38
JAN 06...	1000	97	78	1.9	15	250	.6	46
FEB 03...	0945	74	69	1.8	14	230	.5	41
MAR 03...	1015	50	57	1.6	13	220	.5	36
APR 07...	1000	70	61	1.7	12	220	.4	35
MAY 05...	1015	79	66	1.8	14	220	.6	32
JUN 03...	0930	79	70	1.8	29	233	.6	34
JUL 13...	2000	88	82	2.3	16	192	.5	30
AUG 04...	0920	73	89	2.3	14	246	.6	34
SEP 02...	0930	93	89	2.3	15	221	.6	34

DATE	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	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)
OCT 08...	614	.84	680	1.0	.080	--	130
NOV 04...	557	.76	797	1.3	.100	.100	100
DEC 04...	549	.75	949	1.6	.110	--	100
JAN 06...	680	.92	734	2.1	.150	--	130
FEB 03...	597	.81	806	1.9	.040	--	110
MAR 03...	531	.72	860	1.5	.100	--	100
APR 07...	556	.76	706	1.5	.070	--	110
MAY 05...	618	.84	617	1.2	.090	--	110
JUN 03...	639	.87	518	1.6	.150	--	120
JUL 13...	600	.82	292	.59	.110	--	140
AUG 04...	673	.92	254	1.0	.120	--	140
SEP 02...	663	.90	349	.98	.040	--	150

PLATTE RIVER BASIN

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06767998 PLATTE RIVER NEAR OVERTON NE (NORTH CHANNEL)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	889	832	772	860	848	825	822	842	902	960	917	1010
2	899	835	832	862	880	819	822	832	915	945	936	945
3	889	820	839	879	839	807	823	840	912	994	994	825
4	881	830	840	852	990	803	826	868	939	985	1020	884
5	889	821	862	875	845	851	817	842	920	926	965	960
6	900	809	800	933	909	805	821	840	953	955	958	948
7	899	822	742	890	888	820	829	859	942	945	997	965
8	888	830	851	930	869	817	832	890	965	976	948	978
9	900	840	855	919	862	820	811	898	974	997	966	945
10	898	860	857	885	905	832	812	900	975	1010	960	983
11	906	857	807	1010	885	825	822	933	968	984	954	994
12	900	853	860	890	872	820	812	930	942	964	953	966
13	898	855	862	998	872	808	828	940	896	916	833	975
14	830	845	865	935	862	815	839	910	788	985	824	957
15	881	852	864	910	865	819	830	890	885	1010	873	933
16	880	857	862	901	708	822	798	842	784	977	945	953
17	870	850	930	889	700	830	808	828	898	994	885	925
18	880	860	930	875	707	810	827	852	933	964	936	870
19	869	839	949	855	675	805	822	900	952	982	976	849
20	869	840	857	869	675	839	819	893	932	981	984	845
21	870	850	878	871	720	839	819	904	964	948	986	835
22	860	852	865	858	762	848	819	900	943	995	984	844
23	860	862	860	827	750	838	826	889	942	986	947	837
24	869	867	835	818	802	851	825	926	967	954	948	837
25	869	862	910	810	785	848	834	930	875	1030	977	840
26	878	855	895	802	800	842	832	930	953	954	998	835
27	870	853	879	839	810	839	808	918	969	916	968	840
28	869	858	898	833	812	848	764	872	978	904	968	844
29	869	769	900	827	---	845	848	773	983	934	958	827
30	869	764	879	809	---	829	868	873	1010	906	954	810
31	858	---	892	869	---	829	---	939	---	915	978	---

06767999 PLATTE RIVER NEAR OVERTON, NE (SOUTH CHANNEL)

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	842	809	754	730	859	852	812	850	892	805	1010	840
2	850	762	757	742	904	848	832	842	875	816	905	833
3	840	778	797	821	910	849	839	864	872	855	868	953
4	870	780	851	798	933	832	840	835	859	834	976	929
5	842	800	759	841	862	860	835	821	859	885	913	858
6	860	810	742	802	945	855	845	840	839	875	863	825
7	831	745	767	821	902	841	841	845	808	863	975	820
8	860	812	740	817	915	842	850	846	819	845	895	809
9	858	825	765	823	899	857	841	842	770	866	898	790
10	860	810	812	815	937	852	841	845	774	836	935	864
11	831	782	755	927	895	852	829	873	792	802	962	844
12	840	785	750	842	890	846	835	849	845	845	915	907
13	842	792	740	901	900	837	829	845	769	834	754	900
14	877	810	745	892	909	853	841	840	830	795	757	895
15	827	802	755	885	910	840	857	844	769	798	817	890
16	831	798	752	880	930	846	841	842	820	775	958	895
17	812	789	748	876	890	847	841	845	833	787	963	895
18	812	792	779	872	919	831	860	842	825	784	936	899
19	819	762	800	866	915	837	865	832	820	815	945	887
20	816	760	749	871	915	870	852	840	815	795	956	904
21	830	760	782	859	921	853	852	818	835	803	956	895
22	842	759	792	847	908	853	859	855	830	808	935	905
23	842	791	783	842	904	852	859	872	823	796	924	889
24	801	789	820	839	901	854	845	870	823	815	908	885
25	800	790	825	850	903	860	843	870	862	845	896	880
26	834	762	807	862	904	850	851	855	860	827	853	874
27	800	760	790	863	890	845	825	882	841	825	907	884
28	812	762	785	865	890	862	849	823	859	886	875	874
29	812	760	800	862	---	840	852	791	825	876	858	865
30	822	725	779	872	---	843	849	840	864	853	875	840
31	830	---	815	895	---	857	---	892	---	845	946	---

PLATTE RIVER BASIN

06768000 PLATTE RIVER NEAR OVERTON, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	19.5	15.0	10.0	8.5	4.0	3.5	2.0	1.5	1.0	.0	7.0	4.5
2	18.5	15.0	10.5	10.0	4.5	3.5	2.0	1.0	1.0	.0	6.5	4.5
3	19.5	13.5	11.0	9.5	5.0	4.5	1.5	.5	.0	.0	4.5	2.0
4	20.0	14.5	14.0	10.0	5.0	4.0	1.0	.0	.0	.0	3.5	2.0
5	19.0	16.0	12.0	10.0	4.5	3.0	3.5	1.0	.5	.0	4.0	2.0
6	18.5	14.0	11.0	8.0	5.5	3.5	1.0	.0	1.0	.0	4.0	1.5
7	17.0	12.0	11.5	8.5	7.0	4.5	1.0	.0	1.0	.0	4.5	2.0
8	14.0	11.5	11.5	9.0	6.5	4.0	.5	.0	.0	.0	5.0	3.5
9	15.5	13.0	9.0	5.5	5.5	4.0	.0	.0	1.0	.0	6.0	3.0
10	16.5	12.0	9.5	8.0	5.0	4.0	.0	.0	1.0	.0	9.0	4.5
11	14.5	13.5	10.0	6.5	9.0	4.5	.5	.0	.0	.0	8.5	5.5
12	16.0	14.5	10.5	7.0	5.5	4.5	.0	.0	.5	.0	7.0	6.0
13	17.0	13.0	10.0	7.0	4.5	3.5	1.0	.0	1.0	.0	8.0	5.0
14	13.0	11.0	10.5	8.0	3.5	2.0	.5	.0	1.0	.0	8.0	6.0
15	15.5	9.5	11.5	9.0	2.0	1.0	.5	.0	1.0	.0	6.0	5.0
16	14.5	12.0	11.5	9.5	1.0	.5	.5	.0	1.0	.5	7.0	4.5
17	13.5	9.5	11.5	11.0	.5	.0	.5	.0	1.5	1.0	7.0	5.5
18	11.5	7.0	11.0	9.0	.5	.0	.5	.0	2.0	1.0	6.0	5.5
19	14.0	7.0	8.5	3.5	.5	.0	.5	.0	4.0	1.5	6.5	5.0
20	14.5	10.0	5.0	2.0	6.0	.0	.0	.0	5.0	3.5	6.5	5.0
21	11.0	8.5	6.5	4.5	.5	.5	.0	.0	5.5	4.0	6.0	4.5
22	10.5	8.0	8.0	5.5	3.5	.5	.0	.0	6.5	4.0	6.5	4.5
23	9.5	5.0	9.0	6.5	.0	1.5	.0	.0	6.0	4.5	8.0	4.5
24	9.0	6.0	9.0	7.0	3.0	1.0	.5	.0	4.5	3.5	7.0	5.5
25	11.0	8.0	7.0	6.5	3.5	1.5	.5	.0	5.0	3.5	7.0	4.5
26	11.5	8.0	7.0	6.0	3.0	1.5	.5	.0	5.0	3.5	7.0	6.0
27	13.0	9.0	6.0	4.5	3.5	1.5	.5	.0	5.5	3.0	6.5	5.0
28	14.0	11.0	6.0	4.5	3.5	3.0	.5	.5	6.5	4.0	5.5	4.5
29	14.0	11.5	6.0	5.0	3.5	1.0	.5	.0	---	---	7.0	5.0
30	14.0	13.0	6.0	4.0	3.5	2.0	1.0	.5	---	---	9.0	5.5
31	11.5	10.0	---	---	3.0	1.5	1.0	.0	---	---	10.0	6.0
MONTH	20.0	5.0	14.0	2.0	9.0	.0	3.5	.0	6.5	.0	10.0	1.5
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	12.0	7.0	15.5	10.0	16.5	13.5	23.5	18.5	30.0	22.0	29.0	23.0
2	12.0	6.5	17.0	13.0	15.5	13.5	26.5	20.0	30.0	21.5	28.5	21.5
3	9.5	4.0	19.5	14.0	15.0	13.0	29.0	21.5	31.0	22.0	28.5	20.5
4	9.5	5.5	20.5	15.5	16.0	13.5	28.0	23.0	29.5	23.5	27.0	21.0
5	8.5	5.5	19.0	11.5	15.5	13.5	26.5	21.5	29.0	23.0	23.0	20.5
6	6.5	4.0	15.0	10.0	20.0	14.5	24.5	20.5	30.0	23.5	24.5	20.0
7	5.0	3.5	16.5	11.0	20.0	16.0	25.5	18.5	30.5	23.0	25.5	21.0
8	7.0	3.5	16.0	13.0	19.0	16.5	26.5	21.0	30.5	23.5	26.5	20.5
9	9.0	4.0	19.5	14.5	19.0	15.0	28.0	23.5	25.5	19.5	27.0	20.5
10	10.5	6.0	20.5	15.0	19.0	15.0	25.5	20.0	24.0	18.0	27.0	23.5
11	12.0	7.0	19.0	13.5	15.5	15.0	26.5	19.5	22.0	18.0	23.5	20.0
12	14.5	10.5	15.5	13.0	20.0	13.0	27.0	20.5	23.5	20.0	21.0	18.0
13	15.0	10.5	15.5	13.0	19.0	16.5	28.0	21.5	28.0	22.0	19.0	16.5
14	14.0	11.0	15.0	11.5	20.0	16.0	27.0	22.0	25.0	21.0	18.0	14.5
15	15.5	11.5	16.0	13.5	19.0	16.5	28.0	21.5	29.0	23.0	19.5	14.0
16	15.0	10.5	18.0	14.0	19.5	15.5	29.0	22.0	26.0	24.0	17.0	15.5
17	13.5	8.5	16.5	15.0	20.0	17.0	26.5	21.5	28.0	23.0	17.0	16.0
18	15.5	9.0	19.0	14.0	19.5	18.0	28.0	21.0	28.5	23.0	19.0	15.0
19	14.0	10.5	20.0	15.5	21.0	16.0	30.0	22.0	29.5	22.0	20.0	17.0
20	11.5	8.0	16.0	15.0	23.5	18.0	30.5	23.5	28.0	24.0	19.5	16.0
21	10.5	8.5	15.5	13.5	23.0	19.0	30.5	22.0	27.0	22.0	19.0	16.0
22	11.5	8.0	16.5	10.0	23.0	18.0	29.5	23.0	29.0	23.0	19.5	16.0
23	12.0	9.0	16.5	14.5	24.0	19.0	29.5	24.5	29.0	23.0	20.0	18.5
24	14.0	10.0	16.0	14.0	24.0	20.0	30.5	21.5	25.5	21.5	20.5	18.5
25	14.5	10.5	15.5	13.0	21.0	19.0	31.5	23.0	25.0	19.5	18.5	16.5
26	14.0	11.0	16.5	13.5	20.5	18.0	32.0	23.0	28.0	20.0	20.0	16.0
27	11.0	8.5	18.5	14.0	23.5	18.0	28.5	23.0	24.5	19.5	20.0	17.0
28	9.0	8.5	17.0	15.0	26.0	19.5	28.0	22.0	23.0	19.5	21.0	18.0
29	9.0	7.0	19.0	14.5	26.5	21.0	25.0	23.0	27.0	20.5	20.5	17.0
30	13.0	8.0	17.0	15.0	24.5	20.0	28.5	24.5	28.0	23.5	17.0	13.5
31	---	---	16.5	13.5	---	---	29.5	21.5	28.5	21.5	---	---
MONTH	15.5	3.5	20.5	10.0	26.5	13.0	32.0	18.5	31.0	18.0	29.0	13.5

PLATTE RIVER BASIN

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06770000 PLATTE RIVER NEAR ODESSA, NE

LOCATION.--Lat 40°39'55", long 99°15'20", in SW1/4NW1/4 sec.16, T.8 N., R.17 W., Buffalo-Phelps County line, Hydrologic Unit 10200101, near right bank on downstream side of pier of highway bridge, 2.5 mi (4.0 km) south of Odessa and 5 mi (8 km) downstream from Elm Creek.

DRAINAGE AREA.--58,100 mi² (150,500 km²), approximately, of which about 53,300 mi² (138,000 km²) 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 2,197.07 ft (669.667 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1938, nonrecording gage and Oct. 7, 1938, to Sept. 30, 1942, water-stage recorder, at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft³/s (643 m³/s) June 24, 1947, gage height, 5.52 ft (1.682 m); maximum gage height, 5.89 ft (1.795 m) Mar. 5, 1952, backwater from ice; no flow for periods in each year prior to 1947 and in 1953-57, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,560 ft³/s (72.5 m³/s) Mar. 4, gage height, 2.68 ft (0.817 m); maximum gage height, 4.37 ft (1.332 m) Jan. 1, backwater from ice; minimum daily discharge, 30 ft³/s (0.85 m³/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	918	998	1410	1100	1500	1450	1110	664	390	156	170	122
2	982	950	1130	1000	1450	1630	1110	638	360	212	145	100
3	998	902	1170	1000	1450	1840	1090	614	340	251	106	83
4	762	1010	1150	1000	1450	2020	982	590	320	205	92	75
5	578	1050	1260	1000	1300	1510	1010	650	276	117	83	62
6	602	982	1280	1000	1300	934	982	650	226	83	83	62
7	822	854	1340	1000	1200	1010	966	530	177	62	83	58
8	748	720	1430	900	1200	1360	950	518	145	62	87	55
9	800	664	1770	900	1300	1900	854	506	139	54	79	52
10	700	638	1580	800	1350	1790	838	494	122	52	75	50
11	748	660	1050	740	1350	1900	838	542	96	50	79	44
12	822	660	1150	680	1350	2020	776	390	92	47	106	83
13	934	780	1450	680	1400	1900	790	340	128	50	106	170
14	966	840	1400	700	1450	1720	822	518	124	47	254	243
15	918	886	1350	760	1500	1600	838	470	410	50	380	360
16	918	950	1300	840	1600	1450	838	458	542	41	350	668
17	838	1030	1000	900	1700	1400	822	494	470	38	707	902
18	806	1200	900	1020	1900	1600	790	434	446	41	1090	966
19	806	1190	1000	1000	2000	1810	806	380	380	36	578	1010
20	776	1130	1300	1000	2200	1510	762	404	234	30	320	1030
21	902	1170	1350	1000	2100	1410	692	858	184	36	184	1030
22	870	1260	1300	1050	2000	1400	678	762	177	36	145	1200
23	838	1130	1300	1100	1850	1430	650	664	156	36	150	1110
24	822	1170	1300	1200	1700	1490	678	614	196	38	156	1030
25	902	1090	1200	1250	1580	1510	678	720	360	41	122	1010
26	918	1130	1200	1400	1630	1220	664	518	234	72	83	950
27	1010	1110	1200	1400	1630	1080	692	446	330	293	83	1170
28	966	1110	1100	1400	1450	1090	982	350	400	268	134	1670
29	950	1090	1100	1500	---	1080	966	470	285	243	150	1670
30	1030	1360	1250	1600	---	1060	806	734	170	219	156	1790
31	998	---	1250	1600	---	1110	---	626	---	184	150	---
TOTAL	26648	29714	38970	32520	43890	46234	25460	17046	7909	3150	6486	18825
MEAN	860	990	1257	1049	1568	1491	849	550	264	102	209	628
MAX	1030	1360	1770	1600	2200	2020	1110	858	542	293	1090	1790
MIN	578	638	900	680	1200	934	650	340	92	30	75	44
AC-FT	52860	58940	77300	64500	87060	91710	50500	33810	15690	6250	12860	37340
CAL YR 1981	TOTAL	302496	MEAN 829	MAX 3720	MIN 26	AC-FT 600000						
WTR YR 1982	TOTAL	296852	MEAN 813	MAX 2200	MIN 30	AC-FT 588800						

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 (3 km) south of Kearney.

DRAINAGE AREA.--58,200 mi² (150,700 km²), approximately, of which about 53,400 mi² (138,300 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--January 1982 to September 1982.

GAGE.--Water stage recorder.

REMARKS.--Records fair except those for winter period, 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period Jan. 27 to Sept. 30, 3,550 ft³/s (101 m³/s) Feb. 21, gage height, 3.97 ft (1.210 m); maximum gage height, 5.50 ft (1.676 m) Feb. 19, backwater from ice; minimum daily discharge, 61 ft³/s (1.73 m³/s) July 25, Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	1500	1660	1100	721	592	246	295	145
2				---	1450	1700	1100	707	465	373	254	120
3				---	1450	1790	1050	661	398	428	173	98
4				---	1400	1900	1000	649	330	368	139	81
5				---	1350	1900	940	762	285	255	132	71
6				---	1300	1700	900	814	262	222	132	77
7				---	1250	1400	828	661	218	178	126	77
8				---	1300	1400	814	589	196	149	113	77
9				---	1350	1500	788	543	184	118	95	67
10				---	1400	1700	762	510	154	106	88	63
11				---	1500	1900	775	521	128	99	91	61
12				---	1600	2000	801	499	118	98	120	74
13				---	1650	2000	762	385	146	99	141	95
14				---	1700	1900	723	488	190	99	261	217
15				---	1800	1800	749	555	378	95	435	292
16				---	1800	1700	749	555	515	91	444	441
17				---	1850	1600	788	578	498	84	659	847
18				---	1900	1700	814	555	451	81	1060	1040
19				---	2000	1900	841	488	435	77	813	1090
20				---	2700	1800	841	488	372	77	508	1140
21				---	2980	1700	749	764	319	70	320	1140
22				---	2390	1600	711	855	305	74	236	1220
23				---	2130	1600	625	791	283	70	222	1210
24				---	2030	1650	637	744	285	63	205	1200
25				---	1870	1700	649	967	402	61	176	1120
26				---	1850	1600	637	730	324	84	142	1050
27				1500	1840	1500	625	689	379	295	112	1030
28				1550	1680	1300	882	552	377	332	120	1540
29				1550	---	1200	828	608	312	326	167	1810
30				1600	---	1100	749	930	248	302	217	1810
31				1600	---	1200	---	916	---	278	187	---
TOTAL				---	49020	51100	24217	20275	9549	5298	8183	19303
MEAN				---	1751	1648	807	654	318	171	264	643
MAX				---	2980	2000	1100	967	592	428	1060	1810
MIN				---	1250	1100	625	385	118	61	88	61
AC-FT				---	97230	101400	48030	40220	18940	10510	16230	38290

PLATTE RIVER BASIN

107

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 (6 m) downstream from bridge on U.S. Highway 34, 2 mi (3 km) upstream from Burlington Northern Inc. bridge, and 5 mi (8 km) southeast of Grand Island.

DRAINAGE AREA.--58,800 mi² (152,300 km²), approximately, of which about 54,000 mi² (139,900 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 956: 1935. WSP 1390: 1942. WDR NE-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,831.89 ft (558.360 m) National Geodetic Vertical Datum of 1929 (Nebraska Department of Highways bench mark). Prior to Oct. 23, 1933, nonrecording gage at bridge 68 ft (20.7 m) downstream and Oct. 23, 1933, to Aug. 19, 1980, water-stage recorder at site 98 ft (29.9 m) downstream, all at same datum.

REMARKS.--Records good except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) June 6, 1935, gage height, 5.99 ft (1.826 m), from rating curve extended above 18,000 ft³/s (510 m³/s); maximum gage height, 6.16 ft (1.878 m) Mar. 27, 1960, backwater from ice; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft³/s (75.0 m³/s) May 25, gage height, 2.94 ft (0.896 m); maximum gage height, 4.58 ft (1.396 m), observed, Feb. 21, backwater from ice; minimum daily discharge, 85 ft³/s (2.41 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	766	851	1950	1160	1600	2150	1250	1410	1300	1010	282	384
2	899	966	1840	1100	1550	1780	1160	1120	1050	1010	272	366
3	915	1050	1610	1100	1500	1820	1060	960	886	960	256	349
4	969	1030	1550	1100	1500	2100	1050	960	727	798	314	319
5	896	1040	1530	1100	1400	2000	1010	960	654	636	335	287
6	732	1050	1540	1100	1450	1800	985	978	624	606	303	271
7	612	1030	1720	1020	1550	1600	993	888	579	489	266	257
8	650	958	1750	940	1500	1380	975	748	537	455	242	243
9	765	812	1700	920	1450	1360	942	700	541	434	216	248
10	699	791	1850	840	1450	1930	824	700	493	452	199	252
11	604	771	1930	760	1400	2090	777	732	479	356	216	249
12	593	777	1570	720	1400	2120	815	738	430	289	225	333
13	692	762	1400	720	1450	2210	926	755	405	246	208	363
14	722	751	1350	760	1500	2160	975	837	405	227	225	355
15	735	849	1300	840	1500	2020	977	970	732	216	262	394
16	760	915	1000	900	1500	1980	941	852	793	190	380	430
17	954	1030	760	1000	1600	1850	945	721	814	153	430	493
18	895	1080	780	1200	1750	1880	969	730	885	159	418	636
19	785	1140	820	1140	1900	2770	921	712	906	138	642	764
20	758	1170	880	1140	2200	2740	906	700	751	122	1030	834
21	739	1130	900	1100	2600	2170	870	707	606	132	834	888
22	764	1150	940	1100	3400	2010	924	751	620	116	652	1010
23	779	1160	1000	1140	3100	1930	870	816	620	101	550	1070
24	779	1250	1100	1250	2800	2010	834	1090	636	91	521	1100
25	784	1290	1300	1300	2500	2120	834	2370	620	85	467	1050
26	929	1240	1300	1400	2200	2140	780	2140	620	98	456	1010
27	981	1180	1250	1600	2200	1930	852	1490	564	181	405	1030
28	963	1170	1140	1650	2200	1410	1280	1270	578	216	393	1030
29	870	1170	1160	1600	---	1360	1520	1180	507	262	393	1150
30	907	1660	1250	1650	---	1220	1520	1140	870	304	413	1440
31	828	---	1250	1650	---	1200	---	1340	---	314	403	---
TOTAL	24724	31223	41420	35000	52150	59240	29685	31465	20232	10846	12208	18605
MEAN	798	1041	1336	1129	1863	1911	990	1015	674	350	394	620
MAX	981	1660	1950	1650	3400	2770	1520	2370	1300	1010	1030	1440
MIN	593	751	760	720	1400	1200	777	700	405	85	199	243
AC-FT	49040	61930	82160	69420	103400	117500	58880	62410	40130	21510	24210	36900
CAL YR 1981	TOTAL	326688	MEAN	895	MAX	3510	MIN	54	AC-FT	648000		
WTR YR 1982	TOTAL	366798	MEAN	1005	MAX	3400	MIN	85	AC-FT	727500		

PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1972 to September 1980.

WATER TEMPERATURES: July 1972 to September 1980.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,250 micromhos Feb. 3, 1980; minimum daily, 575 micromhos May 24, 1977.

WATER TEMPERATURES: Maximum, 34.5°C July 23, 1972; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCUCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)
OCT										
01...	0950	676	875	8.3	14.0	10.7	38	K1300	520	270
NOV										
10...	1115	766	841	8.0	6.5	12.2	32	K23	K32	280
DEC										
15...	0935	1300	819	8.1	.5	13.7	0	290	470	270
JAN										
07...	1020	992	942	7.7	.5	12.3	25	44	66	310
FEB										
03...	1415	1340	905	7.5	.5	11.8	<11	110	160	290
MAR										
31...	0940	1210	868	8.1	8.5	11.6	18	100	1080	290
APR										
28...	1215	1390	754	8.2	6.5	11.5	18	820	2100	240
MAY										
26...	0935	2240	688	8.0	16.0	9.0	46	K2900	2500	240
JUN										
16...	1010	821	728	8.2	19.5	10.0	30	K1900	1100	240
JUL										
22...	1035	126	854	8.4	30.5	9.1	22	K480	3400	280
AUG										
19...	0830	643	890	8.3	24.0	9.6	54	1900	3200	250
SEP										
15...	0930	398	908	8.2	15.0	9.7	36	370	1000	270

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

DATE	HARD- NESS NUMCAR- BIMATE (MG/L AS CAC03) (95902)	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 (MG/L RATIO) (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAR (MG/L AS CAC03) (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)
OCT										
01...	86	67	24	91	2.6	12	180	240	27	.6
NOV										
10...	90	74	23	80	2.2	13	190	220	26	.5
DEC										
15...	76	72	21	74	2.1	12	190	220	26	.5
JAN										
07...	90	83	25	85	2.3	12	220	240	22	.6
FEB										
03...	92	79	23	84	2.3	12	200	230	30	.5
MAR										
31...	87	77	23	77	2.1	11	200	240	26	.5
APR										
28...	82	64	20	66	2.0	12	160	200	26	.5
MAY										
26...	64	65	18	60	1.8	11	172	190	21	.4
JUN										
16...	72	65	20	67	2.0	12	173	190	25	.6
JUL										
22...	69	71	24	88	2.5	15	207	240	30	.5
AUG										
19...	72	62	23	87	2.6	19	178	230	31	.5
SEP										
15...	84	72	23	85	2.4	14	190	220	32	.5

PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS STO2) (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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (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)
OCT									
01...	20	591	.80	1080	--	724	.26	.21	.200
NOV									
10...	26	577	.78	1190	--	620	.95	.91	.160
DEC									
15...	28	572	.78	2010	--	583	.96	.96	.120
JAN									
07...	31	636	.86	1700	--	678	1.1	1.1	.170
FEB									
03...	29	612	.83	2210	7	--	.98	.98	.200
MAR									
31...	27	608	.83	1990	45	--	1.4	1.4	.120
APR									
28...	18	505	.69	1900	38	--	.55	.54	.080
MAY									
26...	21	494	.67	2990	154	--	.86	.85	.180
JUN									
16...	15	500	.68	1110	111	--	.37	.37	.180
JUL									
22...	23	616	.84	210	32	--	<.10	<.10	.080
AUG									
19...	23	583	.79	1010	120	--	<.10	<.10	.160
SEP									
15...	25	587	.80	631	67	--	.30	.30	.140

DATE	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, DIS- SOLVED (MG/L AS P) (00666)	IRON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT									
01...	1.4	1.60	1.9	.080	.030	130	<10	1	9.0
NOV									
10...	1.3	1.50	2.5	.110	.040	110	18	5	4.4
DEC									
15...	.50	.71	1.7	.100	.050	120	<10	1	5.1
JAN									
07...	.77	.94	2.0	.070	.060	150	<10	10	3.8
FEB									
03...	.50	.70	1.7	.010	<.010	130	<10	5	3.5
MAR									
31...	.80	.92	2.3	.120	.030	120	11	4	5.5
APR									
28...	1.0	1.10	1.7	.130	.060	110	12	3	<.1
MAY									
26...	2.3	2.50	3.4	.290	.100	90	38	<3	12
JUN									
16...	1.6	1.80	2.2	.160	.060	110	9	1	9.5
JUL									
22...	1.3	1.40	--	.190	.080	150	13	1	7.2
AUG									
19...	2.4	2.60	--	.240	.050	140	13	2	19
SEP									
15...	2.6	2.70	3.0	.190	.090	210	5	2	9.7

PLATTE RIVER BASIN

06770500 PLATTE RIVER NEAR GRAND ISLAND, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	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)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)
NOV 10...	1115	6	200	<1	<10	8	630	610
FEB 03...	1415	6	100	<1	10	4	140	--
MAY 26...	0935	4	100	1	10	8	330	--
AUG 19...	0830	6	<100	<1	<10	7	3300	--

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	4	70	70	.1	2	<1	30
FEB 03...	2	40	--	<.1	2	<1	10
MAY 26...	3	170	--	.1	2	<1	40
AUG 19...	5	390	--	<.1	1	<1	70

PLATTE RIVER BASIN

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 (1.9 km) south of Alda, 2.2 mi (3.5 km) upstream from old north channel of the Platte River, and 19 mi (31 km) upstream from present mouth.

DRAINAGE AREA.--628 mi² (1,627 km²).

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,897.66 ft (578.407 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Records poor. Numerous small pump diversions for irrigation above station.

AVERAGE DISCHARGE.--29 years, 10.1 ft³/s (0.286 m³/s), 7,320 acre-ft/yr (9.03 hm³/yr); median of yearly mean discharges, 7.9 ft³/s (0.224 m³/s), 5,700 acre-ft/yr (7.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,630 ft³/s (46.2 m³/s) June 16, 1967, gage height, 12.22 ft (3.725 m); no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 291 ft³/s (8.24 m³/s), June 30, gage height, 8.11 ft (2.472 m), from crest-stage gage, no peak above base of 300 ft³/s (8.50 m³/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	6.8	.00	.00	27	14	17	4.9
2	.00	.00	.00	.00	.00	4.7	.00	.00	108	62	11	3.5
3	.00	.00	.00	.00	.00	4.7	.00	.00	53	27	9.9	2.2
4	.00	.00	.00	.00	.00	5.7	.00	.00	27	6.6	11	1.5
5	.00	.00	.00	.00	.00	.21	.00	.00	17	2.8	8.4	1.0
6	.00	.00	.00	.00	.00	.00	.00	.00	12	1.5	12	.80
7	.00	.00	.00	.00	.00	.00	.00	.00	5.5	.44	12	.80
8	.00	.00	.00	.00	.00	.00	.00	.00	3.5	.24	13	1.1
9	.00	.00	.00	.00	.00	.00	.00	.00	.90	.24	9.9	.44
10	.00	.00	.00	.00	.00	.00	.00	.00	.50	.39	8.9	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.70	.39	9.4	4.0
12	.00	.00	.00	.00	.00	.00	.00	.00	.44	1.1	8.0	11
13	.00	.00	.00	.00	.00	.00	.00	.05	.39	6.6	9.9	4.5
14	.00	.00	.00	.00	.00	.00	.00	.02	2.4	5.3	11	3.5
15	.00	.00	.00	.00	.00	.00	.00	.02	18	4.5	14	1.5
16	.00	.00	.00	.00	.00	.00	.00	.00	9.9	8.2	12	1.0
17	.00	.00	.00	.00	.00	.00	.00	1.8	93	7.5	35	.90
18	.00	.00	.00	.00	.00	.00	.00	12	178	7.0	46	.55
19	.00	.00	.00	.00	7.1	.00	.00	5.7	66	4.7	24	.34
20	.00	.00	.00	.00	230	.00	.00	3.5	88	7.7	24	.17
21	.00	.00	.00	.00	232	.00	.00	2.6	60	4.4	12	.00
22	.00	.00	.00	.00	139	.00	.00	2.2	21	8.7	5.3	.00
23	.00	.00	.00	.00	90	.00	.00	.90	11	6.8	3.1	.00
24	.00	.00	.00	.00	35	.00	.00	11	5.3	6.6	2.4	.00
25	.00	.00	.00	.00	32	.00	.00	55	10	9.4	1.5	.00
26	.00	.00	.00	.00	33	.00	.00	111	2.4	23	2.0	.00
27	.00	.00	.00	.00	19	.00	.00	54	1.1	87	1.2	.00
28	.00	.00	.00	.00	11	.00	.00	18	.60	17	1.6	.00
29	.00	.00	.00	.00	---	.00	.00	8.4	1.3	112	4.5	.00
30	.00	.00	.00	.00	---	.00	.00	6.0	46	109	3.8	.00
31	.00	---	.00	.00	---	.00	---	7.5	---	35	5.5	---
TOTAL	.00	.00	.00	.00	828.10	22.11	.00	299.69	869.93	587.10	349.3	43.70
MEAN	.000	.000	.000	.000	29.6	.71	.000	9.67	29.0	18.9	11.3	1.46
MAX	.00	.00	.00	.00	232	6.8	.00	111	178	112	46	11
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.39	.24	1.2	.00
AC-FT	.00	.00	.00	.00	1640	44	.00	594	1730	1160	693	87
CAL YR 1981	TOTAL	32.48	MEAN	.089	MAX	7.0	MIN	.00	AC-FT	64		
WTR YR 1982	TOTAL	2999.93	MEAN	8.22	MAX	232	MIN	.00	AC-FT	5950		

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 25 ft (8 m) downstream from highway bridge, 1.5 mi (2.4 km) south of Duncan, and 12 mi (19 km) upstream from Loup River.

DRAINAGE AREA.--60,900 mi² (157,700 km²), approximately, of which about 56,100 mi² (145,300 km²) 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 1,478.82 ft (450.744 m) 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 (11 km) downstream at different datums. Oct. 25, 1928, to Feb. 20, 1935, nonrecording gage at present site and datum.

REMARKS.--Records good, except those for winter period, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 44,100 ft³/s (1,250 m³/s) June 23, 1905, gage height, 6.50 ft (1.981 m), site and datum then in use; 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,390 ft³/s (209 m³/s) May 26, gage height, 3.72 ft (1.134 m); maximum gage height, 4.80 ft (1.463 m) Mar. 6, backwater from ice; minimum daily discharge, 233 ft³/s (6.60 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	477	912	1870	1250	1700	2500	1410	1710	2700	926	599	526
2	496	1130	1970	1200	1700	2300	1380	1530	2540	1660	521	570
3	594	1230	1900	1200	1600	2200	1280	1370	2280	1580	452	537
4	701	1310	1720	1200	1600	2300	1340	1200	2090	1550	420	536
5	754	1270	1630	1200	1500	2200	1280	1200	1820	1290	490	520
6	817	1200	1560	1200	1600	2100	1260	1300	1610	1240	522	501
7	816	1160	1500	1100	1700	2000	1250	1300	1430	1120	532	487
8	678	1080	1490	1000	1650	1900	1230	1190	1410	1020	473	480
9	583	1080	1550	960	1600	1850	1140	1100	1370	950	496	483
10	592	1070	1570	880	1550	2200	1050	1030	1210	1250	761	465
11	639	974	1550	820	1500	2930	1040	1960	1070	1440	601	427
12	683	922	1660	800	1500	2390	1030	2640	934	1270	486	436
13	600	888	1550	780	1550	2200	1050	1930	960	1030	447	469
14	615	836	1150	800	1600	2200	1140	1850	1230	855	426	530
15	698	817	1140	900	1600	2130	1170	1920	1880	826	438	522
16	770	881	900	1000	1650	1980	1090	2030	2540	725	592	508
17	833	1010	840	1100	1700	1870	1140	1900	2280	575	566	538
18	774	1030	860	1300	2100	1870	1190	2050	2390	504	605	572
19	860	1040	900	1250	2400	2930	1120	1740	2310	457	670	571
20	815	1090	940	1200	2700	3770	1070	1740	2010	385	672	680
21	757	1130	980	1180	3100	3490	1050	1760	1710	342	848	811
22	746	1200	1020	1160	4000	2930	1040	1720	1440	321	1280	921
23	724	1210	1100	1180	5000	2450	1020	1660	1300	299	1020	1000
24	788	1230	1200	1300	4800	2240	990	1760	1130	259	906	1040
25	829	1240	1400	1400	4000	2140	920	3550	1110	233	809	1040
26	860	1230	1400	1600	3400	2160	832	7110	1240	237	743	1080
27	864	1280	1300	1700	3000	2130	871	6830	1170	596	635	1040
28	924	1280	1200	1800	3100	2070	1170	5100	1090	864	578	988
29	927	1230	1250	1800	---	1790	1790	4150	976	745	550	939
30	924	1570	1300	1700	---	1480	1890	3740	933	640	520	1250
31	844	---	1300	1700	---	1410	---	3070	---	585	517	---
TOTAL	23042	33530	41700	37660	64900	70110	35233	73140	48163	25774	19175	20467
MEAN	743	1118	1345	1215	2318	2262	1174	2359	1605	831	619	682
MAX	927	1570	1970	1800	5000	3770	1890	7110	2700	1660	1280	1250
MIN	477	817	840	780	1500	1410	832	1030	933	233	420	427
AC-FT	45700	66510	82710	74700	128700	139100	69880	145100	95530	51120	38030	40600
CAL YR 1981	TOTAL	369367	MEAN	1012	MAX	3640	MIN	19	AC-FT	732600		
WTR YR 1982	TOTAL	492894	MEAN	1350	MAX	7110	MIN	233	AC-FT	977700		

PLATTE RIVER BASIN

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06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 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 micromhos Feb. 12, 1981; minimum daily, 290 micromhos 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (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 (MG/L AS CAC03) (00900)
NOV 18...	0945	1050	850	8.4	9.0	17	11.6	K85	1000	250
JAN 13...	1505	796	--	8.3	.0	3.5	9.4	K190	320	320
MAR 09...	1615	1860	790	8.0	.1	9.8	13.4	<10	420	270
MAY 04...	1600	1180	855	8.2	18.0	5.1	9.5	K140	1100	290
JUN 04...	1400	2060	768	8.2	18.0	33	9.4	K534	3350	270
JUL 28...	0830	894	--	8.4	23.4	36	7.7	K9000	4000	78
SEP 24...	0730	947	800	8.4	14.0	1.1	9.1	K890	1300	240

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

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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- SIMP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (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)
NOV 18...	72	68	20	74	2.2	13	180	210	33	.4
JAN 13...	94	87	26	91	2.4	13	230	250	36	.6
MAR 09...	82	76	20	68	1.9	11	190	200	25	.5
MAY 04...	110	77	24	82	2.2	14	180	240	34	.6
JUN 04...	69	75	20	61	1.7	16	201	170	25	.5
JUL 28...	3.0	23	4.9	15	.8	14	75	49	9.8	.3
SEP 24...	66	63	21	82	2.5	12	178	210	28	.5

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTIT- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	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, DIS- SOLVED (MG/L AS P) (00666)
NOV 18...	21	556	548	.76	1580	.95	.140	1.50	.230	.080
JAN 13...	29	689	671	.94	1480	1.1	.290	.55	.100	.090
MAR 09...	24	551	539	.75	2770	1.1	.290	1.40	.110	.100
MAY 04...	17	595	597	.81	1900	.55	.140	1.50	.130	.050
JUN 04...	23	529	512	.72	2940	1.5	<.060	1.20	.490	.260
JUL 28...	14	221	175	.30	533	.73	.140	3.10	.700	.330
SEP 24...	21	547	545	.74	1400	.40	.070	1.60	.250	.060

PLATTE RIVER BASIN

06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 18...	0945	6	2	4	200	100	90	1	1	<10
MAR 09...	1615	4	0	5	100	20	77	1	<1	<10
MAY 04...	1600	5	0	5	<100	--	80	5	<3	10
JUN 04...	1400	6	1	5	<100	--	120	<1	<1	10
JUL 28...	0830	5	0	5	100	0	100	<1	<1	10

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 18...	--	<10	<1	<3	8	1	7	1000	--	<10
MAR 09...	--	10	3	2	9	5	4	1100	1000	81
MAY 04...	--	<10	<1	<1	28	18	10	420	--	<9
JUN 04...	0	10	1	<1	11	0	13	3000	3000	24
JUL 28...	0	10	1	<1	10	7	3	3900	3800	150

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
NOV 18...	7	4	3	120	110	8	.1	--	<.1	2
MAR 09...	8	6	2	120	100	17	.1	--	<.1	2
MAY 04...	16	--	<1	60	50	6	.2	--	<.1	12
JUN 04...	4	2	2	170	170	1	.1	--	<.1	8
JUL 28...	4	3	1	280	270	12	.2	.0	.2	14

PLATTE RIVER BASIN

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06774000 PLATTE RIVER NEAR DUNCAN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI) (01066)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 18...	0	5	2	0	2	<1	<1	20	10	7
MAR 09...	0	3	2	0	2	<1	<1	40	6	34
MAY 04...	10	2	3	1	2	<1	<1	60	40	21
JUN 04...	7	1	2	0	2	<1	1	30	--	<3
JUL 28...	--	<1	1	0	1	<1	<1	40	30	10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (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 .062 MM (70331)
NOV 18...	0945	1050	9.0	70	198	48	66	90	100	--
JAN 13...	1505	796	.0	78	168	82	94	100	--	--
APR 08...	1310	1280	3.5	68	235	42	54	92	100	--
JUN 04...	1400	2060	18.0	259	1440	--	--	--	--	96
JUL 28...	0830	894	23.4	250	603	--	--	--	--	89

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. FALL DIAM. % FINER THAN 16.0 MM (80172)
NOV 18...	0945	1050	3	0	1	12	62	79	85	89	94	100
JAN 13...	1505	796	3	--	0	6	47	87	96	99	100	--
APR 08...	1310	1280	4	--	0	10	46	78	90	98	100	--
JUN 04...	1400	2060	4	--	0	4	31	70	90	98	99	100
JUL 28...	0830	894	9	0	1	7	36	66	86	96	100	--

PLATTE RIVER BASIN

06775500 MIDDLE LOUP RIVER AT DUNNING, NE

LOCATION.--Lat 41°49'50", long 100°06'00", in NW1/4SE1/4 sec.33, T.22 N., R.24 W., Blaine County, Hydrologic Unit 10210001, on left bank just upstream from bridge on State Highway 2 at northeast corner of Dunning, 1 mi (2 km) upstream from Dismal River.

DRAINAGE AREA.--1,850 mi² (4,790 km²), approximately, of which about 80 mi² (210 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,607.14 ft (794.656 m) 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 (0.3 km) upstream at datum 0.03 ft (0.009 m) higher.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--37 years, 400 ft³/s (11.33 m³/s), 289,800 acre-ft/yr (0.357 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s (28.9 m³/s) Apr. 20, 1971, gage height, 2.50 ft (0.762 m); maximum gage height, 7.02 ft (2.140 m) Mar. 31, 1949, backwater from ice, site and datum then in use; minimum daily discharge, 100 ft³/s (2.83 m³/s) Dec. 5, 6, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 619 ft³/s (17.5 m³/s) May 24, gage height, 1.87 ft (0.570 m); maximum gage height, 4.95 ft (1.509 m) Feb. 5, backwater from ice; minimum daily discharge, 330 ft³/s (9.35 m³/s) Feb. 4,9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	384	410	400	430	380	442	440	412	439	397	365	397
2	370	432	392	440	360	465	512	420	501	339	360	394
3	380	418	412	430	350	465	443	420	493	391	360	391
4	400	420	419	430	330	439	422	427	459	379	380	388
5	405	428	399	440	350	448	454	463	461	382	395	395
6	411	410	416	430	370	418	440	438	468	442	390	401
7	394	411	444	420	360	406	449	420	445	462	375	391
8	403	420	439	370	350	406	435	419	449	411	365	394
9	408	405	449	370	330	408	424	416	468	400	375	388
10	390	395	431	340	340	422	421	425	439	415	405	385
11	389	396	439	370	350	442	424	439	443	410	385	395
12	402	408	449	400	360	456	434	451	435	400	390	449
13	422	418	469	420	380	443	434	514	426	395	385	427
14	436	409	454	450	400	447	434	539	442	390	405	413
15	421	415	452	470	390	457	436	516	439	385	395	403
16	420	414	453	460	480	443	483	531	418	380	380	402
17	462	419	440	520	504	443	424	564	419	380	365	410
18	426	432	430	500	505	456	417	537	431	375	356	409
19	408	442	420	490	494	504	441	527	424	375	365	403
20	408	396	430	470	482	494	416	586	413	380	390	396
21	430	413	413	450	469	476	406	554	419	385	375	392
22	407	418	429	420	471	435	399	506	415	365	380	389
23	406	425	439	380	487	455	399	493	414	360	390	393
24	408	416	420	400	480	479	406	578	416	356	532	398
25	413	428	410	430	462	457	416	513	420	356	460	406
26	411	425	420	450	458	449	432	487	411	360	410	402
27	397	409	420	450	450	466	448	471	415	370	410	396
28	401	403	430	430	445	447	470	469	405	365	410	405
29	407	386	420	420	---	444	444	474	404	375	395	404
30	422	460	430	400	---	474	419	503	406	370	413	414
31	416	---	420	400	---	433	---	463	---	370	404	---
TOTAL	12657	12481	13288	13280	11587	13919	13022	14975	13037	11980	12165	12030
MEAN	408	416	429	428	414	449	434	483	435	386	392	401
MAX	462	460	469	520	505	504	512	586	501	462	532	449
MIN	370	386	392	340	330	406	399	412	404	356	356	385
AC-FT	25110	24760	26360	26340	22980	27610	25830	29700	25860	23760	24130	23860

CAL YR 1981 TOTAL 151262 MEAN 414 MAX 623 MIN 300 AC-FT 300000
WTR YR 1982 TOTAL 154421 MEAN 423 MAX 586 MIN 330 AC-FT 306300

PLATTE RIVER BASIN

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06775500 MIDDLE LOUP RIVER AT DUNNING, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1949 to September 1956, October 1965 to current year.

SUSPENDED SEDIMENT DISCHARGE: March 1950 to September 1952, October 1953 to September 1954.

INSTRUMENTATION.--Temperature recorder from Oct. 1, 1965.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 34.0°C June 21, 1956; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily, 3,800 mg/L Feb. 23, 1952; minimum daily, 56 mg/L Jan. 23, 1952.

SEDIMENT LOADS: Maximum daily, 5,160 tons (4,700 tonnes) Mar. 31, 1952; minimum daily, 21 tons (19 tonnes) Jan. 23, 1952.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.5°C Aug. 3; minimum, 0.5°C on many days during winter period.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.0	10.0	9.0	6.0	.5	.5	.5	.5	.5	.5	9.0	4.0
2	15.5	10.0	8.5	7.0	1.0	.5	.5	.5	.5	.5	8.5	1.5
3	15.5	11.5	12.0	8.5	3.5	1.0	.5	.5	.5	.5	2.0	.5
4	16.5	12.0	13.5	10.5	3.5	.5	.5	.5	.5	.5	4.0	.5
5	14.5	12.0	11.0	8.0	4.5	1.0	.5	.5	.5	.5	4.5	.5
6	14.5	9.5	10.0	5.5	6.0	3.5	.5	.5	.5	.5	5.0	1.0
7	14.0	10.0	11.0	6.5	6.5	4.0	.5	.5	.5	.5	6.5	1.0
8	11.5	9.5	9.5	5.0	6.5	3.5	.5	.5	.5	.5	7.0	3.5
9	15.5	10.0	6.0	3.0	5.5	4.5	.5	.5	.5	.5	9.0	1.0
10	15.0	10.5	9.0	4.0	4.0	3.5	.5	.5	.5	.5	12.0	5.0
11	13.0	11.5	9.5	5.0	4.0	3.0	.5	.5	.5	.5	10.0	4.5
12	15.0	11.5	9.5	5.5	5.5	3.5	.5	.5	.5	.5	8.5	5.5
13	15.0	10.0	9.5	6.0	4.5	2.0	.5	.5	.5	.5	11.0	3.5
14	10.0	9.0	10.5	7.0	2.0	1.0	.5	.5	.5	.5	8.5	6.0
15	12.0	8.0	11.0	8.5	2.0	.5	.5	.5	.5	.5	6.5	5.5
16	11.5	10.5	10.5	6.5	.5	.5	.5	.5	5.0	.5	12.0	5.5
17	11.5	8.5	10.0	6.5	.5	.5	.5	.5	8.5	4.5	12.0	6.5
18	9.0	5.5	9.5	3.5	.5	.5	.5	.5	9.0	4.5	10.0	6.5
19	12.0	5.5	3.5	.5	.5	.5	.5	.5	8.5	4.5	8.0	6.0
20	12.0	8.5	3.0	.5	.5	.5	.5	.5	10.0	5.5	6.5	1.0
21	9.5	6.5	5.5	1.0	3.0	.5	.5	.5	11.0	5.5	6.5	1.0
22	9.5	6.0	6.5	3.5	3.0	1.0	.5	.5	12.0	7.0	10.5	2.0
23	8.0	3.5	6.5	4.0	1.0	.5	.5	.5	7.0	4.5	11.0	5.0
24	8.5	5.5	7.0	5.0	.5	.5	.5	.5	5.0	1.0	8.0	4.5
25	9.5	6.0	5.5	4.5	1.5	.5	.5	.5	5.5	1.0	10.0	2.0
26	11.0	10.0	4.5	2.0	1.5	.5	.5	.5	5.5	.5	11.0	4.0
27	12.0	8.0	3.0	1.0	1.0	.5	.5	.5	7.0	1.5	8.0	4.0
28	13.5	9.5	5.5	2.0	.5	.5	.5	.5	9.0	3.5	10.5	4.0
29	13.5	10.0	4.0	2.0	.5	.5	.5	.5	---	---	11.5	6.5
30	12.0	10.0	4.0	.5	.5	.5	.5	.5	---	---	11.0	6.5
31	11.0	6.5	---	---	.5	.5	.5	.5	---	---	13.5	5.5
MONTH	16.5	3.5	13.5	.5	6.5	.5	.5	.5	12.0	.5	13.5	.5

PLATTE RIVER BASIN

06775500 MIDDLE LOUP RIVER AT DUNNING, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.0	7.0	18.5	10.0	20.0	12.0	24.0	19.0	28.5	21.0	27.0	21.0
2	13.0	2.0	19.5	12.0	17.0	13.0	29.5	20.0	27.0	20.5	24.5	19.5
3	10.5	1.5	21.5	14.5	15.0	11.5	28.5	21.0	30.5	25.5	24.0	18.0
4	9.5	3.5	21.5	16.5	19.5	12.0	29.0	22.0	27.0	21.5	24.5	19.0
5	7.0	4.0	18.0	12.0	17.0	15.0	29.0	21.0	28.0	20.5	23.0	20.0
6	6.0	3.0	16.5	10.0	21.0	15.0	25.0	19.5	29.0	22.0	22.0	18.5
7	3.5	1.5	17.0	10.5	23.0	13.5	26.0	18.5	29.0	21.0	24.0	19.5
8	6.0	2.0	20.0	11.5	19.5	16.0	26.0	19.0	28.0	21.0	24.0	18.5
9	11.0	2.0	21.5	15.0	20.0	14.0	27.0	21.0	24.5	16.5	25.0	19.5
10	13.5	5.0	20.0	15.0	20.0	11.5	24.5	19.5	16.5	15.0	24.5	18.5
11	15.0	6.5	18.0	11.5	22.0	15.0	27.0	18.5	18.5	15.0	21.5	16.0
12	17.0	12.0	13.5	11.0	23.5	16.5	28.0	20.0	21.5	17.0	15.5	14.0
13	18.0	10.5	14.0	13.5	23.5	17.0	29.0	21.0	26.5	20.5	14.0	13.0
14	20.0	12.0	16.5	11.5	21.5	18.0	26.5	22.0	24.5	21.0	14.0	12.0
15	21.0	14.5	15.5	14.0	22.0	17.0	28.5	20.5	29.0	21.5	16.0	11.5
16	17.0	10.5	18.0	11.5	24.0	15.5	29.0	21.5	28.0	22.0	14.5	12.0
17	15.0	7.0	16.5	13.5	23.5	18.0	26.0	19.0	28.5	21.5	15.0	13.5
18	17.0	8.0	20.5	13.5	20.5	17.0	26.5	19.0	26.5	21.5	17.0	10.5
19	13.5	8.0	23.5	16.0	23.0	15.0	30.0	21.5	29.5	21.5	17.0	13.0
20	12.0	5.5	19.0	16.5	24.5	16.5	29.5	23.0	28.0	23.0	17.0	11.0
21	10.0	6.5	16.5	13.5	25.5	17.0	29.0	20.0	26.5	21.0	17.0	11.0
22	15.5	6.0	20.5	12.0	25.0	18.5	29.0	23.0	24.5	21.5	19.5	12.0
23	15.5	8.5	19.5	15.0	26.5	18.5	29.0	22.0	26.0	19.5	18.5	14.5
24	16.5	10.0	19.0	15.5	23.5	18.5	30.0	21.5	23.0	19.0	18.5	13.0
25	18.0	12.0	20.5	14.5	25.0	16.5	30.0	23.0	22.0	17.0	16.0	11.5
26	12.0	10.0	18.0	14.5	21.0	18.5	26.5	21.5	25.5	18.0	19.5	13.0
27	10.5	8.0	22.0	14.0	26.5	18.0	28.5	21.0	23.0	17.0	18.5	14.5
28	8.5	8.0	20.0	17.0	28.5	20.0	25.5	21.0	23.5	18.0	19.5	14.5
29	8.5	6.5	22.0	14.5	25.0	21.0	26.0	20.0	26.5	20.0	18.5	13.5
30	16.5	6.0	19.5	14.5	22.0	19.0	28.0	18.5	24.5	21.0	15.5	10.0
31	---	---	18.5	11.5	---	---	28.0	20.0	28.0	20.0	---	---
MONTH	21.0	1.5	23.5	10.0	28.5	11.5	30.0	18.5	30.5	15.0	27.0	10.0

PLATTE RIVER BASIN

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

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 (427 m) downstream from bridge on U.S. Highway 83, 2 mi (3 km) upstream from boundary of Nebraska National Forest (Besseby Division), and 14 mi (23 km) south of Thedford.

DRAINAGE AREA.--960 mi² (2,490 km²), approximately, of which about 30 mi² (78 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,800.13 ft (853.480 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--16 years, 192 ft³/s (5.437 m³/s), 139,100 acre-ft/yr (0.172 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335 ft³/s (9.49 m³/s) July 28, 1967, gage height, 2.73 ft (0.832 m); maximum gage height, 2.94 ft (0.896 m) Dec. 31, 1968, backwater from ice; minimum daily discharge, 156 ft³/s (4.42 m³/s) Jan. 27, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 285 ft³/s (8.07 m³/s) May 13, gage height, 1.96 ft (0.597 m); minimum daily, 180 ft³/s (5.10 m³/s) June 7, 1982.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	192	204	219	195	216	208	202	182	194	189	210
2	191	200	204	226	203	218	202	203	191	194	188	208
3	198	204	207	220	197	205	200	210	190	194	191	207
4	200	205	205	216	193	200	202	220	182	192	192	205
5	200	198	212	216	193	205	202	232	183	194	193	205
6	202	195	214	219	190	205	200	224	182	197	189	203
7	197	199	221	208	194	211	193	210	180	198	188	201
8	194	202	215	222	192	210	190	214	190	194	186	201
9	196	192	212	208	192	207	195	217	187	194	188	200
10	195	198	207	195	193	215	200	202	180	195	186	198
11	196	201	214	190	198	215	199	202	184	194	188	197
12	198	201	216	185	204	214	205	205	182	195	188	206
13	200	202	213	195	205	211	201	237	184	193	188	200
14	190	206	206	207	209	211	202	232	188	195	195	196
15	191	205	211	223	206	214	202	225	182	191	190	197
16	198	208	210	206	209	214	207	224	182	191	189	193
17	199	204	204	215	215	210	198	217	187	190	186	193
18	191	208	210	216	211	212	195	208	191	188	186	185
19	189	204	212	216	210	209	196	208	187	191	186	188
20	196	198	215	218	212	204	190	215	184	189	188	186
21	194	207	226	208	220	198	190	205	189	189	189	182
22	192	213	221	211	220	206	192	197	195	189	187	184
23	188	203	221	192	214	207	194	200	197	188	191	184
24	192	209	220	212	206	207	197	211	191	187	244	182
25	187	209	211	212	207	203	200	202	190	188	207	183
26	190	209	221	226	208	207	199	195	192	188	206	183
27	190	199	212	220	206	200	205	194	190	188	204	186
28	194	204	220	219	214	202	208	195	193	189	201	186
29	197	209	215	211	---	209	198	191	195	192	208	196
30	197	219	221	210	---	202	201	197	195	193	215	197
31	196	---	223	198	---	199	---	186	---	190	210	---
TOTAL	6032	6103	6623	6539	5716	6446	5971	6480	5625	5944	6036	5842
MEAN	195	203	214	211	204	208	199	209	188	192	195	195
MAX	202	219	226	226	220	218	208	237	197	198	244	210
MIN	187	192	204	185	190	198	190	186	180	187	186	182
AC-FT	11960	12110	13140	12970	11340	12790	11840	12850	11160	11790	11970	11590
CAL YR 1981	TOTAL	72211	MEAN 198	MAX 245	MIN 163	AC-FT	143200					
WTR YR 1982	TOTAL	73357	MEAN 201	MAX 244	MIN 180	AC-FT	145500					

PLATTE RIVER BASIN

06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHQS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (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 (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)
NOV 20...	1015	194	168	7.6	4.5	11.5	65	64	69	.00
JAN 18...	1635	216	168	7.5	7.5	10.4	K6	98	71	.00
MAR 09...	1020	204	178	7.5	5.5	10.7	K36	K29	69	.00
MAY 11...	1020	201	178	7.8	14.0	9.0	98	450	72	.00
JUL 08...	0940	192	179	7.6	18.5	7.8	K370	530	74	.00
SEP 23...	1235	183	174	7.7	17.5	8.4	180	290	71	.00

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- SURP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (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)
NOV 20...	22	3.4	6.0	.3	4.9	74	<5.0	.5	.3
JAN 18...	23	3.2	7.0	.4	5.3	82	<5.0	.9	.4
MAR 09...	22	3.4	7.3	.4	5.0	84	6.0	1.2	.5
MAY 11...	23	3.6	7.2	.4	4.9	84	<5.0	.9	.3
JUL 08...	24	3.4	6.8	.4	5.6	83	7.0	1.1	.3
SEP 23...	23	3.4	6.6	.4	5.0	76	7.0	1.0	.3

DATE	SILICA, DIS- SOLVED (MG/L AS STU2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	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)
NOV 20...	56	150	--	.20	78.6	.46	.46	.100	.100
JAN 18...	59	140	--	.19	82.4	1.2	.54	.150	.130
MAR 09...	55	160	151	.22	88.1	.51	.51	.060	.060
MAY 11...	55	154	--	.21	83.6	.34	.34	.130	.130
JUL 08...	57	154	155	.21	79.8	.38	.38	.100	.100
SEP 23...	56	148	148	.20	73.1	.40	.36	.200	.200

PLATTE RIVER BASIN

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06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MUNIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO- GEN,AM- MUNIA + ORGANIC DIS- (MG/L AS N) (00623)	NITRO- GEN, DIS- SOLVED TOTAL (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED TOTAL (MG/L AS N) (00602)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P) (00666)
NOV 20...	.78	.76	.88	.02	.86	1.3	1.3	.180	.120
JAN 18...	.36	.36	.51	.02	.49	1.7	1.0	.140	.130
MAR 09...	.39	.36	.45	.03	.42	.96	.93	.140	.120
MAY 11...	.51	.37	.64	.14	.50	.98	.84	.180	.140
JUL 08...	.70	.60	.80	.10	.70	1.2	1.1	.150	.090
SEP 23...	.60	.30	.80	.30	.50	1.2	.86	.180	.160

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 20...	1015		.7	1	6	<100	50	<1	<1	<10
MAY 11...	1020		7	1	6	<100	53	<3	<1	<10

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LT) (01130)
NOV 20...	<1	<3	4	<10	1200	1200	13	3	<10	14
MAY 11...	<1	<9	10	<30	1100	1100	21	6	<30	19

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
NOV 20...	60	60	3	<.1	--	<.1	<10	<1	<1
MAY 11...	70	70	3	.2	.0	.6	<30	<1	<1

DATE	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG) (01076)	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, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
NOV 20...	<1	--	<1	120	9.0	20	20	4	>.01
MAY 11...	5	4	1	120	12	20	5	15	<.01

PLATTE RIVER BASIN

06775900 DISMAL RIVER NEAR THEDFORD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS ALPHA, DTS- 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) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	
NOV 20...	1015	2.1	<4.5	3.1	7.4	1.9	7.1	1.8	.06	.39	1.4	.7	
DATE	TIME	PER- THANE IN BOTTOM TOTAL (UG/L) (39034)	PER- THANE IN BOTTOM TOTAL (UG/KG) (81886)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39516)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39330)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39350)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39300)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)
NOV 20...		.00	.00	.00	0	.00	.0	.00	.0	.00	.0	.00	.0
DATE		DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39365)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39370)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39388)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39390)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39393)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)
NOV 20...		.00	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.0
DATE		ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L) (39480)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39481)	METHYL PARA- THION, TOTAL (UG/L) (39600)
NOV 20...		.00	.00	.0	.00	.0	.00	.0	.00	.00	.00	.0	.00
DATE		METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TOX- APHENE, TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2, 4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	MIREX, TOTAL (UG/L) (39755)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	SILVEX, TOTAL (UG/L) (39760)	
NOV 20...		.00	.00	0	.0	.00	.00	.00	.00	.00	.0	.00	

PLATTE RIVER BASIN

123

06776500 DISMAL RIVER AT DUNNING, NE

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 (30 m) downstream from bridge on State Highway 2 at southeast corner of Dunning and 1 mi (2 km) upstream from mouth.

DRAINAGE AREA.--2,040 mi² (5,280 km²), approximately, of which about 45 mi² (120 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--March to June 1932, September 1945 to current year.

REVISED RECORDS.--WSP 2118: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,606.3 ft (794.40 m) National Geodetic Vertical Datum of 1929. Mar. 1 to June 30, 1932, nonrecording gage at site 0.2 mi (0.3 km) upstream at datum 0.5 ft (0.15 m) lower. Sept. 13, 1945, to Apr. 19, 1956, nonrecording gage on bridge 100 ft (30 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--37 years (1945-82), 322 ft³/s (9.119 m³/s), 233,300 acre-ft/yr (0.288 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s (33.1 m³/s) Aug. 25, 1977, gage height, 2.06 ft (0.628 m); maximum gage height observed, 5.21 ft (1.588 m) Jan. 19, 1947, backwater from ice; minimum daily discharge, 100 ft³/s (2.83 m³/s) Jan. 25, 1950, Jan. 9, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 634 ft³/s (18.0 m³/s) Aug. 24, gage height, 1.27 ft (0.387 m); maximum gage height, 3.35 ft (1.021 m) sometime during period Feb. 3-6 or Feb. 11-16, from floodmark, backwater from ice; minimum daily discharge, 260 ft³/s (7.36 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	307	292	371	335	320	340	330	320	324	331	298	319
2	312	362	333	340	300	334	345	320	389	348	292	325
3	332	343	353	333	290	328	290	325	351	332	305	311
4	346	347	330	337	270	310	300	330	344	321	358	314
5	361	328	344	349	280	288	320	340	354	315	326	326
6	334	307	341	334	300	298	300	310	367	357	317	315
7	331	323	349	320	290	309	300	313	338	324	314	319
8	328	326	348	290	270	322	295	313	357	319	304	318
9	332	305	344	280	280	323	295	325	388	321	317	320
10	333	311	347	260	290	335	305	324	332	324	327	322
11	340	313	335	290	300	340	310	303	339	307	301	316
12	343	324	344	320	310	325	313	303	341	304	321	355
13	357	339	347	340	330	325	301	374	350	305	317	337
14	332	347	329	370	350	345	320	421	371	317	336	325
15	319	352	330	390	330	335	345	381	362	305	329	307
16	347	348	319	380	360	330	340	369	344	301	320	317
17	366	362	311	430	400	340	330	359	357	288	320	317
18	319	364	302	420	430	325	335	348	348	288	309	309
19	311	338	311	400	424	345	330	343	348	294	301	310
20	327	314	336	380	408	320	300	413	347	303	318	296
21	334	327	344	360	401	290	305	370	350	311	310	300
22	311	334	340	330	396	285	315	337	352	289	312	306
23	304	339	322	290	363	315	330	338	364	287	319	310
24	324	344	322	310	336	325	330	433	343	289	511	310
25	328	353	314	340	319	315	335	372	335	289	398	309
26	320	333	334	370	323	315	325	353	334	294	330	315
27	284	322	335	390	332	320	330	350	332	297	333	326
28	305	336	344	380	337	305	340	352	336	298	317	327
29	306	348	328	370	---	330	315	346	332	310	332	322
30	318	387	330	340	---	335	315	387	336	303	331	317
31	294	---	327	340	---	310	---	333	---	301	320	---
TOTAL	10105	10068	10364	10718	9339	9962	9544	10805	10465	9572	10143	9520
MEAN	326	336	334	346	334	321	318	349	349	309	327	317
MAX	366	387	371	430	430	345	345	433	389	357	511	355
MIN	284	292	302	260	270	285	290	303	324	287	292	296
AC-FT	20040	19970	20560	21260	18520	19760	18930	21430	20760	18990	20120	18880

CAL YR 1981 TOTAL 118897 MEAN 326 MAX 572 MIN 230 AC-FT 235800
WTR YR 1982 TOTAL 120605 MEAN 330 MAX 511 MIN 260 AC-FT 239200

LOCATION.--Lat 41°25'20", long 99°08'10", in sec.26, T.17 N., R.16 W., Valley County, Hydrologic Unit 10210003, on left bank 80 ft (24 m) downstream from bridge on State Highway 70 at southwest edge of Arcadia.

DRAINAGE AREA.--5,040 mi² (13,100 km²), approximately, of which about 820 mi² (2,120 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1937 to current year.

REVISID RECORDS.--WDR NE-72: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,146.30 ft (654.192 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 23, 1938, nonrecording gage at bridge just upstream at datum 1.23 ft (0.375 m) lower.

REMARKS.--Records 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 (13 km) above station.

AVERAGE DISCHARGE.--20 years (1962-82), 652 ft³/s (18.46 m³/s), 472,400 acre-ft/yr (0.582 km³/yr) since
 diversion to Farwell Irrigation District canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 18,500 ft³/s (524 m³/s) June 22, 1947, gage height, 6.24 ft (1.902 m); maximum discharge computed, 9,700 ft³/s (275 m³/s) May 27, 1945, gage height, 5.12 ft (1.561 m); maximum gage height, 6.41 ft (1.954 m) Mar. 27, 1960, backwater from ice; minimum daily discharge, 6.0 ft³/s (0.17 m³/s) July 23, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,400 ft³/s (96.3 m³/s) Apr. 2, gage height, 3.22 ft (0.981 m) from flushing operation at dam 8 mi (13 km) above station; maximum gage height, 5.31 ft (1.618 m) Feb. 20, backwater from ice; minimum daily discharge, 49 ft³/s (1.39 m³/s) Aug. 1.

REVISIONS.--The maximum discharge for water year 1981 has been revised to 4,900 ft³/s (139 m³/s) Aug. 5, 1981, gage height, 4.05 ft (1.234 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	720	778	1120	700	1250	1040	1050	374	1060	410	49	414
2	720	884	1030	800	1140	1000	1160	414	1140	390	60	351
3	727	964	868	760	980	940	1120	440	1180	550	63	344
4	800	924	820	640	1080	860	860	470	1140	463	97	310
5	800	844	778	760	1200	700	926	641	890	365	542	304
6	830	868	757	640	1350	620	1050	641	860	337	225	344
7	850	852	806	760	1400	660	1010	460	800	337	120	386
8	870	860	750	840	1250	740	1100	440	668	265	107	317
9	892	844	715	640	1080	1000	992	406	712	172	139	291
10	1000	852	750	350	1200	1350	850	460	860	124	163	250
11	1000	828	771	470	1300	1900	893	490	624	101	155	330
12	996	916	828	520	1350	2550	805	620	624	91	124	255
13	972	940	950	660	1500	1700	783	1140	602	91	147	379
14	836	956	1050	920	1600	1240	882	1330	1010	87	139	428
15	892	868	1180	1000	1500	1260	970	1240	1170	83	163	518
16	940	884	490	740	1400	1240	1040	1150	780	83	163	421
17	852	908	450	960	1450	930	981	1080	734	86	91	442
18	792	852	540	860	1500	842	600	1130	532	83	70	442
19	708	916	700	700	1600	1060	610	1070	484	86	78	449
20	736	799	800	620	1800	1130	674	1240	452	89	196	400
21	792	938	840	560	1700	1250	530	1600	420	94	260	442
22	828	626	720	640	1400	1170	560	1240	516	97	167	542
23	785	674	640	580	1120	1140	425	1050	385	86	124	407
24	687	729	700	800	900	1290	450	1300	330	75	317	456
25	743	656	760	860	800	1450	470	1290	378	83	640	542
26	750	771	840	1000	720	1180	460	970	378	89	486	542
27	757	701	760	1140	780	1150	620	1010	406	91	421	542
28	806	757	700	1300	940	1280	1000	1100	406	63	421	620
29	806	729	780	1450	---	1190	729	1190	406	72	456	730
30	757	868	900	1600	---	1160	500	1200	410	63	456	770
31	844	---	760	1450	---	1180	---	1090	---	60	428	---
TOTAL	25488	24986	24553	25720	35290	36202	24100	28276	20357	5166	7067	12968
MEAN	822	833	792	830	1260	1168	803	912	679	167	228	432
MAX	1000	964	1180	1600	1800	2550	1160	1600	1180	550	640	770
MIN	687	626	450	350	720	620	425	374	330	60	49	250
AC-FT	50560	49560	48700	51020	70000	71810	47800	56090	40380	10250	14020	25720
CAL YR 1981	TOTAL	237737	MEAN 651	MAX 2580	MIN 26	AC-FT 471600						
WTR YR 1982	TOTAL	270173	MEAN 740	MAX 2550	MIN 49	AC-FT 535900						

PLATTE RIVER BASIN

06779000 MIDDLE LOUP RIVER AT ARCADIA, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977-82.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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 19...	1500	817	183	7.8	13.0	77	.00	25	3.6	7.5	.4
JUN 16...	1445	730	197	8.1	25.0	83	.00	27	3.9	7.2	.4
AUG 03...	1410	70	258	8.7	33.0	120	.00	38	5.2	9.5	.4

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 CONSTITUENTS, DIS- SOLVED (MG/L (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT 19...	5.6	85	<5.0	1.2	.3	57	157	.21	346	.58
JUN 16...	7.1	98	8.0	3.5	.4	--	--	--	237	.33
AUG 03...	7.8	128	10	2.4	.3	61	211	.29	39.9	<.10

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 (4 m) downstream from bridge on State Highway 2, 0.9 mi (1.4 km) southeast of Sweetwater, and 11.6 mi (18.7 km) upstream from mouth.

DRAINAGE AREA.--707 mi² (1,831 km²), of which 655 mi² (1,696 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (613.773 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Minor irrigation developments above station.

AVERAGE DISCHARGE.--36 years, 39.0 ft³/s (1.104 m³/s), 28,260 acre-ft/yr (34.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 27,000 ft³/s (765 m³/s) June 22, 1947, gage height, 23.20 ft (7.071 m); maximum discharge computed, 5,600 ft³/s (159 m³/s) June 24, 1968, gage height, 20.07 ft (6.117 m); 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.--Maximum discharge, 1,020 ft³/s (28.9 m³/s) June 15 at 0630, gage height, 15.29 ft (4.660 m), from floodmark, no other peak above base of 550 ft³/s (15.6 m³/s); minimum daily, 0.49 ft³/s (0.014 m³/s) Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	23	18	20	48	23	46	52	27	1.0	14
2	11	18	22	18	18	40	23	34	51	27	.49	14
3	11	21	23	17	17	36	24	31	37	26	2.1	13
4	11	21	24	18	17	32	23	28	32	25	1.5	12
5	12	22	22	18	16	27	23	27	38	24	6.1	12
6	12	23	20	17	17	29	24	30	35	32	6.9	12
7	12	18	23	18	19	26	24	28	29	24	6.3	12
8	12	16	22	19	18	28	25	27	26	20	8.4	12
9	13	14	21	18	17	32	25	29	25	20	9.6	11
10	12	15	20	16	18	38	24	25	24	30	5.6	14
11	12	15	21	17	19	36	25	24	23	101	8.5	14
12	13	15	21	17	20	31	25	23	23	29	14	16
13	13	16	20	18	22	28	26	23	22	18	24	14
14	14	16	20	20	25	27	23	25	64	15	14	13
15	14	16	19	21	35	26	24	27	867	12	11	14
16	14	16	17	18	50	26	25	33	523	12	9.4	14
17	15	16	15	19	150	26	25	39	120	9.6	11	13
18	16	16	16	20	250	27	25	29	63	11	9.3	12
19	15	17	18	18	323	34	27	26	50	9.5	8.7	12
20	16	17	20	16	260	36	24	27	44	8.1	7.1	12
21	14	18	22	16	180	39	23	26	39	9.6	8.7	11
22	14	18	22	17	110	35	22	29	34	7.7	9.6	12
23	16	18	20	16	80	31	22	50	31	9.7	13	11
24	16	18	20	17	66	26	22	37	32	8.1	12	10
25	17	18	19	18	55	26	22	39	33	8.7	16	10
26	16	18	20	19	48	25	22	74	29	5.4	27	10
27	16	18	19	20	42	24	24	80	47	2.2	50	9.8
28	16	18	18	20	45	23	34	39	39	2.1	24	10
29	15	17	17	21	---	23	41	34	30	2.1	17	10
30	15	20	19	22	---	23	43	56	28	1.7	15	11
31	15	---	18	20	---	23	---	44	---	1.1	16	---
TOTAL	430	525	621	567	1957	931	762	1089	2490	538.6	373.29	364.8
MEAN	13.9	17.5	20.0	18.3	69.9	30.0	25.4	35.1	83.0	17.4	12.0	12.2
MAX	17	23	24	22	323	48	43	80	867	101	50	16
MIN	11	14	15	16	16	23	22	23	22	1.1	.49	9.8
AC-FT	853	1040	1230	1120	3880	1850	1510	2160	4940	1070	740	724
CAL YR 1981	TOTAL	6738.60	MEAN	18.5	MAX	183	MIN	1.3	AC-FT	13370		
WTR YR 1982	TOTAL	10648.69	MEAN	29.2	MAX	867	MIN	.49	AC-FT	21120		

PLATTE RIVER BASIN

06783500 MUD CREEK NEAR SWEETWATER, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
29...	1440	15	570	8.0	10.0	10.5	55	150	370	300	96	15
NOV												
25...	1340	18	577	8.2	3.5	13.3	48	K320	960	280	90	14
DEC												
23...	1120	20	638	7.3	.5	9.9	30	K99	980	320	100	17
JAN												
20...	1200	15	649	--	.5	--	20	K6900	K12000	320	100	17
FEB												
25...	1520	53	379	7.6	.5	12.1	--	K73	6600	160	50	9.2
MAR												
18...	1430	26	595	8.0	5.5	11.2	18	450	1600	300	93	17
APR												
14...	1440	23	588	8.3	18.0	11.3	59	260	420	300	94	16
MAY												
13...	1150	23	589	7.9	17.0	7.5	42	350	1500	300	93	16
JUN												
10...	1405	24	601	7.9	18.5	7.4	--	4900	K2100	380	120	20
JUL												
08...	1410	20	606	7.9	24.0	7.6	130	4300	3700	300	93	17
AUG												
31...	1130	15	542	7.6	22.5	7.2	84	4700	K12000	240	74	13
SEP												
29...	1400	11	611	7.8	17.5	7.4	28	320	2000	270	86	14

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
29...	6.0	19	--	406	.24	.100	.75	.85	1.1	.420	4.6
NOV											
25...	<5.0	17	--	384	.67	.160	.33	.49	1.2	.370	2.9
DEC											
23...	5.0	14	--	427	1.1	.230	.56	.79	1.9	.410	4.1
JAN											
20...	<5.0	14	--	443	1.2	.820	.78	1.60	2.8	.050	4.1
FEB											
25...	6.0	12	168	--	1.5	1.20	.1.8	3.00	4.5	2.10	12
MAR											
18...	<5.0	13	105	--	1.3	.440	.86	1.30	2.6	.650	5.2
APR											
14...	6.0	13	142	--	<.10	<.060	--	1.30	--	.610	9.9
MAY											
13...	5.0	11	182	--	.83	.300	1.8	2.10	2.9	1.10	11
JUN											
10...	24	10	132	--	2.0	.590	.91	1.50	3.5	1.40	12
JUL											
08...	21	13	240	--	1.2	.140	2.6	2.70	3.9	2.00	13
AUG											
31...	38	10	230	--	1.9	.390	2.8	3.20	5.1	.930	13
SEP											
29...	23	15	80	--	.40	.210	1.2	1.40	1.8	.670	6.3

PLATTE RIVER BASIN

06783500 MUD CREEK NEAR SWEETWATER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
NOV 25...	1340	2.0	15	.4	11	280	.2	42	362	.49
FEB 25...	1520	.00	7.9	.3	21	180	.2	24	246	.33
MAY 13...	1150	.00	16	.4	14	310	.3	51	397	.54
AUG 31...	1130	4.0	13	.4	19	234	.2	46	363	.49

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 25...	17.6	.67	.040	8	100	50	--	<10	--	500
FEB 25...	35.2	1.5	.900	--	--	40	--	--	--	--
MAY 13...	24.7	.83	.860	10	100	70	<1	10	9	4400
AUG 31...	14.7	1.9	.670	--	--	230	--	--	--	--

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELF- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 25...	<10	--	70	40	29	<.1	2	--	20
FEB 25...	87	--	--	--	61	--	--	--	--
MAY 13...	14	2	330	--	17	.1	2	<1	30
AUG 31...	15	--	--	--	17	--	--	--	--

PLATTE RIVER BASIN

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06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE

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 (2 m) downstream and 30 ft (9 m) shoreward from right downstream corner of county highway bridge, 0.6 mi (1.0 km) northeast of St. Michael, and 3.4 mi (5.5 km) upstream from Sweet Creek.

DRAINAGE AREA.--2,350 mi² (6,090 km²), approximately, of which about 1,610 mi² (4,170 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NE-74: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,921.26 ft (585.600 m) 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 (0.610 m) 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 (180 m) upstream at present datum. Sept. 8, 1960, to June 24, 1968, water-stage recorder at site 100 ft (30 m) 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 (12 m) upstream at present datum. May 20 to July 16, 1981, water-stage recorder at site 70 ft (21 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor. Minor irrigation developments above station.

AVERAGE DISCHARGE.--39 years, 237 ft³/s (6.712 m³/s), 171,700 acre-ft/yr (0.212 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, about 50,000 ft³/s (1,420 m³/s) June 22, 1947, gage height, 12.0 ft (3.66 m), present datum, from graph based on gage readings; maximum discharge computed, 27,500 ft³/s (779 m³/s) June 24, 1968, gage height, 11.00 ft (3.353 m); no flow Aug. 5-8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,100 ft³/s (87.8 m³/s) June 15, gage height, 7.42 ft (2.262 m); maximum gage height, 8.13 ft (2.478 m) Feb. 20, backwater from ice; minimum daily discharge, 51 ft³/s (1.44 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	158	300	140	150	194	212	322	344	166	69	103
2	108	169	283	150	130	212	211	306	332	198	60	98
3	109	173	284	130	120	194	212	276	344	173	57	90
4	110	177	257	140	120	181	208	261	312	162	51	86
5	112	173	237	150	110	185	199	286	286	158	62	81
6	116	173	239	130	120	181	199	301	286	150	60	90
7	118	177	238	120	140	158	199	296	255	158	67	96
8	113	169	232	140	130	158	208	250	240	142	91	102
9	128	169	246	130	120	158	211	225	230	133	74	101
10	133	169	231	100	130	190	202	216	225	144	71	95
11	133	169	220	120	140	225	199	213	216	215	71	95
12	138	169	210	130	150	261	201	207	212	206	99	117
13	140	166	207	150	180	225	204	211	198	139	120	117
14	142	166	192	180	220	221	203	225	214	126	130	119
15	146	166	190	170	270	221	212	306	1830	116	136	123
16	148	166	180	140	350	230	215	281	1470	104	126	119
17	156	166	150	170	450	254	217	266	630	98	120	128
18	148	166	170	180	600	245	217	255	416	93	120	132
19	148	169	190	160	840	332	203	235	296	91	105	122
20	147	169	210	140	760	361	198	250	250	85	116	116
21	147	173	230	130	680	322	195	297	230	93	93	111
22	139	173	220	120	560	286	195	317	216	96	93	110
23	141	173	200	120	470	281	188	301	194	91	102	110
24	146	173	190	140	427	250	181	344	177	85	113	110
25	150	169	180	150	271	261	177	475	173	83	116	104
26	153	170	170	180	225	240	177	528	166	85	116	106
27	154	168	160	190	216	230	201	814	190	83	143	107
28	156	169	150	170	208	230	378	448	198	78	162	103
29	158	168	160	180	---	230	475	442	173	76	131	101
30	154	257	170	180	---	226	338	632	166	76	115	105
31	150	---	150	160	---	216	---	448	---	74	108	---
TOTAL	4253	5172	6446	4590	8287	7158	6635	10234	10469	3777	3097	3197
MEAN	137	172	208	148	296	231	221	330	349	122	99.9	107
MAX	158	257	300	190	840	361	475	814	1830	215	162	132
MIN	108	158	150	100	110	158	177	207	166	74	51	81
AC-FT	8440	10260	12790	9100	16440	14200	13160	20300	20770	7490	6140	6340

CAL YR 1981 TOTAL 63568 MEAN 174 MAX 711 MIN 41 AC-FT 126100
WTR YR 1982 TOTAL 73315 MEAN 201 MAX 1830 MIN 51 AC-FT 145400

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 (612,000 tonnes) June 22, 1947; minimum daily, 6.1 tons (5.5 tonnes) Dec. 30, 31, 1951.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)				
		OCT										
		29...	1040	155	388	8.1	10.5	10.3				
		NOV										
		25...	1100	175	403	8.1	4.0	12.0				
		DEC										
		23...	0950	191	439	7.5	.5	12.4				
		JAN										
		20...	1000	139	403	6.9	.5	8.1				
		FEB										
		24...	1100	390	319	7.7	.5	12.9				
		MAR										
		18...	0940	235	411	8.0	6.0	11.4				
		APR										
		14...	1140	193	401	8.3	18.5	10.4				
		MAY										
		13...	0940	208	408	8.3	17.5	8.6				
		JUN										
		10...	1000	223	415	8.2	18.0	9.5				
		JUL										
		08...	1040	143	386	8.3	23.0	9.4				
		AUG										
		04...	1000	49	360	8.0	25.0	7.3				
		SEP										
		29...	1055	102	406	8.2	18.0	9.5				
DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	
FEB												
24...	1100	30	130	.00	42	6.9	7.9	.3	13	150	6.0	
JUL												
08...	1040	50	190	.00	61	9.0	12	.4	11	197	17	
DATE	TIME	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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)
FEB												
24...	3.9	.3	34	208	.28	219	.92	.480	30	60	12	
JUL												
08...	4.9	.3	49	333	.45	129	<.10	.170	50	18	2	

PLATTE RIVER BASIN

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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 (8 km) northeast of Loup City.

ELEVATION AND CONTENTS RECORDS

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 (80.4 hm³) between elevations 2,118.5 ft (645.72 m), sill of canal outlet works, and 2,162.3 ft (659.07 m), crest of spillway. Dead and inactive storage, 3,839 acre-ft (4.73 hm³) below elevation 2,118.5 ft (645.72 m). Figures given herein represent total contents. Water 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, 70,230 acre-ft (86.6 hm³) June 22, 1975, elevation, 2,162.7 ft (659.19 m); minimum observed since appreciable storage was attained, 9,450 acre-ft (11.7 hm³) Aug. 2, 1980, elevation, 2,127.7 ft (648.52 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 69,360 acre-ft (85.5 hm³) July 5-13, elevation, 2,162.4 ft (659.10 m); minimum observed, 39,110 acre-ft (48.2 hm³) Aug. 11-12, elevation, 2,149.9 ft (655.29 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.	30	2,157.1	55,170	-
Oct.	31	2,156.3	53,210	-1,960
Nov.	30	2,155.6	51,530	-1,680
Dec.	31	2,155.3	50,820	-710
CAL YR 1981	.....	-	-	+710
Jan.	31	2,154.8	49,650	-1,170
Feb.	28	2,154.5	48,960	-690
Mar.	31	2,154.3	48,500	-460
Apr.	30	2,156.7	54,180	+5,680
May	31	2,162.0	68,210	+14,030
June	30	2,162.3	69,080	+870
July	31	2,154.6	49,190	-19,890
Aug.	31	2,153.9	47,590	-1,600
Sept.	30	2,157.6	56,420	+8,830
WTR YR 1982	.....	-	-	+1,250

PLATTE RIVER BASIN

06784200 SHERMAN RESERVOIR NEAR LOUP CITY, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977-82.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	HARDNESS (MG/L AS CaCO3) (00900)	HARDNESS NONCARBONATE (MG/L AS CaCO3) (95902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	SODIUM ADSORPTION RATIO (00931)
OCT 19...	1615	198	8.1	13.0	86	.00	28	4.0	7.5	.4
JUN 16...	1550	198	8.5	23.0	87	.00	28	4.2	7.1	.3
AUG 03...	1550	235	8.5	28.0	93	.00	30	4.4	9.0	.4

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY (MG/L AS CaCO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, 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, DTS-SOLVED (TONS PER AC-FT) (70303)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT 19...	7.0	93	6.0	1.2	.3	47	157	.21	<.09
JUN 16...	6.8	103	9.0	1.2	.3	43	162	.22	.19
AUG 03...	7.5	110	8.0	3.1	.3	44	173	.24	.18

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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 (8 m) downstream from bridge on State Highway 11, 2.8 mi (4.5 km) north of Dannebrog, and 10 mi (16 km) upstream from mouth.

PERIOD OF RECORD.--May 1966 to September 1970, October 1978 to current year.

REMARKS.--Records good except those for winter period, which are poor. Low flow includes return water from Farwell Irrigation District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,090 ft³/s (30.9 m³/s) June 15, gage height, 16.69 ft (5.087 m), from floodmark; minimum daily, 3.7 ft³/s (0.10 m³/s) Oct. 3.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	6.4	23	6.0	6.8	12	9.6	14	40	27	31	14
2	4.1	12	12	6.4	6.4	12	10	13	34	22	31	14
3	3.7	15	13	6.0	6.2	10	12	12	31	24	32	13
4	4.4	16	12	6.4	5.7	9.4	9.9	12	29	19	33	13
5	5.4	16	11	6.6	5.4	8.6	9.8	14	27	17	42	14
6	5.2	17	11	5.9	5.0	9.2	9.7	16	27	71	156	17
7	5.0	13	11	5.4	5.8	8.4	9.7	12	24	93	41	18
8	4.8	8.0	12	6.6	5.6	8.8	10	12	24	21	31	21
9	5.9	6.2	10	6.0	5.2	9.2	11	11	24	21	34	24
10	8.8	6.6	9.9	5.0	5.6	12	10	10	22	132	42	24
11	3.9	6.4	9.6	5.6	5.8	28	9.7	11	20	29	42	25
12	5.2	7.2	9.4	5.4	6.1	19	9.7	10	21	17	31	32
13	7.1	6.8	9.4	5.8	6.3	14	9.3	10	19	16	30	30
14	6.5	6.9	9.3	7.4	6.9	12	8.7	29	38	16	27	28
15	5.5	6.7	8.9	7.8	8.8	12	11	35	706	15	25	20
16	5.3	6.5	7.4	6.4	17	13	11	17	75	15	24	15
17	7.6	6.8	6.0	7.8	29	12	9.2	16	34	15	24	15
18	7.8	6.2	7.6	7.7	101	11	8.3	14	30	15	25	13
19	6.8	6.9	9.5	6.6	208	41	8.3	13	27	16	25	9.6
20	6.4	6.7	9.5	6.2	296	35	8.1	19	25	17	59	9.0
21	6.8	7.1	9.5	5.6	106	16	7.6	17	24	25	73	8.4
22	6.5	8.2	9.5	6.0	43	14	7.5	16	22	23	29	8.4
23	6.4	9.1	8.7	5.4	27	14	7.7	14	22	23	22	8.3
24	6.8	8.5	8.2	6.6	16	14	7.8	21	20	27	37	8.3
25	6.8	7.4	8.1	7.2	12	13	7.9	52	20	34	65	7.7
26	7.0	7.4	8.1	7.6	12	13	7.9	36	19	37	23	7.9
27	6.7	6.7	7.8	7.7	12	12	8.6	25	24	40	17	8.1
28	6.5	6.6	7.7	6.9	12	12	36	24	22	38	16	7.7
29	5.6	6.8	6.6	7.0	---	12	29	66	18	40	15	7.8
30	7.3	20	6.8	7.0	---	12	16	587	19	42	15	7.4
31	5.9	---	6.2	6.7	---	11	---	215	---	36	14	---
TOTAL	186.5	271.1	298.7	200.7	982.6	439.6	331.0	1373	1487	983	1111	448.6
MEAN	6.02	9.04	9.64	6.47	35.1	14.2	11.0	44.3	49.6	31.7	35.8	15.0
MAX	8.8	20	23	7.8	296	41	36	587	706	132	156	32
MIN	3.7	6.2	6.0	5.0	5.0	8.4	7.5	10	18	15	14	7.4
AC-FT	370	538	592	398	1950	872	657	2720	2950	1950	2200	890
CAL YR 1981	TOTAL	3745.4	MEAN	10.3	MAX	173	MIN	3.3	AC-FT	7430		
WTR YR 1982	TOTAL	8112.8	MEAN	22.2	MAX	706	MIN	3.7	AC-FT	16090		

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 (6 m) upstream from bridge on U.S. Highway 281 and 6 mi (10 km) upstream from confluence with North Loup River.

WATER-DISCHARGE RECORDS

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 (541.511 m) 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 (131 m) upstream at same datum. Mar. 17 to May 31, 1978, nonrecording gage on railroad bridge 30 ft (9 m) upstream at same datum.

AVERAGE DISCHARGE.--75 years, 1,186 ft³/s (33.59 m³/s), 859,300 acre-ft/yr (1.06 km³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s (2,040 m³/s) June 23, 1947, gage height, 12.69 ft (3.868 m), site then in use, present datum, from rating curve extended above 55,000 ft³/s (1,560 m³/s); minimum daily since 1929, 23 ft³/s (0.65 m³/s) Aug. 9, 10, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,650 ft³/s (217 m³/s) June 15, gage height, 4.38 ft (1.335 m) from floodmark; maximum gage height, 6.61 ft (2.015 m) Feb. 21, backwater from ice; minimum daily discharge, 190 ft³/s (5.38 m³/s) Aug. 4.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1340	1540	1060	1600	1600	1250	1050	2210	734	275	630
2	976	1190	1410	1100	1450	1500	1000	877	2030	970	245	606
3	960	1170	1300	1020	1250	1400	1100	771	2060	840	215	574
4	944	1210	1220	900	1340	1320	1300	791	1730	726	190	540
5	984	1170	1100	1040	1650	1060	1390	1050	1400	678	225	468
6	992	1150	1110	900	1800	900	1110	1300	1370	598	474	534
7	1000	1260	1220	1060	1900	960	1090	1300	1140	718	546	552
8	1080	1230	1200	1200	1700	1100	1070	919	1100	560	402	606
9	1120	1200	1210	1000	1400	1600	1070	771	1050	590	366	552
10	1200	1180	1210	560	1500	1900	1130	709	880	718	402	540
11	1260	1150	1180	740	1650	2300	1020	730	1080	622	516	534
12	1500	1110	1200	780	1750	2950	1110	811	1180	575	450	600
13	1520	1180	1280	900	1850	2430	1300	919	1180	478	444	695
14	1610	1190	1280	1200	2100	2050	1480	1390	1640	405	444	618
15	1460	1200	1310	1350	1800	2050	1480	2300	4890	370	462	688
16	1370	1190	1200	1000	1700	1620	1480	1660	3060	338	450	716
17	1500	1220	670	1300	1850	1480	1150	1420	1700	300	420	660
18	1440	1230	600	1140	2100	1240	1090	1450	1280	286	372	695
19	1420	1270	810	960	2500	1850	1040	1330	1040	292	322	618
20	1380	1280	1290	860	3000	2660	980	1590	1000	279	372	606
21	1310	1230	1400	800	2600	3030	681	2300	880	286	576	612
22	1320	1210	1250	900	2250	2650	630	2540	840	305	624	588
23	1450	1190	1160	840	1950	1830	723	2090	770	265	504	667
24	1420	1190	1200	1060	1600	1390	654	2180	850	230	474	636
25	1360	1160	1250	1130	1400	1750	642	3260	662	225	612	612
26	1180	1150	1300	1300	1140	1790	674	2350	702	225	674	667
27	1210	1160	1160	1500	1250	1470	791	2150	820	270	709	674
28	1120	1170	1030	1600	1400	1510	1700	2000	840	260	660	660
29	1190	1120	1300	1750	---	1590	1730	2630	800	270	667	667
30	1310	1460	1500	1900	---	1280	1000	3540	750	290	667	760
31	1210	---	1200	1750	---	1250	---	3340	---	290	674	---
TOTAL	38816	36160	37090	34600	49480	53510	32865	51518	40934	13993	14433	18575
MEAN	1252	1205	1196	1116	1767	1726	1096	1662	1364	451	466	619
MAX	1610	1460	1540	1900	3000	3030	1730	3540	4890	970	709	760
MIN	944	1110	600	560	1140	900	630	709	662	225</		

PLATTE RIVER BASIN

06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)				
		OCT										
		21...	1115	812	238	8.2	8.0	--				
		26...	1340	1180	255	7.7	10.5	10.7				
		NOV										
		23...	1420	1200	258	7.8	7.0	11.6				
		DEC										
		28...	1500	1160	292	7.3	.5	13.0				
		JAN										
		25...	1330	1150	286	7.1	.5	9.6				
		MAR										
		04...	1050	1180	275	7.4	.5	13.3				
		16...	1420	1350	263	7.8	9.0	11.1				
		APR										
		12...	1350	1080	287	7.9	18.0	9.0				
		MAY										
		11...	1410	760	341	8.3	--	9.1				
		JUN										
		08...	1410	1030	328	8.1	18.5	8.6				
		18...	1140	655	325	7.8	19.0	--				
		JUL										
		06...	1150	604	334	8.1	24.0	9.0				
		AUG										
		02...	1250	247	376	8.0	31.0	7.4				
		04...	1515	194	434	8.3	25.0	--				
		SEP										
		27...	1305	696	315	7.8	20.0	8.6				
DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACU3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACU3) (95902)	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 (MG/L AS K) (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACU3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	
OCT												
21...	1115	--	110	.00	36	5.8	9.2	.4	6.6	120	5.0	
MAR												
04...	1050	10	110	.00	35	5.7	8.0	.3	7.6	130	5.0	
JUN												
18...	1140	--	140	.00	43	7.5	9.7	.4	11	146	22	
JUL												
06...	1150	30	150	.00	47	7.7	11	.4	9.1	160	17	
AUG												
04...	1515	--	180	.00	53	11	17	.6	13	192	21	
DATE		CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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												
21...	2.4	.3	59	200	.27	438	.81	--	--	--	--	--
MAR												
04...	2.5	.3	46	192	.26	612	.86	.160	30	22	9	
JUN												
18...	4.1	.3	42	235	.32	416	1.8	--	--	--	--	--
JUL												
06...	3.8	.3	52	303	.41	494	1.7	.180	60	7	<1	
AUG												
04...	6.1	.3	49	300	.41	157	3.2	--	--	--	--	--

PLATTE RIVER BASIN

06786000 NORTH LOUP RIVER AT TAYLOR, NE

LOCATION.--Lat 41°46'37"N, long 99°22'45"W, in NE1/4SE1/4 sec.22, T.21 N., R.18 W., Loup County, Hydrologic Unit 10210006, on left bank 64 ft (20 m) downstream from bridge on U.S. Highway 183 and 0.4 mi (0.6 km) north of Taylor.

DRAINAGE AREA.--2,280 mi² (5,910 km²), approximately, of which about 180 mi² (470 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--November 1936 to current year.

REVISED RECORDS.--WSP 856: 1937. WSP 1310: 1939(M). WSP 1730: 1956-57(M). WSP 1918: 1952. WDR NE-72: Drainage area. WDR NE-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 2,248.21 ft (685.254 m) 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 (137 m) upstream at same datum.

REMARKS.--Records fair except those for winter period, which are poor. North Loup Public Power and Irrigation District canal began diversion from river in April 1939 at point 5 mi (8 km) above station. Several smaller diversions above station for irrigation.

AVERAGE DISCHARGE.--45 years (1937-82), 459 ft³/s (13.00 m³/s), 332,500 acre-ft/yr (0.410 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,870 ft³/s (81.3 m³/s) May 7, 1977, gage height, 5.98 ft (1.823 m), from floodmark, but may have been greater during ice breakup Mar. 10, 1955; maximum gage height, 9.5 ft (2.90 m) Feb. 25, 1957, ice jam, from floodmarks; minimum daily discharge, 45 ft³/s (1.27 m³/s) July 26, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,370 ft³/s (38.8 m³/s) May 14, gage height, 5.18 ft (1.579 m); maximum gage height, 7.80 ft (2.377 m) Feb. 19, backwater from ice; minimum daily discharge, 117 ft³/s (3.31 m³/s) July 23,24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	490	494	440	400	430	553	584	512	553	448	147	298
2	477	569	410	450	420	544	594	507	605	510	125	275
3	476	603	476	500	410	544	560	493	782	485	125	271
4	523	577	583	470	360	562	509	484	696	440	224	268
5	540	546	617	450	370	519	611	503	636	403	369	264
6	522	523	538	450	380	470	596	505	636	403	287	271
7	551	508	593	420	400	470	529	460	696	502	435	293
8	538	496	611	480	390	502	519	464	656	528	291	276
9	504	480	596	450	370	485	546	474	598	462	225	272
10	495	482	566	370	390	536	546	366	544	383	279	262
11	502	495	563	310	360	528	540	337	579	356	314	245
12	522	516	585	340	380	510	579	473	536	349	328	287
13	571	518	610	360	390	553	590	558	519	336	314	369
14	551	518	549	430	460	580	592	887	544	299	305	455
15	627	505	554	460	540	502	622	848	553	305	310	418
16	545	500	490	420	580	547	591	853	502	265	257	403
17	600	505	400	440	600	562	603	675	485	232	232	396
18	618	508	470	500	620	574	549	616	485	204	193	396
19	525	507	500	450	660	613	554	524	510	176	168	376
20	494	492	580	420	900	681	479	563	528	152	211	349
21	485	479	620	380	1140	511	473	737	485	148	267	336
22	482	473	660	370	1000	519	459	787	470	137	288	342
23	488	493	600	360	948	515	485	641	470	117	229	342
24	487	498	540	380	665	579	485	711	448	117	373	342
25	497	483	540	430	570	563	493	828	470	124	397	349
26	494	472	560	450	494	544	476	671	470	130	316	376
27	481	469	600	430	519	550	493	602	510	156	314	418
28	499	497	580	450	519	566	542	604	462	170	308	455
29	515	504	560	480	---	600	555	711	448	182	297	432
30	517	480	600	540	---	610	510	675	440	173	295	432
31	510	---	540	480	---	622	---	645	---	151	309	---
TOTAL	16126	15190	17131	13320	15265	17014	16264	18714	16316	8843	8532	10268
MEAN	520	506	553	430	545	549	542	604	544	285	275	342
MAX	627	603	660	540	1140	681	622	887	782	528	435	455
MIN	476	469	400	310	360	470	459	337	440	117	125	245
AC-FT	31990	30130	33980	26420	30280	33750	32260	37120	32360	17540	16920	20370
CAL YR 1981	TOTAL	164037	MEAN	449	MAX	1010	MIN	61	AC-FT	325400		
WTR YR 1982	TOTAL	172983	MEAN	474	MAX	1140	MIN	117	AC-FT	343100		

PLATTE RIVER BASIN

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06787000 CALAMUS RIVER NEAR HARROP, NE

LOCATION.--Lat 41°56'48", long 99°23'10" in NW1/4SE1/4 sec.22, T.23 N., R.18 W., Loup County, Hydrologic Unit 10210008, on right bank 44 ft (13 m) upstream from bridge on U.S. Highway 183, 12.2 mi (19.6 km) north of Taylor.

DRAINAGE AREA.--983 mi² (2,546 km²), most of which does not contribute directly to surface runoff.

PERIOD OF RECORD.--March to July 1932. August 1931 to February 1932, July 1932 to June 1939, 1955-64 and 1977, gage heights or discharge measurements only. June 1978 to current year.

GAUGE.--Water-stage recorder. Altitude of gage is 2,260 ft (689 m) from topographic map. Prior to June 5, 1978, staff gage or reference point at same site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s (33.1 m³/s) May 4, 1964, gage height, 4.80 ft (1.463 m), from floodmark; minimum daily discharge, 90 ft³/s (2.55 m³/s) Jan. 7, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 582 ft³/s (16.5 m³/s) May 29, gage height, 2.66 ft (0.811 m); minimum daily, 120 ft³/s (3.40 m³/s) Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	210	150	145	211	256	238	242	391	209	178	201
2	211	232	120	182	208	249	243	238	397	212	173	196
3	211	244	170	204	200	235	230	231	399	212	174	198
4	229	234	326	205	160	228	231	229	356	206	183	196
5	235	230	298	197	180	225	240	233	342	199	213	197
6	231	219	270	199	190	220	240	238	339	213	203	200
7	223	217	262	188	191	220	238	228	306	221	203	200
8	218	217	255	179	191	225	240	220	292	212	191	202
9	220	212	259	184	180	220	238	221	282	207	194	201
10	220	212	259	170	193	233	240	220	256	203	212	198
11	220	213	261	150	187	240	242	216	248	200	205	195
12	222	213	258	160	200	246	245	260	247	198	203	201
13	230	213	256	182	201	247	242	264	240	195	203	206
14	227	214	248	185	218	239	240	295	280	194	207	210
15	223	214	243	165	273	241	249	327	301	226	212	215
16	223	214	210	170	303	247	240	321	281	230	204	213
17	230	213	145	180	308	244	238	305	266	220	198	213
18	223	213	219	185	309	244	236	275	251	206	193	210
19	221	210	236	189	356	253	233	265	250	198	189	207
20	221	201	237	197	437	263	221	285	247	194	200	205
21	219	213	249	205	431	249	217	317	234	192	203	205
22	216	220	259	180	403	251	223	331	228	191	202	208
23	213	226	248	160	371	251	223	344	221	186	202	208
24	214	223	230	170	325	253	223	385	216	183	212	205
25	214	225	231	190	289	254	223	409	218	181	210	205
26	215	224	232	210	263	245	219	416	230	181	204	207
27	215	219	219	204	251	240	221	405	229	185	201	207
28	216	222	214	209	257	241	242	381	216	188	201	203
29	218	224	209	226	---	242	249	462	209	187	202	207
30	218	210	207	230	---	248	247	407	208	183	202	207
31	214	---	171	225	---	242	---	411	---	180	202	---
TOTAL	6823	6551	7151	5825	7286	7491	7051	9381	8180	6192	6179	6132
MEAN	220	218	231	188	260	242	235	303	273	200	199	204
MAX	235	244	326	230	437	263	249	462	399	230	213	215
MIN	211	201	120	145	160	220	217	216	208	180	173	195
AC-FT	13530	12990	14180	11550	14450	14860	13990	18610	16230	12280	12260	12160

CAL YR 1981 TOTAL 79102 MEAN 217 MAX 439 MIN 120 AC-FT 156900
WTR YR 1982 TOTAL 84242 MEAN 231 MAX 462 MIN 120 AC-FT 167100

PLATTE RIVER BASIN

06787500 CALANUS 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 210 ft (64 m) downstream from highway bridge, 1.5 mi (2.4 km) upstream from mouth, and 3 mi (5 km) northwest of Burwell.

DRAINAGE AREA.--1,060 mi² (2,750 km²), approximately, of which about 110 mi² (280 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 2,156.48 ft (657.295 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 20, 1945, nonrecording gage at site 210 ft (64 m) upstream at present datum. Apr. 21, 1945, to Jan. 28, 1964, water-stage recorder at site 210 ft (64 m) downstream at present datum. Jan. 29, 1964, to Oct. 4, 1977, water-stage recorder at site 40 ft (12 m) downstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation above station.

AVERAGE DISCHARGE.--42 years, 301 ft³/s (8.524 m³/s), 218,100 acre-ft/yr (0.269 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft³/s (50.7 m³/s) May 4, 1964, gage height, 4.35 ft (1.326 m); maximum gage height, 5.90 ft (1.798 m) Jan. 26, 1967, backwater from ice; minimum daily discharge, 54 ft³/s (1.53 m³/s) Dec. 5, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 778 ft³/s (22.0 m³/s) May 29, gage height, 4.19 ft (1.277 m); maximum gage height, 5.23 ft (1.594 m) Feb. 16, backwater from ice; minimum daily discharge, 180 ft³/s (5.10 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	290	307	260	210	310	336	354	355	596	306	264	288
2	298	327	230	250	300	334	347	350	591	312	259	279
3	299	348	256	260	290	321	312	341	628	312	254	274
4	299	344	342	250	240	309	319	340	569	299	269	275
5	320	334	372	240	260	299	321	351	509	288	302	276
6	318	321	371	240	270	292	323	355	494	289	304	281
7	320	324	360	230	280	289	327	344	455	312	300	285
8	316	326	319	220	270	289	327	327	421	301	293	281
9	316	321	320	230	250	299	340	321	397	291	277	281
10	315	321	320	210	270	313	347	323	367	281	299	277
11	316	312	320	180	240	319	355	316	342	287	311	276
12	323	317	320	220	260	326	351	341	333	283	309	288
13	344	316	310	305	260	322	350	375	325	283	314	293
14	348	326	310	320	300	328	357	388	357	284	320	295
15	339	327	300	330	350	338	369	428	397	320	324	296
16	321	319	290	280	380	330	345	414	375	315	305	298
17	332	315	220	280	390	323	337	403	365	305	296	300
18	330	308	280	300	410	327	338	376	348	292	284	292
19	315	307	310	270	405	345	330	352	340	291	277	292
20	307	312	320	250	487	359	313	358	338	285	299	281
21	302	307	330	260	526	348	310	387	327	278	295	280
22	302	307	354	240	507	340	315	420	313	274	288	284
23	302	304	329	210	478	343	322	415	310	271	285	283
24	307	309	301	230	417	345	323	492	302	271	305	274
25	311	311	301	260	375	352	317	532	298	267	299	277
26	316	308	306	290	370	344	310	558	296	267	289	285
27	310	302	320	290	352	347	312	558	311	287	291	285
28	311	304	305	310	336	355	352	543	306	279	292	286
29	317	307	306	330	---	360	364	695	300	278	300	282
30	314	290	321	340	---	357	363	665	302	276	298	286
31	304	---	290	330	---	346	---	653	---	270	295	---
TOTAL	9762	9481	9593	8165	9583	10235	10050	13076	11612	8954	9097	8530
MEAN	315	316	309	263	342	330	335	422	387	289	293	284
MAX	348	348	372	340	526	360	369	695	628	320	324	300
MIN	290	290	220	180	240	289	310	316	296	267	254	274
AC-FT	19360	18810	19030	16200	19010	20300	19930	25940	23030	17760	18040	16920
CAL YR 1981	TOTAL	110192	MEAN	302	MAX	578	MIN	180	AC-FT	218600		
WTR YR 1982	TOTAL	118138	MEAN	324	MAX	695	MIN	180	AC-FT	234300		

PLATTE RIVER BASIN

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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 (46 m) downstream from bridge on State Highway 70 at Ord.

DRAINAGE AREA.--3,750 mi² (9,710 km²), approximately, of which about 700 mi² (1,810 km²) 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 (613.300 m) National Geodetic Vertical Datum of 1929. Nov. 25, 1936, to Sept. 30, 1938, nonrecording gage at site 2 mi (3 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Flow includes return water from North Loup irrigation project.

AVERAGE DISCHARGE.--31 years (1937-38, 1952-82), 866 ft³/s (24.53 m³/s), 627,400 acre-ft/yr (0.774 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) June 7, 1962, gage height, 5.52 ft (1.682 m); maximum gage height, 6.56 ft (1.999 m) Jan. 16, 1981, ice jam; minimum daily discharge, 100 ft³/s (2.83 m³/s) Jan. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,800 ft³/s (79.3 m³/s) May 30, gage height, 4.03 ft (1.228 m); maximum gage height, 5.85 ft (1.783 m) Feb. 21, backwater from ice; minimum daily discharge, 367 ft³/s (10.4 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	850	971	700	640	1200	902	1040	946	1460	840	422	830
2	790	1060	660	680	1000	906	1040	924	1400	860	415	780
3	762	1030	696	660	860	868	979	913	1530	840	374	753
4	771	1040	768	620	640	858	979	880	1580	780	394	726
5	840	996	861	660	600	830	946	880	1420	744	735	744
6	870	981	848	720	660	851	979	946	1390	735	597	762
7	870	913	880	780	720	870	968	891	1370	735	565	762
8	850	890	875	860	760	855	946	830	1380	790	648	762
9	850	875	861	740	700	852	957	810	1350	800	565	762
10	820	881	837	600	740	907	1010	820	1270	753	605	744
11	790	885	790	640	680	976	1020	762	1210	690	597	726
12	800	868	791	700	740	1000	1030	830	1220	699	630	771
13	870	861	784	740	900	982	1020	1060	1170	699	656	800
14	850	839	743	840	1160	983	1030	1230	1480	673	682	913
15	870	834	731	860	1100	1010	1060	1550	1280	656	699	990
16	870	849	650	700	1000	1000	1030	1410	1020	656	708	924
17	913	845	540	760	1140	1010	1030	1390	946	573	648	924
18	935	866	580	680	1340	999	1030	1300	891	549	648	935
19	979	850	700	640	1400	1230	968	1210	870	518	581	928
20	979	809	1000	580	1400	1140	924	1280	880	450	573	907
21	979	815	1200	540	1500	1020	870	1290	891	443	682	896
22	1000	855	1060	540	1650	1030	870	1480	870	401	673	890
23	1010	838	1000	500	1500	1040	870	1370	820	401	735	902
24	980	861	920	560	1350	1060	880	1650	830	387	880	891
25	988	803	840	640	1250	1080	891	1760	810	367	957	870
26	974	798	760	760	1140	1060	880	1680	810	387	891	870
27	977	803	740	900	964	1080	924	1510	840	401	870	946
28	979	790	700	1100	882	1090	1040	1500	870	401	870	946
29	975	801	660	1300	---	1060	1030	1900	840	429	850	935
30	1000	760	740	1400	---	1040	990	2440	840	443	860	935
31	966	---	700	1100	---	1030	---	1690	---	436	850	---
TOTAL	27957	26327	24615	23440	28976	30619	29231	39132	33538	18536	20860	25524
MEAN	902	878	794	756	1035	988	974	1262	1118	598	673	851
MAX	1010	1090	1200	1400	1650	1230	1060	2440	1580	860	957	990
MIN	762	760	540	500	600	830	870	762	810	367	374	726
AC-PT	55450	52220	48820	46490	57470	60730	57980	77620	66520	36770	41380	50630
CAL YR 1981	TOTAL	302110	MEAN 828	MAX 5680	MIN 309	AC-FT 599200						
WTR YR 1982	TOTAL	328755	MEAN 901	MAX 2440	MIN 367	AC-FT 652100						

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 (2.3 km) northwest of North Loup.

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

GAGE.--Water-stage recorder. Altitude of gage is 1,969 ft (600.2 m), from topographic map.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,460 ft³/s (98.0 m³/s) Aug. 5, 1981, gage height, 10.56 ft (3.219 m), from floodmark, from rating curve extended above 200 ft³/s (5.66 m³/s) on basis of indirect measurement of peak flow; no flow at times in 1980-81.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,181 ft³/s (90.1 m³/s) May 30, gage height, 3.47 ft (1.058 m), from floodmark; maximum gage height, 5.11 ft (1.558 m) Feb. 18, backwater from snowdrift in channel; minimum daily discharge, 0.03 ft³/s (0.0008 m³/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.16	.92	.21	.09	3.2	.73	.61	1.3	.08	.82	.08
2	.06	.31	1.3	.24	.09	2.7	.83	.44	1.0	.09	.62	.10
3	.08	.32	.80	.18	.05	2.4	.96	.46	.86	.13	.52	.09
4	.09	.25	.75	.21	.05	2.4	.84	.42	1.1	.12	.91	.09
5	.09	.23	.74	.23	.15	2.2	.72	.51	1.2	16	1.3	.09
6	.10	.23	.69	.21	.24	1.9	.71	.53	.84	17	.93	.09
7	.11	.23	.68	.14	.16	2.0	.69	.30	.66	2.4	.74	.09
8	.10	.15	.68	.16	.16	2.0	.77	.24	.53	1.1	1.0	.10
9	.11	.10	.70	.17	.21	1.8	.78	.41	.39	.49	1.7	.15
10	.15	.08	.65	.16	.18	2.1	.68	.36	.27	.40	5.2	.10
11	.16	.06	.60	.15	.16	2.1	.73	.23	.25	.28	2.5	.08
12	.22	.05	.55	.12	.15	1.7	.68	.20	.21	.20	1.2	.12
13	.21	.06	.49	.09	.16	1.4	.55	.23	.18	.19	.35	.10
14	.17	.10	.43	.05	.19	1.2	.52	.48	.16	.23	.22	.10
15	.16	.10	.40	.14	.27	1.2	.79	.59	.28	.27	.18	.09
16	.16	.11	.23	.15	.41	1.2	1.0	.53	.27	.31	.16	.09
17	.15	.13	.36	.08	1.6	1.1	.75	.48	.16	.30	.13	.10
18	.08	.10	.35	.11	.56	1.0	.60	.49	.19	.29	.09	.04
19	.06	.10	.36	.11	.86	2.5	.52	.44	.16	.46	.09	.03
20	.05	.14	.44	.10	110	2.4	.42	.47	.13	.68	.12	.09
21	.06	.11	.50	.10	60	1.7	.30	.35	.09	.39	.12	.11
22	.07	.12	.54	.11	29	1.5	.27	.42	.06	.35	.16	.11
23	.07	.14	.49	.13	10	1.3	.28	.45	.09	.38	.09	.11
24	.10	.12	.41	.10	4.8	1.4	.29	.64	.08	.41	.23	.13
25	.09	.11	.36	.10	3.5	1.5	.32	1.1	.06	.42	.35	.12
26	.12	.10	.33	.11	3.1	1.3	.30	1.5	.05	.40	.21	.10
27	.16	.09	.28	.12	3.2	1.1	.34	1.3	.06	.33	.62	.08
28	.15	.10	.28	.11	3.1	1.2	1.1	1.1	.05	.49	.56	.08
29	.12	.10	.29	.12	---	1.1	1.5	1.8	.07	1.0	.26	.07
30	.11	.46	.28	.10	---	1.1	.94	.72	.06	1.4	.14	.08
31	.13	---	.26	.10	---	.84	---	12	---	1.3	.10	---
TOTAL	3.53	4.46	16.14	4.21	373.02	52.54	19.91	101.08	10.81	47.89	21.62	2.81
MEAN	.11	.15	.52	.14	13.3	1.69	.66	3.26	.36	1.54	.70	.094
MAX	.22	.46	1.3	.24	110	3.2	1.5	.72	1.3	.17	5.2	.15
MIN	.04	.05	.23	.05	.05	.84	.27	.20	.05	.08	.09	.03
AC-FT	7.0	8.8	32	8.4	740	104	39	200	21	95	43	5.6

CAL YR 1981 TOTAL 1805.86 MEAN 4.95 MAX 1330 MIN .00 AC-FT 3580
WTR YR 1982 TOTAL 658.02 MEAN 1.80 MAX 110 MIN .03 AC-FT 1310

PLATTE RIVER BASIN

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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 (94 m) downstream from bridge on U.S. Highway 281, 3 mi (5 km) north of St. Paul, and 4 mi (6 km) upstream from confluence with Middle Loup River.

DRAINAGE AREA.--4,290 mi² (11,100 km²), approximately, of which about 1,240 mi² (3,210 km²) 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 (536.232 m), adjusted, National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to Oct. 1, 1954.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by diversions and ground-water withdrawals for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--75 years, 968 ft³/s (27.41 m³/s), 701,300 acre-ft/yr (0.865 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,000 ft³/s (2,550 m³/s), estimated, June 6, 1896, gage height, 14.9 ft (4.54 m), from floodmark, datum then in use; minimum daily since 1931, 85 ft³/s (2.41 m³/s) Aug. 8, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,480 ft³/s (127 m³/s) May 28, gage height, 5.14 ft (1.567 m); maximum gage height, 8.26 ft (2.518 m) Feb. 22, backwater from ice; minimum daily discharge, 263 ft³/s (7.45 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	864	1050	840	740	1350	1160	986	1100	1690	824	321	868
2	918	1180	960	800	1300	1180	1070	1060	1500	891	312	834
3	891	1300	1050	760	1250	1140	1080	1060	1570	981	279	818
4	860	1200	1150	700	1160	1160	1050	1000	1720	965	263	806
5	876	1120	1280	760	740	1100	1070	1080	1720	917	281	806
6	925	1040	1310	840	800	1200	1130	1120	1520	2520	503	818
7	913	1000	1320	900	920	1250	1100	1060	1430	1010	460	818
8	903	997	1380	1000	880	1300	1170	996	1410	800	422	806
9	926	974	1410	900	840	1400	1110	922	1370	1000	525	806
10	896	992	1370	740	920	1500	1100	879	1240	1700	730	782
11	868	965	1310	840	860	1400	1080	861	1110	986	671	770
12	869	934	1360	980	940	1350	980	802	1080	854	626	782
13	877	908	1340	1100	1250	1280	1080	890	1050	803	644	734
14	955	840	1430	1160	1400	1150	1070	1170	1100	783	663	800
15	897	837	1300	1000	1300	1110	1150	1400	2150	731	652	959
16	955	841	900	940	1160	1130	1220	1800	1360	681	659	1070
17	965	844	600	1000	1300	1150	1150	1600	1150	678	663	1060
18	956	846	640	800	1390	1130	1100	1450	1030	645	613	1080
19	947	918	800	740	1600	1360	1050	1350	975	592	607	1080
20	981	853	1100	680	1700	1610	956	1400	954	565	592	1030
21	902	790	1400	660	1800	1300	886	1450	966	478	539	991
22	981	804	1300	640	1900	1080	856	1650	983	423	673	931
23	1020	861	1200	600	1750	980	830	1550	919	351	659	894
24	1020	937	1100	700	1600	974	830	1800	886	336	842	876
25	987	936	1040	800	1500	1080	872	2000	961	310	1010	839
26	937	984	960	1000	1400	1120	858	1850	895	294	1000	821
27	950	996	900	1200	1250	1170	928	1640	915	289	993	801
28	961	1020	830	1400	1200	1200	1200	1860	908	299	951	890
29	956	983	760	1500	---	1120	1260	2670	903	317	949	895
30	974	940	880	1600	---	1100	1180	3260	858	341	959	930
31	996	---	840	1250	---	1060	---	2680	---	332	903	---
TOTAL	28926	28890	34060	28730	35460	37244	31402	45410	36323	22696	20024	26395
MEAN	933	963	1099	927	1266	1201	1047	1465	1211	732	646	880
MAX	1020	1300	1430	1600	1900	1610	1260	3260	2150	2520	1010	1080
MIN	860	790	600	600	740	974	830	802	858	289	263	734
AC-FT	57370	57300	67560	56990	70330	73870	62290	90070	72050	45020	39720	52350
CAL YR 1981	TOTAL	345686	MEAN	947	MAX	12500	MIN	245	AC-FT	685700		
WTR YR 1982	TOTAL	375560	MEAN	1029	MAX	3260	MIN	263	AC-FT	744900		

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 micromhos Jan. 18, 1976; minimum daily, 138 micromhos 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 (421,000 tonnes) June 22, 1947; minimum daily, 20 tons (18 tonnes) Aug. 3, 1946, Feb. 22, 1953.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)					
OCT											
26...	1035	921	208	7.6	7.0	11.5					
NOV											
23...	1050	903	207	7.6	4.0	12.4					
DEC											
28...	1150	834	213	7.2	.5	13.2					
JAN											
18...	1120	789	244	7.0	.5	11.4					
MAR											
16...	1110	1130	221	7.5	7.0	11.6					
APR											
12...	1050	940	222	7.6	14.0	9.6					
MAY											
11...	1045	810	216	8.1	17.0	9.3					
JUN											
08...	1055	1350	237	7.9	18.5	8.4					
JUL											
06...	1420	1960	198	7.3	24.0	6.5					
AUG											
02...	1000	320	263	8.2	27.0	8.8					
SEP											
27...	0950	772	232	7.6	16.5	8.8					

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACU3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACU3) (95902)	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)
MAR											
16...	1110	10	90	.00	28	4.9	7.1	.3	7.4	110	<5.0
JUL											
06...	1420	200	91	.00	28	5.0	6.3	.3	12	100	10

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, 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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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											
16...	2.2	.3	48	--	--	--	.85	.170	30	38	4
JUL											
06...	2.7	.4	31	162	.22	857	1.5	.290	30	100	4

PLATTE RIVER BASIN

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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 (5 m) downstream from bridge on county road, 0.4 mi (0.6 km) upstream from small tributary, and 4.7 mi (7.6 km) northwest of Spalding.

DRAINAGE AREA.--762 sq mi, approximately, of which about 50 mi² (130 km²) 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 (577.974 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 4, 1961, at two sites 6.5 mi (10.5 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--34 years, 154 ft³/s (4.361 m³/s), 111,600 acre-ft/yr (0.138 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s (113 m³/s) June 23, 1947, gage height, 7.50 ft (2.286 m), site and datum then in use, from rating curve extended above 640 ft³/s (18.1 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 30 ft³/s (0.85 m³/s) Jan. 30, 1946.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 18	0930	Ice backwater	*5.60 1.707	June 14	2230	318 9.0	4.06 1.237
June 1	2100	*990 28.0	5.41 1.649	June 18	0230	351 9.9	4.15 1.265

Minimum discharge, 100 ft³/s (2.83 m³/s) Jan. 10, Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	142	294	140	160	224	165	172	763	118	110	147
2	129	193	281	150	160	210	144	169	935	152	108	143
3	126	210	252	130	140	196	144	165	664	146	106	138
4	128	220	223	150	120	194	138	146	604	133	107	137
5	132	194	201	170	120	186	159	161	452	122	121	138
6	129	173	206	140	100	179	165	165	485	154	117	140
7	139	167	213	110	120	174	165	165	456	177	116	138
8	126	160	219	130	120	146	177	159	434	136	111	138
9	138	150	225	120	130	163	181	156	324	127	112	138
10	130	150	228	100	140	179	184	154	260	129	123	140
11	127	156	230	110	150	181	177	152	191	112	130	142
12	132	156	231	110	170	186	177	148	163	113	130	150
13	142	153	247	120	200	186	184	152	161	113	130	154
14	154	151	227	110	230	186	167	165	233	117	133	156
15	157	152	219	130	260	189	181	169	269	127	134	151
16	153	149	160	120	320	191	181	169	257	161	133	150
17	159	148	110	130	400	189	167	167	210	138	130	150
18	151	147	140	140	500	174	165	169	263	127	128	142
19	147	154	150	140	800	227	172	172	221	124	127	137
20	149	152	170	140	389	266	156	181	215	127	211	134
21	149	155	190	130	354	242	148	196	202	126	207	132
22	142	163	200	150	368	215	148	248	186	103	236	136
23	137	175	190	130	386	213	148	210	161	109	141	138
24	140	181	180	150	380	224	144	233	154	111	205	133
25	144	177	160	170	454	215	144	304	174	111	173	131
26	144	177	170	180	411	207	142	420	133	123	151	131
27	142	170	160	190	297	194	144	550	124	122	147	130
28	140	173	140	200	216	184	167	735	102	120	144	128
29	137	171	150	190	---	174	179	675	112	116	144	123
30	138	240	180	180	---	184	177	653	117	113	150	125
31	141	---	160	170	---	172	---	582	---	111	150	---
TOTAL	4333	5059	6106	4430	7595	6050	4890	8062	9025	3918	4365	4170
MEAN	140	169	197	143	271	195	163	260	301	126	141	139
MAX	159	240	294	200	800	266	184	735	935	177	236	156
MIN	126	142	110	100	100	146	138	146	102	103	106	123
AC-FT	8590	10030	12110	8790	15060	12000	9700	15990	17900	7770	8660	8270

CAL YR 1981 TOTAL 54322 MEAN 149 MAX 677 MIN 86 AC-FT 107700
WTR YR 1982 TOTAL 68003 MEAN 186 MAX 935 MIN 100 AC-FT 134900

LOCATION (REVISED).--Lat 41°23'45", long 98°00'15", in SE1/4SE1/4 sec.33, T.17 N., R.6 W., Nance County, Hydrologic Unit 10210010, on left bank upstream from highway bridge, 3 mi (5 km) northwest of Fullerton and 7.2 mi (11.6 km), upstream from mouth.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1086: Drainage area. WSP 1390: 1932, 1941, 1943. WSP 1710: 1951(P), 1952(N), 1953, 1955(N).

REMARKS.—Records good except those for winter period, which are poor. Natural flow affected by power developments, ground-water and surface-water withdrawals for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64,700 ft³/s (1,830 m³/s) Aug. 13, 1966, gage height, 16.90 ft (5.151 m), present datum, from high point on surge, from rating curve extended above 6,600 ft³/s (187 m³/s) on basis of flow-over-highway-embankment and contracted-opening measurement of peak flow; minimum daily, 30 ft³/s (0.85 m³/s) July 18, 1974.

Date	Time	Discharge		Gate height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
May 31	0200	1680	47.6	4.80	1.463
July 10	0330	*3390	96.0	6.66	2.030

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	219	399	210	200	419	226	305	610	249	127	200
2	167	249	377	220	190	395	226	267	724	267	148	193
3	196	298	364	200	180	362	189	245	713	291	127	187
4	193	321	322	210	170	338	200	277	519	327	76	182
5	170	299	307	210	170	312	194	267	284	277	103	178
6	167	289	299	190	150	289	211	271	350	523	131	168
7	204	263	303	160	160	258	208	284	554	323	115	160
8	186	252	307	180	180	258	223	284	625	305	104	161
9	196	252	314	160	180	236	220	281	559	463	153	162
10	194	237	314	150	190	234	220	284	458	1300	368	157
11	205	230	325	160	200	248	214	284	402	362	187	164
12	209	239	333	160	240	253	220	284	362	254	184	187
13	186	227	329	170	260	253	223	284	316	263	192	175
14	206	249	337	160	300	254	232	288	294	425	189	170
15	209	231	344	190	330	248	254	284	660	302	164	172
16	199	230	300	180	390	251	264	284	406	228	199	169
17	201	249	230	190	450	264	267	261	419	220	166	185
18	227	229	170	200	620	284	267	264	529	252	181	183
19	217	233	220	200	1100	441	251	281	415	217	164	179
20	198	238	290	200	1000	316	248	294	350	205	180	169
21	185	239	330	180	800	274	245	398	338	214	257	181
22	194	249	320	200	755	235	245	350	338	177	244	178
23	189	239	310	190	719	238	235	377	323	164	251	178
24	184	247	280	200	560	251	229	463	305	131	295	173
25	178	243	260	220	520	281	223	594	288	153	325	169
26	187	258	270	230	500	254	232	559	309	190	267	176
27	201	246	270	240	470	248	241	549	305	259	210	177
28	236	246	250	260	450	245	261	992	267	209	214	179
29	203	248	220	240	---	245	309	686	274	164	205	178
30	192	301	250	230	---	241	316	856	229	178	209	190
31	201	---	240	220	---	229	---	1270	---	158	199	---
TOTAL	6067	7540	9184	6110	11434	8654	7093	12667	12525	9050	5924	5280
MEAN	196	251	296	197	408	279	236	409	418	292	191	176
MAX	236	321	399	260	1100	441	316	1270	724	1300	368	200
MIN	167	219	170	150	150	229	189	245	229	131	76	157
AC-FT	12030	14960	18220	12120	22680	17170	14070	25120	24840	17950	11750	10470
CAL YR 1981	TOTAL	79266	MEAN 217	MAX 4470	MIN 35	AC-FT 157200						
WTR YR 1982	TOTAL	101528	MEAN 278	MAX 1300	MIN 76	AC-FT 201400						

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR PULLERTON, 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 current year.

WATER TEMPERATURES: July 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 550 micromhos Jan. 1, 1978; minimum daily, 119 micromhos Nov. 23, 1980.

WATER TEMPERATURES: Maximum, 36.0°C July 7, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 362 micromhos Dec. 20; minimum daily, 205 micromhos Feb. 21.

WATER TEMPERATURES: Maximum, 33.0°C Aug. 2; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
OCT										
21...	1145	172	266	8.1	8.0	10	120	.00	38	
NOV										
19...	1020	220	280	8.0	3.0	5	130	.00	43	
DEC										
16...	1100	100	265	8.1	.5	30	120	.00	38	
JAN										
14...	1025	156	--	7.7	.0	5	140	.00	43	
FEB										
10...	1130	195	--	7.9	.0	5	120	.00	38	
MAR										
09...	1000	228	280	8.2	.5	15	130	.00	41	
APR										
07...	1335	207	285	8.2	2.0	30	130	.00	40	
MAY										
06...	1000	271	318	7.8	17.5	5	130	.00	42	
JUN										
07...	1300	591	290	7.8	21.0	70	120	.00	37	
JUL										
28...	1530	184	285	8.5	29.0	75	120	.00	39	
SEP										
02...	1430	197	268	7.8	25.5	25	110	.00	35	
23...	1300	180	290	7.9	21.0	15	120	.00	37	
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 LAB 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)
OCT										
21...	6.2	7.4	.3	7.6	120	6.0	2.2	.2	43	
NOV										
19...	6.5	8.1	.3	6.9	140	<5.0	3.4	.2	40	
DEC										
16...	6.3	8.9	.4	7.2	130	6.0	2.8	.2	40	
JAN										
14...	7.1	9.2	.4	7.6	150	<5.0	3.2	.3	53	
FEB										
10...	6.1	7.6	.3	6.5	130	5.0	1.7	.3	48	
MAR										
09...	7.0	8.5	.3	8.2	150	5.0	2.9	.3	40	
APR										
07...	6.9	8.4	.3	6.8	150	6.0	2.2	.3	37	
MAY										
06...	7.1	9.3	.4	7.2	150	5.0	2.9	.3	32	
JUN										
07...	6.9	13	.5	7.9	129	7.0	6.3	.3	33	
JUL										
28...	6.3	8.5	.3	8.6	143	10	2.4	.3	38	
SEP										
02...	6.0	7.6	.3	7.6	124	11	2.4	.2	40	
23...	6.1	7.4	.3	6.6	140	9.0	1.9	.2	41	

PLATTE RIVER BASIN

06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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 21...	184	.25	85.4	.32	.270	.180	10	17	7
NOV 19...	--	--	--	.29	.170	.160	30	50	19
DEC 16...	190	.26	51.3	.45	.160	.150	20	48	25
JAN 14...	--	--	--	.67	.210	.170	30	28	24
FEB 10...	194	.26	102	.61	.190	.010	20	29	22
MAR 09...	205	.28	126	.40	.200	.190	40	45	16
APR 07...	199	.27	111	.29	.270	.160	30	<9	15
MAY 06...	196	.27	143	<.10	--	.170	20	24	12
JUN 07...	190	.26	303	.28	.400	.160	20	85	7
JUL 28...	199	.27	98.9	<.10	.550	.220	30	16	4
SEP 02...	185	.25	98.4	.14	.250	.220	30	14	7
23...	195	.27	94.8	.33	.210	.230	20	14	8

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	275	294	295	270	257	308	302	297	338	332	294
2	282	257	301	303	272	270	329	310	266	318	314	268
3	279	305	287	318	258	270	320	297	260	319	335	266
4	282	299	280	312	206	268	319	297	270	324	335	267
5	286	294	294	302	252	278	312	318	272	308	307	272
6	281	285	300	307	245	279	305	309	283	303	292	267
7	281	279	299	311	252	279	303	306	276	296	287	278
8	289	288	299	339	285	289	295	305	272	285	297	272
9	278	289	315	325	285	302	298	315	275	353	304	273
10	272	292	293	321	285	300	310	299	291	212	236	265
11	283	287	303	301	281	305	307	297	297	286	274	272
12	257	292	282	279	280	308	303	301	303	315	292	274
13	288	285	279	289	261	318	292	302	311	319	278	265
14	280	297	290	325	261	320	295	300	315	342	274	272
15	274	295	291	320	261	315	288	277	274	313	305	265
16	272	285	312	310	259	311	306	292	280	312	274	267
17	272	285	325	312	255	310	303	292	285	318	294	267
18	272	287	352	311	258	311	305	306	263	297	277	255
19	259	285	357	295	225	314	304	290	258	299	277	268
20	286	285	362	299	233	339	305	282	281	308	288	275
21	285	295	291	288	205	303	305	283	304	301	284	267
22	278	292	300	295	217	300	305	304	289	300	264	276
23	287	293	290	295	237	310	302	276	293	300	247	277
24	284	291	302	292	249	308	313	266	296	346	224	284
25	280	298	308	297	242	310	304	267	297	335	252	278
26	289	291	321	293	230	324	307	305	300	308	244	274
27	287	289	321	288	230	321	309	307	295	343	267	277
28	288	282	311	285	225	327	290	262	306	287	263	275
29	272	281	319	308	---	313	307	264	297	302	266	274
30	292	285	325	285	---	329	309	264	330	301	275	277
31	277	---	361	271	---	331	---	248	---	301	284	---

PLATTE RIVER BASIN

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06792000 CEDAR RIVER NEAR FULLERTON, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	8.0	.0	.0	.0	2.5	8.0	12.0	15.0	20.0	30.0	24.0
2	16.0	10.0	.0	.0	.0	2.0	8.0	21.0	18.0	27.0	33.0	23.0
3	13.0	10.0	.0	.0	.0	1.0	6.0	22.0	21.0	27.0	28.0	20.0
4	15.0	10.0	.0	.0	.0	.0	6.0	24.0	16.0	27.0	27.0	27.0
5	15.0	7.0	.0	.0	.0	.0	5.0	18.0	21.0	25.0	28.0	25.0
6	15.0	8.0	1.0	.0	.0	.0	5.0	16.0	20.0	25.0	26.0	22.0
7	12.0	6.0	.0	.0	.0	.0	4.0	13.0	18.0	22.0	25.0	24.0
8	16.0	7.0	.0	.0	.0	.0	4.0	15.0	21.0	24.0	27.0	24.0
9	15.0	6.0	.0	.0	.0	.0	6.5	22.0	15.0	22.0	26.0	27.0
10	11.0	6.5	.0	.0	.0	1.0	9.0	17.0	18.0	21.0	25.0	26.0
11	15.0	7.5	.0	.0	.0	2.0	11.0	14.0	23.5	25.0	22.0	25.0
12	14.0	8.5	.0	.0	.0	2.5	11.5	20.0	25.0	28.0	22.0	21.0
13	17.0	9.0	2.0	.0	.0	7.0	12.0	22.0	25.0	24.0	27.0	18.0
14	12.0	8.0	.0	.0	.0	10.0	15.0	21.0	21.0	25.0	25.0	15.0
15	8.0	6.0	.0	.0	.0	7.5	15.0	16.0	21.0	25.0	26.0	14.0
16	12.0	6.0	.0	.0	.0	7.0	11.0	22.0	20.0	26.0	28.0	14.0
17	12.0	6.0	.0	.0	.0	6.0	10.0	18.0	21.0	22.0	25.0	16.0
18	6.0	5.0	.0	.0	.0	4.0	11.0	22.0	20.0	27.0	24.0	12.0
19	6.0	4.5	.0	.0	1.0	2.0	8.0	20.0	19.0	27.0	26.0	15.0
20	14.0	2.5	.0	.0	.5	4.0	10.0	20.0	20.0	28.0	24.0	13.0
21	6.0	2.0	.0	.0	.5	5.0	12.0	17.0	21.0	27.0	23.0	13.0
22	4.0	4.5	.0	.0	1.0	8.0	16.0	18.0	21.0	26.0	28.0	15.0
23	6.0	6.5	.0	.0	1.5	6.0	18.0	21.0	21.0	27.0	26.0	15.0
24	4.0	7.0	.0	.0	.5	6.0	18.0	18.0	21.0	32.0	23.0	20.0
25	4.0	5.0	.0	.0	.0	4.0	20.0	15.0	25.0	28.0	20.0	15.0
26	8.0	3.0	.0	.0	.0	6.0	11.0	17.0	21.0	27.0	21.0	22.0
27	7.0	5.0	.0	.0	2.0	5.0	12.0	17.0	26.0	25.0	24.0	15.0
28	18.0	2.0	.0	.0	2.0	7.0	9.0	20.0	23.0	24.0	26.0	16.0
29	10.0	2.0	.0	.0	---	6.0	6.0	17.0	26.0	25.0	26.0	16.0
30	13.0	2.0	.0	.0	---	8.0	8.0	20.0	22.0	22.0	26.0	16.0
31	8.0	---	.0	.0	---	8.0	---	15.0	---	24.0	27.0	---

PLATTE RIVER BASIN

06792499 LOUP RIVER POWER CANAL AT DIVERSION NEAR GENOA, NE
(National stream-quality accounting network station)

LOCATION.--Lat 41°23'31", long 97°49'20", in NE1/4NW1/4 sec.6, T.16 N., R.4 W., Nance County, Hydrologic Unit 10210009, at diversion structure, 2 mi (3 km) upstream from gaging station and 5.5 mi (8.8 km) southwest of Genoa.

PERIOD OF RECORD.--Water year 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to September 1981.

WATER TEMPERATURES: October 1972 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 479 micromhos June 1, 1977; minimum daily, 178 micromhos Aug. 16, 1980.

WATER TEMPERATURES: Maximum, 36.5°C July 11, 13, 14, 1980; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STRE- AM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCUCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)
NOV										
1R...	1320	2360	280	8.5	9.5	23	10.0	K57	840	110
JAN										
14...	1340	1130	--	8.0	.5	4.7	10.0	K150	K94	150
MAR										
0R...	1730	1440	260	7.9	.5	39	13.7	<10	560	120
MAY										
05...	1500	2290	270	8.0	14.1	19	10.2	K140	3500	120
JUN										
07...	1545	2680	300	8.2	24.5	69	7.8	600	1400	130
JUL										
2R...	1330	802	326	8.8	27.0	400	6.6	K6300	37000	140
SEP										
23...	1430	1670	290	8.2	17.0	8.3	9.5	130	120	110

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

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (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)
NOV										
1R...	.00	34	5.3	8.0	.4	6.9	120	<5.0	2.2	.2
JAN										
14...	.00	48	7.6	11	.4	8.7	170	5.0	3.3	.4
MAR										
0R...	.00	38	5.8	7.4	.3	7.8	130	<5.0	2.9	.3
MAY										
05...	.00	39	6.3	9.4	.4	8.2	140	6.0	3.3	.4
JUN										
07...	.00	40	6.6	11	.4	8.6	138	11	3.4	.3
JUL										
2R...	.00	43	6.8	9.0	.4	10	150	12	4.0	.4
SEP										
23...	.00	34	6.0	8.3	.4	7.1	135	10	2.4	.3

PLATTE RIVER BASIN

06792499 LOUP RIVER POWER CANAL AT DIVERSION NEAR GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS STO2) (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, 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, DIS- SOLVED (MG/L AS P) (00666)
NOV 1R...	52	189	--	.26	1200	.59	.060	1.50	.220	.160
JAN 1R...	6A	258	254	.35	787	1.0	.150	.78	.210	.190
MAR 0R...	47	190	--	.26	995	.63	.170	.76	.190	.160
MAY 05...	40	205	197	.28	1270	<.10	.120	1.40	.250	.110
JUN 07...	44	227	208	.31	1640	.38	.060	1.40	.300	.180
JUL 2R...	40	219	216	.30	474	.54	.110	4.50	.830	.200
SEP 23...	4R	198	197	.27	893	.61	.680	1.40	.290	.200

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 1R...	1320	8	0	8	200	90	110	1	<1	<10
MAR 0R...	1730	7	0	7	300	200	120	<1	<1	<10
MAY 05...	1500	8	0	8	100	0	110	7	<3	10
JUN 07...	1545	10	1	9	200	70	130	1	<1	<10
JUL 2R...	1330	11	2	9	400	300	150	<1	<1	30

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 1R...	--	<10	<1	<3	6	3	3	1500	1500	22
MAR 0R...	--	<10	3	3	8	5	3	4300	4300	22
MAY 05...	--	<10	1	<1	19	14	5	1600	1600	10
JUN 07...	--	<10	2	<1	10	0	--	4100	4100	34
JUL 2R...	20	10	9	<1	42	35	7	25000	25000	73

PLATTE RIVER BASIN

06792499 LOUP RIVER POWER CANAL AT DIVERSION NEAR GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
NOV 1R...	4	0	4	70	70	4	.2	--	<.1	<1
MAR 0R...	8	6	2	120	110	12	.1	--	<.1	3
MAY 05...	14	--	<1	100	90	10	.2	--	<.1	7
JUN 07...	2	0	3	170	170	2	.1	--	<.1	8
JUL 2R...	9	--	<1	980	980	3	.1	.0	.1	30

DATE	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI) (01066)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELF- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELF- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE) (01146)	SELF- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 1R...	--	4	1	0	1	<1	<1	20	--	<3
MAR 0R...	2	1	1	0	1	<1	<1	40	--	10
MAY 05...	6	1	1	0	1	<1	<1	50	--	<12
JUN 07...	--	<1	1	0	1	1	<1	40	--	<3
JUL 2R...	--	<1	1	0	1	<1	<1	110	110	5

PLATTE RIVER BASIN

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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., Mance County, Hydrologic Unit 10210009, at skimming weir on downstream end of settling basin on left bank, 2 mi (3 km) downstream from point of diversion and 3.5 mi (5.6 km) 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 (477.396 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1956, at datum 3.0 feet higher.

REMARKS.--Records good. Canal diverts from Loup River in sec.6, T.16 N., R.4 W.; water is used in powerplants near Monroe and Columbus and is returned to Platte River 1.5 mi (2.4 km) downstream from Loup River. Diversion began Dec. 2, 1936.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,410 ft³/s (96.6 m³/s) Apr. 27, 1944; no flow Aug. 16, 24-27, 30, 31, 1966, flood damage to canal being repaired.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,870 ft³/s (81.3 m³/s) Apr. 29; minimum daily, 45 ft³/s (1.27 m³/s) Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2080	2360	2660	1960	1880	1790	2190	2660	2740	1900	715	1600
2	2130	2670	2600	1780	1840	1790	2080	2400	2740	1900	668	1520
3	2120	2710	2700	1420	1920	578	2350	2180	2800	2180	528	1460
4	2110	2710	2670	1180	1900	379	2200	2150	2840	2030	472	1420
5	2030	2720	2610	1430	1850	942	2240	2130	2780	1910	444	1310
6	2100	2730	2500	1560	1790	815	2270	2290	2730	2530	465	1390
7	2310	2650	2490	1460	1820	710	2340	2340	2820	2530	955	1420
8	2290	2470	1520	1640	1760	1100	2380	2120	2720	1950	1190	1450
9	2450	2560	1760	1510	1740	959	2370	1870	2780	1590	981	1510
10	2390	2440	2550	1280	1860	1950	2330	1800	2810	2180	1670	1430
11	2240	2420	2560	1190	1900	2030	2130	2210	2710	2400	1410	1410
12	2130	2360	2540	1180	1790	1940	1960	1930	2590	1870	1410	1590
13	2300	2320	2500	1090	1800	2080	1890	1750	2330	1400	1290	1680
14	2480	2320	2500	1130	1820	2630	2130	1920	2390	2360	1280	1830
15	2830	2380	860	1340	1920	2630	2400	2500	2750	1960	1260	1720
16	2450	2360	45	1540	1950	2610	2500	2530	2620	1600	1350	1940
17	2490	2330	291	1660	1930	2660	2600	2510	2790	1220	1270	2050
18	2610	2330	387	1790	1950	2630	2620	2790	2790	1140	1250	2000
19	2750	2550	514	1580	1880	2620	2370	2610	2790	1090	1120	1930
20	2420	1990	610	1660	1850	2650	2290	2600	2460	1010	1060	1820
21	2350	1340	1060	1830	1840	2650	2340	2730	2480	981	1120	1780
22	2390	2320	1480	1900	1720	2570	2150	2830	2560	920	1370	1760
23	2450	2260	1410	1790	1720	2410	1940	2800	2460	853	1420	1680
24	2600	2320	1940	1800	1620	2280	1910	2770	2310	779	1510	1760
25	2300	2420	2210	1770	1240	2490	1750	2470	2360	684	1550	1740
26	2520	2470	2350	1720	1700	2490	1800	2640	2180	692	1830	1670
27	2300	2490	2280	1770	1820	2410	1910	2760	2180	1060	1810	1710
28	2320	2440	2250	1820	1640	2290	2460	2720	2280	886	1850	1700
29	2260	2360	2200	1810	---	2320	2870	2700	2180	779	1750	1750
30	2270	2360	2250	1810	---	2270	2820	2720	2290	731	1660	1860
31	2290	---	2170	1860	---	2190	---	2680	---	747	1660	---
TOTAL	72760	72160	58467	49260	50450	61863	67590	75110	77260	45862	38318	49890
MEAN	2347	2405	1886	1589	1802	1996	2253	2423	2575	1479	1236	1663
MAX	2830	2730	2700	1960	1950	2660	2870	2830	2840	2530	1850	2050
MIN	2030	1340	45	1090	1240	379	1750	1750	2180	684	444	1310
AC-FT	144300	143100	116000	97710	100100	122700	134100	149000	153200	90970	76000	98960
CAL YR 1981	TOTAL	665177	MEAN	1822	MAX	2900	MIN	36	AC-FT	1319000		
WTR YR 1982	TOTAL	718990	MEAN	1970	MAX	2870	MIN	45	AC-FT	1426000		

PLATTE RIVER BASIN

06793000 LOUP RIVER NEAR GENOA, NE
(National stream-quality accounting network station)

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 (4 m) downstream from bridge on State Highway 39, 2 mi (3 km) south of Genoa, 3 mi (5 km) upstream from Beaver Creek, and 6 mi (10 km) downstream from diversion dam of Loup River Public Power District.

DRAINAGE AREA.--14,400 mi² (37,300 km²), approximately, of which about 5,650 mi² (14,600 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (469.432 m) National Geodetic Vertical Datum of 1929, Aug. 17, 1928, to June 30, 1932, nonrecording gage at present site at datum 1.49 ft (0.454 m) 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 (90 m) upstream at present datum.

REMARKS.--Records fair except those for winter period, which are 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 (10 km) upstream and returns to Platte River below mouth of Loup River; diversion began Dec. 2, 1936.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 129,000 ft³/s (3,650 m³/s) Aug. 13, 1966, gage height, 13.93 ft (4.246 m), from rating curve extended above 42,000 ft³/s (1,190 m³/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, 18,900 ft³/s (535 m³/s) May 30, gage height, 8.89 ft (2.710 m); maximum gage height, 12.35 ft (3.764 m) Feb. 21, backwater from ice; minimum daily discharge, 12.0 ft³/s (0.34 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	19	1140	90	130	2600	224	112	4460	23	19	106
2	29	157	906	76	120	2800	232	31	1920	25	18	96
3	28	258	347	62	110	3100	250	33	1670	25	41	96
4	28	413	137	50	100	2400	280	24	1610	24	32	86
5	27	66	93	35	100	1900	318	30	1170	29	34	78
6	25	39	252	28	100	2000	188	25	660	103	33	57
7	25	25	183	22	120	2100	276	26	527	358	35	45
8	24	23	1040	18	130	2900	398	25	502	46	42	40
9	23	23	1340	16	140	3630	341	22	546	41	50	38
10	23	21	91	14	150	1640	365	22	219	1950	71	35
11	22	20	85	14	160	3150	367	27	68	211	57	33
12	23	20	87	15	200	3240	426	24	54	31	54	34
13	54	19	161	15	220	1000	608	21	47	22	53	34
14	21	20	150	15	250	300	357	27	75	336	53	34
15	60	20	2000	16	350	136	173	283	3090	29	52	31
16	28	19	1500	20	600	159	138	867	5860	23	52	29
17	59	18	200	35	1300	133	298	178	1060	19	49	33
18	31	18	70	50	2500	165	173	112	1000	18	47	30
19	26	19	68	70	5000	637	70	30	573	17	46	26
20	21	402	80	100	9200	1320	57	32	157	15	47	23
21	20	898	133	98	9000	700	51	75	88	15	46	21
22	20	50	900	110	8900	439	51	616	64	14	87	20
23	19	38	1100	100	7000	490	63	475	52	13	95	18
24	19	27	600	105	2500	472	50	410	43	13	107	18
25	19	23	450	110	2200	490	39	4100	38	12	99	18
26	19	21	350	130	2200	496	34	4360	34	23	101	17
27	18	20	240	140	2300	500	63	2490	31	34	101	16
28	18	19	200	130	2500	520	175	1230	27	24	91	15
29	18	19	230	140	---	450	1300	3330	26	20	89	14
30	18	130	250	140	---	341	451	12300	23	20	105	20
31	17	---	150	130	---	275	---	8350	---	19	97	---
TOTAL	811	2864	14533	2094	57580	40483	7816	39687	25694	3552	1903	1161
MEAN	26.2	95.5	469	67.5	2056	1306	261	1280	856	115	61.4	38.7
MAX	60	898	2000	140	9200	3630	1300	12300	5860	1950	107	106
MIN	17	18	68	14	100	133	34	21	23	12	18	14
AC-FT	1610	5680	28830	4150	114200	80300	15500	78720	50960	7050	3770	2300

CAL YR 1981 TOTAL 110579.30 MEAN 303 MAX 12200 MIN .00 AC-FT 219300
WTR YR 1982 TOTAL 198178.00 MEAN 543 MAX 12300 MIN 12 AC-FT 393100

PLATTE RIVER BASIN

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06793000 LOUP RIVER NEAR GENOA, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHNS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (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 (MG/L AS CAC03) (00900)	
MAR 08...	1530	993	260	7.9	1.7	26	13.8	<10	770	120	
DATE		HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUD- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 08...	.00	38	6.1	8.3	.3	7.5	130	<5.0	3.3	.3	
DATE		SILICA, DIS- SOLVED (MG/L AS SIU2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	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, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	
MAR 08...	49	205	.28	550	.67	.160	.77	.180	.180		
DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS RA) (01007)	BARTUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS RA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	
MAR 08...	1530	7	0	7	300	200	120	<1	<1	<10	
DATE		CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO) (01036)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
MAR 08...	10	3	1	2	9	5	4	5200	5200	29	
DATE		LEAD, TOTAL RECOV- ERABLE (UG/L AS Pb) (01051)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS Pb) (01050)	LEAD, DIS- SOLVED (UG/L AS Pb) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS Hg) (71900)	MERCURY DIS- SOLVED (UG/L AS Hg) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS Ni) (01067)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS Ni) (01066)
MAR 08...	9	8	1	130	120	13	.1	<.1	3	2	
DATE		NICKEL, DIS- SOLVED (UG/L AS Ni) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS Se) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS Se) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS Se) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS Ag) (01077)	SILVER, DIS- SOLVED (UG/L AS Ag) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS Zn) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS Zn) (01091)	ZINC, DIS- SOLVED (UG/L AS Zn) (01090)	
MAR 08...	1	1	0	1	<1	<1	30	20	11		

PLATTE RIVER BASIN

06793000 LOUP RIVER NEAR GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (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)
MAR 08...	1530	993	1.7	1320	3540	18	37	96	100

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)
MAR 08...	1530	993	3	0	2	50	98	100

PLATTE RIVER BASIN

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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 (2 m) downstream from county road bridge, at the west edge of Loretto.

DRAINAGE AREA.--311 mi² (805 km²), of which about 100 mi² (259 km²) 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 (544.358 m) National Geodetic Vertical Datum of 1929. Prior to May 15, 1945, staff gage at bridge 25 ft (7.6 m) upstream, May 15, 1945, to Aug. 16, 1946, water-stage recorder at site 85 ft (25.9 m) upstream, Aug. 17, 1946, to Sept. 30, 1953, at site 5 ft (1.5 m) downstream, all at same datum.

REMARKS.--Records fair except those for winter period, 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.--12 years (water years 1945-53, 1980-82), 76.5 ft³/s (2.166 m³/s), 55,400 acre-ft/yr (68.3 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,570 ft³/s (129 m³/s) June 2, 1950, gage height, 11.74 ft (3.578 m); minimum daily, 12 ft³/s (0.34 m³/s) July 8, Aug. 8, 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 21	0500	750 21.2	6.74 2.054	July 5	2100	*2300 65.1	a9.56 0.171
May 26	1400	845 23.9	7.00 2.134	July 14	0300	710 20.1	6.51 1.984
May 30	2300	2058 58.3	9.34 2.847	Aug. 5	1200	942 26.7	7.30 2.225
June 18	1000	502 14.2	5.62 1.713				

a Gage height from floodmark, discharge from indirect survey.

Minimum daily discharge, 33 ft³/s (0.93 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	43	136	54	49	84	79	81	487	60	40	46
2	38	56	103	54	48	85	74	74	402	58	39	46
3	38	80	95	52	45	84	73	69	286	57	34	44
4	38	68	95	50	42	76	76	66	223	52	33	45
5	40	59	99	48	40	73	73	66	186	366	426	46
6	40	54	97	45	42	70	73	75	158	189	143	42
7	40	53	92	43	43	66	75	73	130	75	74	41
8	41	51	91	40	44	63	76	68	120	66	54	46
9	41	50	86	35	45	63	76	65	130	59	45	49
10	41	50	88	34	47	67	96	63	120	57	106	49
11	40	50	87	34	48	90	96	59	114	57	99	46
12	42	50	85	35	49	90	92	58	110	55	59	43
13	42	50	83	37	52	91	82	60	107	135	51	42
14	44	53	81	38	60	86	78	65	160	228	51	44
15	47	49	79	40	70	81	80	68	170	86	50	47
16	47	47	70	44	80	83	91	68	106	59	47	52
17	46	47	60	47	110	81	82	64	102	48	42	54
18	46	47	62	49	140	79	78	62	314	44	39	50
19	45	46	64	52	200	112	69	174	128	43	35	54
20	44	44	67	50	260	187	68	217	140	42	35	48
21	44	42	68	50	270	182	67	469	148	41	35	50
22	45	45	69	48	217	214	66	231	121	39	35	57
23	44	52	65	48	190	174	64	225	89	41	35	58
24	44	52	64	46	155	126	62	202	71	38	34	54
25	44	52	60	47	114	110	61	387	68	37	35	56
26	44	52	60	48	90	99	59	532	79	38	40	67
27	44	48	59	50	84	92	59	380	61	54	38	73
28	44	49	55	55	78	87	67	341	67	50	38	74
29	43	49	50	50	---	81	87	312	62	46	42	70
30	43	68	52	48	---	83	86	803	57	42	44	66
31	42	---	55	49	---	80	---	732	---	42	44	---
TOTAL	1319	1556	2377	1420	2712	3039	2265	6209	4516	2304	1922	1559
MEAN	42.5	51.9	76.7	45.8	96.9	98.0	75.5	200	151	74.3	62.0	52.0
MAX	47	80	136	55	270	214	96	803	487	366	426	74
MIN	38	42	50	34	40	63	59	58	57	37	33	41
AC-FT	2620	3090	4710	2820	5380	6030	4490	12320	8960	4570	3810	3090
CAL YR 1981	TOTAL	17673	MEAN	48.4	MAX	136	MIN	13	AC-FT	35050		
WTR YR 1982	TOTAL	31198	MEAN	85.5	MAX	803	MIN	33	AC-FT	61880		

PLATTE RIVER BASIN

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 (0.3 km) downstream from Union Pacific Railroad bridge, 0.2 mi (0.3 km) upstream from bridge on State Highway 39, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--647 mi² (1,676 km²), of which about 410 mi² (1,062 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (470.041 m) 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 (0.6 km) upstream at datum 4.62 ft (1.408 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected slightly by ground-water and surface-water withdrawals for irrigation.

AVERAGE DISCHARGE.--42 years, 123 ft³/s (3.483 m³/s), 89,110 acre-ft/yr (0.110 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) July 19, 1950, gage height, 18.70 ft (5.700 m), site and datum then in use, from rating curve extended above 8,500 ft³/s (241 m³/s); minimum daily, 0.41 ft³/s (0.012 m³/s) July 25, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 26	1300	1850 52.4	10.51 3.203	July 15	1100	*5000 142	a14.97 4.563
June 15	0900	1110 31.4	7.92 2.414	July 27	0630	1600 45.3	8.59 2.618
July 5	unknown	4040 114	a13.95 4.252	Aug. 6	0600	1510 42.8	8.36 2.548
July 10	unknown	4750 135	a*16.25 4.953				

a From floodmark.

Minimum daily discharge, 45 ft³/s (1.27 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	64	108	70	64	140	95	116	700	113	89	101
2	43	77	156	74	62	135	94	112	600	112	87	103
3	45	86	128	72	60	130	92	108	450	110	82	91
4	50	113	118	72	58	130	90	102	330	500	77	85
5	51	107	124	66	54	120	91	100	270	3200	187	83
6	49	92	122	62	56	110	94	110	230	2020	1020	80
7	47	79	117	60	58	100	94	112	200	1320	219	77
8	48	74	113	58	60	100	110	110	199	800	118	78
9	50	72	111	54	64	103	120	104	180	520	141	79
10	50	67	112	47	68	110	130	100	170	2500	525	79
11	52	66	112	48	70	149	140	94	160	1500	410	79
12	59	65	112	50	74	138	130	92	150	350	177	87
13	57	66	111	52	84	143	120	92	150	320	119	86
14	57	66	106	52	92	138	110	98	403	1890	122	86
15	58	65	105	58	100	138	120	100	818	3960	108	83
16	64	67	98	62	120	140	130	100	299	3000	119	79
17	76	62	90	64	150	146	140	98	201	500	104	84
18	75	63	82	64	190	149	130	98	365	150	96	87
19	66	63	84	66	250	320	110	208	366	140	93	84
20	65	62	88	64	480	288	96	377	204	128	81	77
21	58	68	90	64	580	208	88	741	187	121	85	74
22	58	63	90	62	650	215	84	415	224	108	82	74
23	58	71	90	60	423	235	82	175	173	104	80	76
24	61	72	88	60	305	228	80	170	140	106	78	75
25	60	74	86	62	256	189	78	641	231	95	80	71
26	60	73	84	64	212	175	76	1720	118	118	80	70
27	59	71	82	68	173	152	94	800	327	918	82	70
28	58	69	78	70	149	135	100	500	315	262	84	71
29	61	70	72	68	---	119	110	450	114	119	88	83
30	60	102	78	64	---	108	120	800	118	101	94	91
31	55	---	78	64	---	102	---	1100	---	94	98	---
TOTAL	1767	2209	3113	1921	4962	4793	3148	9943	8392	25279	4905	2443
MEAN	57.0	73.6	100	62.0	177	155	105	321	280	815	158	81.4
MAX	76	113	156	74	650	320	140	1720	818	3960	1020	103
MIN	45	62	72	47	54	100	76	92	114	94	77	70
AC-FT	3500	4380	6170	3810	9840	9510	6240	19720	16650	50140	9730	4850
CAL YR 1981	TOTAL	28209.5	MEAN	77.3	MAX	1730	MIN	3.7	AC-FT	55950		
WTR YR 1982	TOTAL	72875.0	MEAN	200	MAX	3960	MIN	45	AC-FT	144500		

PLATTE RIVER BASIN

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06794000 BEAVER CREEK AT GENOA, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHQS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
21...	1630	58	307	8.1	8.0	--	30	K630	1100	160	49	8.0
NOV												
18...	1505	66	350	8.2	8.0	11.0	22	1500	5600	160	50	7.8
DEC												
16...	1200	40	310	8.2	.5	13.5	30	380	2800	150	49	7.2
JAN												
14...	1520	53	--	7.6	.0	6.6	14	K2100	1040	190	60	9.1
FEB												
10...	1545	66	--	8.0	.0	9.5	9	1600	1700	160	52	8.0
MAR												
09...	1245	99	330	7.9	1.0	13.8	20	K20	1000	--	--	7.7
APR												
07...	1545	94	330	8.1	2.0	13.0	26	160	640	150	46	7.8
MAY												
05...	1210	101	315	7.9	13.2	9.2	59	1300	5200	170	53	8.5
JUN												
08...	1330	185	403	7.7	18.0	7.5	58	1600	8800	180	57	9.4
JUL												
28...	1645	165	320	--	28.5	6.5	190	160000	760000	140	46	7.2
SEP												
01...	1700	104	375	7.6	26.0	7.2	51	35000	28000	170	54	8.7
23...	1500	75	405	8.3	17.0	9.2	37	650	960	180	56	9.6

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
21...	6.0	3.6	--	245	.49	<.060	--	.68	1.2	.360	7.6
NOV											
18...	<5.0	3.3	--	239	.67	.080	1.3	1.40	2.1	.310	3.6
DEC											
16...	5.0	3.8	--	257	.56	.180	.92	1.10	1.7	.330	7.5
JAN											
14...	<5.0	4.5	--	275	.87	.580	1.2	1.80	2.7	.320	3.3
FEB											
10...	6.0	2.9	--	--	.83	.300	.80	1.10	1.9	.310	2.5
MAR											
09...	<5.0	3.2	154	--	.49	.410	.45	.86	1.4	.260	6.8
APR											
07...	5.0	3.3	165	--	.64	.140	.63	.77	1.4	.340	6.4
MAY											
05...	5.0	4.9	158	--	.35	.060	2.3	2.40	2.8	.480	9.5
JUN											
08...	15	4.7	456	--	.70	.140	1.3	1.40	2.1	.560	20
JUL											
28...	16	6.6	983	--	1.8	.350	7.5	7.80	9.6	1.70	--
SEP											
01...	13	4.2	366	--	1.0	.210	4.0	4.20	5.2	.730	14
23...	15	3.9	103	--	.80	.130	.87	1.00	1.8	.470	5.2

PLATTE RIVER BASIN

06794000 BEAVER CREEK AT GENOA, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	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)
NOV 18...	1505	.00	9.2	.3	7.4	160	.3	42	--	--
FEB 10...	1545	.00	9.3	.3	6.9	170	.3	46	237	.32
JUN 08...	1330	.00	13	.4	9.7	196	.3	39	269	.37
SEP 01...	1700	.00	8.9	.3	12	177	.4	31	243	.33

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 18...	--	.56	.300	10	200	30	<1	<10	5	2500
FEB 10...	42.2	.80	.280	--	--	30	--	--	--	--
JUN 08...	134	.64	.320	11	200	30	1	<10	17	10000
SEP 01...	68.2	.97	.400	--	--	40	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FF) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 18...	2500	30	1	100	80	19	<.1	1	<1	40
FEB 10...	--	10	--	--	--	58	--	--	--	--
JUN 08...	--	44	6	440	--	4	.1	2	1	50
SEP 01...	--	24	--	--	--	7	--	--	--	--

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 (24 m) upstream from county road bridge, 1 mi (2 km) upstream from Loseke Creek, and 7 mi (11 km) northeast of Columbus.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 21	----	1200	34.0	ice jam		July 7	----	1400	39.6	b12.50	3.810
Mar. 19	2330	1220	34.6	12.15	3.703	July 11	----	860	24.4	b10.00	3.048
May 20	0130	4970	141	a22.11	6.739	July 15	1200	700	19.8	b9.00	2.743
May 26	1700	2810	79.6	20.71	6.312						

Minimum daily discharge, 5.4 ft³/s (0.15 m³/s) Oct. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	7.7	79	10	8.0	27	16	15	120	47	18	40
2	5.6	11	44	10	7.4	25	15	14	125	46	17	24
3	5.8	24	26	9.6	7.0	25	16	13	119	45	15	27
4	6.2	23	28	9.2	7.4	24	15	13	102	43	15	19
5	6.6	22	24	9.8	7.0	22	16	13	91	150	14	14
6	6.8	16	18	9.0	7.0	21	16	13	82	626	134	13
7	6.3	13	16	8.0	11	20	15	15	74	925	128	13
8	6.0	11	15	7.6	11	21	15	15	69	138	48	13
9	5.9	9.0	14	8.6	11	21	15	13	63	49	38	12
10	6.1	8.7	13	6.0	11	19	16	12	83	228	63	13
11	6.3	8.5	13	7.0	13	25	19	12	66	748	229	12
12	6.4	9.2	12	6.4	15	66	17	20	54	544	99	13
13	6.8	8.9	12	7.0	16	65	16	40	50	436	48	13
14	8.2	8.9	12	7.2	18	38	15	15	52	58	32	14
15	8.1	8.9	14	6.8	21	27	15	15	155	447	36	14
16	7.9	8.8	12	6.2	24	23	14	15	250	525	31	14
17	8.2	9.1	10	7.0	26	22	14	18	84	150	33	13
18	18	8.5	9.0	8.0	32	20	14	18	80	70	28	13
19	11	8.6	8.2	7.6	45	466	13	1260	120	45	23	18
20	8.5	8.8	8.4	7.4	400	629	13	4590	70	34	20	15
21	5.9	9.8	10	7.8	1000	115	12	1940	80	30	20	12
22	6.5	9.9	11	7.2	600	58	13	465	70	28	19	10
23	5.8	9.0	11	6.6	290	40	11	192	66	27	18	10
24	6.1	9.1	11	7.0	126	28	12	131	66	26	29	10
25	7.2	10	10	7.0	72	25	12	1020	110	27	118	10
26	7.5	10	10	7.0	47	23	12	2580	64	35	59	9.9
27	7.6	9.0	11	8.0	31	20	12	2210	62	200	36	10
28	7.2	8.8	11	9.4	28	19	13	1200	120	35	31	9.2
29	7.6	8.6	11	9.0	---	18	14	660	70	20	39	10
30	7.5	15	12	9.4	---	17	16	380	50	20	236	104
31	8.4	---	11	8.4	---	17	---	190	---	21	111	---
TOTAL	227.4	332.8	506.6	245.2	2891.8	1986	432	17107	2667	5823	1785	522.1
MEAN	7.34	11.1	16.3	7.91	103	64.1	14.4	552	88.9	188	57.6	17.4
MAX	18	24	79	10	1000	629	19	4590	250	925	236	104
MIN	5.4	7.7	8.2	6.0	7.0	17	11	12	50	20	14	9.2
AC-FT	451	660	1000	486	5740	3940	857	33930	5290	11550	3540	1040

CAL YR 1981	TOTAL	8339.8	MEAN	22.8	MAX	1200	MIN	3.4	AC-FT	16540
WTR YR 1982	TOTAL	34525.9	MEAN	94.6	MAX	4590	MIN	5.4	AC-FT	68480

PLATTE RIVER BASIN

06796000 PLATTE RIVER AT NORTH BEND, NE

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 (24 m) upstream from bridge on State Highway 79, 1 mi (2 km) south of North Bend, and 5 mi (8 km) downstream from Shell Creek.

DRAINAGE AREA.--77,100 mi² (199,700 km²), approximately, of which about 63,300 mi² (163,900 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,262.32 ft (384.755 m) 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 (0.610 m) higher.

REMARKS.--Records good except those for winter period, 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.--33 years, 4,020 ft³/s (113.8 m³/s), 2,912,000 acre-ft/yr (3.59 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 112,000 ft³/s (3,170 m³/s) Mar. 29, 1960, gage height, 10.04 ft (3.060 m), present datum; maximum gage height, 15.55 ft (4.740 m) Mar. 19, 1978, ice jam; minimum daily discharge, 36 ft³/s (1.02 m³/s) July 29, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,500 ft³/s (750 m³/s) May 31, gage height, 7.27 ft (2.216 m); maximum gage height, 9.25 ft (2.819 m) Feb. 22, backwater from ice; minimum daily, 958 ft³/s (27.1 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2760	3290	4700	3700	3600	11700	4020	5990	15100	3800	1680	2750
2	2790	3490	5440	3600	3400	11600	3860	4740	9930	3500	1350	2730
3	2860	4590	5120	3500	3300	9580	3570	4570	8210	4560	1440	2480
4	2620	5330	4890	3100	3200	7310	3790	4130	7300	4400	1480	2880
5	2980	4680	4330	2900	3000	5830	4670	3970	7000	4370	1260	2490
6	3070	4500	4480	2400	2900	5140	4090	4540	6130	4520	1620	2150
7	2890	4800	4250	2200	3100	5040	4070	4180	6000	9690	2070	2340
8	3050	3920	4460	2150	3200	5820	4050	4800	4850	7600	2350	2270
9	3090	4160	3950	2150	3300	6070	4090	3830	4970	4010	3010	2780
10	3340	3810	4900	2100	3100	5860	2590	3770	4310	9230	4070	1820
11	3400	4230	4440	2000	3300	6820	4060	3950	4700	14800	4700	2370
12	3120	3560	4510	1900	3300	8550	3640	4950	4120	8360	5290	2760
13	3130	3610	4130	1800	3300	8170	3800	5290	4020	5130	8370	3260
14	3380	3610	4430	1650	3400	7270	3810	4290	5530	3510	5330	2920
15	3300	3750	4070	1600	4000	6600	3530	5240	16300	7140	3640	3170
16	3470	3490	3970	1600	3800	5610	4010	5570	19200	9690	3400	2910
17	3690	3050	3500	1700	3900	6850	4000	6870	12200	4940	3170	3300
18	3710	3640	3000	1800	4000	5690	4080	5660	10300	2100	3120	3840
19	3900	3530	3100	2000	5500	8210	3650	7050	8930	1540	2660	2990
20	3540	4050	3200	2150	10000	12800	3860	9420	7300	1710	2890	2900
21	3670	3320	3300	2300	15000	10700	3230	10400	5700	1640	1700	3560
22	3310	3880	4000	2500	20000	8960	3970	8340	6170	1940	3070	2490
23	2900	3860	4500	2700	21000	7350	3790	7250	4180	1530	2870	2940
24	3740	3570	4900	2800	18000	6450	3520	6190	4760	1480	2960	3280
25	3470	3860	5000	2800	16100	6700	3670	8290	3990	958	3360	3020
26	3400	3950	4800	2900	13900	6000	3130	20900	3910	1520	3230	3240
27	3640	3670	4500	2800	12700	5730	3130	20500	4230	1320	3330	3260
28	3430	3830	4400	2900	11900	6400	3730	16700	3680	2370	2930	3360
29	3410	3700	4100	3200	---	6730	4840	12500	4120	2330	2970	4120
30	4130	3550	4000	3600	---	5130	6600	14000	3580	1940	3860	2920
31	2830	---	3800	3500	---	4450	---	21100	---	2060	2810	---
TOTAL	102020	116280	132170	78000	205200	225120	116850	248980	210720	133688	95990	87300
MEAN	3291	3876	4264	2516	7329	7262	3895	8032	7024	4313	3096	2910
MAX	4130	5330	5440	3700	21000	12800	6600	21100	19200	14800	8370	4120
MIN	2620	3050	3000	1600	2900	4450	2590	3770	3580	958	1260	1820
AC-FT	202400	230600	262200	154700	407000	446500	231800	493900	418000	265200	190400	173200
CAL YR 1981 TOTAL	1225944			3359	26100		490	AC-FT	2432000			
WTR YR 1982 TOTAL	1752318			4801	21100		958	AC-FT	3476000			

PLATTE RIVER BASIN

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06796000 PLATTE RIVER AT NORTH BEND, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to September 1977.

WATER TEMPERATURES: October 1972 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 790 micromhos June 25, 1973; minimum daily, 218 micromhos Sept. 19, 1977.

WATER TEMPERATURE: Maximum, 29.5°C several days during summer periods; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PFR 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
22...	1345	3200	454	8.3	8.5	12.2	40	K100	68	170	48	12
NOV												
16...	1400	4400	305	8.3	8.5	11.6	42	K23	280	120	37	6.9
DEC												
15...	1215	4690	465	8.3	.5	14.7	0	270	2500	190	54	13
JAN												
12...	1130	1950	541	7.8	.0	15.0	11	870	600	230	67	15
FEB												
16...	1640	3770	726	7.9	.5	9.8	13	K120	K1020	230	63	17
MAR												
10...	1030	7000	455	7.9	.5	14.9	19	K70	1300	180	52	12
APR												
07...	1045	3740	470	8.2	1.5	12.8	29	K58	1200	190	53	13
MAY												
11...	1115	3910	428	8.0	18.5	10.2	38	K160	140	170	50	10
JUN												
02...	1200	9730	410	7.8	17.0	6.6	120	K12800	64000	150	43	9.5
JUL												
27...	1430	1330	440	8.9	29.0	11.6	37	K600	520	180	52	12
AUG												
31...	1600	2410	--	--	26.0	7.3	100	K180000	K160000	130	40	8.1
SEP												
22...	1100	1150	510	8.0	15.0	11.0	30	160	660	180	50	13

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
22...	70	11	--	321	.59	<.060	--	.65	1.2	.200	5.8
NOV											
16...	18	5.0	--	238	.70	<.060	--	.99	1.7	.260	3.5
DEC											
15...	80	11	--	356	.86	.140	.58	.72	1.6	.190	7.1
JAN											
12...	96	15	--	408	1.0	.260	1.2	1.50	2.5	.510	2.9
FEB											
16...	150	21	--	--	.97	.130	.46	.59	1.6	.150	3.5
MAR											
10...	80	19	144	--	.79	.230	.72	.95	1.7	.190	6.7
APR											
07...	77	11	207	--	.99	.080	.92	1.00	2.0	.210	9.1
MAY											
11...	60	12	86	--	<.10	.180	2.2	2.40	--	.250	6.4
JUN											
02...	53	10	823	--	1.0	.160	5.7	5.90	6.9	1.10	63
JUL											
27...	52	18	105	--	<.10	<.060	--	1.60	--	.270	9.6
AUG											
31...	37	10	1680	--	.90	.290	9.0	9.30	10	1.20	52
SEP											
22...	84	12	158	--	.40	.220	2.3	2.50	2.9	.340	12

PLATTE RIVER BASIN

06796000 PLATTE RIVER AT NORTH BEND, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L CACO3) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	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)
NOV 16...	1400	1.0	13	.5	7.2	120	.3	50	210	.29
FEB 16...	1640	47	54	1.7	10	180	.4	35	463	.63
JUN 02...	1200	7.0	20	.8	12	140	.4	24	256	.35
AUG 31...	1600	1.0	18	.7	11	132	.4	28	236	.32

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	RORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 16...	2500	.70	.230	9	100	30	1	<10	20	2300
FEB 16...	4710	.97	.130	--	--	90	--	--	--	--
JUN 02...	6730	1.0	.340	13	600	50	<1	40	49	38000
AUG 31...	1540	.83	.200	--	--	50	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 16...	2300	27	4	90	80	8	.2	1	<1	40
FEB 16...	--	19	--	--	--	20	--	--	--	--
JUN 02...	38000	89	23	1100	1100	5	.1	1	1	210
AUG 31...	--	75	--	--	--	2	--	--	--	--

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LOCATION.--Lat 42°25'19"N, long 98°51'46"W, in SE1/4SW1/4 sec.5, T.28 N., R.13 W., Holt County, Hydrologic Unit 10220001, on left bank 12 ft (4 m) downstream from bridge on county road, 4 mi (6 km) southwest of Emmet.

GAGE.--Water-stage recorder. Datum of gage is 2,070.12 ft (630.973 m) National Geodetic Vertical Datum of 1929. (Levels by Nebraska Natural Resources Commission.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 562 ft³/s (15.9 m³/s) May 29, 1982, gage height, 6.90 ft (2.103 m); maximum gage height, 7.61 ft (2.320 m) Feb. 28, 1979, backwater from ice; minimum daily discharge, 0.10 ft³/s (0.003 m³/s) Jan. 24, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 562 ft³/s (15.9 m³/s) May 29, gage height, 6.90 ft (2.103 m); maximum gage height, 7.01 ft (2.137 m) Feb. 22, backwater from ice; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Aug. 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	4.3	9.0	9.4	3.6	81	24	15	423	19	2.2	7.0
2	4.1	8.1	4.0	9.2	3.5	59	24	14	312	19	2.0	6.2
3	4.3	8.8	4.2	9.0	3.2	46	20	13	245	19	2.3	5.6
4	4.6	8.1	6.0	8.6	3.4	43	26	13	192	18	2.9	5.7
5	4.8	6.6	8.0	8.4	3.2	36	33	15	150	16	3.3	5.6
6	5.1	6.2	10	8.0	3.4	36	31	16	121	15	3.1	6.4
7	4.3	6.3	12	7.7	3.8	35	29	15	94	15	3.1	6.5
8	4.3	6.0	14	8.2	3.7	36	28	14	71	16	3.2	6.5
9	4.8	5.6	15	7.6	3.4	39	29	14	62	18	4.0	6.6
10	4.8	6.0	18	6.2	3.7	46	36	16	54	21	6.4	6.4
11	4.5	6.0	23	6.6	4.0	63	37	13	47	24	5.9	6.0
12	5.5	6.1	25	6.6	4.5	106	36	25	40	26	5.7	8.3
13	6.6	6.3	27	6.4	5.6	103	32	22	35	24	6.2	8.1
14	6.1	6.4	22	7.4	6.4	83	27	26	83	21	6.1	7.7
15	5.8	6.6	21	7.6	7.0	62	24	34	105	23	5.8	7.4
16	5.3	6.5	12	6.4	8.0	50	21	34	103	20	5.5	7.1
17	5.3	6.5	5.0	7.4	10	45	20	33	104	17	5.6	6.4
18	4.8	7.0	6.4	8.0	14	41	18	33	111	16	6.0	5.9
19	4.8	6.3	8.4	8.4	18	55	16	29	92	14	5.3	5.7
20	4.3	5.9	11	6.4	30	83	14	25	76	11	6.8	5.8
21	4.1	7.3	10	5.6	70	71	13	122	64	7.6	8.6	6.2
22	3.8	8.1	9.6	5.8	190	64	12	102	51	5.4	7.9	6.0
23	3.4	8.6	9.2	5.0	150	60	10	91	41	4.5	6.5	5.9
24	3.6	8.1	9.2	4.3	175	48	9.3	175	34	4.0	7.5	6.1
25	4.1	7.9	9.6	4.5	120	40	10	251	30	3.6	6.4	5.6
26	4.3	8.8	9.4	4.8	110	33	10	272	25	3.7	5.8	5.4
27	4.5	7.8	9.4	5.0	100	29	10	217	22	4.2	5.1	5.0
28	4.3	9.1	9.0	4.5	90	27	13	176	20	3.6	5.0	5.2
29	4.5	8.5	9.0	4.2	---	25	13	469	20	3.1	4.9	4.6
30	4.5	11	9.6	3.7	---	27	14	494	20	2.8	4.4	4.6
31	4.1	---	9.4	3.3	---	27	---	491	---	2.6	4.8	---
TOTAL	143.6	214.8	364.4	204.2	1147.4	1599	639.3	3279	2847	417.1	158.3	185.5
MEAN	4.63	7.16	11.8	6.59	41.0	51.6	21.3	106	94.9	13.5	5.11	6.18
MAX	6.6	11	27	9.4	190	106	37	494	423	26	8.6	8.3
MIN	3.4	4.3	4.0	3.3	3.2	25	9.3	13	20	2.6	2.0	4.6
AC-FT	285	426	723	405	2280	3170	1270	6500	5650	827	314	368
CAL YR 1981	TOTAL	3219.5	MEAN	8.82	MAX	38	MIN	3.0	AC-FT	6390		
WTR YR 1982	TOTAL	11199.6	MEAN	30.7	MAX	494	MIN	2.0	AC-FT	22210		

PLATTE RIVER BASIN

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06796985 ELKHORN RIVER AT EHMET, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT 08...	1240	8.8	224	7.4	11.5	8.5	27	K72	190	97	32	4.1
NOV 05...	0950	23	204	7.6	8.5	8.6	28	K77	380	82	27	3.6
DEC 10...	1530	39	200	7.1	1.0	11.9	32	K69	350	85	28	3.6
JAN 28...	0910	8.5	239	6.8	.5	2.9	14	K69	K81	100	33	4.2
FEB 25...	0930	308	144	6.9	.5	10.9	50	180	2100	52	16	2.9
MAR 25...	1200	172	232	7.4	3.5	12.4	38	250	300	110	35	4.6
APR 29...	1055	58	211	7.7	7.5	11.8	16	1200	310	90	29	4.2
MAY 20...	1130	86	244	7.6	21.0	8.3	50	1900	1100	120	37	5.6
JUN 23...	1020	240	306	7.4	23.0	5.9	82	510	940	140	44	6.3
JUL 23...	0930	22	252	7.6	24.5	7.7	26	930	1300	99	32	4.6
AUG 10...	1630	16	225	8.1	23.5	8.9	12	1400	1700	92	30	4.2
SEP 09...	1015	10	225	8.0	22.0	6.3	19	K3600	1300	92	30	4.1

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 08...	6.0	4.2	--	176	<.10	<.060	--	.58	--	.080	5.6
NOV 05...	6.0	4.7	--	155	.39	.140	1.3	1.40	1.8	.150	5.0
DEC 10...	6.0	3.0	--	155	3.9	.150	.78	.93	4.8	.110	3.8
JAN 28...	6.0	3.0	--	172	.98	.510	.59	1.10	2.1	.170	3.4
FEB 25...	8.0	2.7	6	--	.21	.250	2.8	3.00	3.2	.540	17
MAR 25...	5.0	4.4	8	--	.33	.120	1.5	1.60	1.9	.180	14
APR 29...	6.0	3.2	2	--	.89	.090	.80	.89	1.8	.150	5.0
MAY 20...	7.0	3.1	8	--	.31	.120	2.0	2.10	2.4	.230	14
JUN 23...	7.0	3.2	7	--	.20	.220	1.6	1.80	2.0	.200	22
JUL 23...	10	3.6	27	--	1.4	.130	.77	.90	2.3	.330	7.8
AUG 10...	10	3.5	21	--	.50	.160	1.5	1.70	2.2	.190	7.2
SEP 09...	10	3.6	15	--	.40	.180	.82	1.00	1.4	.290	4.9

06796985 ELKHORN RIVER AT EMMET, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	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)
NOV 05...	0950	.00	9.0	.4	7.0	89	.3	34	145	.20	8.9
FEB 25...	0930	.00	5.2	.3	8.5	64	.2	17	100	.14	83.2
MAY 20...	1130	--	--	--	--	--	--	--	--	--	--
JUN 23...	1020	.00	14	.5	5.5	153	.4	40	213	.29	138
JUL 23...	0930	--	--	--	--	115	--	--	--	--	--
AUG 10...	1630	.00	9.1	.4	6.0	105	.3	43	172	.23	7.2

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 05...	--	--	.39	.100	6	100	20	<1	<10	3	100
FEB 25...	--	--	.21	.500	--	--	20	--	--	--	--
MAY 20...	.29	.020	.27	.150	6	200	--	<1	<10	8	260
JUN 23...	--	--	--	--	--	--	30	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--	--
AUG 10...	--	--	.50	.180	--	--	20	--	--	--	--

DATE	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 05...	40	58	1	20	9	11	.2	<1	<1	20
FEB 25...	--	170	--	--	--	8	--	--	--	--
MAY 20...	--	--	5	30	--	--	.2	<1	1	10
JUN 23...	--	160	--	--	--	24	--	--	--	--
JUL 23...	--	--	--	--	--	--	--	--	--	--
AUG 10...	--	68	--	--	--	18	--	--	--	--

PLATTE RIVER BASIN

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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 350 ft (107 m) downstream from bridge on State Highway 420, 0.8 mi (1.3 km) north of Ewing, and 1.5 mi (2.4 km) upstream from South Fork Elkhorn River.

DRAINAGE AREA.--1,400 mi² (3,630 km²), approximately, of which about 740 mi² (1,920 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,836.24 ft (559.686 m), National Geodetic Vertical Datum of 1929, levels by Nebraska Department of Roads (revised). Prior to Oct. 22, 1952, at site 300 ft (90 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are poor.

COOPERATION.--Discharge record furnished by Nebraska Department of Water Resources.

AVERAGE DISCHARGE.--35 years, 163 ft³/s (4.616 m³/s), 118,100 acre-ft/yr (0.146 km³/yr); median of yearly mean discharges, 115 ft³/s (3.257 m³/s), 83,300 acre-ft/yr (0.103 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s (212 m³/s) June 10, 1962, gage height, 10.60 ft (3.231 m); minimum daily, 5.2 ft³/s (0.15 m³/s) Sept. 6, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 11.32 ft (3.450 m) June 23, 24, 1947, from floodmark at site 300 ft (90 m) upstream, discharge, 6,600 ft³/s (187 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (%):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 26	1600	1010 28.6	6.35 1.935	June 15	1900	795 22.5	5.83 1.777
June 1	1800	*3470 98.3	8.97 2.734				

Minimum daily discharge, 15 ft³/s (0.42 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	34	109	52	29	493	186	109	3420	162	36	31
2	15	38	101	47	28	406	179	107	3130	154	36	31
3	16	39	70	45	28	334	168	104	2660	134	36	30
4	16	40	60	43	26	274	150	102	2280	132	35	30
5	16	42	60	40	25	210	162	104	1920	118	34	29
6	17	42	65	35	26	180	166	106	1590	156	33	29
7	18	42	72	30	26	160	179	106	1310	181	31	29
8	18	41	70	27	27	165	179	101	1080	162	29	28
9	19	39	75	25	26	140	183	96	804	127	30	29
10	20	38	77	25	26	179	204	94	614	112	32	38
11	22	39	76	25	25	223	220	96	490	119	31	36
12	21	38	85	26	28	256	223	106	412	109	32	36
13	26	38	85	25	29	290	220	125	348	99	34	36
14	28	38	79	26	31	345	225	144	422	96	33	36
15	28	38	69	27	32	361	220	177	740	92	35	38
16	28	38	48	25	31	334	197	238	744	89	36	38
17	30	38	40	28	31	304	172	211	717	86	35	38
18	30	38	35	30	41	277	158	188	735	80	33	38
19	29	39	36	28	46	279	146	177	704	73	30	38
20	30	38	42	26	80	339	136	181	602	70	34	36
21	30	38	64	26	150	348	128	223	527	68	33	36
22	30	36	60	25	175	370	123	304	490	66	33	34
23	29	44	60	26	400	380	116	402	450	59	32	32
24	30	48	62	26	486	373	109	717	373	56	36	30
25	30	49	58	27	683	339	106	975	313	53	34	30
26	30	49	56	30	910	288	102	1390	274	50	32	30
27	32	42	55	31	767	253	102	1610	240	48	31	29
28	32	42	54	33	614	230	104	1720	213	49	29	28
29	33	44	55	32	---	218	109	1850	190	46	30	28
30	33	57	57	31	---	206	112	1970	175	42	30	29
31	33	---	54	30	---	197	---	2940	---	38	30	---
TOTAL	784	1226	1989	952	4826	8751	4784	16773	27967	2926	1015	980
MEAN	25.3	40.9	64.2	30.7	172	282	159	541	932	94.4	32.7	32.7
MAX	33	57	109	52	910	493	225	2940	3420	181	36	38
MIN	15	34	35	25	25	140	102	94	175	38	29	28
AC-FT	1560	2430	3950	1890	9570	17360	9490	33270	55470	5800	2010	1940
CAL YR 1981 TOTAL	16492			45.2	121	11		32710				
WTR YR 1982 TOTAL	72973			200	3420	15		144700				

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 (5 m) (revised) downstream from bridge on county highway, 2.9 mi (4.7 km) southwest of intersection with U.S. Highway 275 in Ewing and 5.5 mi (8.8 km) upstream from mouth.

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 (7.2 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,760 ft³/s (49.8 m³/s) Apr. 5, 1949, gage height, 5.02 ft (1.530 m); maximum gage height, 6.12 ft (1.865 m) Mar. 7, 1949, backwater from ice, site then in use; minimum daily discharge, 11 ft³/s (0.31 m³/s) Jan. 15, 1953.

EXTREMES FOR CURRENT YEAR.--peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Feb. 24	0430	353	10.0	2.28	0.695	June 1	0800	*790	22.4	3.35	1.021
May 27	1400	732	20.7	3.23	0.985	June 17	1430	605	17.1	2.76	0.841

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Oct. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	24	75	35	33	97	66	39	724	51	30	42
2	21	25	71	35	32	90	56	43	617	50	31	36
3	21	26	45	35	31	79	73	45	477	47	32	35
4	23	30	50	34	30	61	56	41	351	44	33	35
5	25	31	48	35	31	57	64	39	291	46	34	36
6	25	30	46	32	32	55	59	39	231	60	31	36
7	27	30	44	35	33	56	64	40	200	54	32	35
8	30	28	42	37	34	55	64	45	174	47	34	35
9	30	27	40	35	35	57	56	46	138	45	36	42
10	31	28	39	34	35	67	58	42	121	43	41	44
11	32	30	37	36	36	83	69	40	111	41	37	37
12	33	32	35	35	37	96	76	49	100	44	34	40
13	37	32	39	34	38	99	56	49	84	43	33	36
14	35	32	48	37	42	92	54	50	156	41	32	38
15	34	32	49	38	45	76	58	58	311	43	33	40
16	34	31	43	33	49	68	47	61	502	42	35	39
17	36	31	34	35	54	71	48	62	591	39	34	39
18	31	31	34	36	60	76	50	74	530	39	33	40
19	31	27	35	36	70	87	44	75	412	37	34	40
20	30	27	38	35	80	81	40	80	326	37	37	42
21	30	34	43	34	83	109	40	98	254	37	34	41
22	30	42	42	33	112	114	43	134	201	34	35	41
23	31	41	41	33	238	100	42	148	158	33	36	41
24	31	40	37	32	271	85	43	178	130	32	41	40
25	31	39	35	35	175	77	42	271	101	29	37	40
26	33	39	36	40	127	80	41	533	93	29	37	40
27	28	42	35	39	114	67	37	668	85	34	35	39
28	27	41	36	38	104	64	39	608	74	31	38	38
29	27	42	34	37	---	70	36	514	67	30	38	37
30	28	60	37	36	---	65	39	462	59	30	36	35
31	27	---	32	35	---	63	---	606	---	30	37	---
TOTAL	909	1004	1300	1094	2061	2397	1560	5237	7669	1242	1080	1159
MEAN	29.3	33.5	41.9	35.3	73.6	77.3	52.0	169	256	40.1	34.8	38.6
MAX	37	60	75	40	271	114	76	668	724	60	41	44
MIN	20	24	32	32	30	55	36	39	59	29	30	35
AC-FT	1800	1990	2580	2170	4090	4750	3090	10390	15210	2460	2140	2300

CAL YR 1981	TOTAL	12082	MEAN	33.1	MAX	75	MIN	19	AC-FT	23960
WTR YR 1982	TOTAL	26712	MEAN	73.2	MAX	724	MIN	20	AC-FT	52980

PLATTE RIVER BASIN

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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 (0.8 km) west and 2 mi (3 km) south of Clearwater, and about 3 mi (5 km) upstream from mouth.

DRAINAGE AREA.--210 mi² (540 km²), approximately, of which about 130 mi² (340 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--July 1961 to September 1964, October 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,810 ft (552 m) from topographic map. Prior to Sept. 7, 1961, wire-weight gage at same site and datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--8 years (water years 1962-64, 1978-82), 33.4 ft³/s (0.946 m³/s), 24,200 acre-ft/yr (29.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 762 ft³/s (21.6 m³/s) Aug. 5, 1981, gage height, 9.00 ft (2.743 m); minimum daily discharge, 4.4 ft³/s (0.12 m³/s) Aug. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 20	1800	402 11.4	7.15 2.179	May 30	1200	*527 14.9	7.77 2.368
May 27	1100	364 10.3	6.94 2.115	June 16	0500	236 6.7	6.09 1.856

Minimum daily discharge, 11.0 ft³/s (0.31 m³/s) July 31, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	20	54	26	32	63	41	33	307	28	12	22
2	18	26	41	28	28	60	37	32	216	26	13	21
3	18	32	46	28	23	52	44	31	185	24	12	20
4	18	29	55	30	24	46	42	29	164	23	11	20
5	18	27	64	31	25	45	40	30	142	24	13	18
6	19	26	69	30	17	44	39	34	120	37	13	19
7	19	25	66	26	25	43	38	31	103	39	12	19
8	19	24	71	28	23	43	38	29	91	28	13	19
9	20	24	74	23	20	43	41	26	80	25	18	20
10	19	24	70	19	21	45	48	25	72	25	28	20
11	20	23	55	25	23	49	76	23	65	25	23	20
12	20	23	45	26	30	64	62	25	60	23	21	20
13	20	23	42	25	40	70	48	26	53	22	21	22
14	21	23	43	31	50	59	40	30	99	22	20	22
15	22	23	40	33	60	53	41	29	176	26	21	21
16	22	25	23	25	64	49	45	30	226	25	20	21
17	24	23	15	33	68	48	44	27	175	22	20	21
18	23	23	14	35	74	48	40	26	139	21	17	20
19	23	23	28	31	90	104	33	33	120	19	17	21
20	22	23	33	27	120	294	30	37	109	21	17	19
21	21	22	34	29	140	254	29	68	97	18	17	19
22	21	24	28	29	135	149	30	106	82	16	18	19
23	22	24	23	26	126	126	28	145	67	15	18	19
24	22	25	22	27	97	104	29	128	55	13	21	18
25	22	26	20	28	78	85	27	149	46	12	19	18
26	22	27	16	32	67	71	26	245	39	12	18	19
27	22	28	16	35	61	60	26	328	36	14	18	20
28	21	26	17	34	58	52	31	260	32	14	18	19
29	21	26	19	37	---	49	35	224	28	14	20	21
30	21	42	25	33	---	45	35	326	27	13	22	18
31	20	---	26	30	---	45	---	308	---	11	20	---
TOTAL	639	759	1194	900	1619	2362	1163	2873	3211	657	551	595
MEAN	20.6	25.3	38.5	29.0	57.8	76.2	38.8	92.7	107	21.2	17.8	19.8
MAX	24	42	74	37	140	294	76	328	307	39	28	22
MIN	18	20	14	19	17	43	26	23	27	11	11	18
AC-FT	1270	1510	2370	1790	3210	4690	2310	5700	6370	1300	1090	1180

CAL YR 1981	TOTAL	9375.5	MEAN 25.7	MAX 282	MIN 6.8	AC-FT 18600
WTR YR 1982	TOTAL	16523.0	MEAN 45.3	MAX 328	MIN 11	AC-FT 32770

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 (9 m) downstream from bridge on old State Highway 14 at Neligh.

DRAINAGE AREA.--2,200 mi² (5,700 km²), approximately, of which about 1,200 mi² (3,110 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (522.427 m) (revised) National Geodetic Vertical Datum of 1929. Prior to Apr. 16, 1933, nonrecording gage at site 10 ft (3 m) downstream at present datum. Apr. 16, 1933, to Jan. 23, 1939, nonrecording gage at bridge 30 ft (9 m) 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 (6 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--50 years, 278 ft³/s (7.873 m³/s), 201,400 acre-ft/yr (0.248 km³/yr); median of yearly mean discharges, 231 ft³/s (6.542 m³/s), 167,400 acre-ft/yr (0.206 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 12,000 ft³/s (340 m³/s) June 23, 1947, gage height, 12.53 ft (3.819 m), from main channel rating curve extended above 4,900 ft³/s (139 m³/s) and field estimate of flow through break in highway fill; minimum daily, 12 ft³/s (0.34 m³/s) July 2, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1960, reached a stage of 12.24 ft (3.731 m), from floodmark, discharge, 12,300 ft³/s (348 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	----	1600 45.3	ice jam	June 1	2100	*4670 132	8.74 2.664
Mar. 20	2400	1190 33.7	5.47 1.667				

Minimum daily discharge, 74 ft³/s (2.10 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	106	246	165	96	830	351	244	4310	360	106	109
2	80	135	158	160	94	739	339	234	4570	370	99	107
3	78	157	220	160	94	596	284	229	4080	390	92	96
4	81	151	209	160	92	499	311	221	3250	360	90	94
5	80	138	207	155	90	418	294	226	2480	340	94	94
6	80	129	225	150	90	358	297	244	1890	345	93	95
7	79	130	226	145	90	339	321	240	1450	335	92	97
8	74	132	243	130	94	343	332	232	1220	332	87	98
9	82	125	258	120	100	343	332	224	1000	273	92	103
10	83	126	267	110	106	366	381	216	771	238	139	126
11	82	127	239	112	110	484	449	210	666	224	126	120
12	90	132	225	114	114	596	474	240	608	217	115	118
13	97	136	228	114	120	619	435	281	585	208	118	124
14	107	142	230	114	130	660	405	332	733	194	117	118
15	108	128	196	110	140	660	409	385	1230	193	117	117
16	107	120	130	112	160	614	413	509	1660	180	117	116
17	131	122	102	110	200	574	354	504	1860	163	113	123
18	120	160	120	106	500	536	307	449	1680	155	108	120
19	111	136	130	104	900	720	284	418	1440	147	104	114
20	109	120	150	100	1400	1010	247	454	1200	141	102	106
21	107	119	170	96	1000	985	232	631	1070	135	102	105
22	109	142	190	96	840	752	226	920	950	132	105	104
23	108	142	200	98	820	696	216	1110	859	130	103	102
24	113	142	190	100	800	666	210	1390	756	124	110	101
25	111	140	180	94	780	614	208	1970	639	118	114	103
26	114	138	185	96	800	552	198	2770	540	118	106	103
27	114	131	195	96	810	479	196	3190	467	124	102	102
28	113	129	185	98	840	444	216	2980	407	120	99	100
29	112	122	175	100	---	422	242	2700	371	116	105	98
30	114	185	170	98	---	409	242	3410	340	110	104	100
31	106	---	165	96	---	374	---	3580	---	112	103	---
TOTAL	3081	4042	6014	3619	11410	17697	9205	30743	43082	6504	3274	3212
MEAN	99.4	135	194	117	408	571	307	992	1436	210	106	107
MAX	131	185	267	165	1400	1010	474	3580	4570	390	139	126
MIN	74	106	102	94	90	339	196	210	340	110	87	94
AC-FT	6110	8020	11930	7180	22630	35100	18260	60980	85450	12900	6490	6370
CAL YR 1981	TOTAL	51707	MEAN 142	MAX 419	MIN 65	AC-FT 102600						
WTR YR 1982	TOTAL	141883	MEAN 389	MAX 4570	MIN 74	AC-FT 281400						

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 (61 m) downstream from U.S. Highway 81 bridge, 1 mi (2 km) south of intersection of U.S. Highways 81 and 275, and 3.6 mi (5.8 km) upstream from North Fork Elkhorn River.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1390: 1898-1900. WSP 1730: Drainage area.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s (479 m³/s) June 14, 1967, gage height, 8.52 ft (2.597 m), site and datum then in use; maximum gage height observed, 13.63 ft (4.154 m) Mar. 11, 1949, at site 200 ft (60 m) upstream at present datum, backwater from ice; minimum daily discharge, 33 ft³/s (0.93 m³/s) Aug. 3, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Feb. 20	----	3100	87.8	*a11.37	3.466	May 31	0630	*4590	130	5.86	1.786
May 26	1000	3780	107	5.32	1.622						

Minimum daily discharge, 110 ft³/s (3.12 m³/s) Dec. 17.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	173	329	220	180	1060	561	375	3770	535	188	193
2	151	194	329	220	175	974	567	368	4060	519	177	194
3	153	249	285	220	175	968	556	359	4070	581	169	192
4	160	266	309	230	170	896	549	351	3480	498	163	186
5	156	263	301	230	170	787	564	353	2460	442	789	171
6	147	252	297	220	170	709	543	365	1940	431	831	171
7	152	245	325	200	180	677	568	362	1730	447	397	169
8	157	238	342	190	190	642	581	355	1500	467	263	169
9	154	222	359	170	210	606	589	389	1300	447	234	170
10	157	219	373	150	220	620	626	337	1090	432	269	169
11	163	216	370	170	230	703	641	327	1120	417	394	167
12	171	216	358	180	235	721	663	332	1110	382	320	182
13	179	212	342	200	240	750	648	336	1070	348	251	179
14	220	209	339	200	250	833	629	373	1050	389	235	179
15	266	206	332	190	280	826	622	408	1330	498	240	182
16	234	200	170	190	350	802	628	420	1320	389	235	186
17	231	194	110	210	500	795	593	462	1600	362	230	194
18	225	194	130	200	700	762	515	474	1560	336	221	199
19	229	191	160	200	1200	940	496	464	1460	314	212	200
20	218	188	190	195	3000	1090	486	865	1300	298	208	198
21	213	197	220	195	1920	1060	461	970	1320	282	193	189
22	205	191	240	200	1280	944	423	1110	1200	271	195	182
23	199	203	240	200	1280	848	396	1150	1070	254	190	182
24	203	200	230	195	1160	809	374	1400	993	241	197	185
25	209	203	220	190	1090	752	361	2070	913	230	197	185
26	208	206	230	190	1130	693	359	3630	808	221	200	182
27	212	206	250	195	1220	620	355	3460	728	229	191	185
28	202	203	245	200	1200	596	364	3290	747	261	183	187
29	200	206	240	200	---	593	385	3080	613	235	195	215
30	194	249	240	195	---	580	390	3170	574	213	213	204
31	185	---	230	190	---	571	---	4390	---	199	198	---
TOTAL	5906	6411	8335	6135	19105	24227	15493	35755	47286	11168	8178	5546
MEAN	191	214	269	198	682	782	516	1153	1576	360	264	185
MAX	266	266	373	230	3000	1090	663	4390	4070	581	831	215
MIN	147	173	110	150	170	571	355	327	574	199	163	167
AC-FT	11710	12720	16530	12170	37890	48050	30730	70920	93790	22150	16220	11000
CAL YR 1981	TOTAL	86965	MEAN 238									

PLATTE RIVER BASIN

06799000 ELKHORN RIVER AT NORFOLK, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-69, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (000095)	PH (UNITS) (000400)	TEMPER- ATURE (DEG C) (000010)	OXYGEN, DIS- SOLVED (MG/L) (000300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (000340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CaCO3) (000900)	CALCIUM DIS- SOLVED (MG/L AS Ca) (000915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg) (000925)
OCT												
06...	1730	156	325	8.2	17.5	10.2	24	1800	140	160	51	7.8
NOV												
03...	0730	305	295	7.8	9.5	10.1	43	500	2300	150	47	7.3
DEC												
16...	1620	140	360	8.1	.5	14.2	0	580	312	160	51	7.7
FEB												
03...	1030	200	335	7.3	.0	--	22	900	520	160	50	7.8
10...	1530	220	355	7.9	.0	6.3	47	1400	980	160	50	7.8
MAR												
10...	1630	342	290	7.8	8.2	10.9	27	K190	1350	140	44	6.9
APR												
22...	0645	700	350	8.4	7.5	10.7	28	420	K300	150	46	7.6
JUN												
03...	0700	2460	305	7.6	16.0	7.6	98	K4800	K2000	130	40	7.0
JUL												
15...	1510	640	320	8.2	29.0	6.2	130	730	1800	140	45	7.1
29...	0730	219	315	8.2	22.0	7.4	110	5500	12000	130	42	6.8
SEP												
01...	1230	225	337	7.7	24.0	9.9	46	K6200	4600	150	47	7.9
15...	1700	215	320	8.2	15.0	10.4	66	1400	K810	150	48	7.8

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (000945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (000940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (000530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (000500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (000630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (000610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (000605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (000625)	NITRO- GEN, TOTAL (MG/L AS N) (000600)	PHOS- PHORUS, TOTAL (MG/L AS P) (000665)	CARBON, ORGANIC TOTAL (MG/L AS C) (000680)
OCT											
06...	5.0	3.3	--	265	.42	.090	.61	.70	1.1	.250	4.4
NOV											
03...	6.0	3.5	--	218	.41	.060	.83	.89	1.3	.160	4.1
DEC											
16...	9.0	4.4	--	247	.68	.180	.82	1.00	1.7	.150	6.9
FEB											
03...	<5.0	7.0	40	--	.73	.300	.38	.68	1.4	.170	2.7
10...	6.0	3.7	49	--	.79	.280	1.6	1.90	2.7	.210	4.1
MAR											
10...	<5.0	3.6	125	--	.52	.340	.96	1.30	1.8	.280	7.5
APR											
22...	5.0	3.8	53	--	.39	<.060	--	1.10	1.5	.270	7.2
JUN											
03...	8.0	5.0	552	--	.21	.230	1.8	2.00	2.2	.420	25
JUL											
15...	10	3.4	1480	--	.51	.240	11	11.0	12	.420	45
29...	10	4.2	1240	--	.81	.130	6.2	6.30	7.1	1.10	--
SEP											
01...	11	3.8	62	--	<.10	<.060	--	1.90	--	.240	9.9
15...	10	3.9	42	--	.30	.140	1.3	1.40	1.7	.330	6.3

06799000 ELKHORN RIVER AT NORFOLK, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
NOV 03...	0730	.00	8.9	.3	6.9	150	.3	35	207	.24
FEB 10...	1530	.00	9.8	.4	7.3	180	.3	46	243	.33
JUN 03...	0700	.00	11	.4	8.6	145	.4	39	206	.28
SEP 01...	1230	.00	9.6	.4	7.8	168	.3	36	224	.30

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS H) (01020)	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)
NOV 03...	170	.40	.140	6	200	20	<1	<10	6	1700
FEB 10...	144	.78	.050	5	200	30	<1	10	6	400
JUN 03...	1370	.21	.170	7	400	30	<1	20	18	12000
SEP 01...	136	<.10	.180	--	--	40	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FF) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 03...	--	<10	2	190	--	19	.2	1	<1	10
FEB 10...	--	17	2	80	--	70	<.0	2	<1	60
JUN 03...	12000	140	20	470	470	5	.1	1	<1	60
SEP 01...	--	11	--	--	--	7	--	--	--	--

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 (10.9 km) south of Foster and 7.2 mi (11.6 km) southwest of Pierce.

DRAINAGE AREA.--137 mi² (355 km²).

PERIOD OF RECORD.--October 1975 (monthly discharge only) to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,650 ft (503 m) from topographic map.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--7 years, 8.40 ft³/s (0.238 m³/s), 6,090 acre-ft/yr (7.51 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 275 ft³/s (7.79 m³/s) Mar. 23, 1979, gage height, 7.62 ft (2.323 m), backwater from ice; maximum gage height, 8.21 ft (2.502 m) Mar. 19, 1978, from high-water mark, backwater from ice; minimum daily discharge, 1.5 ft³/s (0.042 m³/s) Feb. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 106 ft³/s (3.00 m³/s) May 28, gage height, 5.58 ft (1.701 m); minimum gage height, 6.88 ft (2.097 m) Feb. 21, backwater from ice; minimum daily discharge, 3.0 ft³/s (0.085 m³/s) Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.7	6.3	6.4	5.0	11	12	6.2	86	7.4	4.1	3.7
2	4.1	5.9	6.6	6.4	4.7	9.3	12	5.5	96	8.2	4.0	3.5
3	4.4	6.8	11	6.2	4.3	8.7	9.8	5.2	52	8.4	3.9	3.3
4	4.4	6.3	11	6.0	4.1	8.8	18	4.9	34	7.3	3.2	3.3
5	4.4	5.6	11	6.2	4.0	8.0	14	5.2	26	7.2	3.9	3.3
6	4.4	5.4	13	5.8	3.9	7.8	13	6.3	23	10	4.4	3.2
7	4.6	5.6	12	5.4	4.4	7.6	13	5.4	18	9.2	4.2	3.2
8	4.4	5.3	11	5.6	4.8	7.4	13	5.1	16	8.2	3.9	3.3
9	4.3	5.2	10	4.8	5.0	7.6	14	4.8	16	7.5	3.7	3.3
10	4.4	5.5	9.6	3.9	5.4	9.2	17	4.3	14	7.2	4.7	3.4
11	4.5	5.4	9.1	4.3	5.8	10	18	3.8	13	7.0	4.6	3.2
12	4.6	5.4	8.8	4.4	6.2	10	17	4.2	12	6.5	4.4	3.3
13	4.9	5.5	8.3	4.7	6.8	11	14	4.4	10	6.7	4.4	3.5
14	5.1	5.5	7.4	5.0	7.2	9.3	13	4.7	13	8.4	4.4	3.9
15	5.4	5.4	6.8	4.7	7.8	9.6	15	5.1	15	7.4	4.7	3.9
16	5.2	5.1	6.0	4.4	8.8	9.5	14	5.9	13	6.8	4.7	4.0
17	5.6	5.1	5.4	4.9	10	9.4	16	6.3	12	5.9	4.4	4.1
18	5.2	5.2	5.0	5.2	12	9.6	15	7.3	11	6.0	4.1	4.1
19	5.1	4.4	6.0	5.0	14	16	13	6.6	10	5.6	4.0	3.9
20	4.9	3.6	7.0	4.9	17	29	11	6.8	9.3	5.3	3.6	3.6
21	4.8	6.3	7.4	4.8	20	29	10	9.4	8.8	5.0	3.4	3.6
22	4.8	6.3	7.2	4.5	24	25	9.4	12	8.2	4.7	3.5	3.9
23	4.9	7.0	7.5	4.4	24	21	8.8	13	7.8	4.4	3.4	3.7
24	5.1	6.7	7.4	4.2	23	18	8.4	15	7.6	4.3	3.1	3.5
25	4.9	6.2	6.8	4.5	21	15	7.6	28	7.3	3.9	3.1	3.4
26	5.2	5.5	7.0	5.0	16	14	7.1	52	6.9	4.2	3.2	3.6
27	5.2	5.2	6.8	4.8	14	13	6.6	73	6.7	6.6	3.1	3.4
28	5.2	5.8	6.8	4.7	12	13	6.9	102	6.8	5.3	3.0	3.3
29	5.2	5.3	6.6	4.5	---	13	7.3	88	6.9	4.9	3.6	3.3
30	5.3	7.6	7.0	4.7	---	13	6.9	59	6.6	4.5	3.9	4.5
31	4.8	---	6.5	4.8	---	13	---	70	---	4.2	3.8	---
TOTAL	149.4	168.8	248.3	155.1	295.2	395.8	360.8	629.4	572.9	198.2	120.4	107.2
MEAN	4.82	5.63	8.01	5.00	10.5	12.8	12.0	20.3	19.1	6.39	3.88	3.57
MAX	5.6	7.6	13	6.4	24	29	18	102	96	10	4.7	4.5
MIN	4.1	3.6	5.0	3.9	3.9	7.4	6.6	3.8	6.6	3.9	3.0	3.2
AC-FT	296	335	493	308	586	785	716	1250	1140	393	239	213
CAL YR 1981	TOTAL	2215.5	MEAN	6.07	MAX	30	MIN	1.5	AC-FT	4390		
WTR YR 1982	TOTAL	3401.5	MEAN	9.32	MAX	102	MIN	3.0	AC-FT	6750		

PLATTE RIVER BASIN

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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 winqwall of county road bridge, 2.5 mi (4.0 km) southeast of Pierce.

DRAINAGE AREA.--700 mi² (1,810 km²), approximately, of which about 30 mi² (78 km²) is noncontributing.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,553.07 ft (473.376 m) National Geodetic Vertical Datum of 1929 (U.S. Weather Bureau levels).

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--22 years, 77.9 ft³/s (2.206 m³/s), 56,440 acre-ft/yr (69.6 hm³/yr); median of yearly mean discharges, 64 ft³/s (1.812 m³/s), 46,400 acre-ft/yr (57.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s (430 m³/s) Feb. 19, 1971, gage height, 15.10 ft (4.602 m); minimum daily, 3.8 ft³/s (0.11 m³/s) July 24, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 870 ft³/s (24.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 22	----	1450 41.1	Ice jam	May 26	1930	1660 47.0	12.27 3.740
May 21	2400	1450 41.1	11.76 3.584	May 31	1030	*2060 58.3	13.14 4.005

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Jan. 10, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	29	32	30	40	74	61	56	1570	80	28	27
2	22	29	37	32	35	74	62	55	495	78	27	27
3	22	32	44	30	30	59	49	53	309	76	25	26
4	23	31	46	26	33	63	66	52	231	74	27	25
5	23	30	42	30	32	67	73	54	194	72	47	26
6	23	28	44	27	28	66	66	56	175	70	204	25
7	23	28	43	23	40	61	69	54	159	70	182	23
8	23	28	40	28	37	63	66	51	152	70	74	23
9	23	28	39	22	32	61	65	49	154	69	54	25
10	24	28	38	20	35	63	74	48	148	65	49	26
11	24	28	37	25	35	72	81	46	143	60	44	25
12	27	28	37	25	38	85	77	48	145	55	41	26
13	27	28	37	27	43	97	67	89	147	53	39	27
14	29	29	35	30	54	79	62	70	256	65	38	26
15	29	29	33	33	60	72	63	112	331	89	39	27
16	27	29	30	20	70	69	69	110	195	77	38	26
17	29	29	23	28	80	68	70	82	152	63	37	27
18	28	29	22	30	90	66	67	72	135	55	35	27
19	28	30	28	24	300	83	62	460	125	101	34	26
20	27	25	32	24	700	151	58	601	118	142	30	26
21	26	24	42	25	1060	121	55	1130	110	59	29	26
22	26	31	38	24	1160	104	55	1250	104	44	29	26
23	26	33	37	21	800	92	52	395	100	36	27	27
24	27	33	39	24	292	81	52	193	96	35	27	25
25	27	32	35	24	144	73	52	444	94	31	26	26
26	26	31	37	35	108	68	51	1350	92	28	25	27
27	25	28	37	45	87	65	50	926	90	43	26	27
28	26	29	35	42	81	63	51	508	86	41	26	28
29	27	29	33	43	---	64	54	420	84	38	26	30
30	27	36	39	38	---	66	55	700	82	33	27	33
31	26	---	32	35	---	64	---	1930	---	30	26	---
TOTAL	792	881	1123	890	5544	2354	1854	11464	6272	1902	1386	791
MEAN	25.5	29.4	36.2	28.7	198	75.9	61.8	370	209	61.4	44.7	26.4
MAX	29	36	46	45	1160	151	81	1930	1570	142	204	33
MIN	22	24	22	20	28	59	49	46	82	28	25	23
AC-FT	1570	1750	2230	1770	11000	4670	3680	22740	12440	3770	2750	1570
CAL YR 1981 TOTAL	13060.6			MEAN 35.8	MAX 575	MIN 8.4	AC-FT 25910					
WTR YR 1982 TOTAL	35253.0			MEAN 96.6	MAX 1930	MIN 20	AC-FT 69920					

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 (4 m) downstream from bridge on U.S. Highway 81, in Madison.

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

GAGE.--Water-stage recorder. Datum of gage is 1,549.70 ft (472.349 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,540 ft³/s (157 m³/s) May 19, 1982, gage height, 21.15 ft (6.447 m), from floodmark; minimum daily, 3.6 ft³/s (0.10 m³/s) July 30, 31, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,540 ft³/s (157 m³/s) May 19, gage height, 21.15 ft (6.447 m), from floodmark; minimum daily, 7.2 ft³/s (0.20 m³/s) Aug. 4.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	27	14	13	21	20	16	67	22	11	24
2	11	25	24	14	13	21	21	16	45	27	10	18
3	11	22	21	14	12	19	22	16	40	23	8.3	16
4	11	19	18	14	13	19	23	16	36	24	7.2	16
5	11	17	20	14	12	18	23	21	35	48	59	15
6	10	12	19	13	12	17	23	19	33	416	25	14
7	13	14	18	12	13	17	23	17	30	67	14	18
8	8.5	16	16	14	13	17	24	17	35	31	13	13
9	9.5	14	16	12	12	16	26	17	32	29	20	12
10	9.4	14	16	12	12	23	27	16	34	623	75	13
11	9.6	14	16	16	12	34	25	20	34	158	70	13
12	11	14	15	15	12	50	24	150	30	42	32	16
13	11	15	15	13	13	46	22	35	27	29	35	17
14	13	14	15	13	13	36	21	26	54	26	19	15
15	14	16	14	13	15	27	22	29	179	25	16	14
16	12	15	14	12	18	24	20	27	76	21	14	13
17	13	15	14	13	24	21	19	26	40	21	13	15
18	13	15	13	13	104	20	18	27	54	20	11	15
19	11	16	14	13	565	366	18	2320	50	18	11	19
20	11	15	14	13	1390	349	17	501	33	16	11	16
21	12	15	14	12	730	45	16	167	27	15	11	14
22	12	15	14	12	209	31	16	71	25	13	12	13
23	12	16	14	8.8	99	28	16	43	24	13	11	13
24	12	15	14	20	44	24	16	42	23	13	13	12
25	12	15	14	18	29	22	16	934	22	13	12	12
26	12	15	14	15	23	21	16	1550	22	12	11	13
27	14	15	14	15	22	22	15	693	21	12	11	13
28	14	16	14	15	21	22	17	79	21	12	12	12
29	12	17	14	14	---	23	17	55	20	12	23	12
30	13	33	14	13	---	22	16	146	21	12	208	14
31	12	---	12	13	---	20	---	650	---	13	50	---
TOTAL	361.0	488	491	422.8	3468	1441	599	7762	1190	1826	848.5	440
MEAN	11.6	16.3	15.8	13.6	124	46.5	20.0	250	39.7	58.9	27.4	14.7
MAX	14	33	27	20	1390	366	27	2320	179	623	208	24
MIN	8.5	12	12	8.8	12	16	15	16	20	12	7.2	12
AC-FT	716	968	974	839	6880	2860	1190	15400	2360	3620	1680	873
CAL YR 1981	TOTAL	7377.7	MEAN	20.2	MAX	1350	MIN	3.9	AC-FT	14630		
WTR YR 1982	TOTAL	19337.3	MEAN	53.0	MAX	2320	MIN	7.2	AC-FT	38360		

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 (2 km) west of West Point.

DRAINAGE AREA.--5,100 mi² (13,200 km²), approximately, of which about 4,100 mi² (10,600 km²) contributes directly to surface runoff.

WATER DISCHARGE RECORDS

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 (393.576 m) National Geodetic Vertical Datum of 1929. Prior to May 18, 1976, at site on left bank 50 ft (15 m) upstream from bridge at same datum.

REMARKS.--Records fair except those for winter period, which are poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--14 years (water years 1969-82), 689 ft³/s (19.51 m³/s), 449,200 acre-ft/yr (0.554 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge estimated, 33,000 ft³/s (935 m³/s) June 25, 1969, gage height, 13.21 ft (4.026 m); maximum gage height, 16.09 ft (4.904 m) Mar. 18, 1978, ice jam; minimum daily, 41 ft³/s (1.16 m³/s) Aug. 31, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1960 reached a stage of 19.09 ft (5.819 m), backwater from ice; observed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (127 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	----	*15000 425	Ice jam	June 1	0530	6700 190	9.00 2.743
Feb. 22	----	Ice jam	*a16.37 4.990	July 6	0930	12900 365	10.38 3.164
May 20	1130	6520 185	8.95 2.728	July 10	0830	13200 374	10.44 3.182
May 27	0230	10800 306	9.97 3.039				

a From floodmark.

Minimum daily discharge, 194 ft³/s (5.49 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	275	416	310	240	1410	700	523	6420	1200	395	700
2	194	294	468	310	230	1210	690	521	5860	1160	374	635
3	196	308	491	300	230	1130	690	526	5000	1120	338	482
4	198	315	435	320	235	1060	690	529	4400	1140	304	412
5	197	327	434	340	220	958	690	520	3500	1170	5950	378
6	200	328	439	330	220	890	680	558	2950	6030	2950	356
7	204	324	435	310	230	812	690	551	2250	2480	1150	340
8	209	312	431	310	240	759	700	550	1850	1140	960	340
9	214	301	429	260	250	728	720	535	1750	900	720	332
10	212	303	430	200	250	708	740	502	1520	5500	630	332
11	212	305	445	230	260	867	760	479	1350	2640	620	332
12	216	296	451	230	270	912	770	456	1130	900	880	332
13	222	300	457	230	270	994	790	495	1100	680	940	360
14	235	306	464	240	270	994	780	698	1150	830	710	376
15	256	306	420	230	280	982	790	667	1350	730	620	384
16	289	302	270	220	300	1010	800	697	1800	900	565	384
17	303	301	200	230	500	994	780	756	1900	790	531	384
18	293	301	300	240	900	947	750	842	1850	710	490	386
19	287	297	330	230	3000	1530	720	1450	1840	1580	485	392
20	286	290	340	220	14800	2680	670	5370	1720	990	455	385
21	275	280	340	220	10800	1900	640	4300	1450	844	430	376
22	270	300	340	220	5500	1370	620	2350	1300	810	400	376
23	270	318	340	230	4400	1160	590	2300	1200	640	385	371
24	275	316	330	220	3100	1030	559	1370	1370	565	390	361
25	279	326	320	210	1940	947	533	1950	1470	488	400	354
26	279	328	320	220	1710	890	509	7940	1470	501	408	354
27	279	327	320	230	1680	823	491	8360	1330	600	402	354
28	276	320	310	240	1600	780	466	5100	1220	478	391	354
29	274	326	310	250	---	777	476	3400	1220	458	384	354
30	274	354	310	240	---	740	498	3100	1210	459	374	1020
31	274	---	320	240	---	720	---	4900	---	439	471	---
TOTAL	7645	9286	11645	7810	53925	32712	19982	62295	63930	38872	24502	12296
MEAN	247	310	376	252	1926	1055	666	2010	2131	1254	790	410
MAX	303	354	491	340	14800	2680	800	8360	6420	6030	5950	1020
MIN	194	275	200	200	220	708	466	456	1100	439	304	332
AC-FT	15160	18420	23100	15490	107000	64880	39630	123600	126800	77100	48600	24390
CAL YR 1981	TOTAL	129016	MEAN	353	MAX	2000	MIN	142	AC-FT	255900		
WTR YR 1982	TOTAL	344900	MEAN	945	MAX	14800	MIN	194	AC-FT	684100		

PLATTE RIVER BASIN

06799350 ELKHORN RIVER AT WEST POINT, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1968-69, October 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
06...	1000	350	420	8.2	10.0	10.4	31	4000	370	200	62	11
NOV												
02...	1215	296	360	8.0	9.5	10.7	49	1500	1000	170	54	9.4
DEC												
16...	1200	269	490	7.8	.2	12.7	35	K2100	K12500	200	61	11
FFB												
03...	1400	240	440	7.4	.0	--	16	1200	1800	200	61	11
10...	0930	250	495	7.5	.0	6.7	12	2600	1500	200	63	11
MAR												
10...	1315	729	370	7.8	2.2	12.6	31	350	6000	190	59	9.8
APR												
22...	1510	591	430	8.5	10.5	10.5	31	K42	740	180	54	10
JUN												
03...	0940	5000	340	7.8	16.5	8.2	110	24000	10000	140	44	8.5
JUL												
16...	0950	913	410	8.2	27.0	8.4	74	--	9900	180	57	10
29...	1000	494	465	8.5	24.5	8.8	46	1800	K1700	220	65	13
SEP												
01...	0930	1390	433	7.5	23.0	7.2	110	33000	K110000	180	55	11
15...	1220	380	435	8.5	14.5	11.1	46	28000	21000	210	62	13

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

DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
06...	10	13	--	326	.58	.080	.44	.52	1.1	.320	5.6
NOV											
02...	23	10	--	281	.57	.070	.80	.87	1.4	.200	4.2
DEC											
16...	8.0	12	--	307	1.1	.390	1.2	1.60	2.7	.250	6.8
FFB											
03...	10	8.5	44	--	1.1	.670	.63	1.30	2.4	.270	2.7
10...	11	10	21	--	1.1	.760	1.7	2.50	3.6	.320	4.3
MAR											
10...	5.0	9.7	217	--	.66	.780	.92	1.70	2.4	.240	12
APR											
22...	5.0	9.0	99	--	.65	.130	1.6	1.70	2.4	.340	8.1
JUN											
03...	20	5.4	799	--	.50	.330	2.9	3.20	3.7	.700	33
JUL											
16...	27	7.9	664	--	.75	.220	3.3	3.50	4.3	.480	27
29...	30	9.6	125	--	.11	.090	1.7	1.80	1.0	.530	13
SEP											
01...	29	9.5	760	--	.80	.230	5.6	5.80	6.6	.980	30
15...	27	10	90	--	.20	.170	1.1	1.30	1.5	.500	9.7

PLATTE RIVER BASIN

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06799350 ELKHORN RIVER AT WEST POINT, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	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)
NOV 02...	1215	4.0	15	.5	6.9	170	.3	31	254	.35
FEB 10...	0930	.00	17	.5	8.4	220	.3	41	299	.41
JUN 03...	0940	.00	11	.4	8.8	149	.4	35	223	.30
SEP 01...	0930	6.0	15	.5	10	177	.4	22	262	.36

DATE	SOLIDS, DIS- SOLVED PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 02...	203	.57	.180	7	200	20	<1	<10	8	2100
FEB 10...	202	1.1	.280	4	200	40	7	10	32	690
JUN 03...	3010	.48	.180	10	300	30	<1	30	38	20000
SEP 01...	983	.82	.230	--	--	60	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SF) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 02...	--	<10	2	170	--	11	.1	2	<1	20
FEB 10...	--	<10	8	90	30	64	.3	3	<1	200
JUN 03...	20000	150	22	790	780	8	.2	2	<1	110
SEP 01...	--	25	--	--	--	2	--	--	--	--

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 (4 m) downstream from bridge on county road, 1 mi (2 km) southwest of Scribner and 3 mi (5 km) upstream from mouth.

DRAINAGE AREA.--204 mi² (528 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1,234.72 ft (376.343 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,290 ft³/s (206 m³/s) May 21, 1982, gage height, 22.52 ft (6.864 m) from rating curve extended above 1,300 ft³/s (36.8 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.29 ft³/s (0.008 m³/s) July 20, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,290 ft³/s (206 m³/s) May 21, gage height, 22.52 ft (6.864 m) from rating curve extended above 1,300 ft³/s (36.8 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 2.7 ft³/s (0.076 m³/s) Dec. 16.

REVISIONS.--The maximum discharge for the water year 1980 has been revised to 4,950 ft³/s (138.6 m³/s) June 13, 1980, gage height, 19.13 ft (5.83 m); revised daily discharges, in cubic feet per second, for the high-water period in June 1980 are given below. These figures supersede those published in the report for 1980.

June 12----- 1,054 June 13----- 1,670 June 15----- 1,660

	TOTAL	MEAN	MAX	MIN	ACRE-FT
June 1980	5,724.50	191	1,670	7.4	11,350
WTR YR 1980	11,822.50	32.3	1,670	3.7	23,450
CAL YR 1980	10,717.50	29.3	1,670	3.0	21,260

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.0	9.6	4.3	6.1	10	9.5	6.6	39	24	13	16
2	3.4	5.0	5.6	4.3	5.5	11	9.2	6.4	34	21	13	10
3	3.5	7.0	5.2	4.1	4.5	11	8.6	6.6	32	21	12	8.6
4	3.8	6.2	5.4	4.1	4.6	10	9.1	6.6	30	19	36	13
5	3.6	5.3	5.2	4.1	4.7	10	8.7	8.4	28	18	617	13
6	3.6	4.5	5.2	3.8	4.7	9.8	8.6	9.2	25	273	143	15
7	3.6	5.0	5.4	4.1	4.9	9.6	8.5	8.6	23	66	21	15
8	3.3	5.2	5.6	4.1	4.9	9.2	9.1	8.5	29	23	14	14
9	3.5	5.2	5.4	4.3	4.5	9.0	9.5	7.3	44	21	24	15
10	3.2	5.0	5.2	4.0	4.7	10	9.9	6.7	22	1050	506	16
11	3.5	5.2	5.1	3.5	4.3	68	10	7.3	17	184	68	14
12	3.8	5.4	5.2	2.8	4.5	89	9.4	8.1	16	37	48	182
13	4.0	5.6	5.4	3.0	5.0	68	8.8	6.5	16	25	202	230
14	4.0	5.4	5.2	3.5	5.4	37	8.2	6.8	27	23	41	63
15	4.3	5.2	5.0	3.7	5.8	18	8.4	22	178	21	30	36
16	4.3	5.2	2.7	3.7	6.4	13	8.5	8.4	38	20	27	33
17	4.0	5.2	4.3	3.7	6.9	12	9.4	7.0	21	16	24	36
18	4.0	5.4	3.8	4.7	8.3	11	8.9	6.8	137	15	23	49
19	4.0	5.2	4.4	5.0	180	540	7.9	662	33	123	24	30
20	4.9	5.0	4.4	4.8	250	135	7.0	210	21	105	24	23
21	4.1	4.8	4.7	4.8	350	31	6.7	4140	18	34	24	19
22	3.6	5.0	4.6	5.0	340	19	6.9	520	17	53	23	18
23	3.5	5.4	4.6	4.8	220	16	6.8	74	15	19	23	18
24	3.6	4.8	4.5	5.0	16	14	6.5	235	92	15	67	18
25	3.6	5.2	4.4	5.2	9.5	13	6.5	982	221	14	99	17
26	3.5	5.2	4.3	6.4	9.2	11	6.3	779	35	96	20	17
27	3.6	5.0	4.4	6.6	9.8	11	6.2	654	29	308	19	17
28	3.8	4.8	4.6	7.0	10	10	6.5	81	26	30	19	17
29	3.6	4.8	4.5	7.8	---	10	7.0	61	22	17	355	17
30	3.8	5.0	4.4	6.4	---	11	7.0	50	25	15	394	203
31	3.6	---	4.6	6.4	---	9.9	---	53	---	14	24	---
TOTAL	116.0	155.2	152.9	145.0	1490.2	1246.5	243.6	8648.8	1310	2720	2977	1192.6
MEAN	3.74	5.17	4.93	4.68	53.2	40.2	8.12	279	43.7	87.7	96.0	39.8
MAX	4.9	7.0	9.6	7.8	350	540	10	4140	221	1050	617	230
MIN	3.2	4.0	2.7	2.8	4.3	9.0	6.2	6.4	15	14	12	8.6
AC-FT	230	308	303	288	2960	2470	483	17150	2600	5400	5900	2370
CAL YR 1981 TOTAL	2276.86			MEAN 6.24	MAX 256	MIN .29	AC-FT 4520					
WTR YR 1982 TOTAL	20397.80			MEAN 55.9	MAX 4140	MIN 2.7	AC-FT 40460					

PLATTE RIVER BASIN

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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 (61 m) downstream from bridge on Nebraska State Highway 94 at Pender and 0.7 mi (1.1 km) downstream from Rattlesnake Creek.

DRAINAGE AREA.--731 mi² (1,890 km²), approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--water-stage recorder. Datum of gage is 1,300.96 ft (396.533 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1966, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--17 years, 125 ft³/s (3.540 m³/s), 90,560 acre-ft/yr (0.112 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s (1,050 m³/s) Feb. 19, 1971, gage height, 23.11 ft (7.044 m); minimum daily, 12 ft³/s (0.34 m³/s) Aug. 11, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	----	8250 234	*a15.34 4.676	May 30	2400	3350 94.9	10.00 3.048
May 19	1745	3920 111	10.52 3.206	July 6	0615	8400 238	15.26 1.603
May 21	0300	7900 224	14.84 4.523	July 10	0315	3750 106	10.52 3.206
May 25	0445	3250 92.0	9.87 3.008	Aug. 5	1330	4700 133	b12.25 3.734
May 26	1615	4250 120	11.26 3.432				

a From floodmark.

b From hydrographers reading.

Minimum daily discharge, 18 ft³/s (0.51 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	36	76	40	32	77	66	50	527	342	78	104
2	32	38	63	42	32	74	63	48	290	194	78	76
3	33	42	53	41	26	69	46	47	243	110	75	67
4	35	41	48	40	27	69	72	45	218	98	72	63
5	34	38	48	45	26	71	81	47	193	114	2290	65
6	35	37	48	38	18	72	71	51	182	3750	363	65
7	36	38	48	40	24	68	71	49	168	766	166	64
8	36	37	47	43	27	68	70	47	163	317	115	62
9	36	37	47	30	23	74	68	47	160	818	97	61
10	39	39	53	20	26	110	72	46	151	1330	89	64
11	40	40	66	28	25	180	84	95	141	254	85	64
12	43	40	54	28	27	146	80	100	135	187	83	66
13	40	41	48	32	28	103	70	157	130	157	80	71
14	44	42	45	38	29	95	64	82	131	173	79	73
15	70	42	42	40	31	88	59	67	251	186	80	63
16	56	40	19	28	32	83	58	62	159	151	73	68
17	48	42	20	40	34	79	58	61	129	128	75	68
18	43	43	27	45	39	77	57	59	124	118	70	68
19	41	42	35	39	400	180	54	1360	118	312	67	66
20	41	39	45	33	7000	258	52	2240	108	342	66	66
21	39	52	48	37	4000	117	53	3950	103	117	66	65
22	38	60	46	38	1850	90	53	840	99	89	66	62
23	38	49	44	30	919	84	52	296	96	83	65	65
24	40	45	46	35	161	80	52	216	89	81	70	63
25	41	45	40	33	85	74	50	1520	123	79	66	61
26	39	45	42	37	82	71	49	3000	90	88	64	62
27	39	45	41	40	79	70	49	996	82	203	62	63
28	39	43	40	37	78	69	50	407	77	110	65	61
29	39	46	37	40	---	70	52	424	71	84	68	62
30	39	53	45	35	---	71	51	1050	241	81	69	96
31	36	---	40	30	---	68	---	1650	---	79	70	---
TOTAL	1242	1277	1401	1122	15160	2905	1827	19109	4792	10931	4918	2030
MEAN	40.1	42.6	45.2	36.2	541	93.7	60.9	616	160	353	159	67.7
MAX	70	60	76	45	7000	258	84	3950	527	3750	2290	104
MIN	32	36	19	20	18	68	46	45	71	79	62	61
AC-FT	2460	2530	2780	2230	30070	5760	3620	37900	9500	21680	9750	4030
CAL YR 1981 TOTAL	25196			69.0	MAX 3990	MIN 19	AC-FT 49980					
WTR YR 1982 TOTAL	66714			183	MAX 7000	MIN 18	AC-FT 132300					

PLATTE RIVER BASIN
06799450 LOGAN CREEK AT PENDER, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-68, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
06...	1115	55	780	8.2	11.5	13.3	28	1300	290	390	110	27
NOV												
02...	1445	40	710	7.8	10.5	12.2	38	480	1100	350	99	24
DEC												
16...	1400	19	980	8.4	.5	13.8	20	310	440	450	130	31
FEB												
03...	1200	32	--	7.6	.0	--	11	180	320	380	110	26
10...	1100	38	840	8.0	.0	8.2	<7	280	220	380	112	25
MAR												
10...	1430	86	800	7.7	2.0	12.0	17	450	2100	420	120	29
APR												
22...	1345	56	820	8.4	13.0	10.5	18	K200	84	390	110	28
JUN												
03...	0900	235	900	7.9	15.5	8.8	41	25000	12000	450	130	31
JUL												
16...	1200	148	775	8.3	25.5	8.0	56	K12000	7400	410	120	26
29...	1200	85	800	8.0	24.0	7.8	40	13000	6300	380	110	26
SEP												
01...	1100	122	525	7.3	19.0	6.2	170	--	K13000000	240	67	17
15...	1440	67	765	8.3	14.5	10.2	27	K1200	840	420	120	29

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
06...	120	18	--	554	1.1	.120	.63	.75	1.9	.240	4.7
NOV											
02...	110	12	--	497	.88	.050	.80	.85	1.7	.130	2.3
DEC											
16...	150	17	--	616	1.7	.670	.83	1.50	3.2	.390	3.7
FEB											
03...	130	12	37	--	2.1	.500	.38	.88	3.0	.140	1.9
10...	130	14	6	--	2.1	.540	2.2	2.70	4.8	.240	1.3
MAR											
10...	140	11	178	--	1.5	.710	.59	1.30	2.8	.170	5.5
APR											
22...	150	11	44	--	.84	.070	.68	.75	1.6	.180	3.3
JUN											
03...	170	8.9	374	--	5.1	.160	2.9	3.10	8.2	.460	21
JUL											
16...	130	8.6	758	--	3.5	.250	2.4	2.60	6.1	.350	17
29...	130	13	318	--	2.1	.350	2.5	2.80	4.9	.480	--
SEP											
01...	79	13	1310	--	1.5	.390	11	11.0	13	.220	56
15...	130	11	23	--	1.3	.250	1.8	2.00	3.3	.210	3.9

PLATTE RIVER BASIN

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06799450 LOGAN CREEK AT PENDER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
NOV 02...	1445	76	25	.6	6.2	270	.3	19	462	.63
FER 10...	1100	73	29	.7	6.5	310	.3	26	539	.73
JUN 03...	0900	150	26	.6	12	304	.4	20	581	.79
SEP 01...	1100	42	17	.5	11	195	.5	13	341	.46

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 02...	49.9	.86	.130	5	100	60	<1	<10	7	1000
FER 10...	55.2	2.1	.210	3	100	70	<1	10	5	580
JUN 03...	369	4.8	.290	6	300	70	<1	20	16	10000
SEP 01...	112	1.4	.220	--	--	60	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 02...	--	<10	0	180	--	110	.1	10	<1	10
FER 10...	--	<10	<1	180	--	150	.1	14	<1	20
JUN 03...	10000	4	29	500	490	13	.1	21	<1	70
SEP 01...	--	54	--	--	--	180	--	--	--	--

PLATTE RIVER BASIN

06799500 LOGAN CREEK NEAR UEHLING, NE

LOCATION.--Lat 41°42'50"N, long 96°31'15"W, on south line of SE1/4SE1/4 sec.9, T.20 N., R.8 E., Dodge County, Hydrologic Unit 10220004, near right bank on downstream side of bridge on county road, 2 mi (3 km) southwest of Uehling and 8 mi (13 km) upstream from mouth.

DRAINAGE AREA.--1,030 mi² (2,670 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 1,208.73 ft (368.421 m) National Geodetic Vertical Datum of 1929. See WSP 1918 for history of changes prior to July 15, 1963.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--41 years, 176 ft³/s (4.984 m³/s), 127,500 acre-ft/yr (0.157 km³/yr); median of yearly mean discharges, 154 ft³/s (4.361 m³/s), 112,000 acre-ft/yr (0.138 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s (714 m³/s) Feb. 20, 1971, gage height, 20.15 ft (6.142 m), from floodmark; maximum gage height, 20.15 ft (6.142 m), Mar. 27, 1962, present datum, Feb. 20, 1971; minimum daily discharge, 6.1 ft³/s (0.17 m³/s) July 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1940, reached a stage of 20.6 ft (6.28 m), present datum, from floodmarks, discharge, 22,200 ft³/s (629 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	----	*11000 312	17.76 5.413	July 6	1430	7820 221	15.69 4.782
May 21	1130	9420 267	16.95 5.166	July 10	1100	3140 88.9	9.23 2.813
May 27	0130	3890 110	10.45 3.185	Aug. 5	2230	3540 100	9.84 2.999
May 31	1030	2460 69.7	8.02 2.444				

a From floodmark.

Minimum daily discharge, 23 ft³/s (0.65 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	50	61	43	33	150	82	75	1080	377	122	115
2	38	53	74	45	34	140	81	72	565	369	117	172
3	38	56	64	44	29	120	72	71	363	236	114	119
4	41	60	62	43	30	125	77	71	311	165	125	103
5	40	57	49	48	29	130	91	76	282	146	1480	99
6	39	54	50	40	23	135	101	79	254	4470	1700	97
7	38	50	51	42	28	130	89	79	230	1690	447	96
8	36	49	50	45	30	130	92	75	220	645	239	96
9	38	49	49	35	27	140	92	75	215	348	183	95
10	41	47	86	27	29	180	90	76	203	2200	192	93
11	39	47	82	31	28	210	91	95	190	829	156	94
12	40	48	57	31	30	170	102	119	182	340	335	173
13	41	48	56	36	31	135	99	122	173	252	236	204
14	45	49	52	41	32	125	89	171	175	218	162	143
15	48	48	50	43	34	118	86	116	193	280	160	116
16	66	47	28	34	36	114	83	94	301	281	154	107
17	63	46	29	44	38	112	83	90	192	198	145	110
18	57	46	36	48	42	110	80	91	220	665	135	108
19	49	47	42	43	180	150	78	204	195	592	129	101
20	48	44	50	37	4400	210	74	1790	162	634	125	96
21	46	47	52	39	8000	290	71	6850	150	349	118	92
22	46	53	50	41	3010	150	71	2110	144	197	115	94
23	44	63	48	33	1260	120	73	838	138	163	111	91
24	46	56	49	38	681	111	72	438	135	149	142	89
25	48	49	45	36	373	104	70	1610	133	139	140	90
26	48	48	46	40	200	95	71	2770	171	135	116	87
27	49	47	44	43	180	93	70	2520	138	446	107	88
28	50	45	43	41	160	90	70	914	130	279	103	87
29	49	68	42	43	---	90	72	538	123	175	134	89
30	49	57	48	39	---	93	73	801	128	144	138	182
31	50	---	43	33	---	90	---	1950	---	130	117	---
TOTAL	1408	1528	1588	1226	19007	4160	2445	24980	7096	17241	8257	3326
MEAN	45.4	50.9	51.2	39.5	679	134	81.5	806	237	556	266	111
MAX	66	68	86	48	8000	290	102	6850	1080	4470	1880	204
MIN	36	44	28	27	23	90	70	71	123	130	103	87
AC-FT	2790	3030	3150	2430	37700	8250	4850	49550	14070	34200	16380	6600
CAL YR 1981 TOTAL	27473			75.3	MAX 3340	MIN 18	AC-FT 54490					
WTR YR 1982 TOTAL	92262			253	MAX 8000	MIN 23	AC-FT 183000					

06800000 MAPLE CREEK NEAR NICKERSON, NE

LOCATION.--Lat 41°32'44", long 96°30'09", in NE1/4SW1/4 sec.10, T.18 N., R.8 E., Dodge County, Hydrologic Unit 10220003, on right bank 120 ft (37 m) upstream from bridge on U.S. Highways 77 and 275, 1.5 mi (2.4 km) northwest of Nickerson, and 4 mi (6 km) upstream from mouth.

DRAINAGE AREA.--450 mi² (1,170 km²), approximately.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1630: 1957-58.

GAGE.--Water-stage recorder. Datum of gage is 1,194.56 ft (364.102 m) National Geodetic Vertical Datum of 1929. Prior to July 28, 1960, nonrecording gage at site 120 ft (37 m) downstream at present datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--31 years, 54.5 ft³/s (1.543 m³/s), 39,490 acre-ft/yr (48.7 hm³/yr); median of yearly mean discharges, 49 ft³/s (1.388 m³/s), 35,500 acre-ft/yr (43.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 21, 1960, gage height, 14.67 ft (4.471 m); maximum gage height, 16.10 ft (4.907 m) Feb. 19, 1971, from floodmark, backwater from ice; minimum daily discharge, 0.1 ft³/s (0.003 m³/s) Jan. 15, 16, 1956, Aug. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1944, 16.28 ft (4.962 m) June 11, 1944, from floodmarks, discharge, 35,000 ft³/s (991 m³/s), from indirect measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	1130	*4010 114	15.79 4.813	July 10	1800	1390 39.4	9.87 3.008
Mar. 19	2030	2960 83.8	13.20 4.023	Aug. 10	1730	1470 41.6	10.06 3.066
May 19	1930	1340 37.9	9.74 2.969	Aug. 13	1430	1160 32.9	9.29 2.832
May 21	0630	2370 67.1	11.97 3.648	Aug. 30	0800	1980 56.1	11.21 3.417
May 26	0830	1980 56.1	11.20 3.414	Sept. 12	1800	831 23.5	8.37 2.551
May 27	0600	2270 64.3	11.75 3.581	Sept. 30	2300	1140 32.3	9.23 2.813
June 15	1800	1910 54.1	11.05 3.368				

a From floodmark.

Minimum daily discharge, 0.19 ft³/s (0.005 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	1.5	1.6	.50	.40	23	9.2	1.0	94	17	13	97
2	.19	.76	1.0	.60	.40	24	6.5	1.0	56	17	11	114
3	.40	.62	5.2	.50	.30	13	3.9	.89	44	18	9.7	59
4	.60	.48	1.6	.50	.30	11	2.1	.89	39	18	6.0	35
5	.35	.37	.64	.60	.30	9.0	2.4	2.3	34	15	16	25
6	.53	.30	.59	.50	.20	7.0	4.3	.90	30	157	163	21
7	.39	.39	.75	.40	.40	7.0	4.8	.53	26	240	28	19
8	.41	.34	.75	.50	.30	8.0	8.7	.51	24	51	13	18
9	.25	.25	.70	.30	.20	8.0	6.5	.73	80	39	12	18
10	.28	.35	.75	.20	.20	8.8	9.9	.63	58	824	722	17
11	.32	.35	.85	.40	.20	16	16	2.2	24	388	354	18
12	.40	.39	.75	.40	.30	155	23	1.0	16	92	77	338
13	.49	.50	.75	.30	.30	192	16	7.1	25	45	581	325
14	.46	.88	.97	.30	.30	131	13	24	31	31	136	158
15	.51	.51	.86	.50	.40	67	9.7	34	1010	32	56	44
16	.30	.49	.70	.30	.40	34	8.1	54	419	26	36	26
17	.72	.72	.50	.40	.40	21	9.9	30	114	21	28	24
18	.33	.43	.40	.60	.40	16	8.8	14	83	18	22	44
19	.37	.63	.60	.50	.30	1290	5.1	484	71	22	18	46
20	.42	.26	.80	.40	600	755	2.6	390	53	18	16	27
21	.34	.43	.80	.40	3280	300	1.4	1000	42	19	15	22
22	.27	.49	.80	.40	1240	120	1.0	366	34	14	13	18
23	.26	.55	.70	.30	549	50	.89	152	29	12	12	14
24	.74	.54	.70	.40	184	20	.89	129	25	10	17	10
25	.44	.57	.70	.40	16	14	1.0	314	113	8.6	136	9.3
26	.32	.55	.70	.50	17	12	1.4	1320	25	7.9	65	9.8
27	.30	.46	.70	.40	20	9.0	1.1	1080	21	318	24	10
28	.30	.54	.70	.30	21	8.0	1.5	236	19	49	16	15
29	.32	.58	.60	.50	---	8.0	1.3	120	18	14	19	12
30	.34	4.6	.70	.40	---	9.0	1.1	90	17	13	1280	238
31	.22	---	.50	.30	---	9.8	---	142	---	14	254	---
TOTAL	11.76	19.83	28.36	13.10	5933.00	3355.6	182.08	5998.68	2674	2568.5	4168.7	1831.1
MEAN	.38	.66	.91	.42	212	108	6.07	194	89.1	82.9	134	61.0
MAX	.74	4.6	5.2	.60	3280	1290	23	1320	1010	824	1280	338
MIN	.19	.25	.40	.20	.20	7.0	.89	.51	16	7.9	6.0	9.3
AC-FT	23	39	56	26	11770	6660	361	11900	5300	5090	8270	3630

CAL YR 1981 TOTAL 2322.14 MEAN 6.36 MAX 910 MIN .13 AC-FT 4610
WTR YR 1982 TOTAL 26784.71 MEAN 73.4 MAX 3280 MIN .19 AC-FT 53130

PLATTE RIVER BASIN

068C0500 ELKHORN RIVER AT WATERLOO, NE
(National stream-quality accounting network station)

LOCATION.--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 100 ft (30 m) upstream from bridge at north edge of Waterloo and 3.5 mi (5.6 km) downstream from Rawhide Creek.

DRAINAGE AREA.--6,900 mi² (17,900 km²), approximately, of which about 5,870 mi² (15,200 km²) 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 (336.722 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1960, to June 28, 1978, at datum 2.00 ft (0.610 m) higher. See WSP 1918 for history of changes prior to Oct. 1, 1960.

REMARKS.--Records good except those for winter period, which are poor. Some small diversions above station for irrigation.

AVERAGE DISCHARGE.--62 years, 1,114 ft³/s (31.55 m³/s), 807,100 acre-ft/yr (0.995 km³/yr); median of yearly mean discharges, 1,000 ft³/s (28.32 m³/s), 724,500 acre-ft/yr (0.893 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s (2,830 m³/s) June 12, 1944, gage height, 16.6 ft (5.06 m) from floodmark in gage well, site and datum then in use, from rating curve extended above 22,000 ft³/s (623 m³/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 (1.42 m³/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 above base of 6,000 and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 21	0800	17700 501	a*14.68 4.474	June 15	1100	6880 195	7.73 2.356
Mar. 19	2300	6860 194	8.07 2.460	July 10	2200	13500 382	11.20 3.414
May 20	----	*19800 561	b12.65 3.856	July 20	0400	6360 178	7.62 2.323
May 27	----	11900 337	c9.98 3.042	Aug. 6	0900	11200 317	9.78 2.981
June 2	1300	7920 224	8.09 2.466				

a Ice jam.

b From floodmark.

c From graph based on gage readings.

Minimum daily discharge, 250 ft³/s (7.08 m³/s) Jan. 9, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	345	568	430	270	2560	982	685	7420	1480	620	904
2	273	374	562	430	260	2280	889	691	7850	1680	557	950
3	286	388	557	420	265	2100	852	672	7160	1590	513	904
4	299	406	614	440	270	1910	889	711	6200	1260	492	665
5	286	402	646	450	270	1760	859	752	5440	1060	2720	574
6	290	411	608	430	260	1600	823	780	4610	1050	8940	540
7	281	426	620	390	280	1300	837	745	3880	1000	4140	529
8	277	421	608	410	290	1000	874	745	3360	1650	2280	529
9	268	406	574	350	295	900	912	718	3200	2050	1660	535
10	277	397	557	250	310	950	896	633	2810	7710	1960	529
11	290	402	529	300	320	1200	874	652	2390	8590	2940	540
12	290	397	535	290	370	1680	904	678	2090	4030	1460	2040
13	294	402	574	300	370	1940	950	732	1830	2160	3990	2710
14	317	397	557	310	450	1800	958	766	1840	1590	2370	2100
15	335	392	524	290	600	1640	966	982	5390	1490	1360	1320
16	359	397	460	280	700	1470	982	966	4690	1460	1130	1040
17	402	392	430	300	860	1380	958	942	3880	1520	998	927
18	436	388	450	320	1000	1300	966	966	3580	1290	889	982
19	421	392	460	270	1300	3310	919	2090	3700	2470	815	912
20	397	388	470	260	1900	5200	896	12700	3110	4460	750	837
21	378	350	470	260	16000	3640	874	5240	2570	1980	700	773
22	364	330	470	270	15700	2460	794	1470	2350	1450	650	732
23	354	383	470	280	12900	2060	780	1260	2050	1320	600	704
24	340	436	460	270	8060	1770	766	2800	1830	1050	550	665
25	340	426	450	250	4180	1540	738	1720	1970	927	650	633
26	354	392	450	260	2960	1440	678	2430	1940	766	794	608
27	350	392	450	270	2520	1310	659	8050	1740	1090	557	591
28	350	406	440	280	2630	1210	685	9700	1540	1780	497	562
29	340	421	440	280	---	1110	678	6200	1440	950	487	579
30	345	456	450	270	---	1080	685	5400	1440	732	1710	633
31	330	---	440	270	---	1040	---	6300	---	659	1920	---
TOTAL	10196	11915	15893	9680	75590	55940	25523	79176	103300	62294	49699	26547
MEAN	329	397	513	319	2700	1805	851	2554	3443	2009	1603	885
MAX	436	456	646	450	16000	5200	982	12700	7850	8590	8940	2710
MIN	268	330	430	250	260	900	659	633	1440	659	487	529
AC-FT	20220	23630	31520	19600	149900	111000	50620	157000	204900	123600	98580	52660
CAL YR 1981	TOTAL	172182	MEAN	472	MAX	3440	MIN	152	AC-FT	341500		
WTR YR 1982	TOTAL	525953	MEAN	1441	MAX	16000	MIN	250	AC-FT	1043000		

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--water year 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 micromhos Jan. 10, 1979; minimum daily, 235 micromhos 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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCTI- VANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	CULI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACU3) (00900)
OCT											
13...	1015	293	574	8.5	16.5	--	8.6	32	250	520	250
NOV											
12...	1115	395	520	8.3	7.0	33	10.4	44	K2200	600	210
DEC											
15...	1100	526	--	8.2	.0	--	13.0	27	1900	K21000	280
JAN											
12...	1135	294	600	7.6	.0	8.2	6.8	12	K7800	K5000	260
FEB											
10...	0945	308	565	7.4	.0	--	4.3	15	3900	4900	250
24...	1130	7980	237	8.1	2.0	--	8.1	180	3000	24000	95
MAR											
29...	1245	1100	465	8.3	7.0	65	11.7	43	800	K28000	210
APR											
15...	1115	930	504	8.1	16.5	--	8.4	70	1300	K19000	200
MAY											
13...	1240	762	492	8.4	20.0	12	7.9	46	2800	1800	210
24...	1250	3510	366	7.8	16.5	--	7.1	230	K81000	150000	150
28...	1145	11000	340	7.8	18.5	--	6.3	240	K69000	170000	120
JUN											
09...	0945	3000	460	8.0	16.5	--	6.9	86	K20000	35000	210
JUL											
12...	1400	4000	--	7.7	24.3	--	5.7	290	K60000	K126000	120
AUG											
11...	1410	2350	325	7.8	20.5	--	6.2	170	K650000	K1300000	110
30...	1525	2990	548	8.3	21.6	130	6.8	51	--	K50000	240

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

DATE	HARD- NESS NUNCAR- BONATE (MG/L AS CACU3) (95902)	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- LINEITY LAR (MG/L AS CACU3) (90410)	SULFATE DIS- SOLVED (MG/L AS SU4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT										
13...	--	72	16	--	--	--	--	53	24	--
NOV										
12...	21	63	13	23	.7	8.1	190	40	19	.3
DEC										
15...	--	85	16	--	--	--	--	44	7.1	--
JAN										
12...	.00	79	15	29	.8	8.6	280	37	21	.4
FEB										
10...	--	75	15	--	--	--	--	51	21	--
24...	.00	28	6.1	6.6	.3	15	110	7.0	7.5	.2
MAR										
29...	9.0	62	13	18	.6	11	200	15	15	.4
APR										
15...	--	60	13	--	--	--	--	24	14	--
MAY										
13...	8.0	62	13	20	.6	9.2	200	35	12	.4
24...	19	45	8.6	11	.4	12	129	36	8.6	.4
28...	5.0	35	7.3	9.5	.4	14	112	22	6.7	.3
JUN										
09...	--	63	13	--	--	--	--	70	11	--
JUL										
12...	7.0	38	7.0	8.7	.4	11	117	28	6.4	.4
AUG										
11...	--	31	7.4	--	--	--	--	29	9.3	--
30...	16	67	17	24	.7	9.9	221	51	10	.3

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS STO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	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)
OCT										
13...	--	--	--	--	--	406	.84	--	.070	--
NOV										
12...	30	323	311	.44	344	332	1.2	1.3	.100	.100
DEC										
15...	--	--	--	--	--	366	1.4	--	.080	--
JAN										
12...	44	407	403	.55	323	409	1.8	--	.780	.780
FEB										
10...	--	--	--	--	--	--	1.9	--	.680	--
24...	13	--	150	.20	3230	--	2.0	2.0	1.40	1.30
MAR										
29...	29	327	284	.44	971	630	1.6	1.6	.360	.360
APP										
15...	--	--	--	--	--	--	1.3	--	.060	--
MAY										
13...	17	309	289	.42	636	488	.17	.15	<.060	.070
24...	16	--	215	.29	2040	--	2.5	2.5	.440	.440
28...	16	--	178	.24	5290	--	1.6	1.6	.520	.520
JUN										
09...	--	--	--	--	--	--	1.4	--	.180	--
JUL										
12...	14	193	184	.26	2080	--	2.7	2.7	.170	.170
AUG										
11...	--	--	--	--	--	--	2.2	--	.640	--
30...	22	378	334	.51	3050	--	.20	.20	.130	.120

DATE	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,NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	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)	CARRION, ORGANIC TOTAL (MG/L AS C) (00680)
OCT										
13...	.93	--	1.00	--	--	1.8	--	.550	--	6.6
NOV										
12...	1.0	--	1.10	--	--	2.3	--	.550	.510	4.4
DEC										
15...	.81	--	.89	--	--	2.3	--	.340	--	6.2
JAN										
12...	.00	--	.77	--	--	2.6	--	.510	.480	3.6
FEB										
10...	.82	--	1.50	--	--	3.4	--	.530	--	3.1
24...	3.5	2.4	4.90	--	3.7	6.9	5.7	.510	.200	60
MAR										
29...	1.3	--	1.70	--	--	3.3	--	.400	.320	12
APP										
15...	2.3	--	2.40	--	--	3.7	4-	.530	--	10
MAY										
13...	--	--	1.60	--	--	1.8	--	.560	.320	10
24...	9.1	1.5	9.50	7.6	1.9	12	4.4	--	.340	17
28...	4.5	.68	5.00	3.8	1.2	6.6	2.8	1.20	.390	66
JUN										
09...	4.2	--	4.40	--	--	5.8	--	<.010	--	23
JUL										
12...	18	--	18.0	--	--	21	--	2.00	.210	98
AUG										
11...	.86	--	1.50	--	--	3.7	--	2.10	--	73
30...	3.0	--	3.10	--	--	3.3	--	.800	.140	26

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECUV- ERABLE (UG/L AS BA) (01007)	BARIUM, SUS- PENDE RECUV- ERABLE (UG/L AS BA) (01006)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECUV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECUV- ERABLE (UG/L AS CR) (01034)
JAN 12...	1135	5	0	6	300	50	250	--	1	<1	10
FEB 24...	1130	18	12	6	--	--	--	30	2	<1	50
MAR 29...	1245	3	0	5	200	30	170	--	<1	<3	20
MAY 13...	1240	8	0	8	200	60	140	--	<1	<3	<10
24...	1250	22	18	4	--	--	--	40	<1	<3	70
28...	1145	22	18	4	--	--	--	30	<1	<3	70
JUL 12...	1400	23	19	4	1300	1200	140	--	<1	<1	90

DATE	CHRO- MIUM, SUS- PENDE RECUV- (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECUV- ERABLE (UG/L AS CO) (01037)	COBALT, SUS- PENDE RECUV- ERABLE (UG/L AS CO) (01036)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECUV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECUV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECUV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE RECUV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN 12...	0	10	1	--	<3	16	15	1	630	620	11
FEB 24...	40	10	30	28	2	110	100	7	63000	63000	230
MAR 29...	--	<10	2	--	<1	22	18	4	7700	7700	28
MAY 13...	--	<10	1	0	1	8	4	4	1900	--	<9
24...	--	<10	25	--	<1	90	79	11	64000	64000	150
28...	--	<10	14	--	<1	100	82	18	82000	82000	180
JUL 12...	--	<10	11	--	<1	120	110	14	110000	110000	160

DATE	LEAD, TOTAL RECUV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDE RECUV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECUV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE RECUV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECUV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECUV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECUV- ERABLE (UG/L AS NI) (01067)
JAN 12...	2	1	1	110	20	92	.1	--	<.1	3
FEB 24...	49	48	1	2400	2300	90	.2	--	<.1	--
MAR 29...	7	4	3	370	330	36	.1	--	<.1	11
MAY 13...	32	31	1	330	--	<3	.1	.0	.1	9
24...	45	43	2	3400	--	<3	.4	--	<.1	--
28...	1	--	<1	3200	--	<3	.5	--	<.1	--
JUL 12...	<1	--	<1	4700	4700	3	.6	--	<.1	34

PLATTE RIVER BASIN

06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI) (01066)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 12...	--	<1	4	0	4	<1	<1	30	20	13
FEB 24...	--	--	4	2	2	--	--	260	180	80
MAR 29...	8	3	5	1	4	<1	<1	60	--	<12
MAY 13...	2	7	3	0	3	<1	<1	10	--	<12
24...	--	--	6	1	5	--	--	220	--	<12
28...	--	--	1	0	3	--	--	360	--	<12
JUL 12...	29	5	2	0	3	<1	<1	430	420	14

DATE	TIME	PER- THANE TOTAL (UG/L) (39034)	PCB, TOTAL (UG/L) (39516)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)
FEB 24...	1130	.00	.00	.00	.00	.00	.00	.00	.00	.03
MAY 24...	1250	<.10	<.10	<.10	<.01	<.10	<.01	<.01	.01	<.01
28...	1145	<.10	<.10	<.10	<.01	<.10	<.01	.01	<.01	<.01

DATE	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
FEB 24...	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
MAY 24...	.01	<.01	<.01	<.01	<.01	.01	<.01	<.01	<.01	<.01
28...	.01	<.01	<.01	<.01	<.01	.01	<.01	<.01	<.01	<.01

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2, 4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	MIREX, TOTAL (UG/L) (39755)	SILVEX, TOTAL (UG/L) (39760)
FEB 24...	.00	.00	0	.00	.14	.00	.00	.00	.00
MAY 24...	<.01	<.01	<1	<.01	.33	<.01	<.01	<.01	<.01
28...	<.01	<.01	<1	<.01	.19	<.01	<.01	<.01	<.01

PLATTE RIVER BASIN

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06800500 ELKHORN RIVER AT WATERLOO, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)
NOV							
12...	1115	395	7.0	98	105	--	--
JAN							
12...	1135	294	.0	80	64	--	--
FEB							
24...	1130	7980	.5	5840	126000	22	25
MAR							
29...	1245	1100	7.0	507	1510	--	--
MAY							
13...	1240	762	20.0	193	397	--	--
24...	1300	3510	16.5	4340	41100	56	59
28...	1145	11000	18.8	5680	169000	45	48
JUL							
12...	1400	4000	24.3	5560	60000	68	72
AUG							
30...	1450	2680	21.6	1790	13000	18	20

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	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 .062 MM (70331)
NOV							
12...	--	--	66	77	100	--	--
JAN							
12...	--	--	50	63	100	--	--
FEB							
24...	--	35	70	82	97	100	--
MAR							
29...	--	--	66	74	97	100	--
MAY							
13...	--	--	--	--	--	--	16
24...	61	65	80	88	99	100	--
28...	48	54	84	94	99	100	--
JUL							
12...	74	78	90	96	100	--	--
AUG							
30...	22	25	61	72	95	100	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAMP- LING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)
NOV											
12...	1115	395	4	0	3	43	85	97	99	100	--
FEB											
24...	1130	7980	4	0	23	75	96	100	--	--	--
MAR											
29...	1245	1100	3	0	5	70	97	99	99	100	--
MAY											
13...	1240	762	4	0	1	14	64	85	94	98	100
24...	1300	3510	3	2	12	87	99	100	--	--	--
28...	1145	11000	3	4	7	39	69	91	97	100	--
JUL											
12...	1400	4000	4	1	4	23	55	88	98	100	--

PLATTE RIVER BASIN

06803000 SALT CREEK AT BOCA, 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 (5 m) downstream from highway bridge at west edge of Boca.

DRAINAGE AREA.--167 mi² (433 km²).

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 (363.474 m) 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.--Records fair except those for winter period and periods of backwater from beaver dams, which are poor. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--31 years, 42.0 ft³/s (1.189 m³/s), 30,430 acre-ft/yr (37.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s (473 m³/s) July 10, 1958, gage height, 22.70 ft (6.919 m); minimum daily, 0.2 ft³/s (0.006 m³/s) July 23, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 8, 1950, reached a stage of 26.0 ft (7.92 m), from floodmark established by Corps of Engineers, discharge, 67,000 ft³/s (1,900 m³/s), but may have been exceeded by flood of July 5, 1908.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft³/s (24.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 18	2315	866 24.5	12.22 3.725	May 29	0545	*3000 85.0	17.92 5.462
Mar. 19	1230	1320 37.4	12.90 3.932	May 30	1630	1100 31.2	11.97 3.648
May 5	unknown	1130 32.0	a12.10 3.688	June 15	0715	2200 62.3	15.91 4.849
May 12	0400	1320 37.4	12.92 3.938	Aug. 13	1115	1380 39.1	13.17 4.014
May 25	2400	2020 57.2	15.50 4.724				

a From floodmark.

Minimum daily discharge, 1.4 ft³/s (0.040 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	6.2	93	6.6	8.6	18	19	85	347	40	8.8	27
2	1.5	22	27	6.4	8.0	17	18	67	267	82	8.6	22
3	1.7	24	14	6.4	7.5	14	18	52	203	63	7.7	18
4	2.1	9.7	12	6.8	7.0	16	18	46	166	46	7.1	17
5	2.0	6.6	10	7.0	6.5	15	16	450	132	37	7.6	13
6	2.0	5.4	9.1	6.6	6.5	16	16	300	90	49	7.6	12
7	1.8	5.2	8.9	6.4	7.0	11	14	237	67	38	7.8	12
8	1.7	4.5	7.3	6.2	7.5	12	14	141	56	31	7.7	11
9	1.7	4.4	6.9	6.0	7.5	11	14	98	55	25	7.3	16
10	1.8	4.2	6.2	6.4	7.5	11	14	70	45	30	6.9	16
11	2.0	4.4	6.2	6.4	7.5	18	13	101	37	44	6.8	11
12	2.1	4.4	6.1	6.0	8.0	14	13	951	33	33	275	30
13	2.2	4.3	6.0	6.0	8.5	13	12	318	30	28	791	27
14	2.3	4.5	5.9	6.0	10	10	11	279	38	25	224	18
15	2.8	4.8	5.8	6.0	25	14	10	240	1480	22	163	15
16	2.3	4.9	5.6	6.4	70	20	12	143	443	20	112	14
17	2.2	4.8	5.4	6.4	150	16	15	110	282	18	72	25
18	2.0	4.6	5.2	6.6	300	14	16	95	200	19	56	23
19	2.0	5.0	5.0	6.6	600	713	13	63	148	17	43	14
20	2.3	5.5	5.2	6.8	500	181	12	136	113	16	36	9.3
21	2.8	5.3	6.0	6.4	366	91	11	312	90	19	29	8.4
22	3.5	5.3	7.0	6.6	261	57	11	174	74	17	25	8.3
23	3.3	5.3	7.5	6.6	144	47	10	89	58	15	24	7.5
24	3.2	5.3	7.5	6.8	87	40	10	112	45	12	28	7.4
25	3.7	5.3	7.0	6.8	50	37	10	1540	38	11	27	6.9
26	4.9	5.8	6.5	7.4	26	34	11	1360	36	9.6	24	7.1
27	4.7	5.4	6.5	8.0	23	31	12	593	34	9.2	28	6.9
28	4.4	4.9	6.6	8.5	20	28	164	436	63	9.1	19	5.8
29	4.1	4.8	6.8	9.0	---	26	299	1610	37	8.8	38	6.4
30	4.1	28	7.0	8.6	---	27	128	809	31	8.8	57	7.2
31	4.1	---	6.6	8.6	---	24	---	552	---	8.8	33	---
TOTAL	82.7	214.8	325.8	211.3	2729.6	1596	954	11569	4738	811.3	2187.9	422.2
MEAN	2.67	7.16	10.5	6.82	97.5	51.5	31.8	373	158	26.2	70.6	14.1
MAX	4.9	28	93	9.0	600	713	299	1610	1480	82	791	30
MIN	1.4	4.2	5.0	6.0	6.5	10	10	46	30	8.8	6.8	5.8
AC-FT	164	426	646	419	5410	3170	1890	22950	9400	1610	4340	837
CAL YR 1981	TOTAL	2426.28	MEAN	6.65	MAX	167	MIN	.80	AC-FT	4810		
WTR YR 1982	TOTAL	25842.60	MEAN	70.8	MAX	1610	MIN	1.4	AC-FT	51260		

PLATTE RIVER BASIN

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06803080 SALT CREEK ABOVE BEAL SLOUGH, AT LINCOLN, NE

LOCATION.--Lat 40°46'13", long 96°43'05", in SW1/4SW1/4 sec.2, T.9 N., R.6 E., Lancaster County, Hydrologic Unit 10200203, at county road bridge 0.9 mi (1.4 km) west of U.S. Highway 77 and of northeast corner of State Penitentiary at Lincoln.

DRAINAGE AREA.--221 mi² (572 km²).

PERIOD OF RECORD.--Water year 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
27...	1330	7.4	768	7.9	9.0	11.0	50	K30	160	310	88	21
NOV												
23...	0945	7.8	1160	8.1	3.0	11.8	53	K30	110	360	104	24
DEC												
21...	1200	8.6	1070	7.8	.5	12.5	23	K40	K200	380	110	26
JAN												
20...	1120	8.0	1000	7.5	.0	10.4	11	K10	120	370	110	23
FEB												
17...	0945	67	--	7.5	.5	13.3	--	K2200	K174000	190	54	13
MAR												
17...	1445	23	687	8.1	6.5	12.0	22	K37	2600	290	85	20
APR												
14...	0815	17	653	8.3	14.0	8.8	64	K20	920	260	73	20
MAY												
11...	1430	107	498	7.4	20.0	8.0	87	K1000	K8300	190	53	13
JUN												
07...	1230	57	590	8.6	25.0	6.8	45	2700	12000	230	64	16
10...	1430	76	574	7.7	21.0	6.4	36	830	K920	280	80	20
AUG												
04...	1300	13	845	8.2	29.5	--	23	250	440	270	78	19
SEPT												
02...	0920	38	510	7.6	23.0	6.8	37	1900	5300	190	53	15
30...	1045	14	750	7.9	19.5	--	34	240	--	270	77	19

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

DATE	SULFATE DIS- SOLVED (MG/L AS SU4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
OCT												
27...	72	48	--	494	<.09	<.060	--	1.20	--	.380	--	--
NOV												
23...	130	170	--	767	.26	.130	.56	.69	.95	.240	7	200
DEC												
21...	120	140	--	695	1.1	.130	.78	.91	2.0	.360	--	--
JAN												
20...	110	90	--	618	1.1	.660	.64	1.30	2.4	.070	--	--
FEB												
17...	51	85	73	--	1.9	2.60	2.3	4.90	6.8	.710	4	100
MAR												
17...	77	50	30	--	.87	.080	.80	.88	1.8	.000	--	--
APR												
14...	78	43	46	--	<.10	<.060	--	.29	--	.300	--	--
MAY												
11...	49	18	682	--	1.4	.590	2.8	3.40	4.8	.740	11	400
JUN												
07...	61	25	--	--	2.0	.240	.56	.80	2.8	.400	--	--
10...	61	28	206	--	1.9	.100	1.5	1.60	3.5	.400	--	--
AUG												
04...	88	63	66	--	.13	.070	1.2	1.30	1.4	.300	--	--
SEPT												
02...	49	15	108	--	1.7	<.060	--	1.80	3.5	.330	--	--
30...	78	35	33	--	.20	.120	2.1	2.20	2.4	.400	--	--

PLATTE RIVER BASIN

06803080 SALT CREEK ABOVE BEAL SLOUGH, AT LINCOLN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 27...	--	--	--	--	--	--	--	--	--	--	--	7.1
NOV 23...	<1	<10	9	330	<10	4	240	240	<1	<1	20	4.0
DEC 21...	--	--	--	--	--	--	--	--	--	--	--	4.2
JAN 20...	--	--	--	--	--	--	--	--	--	--	--	2.8
FEB 17...	<1	10	12	2200	89	4	300	210	1	<1	40	--
MAR 17...	--	--	--	--	--	--	--	--	--	--	--	7.3
APR 14...	--	--	--	--	--	--	--	--	--	--	--	7.4
MAY 11...	2	20	37	18000	43	11	640	40	2	<1	130	24
JUN 07...	--	--	--	--	--	--	--	--	--	--	--	17
JUN 10...	--	--	--	--	--	--	--	--	--	--	--	9.9
AUG 04...	--	--	--	--	<3	--	--	140	--	--	--	7.6
SEP 02...	--	--	--	--	--	--	--	--	--	--	--	9.9
SEP 20...	--	--	--	--	--	--	--	--	--	--	--	8.5

DATE	TIME	HARDNESS NONCARBONATE (MG/L AS CACO3) (95902)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAR (MG/L AS CACO3) (90410)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
NOV 23...	0945	89	120	2.9	7.5	270	.4
FEB 17...	0945	18	64	2.2	13	170	.3
MAY 11...	1430	16	31	1.1	9.5	170	.4
AUG 04...	1300	16	64	1.8	6.1	257	.4

DATE	SILICA, DISSOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	BORON, DISSOLVED (UG/L AS B) (01020)
NOV 23...	22	741	1.0	15.7	.18	.210	160
FEB 17...	15	406	.55	73.9	1.9	.700	80
MAY 11...	12	294	.40	84.9	1.3	.260	60
AUG 04...	15	489	.67	17.2	.13	.110	130

PLATTE RIVER BASIN

195

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 (41 m) downstream from bridge on North 27th Street at north edge of Lincoln, 1 mi (2 km) downstream from Oak Creek.

DRAINAGE AREA.--684 mi² (1,772 km²).

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 (339.517 m) National Geodetic Vertical Datum of 1929. Prior to July 27, 1979, water-stage recorder for stages above 6.2 ft (1.89 m) on downstream side of bridge pier, 135 ft (41.1 m) upstream at same datum, and nonrecording gage read twice daily.

REMARKS.--Records good. Flood flow affected by several detention dams.

AVERAGE DISCHARGE.--33 years, 205 ft³/s (5.806 m³/s), 148,500 acre-ft/yr (0.183 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,200 ft³/s (799 m³/s) June 2, 1951, gage height, 26.15 ft (7.971 m); minimum daily, 21 ft³/s (0.59 m³/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 (10.24 m). Channel changes since 1908 have materially altered the stage-discharge relation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	0030	3960 112	10.99 3.350	July 10	0330	4050 115	11.10 3.383
Mar. 19	1230	4700 133	11.89 3.624	Aug. 13	0630	7470 212	14.87 4.532
May 26	0400	4250 120	11.35 3.459	Aug. 14	1900	4960 140	12.19 3.716
June 15	0630	*17500 496	21.90 6.675	Aug. 24	0800	4030 114	11.08 3.377

Minimum daily discharge, 51 ft³/s (1.44 m³/s) Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	231	335	63	72	163	136	301	802	360	120	258
2	69	202	195	66	72	155	130	249	648	488	122	219
3	85	149	126	65	72	198	150	218	529	357	122	184
4	85	112	105	69	75	182	132	195	465	268	109	166
5	68	88	90	69	72	190	135	1520	404	263	99	152
6	68	75	81	68	69	130	124	700	356	453	116	142
7	64	66	79	63	68	120	120	492	307	258	103	144
8	62	65	76	63	70	122	121	333	315	217	97	135
9	60	61	74	63	69	115	121	260	327	270	141	232
10	57	62	72	56	67	150	115	224	293	2510	426	181
11	56	61	72	56	67	146	111	538	242	865	166	230
12	63	62	68	58	67	138	114	1690	239	464	980	497
13	62	63	66	58	68	126	115	788	237	355	5440	448
14	65	58	70	59	77	133	110	726	677	302	2990	299
15	64	56	70	63	107	129	110	637	11700	268	1370	229
16	63	59	51	59	133	130	177	430	2790	240	698	196
17	73	58	65	55	332	126	124	403	1460	216	512	383
18	61	60	70	58	1340	127	105	354	1110	197	391	370
19	69	71	66	60	2780	2590	121	299	882	189	312	256
20	66	65	63	61	2110	1080	109	502	677	188	279	235
21	63	61	74	61	797	415	104	1190	551	327	247	258
22	64	56	80	62	443	309	101	644	462	196	227	252
23	66	58	79	60	345	259	98	420	394	174	218	141
24	72	56	76	59	272	237	94	401	342	160	1500	123
25	65	58	69	63	219	221	92	2900	302	149	368	117
26	68	56	71	63	195	199	101	3230	291	148	426	111
27	65	54	71	76	184	178	104	1490	360	141	245	118
28	62	55	69	75	170	162	910	1010	335	138	234	116
29	61	57	71	74	---	160	902	1800	266	133	1100	158
30	61	304	74	76	---	165	417	1460	360	130	678	156
31	59	---	71	67	---	154	---	1420	---	125	332	---
TOTAL	2035	2539	2699	1968	10412	8709	5403	26824	28123	10549	20168	6506
MEAN	65.6	84.6	87.1	63.5	372	281	180	865	937	340	651	217
MAX	85	304	335	76	2780	2590	910	3230	11700	2510	5440	497
MIN	56	54	51	55	67	115	92	195	237	125	97	111
AC-FT	4040	5040	5350	3900	20650	17270	10720	53210	55780	20920	40000	12900

CAL YR 1981	TOTAL	34179	MEAN	93.6	MAX	1140	MIN	48	AC-FT	67790
WTE YR 1982	TOTAL	125935	MEAN	345	MAX	11700	MIN	51	AC-FT	249800

LOCATION.--Lat 40°53'36", long 95°40'52", in NW1/4SW1/4 sec.30, T.11 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 10 ft (3 m) downstream from county road bridge and 0.4 mi (0.6 km) north of intersection of Interstate Highway 80 and North 27th Street north of Lincoln.

PERIOD OF RECORD.--January 1969 to current year.

REVISID RECORDS.--WDR NE-77-1: 1969-73(M) .

GA32.--Water-stage recorder. Datum of gage is 1,114.73 ft (339.770 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 10, 1980, water-stage recorder at present site and datum 3.00 ft (0.914 m) higher.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--13 years, 11.8 ft³/s (0.334 m³/s), 8,550 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,520 ft³/s (185 m³/s) June 15, 1982, gage height, 15.80 ft (4.816 m) from rating curve extended above 1,400 ft³/s (39.6 m³/s) on basis of slope-area measurement; maximum gage height, 16.38 ft (4.993 m) Oct. 11, 1973, backwater from Salt Creek, current datum, minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Sept. 29, 30, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 550 ft³/s (15.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Feb. 19	----	600	17.0	Ice jam		July 10	0300	3640	103	14.18	4.322
Mar. 19	0830	1060	30.0	10.61	3.234	Aug. 13	0200	6340	180	15.72	4.791
June 15	unknown	*6520	185	15.80	4.816						

a From rating curve extended above 1,400 ft³/s (39.6 m³/s) on basis of slope-area measurement.

Minimum daily discharge, 1.2 ft³/s (0.034 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.5	10	1.8	3.9	4.0	6.4	5.8	13	63	4.1	7.7
2	1.7	4.8	4.3	1.9	3.8	3.8	6.9	5.2	11	70	3.9	7.1
3	2.4	5.0	3.8	1.8	3.5	3.7	11	4.4	10	27	3.5	6.6
4	2.6	2.7	3.1	1.7	3.0	3.6	9.6	3.9	9.1	22	3.4	6.4
5	2.5	2.2	2.8	1.9	3.0	3.5	8.4	5.3	8.5	24	3.6	5.9
6	2.4	2.3	2.8	1.8	2.9	3.4	6.7	5.5	8.1	37	3.4	5.8
7	2.6	2.3	2.7	1.7	3.5	4.4	7.2	4.0	7.0	8.3	3.5	5.8
8	2.6	2.3	2.7	2.0	3.4	6.0	7.2	3.2	6.3	7.2	3.5	5.7
9	2.8	2.4	2.5	2.3	3.1	7.8	7.3	2.8	6.2	6.9	3.9	10
10	2.7	2.5	2.3	1.9	3.3	8.5	7.0	2.5	6.1	641	19	8.0
11	2.8	2.7	2.5	2.0	3.5	12	6.0	89	6.0	24	5.2	6.1
12	2.6	2.9	2.3	2.2	3.8	9.1	5.7	33	6.1	10	42	44
13	2.6	2.9	2.3	2.2	3.9	6.7	5.5	12	6.3	8.2	1010	21
14	2.7	3.1	2.3	2.3	4.0	6.8	5.0	22	32	7.9	72	14
15	2.6	2.8	2.1	2.5	4.0	9.6	5.2	20	1950	7.2	33	9.4
16	2.9	2.8	1.8	2.4	4.2	8.2	7.7	15	89	6.5	15	7.8
17	3.8	3.1	1.6	2.4	4.5	6.2	8.5	14	55	5.9	12	31
18	3.1	3.2	1.9	2.4	145	5.7	5.0	13	46	5.6	11	22
19	2.7	3.3	2.5	2.4	500	299	5.0	9.3	42	5.5	9.1	10
20	2.7	3.1	3.0	2.4	100	30	4.2	8.0	38	5.2	8.3	8.1
21	3.3	2.9	3.5	2.4	11	16	4.0	30	36	6.6	8.1	7.7
22	2.7	3.0	3.9	2.5	6.5	13	4.0	21	35	5.6	7.6	7.8
23	2.8	3.3	4.2	2.6	7.2	10	4.0	14	31	5.0	7.3	7.4
24	3.2	4.1	4.0	2.7	4.3	9.0	3.5	25	30	4.7	63	7.1
25	3.3	3.3	3.5	2.9	4.8	12	3.7	86	30	4.6	12	6.6
26	2.9	3.3	3.5	3.2	4.1	8.9	3.5	45	29	4.5	8.4	6.7
27	2.5	3.2	2.6	3.6	3.8	8.7	3.3	30	33	4.3	6.2	6.4
28	2.6	3.1	1.3	3.8	3.4	7.7	38	20	26	4.4	7.4	6.1
29	2.6	2.9	1.2	4.0	---	7.6	17	45	20	4.4	48	6.6
30	2.4	12	1.8	4.0	---	9.5	7.9	50	114	4.3	16	7.5
31	2.9	---	1.7	4.0	---	7.1	---	26	---	4.3	9.1	---
TOTAL	83.4	102.0	90.5	77.7	851.4	551.5	224.4	669.9	2739.7	1045.1	1462.5	312.3
MEAN	2.69	3.40	2.92	2.51	30.4	17.8	7.48	21.6	91.3	33.7	47.2	10.4
MAX	3.8	12	10	4.0	500	299	38	89	1950	641	1010	44
MIN	1.4	2.2	1.2	1.7	2.9	3.4	3.3	2.5	6.0	4.3	3.4	5.7
AC-FT	165	202	180	154	1690	1090	445	1330	5430	2070	2900	619
CAL YR 1981	TOTAL	1407.6		MEAN	3.86	MAX	168	MIN	1.2	AC-FT	2790	
WTR YR 1982	TOTAL	8210.4		MEAN	22.5	MAX	1950	MIN	1.2	AC-FT	16290	

PLATTE RIVER BASIN

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06803520 STEVENS CREEK NEAR LINCOLN, NE

LOCATION.--Lat 40°51'25", long 95°35'42", in NW1/4NE1/4 sec.11, T.10 N., R.7 E., Lancaster County, Hydrologic Unit 10200203, on left bank 20 ft (6 m) upstream from county road bridge on Havelock Avenue and 1.6 mi (2.6 km) east of 70th Street at east edge of Lincoln.

DRAINAGE AREA.--47.8 mi² (123.8 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,125.57 ft (343.074 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--14 years, 13.6 ft³/s (0.385 m³/s), 9,850 acre-ft/yr (12.1 hm³/yr); median of yearly mean discharges, 8.4 ft³/s (0.238 m³/s), 6,090 acre-ft/yr (7.51 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,820 ft³/s (108 m³/s) June 15, 1982, gage height, 18.85 ft (5.745 m); no flow July 31, Aug. 2-4, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 18	----	970 27.5	Ice jam	June 15	0430	*3820 108	18.85 5.745
Mar. 19	0930	750 21.2	8.05 2.454	July 2	1800	531 15.0	6.86 2.091
May 12	0430	1630 46.2	10.99 3.350	Aug. 13	0830	3670 104	17.00 5.182
May 25	1400	1580 44.7	10.80 3.292				

Minimum daily discharge, 0.16 ft³/s (0.005 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	2.8	9.6	.70	.90	2.8	3.3	20	21	126	.91	17
2	.16	2.8	3.6	.70	.90	2.7	3.2	8.3	16	278	1.1	15
3	.25	3.7	2.6	.60	.80	2.6	3.2	7.1	15	93	1.2	12
4	.91	1.5	3.1	.60	.80	2.5	4.0	6.4	13	20	.76	10
5	.51	.36	2.4	.70	.80	2.5	4.6	97	11	10	.76	8.5
6	.69	.63	1.9	.70	.70	2.4	3.9	54	10	30	.76	7.6
7	.91	.51	1.5	.60	1.0	2.7	3.4	36	8.8	16	1.1	8.6
8	.51	.22	1.2	.70	.90	3.0	3.3	17	9.1	6.5	1.0	8.2
9	.63	.41	1.1	.80	.90	3.3	3.4	12	15	5.6	.91	15
10	.84	.57	1.7	.70	1.1	4.0	3.5	9.2	9.4	65	25	14
11	1.2	.69	1.5	.80	1.2	5.2	3.5	23	7.2	14	4.8	11
12	.84	.69	1.2	.80	1.3	6.8	3.2	637	6.5	7.0	39	72
13	1.0	.69	1.2	.80	1.2	6.8	2.8	42	6.1	5.4	2120	31
14	1.6	.76	1.2	.80	2.0	4.5	2.6	41	108	5.8	120	19
15	1.9	.91	1.0	.90	3.0	5.0	3.2	50	2010	6.8	50	15
16	2.1	.69	.80	.90	5.0	5.4	3.1	25	289	5.0	20	12
17	1.2	.57	.60	.90	30	4.6	2.9	23	130	3.9	17	43
18	.57	.51	.70	.90	80	3.6	2.8	27	103	3.4	16	26
19	1.2	.76	.80	.90	200	270	2.8	16	85	3.2	14	13
20	1.6	.76	1.0	.90	125	37	2.5	14	70	2.9	13	9.7
21	.63	.69	1.1	.90	70	13	2.4	68	48	3.6	13	8.7
22	.46	.63	1.2	.90	6.0	8.5	2.3	32	33	3.4	13	8.1
23	.51	.69	1.2	.80	6.2	7.0	2.3	19	23	2.6	12	7.6
24	.57	.63	1.0	.90	4.0	6.2	2.6	47	18	2.1	100	7.3
25	1.4	.57	1.0	.90	3.0	6.6	2.5	869	15	2.2	18	6.9
26	.84	.63	.90	.90	2.8	6.0	2.8	140	12	1.7	13	6.6
27	.41	.46	.70	1.0	2.6	4.7	3.2	51	29	1.7	10	6.7
28	.41	.84	.60	1.0	2.5	4.1	20	28	139	1.8	12	6.2
29	.32	.46	.60	1.1	---	4.2	42	90	25	1.5	80	8.8
30	.41	7.2	.70	1.0	---	4.5	24	95	24	1.6	40	10
31	.57	---	.60	1.0	---	4.0	---	54	---	1.7	20	---
TOTAL	25.31	33.33	48.30	25.80	554.60	446.2	169.3	2658.0	3309.1	731.4	2778.30	444.5
MEAN	.82	1.11	1.56	.83	19.8	14.4	5.64	85.7	110	23.6	89.6	14.8
MAX	2.1	7.2	9.6	1.1	200	270	42	869	2010	278	2120	72
MIN	.16	.22	.60	.60	.70	2.4	2.3	6.4	6.1	1.5	.76	6.2
AC-FT	50	66	96	51	1100	885	336	5270	6560	1450	5510	882

CAL YR 1981 TOTAL 879.14 MEAN 2.41 MAX 261 MIN .16 AC-FT 1740
WTR YR 1982 TOTAL 11224.14 MEAN 30.8 MAX 2120 MIN .16 AC-FT 22260

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 (0.8 km) north of Interstate Highway 80 and 3 mi (5 km) southwest of Waverly.

DRAINAGE AREA.--815 mi² (2,110 km²).

PERIOD OF RECORD.--Water year 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (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 (MG/L AS CACU3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
FFB											
19...	1500	2690	374	7.7	1.5	11.8	K1000	130000	56	16	3.9
MAR											
17...	1330	161	4330	7.9	7.5	11.0	K38	120	340	91	27
APR											
14...	1320	123	5040	7.9	16.0	7.3	K10	K48	330	85	29
MAY											
13...	1430	990	958	7.5	19.0	6.7	29000	74000	160	45	11
JUN											
10...	1300	376	2610	7.8	19.5	7.6	4600	3000	280	79	21
JUL											
04...	1030	354	--	8.6	24.5	9.6	1500	K2100	290	79	23
AUG											
04...	1030	118	6900	7.9	27.0	--	460	5400	360	94	31
SEPT											
01...	1215	300	3000	7.8	25.0	--	1200	3000	270	75	21
30...	1000	160	5200	7.7	20.0	--	1000	--	350	94	28

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

DATE	SULFATE DIS- SOLVED (MG/L AS S(04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARUM, TOTAL RECIV- ERABLE (UG/L AS BA) (01007)
FFB											
19...	10	55	--	1.7	.120	5.4	5.50	7.2	.630	14	400
MAR											
17...	240	1200	--	1.0	2.80	1.4	4.20	5.2	1.80	--	--
APR											
14...	280	1500	.280	.59	3.80	1.7	5.50	6.1	2.10	--	--
MAY											
13...	58	180	.300	1.8	.920	3.4	4.30	6.1	3.70	14	700
JUN											
10...	140	600	--	1.9	.960	1.0	2.00	3.9	.960	--	--
JUL											
04...	150	850	--	1.7	1.20	1.5	2.70	4.4	1.20	--	--
AUG											
04...	300	1800	--	.96	2.40	--	--	--	2.20	6	<100
SEPT											
01...	140	740	--	1.5	.730	2.2	2.90	4.4	1.30	--	--
30...	250	1400	--	1.8	1.80	1.6	3.40	5.2	2.40	--	--

06803525 SALT CREEK BELOW STEVENS CREEK, NEAR WAVERLY, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CUPPER, 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)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	SELF- NIUM, TOTAL RECOV- ERABLE (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)
FER 19...	<1	30	41	35000	28	910	1	<1	140	35
MAR 17...	--	--	--	--	--	--	--	--	--	--
APR 14...	--	--	--	--	--	--	--	--	--	9.9
MAY 13...	<1	40	48	32000	12	1200	3	<1	150	44
JUN 10...	--	--	--	--	--	--	--	--	--	25
JUL 08...	--	--	--	--	--	--	--	--	--	15
AUG 04...	<1	20	4	440	2	720	1	<1	30	8.7
SEP 01...	--	--	--	--	--	--	--	--	--	11
30...	--	--	--	--	--	--	--	--	--	8.4

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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 CAO3) (90410)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
FER 19...	1500	.00	38	2.3	13	63	.3	8.9	190	.26	1380	1.6
MAR 17...	1330	48	830	20	13	290	.6	19	2600	3.5	1130	1.1
APR 14...	1320	72	1000	24	14	260	.7	15	3080	4.2	1020	.56
MAY 13...	1430	28	130	4.8	11	130	.4	11	546	.74	1460	1.8
JUN 10...	1300	71	450	12	11	213	.5	15	1450	2.0	1470	1.8
JUL 08...	1030	59	590	15	11	233	.5	18	1870	2.5	1790	1.7
AUG 04...	1030	80	1200	27	16	282	.7	19	3650	5.0	1160	--
SEP 01...	1215	53	530	14	11	221	.5	16	1670	2.3	1620	1.4
30...	1000	66	980	23	13	284	.6	21	2970	4.0	1280	1.8

FLATTE 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 left bank 30 ft (9 m) downstream from bridge on east-west county road and 5.7 mi (9.2 km) southeast of Ceresco.

DRAINAGE AREA.--119 mi² (308 km²).

PERIOD OF RECORD.--April 1970 to current year.

REVISID RECORDS.--WDR NE-76-1: 1975 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,112.18 ft (338.992 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 6, 1980, at datum 3.0 ft (0.91 m) higher.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--12 years, 30.3 ft³/s (0.858 m³/s), 21,950 acre-ft/yr (27.1 hm³/yr); median of yearly mean discharges, 26 ft³/s (0.736 m³/s), 18,800 acre-ft/yr (23.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (306 m³/s) June 15, 1982, gage height, 18.84 ft (5.742 m), present datum, from floodmark; minimum daily, 0.25 ft³/s (0.007 m³/s) July 13, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft³/s (24.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Feb. 19	0030	1940	54.9	11.22	3.420	June 15	0800	*10800	306	a18.84	5.742
Mar. 19	130C	1580	44.7	10.15	3.094	June 18	1030	1110	31.4	8.57	2.612
May 21	0930	1810	51.3	10.84	3.304	July 10	1000	1440	40.8	b9.70	2.957
May 25	163C	1940	54.9	11.24	3.426	Aug. 13	1300	5410	153	c17.60	5.364

a From flcodmark.

b From graph based on partially recorded gage-height trace.

c From graph based on gage readings.

Minimum daily discharge, 5.5 ft³/s (0.16 m³/s) Oct. 16, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	13	102	11	9.6	11	19	12	44	247	8.4	15
2	6.7	27	26	11	9.4	12	18	9.0	36	152	8.6	14
3	7.9	40	23	10	9.0	7.3	20	8.0	32	70	8.2	13
4	9.5	34	20	10	8.4	6.9	25	7.0	27	50	7.6	12
5	7.7	14	14	10	8.0	14	20	9.0	24	34	8.8	12
6	7.0	10	13	10	7.6	14	19	11	23	45	9.9	13
7	6.7	9.3	13	9.6	8.4	15	18	9.0	20	17	9.5	14
8	6.7	8.7	12	11	8.2	16	17	7.0	20	14	8.8	14
9	6.7	8.2	11	9.0	7.8	14	16	6.2	47	16	9.9	23
10	6.7	8.0	11	7.6	8.2	18	16	6.0	20	795	267	26
11	6.6	8.4	11	8.4	8.0	31	15	15	16	186	64	16
12	6.5	8.7	11	8.0	8.0	28	15	40	16	33	332	183
13	6.7	8.7	11	7.6	7.8	25	14	15	16	19	2990	108
14	6.6	8.7	11	8.0	8.4	18	14	16	284	17	270	46
15	5.9	8.7	10	7.8	10	28	13	20	4990	17	113	29
16	5.5	8.6	8.6	7.4	12	25	15	30	302	15	56	21
17	7.9	8.3	7.4	8.0	40	20	20	15	106	14	36	178
18	7.7	8.0	9.0	9.0	300	17	14	14	466	12	28	170
19	6.1	8.0	12	8.8	1270	938	13	13	124	13	22	35
20	5.7	8.3	12	8.6	750	137	12	111	57	12	19	22
21	5.5	8.0	13	8.4	206	48	11	918	43	11	18	19
22	5.8	8.6	13	9.0	61	36	11	155	36	12	14	18
23	5.9	9.2	12	10	35	29	11	60	30	11	16	17
24	7.0	8.7	12	10	16	27	11	64	27	10	28	17
25	8.3	8.8	12	11	12	35	11	923	25	9.7	21	15
26	7.8	8.3	11	11	12	26	12	308	29	9.5	16	15
27	7.6	8.1	11	10	11	23	11	104	83	9.4	17	16
28	7.5	8.0	10	10	11	22	56	70	36	9.1	14	16
29	7.3	7.9	10	10	---	22	44	64	24	9.1	15	15
30	7.6	66	11	10	---	27	20	143	169	9.1	20	18
31	8.1	---	11	10	---	20	---	109	---	9.1	16	---
TOTAL	216.4	398.2	474.0	290.2	2862.8	1710.2	531	3291.2	7172	1887.0	4471.7	1130
MEAN	6.98	13.3	15.3	9.36	102	55.2	17.7	106	239	60.9	144	37.7
MAX	9.5	66	102	11	1270	938	56	923	4990	795	2990	183
MIN	5.5	7.9	7.4	7.4	7.6	6.9	11	6.0	16	9.1	7.6	12
AC-FT	429	790	940	576	5680	3390	1050	6530	14230	3740	8870	2240
CAL YR 1981	TOTAL	7334.8	MEAN	20.1	MAX	2710	MIN	3.1	AC-FT	14550		
WTR YR 1982	TOTAL	24434.7	MEAN	66.9	MAX	4990	MIN	5.5	AC-FT	48470		

PLATTE RIVER BASIN

201

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 (0.8 km) west of Greenwood.

DRAINAGE AREA.--1,051 mi² (2,722 km²).

WATER-DISCHARGE RECORDS

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 (325.569 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1964, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--30 years (water years 1953-82), 287 ft³/s (8.128 m³/s), 207,900 acre-ft/yr (0.256 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s (1,160 m³/s) June 24, 1963, gage height, 23.46 ft (7.151 m); maximum gage height, 24.93 ft (7.599 m) June 15, 1982; minimum daily discharge, 14 ft³/s (0.40 m³/s) Jan. 10, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 18	2200	9070 257	12.15 3.703	July 10	0845	9450 268	12.61 3.844
Mar. 19	1430	8980 254	12.10 3.688	Aug. 13	0430	26400 748	20.94 0.287
May 12	1000	3220 91.2	7.77 2.368	Aug. 14	2330	9000 255	12.36 3.767
May 25	1730	9200 261	12.47 3.801	Aug. 24	1530	5200 147	9.66 2.944
June 15	1045	*39900 1130	24.93 7.599	Aug. 29	2400	4440 126	8.99 2.740

a From floodmark.

Minimum daily discharge, 68 ft³/s (1.93 m³/s) Dec. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	399	529	94	130	288	228	418	1060	1350	163	434
2	80	294	302	90	125	272	219	313	796	1080	156	347
3	84	212	258	84	100	295	234	256	673	783	155	282
4	142	171	149	86	104	295	250	224	577	462	150	240
5	88	129	132	90	100	340	234	1330	510	364	126	202
6	82	113	118	84	96	255	222	1070	450	878	144	174
7	78	101	97	80	120	217	208	657	387	492	141	168
8	74	84	106	90	116	219	214	409	400	352	127	158
9	74	82	101	84	110	203	206	298	452	303	127	293
10	72	82	92	72	120	211	196	240	404	5330	1030	287
11	69	82	97	76	130	366	181	952	312	1830	373	201
12	74	80	86	78	160	284	170	2500	276	793	1030	1070
13	78	80	88	76	160	265	167	1230	251	555	20400	889
14	80	78	86	84	190	212	157	924	1210	461	5330	533
15	80	74	84	96	250	260	153	926	32500	404	3820	379
16	78	74	80	90	350	226	180	629	6400	363	1120	279
17	94	74	68	106	600	204	275	508	2250	327	781	673
18	86	84	72	120	3000	188	159	475	1910	295	577	1070
19	80	80	90	116	5890	4690	167	353	1430	278	449	457
20	82	80	100	110	4520	2180	155	352	1050	273	369	359
21	78	82	110	110	1930	824	143	3380	854	395	311	347
22	76	82	120	116	929	589	135	1070	721	386	278	356
23	76	78	116	100	670	494	132	550	620	267	254	279
24	85	84	110	106	512	425	126	652	531	239	2270	179
25	94	82	100	110	405	435	119	4990	471	224	948	172
26	82	82	106	110	357	369	126	4680	426	208	719	164
27	84	76	104	140	323	327	123	2110	704	201	525	143
28	80	74	94	130	306	290	756	1250	787	193	358	146
29	76	76	90	150	---	270	1430	1630	449	187	1020	194
30	80	395	104	140	---	311	642	2270	627	180	1940	188
31	80	---	100	140	---	264	---	2110	---	177	582	---
TOTAL	2544	3564	3889	3158	21803	16068	7707	38756	59488	19630	45773	10663
MEAN	82.1	119	125	102	779	518	257	1250	1983	633	1477	355
MAX	142	399	529	150	5890	4690	1430	4990	32500	5330	20400	1070
MIN	69	74	68	72	96	188	119	224	251	177	126	143
AC-FT	5050	7070	7710	6260	43250	31870	15290	76870	118000	38940	90790	21150
CAL YR 1981	TOTAL	59160	MEAN 162	MAX 5370	MIN 68	AC-FT 117300						
WTR YR 1982	TOTAL	233043	MEAN 638	MAX 32500	MIN 68	AC-FT 462200						

PLATTE RIVER BASIN

06803555 SALT CREEK AT GREENWOOD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1971 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1971 to September 1976.

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, 9,100 micromhos Sep. 22, 1981; minimum daily, 220 micromhos Aug. 5, 1981.

WATER TEMPERATURES: Maximum, 36.0°C June 25, 1981; minimum, 0.0°C on many days during winter period.

SEDIMENT CONCENTRATIONS: Maximum daily, 15,900 mg/L May 18, 1974; minimum daily, 5 mg/L Oct. 9, 1971.

SEDIMENT LOADS: Maximum daily, 492,000 tons (447,000 tonnes) Oct. 11, 1973; minimum daily, 1.0 ton (0.9 tonne) Oct. 9, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,900 micromhos Oct. 12; minimum daily, 294 micromhos Feb. 20.

WATER TEMPERATURES: Maximum, 32.5°C July 20; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DTS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)
OCT										
27...	1100	90	7350	8.0	10.0	11.8	140	K19000	500	360
NOV										
23...	1330	88	--	8.0	7.5	14.0	200	K12000	1200	370
DEC										
21...	1430	109	6400	7.6	.5	9.7	54	5200	540	410
JAN										
20...	0905	100	--	7.6	.0	7.4	56	K33	280	410
FEB										
10...	1250	3540	305	7.9	1.0	11.5	150	K1000	158000	51
MAR										
17...	1135	199	3450	7.8	9.0	9.2	36	70	240	330
APR										
14...	1200	159	4260	8.0	15.5	6.5	110	K10	220	310
MAY										
13...	1400	1070	790	7.5	18.5	6.0	160	31000	130000	130
JUN										
10...	1130	405	2120	7.9	19.5	6.2	48	1300	1500	360
JUL										
08...	0930	352	--	8.7	24.5	5.9	110	830	6000	270
AUG										
04...	0906	150	5900	7.9	26.0	7.2	35	360	K62000	350
SEP										
01...	1020	431	2500	7.8	24.5	--	68	2600	5200	260
30...	0915	200	3900	7.7	20.0	--	21	3000	--	300

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

PLATTE RIVER BASIN

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06803555 SALT CREEK AT GREENWOOD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT										
27...	92	31	380	2200	--	4380	--	3.5	1.10	1.5
NOV										
23...	98	30	310	2000	--	7990	--	2.9	1.80	.90
DEC										
21...	110	33	290	2100	--	3960	--	1.5	4.10	1.9
JAN										
20...	110	32	360	2200	--	4230	--	1.2	<.010	--
FEB										
19...	15	3.4	8.0	45	752	--	--	1.7	1.30	5.4
MAR										
17...	89	26	210	960	76	--	--	1.5	2.50	1.4
APR										
14...	79	27	240	1200	38	--	.370	1.1	2.80	1.9
MAY										
13...	37	9.1	40	140	1780	--	.370	2.0	.650	--
JUN										
10...	98	27	110	440	403	--	--	3.2	.650	.75
JUL										
08...	72	21	140	660	333	--	--	2.2	.710	1.8
AUG										
04...	92	30	270	1600	45	--	--	1.4	.640	1.5
SEP										
01...	71	20	130	570	214	--	--	2.0	.550	2.3
30...	81	24	220	1000	98	--	--	2.3	.690	1.2

DATE	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)	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)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)
OCT										
27...	2.60	6.1	3.30	7	200	<1	10	11	770	--
NOV										
23...	2.70	5.6	2.30	7	200	<1	<10	5	470	460
DEC										
21...	6.00	7.5	2.50	6	100	4	20	12	600	--
JAN										
20...	7.40	8.6	.110	4	100	<1	10	5	430	--
FEB										
19...	6.70	8.4	.650	--	--	--	--	--	--	--
MAR										
17...	3.90	5.4	1.60	6	200	<1	40	26	2100	--
APR										
14...	4.70	5.8	1.50	--	--	--	--	--	--	--
MAY										
13...	--	--	4.00	16	100	<1	50	70	52000	--
JUN										
10...	1.40	4.6	.850	8	100	1	20	23	11000	--
JUL										
08...	2.50	4.7	1.20	7	400	<1	20	28	13000	--
AUG										
04...	2.10	3.5	5.10	8	<100	<1	20	5	800	780
SEP										
01...	2.80	4.8	1.40	7	300	2	10	21	7300	--
30...	1.90	4.2	1.70	5	200	<1	<10	9	1800	--

PLATTE RIVER BASIN

06803555 SALT CREEK AT GREENWOOD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
OCT 27...	--	4	220	--	--	1	<1	50	8.4
NOV 23...	10	4	180	0	180	1	<1	20	6.5
DEC 21...	--	1	410	--	--	1	<1	30	8.1
JAN 20...	--	1	520	--	--	2	<1	40	7.6
FEB 19...	300	--	--	--	130	--	--	--	27
MAR 17...	--	14	270	--	--	1	1	30	10
APR 14...	--	--	--	--	--	--	--	--	8.4
MAY 13...	140	14	1700	--	6	3	1	210	65
JUN 10...	--	9	630	--	--	2	<1	60	13
JUL 08...	--	9	500	--	--	2	<1	60	19
AUG 04...	20	1	300	60	240	2	<1	20	9.3
SEP 01...	--	36	300	--	--	2	<1	50	12
30...	--	18	160	--	--	2	<1	30	8.5

DATE	TIME	HARD- NESS MUNICH- RUMATE (MG/L AS CAC03) (95902)	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 LAR AS CAC03) (90410)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 23...	1330	78	1300	29	15	290	.7
FEB 19...	1250	.00	33	2.0	11	56	.2
MAY 13...	1400	10	95	3.9	11	120	.4
AUG 04...	0900	60	1100	25	14	293	.6

DATE	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	BORON, DIS- SOLVED (UG/L AS B) (01020)
NOV 23...	23	3950	5.4	939	2.8	2.30	600
FEB 19...	4.7	162	.22	1550	1.6	.410	30
MAY 13...	11	435	.59	1260	1.7	.290	100
AUG 04...	18	3300	4.5	1340	1.5	4.20	510

PLATTE RIVER BASIN

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06803555 SALT CREEK AT GREENWOOD, NE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6500	6400	1890	5730	5150	3150	3470	1910	1140	818	5280	2500
2	7250	2890	2250	5990	5080	3290	3850	2410	1300	1870	5720	2920
3	6500	2560	2950	6110	5020	3530	3990	2840	1540	1270	5520	3280
4	5600	3380	3950	6190	5040	2600	3350	3210	1780	2280	5710	3510
5	6000	4290	4490	5910	5010	2790	3810	795	1980	2680	5890	3850
6	6750	5500	4900	6270	5000	2990	3840	988	2210	1870	6400	4060
7	6600	6250	5650	6700	4970	3790	4100	1290	2210	1730	5500	4110
8	7000	5990	5400	6710	4940	3780	4290	1910	2570	2650	5730	4120
9	7000	6500	5500	6890	4960	4120	4230	2390	2150	3170	5680	4160
10	7250	6550	5800	6910	4880	4300	4230	2850	2150	477	1130	3400
11	7200	6420	5900	6900	4900	3090	4450	1190	2850	522	1870	3850
12	7900	6250	5800	6790	4750	3370	4620	675	2870	1170	3270	1240
13	7000	6500	5800	6570	4600	3520	4650	813	3060	1840	324	1190
14	7000	6430	6000	6400	4450	3750	4590	1020	2940	2340	327	2030
15	6800	6400	5620	7270	3870	3300	4890	1300	311	2640	527	2500
16	6800	6540	6750	7200	3570	3990	4620	1360	458	3120	1050	3220
17	6500	7450	6710	6990	3290	3940	3390	1940	621	3250	1520	2390
18	6100	7210	6660	6810	1290	3970	4500	2020	650	3570	2380	1420
19	7200	6420	6600	6730	342	645	4950	2360	865	3670	2390	2370
20	7100	5750	6560	7000	294	584	4520	2110	1190	3760	2690	2730
21	6700	6170	6530	6600	467	1050	4700	479	1350	2740	2970	3000
22	6900	6250	6420	6440	997	1590	4890	978	1620	3070	3340	2800
23	6200	6420	6320	6200	1410	2040	5100	1540	1770	3870	2750	2790
24	6500	6250	6200	6040	1620	2320	5350	1620	2050	4020	645	4230
25	6200	6500	6110	5890	2150	2210	5600	405	2200	4130	1290	4350
26	7000	6460	6000	5850	2510	2690	5500	428	2320	4220	1920	4400
27	6800	6650	6210	5630	2780	2940	5180	618	1530	4320	2170	4370
28	6750	6750	6390	5500	2960	3150	1970	940	1310	4750	2760	4510
29	6800	6550	6380	5410	---	3390	1070	820	2000	4880	2140	4440
30	6800	6190	6210	5380	---	3200	1390	711	2410	4880	765	4130
31	6750	---	6010	5220	---	3520	---	705	---	4920	1880	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	11.0	4.0	.0	.0	9.5	16.0	15.0	20.0	20.0	30.5	28.0
2	22.5	13.0	4.0	.0	.0	7.0	18.5	17.5	18.5	22.0	25.5	27.0
3	13.5	13.0	5.5	.0	.0	2.0	9.5	22.0	18.0	24.5	25.5	26.5
4	19.5	12.0	5.5	.0	.0	3.0	9.0	23.0	20.5	29.5	26.5	24.0
5	22.0	13.0	5.0	.0	.0	3.0	5.5	16.0	20.5	27.0	26.5	24.0
6	17.5	8.0	6.0	.0	.0	3.5	7.0	13.5	24.0	24.0	25.5	23.0
7	15.5	9.0	7.5	.0	.0	3.5	4.0	16.5	24.0	23.0	25.0	23.0
8	16.5	10.0	6.0	.0	.0	4.5	5.0	20.5	20.0	25.0	30.5	24.5
9	15.5	7.5	5.0	.0	.0	4.0	6.5	21.0	25.0	24.5	22.0	24.5
10	18.5	9.0	3.5	.0	.0	10.0	11.5	21.0	26.0	22.5	18.5	25.0
11	26.5	10.0	4.5	.0	.0	8.0	15.5	20.5	23.0	23.0	17.0	27.0
12	15.5	11.0	5.0	.0	.0	10.0	18.0	20.0	23.0	24.0	19.5	22.0
13	17.5	11.5	5.0	.0	.0	11.0	20.0	19.5	23.5	24.5	20.0	19.5
14	15.5	12.5	4.5	.0	.0	7.5	18.0	19.0	21.5	24.5	20.5	17.5
15	17.0	14.0	4.5	.0	.5	7.5	21.5	19.0	18.5	26.0	21.5	11.5
16	15.0	13.0	3.0	.0	1.5	10.5	13.0	19.5	20.5	29.5	23.0	12.5
17	15.5	13.0	1.0	.0	1.5	8.0	16.0	21.0	20.0	30.5	25.0	16.5
18	10.5	11.0	.0	.0	2.0	8.0	17.5	23.0	19.5	29.5	26.0	18.0
19	13.5	5.0	.0	.0	1.0	5.0	17.5	24.0	20.0	30.5	27.0	19.0
20	15.5	4.5	.0	.0	1.0	6.0	15.0	22.0	22.5	32.5	24.5	15.5
21	11.5	5.0	.0	.0	1.0	5.0	13.5	16.5	23.0	30.5	26.0	17.0
22	10.5	7.0	.5	.0	7.0	8.0	16.0	16.5	23.0	30.0	27.5	18.0
23	9.0	8.0	.5	.0	4.0	10.0	17.5	17.0	24.5	29.0	24.5	18.5
24	7.0	8.0	.5	.0	4.5	8.0	19.0	18.0	25.0	29.5	21.5	19.0
25	10.0	8.0	.5	.0	4.0	8.5	21.0	17.0	25.5	28.0	23.5	18.5
26	11.0	7.0	.0	.0	5.5	9.0	19.5	17.5	23.0	28.5	21.5	19.5
27	14.0	4.5	.0	.0	6.5	10.5	8.5	18.0	23.0	29.0	22.0	20.0
28	14.5	4.0	.0	.0	7.5	9.0	9.0	20.0	22.0	30.0	19.5	21.5
29	15.0	5.0	.0	.0	---	9.0	8.5	21.0	24.0	25.5	22.0	23.5
30	14.5	5.5	.0	.0	---	13.0	12.5	19.5	22.5	28.0	22.0	21.0
31	14.5	---	.5	.0	---	14.5	---	17.5	---	30.0	26.0	---

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 (5 m) downstream from bridge on State Highway 63 and 0.5 mi (0.8 km) south of Ithaca.

DRAINAGE AREA.--271 mi² (702 km²), of which 268 mi² (694 km²) 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 (338.474 m) 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 (2.4 km) upstream at datum 8.21 ft (2.502 m) higher.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--33 years, 78.2 ft³/s (2.215 m³/s), 56,660 acre-ft/yr (69.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,400 ft³/s (2,190 m³/s) June 24, 1963, gage height, 22.93 ft (6.989 m), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of indirect measurement of peak flow; minimum daily, 3.3 ft³/s (0.093 m³/s) June 11, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since about 1910, 23.22 ft (7.077 m), from floodmark, Aug. 2, 1959, discharge, 45,300 ft³/s (1,280 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	0645	3240 91.8	18.77 5.721	June 18	1845	1970 55.8	15.72 4.791
Mar. 19	1830	3110 88.1	18.53 5.648	July 10	1900	2420 68.5	17.02 5.188
May 21	1445	1680 47.6	14.50 4.420	Aug. 10	1400	2410 68.3	17.01 5.185
May 25	2330	3020 85.5	18.37 5.599	Aug. 13	2000	13000 368	22.2 6.767
June 15	1600	*16900 479	22.40 6.828				

a Highwater mark.

Minimum daily discharge, 15 ft³/s (0.42 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	22	301	20	37	43	47	35	150	110	48	66
2	21	50	46	19	36	38	47	33	122	112	44	60
3	22	53	34	18	33	33	47	32	109	100	40	53
4	24	110	33	22	34	29	52	31	98	89	38	48
5	23	36	31	21	37	28	53	35	89	79	45	45
6	22	25	26	19	35	29	48	39	82	69	42	44
7	21	22	25	18	38	31	43	37	74	62	35	44
8	20	21	24	22	37	34	46	32	124	53	35	45
9	20	20	23	18	36	32	47	30	369	47	48	48
10	20	20	22	16	37	35	47	28	98	1470	1380	56
11	20	21	21	15	37	66	46	76	66	923	383	50
12	19	24	22	21	39	52	42	109	62	248	622	701
13	23	22	22	19	38	51	40	51	125	178	6010	477
14	21	21	22	22	43	42	38	51	378	142	2730	228
15	20	21	22	25	45	44	37	110	13300	122	447	98
16	19	21	20	19	37	45	39	69	1560	113	270	66
17	20	21	16	23	35	43	41	66	455	103	200	67
18	46	21	19	27	243	40	39	65	1200	94	157	127
19	23	21	28	23	1690	1440	35	267	509	89	132	91
20	17	23	31	21	2330	381	33	569	289	84	117	64
21	17	21	32	23	963	127	32	1040	228	88	105	58
22	18	21	28	26	237	93	30	337	190	108	97	54
23	18	23	26	25	144	83	31	166	166	76	90	52
24	18	23	22	29	70	77	30	145	147	69	85	51
25	19	23	20	30	47	72	30	980	448	69	87	49
26	20	23	21	35	40	64	32	999	283	64	78	47
27	20	23	21	45	43	59	31	341	178	63	69	47
28	19	21	20	50	47	57	39	248	145	63	64	47
29	19	22	19	49	---	55	58	246	120	63	60	49
30	19	45	21	46	---	60	45	288	106	60	92	58
31	19	---	20	38	---	56	---	445	---	54	79	---
TOTAL	649	840	1038	804	6488	3339	1225	7000	21270	5064	13729	2990
MEAN	20.9	28.0	33.5	25.9	232	108	40.8	226	709	163	443	99.7
MAX	46	110	301	50	2330	1440	58	1040	13300	1470	6010	701
MIN	17	20	16	15	33	28	30	28	62	47	35	44
AC-FT	1290	1670	2060	1590	12870	6620	2430	13880	42190	10040	27230	5930
CAL YR 1981	TOTAL	15200	MEAN	41.6	MAX	1750	MIN	12	AC-FT	30150		
WTR YR 1982	TOTAL	64436	MEAN	177	MAX	13300	MIN	15	AC-FT	127800		

PLATTE RIVER BASIN

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06805500 PLATTE RIVER AT LOUISVILLE, NE
(National stream-quality accounting network station)

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 (2 km) north of Louisville.

DRAINAGE AREA.--85,800 mi² (222,200 km²), approximately, of which about 71,000 mi² (183,900 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1953 to current year. October 1961 to September 1973 published as Platte River at South Bend.

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

GAGE.--Water-stage recorder. Datum of gage is 1,007.10 ft (306.964 m) National Geodetic Vertical Datum of 1929. Dec. 5, 1961, to Sept. 30, 1973, at site 7 mi (11 km) upstream at datum 31.43 feet higher.

REMARKS.--Records good except those for winter period, 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.

AVERAGE DISCHARGE.--29 years, 5,709 ft³/s (161.7 m³/s), 4,136,000 acre-ft/yr (5.10 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 124,000 ft³/s (3,510 m³/s) Mar. 30, 1960, gage height, 12.45 ft (3.795 m); minimum daily, 131 ft³/s (3.71 m³/s) Sept. 3, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1881, 124,000 ft³/s (3,510 m³/s) Mar. 30, 1960, gage height, 12.45 ft (3.795 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48,800 ft³/s (1,380 m³/s) June 16, gage height, 8.11 ft (2.472 m); maximum gage height, 9.99 ft (3.045 m) Feb. 22, backwater from ice; minimum daily discharge, 1,260 ft³/s (35.7 m³/s) Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2490	4770	6760	4700	4500	15400	7050	7850	31700	7560	2660	6200
2	2950	4510	7290	4500	4200	15800	6570	7040	25000	6260	2120	4430
3	2930	5080	7870	4600	4000	14400	6680	6180	20300	7160	1860	4630
4	3080	5510	7260	3900	3900	12800	6030	5810	17900	6770	1290	4150
5	2900	6660	6800	4000	3700	10900	5860	5290	15400	5810	1260	4330
6	3400	5290	5580	3200	3900	9100	6920	7180	13700	7080	9720	3950
7	3240	5350	6260	3400	4000	7900	6020	6480	11800	15900	6370	3300
8	3360	5310	5690	2900	4100	7400	6130	5410	10800	13600	3630	3580
9	3010	4700	5770	3100	4200	8040	6120	5530	10300	10300	3230	3680
10	3400	4650	4850	2900	4100	8180	6090	5400	8930	16000	6400	4460
11	3360	4370	6100	2700	4000	8800	4850	6040	7640	32100	7960	4180
12	3740	4680	5380	2700	4200	9650	5270	8300	7180	20800	6690	4340
13	3380	4460	5810	2500	4400	12300	5330	8940	6290	13300	30800	8740
14	3560	4160	5460	2500	4700	11600	5900	8590	6790	8340	30000	7280
15	3600	4340	5520	2400	4900	10800	5640	7980	39000	5940	20500	6160
16	3730	4480	5450	2400	5000	9570	5670	8910	43800	8770	8340	5000
17	3760	4280	4700	2300	5400	8290	6250	8940	30100	11600	6400	5830
18	4240	4080	4500	2500	6000	8900	6150	10200	21300	8060	4980	7220
19	3910	4470	4000	2800	12200	15000	6360	9830	18700	5170	4750	6150
20	4150	4410	4300	3000	20000	22800	5620	16000	14200	7730	3900	5000
21	3570	4700	4600	3300	30000	19900	5880	37600	11500	5710	4030	4330
22	4400	4340	4900	3400	37000	14300	5110	32600	9520	4690	3080	5070
23	3540	4440	5500	3500	36000	12200	4780	20200	8890	4020	3660	4340
24	3400	4790	6000	3600	32000	10500	4760	16200	6970	3520	4730	4090
25	4050	4490	6200	3700	28000	9540	4540	18100	7070	3040	6770	4540
26	3720	4700	6400	3600	25000	9240	3980	35200	8330	2690	5270	4620
27	3850	4890	6000	4000	21400	8390	4160	39700	6070	2110	5380	4370
28	3700	4580	5600	4300	17800	7820	3740	36100	6810	3260	4520	4610
29	4090	4690	5300	4500	---	8140	5840	26100	5690	3480	4860	4910
30	3540	5710	5300	4600	---	8690	6290	22200	6310	3620	7530	6140
31	4060	---	4800	4600	---	7600	---	22900	---	2810	8510	---
TOTAL	110110	142890	175950	106100	338600	343950	169590	462800	437990	257200	221200	149630
MEAN	3552	4763	5676	3423	12090	11100	5653	14930	14600	8297	7135	4988
MAX	4400	6660	7870	4700	37000	22800	7050	39700	43800	32100	30800	8740
MIN	2490	4080	4000	2300	3700	7400	3740	5290	5690	2110	1260	3300
AC-FT	218400	283400	349000	210400	671600	682200	336400	918000	868800	510200	438800	296800
CAL YR 1981	TOTAL	1514852	MEAN	4150	MAX	25600	MIN	670	AC-FT	3005000		
WTR YR 1982	TOTAL	2916010	MEAN	7989	MAX	43800	MIN	1260	AC-FT	5784000		

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 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 micromhos Sept. 1, 1976; minimum daily, 254 micromhos 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 (1,070,000 tonnes) Mar. 21, 1978; minimum daily, 64 tons (58 tonnes) July 19, 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (FTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
13...	1300	2950	476	8.4	16.0	--	10.0	34	K90	80
20...	1035	3760	428	8.5	12.0	--	10.8	43	230	300
NOV										
04...	1200	5670	441	8.2	9.5	35	11.0	57	670	5100
DEC										
08...	1130	6200	660	8.2	3.0	--	12.0	55	250	6000
JAN										
19...	1210	2840	575	7.8	.5	6.5	9.2	10	280	340
FEB										
09...	1200	4400	495	7.4	.0	--	8.0	14	K610	K520
MAR										
23...	1125	12100	500	8.2	6.7	320	11.6	98	3300	K540000
APR										
19...	1030	6220	470	8.5	13.5	--	8.6	61	K2200	7100
JUN										
01...	1300	32700	428	7.9	18.5	1300	7.4	190	27000	90000
30...	1145	6590	--	8.3	25.0	130	9.0	50	770	--
JUL										
13...	1215	12900	446	8.2	26.0	--	6.5	150	11000	12000
AUG										
11...	1030	9280	400	8.1	20.0	--	8.2	100	170000	K1.3E+07*
SEP										
08...	1140	2650	710	8.5	21.5	150	--	39	1300	K60

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

* 13,000,000 fecal streptococci colonies per 100 ml (based on non-ideal colony count).

DATE	HARD- NESS (MG/L AS CAC03) (00900)	NONCAR- BONATE (MG/L AS CAC03) (95902)	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- SURP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITIY LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT									
13...	170	--	49	11	--	--	--	--	56
20...	160	--	47	11	--	--	--	--	43
NOV									
04...	160	16	46	10	28	1.0	8.1	140	66
DEC									
08...	180	--	49	13	--	--	--	--	87
JAN									
19...	220	17	64	14	47	1.5	9.6	200	88
FEB									
09...	200	--	58	14	--	--	--	--	92
MAR									
23...	170	28	49	11	32	1.1	11	140	67
APR									
19...	170	--	49	12	--	--	--	--	62
JUN									
01...	150	13	45	9.5	25	.9	11	139	46
30...	200	24	57	13	56	1.8	10	172	66
JUL									
13...	130	--	37	8.2	--	--	--	--	46
AUG									
11...	120	--	34	7.9	--	--	--	--	40
SEP									
08...	200	16	59	13	68	2.2	10	185	66

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUORIDE, 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)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT									
13...	25	--	--	--	--	--	--	393	.32
20...	21	--	--	--	--	--	--	301	.53
NOV									
04...	10	.3	36	291	289	.40	4460	323	.43
DEC									
08...	63	--	--	--	--	--	--	437	.97
JAN									
19...	37	.4	50	417	430	.57	3200	447	1.1
FEB									
09...	16	--	--	--	--	--	--	--	1.0
MAR									
23...	27	.4	27	301	309	.41	9830	410	1.7
APR									
19...	14	--	--	--	--	--	--	--	.38
JUN									
01...	14	.4	24	277	259	.38	24500	3060	1.1
30...	50	.4	28	399	384	.54	7100	740	.33
JUL									
13...	35	--	--	--	--	--	--	--	1.8
AUG									
11...	28	--	--	--	--	--	--	--	1.5
SEP									
08...	69	.3	30	456	427	.62	3260	640	.20

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, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT									
13...	--	<.070	--	--	1.00	1.3	.300	--	7.1
20...	--	<.060	--	--	.75	1.3	.250	--	6.4
NOV									
04...	.43	<.060	.090	--	.78	1.2	.160	.120	7.8
DEC									
08...	--	.220	--	.51	.73	1.7	.290	--	7.1
JAN									
19...	1.1	.450	.450	.49	.94	2.0	.260	.250	2.8
FEB									
09...	--	.180	--	.70	.88	1.9	.200	--	3.5
MAR									
23...	1.7	.360	.330	1.4	1.80	3.5	.470	.260	27
APR									
19...	--	.070	--	2.0	2.10	2.5	.330	--	--
JUN									
01...	1.1	.130	.200	3.4	3.50	4.6	1.20	.360	62
30...	.30	<.070	<.070	--	1.10	1.4	.520	.230	18
JUL									
13...	--	.080	--	14	14.0	16	1.70	--	54
AUG									
11...	--	.430	--	18	18.0	20	1.40	--	43
SEP									
08...	.18	.200	<.060	3.6	3.80	4.0	.480	.180	12

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CHROMIUM,	
		TOTAL	SUS- PENDE	DIS- SOLVED	TOTAL RECOV- ERABLE	PENDE RECOV- ERABLE	DIS- SOLVED	TOTAL RECOV- ERABLE	DIS- SOLVED	TOTAL RECOV- ERABLE			
		(UG/L AS AS) (01002)	(UG/L AS AS) (01001)	(UG/L AS AS) (01000)	(UG/L AS BA) (01007)	(UG/L AS BA) (01006)	(UG/L AS BA) (01005)	(UG/L AS CD) (01027)	(UG/L AS CD) (01025)	(UG/L AS CR) (01034)			
NOV 04...	1200	7	0	8	200	80	120	1	<1	<10			
MAR 23...	1125	13	6	7	500	400	140	2	<1	30			
JUN 01...	1300	13	7	6	700	600	120	<1	<1	50			
30...	1145	8	1	7	300	100	160	1	<1	10			

DATE	CHROMIUM,	COBALT,	COBALT,	COPPER,	COPPER,	COPPER,	IRON,	IRON,	IRON,	LEAD,
	TOTAL	TOTAL	TOTAL	TOTAL	SUSPENDED	TOTAL	SUSPENDED			
	DIS-SOLVED	RECOVERABLE	DIS-SOLVED	RECOVERABLE	RECOVERABLE	DIS-SOLVED	RECOVERABLE			
	(UG/L AS CR)	(UG/L AS CO)	(UG/L AS CO)	(UG/L AS CU)	(UG/L AS CU)	(UG/L AS CU)	(UG/L AS FE)	(UG/L AS FE)	(UG/L AS FE)	(UG/L AS PR)
	(01030)	(01037)	(01035)	(01042)	(01041)	(01040)	(01045)	(01044)	(01046)	(01051)
NOV 04...	10	2	<3	9	7	2	3400	3400	15	3
MAR 23...	10	7	<1	43	37	6	24000	24000	100	21
JUN 01...	<10	18	<1	70	55	15	51000	51000	67	26
30...	<10	5	<1	29	22	7	8400	8400	22	12

DATE	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PH) (01050)	LEAD, DIS- SOLVED (UG/L AS PR) (01049)	MANGA- NFSE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NFSE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG) (71895)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI) (01066)
NOV 04...	1	2	240	240	3	.2	.2	.0	5	4
MAR 23...	17	4	80	80	4	.2	.0	.3	29	27
JUN 01...	23	3	1900	1900	3	.2	--	<.1	33	30
30...	--	<1	400	400	2	.2	--	<.1	29	25

DATE	NICKEL,		SELE-		SILVER,		ZINC,		ZINC,	
	TOTAL DIS- SOLVED (UG/L AS NI) (01065)	RECOV- ERABLE (UG/L AS SE) (01147)	TOTAL DIS- SOLVED (UG/L AS SE) (01146)	RECOV- ERABLE (UG/L AS SE) (01145)	TOTAL DIS- SOLVED (UG/L AS AG) (01077)	RECOV- ERABLE (UG/L AS AG) (01075)	TOTAL DIS- SOLVED (UG/L AS ZN) (01092)	RECOV- ERABLE (UG/L AS ZN) (01091)	TOTAL DIS- SOLVED (UG/L AS ZN) (01090)	RECOV- ERABLE (UG/L AS ZN) (01090)
NOV 04...	1	1	0	1	<1	<1	30	30	5	
MAR 23...	2	1	0	1	<1	<1	110	110	4	
JUN 01...	3	3	1	2	1	<1	280	260	17	
30...	4	1	0	1	<1	<1	50	40	6	

PLATTE RIVER BASIN

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06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	PER- THANE TOTAL (UG/L) (39034)	PER- THANE IN BOTTOM MATERIAL (UG/KG) (81886)	PCB, TOTAL (UG/L) (39516)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL (UG/L) (39330)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)
NOV 04...	1200	--	.00	--	0	--	.0	--	.0	--	.0	--
MAR 23...	1125	<.10	--	<.10	--	<.10	--	<.01	--	<.10	--	<.01
JUN 01...	1300	<.10	<1.00	<.10	<1	<.10	<1.0	<.01	<.1	<.10	<1.0	<.01

DATE	DDU, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL (UG/L) (39365)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL (UG/L) (39370)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDRIN, TOTAL (UG/L) (39390)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)
NOV 04...	.0	--	.0	--	.0	--	--	.0	--	.0	--	.0
MAR 23...	--	.01	--	<.01	--	.00	<.01	--	<.01	--	<.01	--
JUN 01...	<.1	.01	<.1	.01	<.1	<.01	<.01	<.1	<.01	<.1	<.01	<.1

DATE	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	LINDANE TOTAL (UG/L) (39340)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39481)	METHYL PARA- THION, TOTAL (UG/L) (39600)
NOV 04...	--	--	.0	--	.0	--	.0	--	--	.0	--
MAR 23...	.00	<.01	--	<.01	--	<.01	--	.00	<.01	--	.00
JUN 01...	<.01	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	MIREX, TOTAL (UG/L) (39755)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	SILVEX, TOTAL (UG/L) (39760)
NOV 04...	--	--	--	.0	--	--	--	--	--	.0	--
MAR 23...	.00	.00	<1	--	.00	.09	<.01	<.01	<.01	--	<.01
JUN 01...	<.01	<.01	<1	<10	<.01	.08	<.01	<.01	<.01	<.1	<.01

PLATTE RIVER BASIN

06805500 PLATTE RIVER AT LOUISVILLE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (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 (70337)	SED. SUSP. FALL DIAM. % FINER THAN (70338)	SED. SUSP. FALL DIAM. % FINER THAN (70339)
UCT								
01...	1030	2110	16.0	94	536	--	--	--
13...	1300	2950	16.0	202	1610	--	--	--
20...	1035	3760	12.0	542	5500	--	--	--
NOV								
04...	1200	5670	9.5	397	6080	--	--	--
18...	1138	3860	12.0	182	1900	--	--	--
MAR								
23...	1125	12100	6.7	1320	43100	--	--	--
JUN								
01...	1140	32600	18.5	4420	389000	45	54	55
30...	1045	6590	25.0	541	9630	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN (70340)	SED. SUSP. FALL DIAM. % FINER THAN (70342)	SED. SUSP. FALL DIAM. % FINER THAN (70343)	SED. SUSP. FALL DIAM. % FINER THAN (70344)	SED. SUSP. FALL DIAM. % FINER THAN (70345)	SED. SUSP. FALL DIAM. % FINER THAN (70346)	SED. SUSP. FALL DIAM. % FINER THAN (70331)
UCT							
01...	--	98	98	100	--	--	--
13...	--	46	52	66	81	100	--
20...	--	6	12	27	38	95	--
NOV							
04...	--	49	59	81	100	--	--
18...	--	47	55	87	100	--	--
MAR							
23...	--	72	78	96	100	--	--
JUN							
01...	62	84	88	96	99	100	--
30...	--	--	--	--	--	--	81

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN (80158)	BED MAT. FALL DIAM. % FINER THAN (80159)	BED MAT. FALL DIAM. % FINER THAN (80160)	BED MAT. FALL DIAM. % FINER THAN (80161)	BED MAT. FALL DIAM. % FINER THAN (80162)	BED MAT. FALL SIEVE DIAM. % FINER THAN (80169)	BED MAT. FALL SIEVE DIAM. % FINER THAN (80170)	BED MAT. FALL SIEVE DIAM. % FINER THAN (80171)	BED MAT. FALL SIEVE DIAM. % FINER THAN (80172)
UCT												
01...	1030	2110	3	--	0	10	39	78	88	95	99	100
13...	1300	2950	3	--	0	13	35	56	75	93	100	--
20...	1035	3760	4	--	0	16	44	85	96	99	100	--
NOV												
04...	1200	5670	3	0	3	29	64	77	90	98	100	--
18...	1138	3860	4	--	0	15	50	82	92	97	99	100
MAR												
23...	1125	12100	4	--	0	28	54	83	92	98	100	--
JUN												
01...	1140	32600	4	0	1	22	72	86	94	98	99	100
30...	1045	6590	4	--	0	10	49	76	88	94	98	100

WEEPING WATER CREEK BASIN

213

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 (2.4 km) southeast of Union and 2.8 mi (4.5 km) downstream from South Branch Weeping Water Creek.

DRAINAGE AREA.--241 mi² (624 km²).

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 (282.464 m) (revised) National Geodetic Vertical Datum of 1929. Prior to May 14, 1951, nonrecording gage at site 2 mi (3 km) upstream at different datum. May 15, 1951, to Aug. 22, 1968, water-stage recorder for stages above 7.9 ft (2.41 m) and nonrecording gage, Aug. 23, 1968 to Aug. 22, 1980, water-stage recorder on downstream side of bridge pier, and Aug. 23, 1980 to Nov. 4, 1980 at present site, all at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--32 years, 86.0 ft³/s (2.436 m³/s), 62,310 acre-ft/yr (76.8 hm³/yr); median of yearly mean discharges, 69 ft³/s (1.954 m³/s), 50,000 acre-ft/yr (61.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,300 ft³/s (1,710 m³/s) May 9, 1950, gage height, 29.80 ft (9.083 m), from floodmark, present site and datum, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of measurement of peak flow through bridges and over highway embankment; minimum daily, 0.1 ft³/s (0.003 m³/s) Sept. 10-12, 14, 15, 17, 18, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 16	0400	5840 165	19.80 6.035	July 14	0200	5000 142	19.45 5.928
May 21	0700	16600 470	27.24 8.303	Aug. 13	0900	7800 221	21.90 6.675
May 30	1800	4500 127	18.82 5.736	Aug. 14	2300	6500 184	20.93 6.379
June 15	0500	*17400 493	27.51 8.385				

Minimum daily discharge, 4.4 ft³/s (0.12 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	20	121	19	20	60	43	75	171	180	58	130
2	4.4	27	62	19	19	54	43	67	144	353	55	116
3	6.1	24	37	18	18	48	41	63	131	173	52	109
4	11	22	30	19	18	45	44	61	122	129	50	103
5	9.1	15	27	20	19	42	48	276	114	95	48	37
6	6.9	23	26	18	20	40	47	200	105	392	49	95
7	6.2	16	26	17	21	38	46	152	97	236	51	98
8	6.3	12	24	18	20	38	48	109	225	97	52	97
9	6.0	9.7	24	19	19	40	46	91	166	86	54	97
10	5.9	9.7	23	16	21	44	45	81	113	81	300	101
11	6.1	11	23	17	23	73	44	104	91	79	173	93
12	6.1	11	22	18	26	62	44	465	82	74	281	94
13	6.7	10	22	19	28	62	41	247	85	225	4530	103
14	6.9	11	22	21	30	55	38	172	87	1350	1610	114
15	6.9	11	21	22	35	58	231	376	13700	92	1990	114
16	6.5	11	20	20	45	55	1750	157	993	84	256	97
17	7.2	10	19	21	100	51	132	506	374	76	164	162
18	6.7	11	18	22	500	51	75	241	296	69	138	167
19	6.6	11	19	22	1200	1140	67	150	256	100	126	123
20	7.2	13	21	23	700	327	57	333	225	75	115	98
21	6.9	12	22	23	300	119	52	9150	198	75	108	90
22	7.5	11	23	22	200	80	48	496	181	90	102	86
23	7.1	12	24	21	130	70	52	208	160	72	99	85
24	7.0	12	25	21	100	66	50	222	151	66	642	83
25	7.4	12	22	23	85	68	50	1420	143	63	392	81
26	7.4	13	21	24	75	60	50	883	139	61	180	80
27	7.5	12	20	24	65	56	45	249	157	64	254	80
28	7.8	12	20	25	60	52	137	185	149	71	128	79
29	8.2	12	19	25	---	51	149	750	130	61	186	86
30	8.5	59	21	24	---	55	94	1250	135	59	738	104
31	8.2	---	19	22	---	48	---	358	---	58	180	---
TOTAL	217.0	455.4	843	642	3897	3108	3657	19097	19120	4786	13161	3062
MEAN	7.00	15.2	27.2	20.7	139	100	122	616	637	154	425	102
MAX	11	59	121	25	1200	1140	1750	9150	13700	1350	4530	167
MIN	4.4	9.7	18	16	18	38	38	61	82	58	48	79
AC-FT	430	903	1670	1270	7730	6160	7250	37880	37920	9490	26100	6070

CAL YR 1981 TOTAL 9145.4 MEAN 25.1 MAX 2250 MIN 2.8 AC-FT 18140
WTR YR 1982 TOTAL 72045.4 MEAN 197 MAX 13700 MIN 4.4 AC-FT 142900

MISSOURI RIVER MAIN STEM

06807000 MISSOURI RIVER AT NEBRASKA CITY, NE

LOCATION.--Lat 40°40'55"N, long 95°50'48"W, in NW1/4NE1/4 sec.9, T.8 N., R.14 E., Otoe County, Hydrologic Unit 10240001, on right bank 0.7 mi (1.1 km) upstream from Waubonsie Highway Bridge at Nebraska City, and at mi 562.6 (905.2 km).

DRAINAGE AREA.--410,000 mi² (1,062,000 km²), approximately. The 3,959 mi² (10,254 km²) 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 recorder. Datum of gage is 905.36 ft (275.954 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1954. See WSP 1918 or 1919 for history of changes prior to Apr. 1, 1963.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 35,660 ft³/s (1,010 m³/s), 25,840,000 acre-ft/yr (31.9 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 414,000 ft³/s (11,700 m³/s) Apr. 19, 1952; maximum gage height, 27.66 ft (8.431 m) Apr. 18, 1952; minimum discharge, 1,600 ft³/s (45.3 m³/s) Dec. 31, 1946 (discharge measurement); minimum gage height observed, -0.28 ft (-0.085 m) Dec. 24, 1960, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft³/s (3,200 m³/s) May 21, gage height, 18.57 ft (5.660 m); minimum daily, 11,500 ft³/s (326 m³/s) Jan. 12, 13; minimum gage height not determined, occurred during period of no gage-height record Jan. 4-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37800	42800	27200	18800	20800	39900	39400	38400	69300	43000	38600	41500
2	37300	42400	26600	18700	20500	39300	38700	39200	64600	43000	39100	39900
3	37900	42600	26700	18200	20200	38900	39100	38900	58500	42300	39200	39300
4	38400	41400	26700	18500	19500	37000	39300	38600	54700	41100	38500	38700
5	37800	40600	25900	18000	19000	33000	39500	39800	53600	40700	39100	38800
6	37700	39000	24900	18000	19500	29500	39200	40900	51500	42600	39900	39500
7	37800	37800	24200	18000	20000	26700	39600	41200	49800	53000	45000	39700
8	37800	35400	24000	18000	20400	24800	39800	40300	49300	57900	43000	38900
9	37600	33200	24000	17000	21100	23600	39500	38800	50400	54500	41000	38600
10	37200	30300	23900	15000	21600	23700	39000	38500	47700	52600	45000	38900
11	37400	28800	23500	13000	20900	24000	39000	39100	46200	64100	44600	39200
12	37500	26800	23700	11500	20300	26100	38500	43900	44800	64200	44800	44300
13	37600	25400	23300	11500	20600	31500	40800	45200	44000	57000	55600	56100
14	38800	24000	23200	14500	20700	31700	40900	43100	42500	54000	61600	53300
15	39800	23900	22900	16500	20800	29400	41400	43300	88900	48900	56200	49100
16	40700	24000	22800	17000	21200	28500	42800	42000	93000	48500	47800	45700
17	40800	24000	20100	17000	21800	27700	40900	43100	70000	52000	43900	44700
18	40700	23700	17000	15500	23000	27400	40300	44900	57200	51800	41800	44600
19	40400	23200	16400	15900	28300	35700	39800	48300	53800	53400	39800	43900
20	40700	23900	15700	18400	36600	49300	39500	55700	50500	53600	38600	42900
21	40900	23600	15200	20300	47300	45000	39100	97500	48500	49900	38200	41800
22	40300	23600	15200	20700	41400	43500	39000	84700	47300	47900	38300	41400
23	40500	22200	17000	19800	60600	41700	38200	62200	45700	47800	37500	42000
24	40100	22600	20200	18900	72600	42300	38100	53800	45200	44700	39900	41200
25	40000	22800	21600	17300	53400	41900	37400	54500	43600	42200	41400	41400
26	40600	23000	21600	16600	45800	41600	37100	64700	45800	40700	40800	41400
27	40500	23600	21600	17500	41200	41400	36600	84200	44500	39500	40300	41000
28	40000	23900	21400	19500	40200	40700	36600	81900	44500	39000	39500	40800
29	40100	23800	20200	21000	---	40300	36800	76000	42600	39000	39200	41100
30	40000	24800	19800	21400	---	41100	37500	75100	41800	38400	41200	42000
31	40700	---	20000	21000	---	40800	---	66600	---	38600	43100	---
TOTAL	1215400	867100	676500	543000	839300	1088000	1173400	1644400	1589800	1485900	1322500	1271700
MEAN	39210	28900	21820	17520	29980	35100	39110	53050	52990	47930	42660	42390
MAX	40900	42800	27200	21400	72600	49300	42800	97500	93000	64200	61600	56100
MIN	37200	22200	15200	11500	19000	23600	36600	38400	41800	38400	37500	38600
AC-FT	2411000	1720000	1342000	1077000	1665000	2158000	2327000	3262000	3153000	2947000	2623000	2522000

CAL YR 1981 TOTAL 11794400 MEAN 32310 MAX 57400 MIN 13700 AC-FT 23390000
WTR YR 1982 TOTAL 13717000 MEAN 37580 MAX 97500 MIN 11500 AC-FT 27210000

LITTLE NEMAH RIVER BASIN

215

06811500 LITTLE NEMAH 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 (2 km) downstream from Longs Creek and Willow Creek and 1 mi (2 km) east of Auburn.

DRAINAGE AREA.--793 mi² (2,054 km²).

WATER-DISCHARGE RECORDS

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 (271.232 m) National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to July 24, 1967.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--33 years, 280 ft³/s (7.930 m³/s), 202,900 acre-ft/yr (0.250 km³/yr); median of yearly mean discharges, 200 ft³/s (5.664 m³/s), 145,000 acre-ft/yr (0.179 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164,000 ft³/s (4,640 m³/s) May 9, 1950, gage height, 27.65 ft (8.428 m), from floodmark, from rating curve extended above 49,000 ft³/s (1,390 m³/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 (7.608 m) and 27.65 ft (8.428 m); minimum daily, 0.87 ft³/s (0.025 m³/s) July 6-8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	----	7800 221	ice jam	May 30	1830	8040 228	15.10 4.602
Mar. 19	1500	11800 334	a16.85 5.136	June 15	1830	22500 637	*23.08 7.035
Apr. 16	0430	12300 348	17.65 5.380	Aug. 13	1700	*23200 657	a23.00 7.010
May 21	0200	15300 433	b20.00 6.096	Aug. 15	0600	7050 200	14.25 4.343
May 25	2300	13500 382	19.00 5.791	Aug. 30	0700	13300 377	18.54 5.651
May 29	0800	19500 552	21.90 6.675				

a From hydrographers reading.

b From floodmark.

Minimum daily discharge, 29 ft³/s (0.82 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	82	462	46	58	196	120	223	996	223	82	560
2	29	136	462	47	54	190	112	174	678	266	78	406
3	38	120	202	46	45	184	108	150	518	319	74	324
4	48	93	141	48	45	162	114	135	435	249	67	287
5	42	80	123	50	44	167	121	239	382	191	67	253
6	39	62	108	45	40	160	118	829	342	192	66	245
7	35	53	88	40	52	151	112	810	307	355	60	227
8	35	48	74	43	70	150	112	326	294	195	60	217
9	36	43	66	36	66	145	111	213	340	159	59	229
10	39	42	63	30	70	146	107	168	352	151	237	247
11	35	42	63	38	80	194	104	162	261	147	247	221
12	35	42	62	37	88	217	99	1920	229	162	840	200
13	37	42	61	36	84	188	94	814	211	153	14500	205
14	39	42	59	40	92	176	90	515	206	573	4130	254
15	36	43	56	48	94	183	89	512	13600	365	4510	283
16	35	41	45	46	94	183	4340	500	4740	234	1210	224
17	37	41	30	50	300	170	1010	664	1480	310	619	418
18	32	41	31	58	1950	155	528	955	939	178	379	551
19	33	39	45	56	2800	5390	371	416	664	153	281	310
20	34	39	60	52	3100	1930	263	2300	521	136	232	231
21	32	42	62	56	1140	520	189	9470	422	246	204	198
22	31	43	62	66	714	316	157	2150	360	235	188	183
23	34	44	60	60	535	248	137	919	309	149	183	175
24	33	42	58	64	362	215	120	959	275	123	678	167
25	34	45	54	72	270	204	112	7460	254	112	1320	163
26	33	44	48	76	228	188	106	5300	241	104	389	158
27	34	42	45	78	212	166	101	1260	234	99	341	153
28	35	43	42	76	203	149	210	734	285	95	285	150
29	35	43	40	80	---	143	971	11600	265	92	237	147
30	36	86	48	70	---	143	387	4540	219	91	6140	168
31	37	---	47	66	---	134	---	3300	---	85	1170	---
TOTAL	1099	1645	2867	1656	12890	12863	10613	59717	30359	6142	38933	7554
MEAN	35.5	54.8	92.5	53.4	460	415	354	1926	1012	198	1256	252
MAX	48	136	462	80	3100	5390	4340	11600	13600	573	14500	560
MIN	29	39	30	30	40	134	89	135	206	85	59	147
AC-FT	2180	3260	5690	3280	25570	25510	21050	118400	60220	12180	77220	14980
CAL YR 1981 TOTAL	24018.0			MEAN 65.8		MAX 888	MIN 8.0	AC-FT 47640				
WTR YR 1982 TOTAL	186338.0			MEAN 511		MAX 14500	MIN 29	AC-FT 369600				

LITTLE NEMAHA RIVER BASIN

06811500 LITTLE NEMAHA RIVER AT AUBURN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PFR 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
14...	1415	40	650	8.5	15.5	11.2	29	21000	2900	270	79	17
NOV												
10...	1445	43	603	8.4	8.5	12.7	23	K7700	K1900	270	79	18
DEC												
09...	1500	66	605	7.8	3.0	14.8	140	K100000	K220000	230	66	17
JAN												
05...	1215	50	670	7.7	.0	9.4	17	K14000	6300	290	83	19
FEB												
01...	1215	51	--	7.4	.0	9.6	16	K35000	K28000	280	82	18
MAR												
02...	1355	191	535	7.9	6.6	10.7	32	7300	2600	220	66	14
APR												
01...	1110	121	566	8.2	12.0	10.8	22	3000	2600	260	74	18
28...	1130	122	490	8.2	11.0	9.6	44	4200	15000	210	59	15
MAY												
21...	1235	8570	--	7.6	17.0	6.7	270	100000	500000	68	20	4.5
JUN												
23...	1800	301	580	8.1	25.4	7.6	41	K9600	14000	260	77	17
JUL												
20...	1200	135	585	8.8	30.0	11.1	36	K12000	4100	270	76	19
AUG												
27...	1145	337	455	8.0	21.0	8.9	55	4000	16000	190	53	13
SEPT												
14...	1400	242	554	7.8	18.0	8.6	38	14000	K121000	250	71	17

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
14...	47	24	--	440	.40	.360	.61	.97	1.4	.380	5.0
NOV											
10...	66	15	--	412	.75	.100	.76	.86	1.6	.430	4.5
DEC											
09...	58	17	--	370	1.7	.400	1.2	1.60	3.3	1.70	23
JAN											
05...	64	17	--	428	1.8	.420	.58	1.00	2.8	.250	2.7
FEB											
01...	65	21	35	--	2.0	.480	.82	1.30	3.3	.320	4.3
MAR											
02...	55	15	106	--	1.8	.560	1.3	1.90	3.7	.320	7.2
APR											
01...	67	14	157	--	2.2	.180	.59	.77	3.0	.090	6.8
28...	57	14	221	--	.94	.270	2.2	2.50	3.4	.350	11
MAY											
21...	12	3.5	3640	--	1.8	.500	8.0	8.50	10	.680	18
JUN											
23...	61	13	490	--	4.4	.160	1.9	2.10	6.5	.650	5.9
JUL											
20...	61	11	220	--	2.0	.150	3.0	3.10	5.1	.510	12
AUG											
27...	42	8.8	520	--	2.6	.180	2.8	3.00	5.6	.440	3.1
SEPT											
14...	51	10	77	--	2.7	.130	2.6	2.70	5.4	.670	11

LITTLE NEMAH RIVER BASIN

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06811500 LITTLE NEMAH RIVER AT AUBURN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LILITY LAB (MG/L AS CAC03) (90410)	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)
NOV 10...	1445	11	37	1.0	5.7	260	.3	21	399	.54
FEB 01...	1215	.00	41	1.1	4.2	280	.3	23	432	.59
MAY 21...	1235	5.0	8.3	.5	6.2	63	.3	12	113	.15
AUG 27...	1145	9.0	24	.8	7.3	177	.3	17	283	.38

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 10...	46.6	.65	.360	7	100	60	<1	<10	10	1000
FEB 01...	59.5	2.0	.290	--	--	50	--	--	--	--
MAY 21...	2620	1.8	.360	22	1500	30	<1	110	130	120000
AUG 27...	258	2.6	.160	--	--	50	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	980	17	4	200	80	120	<.1	2	<1	20
FEB 01...	--	<10	--	--	--	460	--	--	--	--
MAY 21...	--	190	<1	3300	--	58	.2	3	<1	350
AUG 27...	--	16	--	--	--	4	--	--	--	--

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'14", long 95°25'12", in NW1/4NW1/4 sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on downstream end of middle pier of bridge on U.S. Highway 159 at Rulo, 3.2 mi (5.1 km) upstream from Big Nemaha River, and at mi 498.0 (801.3 km).

DRAINAGE AREA.--414,900 mi² (1,075,000 km²), approximately. The 3,959 mi² (10,254 km²) in Great Divide basin are not included.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft (24 m) 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 Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft (255.188 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1950, nonrecording gage at site 80 ft (24 m) upstream at same datum.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--33 years, 39,570 ft³/s (1,121 m³/s), 28,670,000 acre-ft/yr (35.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s (10,100 m³/s) Apr. 22, 1952, gage height, 25.60 ft (7.803 m); minimum daily, 4,420 ft³/s (125 m³/s) Jan. 13, 1957; minimum gage height, 0.65 ft (0.198 m) Jan. 7, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft (6.98 m), from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 126,000 ft³/s (3,570 m³/s) June 16, gage height, 19.73 ft (6.014 m); minimum daily, 11,600 ft³/s (329 m³/s) Jan. 13; minimum gage height, 2.53 ft (0.771 m) Jan. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38800	43500	29300	21600	22700	43700	42400	39500	71300	45600	40500	49300
2	38300	48000	30200	20100	22300	43900	42400	40000	72400	47800	40200	44500
3	38800	42800	28600	19800	21700	43100	41700	39500	63900	47700	40300	42800
4	40800	41900	27800	18900	21300	41500	42400	39300	58400	45500	39900	41100
5	40100	41600	26700	18600	20900	37800	42400	41900	55900	43900	39200	39900
6	39500	41000	26400	19500	20600	33100	41400	46700	53900	44300	42600	40200
7	39300	39200	25000	19200	21300	29900	41300	46600	52600	51600	46900	41000
8	39000	37800	25100	18800	21700	27500	40900	43300	51200	64500	44700	40100
9	39700	35200	24900	18900	22400	26000	40700	41600	64000	58600	41000	39300
10	39200	33200	25400	16500	23700	25000	40600	40300	55100	53200	44000	39100
11	39100	30700	25100	14500	24100	25900	40700	40000	51100	59500	46700	38900
12	39200	28700	25600	13000	23000	26700	39700	44000	47800	69700	45300	38600
13	39400	26900	25400	11600	22300	31400	39500	51800	46300	61600	60000	51800
14	39700	25400	25600	11900	22700	36900	40600	48200	44400	60700	75000	56400
15	40900	24200	25300	14100	23300	34900	41300	49800	73800	55100	73500	50700
16	41400	24000	25200	16900	26100	33500	52600	47900	121000	54000	60900	44900
17	41900	23900	24300	17200	28000	32700	48000	46000	101000	54200	49600	43000
18	42000	23900	20900	17300	32800	32000	43700	48700	74800	55300	46200	51800
19	42000	23900	18600	15900	46300	42000	42800	49300	65500	54100	43600	46600
20	41500	23800	17800	16200	58400	58000	42400	55200	60900	56400	41800	44300
21	41600	24700	16700	19000	59800	54000	41400	106000	55600	54400	42200	43300
22	42000	24800	16000	22100	60300	51000	41000	111000	52900	50200	40800	42600
23	41500	25000	16300	22500	71000	49600	40600	86900	50000	49400	39700	42600
24	41000	23700	18300	21500	76800	47900	39800	70300	48100	47000	40600	42500
25	41000	24000	21600	19900	63600	46900	39800	69600	46300	44400	46200	41700
26	41500	23800	23300	17800	53100	45800	39100	78200	46200	42400	44600	42000
27	41500	23500	23800	17300	47100	44900	38800	89000	48000	41200	43800	41800
28	40200	23800	24800	18500	43900	44200	38900	97000	49700	40200	41800	41400
29	40500	23800	24700	20700	---	43200	39800	108000	46800	40800	40000	41800
30	41400	24500	23400	22800	---	43300	40100	98800	43200	41100	64600	42700
31	41600	---	22500	23200	---	43600	---	90000	---	41000	57200	---
TOTAL	1254400	901200	734600	565800	1001200	1219900	1246800	1904400	1772100	1575400	1463400	1306700
MEAN	40460	30040	23700	18250	35760	39350	41560	61430	50820	50200	47210	43560
MAX	42000	48000	30200	23200	76800	58000	52600	111000	121000	69700	75000	56400
MIN	38300	23500	16000	11600	20600	25000	38800	39300	43200	40200	39200	38600
AC-FT	2488000	1788000	1457000	1122000	1986000	2420000	2473000	3777000	3515000	3125000	2903000	2592000

CAL YR 1981 TOTAL 12066800 MEAN 33060 MAX 56100 MIN 13500 AC-FT 23930000
WTR YR 1982 TOTAL 14945900 MEAN 40950 MAX 121000 MIN 11600 AC-FT 29650000

BIG NEMAHIA RIVER BASIN

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06814000 TURKEY CREEK NEAR SENECA, KS

LOCATION.--Lat 39°56'52", long 96°06'30", in SW1/4NW1/4SW1/4 sec.20, T.1 S., R.12 E., Nemaha County, Hydrologic Unit 10240007, at downstream side of highway bridge, 2.0 mi (3.2 km) downstream from Clear Creek, 5.0 mi (8.0 km) upstream from Big Nemaha River, and 8.0 mi (12.9 km) northwest of Seneca.

DRAINAGE AREA.--276 mi² (715 km²).

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 1,037.53 ft (316.239 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 19, 1956, water-stage recorder (occasional operation only) and nonrecording gage on former channel 400 ft (120 m) south of present site at present datum. Oct. 19, 1956, to June 15, 1957, nonrecording gage at highway bridge 1.2 mi (1.9 km) upstream at different datum. June 16, 1957, to Mar. 27, 1958, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--34 years, 124 ft³/s (3.512 m³/s), 89,840 acre-ft/yr (0.111 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s (606 m³/s) Oct. 11, 1973, gage height, 24.77 ft (7.550 m); no flow at times in 1956-57, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,100 ft³/s (87.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 21	0800	11200 317	22.80 6.949
May 26	0900	*11800 334	22.94 6.992

Minimum discharge, 7.2 ft³/s (0.20 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	773	1060	49	110	78	59	62	345	87	25	46
2	23	758	322	45	80	77	57	50	266	82	23	39
3	26	249	199	40	60	71	52	45	228	76	22	35
4	35	314	145	35	40	55	48	43	203	64	20	32
5	31	567	94	35	30	50	48	39	177	55	28	29
6	21	158	71	30	28	48	50	113	160	82	29	145
7	17	87	63	25	26	48	49	196	146	75	26	186
8	15	63	54	20	25	50	49	95	131	57	24	68
9	14	48	46	17	25	52	50	67	691	54	23	50
10	14	40	42	15	25	58	47	55	317	65	29	48
11	15	36	41	15	25	60	43	51	156	51	65	42
12	15	32	39	15	27	57	41	286	131	44	84	39
13	15	29	38	15	30	52	39	236	116	69	1170	43
14	15	27	36	16	40	51	37	136	112	706	255	304
15	14	25	34	18	200	118	43	255	866	522	134	98
16	13	23	31	18	1000	114	47	151	669	357	112	64
17	15	21	29	19	1500	88	37	129	224	107	93	122
18	11	20	30	20	2580	72	33	258	161	72	78	95
19	9.1	19	32	20	2100	1610	33	139	129	61	62	53
20	9.2	20	35	20	1020	711	33	272	111	56	388	42
21	8.9	20	40	20	460	246	31	5470	99	56	316	38
22	8.4	20	45	22	257	180	31	631	87	58	110	37
23	7.7	20	55	24	205	149	30	336	79	44	320	37
24	7.7	20	65	23	152	129	30	254	75	39	123	35
25	8.6	19	61	22	111	114	29	1770	73	37	75	32
26	8.7	18	59	23	89	92	28	8420	76	36	97	31
27	8.5	18	57	30	85	83	25	1050	452	35	68	30
28	9.0	18	55	50	83	76	48	608	579	33	56	28
29	8.8	17	51	100	---	73	203	759	166	31	91	28
30	8.2	265	53	200	---	74	111	1030	105	31	79	28
31	12	---	56	150	---	67	---	1090	---	28	57	---
TOTAL	451.8	3744	3038	1151	10413	4803	1461	24096	7130	3170	4082	1904
MEAN	14.6	125	98.0	37.1	372	155	48.7	777	238	102	132	63.5
MAX	35	773	1060	200	2580	1610	203	8420	866	706	1170	304
MIN	7.7	17	29	15	25	48	25	39	73	28	20	28
AC-FT	896	7430	6030	2280	20650	9530	2900	47790	14140	6290	8100	3780

CAL YR 1981	TOTAL	17836.38	MEAN	48.9	MAX	2170	MIN	.12	AC-FT	35380
WTR YR 1982	TOTAL	65443.80	MEAN	179	MAX	8420	MIN	7.7	AC-FT	129800

BIG NEMAHA RIVER BASIN

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 Unit 10240008, on right pile bent of bridge on State Highway 105 at south edge of Humboldt, 800 ft (244 m) downstream from Long Branch Creek.

DRAINAGE AREA.--548 mi² (1,419 km²).

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 for stages above 4.95 ft (1.509 m); nonrecording gage read twice daily. Datum of gage is 944.44 ft (287.865 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1968, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--30 years, 195 ft³/s (5.522 m³/s), 141,300 acre-ft/yr (0.174 km³/yr); median of yearly mean discharges, 140 ft³/s (3.965 m³/s), 101,000 acre-ft/yr (0.125 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,500 ft³/s (1,690 m³/s) Aug. 13, 1982, gage height, 31.25 ft (9.525 m), from floodmark; maximum gage height, 31.70 ft (9.662 m) July 10, 1958; minimum daily, 0.07 ft³/s (0.002 m³/s) July 22, 23, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	----	5700 161	ice jam	July 14	0200	16800 476	16.93 5.160
Mar. 20	0830	7970 226	11.03 3.362	Aug. 13	0500	*59500 1690	a 31.25 9.525
May 20	2100	18700 530	18.00 5.486	Aug. 30	0730	6260 177	10.50 3.200
May 25	1730	12000 340	14.13 4.307				

a From floodmark.

Minimum daily discharge, 19 ft³/s (0.54 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	519	1080	45	54	123	72	178	497	72	52	164
2	23	544	307	48	58	123	62	128	264	84	42	67
3	31	200	175	46	45	112	55	91	194	131	46	62
4	42	385	120	42	38	126	46	71	134	102	38	51
5	33	206	82	41	40	93	67	91	91	69	49	65
6	25	78	74	46	35	95	60	218	65	84	49	82
7	26	54	72	43	40	98	76	321	58	74	46	172
8	22	51	71	37	56	169	69	187	351	62	42	74
9	24	38	58	40	50	100	58	110	869	62	49	74
10	28	38	52	32	48	80	58	80	310	63	52	65
11	26	36	57	25	60	105	55	105	134	46	55	62
12	26	39	55	29	74	110	62	886	100	100	69	65
13	28	35	52	28	90	107	47	678	65	420	18100	63
14	28	35	51	30	120	98	65	321	65	2950	1100	131
15	28	34	52	45	200	166	55	408	1990	1200	506	181
16	28	36	45	43	700	137	69	813	1180	335	324	146
17	24	34	35	35	1110	126	49	358	361	105	209	433
18	25	36	25	50	3000	110	35	511	240	100	175	215
19	22	36	35	56	3800	4660	62	250	164	78	126	105
20	22	34	45	54	2270	1670	55	2640	143	95	140	74
21	22	28	54	50	906	568	58	3060	123	209	118	69
22	22	32	46	52	420	282	44	811	112	123	87	69
23	19	33	46	48	321	203	44	376	102	78	161	65
24	22	34	45	45	231	187	55	904	91	60	76	49
25	24	33	45	49	169	146	58	8110	84	63	69	58
26	24	32	45	58	128	107	55	3780	91	69	63	58
27	25	33	47	64	140	140	51	1100	149	65	72	62
28	26	33	46	70	120	93	72	497	520	60	65	57
29	24	34	42	66	---	84	525	2680	169	60	84	57
30	25	479	47	64	---	84	321	2350	93	52	2260	67
31	30	---	50	60	---	65	---	1580	---	52	437	---
TOTAL	796	3239	3056	1441	14323	10367	2460	33693	8809	7123	24761	2962
MEAN	25.7	108	98.6	46.5	512	334	82.0	1087	294	230	799	98.7
MAX	42	544	1080	70	3800	4660	525	8110	1990	2950	18100	433
MIN	19	28	25	25	35	65	35	71	58	46	38	49
AC-FT	1580	6420	6060	2860	28410	20560	4880	66830	17470	14130	49110	5880
CAL YR 1981	TOTAL	20721.2	MEAN	56.8	MAX	1080	MIN	1.7	AC-FT	41100		
WTR YR 1982	TOTAL	113030.0	MEAN	310	MAX	18100	MIN	19	AC-FT	224200		

BIG NEMAHA RIVER BASIN

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06815000 BIG NEMAHA RIVER AT FALLS CITY, NE

LOCATION (REVISED).--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 (2 km) south of Falls City and 13 mi (21 km) upstream from mouth.

DRAINAGE AREA.--1,340 mi² (3,471 km²).

WATER-DISCHARGE RECORDS

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; nonrecording gage read twice daily. Datum of gage is 861.24 ft (262.506 m) 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 (1.86 m) and nonrecording gage read twice daily at site 150 ft (46 m) downstream at same datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--38 years, 583 ft³/s (16.51 m³/s), 422,400 acre-ft/yr (0.521 km³/yr); median of yearly mean discharges, 470 ft³/s (13.31 m³/s), 341,000 acre-ft/yr (0.420 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,600 ft³/s (2,030 m³/s) Oct. 11, 1973, gage height, 31.40 ft (9.571 m); minimum daily discharge, 3.0 ft³/s (0.085 m³/s) July 9, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s (425 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 21	0130	17400 493	16.40 4.999	Aug. 13	0930	*46000 1300	27.60 8.412
May 26	0300	15200 430	15.25 4.648				

a From floodmark.

Minimum daily discharge, 50 ft³/s (1.42 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	1630	2320	160	400	386	304	386	2080	560	150	680
2	131	3080	1680	170	430	372	289	280	1100	640	139	472
3	102	1220	660	180	360	362	238	238	953	900	119	376
4	245	799	490	150	300	339	235	216	804	600	123	289
5	213	1530	355	160	320	308	235	203	730	450	117	286
6	243	745	331	165	280	269	243	421	641	400	127	286
7	118	370	281	140	290	260	249	990	582	790	142	1160
8	89	275	270	150	350	249	243	530	590	369	103	698
9	82	235	232	160	310	266	252	336	2360	283	77	382
10	81	205	219	130	300	277	238	252	2520	260	129	314
11	78	191	208	100	320	289	221	221	912	283	135	283
12	81	178	196	140	340	333	213	314	624	283	162	252
13	79	182	198	130	360	283	216	1350	545	530	28200	339
14	82	169	193	135	380	274	200	838	487	4420	5440	3290
15	86	153	188	190	700	333	200	757	2060	2140	1910	2680
16	81	156	170	160	1500	421	198	1440	3420	1810	1370	800
17	82	139	130	150	4300	424	171	872	1300	743	964	598
18	74	139	100	180	7950	362	164	1280	753	414	790	1080
19	76	141	130	190	9100	4940	188	862	590	323	654	590
20	68	127	200	195	6020	5220	190	964	494	302	1040	414
21	68	111	210	190	2720	1610	171	10800	450	498	3120	352
22	60	112	200	195	1480	882	166	5150	414	403	912	320
23	50	116	185	170	1950	654	162	1680	403	289	1440	298
24	57	208	190	160	882	562	157	1170	352	240	1670	290
25	62	135	200	220	685	479	146	9980	342	216	667	276
26	60	127	180	270	487	421	148	12800	317	246	1440	259
27	65	120	190	320	421	541	162	6830	574	193	2060	256
28	65	120	180	400	400	362	166	2160	4990	166	720	250
29	65	120	160	800	---	333	514	3880	1210	159	578	242
30	64	267	180	1000	---	339	685	4890	700	169	4060	245
31	74	---	200	700	---	356	---	5870	---	159	1300	---
TOTAL	2904	13100	10626	7560	43335	22506	6964	77960	33297	19238	59858	18057
MEAN	93.7	437	343	244	1548	726	232	2515	1110	621	1931	602
MAX	245	3080	2320	1000	9100	5220	685	12800	4990	4420	28200	3290
MIN	50	111	100	100	280	249	146	203	317	159	77	242
AC-FT	5760	25980	21080	15000	85950	44640	13810	154600	66040	38160	118700	35820

CAL YR 1981 TOTAL 74707.0 MEAN 205 MAX 5040 MIN 5.0 AC-FT 148200
WTR YR 1982 TOTAL 315405.0 MEAN 864 MAX 28200 MIN 50 AC-FT 625600

BIG NEMAH RIVER BASIN

06815000 BIG NEMAH RIVER AT FALLS CITY, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACD3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
14...	1055	85	740	8.5	15.5	8.9	32	930	1300	320	95	21
NOV												
10...	1230	205	598	8.3	6.0	12.4	32	770	3900	280	83	18
DEC												
09...	1320	232	--	8.2	3.0	12.6	59	260	4600	290	83	21
JAN												
05...	1530	159	870	7.9	.0	12.2	20	430	460	380	110	26
FEB												
01...	1540	401	--	7.3	.0	10.1	77	K18500	K111000	190	57	12
MAR												
02...	1630	380	680	8.1	7.0	10.9	21	K1800	2300	320	97	20
31...	1730	325	695	8.4	15.5	9.8	25	320	K180	340	98	23
APR												
28...	1510	170	670	8.4	11.0	11.4	22	510	1600	270	73	21
MAY												
27...	1450	4660	282	7.1	19.0	7.6	160	30000	140000	130	40	7.7
JUN												
23...	1400	401	664	8.4	23.9	9.4	24	470	430	330	96	22
JUL												
20...	1600	288	600	8.7	28.0	13.1	44	4700	1000	260	74	18
AUG												
27...	0830	2900	255	7.7	20.0	10.0	260	170000	510000	100	30	6.8
SEP												
14...	1645	4250	288	7.4	17.5	8.8	140	50000	K385000	110	32	8.0

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

DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
14...	90	36	--	508	.44	.000	.79	.79	1.2	.260	5.9
NOV											
10...	74	27	--	434	1.5	<.060	--	.84	2.3	.320	5.8
DEC											
09...	77	32	--	433	1.9	.170	1.1	1.30	3.2	.250	5.1
JAN											
05...	110	33	--	576	2.3	.110	.72	.83	3.1	.130	2.4
FEB											
01...	30	23	56	--	2.3	.860	1.7	2.60	4.9	.400	23
MAR											
02...	80	27	128	--	1.9	.270	1.0	1.30	3.2	.250	6.0
31...	87	17	176	--	1.8	.060	.64	.70	2.5	.050	5.4
APR											
28...	93	37	58	--	.43	.260	1.5	1.80	2.2	.160	4.4
MAY											
27...	27	15	189	--	2.0	.250	3.3	3.50	5.5	1.10	59
JUN											
23...	63	14	108	--	2.1	.080	1.5	1.60	3.7	.380	6.8
JUL											
20...	63	13	182	--	1.2	.080	2.8	2.90	4.1	.390	12
AUG											
27...	21	6.5	3410	--	.95	.150	4.7	4.80	5.8	.260	100
SEP											
14...	23	6.2	3100	--	1.3	.090	9.3	9.40	11	3.80	15

06815000 BIG NEMAHA RIVER AT FALLS CITY, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 10...	1230	51	31	.9	7.6	230	.3	16	395	.54
FEB 01...	1540	42	22	.7	8.7	150	.3	12	266	.36
MAY 27...	1450	15	12	.5	6.5	117	.3	14	202	.27
AUG 27...	0830	11	11	.5	5.2	92	.3	9.7	150	.20

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 10...	219	1.5	.270	6	100	60	<1	<10	14
FEB 01...	288	2.3	.340	3	200	40	1	10	12
MAY 27...	2540	2.0	.230	16	1200	40	<1	70	120
AUG 27...	1170	.97	.180	22	1100	40	<1	100	110

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	2800	16	6	160	25	<.1	2	1	30
FEB 01...	1900	140	2	110	60	.1	1	<1	20
MAY 27...	69000	130	<1	2100	5	.5	1	1	400
AUG 27...	100000	85	130	4500	7	.2	3	1	350

KANSAS RIVER BASIN

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 (2.1 km) upstream from Burlington Northern Inc. bridge, 1.8 mi (2.9 km) upstream from confluence with North Fork Republican River, 2 mi (3 km) northwest of Haigler, and 3.2 mi (5.1 km) downstream from Kansas-Nebraska State line.

DRAINAGE AREA.--1,640 mi² (4,250 km²), approximately, of which about 980 mi² (2,540 km²) 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. Datum of gage is 3,250.98 ft (990.899 m) National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Sept. 29, 1964.

REMARKS.--Records poor. Natural flow affected by ground-water withdrawals and diversions for irrigation of about 1,500 ft³/s (42.5 m³/s) in Colorado and by return flow from Pioneer Canal.

AVERAGE DISCHARGE.--51 years, 23.2 ft³/s (0.657 m³/s), 16,810 acre-ft/yr (20.7 hm³/yr); median of yearly mean discharges, 18 ft³/s (0.510 m³/s), 13,000 acre-ft/yr (16.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s (1,420 m³/s) May 31, 1935, gage height, 11.2 ft (3.41 m), site and datum then in use, from floodmarks, from rating curve extended above 3,800 ft³/s (108 m³/s) on basis of slope-area measurement of peak flow; no flow for some periods in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 26	1400	942 26.7	8.81 2.685
June 30	1000	*1290 36.5	9.39 2.862

Minimum daily discharge, 0.60 ft³/s (0.017 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.4	1.8	2.4	2.9	12	11	12	70	139	2.9	15
2	3.8	3.0	1.8	2.1	2.7	13	10	13	170	49	2.6	12
3	3.8	7.0	1.6	2.3	2.5	12	8.2	14	150	32	2.3	11
4	6.5	5.0	1.8	2.5	2.0	13	11	16	90	25	2.0	12
5	3.1	2.7	1.7	2.4	1.5	13	9.0	20	45	17	2.7	11
6	2.5	2.1	1.4	2.0	1.3	17	8.5	23	21	20	2.6	12
7	4.2	2.1	1.2	2.3	1.6	14	9.9	26	17	23	2.4	13
8	5.7	1.8	1.5	2.5	2.0	13	9.0	24	14	28	2.1	11
9	4.2	1.7	1.2	1.5	3.0	13	8.5	21	9.0	31	2.6	15
10	5.1	1.6	1.6	.80	3.3	12	8.2	19	8.6	23	3.5	13
11	4.7	1.6	2.8	.60	3.1	11	8.8	19	8.0	18	3.9	16
12	4.0	1.6	3.0	.70	3.0	11	8.6	21	8.0	15	3.8	14
13	3.1	1.6	3.3	1.0	2.9	9.7	6.0	23	9.0	14	2.6	12
14	3.6	1.6	3.5	1.5	4.8	13	7.5	26	20	14	2.8	13
15	7.9	1.5	3.0	2.0	12	14	8.1	29	37	15	6.8	12
16	9.9	1.3	2.5	1.7	29	12	10	31	36	16	7.3	9.4
17	10	1.6	2.0	1.4	38	12	10	32	27	17	4.9	9.5
18	10	1.6	2.2	2.0	37	11	8.7	31	24	14	5.6	12
19	12	1.9	2.5	2.5	29	15	5.9	29	22	12	5.7	11
20	11	1.7	3.0	2.0	24	12	4.2	27	21	9.2	5.3	9.4
21	13	1.7	3.5	1.7	18	10	5.7	23	20	7.6	5.6	9.1
22	12	1.6	3.7	2.2	15	12	6.0	19	19	6.2	7.7	10
23	8.3	1.4	3.4	1.3	14	13	6.6	20	19	5.0	10	9.6
24	8.9	1.3	3.0	2.0	12	12	7.0	25	19	4.5	10	8.0
25	7.8	2.1	2.6	2.5	12	10	10	30	20	3.8	6.0	6.5
26	3.1	1.7	2.9	3.0	12	12	18	26	283	3.4	5.7	7.4
27	2.2	1.3	3.2	3.5	15	12	19	22	133	6.0	7.1	9.7
28	1.6	1.3	3.4	4.0	13	13	17	24	55	12	6.8	9.8
29	1.4	1.4	3.5	4.0	---	14	18	27	37	11	7.6	7.5
30	4.5	1.9	3.0	3.7	---	11	13	30	434	3.9	12	8.9
31	1.8	---	2.7	3.3	---	9.1	---	35	---	3.2	13	---
TOTAL	181.3	60.1	78.3	67.40	316.6	380.8	291.4	737	1905.6	597.8	165.9	329.8
MEAN	5.85	2.00	2.53	2.17	11.3	12.3	9.71	23.8	63.5	19.3	5.35	11.0
MAX	13	7.0	3.7	4.0	38	17	19	35	434	139	13	16
MIN	1.4	1.3	1.2	.60	1.3	9.1	4.2	12	8.0	3.2	2.0	6.5
AC-FT	360	119	155	134	628	755	578	1460	3780	1190	329	654

CAL YR 1981	TOTAL	6633.80	MEAN	18.2	MAX	146	MIN	1.2	AC-FT	13160
WTR YR 1982	TOTAL	5112.00	MEAN	14.0	MAX	434	MIN	.60	AC-FT	10140

KANSAS RIVER BASIN

225

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, Nebraska, Hydrologic Unit 10250002, on right bank 100 ft (30 m) east of Colorado-Nebraska State line and 9.5 mi (15.3 km) upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi² (3,520 km²), approximately, of which about 100 mi² (260 km²) 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 (1,016.840 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres (10.9 km²) in Colorado and Nebraska.

AVERAGE DISCHARGE.--52 years, 47.4 ft³/s (1.342 m³/s), 34,340 acre-ft/yr (42.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) Apr. 28, 1947, gage height, 5.92 ft (1.804 m), from rating curve extended above 800 ft³/s (22.7 m³/s) on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 130 ft³/s (3.68 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 30	0530	*1090 30.9	4.98 1.518	June 30	1430	212 6.0	2.01 0.613
June 12	2330	191 5.4	1.79 0.546				

Minimum daily discharge, 5.5 ft³/s (0.16 m³/s) Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	58	55	55	50	52	49	24	77	97	11	8.4
2	32	49	54	54	49	53	49	22	87	66	9.4	9.8
3	33	58	53	55	50	52	48	20	77	57	8.2	10
4	39	59	53	55	50	52	48	14	68	54	8.4	9.1
5	37	56	53	55	44	51	48	41	67	47	8.4	15
6	34	55	53	53	46	52	47	59	67	39	8.3	20
7	32	56	54	51	49	53	47	49	69	39	7.4	23
8	32	56	54	56	50	53	47	40	74	38	8.3	31
9	33	57	55	58	52	52	46	35	70	38	8.1	44
10	34	57	55	53	54	51	46	35	69	38	12	35
11	35	56	53	42	52	51	46	34	67	38	19	31
12	35	57	53	47	50	51	46	37	76	39	23	34
13	35	57	54	56	50	50	43	70	115	36	23	35
14	36	57	53	66	48	51	43	66	86	26	39	39
15	37	56	53	58	49	51	42	56	85	22	24	41
16	38	56	54	50	51	50	44	44	90	19	15	40
17	39	57	53	58	51	52	44	42	79	14	8.1	40
18	37	57	53	50	51	51	41	39	75	8.6	8.6	40
19	39	56	54	49	52	52	43	35	71	8.4	8.7	40
20	42	56	55	49	52	50	42	35	65	8.1	10	41
21	39	57	57	49	52	49	45	34	64	8.0	11	41
22	43	56	57	51	53	51	43	31	62	7.5	9.0	39
23	36	55	57	49	53	49	42	31	61	6.6	18	40
24	44	55	56	48	52	49	36	39	59	6.5	25	40
25	61	55	57	52	51	48	16	31	59	6.7	30	40
26	64	55	54	50	51	49	11	36	82	6.8	9.3	40
27	60	55	54	51	51	50	13	37	82	8.2	8.6	40
28	55	55	59	50	51	50	23	36	70	8.5	6.9	40
29	49	54	62	50	---	51	33	36	54	8.5	5.5	39
30	53	55	54	49	---	48	26	495	126	8.9	6.6	38
31	58	---	55	49	---	47	---	188	---	10	9.0	---
TOTAL	1275	1678	1696	1618	1414	1571	1197	1791	2253	818.3	406.8	983.3
MEAN	41.1	55.9	54.7	52.2	50.5	50.7	39.9	57.8	75.1	26.4	13.1	32.8
MAX	64	59	62	66	54	53	49	495	126	97	39	44
MIN	32	49	53	42	44	47	11	14	54	6.5	5.5	8.4
AC-FT	2530	3330	3360	3210	2800	3120	2370	3550	4470	1620	807	1950

CAL YR 1981	TOTAL	15392.3	MEAN	42.2	MAX	98	MIN	2.5	AC-FT	30530
WTR YR 1982	TOTAL	16701.4	MEAN	45.8	MAX	495	MIN	5.5	AC-FT	33130

KANSAS RIVER BASIN

06823500 BUFFALO CREEK NEAR HAIGLER, NE

LOCATION (REVISED).--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 10 ft (3 m) upstream from county highway bridge, 0.4 mi (0.6 km) upstream from mouth, and 4 mi (6 km) northeast of Haigler.

DRAINAGE AREA.--260 mi² (670 km²), approximately, of which about 13 mi² (34 km²) 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 (971.977 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 19, 1980, at site 0.5 mi (0.8 km) upstream at datum 15.67 ft (4.776 m) higher.

REMARKS.--Records fair except those for winter period, which are poor. Natural flow affected by diversion about 1 mi (2 km) upstream for irrigation of 880 acres (3.56 km²).

AVERAGE DISCHARGE.--42 years, 7.55 ft³/s (0.214 m³/s), 5,470 acre-ft/yr (6.74 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 140 ft³/s (3.96 m³/s) June 27, 1948, gage height, 4.37 ft (1.332 m), site and datum then in use; maximum gage height, 5.93 ft (1.807 m) Jan. 3, 1976, site and datum then in use, backwater from ice; no flow at times in 1955, 1968, 1973-80.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft³/s (0.48 m³/s) June 26, gage height, 2.98 ft (0.908 m); maximum gage height, 3.75 ft (1.143 m) Jan. 24, backwater from ice; no peak above base of 20 ft³/s (0.57 m³/s); minimum daily discharge, 0.03 ft³/s (0.0008 m³/s) Aug. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	7.8	8.6	8.4	10	7.6	7.3	7.9	9.4	9.7	.11	6.0
2	7.9	8.7	9.6	8.0	9.4	7.6	7.3	7.7	15	7.8	.07	4.0
3	8.1	8.9	9.4	7.8	8.0	7.6	6.0	7.6	13	6.7	.16	1.4
4	8.1	8.7	9.2	7.0	6.0	7.8	6.6	7.6	11	6.8	.15	1.2
5	8.3	8.4	8.9	7.6	5.0	7.9	7.1	9.2	7.8	7.1	.12	1.1
6	8.3	8.2	8.7	6.6	5.6	7.9	7.2	7.0	6.8	7.9	.06	1.4
7	8.3	7.9	8.6	6.2	7.0	7.6	7.4	5.4	7.2	4.3	.05	1.4
8	8.3	7.9	8.4	6.2	7.2	7.6	8.6	5.0	7.9	4.0	.03	1.3
9	8.3	7.7	8.4	6.4	7.2	7.6	7.8	4.8	8.6	4.2	.03	1.3
10	8.1	7.8	8.4	5.4	7.0	7.4	7.6	4.8	8.6	4.5	.13	1.1
11	8.1	7.8	8.3	5.0	7.4	7.3	8.2	5.0	8.7	4.5	.31	1.1
12	8.3	8.1	8.0	6.0	7.8	6.5	8.3	6.5	8.7	4.3	.29	1.2
13	8.3	8.1	8.0	5.8	7.8	5.1	7.6	9.2	9.8	4.4	.25	1.4
14	8.3	8.1	8.2	7.0	7.6	6.9	7.8	8.7	9.7	3.7	.79	1.8
15	8.1	8.3	8.4	8.0	7.0	7.2	7.9	7.5	9.9	3.6	.85	1.9
16	8.4	8.5	8.0	7.2	7.8	7.1	8.4	6.6	9.7	2.8	.28	1.6
17	8.8	8.4	6.0	8.0	8.0	7.0	8.0	6.4	9.1	2.4	.25	1.6
18	8.2	8.4	5.8	9.0	8.4	6.8	8.2	6.1	8.5	2.0	.11	1.6
19	8.0	8.3	6.6	8.8	8.7	7.2	7.6	5.9	8.3	1.6	.08	1.5
20	8.1	8.4	7.2	8.2	10	6.7	7.2	5.9	8.0	1.2	.30	1.3
21	7.9	8.6	8.2	7.6	11	6.5	5.8	5.6	7.9	.92	.48	1.6
22	8.0	8.7	7.6	7.0	8.7	6.8	6.9	5.9	7.9	.93	.41	4.4
23	8.1	8.9	7.2	6.0	8.1	6.9	5.6	7.4	8.3	.96	.25	4.5
24	8.2	8.7	7.0	6.4	7.8	6.5	4.6	9.2	9.0	1.2	.08	4.4
25	8.3	8.7	7.6	8.0	7.6	7.0	4.7	9.0	9.1	.46	.10	4.4
26	8.5	8.7	7.6	8.4	7.6	7.0	4.7	8.0	15	.38	.07	4.7
27	8.3	8.7	7.4	12	7.8	7.9	5.1	7.4	13	.47	.10	4.9
28	8.1	8.7	7.0	10	7.8	7.6	7.5	7.8	9.7	.52	.13	6.5
29	8.1	8.9	7.2	10	---	7.5	8.4	7.8	8.4	.42	.25	7.0
30	8.1	8.8	8.2	9.8	---	7.2	8.4	9.6	8.5	.33	1.4	7.1
31	8.0	---	8.6	9.8	---	7.1	---	9.7	---	.16	6.7	---
TOTAL	253.8	251.8	246.3	237.6	219.3	222.4	213.8	222.2	282.5	100.25	14.39	84.7
MEAN	8.19	8.39	7.95	7.66	7.83	7.17	7.13	7.17	9.42	3.23	.46	2.82
MAX	8.8	8.9	9.6	12	11	7.9	8.6	9.7	15	9.7	6.7	7.1
MIN	7.9	7.7	5.8	5.0	5.0	5.1	4.6	4.8	6.8	.16	.03	1.1
AC-FT	503	499	489	471	435	441	424	441	560	199	29	168
CAL YR 1981	TOTAL	2586.56	MEAN	7.09	MAX	17	MIN	.02	AC-FT	5130		
WTR YR 1982	TOTAL	2349.04	MEAN	6.44	MAX	15	MIN	.03	AC-FT	4660		

KANSAS RIVER BASIN

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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 (30 m) downstream from county road bridge and 0.5 mi (0.8 km) upstream from mouth.

DRAINAGE AREA.--20 mi² (52 km²), approximately, of which about 17 mi² (44 km²) 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 (942.853 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. One diversion about 2 mi (3 km) above station for irrigation of 215 acres (870,000 m²); flow regulated at times by reservoir at State fish hatchery 7 mi (11 km) upstream.

AVERAGE DISCHARGE.--42 years, 13.9 ft³/s (0.394 m³/s), 10,070 acre-ft/yr (12.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 493 ft³/s (14.0 m³/s) July 5, 1965, gage height, 6.00 ft (1.829 m), from rating curve extended above 40 ft³/s (1.13 m³/s) on basis of slope-conveyance study; minimum daily, 2.6 ft³/s (0.074 m³/s) Nov. 19, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 25 ft³/s (0.71 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 4	0715	Ice jam	*2.85 0.869	June 2	0930	*47 1.3	2.68 0.817
Apr. 27	2100	25 0.7	2.23 0.680				

Minimum daily discharge, 9.0 ft³/s (0.25 m³/s) Feb. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	12	11	13	13	11	13	17	12	10	11
2	11	14	11	11	13	13	11	13	39	11	9.8	11
3	12	15	11	11	12	13	11	12	26	11	9.8	10
4	13	15	12	11	11	13	11	12	21	11	10	10
5	12	14	12	12	9.0	13	11	16	17	10	10	10
6	11	14	12	12	10	13	11	16	15	10	11	11
7	11	13	12	12	10	12	11	14	13	10	9.6	11
8	12	13	12	12	10	11	11	13	13	10	9.4	11
9	11	13	12	12	10	11	11	12	12	10	9.2	11
10	11	13	12	11	11	11	11	12	12	12	9.8	11
11	11	13	12	11	12	11	10	12	12	12	10	10
12	12	13	12	10	13	10	10	15	12	12	10	10
13	11	13	12	11	13	9.6	9.7	23	13	13	10	11
14	11	13	12	12	14	10	10	20	13	14	14	12
15	10	13	12	11	15	11	10	18	13	13	15	12
16	11	13	12	12	14	11	11	16	13	12	14	11
17	12	13	12	13	15	11	11	14	13	12	13	11
18	13	12	12	12	14	11	11	13	13	11	12	11
19	13	12	12	12	14	11	11	13	13	11	11	11
20	13	12	12	12	14	11	11	13	12	11	12	11
21	13	13	12	12	14	11	11	12	12	11	12	10
22	12	13	12	12	14	11	11	12	11	11	11	10
23	12	13	12	11	13	11	12	13	12	10	12	10
24	12	13	12	11	13	11	12	21	12	10	11	10
25	12	13	12	11	13	11	12	17	12	10	11	10
26	12	13	12	12	13	11	12	15	19	10	10	11
27	12	12	11	12	13	12	15	14	16	10	11	10
28	12	12	11	13	13	13	19	15	14	10	10	10
29	12	12	11	13	---	12	15	15	13	11	10	10
30	12	13	11	13	---	11	14	16	13	11	11	11
31	12	---	11	13	---	11	---	20	---	10	11	---
TOTAL	365	390	365	364	353.0	354.6	347.7	460	446	342	339.6	319
MEAN	11.8	13.0	11.8	11.7	12.6	11.4	11.6	14.8	14.9	11.0	11.0	10.6
MAX	13	15	12	13	15	13	19	23	39	14	15	12
MIN	10	12	11	10	9.0	9.6	9.7	12	11	10	9.2	10
AC-FT	724	774	724	722	700	703	690	912	885	678	674	633

CAL YR 1981 TOTAL 4581.7 MEAN 12.6 MAX 29 MIN 8.2 AC-FT 9090
WTR YR 1982 TOTAL 4445.9 MEAN 12.2 MAX 39 MIN 9.0 AC-FT 8820

KANSAS RIVER BASIN

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., Dund County, Hydrologic Unit 10250002, on left bank at downstream side of bridge on U.S. Highway 34, 0.6 mi (1.0 km) south of Burlington Northern Inc. track, 1 mi (2 km) southwest of Benkelman, 2 mi (3 km) upstream from South Fork Republican River, and 11 mi (18 km) downstream from Rock Creek.

DRAINAGE AREA.--4,830 mi² (12,500 km²), approximately, of which about 1,230 mi² (3,190 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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. Datum of gage is 2,975.34 ft (906.884 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1946, nonrecording gages at several sites within 1.5 mi (2.4 km) 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 (46 m) downstream at same datum.

REMARKS.--Records poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--41 years, 87.9 ft³/s (2.489 m³/s), 63,680 acre-ft/yr (78.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,040 ft³/s (171 m³/s) Sept. 7, 1951, gage height, 7.58 ft (2.310 m); maximum gage height, 7.80 ft (2.377 m) Aug. 9, 1950; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 13.1 ft (3.99 m) May 31, 1935, from elevations furnished by State Highway Department.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 550 ft³/s (15.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 14	0800	830 23.5	4.10 1.250	June 27	1000	2250 63.7	5.00 1.524
May 31	1100	2220 62.9	4.98 1.518	July 1	0600	*3370 95.4	5.61 1.710
June 14	0400	755 21.4	4.05 1.234				

Minimum daily discharge, 7.6 ft³/s (0.22 m³/s) Aug. 3-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	70	62	100	70	104	86	62	740	1500	9.3	20
2	29	66	63	90	64	93	97	77	1020	250	8.0	19
3	32	74	70	84	60	93	84	70	815	154	7.6	19
4	45	74	73	90	40	83	87	57	576	132	7.6	20
5	42	74	75	100	45	95	93	84	386	120	9.0	22
6	40	74	77	90	55	98	76	114	245	108	8.6	23
7	38	72	80	60	60	108	73	142	138	125	9.0	25
8	37	70	75	70	63	110	89	124	132	118	8.3	27
9	38	70	77	80	62	100	90	104	126	114	8.6	27
10	40	70	77	55	60	97	91	83	111	111	9.3	33
11	43	72	80	33	70	91	94	71	120	99	9.9	36
12	43	72	90	40	80	95	89	95	117	96	8.6	33
13	44	72	90	50	90	92	80	222	166	112	8.7	40
14	45	70	93	60	100	93	65	322	270	114	13	47
15	46	70	87	80	130	97	65	222	186	108	13	53
16	47	68	77	72	160	94	79	194	186	90	17	51
17	46	65	61	68	200	90	78	174	166	65	14	54
18	45	63	72	70	250	90	76	154	132	53	12	58
19	46	63	82	78	270	87	72	154	114	34	11	57
20	47	65	94	75	129	90	75	129	102	24	12	51
21	49	61	111	68	124	83	75	90	90	20	13	58
22	49	59	75	64	112	86	70	78	80	20	14	59
23	50	55	72	60	109	98	82	82	88	19	15	57
24	60	61	80	66	117	103	67	129	80	18	14	55
25	70	61	90	70	105	99	57	96	88	15	16	53
26	80	52	91	80	96	87	64	83	194	13	18	54
27	75	56	92	85	101	98	74	70	1060	12	16	58
28	74	62	94	90	107	96	121	80	322	14	18	58
29	66	62	96	85	---	106	89	129	218	16	17	53
30	70	62	120	80	---	93	74	174	315	13	16	55
31	72	---	110	75	---	81	---	1610	---	13	18	---
TOTAL	1543	1985	2586	2268	2929	2930	2412	5275	8383	3700	379.5	1275
MEAN	49.8	66.2	83.4	73.2	105	94.5	80.4	170	279	119	12.2	42.5
MAX	80	74	120	100	270	110	121	1610	1060	1500	18	59
MIN	29	52	61	33	40	81	57	57	80	12	7.6	19
AC-FT	3060	3940	5130	4500	5810	5810	4780	10460	16630	7340	753	2530
CAL YR 1981	TOTAL	31769.0	MEAN	87.0	MAX	549	MIN	9.0	AC-FT	63010		
WTR YR 1982	TOTAL	35665.5	MEAN	97.7	MAX	1610	MIN	7.6	AC-FT	70740		

KANSAS RIVER BASIN

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06824500 REPUBLICAN RIVER AT BENKELMAN, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-73, October 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
01...	1530	40	600	8.4	24.0	9.4	52	K150	K110	230	59	20
NOV												
12...	1210	72	--	7.9	12.0	11.7	33	33	53	220	60	18
DEC												
07...	1020	80	640	8.1	4.0	12.1	--	41	97	--	--	--
JAN												
11...	1100	38	--	7.7	.0	12.0	13	K25	81	250	67	19
FEB												
08...	1320	63	650	7.7	.0	11.0	10	34	76	260	67	22
MAR												
10...	1010	99	620	7.9	9.0	11.4	<12	K9	210	230	60	19
APR												
13...	1115	83	560	8.4	17.0	10.4	--	K21	280	--	--	--
MAY												
10...	1130	85	575	8.1	21.0	8.8	31	390	1400	240	63	21
JUN												
08...	1205	132	690	7.3	25.0	8.4	34	K475	620	300	79	26
JUL												
06...	1240	104	662	8.1	24.0	8.7	11	K490	220	270	72	22
AUG												
09...	0910	9.0	--	8.2	25.0	8.8	12	1300	1000	280	69	25
SEP												
09...	1020	28	545	8.0	26.0	8.2	41	2200	1200	230	61	20

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

DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
01...	92	9.2	--	477	.53	.140	.45	.59	1.1	.070	5.1
NOV											
12...	79	7.0	--	384	.98	.200	.35	.55	1.5	.050	3.6
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
JAN											
11...	85	8.7	--	418	1.5	.180	.72	.90	2.4	.060	2.2
FEB											
08...	68	20	17	--	1.4	.080	.50	.58	2.0	.050	3.3
MAR											
10...	75	7.9	74	--	1.1	.280	.72	1.00	2.1	.040	6.8
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
10...	87	9.2	28	--	.49	.190	.81	1.00	1.5	.090	6.1
JUN											
08...	120	11	170	--	.80	<.060	--	1.40	2.2	.220	7.6
JUL											
06...	120	14	178	--	1.1	.060	.74	.80	1.9	.230	9.8
AUG											
09...	160	11	28	--	<.10	.070	1.2	1.30	--	.060	6.3
SEP											
09...	91	8.3	191	--	.50	.080	2.6	2.70	3.2	.230	9.0

06824500 REPUBLICAN RIVER AT BENKELMAN, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
OCT 01...	1530	40	33	1.0	13	190	1.2	49	393	.53
NOV 12...	1210	24	27	.8	12	200	1.2	50	379	.52
JAN 11...	1100	16	28	.8	12	230	1.3	57	423	.58
MAR 10...	1010	--	--	--	--	--	--	--	--	--
MAY 10...	1130	24	39	1.2	14	220	1.3	44	413	.56
JUL 06...	1240	48	36	1.0	13	--	1.3	48	464	.60

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BURON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHROMIUM, 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)
NOV 01...	42.4	.53	.010	--	--	100	--	--	--	--
NOV 12...	73.2	.98	.070	--	--	80	--	--	--	--
JAN 11...	43.4	1.5	.050	--	--	90	--	--	--	--
MAR 10...	--	.66	--	--	--	--	--	--	--	--
MAY 10...	94.8	.48	<.010	13	100	100	<1	10	5	2300
JUL 06...	150	1.0	.100	--	--	--	--	--	--	--

[illegible]

KANSAS RIVER BASIN

231

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., Dundys County, Hydrologic Unit 10250003, on right bank 100 ft (30 m) upstream from bridge on State Highway 61, 1 mi (2 km) downstream from Kansas-Nebraska State line, 2.5 mi (4.0 km) southwest of Benkelman, and 4 mi (6 km) upstream from mouth.

DRAINAGE AREA.--2,740 mi² (7,100 km²), approximately, of which about 2,190 mi² (5,670 km²) 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 (911.629 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1947, nonrecording gages at several sites within 3.5 mi (5.6 km) of present site at various datums. Dec. 10, 1947, to Sept. 28, 1966, water-stage recorder 130 ft (40 m) downstream at datum 2.00 ft (0.610 m) higher, and Sept. 29, 1966, to Mar. 7, 1968, at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records fair except those for winter period, which are poor. Natural flow affected by irrigation development above station, and since July 6, 1950, by storage in Bonny Reservoir.

AVERAGE DISCHARGE.--52 years, 51.0 ft³/s (1.444 m³/s), 36,950 acre-ft/yr (45.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 19,600 ft³/s (555 m³/s) Aug. 16, 1958, gage height, 8.70 ft (2.652 m), 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 (3.08 m) May 31, 1935, from floodmarks at site 0.2 mi (0.3 km) downstream, at datum 2.00 ft (0.610 m) higher, discharge, 150,000 ft³/s (4,250 m³/s), by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 960 ft³/s (27.2 m³/s) June 27, gage height, 5.00 ft (1.524 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	12	32	18	11	38	20	17	46	198	3.7	.00
2	.00	21	23	17	9.0	41	22	22	85	84	1.7	.00
3	.00	25	19	15	8.2	40	20	19	108	61	1.1	.00
4	.00	23	18	14	7.4	36	19	20	84	51	1.4	.00
5	.00	23	27	15	7.0	34	18	26	78	43	.94	.00
6	.00	17	25	16	8.6	33	17	39	60	34	.70	.00
7	.00	17	21	11	11	29	17	31	40	33	.42	.00
8	.00	15	22	8.0	9.6	33	16	27	38	31	.32	.00
9	.00	15	21	6.0	8.6	32	16	23	45	26	.00	.00
10	.00	15	24	4.5	11	32	17	21	37	49	1.1	.00
11	.00	14	25	4.1	13	29	17	20	34	42	1.1	.00
12	.00	14	23	6.0	17	29	19	30	37	34	.40	.00
13	.00	14	24	5.4	22	21	19	39	51	38	.00	.00
14	.00	14	22	9.0	35	28	21	38	106	34	.60	.00
15	.00	17	20	8.4	50	30	22	38	69	24	.16	.00
16	.00	16	18	7.6	78	28	25	36	67	21	.00	.00
17	.00	18	17	13	90	21	25	37	69	25	.00	.00
18	.00	31	18	11	80	22	22	36	48	23	.00	.00
19	.00	29	20	9.6	72	25	22	26	37	16	.00	.00
20	.00	28	22	8.4	65	23	18	25	32	13	.00	.00
21	.00	29	20	7.8	56	22	18	24	26	12	.00	.00
22	.00	27	18	7.0	55	23	19	21	25	6.9	.00	.00
23	.00	28	17	6.4	47	24	18	19	23	5.6	.00	.00
24	1.2	28	16	6.4	48	23	18	38	23	2.9	.00	.00
25	3.3	30	15	8.0	46	19	17	40	34	1.6	.00	.00
26	4.9	30	18	11	47	23	16	32	80	1.6	.00	.00
27	5.8	29	17	14	45	24	23	27	400	2.4	.00	.00
28	6.9	29	15	15	36	23	27	29	94	3.2	.00	.00
29	6.9	27	14	14	---	23	24	32	61	6.0	.00	.00
30	8.6	34	15	13	---	23	25	38	148	9.8	.00	.00
31	10	---	16	13	---	20	---	46	---	8.6	.00	---
TOTAL	47.60	669	622	322.6	993.4	851	597	916	2085	940.6	13.64	.00
MEAN	1.54	22.3	20.1	10.4	35.5	27.5	19.9	29.5	69.5	30.3	.44	.000
MAX	10	34	32	18	90	41	27	46	400	198	3.7	.00
MIN	.00	12	14	4.1	7.0	19	16	17	23	1.6	.00	.00
AC-FT	94	1330	1230	640	1970	1690	1180	1820	4140	1870	27	.00

CAL YR 1981 TOTAL 14541.92 MEAN 39.8 MAX 1040 MIN .00 AC-FT 28840
WTR YR 1982 TOTAL 8057.84 MEAN 22.1 MAX 400 MIN .00 AC-FT 15980

KANSAS RIVER BASIN

06828500 REPUBLICAN RIVER AT STRATTON, NE

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 (0.8 km) south of Stratton, 0.2 mi (0.3 km) downstream from Muddy Creek, 10 mi (16 km) upstream from Trenton Dam, and 19 mi (31 km) downstream from South Fork Republican River.

DRAINAGE AREA.--8,450 mi² (21,900 km²), approximately, of which about 3,800 mi² (9,840 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 2119: Drainage area. WDR NE-73: 1968-71(M), 1972.

GAGE.--Water-stage recorder. Datum of gage is 2,775.49 ft (845.969 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1967, at site 0.3 mi (0.5 km) downstream at present datum.

REMARKS.--Records poor. Natural flow affected by irrigation development above station and by storage in Bonny Reservoir (station 06826000).

AVERAGE DISCHARGE.--32 years, 130 ft³/s (3.682 m³/s), 94,180 acre-ft/yr (0.116 km³/yr); median of yearly mean discharges, 117 ft³/s (3.313 m³/s), 84,700 acre-ft/yr (0.104 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft³/s (759 m³/s) July 31, 1962, gage height, 9.34 ft (2.847 m), site then in use; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred May 31, 1935, discharge, about 200,000 ft³/s (5,660 m³/s), based on slope-area measurement at Max.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,070 ft³/s (58.6 m³/s) May 31, gage height, 8.23 ft (2.509 m); no flow Aug. 3-13, 21-30, Sept. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	66	94	130	90	190	132	128	570	1220	.04	1.6
2	26	70	100	120	85	180	128	117	720	919	.00	2.3
3	27	73	107	110	80	170	128	107	650	530	.00	.54
4	29	76	98	120	70	150	119	100	518	348	.00	.00
5	35	78	97	125	55	160	119	117	387	240	.00	.00
6	32	80	103	110	50	165	122	158	301	150	.00	.00
7	34	80	103	100	55	168	116	188	239	128	.00	1.0
8	35	84	99	90	62	170	118	171	237	125	.00	8.0
9	39	86	94	100	70	160	117	138	242	130	.00	7.6
10	38	85	98	80	85	154	115	112	219	135	.00	4.0
11	37	83	100	54	100	150	112	100	214	125	.00	7.6
12	38	79	100	40	120	145	110	120	181	120	.00	13
13	37	77	100	45	150	140	102	246	173	120	.00	23
14	37	84	100	60	190	145	90	342	340	125	384	35
15	37	87	100	70	250	150	91	344	317	127	57	34
16	35	88	99	80	300	158	113	252	266	120	25	34
17	38	90	92	85	350	145	117	211	298	110	19	34
18	40	88	84	90	370	143	116	184	265	80	12	37
19	42	83	90	95	350	154	102	128	215	60	6.0	37
20	42	85	110	90	320	150	91	128	207	45	2.6	37
21	41	86	130	85	280	145	111	118	224	35	.00	39
22	44	88	120	80	260	133	112	102	209	28	.00	42
23	47	91	100	70	240	132	110	149	227	31	.00	40
24	53	91	90	80	230	126	101	120	251	16	.00	42
25	54	89	96	90	220	121	85	173	244	10	.00	44
26	56	88	102	100	210	117	72	164	230	6.0	.00	47
27	60	85	110	110	200	125	78	135	870	3.5	.00	48
28	61	84	115	115	195	140	150	120	744	1.5	.00	47
29	63	93	120	112	---	150	160	165	476	1.4	.00	48
30	63	90	130	110	---	153	147	153	391	1.6	.00	52
31	61	---	135	100	---	148	---	608	---	1.6	2.9	---
TOTAL	1304	2507	3216	2846	5037	4637	3384	5398	10425	5092.6	508.54	771.64
MEAN	42.1	83.6	104	91.8	180	150	113	174	348	164	16.4	25.7
MAX	63	93	135	130	370	190	160	608	870	1220	384	52
MIN	23	66	84	40	50	117	72	100	173	1.4	.00	.00
AC-FT	2590	4970	6380	5650	9990	9200	6710	10710	20680	10100	1010	1530

CAL YR 1981 TOTAL 45758.10 MEAN 125 MAX 1320 MIN 2.5 AC-FT 90760
WTR YR 1982 TOTAL 45126.78 MEAN 124 MAX 1220 MIN .00 AC-FT 89510

KANSAS RIVER BASIN

233

06829C00 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 (4.0 km) west of Trenton.

DRAINAGE AREA.--8,620 mi² (22,300 km²), approximately, of which about 3,940 mi² (10,200 km²) 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, 116,100 acre-ft (0.143 km³) between elevations 2,710.0 ft (826 m), sill of outlet gates, and 2,752.0 ft (839 m), top of storage pool. Top of flood-control pool is at elevation 2,773.0 ft (845 m), capacity, 254,000 acre-ft (0.313 km³). Top of superstorage flood-control pool at elevation 2,785.0 ft (849 m), capacity, 361,600 acre-ft (0.446 km³). Dead storage, 4,100 acre-ft (5.06 hm³). 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, 148,900 acre-ft (0.184 km³) Aug. 2, 3, 1962, elevation, 2,757.42 ft (840.462 m); minimum since operation of reservoir began, 19,950 acre-ft (24.6 hm³) Oct. 24, 1954, elevation, 2,722.61 ft (829.852 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 145,300 acre-ft (0.179 km³) July 5-7, elevation, 2,756.78 ft (840.267 m); minimum contents, 88,100 acre-ft (0.109 km³) Oct. 1-3, elevation, 2,745.04 ft (836.688 m).

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

2,745	87,930	2,755	135,600
2,750	110,500	2,760	163,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88100	89560	94320	98550	102500	110400	117000	121700	132200	141500	124700	106800
2	88100	89650	94410	98640	102700	110700	117300	121800	134000	141700	123600	106200
3	88140	89690	94580	98910	102900	111000	117200	122000	135000	142000	122600	105800
4	88190	89910	94670	99000	103100	111300	117300	122200	135600	142400	121700	105400
5	88230	90080	94940	99000	103400	111500	117400	122700	136200	145300	120700	105000
6	88320	90210	95070	99140	103300	111700	117500	122800	136700	145300	119900	104700
7	88360	90380	95250	99270	103200	111900	117700	122900	137000	144800	119100	104400
8	88400	90470	95380	99360	103200	112300	117900	123100	137400	144500	118200	104200
9	88450	90560	95470	99450	103300	112500	118000	123200	137600	143900	117100	104200
10	88530	90690	95650	99450	103200	112700	118200	123400	137700	143500	116300	103900
11	88620	90820	95780	99500	103200	112900	118200	123600	137900	143200	115300	103600
12	88660	90860	96000	99720	103300	113200	118500	124000	138400	142600	114500	103400
13	88750	90950	96180	99720	103200	113300	118800	125200	138600	142100	113700	103200
14	88790	90990	96270	99810	103300	113600	118800	125700	138900	141500	114700	103200
15	88790	91250	96450	99810	104700	113900	119100	126200	139100	140900	114300	103100
16	88830	91380	96710	99860	105800	113900	119300	126600	139200	140100	113800	103000
17	88880	91560	96710	99950	106100	114300	119400	126800	139400	139300	113200	103000
18	88920	91820	96710	100100	106600	114400	119500	127100	139500	138500	112500	103000
19	88960	91820	96760	100200	107100	114800	119700	127400	139600	137600	111900	102900
20	88960	91860	96940	100300	107600	114900	119700	127700	139800	136600	111400	102900
21	89010	92120	97160	100500	107900	115100	119700	127800	139900	135600	110800	102800
22	89050	92290	97430	100600	108300	115200	119700	127900	140000	134600	110300	102900
23	89090	92380	97610	100600	108700	115400	119800	128300	140100	133500	109700	102900
24	89130	92510	97610	100900	109000	115600	120000	128600	140300	132500	109600	102900
25	89220	92730	97700	101100	109300	115800	120100	128800	140300	131500	109200	102900
26	89260	92820	97830	101200	109600	115900	120100	129200	140500	130400	108900	102900
27	89310	92870	97970	101300	109900	116200	120700	129300	140600	129400	108600	102800
28	89350	93090	98060	101600	110100	116300	121000	130000	140900	128400	108400	102800
29	89390	93260	98060	101700	---	116700	121300	130200	141000	127500	107900	102800
30	89480	94230	98190	102000	---	116800	121500	130500	141200	126400	107500	103100
31	89520	---	98330	102200	---	116800	---	131000	---	125600	107200	---
MAX	89520	94230	98330	102200	110100	116800	121500	131000	141200	145300	124700	106800
MIN	88100	89560	94320	98550	102500	110400	117000	121700	132200	125600	107200	102800
†	2745.37	2746.45	2747.37	2748.22	2749.92	2751.32	2752.27	2754.12	2756.03	2753.08	2749.30	2748.43
‡	+1380	+4710	+4100	+3870	+7900	+6700	+4700	+9500	+10200	-15600	-18400	-4100
CAL YR 1981	MAX	122900	MIN	59290	+39250							
WTR YR 1982	MAX	145300	MIN	88100	+14960							

†Elevation, in feet, at end of month.

‡Change in contents, in acre-feet.

KANSAS RIVER BASIN

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 (91 m) upstream from Elm Creek, 0.9 mi (1.4 km) downstream from centerline of spillway of Trenton Dam, and 1.5 mi (2.4 km) southwest of Trenton.

DRAINAGE AREA.--8,620 mi² (22,300 km²), approximately, of which about 3,940 mi² (10,200 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (814.139 m) National Geodetic Vertical Datum of 1929. See WSP 2119 for history of changes prior to Oct. 1, 1959.

REMARKS.--Records 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 (66.4 km²).

AVERAGE DISCHARGE.--36 years, 82.9 ft³/s (2.348 m³/s), 60,060 acre-ft/yr (74.1 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s (476 m³/s) June 16, 1948, gage height, 5.64 ft (1.719 m), 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 (5,660 m³/s). Discharge of 21,100 ft³/s (598 m³/s) was measured July 3, 1946, gage height, 6.0 ft (1.83 m), former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 349 ft³/s (9.88 m³/s) Aug. 14, gage height, 5.33 ft (1.625 m); maximum gage height, 5.48 ft (1.670 m) July 9, backwater from Elm Creek; minimum daily discharge, 0.60 ft³/s (0.017 m³/s) July 1.

REVISIONS.--Revised daily discharges, in cubic feet per second, for July 20 to Sept. 30, 1981, monthly computations, and water year computations are given below. These figures supersede those published in the report for 1981.

DAY	AUG	SEPT	DAY	JULY	AUG	SEPT	DAY	JULY	AUG	SEPT		JULY	AUG	SEPT
1	0.91	0.73	11		0.69	0.73	21	116	0.82	0.83	TOTAL	1983.31	24.06	238.63
2	.87	.82	12		.69	.78	22	44	.82	.78	MEAN	64.0	.78	7.95
3	.73	.73	13		.78	.91	23	24	.82	.78	MAX	134	.91	215
4	.73	.82	14		.73	.78	24	21	.78	.73	MIN	.91	.69	.69
5	.78	.78	15		.73	.78	25	20	.73	.78	AC-FT	3934	48	473
6	.87	.78	16		.78	.82	26	32	.73	.78				
7	.78	.69	17		.82	.78	27		.73	.73				
8	.69	.69	18		.87	215	28	1.3	.78	.78				
9	.69	.78	19		.87	1.8	29	1.1	.87	.78				
10	.73	.78	20	65	.73	.96	30	1.0	.82	.73				
							31	.91	.69	--				

WATER YEAR 1981 TOTAL 3974.67 MEAN 10.9 MAX 215 MIN 0.58 AC-FT 7880

06829500 REPUBLICAN RIVER AT TRENTON, NE--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	.78	1.0	1.1	1.2	1.1	.82	.78	.87	.60	169	46
2	.78	1.0	.96	1.1	1.2	1.1	.78	.78	.96	.73	169	37
3	.78	.91	.91	1.1	1.2	1.0	.78	.78	.98	.87	169	29
4	.78	.91	.87	1.1	1.1	.96	.82	.73	.94	.89	169	28
5	.78	.91	.91	1.2	1.0	.96	.82	1.0	.96	45	169	29
6	.73	.91	.96	1.1	1.1	.96	.82	.87	.96	108	169	28
7	.73	.91	.96	1.1	1.1	.96	.87	.78	.96	99	169	16
8	.73	.87	.91	1.1	1.2	.96	.87	.78	.95	93	169	4.6
9	.78	.87	.87	1.1	1.2	.96	.82	.78	.81	140	169	3.3
10	.78	.87	.91	1.1	1.1	1.0	.82	.82	.77	169	169	2.9
11	.82	.87	.91	.96	1.1	1.0	.82	.78	.79	169	169	2.8
12	.87	.87	.91	.91	1.1	.91	.82	.86	.85	169	169	2.7
13	.82	.87	.91	1.1	1.1	.87	.82	.87	.92	169	169	2.7
14	.73	.87	.91	1.2	1.2	.87	.78	.87	.80	169	229	2.6
15	.73	.91	.91	1.2	1.3	.87	.82	.91	.87	169	196	2.6
16	.78	.91	.91	1.1	1.2	.82	.87	.91	.78	169	186	2.5
17	.78	.96	.87	1.2	1.2	.82	.87	.91	.78	169	179	2.5
18	.73	.96	.87	1.2	1.2	.87	.91	.91	.74	169	174	2.5
19	.78	.87	.91	1.2	1.2	.87	.87	.96	.76	169	164	2.5
20	.78	.91	.91	1.2	1.2	.82	.78	.96	.82	169	160	2.5
21	.78	.91	.96	1.2	1.2	.78	.82	.91	.82	169	152	2.4
22	.78	.96	.96	1.1	1.1	.78	.82	.92	.88	169	147	2.4
23	.78	.96	.96	1.1	1.1	.78	.87	.96	2.7	169	144	2.3
24	.82	.91	.96	1.1	1.1	.82	.91	.91	.97	169	80	2.3
25	.82	.96	.96	1.2	1.1	.78	.87	.91	.70	169	48	2.2
26	.82	.96	1.0	1.2	1.1	.82	.87	.91	.78	169	48	2.2
27	.82	.96	1.1	1.2	1.1	.73	.91	.87	.70	169	48	2.2
28	.78	.96	1.0	1.1	1.1	.78	1.1	1.0	.67	169	48	2.2
29	.82	.91	1.0	1.1	---	.87	.87	.91	.68	169	47	2.2
30	.78	1.2	1.1	1.2	---	.82	.82	.82	1.0	169	47	2.1
31	.73	---	1.1	1.2	---	.78	---	.82	---	169	46	---
TOTAL	24.20	27.63	29.38	35.07	32.1	27.42	25.44	26.98	27.17	4206.09	4340	272.2
MEAN	.78	.92	.95	1.13	1.15	.88	.85	.87	.91	136	140	9.07
MAX	.87	1.2	1.1	1.2	1.3	1.1	1.1	1.0	2.7	169	229	46
MIN	.73	.78	.87	.91	1.0	.73	.78	.73	.67	.60	46	2.1
AC-FT	48	55	58	70	64	54	50	54	54	8340	8610	540
CAL YR 1981	TOTAL	3984.13	MEAN 10.9	MAX 215	MIN .58	AC-FT 7900						
WTR YR 1982	TOTAL	9073.68	MEAN 24.9	MAX 229	MIN .60	AC-FT 18000						

KANSAS RIVER BASIN

06829500 REPUBLICAN RIVER AT TRENTON, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT						
02...	0800	1.0	770	7.6	12.0	9.8
NOV						
12...	0855	1.4	660	7.2	12.5	8.4
DEC						
08...	1330	1.4	840	7.8	12.0	13.7
MAR						
10...	1325	2.0	790	7.7	13.0	13.8
JUL						
26...	1340	95	590	8.2	31.0	8.8
AUG						
19...	0910	150	660	8.0	21.0	9.2
SEP						
09...	1340	3.0	700	7.8	28.0	7.5

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACU3) (00900)	HARD- NESS NONCAR- BONATE AS CACU3) (95902)	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 AS CALO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SU4) (00945)
MAR											
10...	1325	5	240	.00	60	22	60	1.8	13	250	120

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, 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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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											
10...	21	1.3	34	483	.66	2.6	.31	.050	170	18	86

KANSAS RIVER BASIN

237

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 (0.3 km) downstream from bridge on county highway, 5.8 mi (9.3 km) upstream from Enders Dam, and 6.1 mi (9.8 km) south of Imperial.

DRAINAGE AREA.--880 mi² (2,280 km²), approximately, of which about 720 mi² (1,860 km²) 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. Prior to Mar. 7, 1941, nonrecording gage at bridge 0.2 mi (0.3 km) upstream at different datum. Mar. 7, 1941, to Sept. 30, 1958, water-stage recorder at site 0.2 mi (0.3 km) downstream at datum 4.35 ft (1.326 m) lower.

REMARKS.--Records good. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--42 years, 63.3 ft³/s (1.793 m³/s), 45,860 acre-ft/yr (56.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,340 ft³/s (66.3 m³/s) Mar. 22, 1960, gage height, 8.43 ft (2.569 m); minimum daily, 4.8 ft³/s (0.14 m³/s) Mar. 12, 1977, backwater from ice.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 7, 1940, reached a stage of 12.4 ft (3.78 m), 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.--Maximum discharge, 93 ft³/s (2.63 m³/s) Aug. 14, gage height, 1.69 ft (0.515 m), no peak above base of 150 ft³/s (4.25 m³/s); maximum gage height, 2.32 ft (0.707 m) Feb. 6, backwater from ice; minimum daily discharge, 22 ft³/s (0.62 m³/s) Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	27	33	32	33	32	29	33	35	51	32	30
2	25	31	35	32	37	32	31	32	46	65	30	30
3	26	32	34	32	35	32	28	32	45	45	29	29
4	28	30	32	31	31	33	28	33	42	38	29	29
5	28	29	33	32	33	32	29	46	39	35	30	29
6	27	28	33	27	25	31	28	45	39	34	29	30
7	27	28	32	29	22	31	29	38	39	32	28	29
8	26	29	32	30	27	32	33	35	39	32	28	30
9	28	29	32	34	32	31	31	33	38	33	28	29
10	27	28	31	24	33	31	31	32	36	34	28	28
11	26	28	32	28	35	30	30	31	40	33	29	27
12	27	29	32	31	36	32	31	37	38	33	30	27
13	27	29	32	35	37	29	30	51	44	34	30	28
14	26	29	32	35	39	31	31	46	45	33	56	31
15	27	29	32	34	41	30	32	47	46	31	48	30
16	28	28	33	28	41	32	35	43	51	32	39	28
17	30	29	27	36	40	35	33	41	60	30	36	27
18	29	30	35	34	37	38	33	37	48	29	34	27
19	27	29	31	33	34	42	32	35	45	29	32	27
20	26	30	32	33	32	41	31	35	41	28	35	26
21	26	31	32	32	32	37	31	33	38	29	34	27
22	26	31	32	25	32	34	31	33	36	29	34	27
23	26	32	31	31	31	33	30	34	38	28	35	27
24	27	31	31	35	31	31	30	42	35	28	32	27
25	28	31	31	33	30	31	31	37	34	27	31	26
26	28	31	31	32	31	30	30	36	54	28	31	27
27	28	31	31	32	32	30	33	34	52	28	31	26
28	27	32	31	35	32	31	41	35	48	29	30	26
29	27	32	31	37	---	30	37	37	43	32	31	25
30	27	37	32	33	---	32	35	45	43	36	30	26
31	27	---	32	35	---	28	---	41	---	33	31	---
TOTAL	836	900	990	990	931	1004	944	1169	1277	1038	1010	835
MEAN	27.0	30.0	31.9	31.9	33.3	32.4	31.5	37.7	42.6	33.5	32.6	27.8
MAX	30	37	35	37	41	42	41	51	60	65	56	31
MIN	24	27	27	24	22	28	28	31	34	27	28	25
AC-FT	1660	1790	1960	1960	1850	1990	1870	2320	2530	2060	2000	1660

CAL YR 1981 TOTAL 12044 MEAN 33.0 MAX 74 MIN 19 AC-FT 23890
WTR YR 1982 TOTAL 11924 MEAN 32.7 MAX 65 MIN 22 AC-FT 23650

KANSAS RIVER BASIN

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 (3.5 km) southeast of Enders.

DRAINAGE AREA.--950 mi² (2,460 km²), approximately, of which about 790 mi² (2,050 km²) 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 (44.4 hm³) between elevations 3,080.0 ft (939 m), sill of outlet gates, and 3,112.3 ft (949 m), top of storage pool. Top of flood-control pool at elevation 3,127.0 ft (953 m), capacity, 74,520 acre-ft (91.9 hm³). Top of superstorage flood-control pool at elevation 3,129.5 ft (954 m), capacity, 80,730 acre-ft (99.5 hm³). Dead storage, 8,470 acre-ft (10.4 hm³). 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 (68.2 hm³) Mar. 25, 1960, elevation, 3,118.20 ft (950.427 m); minimum since operation of reservoir began, 8,870 acre-ft (10.9 hm³) Aug. 28, 1978, elevation, 3,080.67 ft (938.988 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 34,220 acre-ft (42.2 hm³) July 4, elevation, 3,105.76 ft (946.636 m); minimum, 17,080 ft³/s (484 m³/s) Oct. 1, elevation, 3,091.35 ft (942.243 m).

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

3,090	15,830	3,100	26,540
3,110	40,660		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17120	19150	21160	23040	25070	26920	28490	29740	32050	33990	26080	19930
2	17170	19250	21220	23090	25140	26940	28470	29810	32180	34080	25760	19710
3	17260	19320	21270	23160	25230	26990	28500	29870	32250	34180	25430	19500
4	18310	19390	21300	23230	25290	27040	28540	29960	32300	34210	25060	19230
5	17370	19450	21400	23260	25350	27090	28570	30070	32370	34190	24760	18960
6	17440	19530	21460	23260	25420	27130	28580	30150	32480	34090	24440	18700
7	17490	19600	21530	23320	25490	27220	28630	30190	32520	34020	24120	18440
8	17560	19640	21570	23420	25580	27250	28670	30270	32580	33950	23750	18250
9	17620	19700	21620	23480	25660	27320	28710	30330	32570	33790	23320	18200
10	17690	19770	21720	23520	25740	27360	28770	30330	32580	33640	22940	18350
11	17750	19850	21780	23600	25770	27420	28850	30350	32650	33400	22600	18360
12	17840	19910	21810	23660	25870	27430	28890	30530	32790	33210	22330	18420
13	17880	19960	21870	23740	25940	27490	28930	30650	32820	33040	22090	18500
14	17930	20060	21950	23780	26040	27510	28990	30760	32920	32830	22210	18610
15	18000	20120	22010	23850	26110	27590	29020	30820	32970	32610	22120	18670
16	18120	20170	22040	23910	26190	27610	29050	30880	33080	32360	22090	18770
17	18180	20250	22100	24020	26250	27670	29090	30940	33140	32030	22040	18820
18	18220	20300	22160	24070	26320	27720	29150	31030	33170	31760	22010	18940
19	18320	20330	22250	24140	26390	27890	29150	31110	33270	31420	21990	18990
20	18350	20410	22320	24200	26440	27920	29150	31100	33320	31000	21960	19040
21	18390	20490	22380	24260	26520	27950	29170	31120	33400	30530	21910	19110
22	18440	20560	22460	24320	26550	28020	29210	31180	33420	30020	21850	19220
23	18520	20600	22510	24400	26590	28070	29260	31380	33480	29520	21730	19290
24	18570	20680	22570	24460	26630	28120	29300	31420	33480	29030	21530	19330
25	18640	20730	22640	24530	26680	28150	29330	31510	33470	28540	21330	19380
26	18730	20760	22680	24590	26730	28180	29360	31550	33680	28060	21140	19490
27	18780	20820	22740	24660	26800	28240	29500	31610	33780	27620	20980	19560
28	18870	20890	22790	24850	26860	28300	29560	31740	33860	27220	20830	19580
29	18970	20960	22850	24890	---	28400	29610	31860	33920	26920	20590	19610
30	19000	21100	22930	24960	---	28410	29670	31930	33920	26640	20350	19670
31	19050	---	22970	25030	---	28410	---	31960	---	26370	20130	---
MAX	19050	21100	22970	25030	26860	28410	29670	31960	33920	34210	26080	19930
MIN	17120	19150	21160	23040	25070	26920	28470	29740	32050	26370	20130	18200
†	3093.36	3095.32	3097.01	3098.76	3100.25	3101.48	3102.45	3104.15	3105.55	3099.86	3094.41	3093.97
‡	+1970	+2050	+1870	+2060	+1830	+1550	+1260	+2290	+1960	-7550	-6240	-460
CAL YR 1981	MAX	30020	MIN	15250	+3960							
WTR YR 1982	MAX	34210	MIN	17120	+2590							

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

KANSAS RIVER BASIN

239

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 (0.3 km) downstream from Enders Dam and 2.5 mi (4.0 km) southeast of Enders.

DRAINAGE AREA.--950 mi² (2,460 km²), approximately, of which about 790 mi² (2,050 km²) 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 (922.392 m) National Geodetic Vertical Datum of 1929. Prior to June 14, 1948, at site 800 ft (240 m) upstream at datum 6.03 ft (1.838 m) higher. June 14, 1948, to Sept. 14, 1972, at present site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good except those below 5.0 ft³/s (0.14 m³/s), which are poor. Flow regulated by Enders Reservoir (station 06832000).

AVERAGE DISCHARGE.--36 years, 61.7 ft³/s (1.747 m³/s), 44,730 acre-ft/yr (55.2 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 763 ft³/s (21.6 m³/s) Aug. 20, 1953, gage height, 11.31 ft (3.447 m), present datum; maximum gage height, 11.65 ft (3.551 m), present datum, July 18, 1958, backwater from downstream tributary; no flow for many days in 1972-82.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 339 ft³/s (9.60 m³/s) July 21, gage height, 8.39 ft (2.557 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	3.0	.18	1.0	.72	1.4	1.4	181	148
2	.00	.00	.00	.00	3.0	.18	1.0	1.1	2.1	1.1	192	152
3	.00	.00	.00	.00	5.0	.43	1.0	1.1	1.4	1.1	208	158
4	.00	.00	.00	.00	3.0	.55	1.0	.86	1.1	1.2	209	172
5	.00	.00	.00	.00	2.7	.55	1.0	1.5	.76	1.2	204	184
6	.00	.00	.00	.00	1.9	.55	1.0	.92	.75	23	192	181
7	.00	.00	.09	.00	1.1	.55	.60	1.1	.58	47	196	167
8	.00	.00	.13	.00	1.2	.47	.49	1.1	.65	59	216	148
9	.00	.00	.09	.00	1.2	.33	.59	.70	.65	79	227	70
10	.00	.00	.06	.00	1.2	.30	.54	.31	.79	111	221	.06
11	.00	.00	.00	.00	1.5	.32	.55	.20	.81	133	213	.03
12	.00	.00	.00	.00	1.9	.40	.33	.40	.85	138	200	.00
13	.00	.00	.00	.00	1.9	.94	.57	1.1	1.3	158	187	.00
14	.00	.00	.00	.00	1.9	1.0	.58	.46	.90	161	123	.00
15	.00	.00	.00	.00	1.9	1.0	.52	.37	.93	166	89	.00
16	.00	.00	.00	.00	1.3	1.0	.97	.32	.66	170	68	.00
17	.00	.00	.00	.00	.55	1.0	1.4	.30	1.4	182	49	.00
18	.00	.00	.00	.00	.93	1.0	1.0	.33	1.9	193	49	.00
19	.00	.00	.00	.00	1.2	1.0	.71	.33	1.8	230	51	.00
20	.00	.00	.00	.00	.98	1.0	1.1	.39	1.9	270	52	.00
21	.00	.00	.00	.00	.76	1.0	.90	.48	1.6	307	64	.00
22	.00	.00	.00	.48	.61	1.0	.89	.51	1.4	320	103	.00
23	.00	.00	.00	3.8	1.2	1.0	.73	.85	1.6	307	110	.00
24	.00	.00	.00	3.5	1.3	1.0	.96	1.5	1.3	306	121	.00
25	.00	.00	.00	1.7	.65	1.0	.66	.48	1.1	312	141	.00
26	.00	.00	.00	.00	.63	1.0	.62	.68	2.0	297	148	.00
27	.00	.00	.00	.00	.53	1.0	1.1	.62	1.3	257	144	.00
28	.00	.00	.00	.00	.33	1.0	1.2	1.3	1.0	242	143	.00
29	.00	.00	.00	.50	---	1.0	.74	1.3	1.1	209	163	.00
30	.00	.00	.00	1.0	---	1.0	.71	1.7	1.2	190	166	.00
31	.00	---	.00	2.0	---	1.0	---	1.6	---	184	160	---
TOTAL	.00	.00	.37	12.98	43.37	23.75	24.46	24.63	36.23	5057.0	4590	1380.09
MEAN	.000	.000	.012	.42	1.55	.77	.82	.79	1.21	163	148	46.0
MAX	.00	.00	.13	3.8	5.0	1.0	1.4	1.7	2.1	320	227	184
MIN	.00	.00	.00	.00	.33	.18	.33	.20	.58	1.1	49	.00
AC-FT	.00	.00	.7	26	86	47	49	49	72	10030	9100	2740
CAL YR 1981	TOTAL	10275.29	MEAN	28.2	MAX	248	MIN	.00	AC-FT	20380		
WTR YR 1982	TOTAL	11192.88	MEAN	30.7	MAX	320	MIN	.00	AC-FT	22200		

KANSAS RIVER BASIN

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 (1.1 km) west of Palisade, and 1.5 mi (2.4 km) upstream from Stinking Water Creek.

DRAINAGE AREA.--1,110 mi² (2,870 km²), approximately, of which about 950 mi² (2,460 km²) 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 1965 to September 1972.

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,743.49 ft (836.216 m) 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 (600 m) upstream at datum 4.0 ft (1.22 m) higher.

REMARKS.--Records good except those for winter period, 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.--34 years, 84.1 ft³/s (2.382 m³/s), 60,930 acre-ft/yr (75.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft³/s (157 m³/s) June 17, 1956, gage height, 8.79 ft (2.679 m), site and datum then in use; minimum daily, 11 ft³/s (0.31 m³/s) Sept. 11, 12, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 578 ft³/s (16.4 m³/s) June 12, gage height, 6.94 ft (2.115 m); minimum daily, 19 ft³/s (0.54 m³/s) Dec. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	23	33	29	30	29	27	26	45	38	188	174
2	20	27	34	26	29	27	27	25	126	37	183	166
3	20	27	28	25	27	27	29	25	82	36	185	161
4	20	26	28	24	23	29	28	26	53	34	195	166
5	20	25	28	23	24	28	28	29	49	32	200	171
6	21	24	27	21	25	29	28	31	48	31	198	183
7	21	25	27	20	27	29	29	29	48	31	188	184
8	21	25	26	22	29	28	29	28	45	47	189	179
9	22	24	26	24	28	28	29	27	43	59	199	169
10	22	25	26	23	26	27	29	26	42	73	213	144
11	21	23	26	20	28	26	28	26	41	91	212	104
12	21	24	26	22	33	27	29	27	217	113	209	93
13	21	24	26	24	40	27	27	47	79	125	200	85
14	22	24	26	27	50	27	25	58	59	137	378	77
15	23	24	26	30	60	27	25	49	103	141	222	70
16	23	23	28	27	52	28	26	49	57	144	148	64
17	24	23	26	28	41	27	26	49	49	149	132	56
18	24	24	25	33	43	27	25	48	53	154	108	51
19	24	25	22	31	32	28	25	48	46	162	98	45
20	24	27	19	29	30	29	25	48	43	177	91	40
21	23	26	22	27	29	30	26	48	42	206	88	35
22	23	26	25	26	29	29	25	46	40	232	87	34
23	24	25	24	29	29	28	25	69	42	248	113	34
24	24	25	22	35	29	28	23	102	42	243	126	34
25	24	25	23	40	29	29	22	66	39	246	129	32
26	24	25	25	50	30	29	23	55	45	254	145	32
27	24	26	27	45	30	29	23	46	69	262	158	31
28	24	26	28	40	31	29	27	43	49	235	188	29
29	24	27	30	35	---	27	28	48	41	225	157	28
30	24	30	32	33	---	28	26	48	39	213	168	28
31	23	---	32	31	---	27	---	50	---	195	175	---
TOTAL	695	753	823	899	913	867	792	1342	1776	4370	5270	2699
MEAN	22.4	25.1	26.5	29.0	32.6	28.0	26.4	43.3	59.2	141	170	90.0
MAX	24	30	34	50	60	30	29	102	217	262	378	184
MIN	20	23	19	20	23	26	22	25	39	31	87	28
AC-FT	1380	1490	1630	1780	1810	1720	1570	2660	3520	8670	10450	5350

CAI YR 1981 TOTAL 18141 MEAN 49.7 MAX 235 MIN 16 AC-FT 35980
WTR YR 1982 TOTAL 21199 MEAN 58.1 MAX 378 MIN 19 AC-FT 42050

KANSAS RIVER BASIN

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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 (8 m) downstream from county bridge, 1.2 mi (1.9 km) upstream from mouth, and 1.8 mi (2.9 km) northwest of Palisade.

DRAINAGE AREA.--1,500 mi² (3,890 km²), approximately, of which about 380 mi² (980 km²) 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 (835.454 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--33 years, 40.5 ft³/s (1.147 m³/s), 29,340 acre-ft/yr (36.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,030 ft³/s (85.8 m³/s) June 17, 1956, gage height, 11.30 ft (3.444 m), from rating curve extended above 1,200 ft³/s (34.0 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 6.0 ft³/s (0.17 m³/s) Aug. 4, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.25 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 12	1830	213 6.0	5.52 1.682	June 27	1200	180 5.1	5.12 1.561
June 13	2200	*272 7.7	6.00 1.829				

Minimum daily discharge, 16 ft³/s (0.45 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	24	32	29	31	31	30	36	77	52	22	23
2	16	26	29	29	31	32	29	34	87	42	21	23
3	17	27	30	30	29	31	29	31	78	39	20	23
4	17	28	31	29	21	32	29	30	59	37	20	22
5	18	28	30	31	22	31	29	30	50	34	20	23
6	19	27	29	29	24	30	28	37	43	32	20	23
7	18	26	29	27	25	30	29	44	37	30	19	23
8	18	26	29	28	26	32	29	40	33	30	19	22
9	19	25	29	29	26	31	29	36	30	29	19	22
10	20	25	29	26	28	32	29	32	29	30	18	22
11	22	25	28	31	28	32	29	29	28	30	19	22
12	21	25	29	32	28	32	29	28	112	29	19	22
13	21	25	29	33	29	32	28	57	167	28	21	23
14	21	25	29	29	30	32	27	66	88	29	42	24
15	22	25	29	28	33	32	27	68	75	28	37	24
16	21	25	29	27	36	32	27	60	57	28	31	25
17	22	25	26	26	39	32	29	53	51	27	28	25
18	23	25	26	28	39	32	30	44	46	26	26	25
19	23	25	24	30	35	32	30	38	44	25	25	24
20	24	25	31	31	34	35	28	36	42	25	23	24
21	23	25	33	29	34	41	28	34	40	25	23	23
22	23	26	30	27	34	35	27	33	37	23	23	23
23	23	26	31	26	34	34	27	34	44	22	24	22
24	23	26	23	27	34	33	27	43	39	22	25	22
25	23	26	26	28	33	32	27	52	39	20	24	21
26	24	26	28	31	32	31	27	55	64	20	23	21
27	24	26	29	30	31	31	27	45	138	22	28	21
28	24	26	31	30	31	31	33	47	110	21	29	21
29	24	26	29	31	---	30	39	50	70	21	28	21
30	24	28	27	31	---	31	39	65	62	22	25	21
31	24	---	29	31	---	30	---	67	---	23	24	---
TOTAL	657	773	893	903	857	994	875	1354	1876	871	745	680
MEAN	21.2	25.8	28.8	29.1	30.6	32.1	29.2	43.7	62.5	28.1	24.0	22.7
MAX	24	28	33	33	39	41	39	68	167	52	42	25
MIN	16	24	23	26	21	30	27	28	28	20	18	21
AC-FT	1300	1530	1770	1790	1700	1970	1740	2690	3720	1730	1480	1350

CAL YR 1981	TOTAL	10962	MEAN 30.0	MAX 107	MIN 14	AC-FT	21740
WTR YR 1982	TOTAL	11478	MEAN 31.4	MAX 167	MIN 16	AC-FT	22770

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 19 ft (6 m) upstream from bridge on U.S. Highways 6 and 34, 2 mi (3 km) west of Culbertson, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--2,770 mi² (7,170 km²), approximately, of which about 1,470 mi² (3,810 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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.

GAGE.--Water-stage recorder. Datum of gage is 2,583.44 ft (787.433 m) National Geodetic Vertical Datum of 1929. See WSP 1919 for history of changes prior to Nov. 2, 1950.

REMARKS.--Records good except those for winter period, which are fair. 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 (84.2 km²).

AVERAGE DISCHARGE.--52 years, 103 ft³/s (2.917 m³/s), 74,620 acre-ft/yr (92.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s), estimated, May 31, 1935, gage height, 14.8 ft (4.51 m), from floodmarks, present site and datum; no flow Aug. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 996 ft³/s (28.2 m³/s) Aug. 14, gage height, 7.49 ft (2.283 m); minimum daily, 3.4 ft³/s (0.096 m³/s) Aug. 8.

REVISIONS.--The maximum discharge for the water year 1981 has been revised to 728 ft³/s (20.6 m³/s) July 18, 1981, gage height, 6.61 ft (2.015 m), superseding figure published in report for 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	55	74	58	80	81	74	28	70	68	17	21
2	44	58	76	56	75	82	76	25	153	61	13	20
3	44	54	74	60	67	83	78	25	169	54	9.5	18
4	44	59	71	63	49	82	74	26	99	48	8.4	20
5	45	58	71	68	35	80	73	30	80	44	7.5	19
6	47	57	72	60	40	79	73	28	72	40	4.9	21
7	47	63	72	41	50	79	73	30	64	38	4.5	22
8	47	60	71	40	45	80	73	33	59	37	3.4	17
9	47	58	70	38	40	81	73	27	54	51	3.6	23
10	49	52	71	35	45	82	73	25	49	121	3.9	25
11	51	58	71	50	55	82	73	25	47	40	5.2	78
12	52	60	71	60	62	83	72	26	116	43	4.8	88
13	50	58	72	45	66	79	64	55	194	39	4.5	78
14	51	63	70	70	74	79	69	129	171	34	58.1	79
15	51	62	72	60	84	81	69	76	110	29	277	77
16	52	61	70	50	97	80	42	65	119	26	69	74
17	53	55	55	60	105	80	36	55	83	22	62	73
18	52	61	58	70	104	80	31	46	78	22	50	72
19	52	60	64	65	103	81	29	38	72	21	43	70
20	54	60	74	60	93	80	27	34	66	18	38	69
21	54	65	80	55	91	83	27	31	64	16	31	66
22	53	65	86	50	90	84	26	29	63	17	22	67
23	52	66	80	40	89	79	26	29	62	15	24	66
24	53	59	70	50	88	68	26	140	61	15	23	65
25	54	64	65	70	86	76	25	61	58	12	20	64
26	54	68	62	90	84	75	25	56	59	11	18	63
27	54	64	62	69	84	81	26	48	93	18	32	63
28	44	64	60	72	80	78	29	46	139	21	39	54
29	55	65	56	75	---	78	27	51	100	21	43	57
30	54	74	62	76	---	73	29	54	76	20	25	59
31	55	---	60	77	---	74	---	66	---	18	22	---
TOTAL	1557	1826	2142	1833	2061	2463	1518	1437	2700	1040	1509.2	1588
MEAN	50.2	60.9	69.1	59.1	73.6	79.5	50.6	46.4	90.0	33.5	48.7	52.9
MAX	55	74	86	90	105	84	78	140	194	121	581	88
MIN	43	52	55	35	35	68	25	25	47	11	3.4	17
AC-FT	3090	3620	4250	3640	4090	4890	3010	2850	5360	2060	2990	3150
CAL YR 1981	TOTAL	18289.8	MEAN	50.1	MAX	350	MIN	3.9	AC-FT	36280		
WTR YR 1982	TOTAL	21674.2	MEAN	59.4	MAX	581	MIN	3.4	AC-FT	42990		

KANSAS RIVER BASIN

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06835500 FRENCHMAN CREEK AT CULBERTSON, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)					
OCT											
02...	0930	37	530	8.1	12.0	9.6					
NOV											
12...	1350	60	630	8.0	9.0	11.3					
DEC											
08...	1410	77	535	7.9	8.0	11.7					
MAR											
10...	1410	32	570	7.8	12.0	10.4					
JUL											
26...	1440	17	660	8.1	33.0	8.0					
AUG											
19...	1000	34	480	8.2	26.0	8.4					
SEP											
09...	1505	21	700	8.3	26.0	8.0					

DATE	TIME	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACU3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACU3) (45902)	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 CACU3) (90410)	SULFATE DIS- SOLVED (MG/L AS SU4) (00945)
MAR											
10...	1410	10	220	.00	60	17	23	.7	13	230	46
AUG											
19...	1000	20	200	.00	50	18	29	1.0	14	210	44

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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											
10...	8.9	1.0	51	366	.50	31.6	1.7	.070	100	10	6
AUG											
19...	7.0	.9	42	340	.46	31.2	2.0	.090	100	26	8

KANSAS RIVER BASIN

06836000 BLACKWOOD CREEK NEAR CULBERTSON, NE

LOCATION.--Lat 40°14'10", long 100°48'39", in SE1/4SW1/4 sec.10, T.3 N., R.31 W., Hitchcock County, Hydrologic Unit 10250004, on right bank 500 ft (152 m) upstream from bridge on U.S. Highways 6 and 34, 0.2 mi (0.3 km) north of Burlington Northern Inc. bridge, 1 mi (2 km) east of Culbertson, and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--320 mi² (830 km²), approximately, of which about 270 mi² (700 km²) contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,555.25 ft (778.840 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1967, at site 0.2 mi (0.3 km) downstream at present datum and Oct. 1, 1967, to Aug. 28, 1968, at site 0.8 mi (1.3 km) downstream at datum 8.96 ft (2.731 m) lower.

REMARKS.--Records good. Natural flow affected by irrigation development above station, return flow from irrigated areas, and waste from Culbertson Canal.

AVERAGE DISCHARGE.--36 years, 6.24 ft³/s (0.177 m³/s), 4,520 acre-ft/yr (5.57 hm³/yr); median of yearly mean discharges, 5.4 ft³/s (0.153 m³/s), 3,900 acre-ft/yr (4.81 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,650 ft³/s (46.7 m³/s) June 17, 1955, gage height, 14.64 ft (4.462 m), site then in use; no flow Jan. 4-6, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 31, 1935, reached a stage of 24.0 ft (7.32 m), at site 0.2 mi (0.3 km) downstream, at present datum, from floodmarks, discharge, about 5,300 ft³/s (150 m³/s), from information by Nebraska Department of Roads.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 373 ft³/s (10.6 m³/s) at 1100 Aug. 14, gage height, 7.36 ft (2.243 m) from floodmark; no other peak above base of 150 ft³/s (4.25 m³/s); minimum daily, 0.70 ft³/s (0.020 m³/s) Apr. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.0	1.7	1.1	1.2	.93	.75	.90	3.9	5.6	7.9	8.2
2	.88	1.2	1.5	1.1	1.2	1.2	.75	2.0	4.7	6.4	5.8	6.2
3	.84	1.1	1.5	1.1	1.2	1.1	.75	4.6	2.3	5.4	4.1	7.5
4	.82	1.0	1.4	1.0	1.2	1.1	.70	2.6	6.6	7.1	4.8	6.2
5	.88	1.0	1.4	1.0	1.2	1.1	.75	1.7	5.6	4.7	4.3	6.2
6	.85	1.0	1.4	1.1	1.1	1.1	.79	1.5	3.3	2.4	5.4	5.7
7	.85	1.1	1.4	1.1	1.1	1.1	.75	2.9	5.5	1.6	5.8	3.4
8	.85	1.1	1.4	1.1	1.1	1.1	.72	7.7	2.8	1.8	7.9	2.4
9	.85	1.2	1.4	1.1	1.1	1.1	.78	10	2.2	4.3	7.9	2.5
10	.85	1.2	1.4	1.0	1.1	1.1	.85	12	2.8	4.3	5.6	5.3
11	.92	1.1	1.4	.95	1.1	1.0	.83	7.9	2.1	28	4.6	21
12	.98	1.2	1.2	.95	1.2	1.1	.84	6.4	2.2	11	3.2	38
13	.95	1.2	1.2	.95	1.2	1.0	.80	34	1.1	7.2	2.9	11
14	.95	1.2	1.2	1.0	1.2	.95	.80	33	1.0	4.4	167	2.5
15	.95	1.2	1.2	1.2	1.3	.95	.84	18	3.6	5.0	54	1.8
16	1.0	1.2	1.2	1.2	1.6	.90	.91	16	3.6	4.8	9.2	1.8
17	.96	1.2	1.2	1.1	1.2	.95	.85	17	2.1	7.4	12	1.6
18	.93	1.2	1.2	1.2	1.2	1.0	.95	7.0	1.4	7.7	9.0	1.6
19	.95	1.2	1.2	1.2	1.2	1.0	.94	3.1	1.1	7.2	6.6	1.4
20	.98	1.2	1.2	1.2	1.2	.80	.95	3.0	.98	7.7	4.9	1.4
21	1.0	1.3	1.3	1.2	1.2	.80	.97	2.5	.91	5.0	5.5	1.5
22	1.0	1.4	1.3	1.2	1.2	.80	.94	2.1	.95	8.4	6.2	1.6
23	1.0	1.4	1.1	1.2	1.2	.75	1.0	2.0	2.1	7.7	7.5	1.5
24	1.0	1.4	1.1	.97	1.5	.75	2.0	2.0	3.2	6.0	7.8	2.1
25	1.0	1.4	1.2	.92	1.0	.80	1.9	7.8	3.1	8.2	8.7	3.4
26	1.1	1.5	1.3	1.1	1.1	.75	1.4	3.5	6.2	8.2	7.8	1.8
27	1.1	1.4	1.2	1.2	1.0	.80	1.3	6.3	6.5	7.9	10	2.1
28	1.0	1.4	1.1	1.2	.94	.85	1.6	2.7	2.0	7.9	10	2.4
29	1.0	1.5	1.1	1.2	---	.80	1.1	8.0	1.0	8.2	9.0	2.2
30	1.0	2.2	1.1	1.2	---	.85	.96	4.4	1.1	10	5.7	1.9
31	1.0	---	1.1	1.2	---	.80	---	2.0	---	10	6.4	---
TOTAL	29.34	37.7	39.6	34.24	33.04	29.33	29.47	234.60	148.94	221.5	417.5	156.2
MEAN	.95	1.26	1.28	1.10	1.18	.95	.98	7.57	4.96	7.15	13.5	5.21
MAX	1.1	2.2	1.7	1.2	1.6	1.2	2.0	34	47	28	167	38
MIN	.82	1.0	1.1	.92	.94	.75	.70	.90	.91	1.6	2.9	1.4
AC-FT	58	75	79	68	66	58	58	465	295	439	828	310
CAL YR 1981	TOTAL	1595.78	MEAN	4.37	MAX	198	MIN	.61	AC-FT	3170		
WTR YR 1982	TOTAL	1411.46	MEAN	3.87	MAX	167	MIN	.70	AC-FT	2800		

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LOCATION (REVISED).--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 (4.8 km) downstream from siphon and wasteway on Meeker-Driftwood Canal, 3.5 mi (5.6 km) southwest of McCook, and 2.6 mi (4.2 km) upstream from mouth.

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

GAGE.--Water-stage recorder. Datum of gage is 2,485.23 ft (757.498 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 12, 1962, at site 1.7 mi (2.7 km) upstream in old channel at datum 8.55 ft (2.606 m) higher, Oct. 12, 1962, to Apr. 11, 1963, at site 1.4 mi (2.3 km) upstream at datum 4.80 ft (1.463 m) higher, and Apr. 12, 1963 to Apr. 22, 1982 at site 1.9 mi (3.1 km) upstream at datum 8.55 ft (2.606 m) higher.

AVERAGE DISCHARGE.--36 years, 10.4 ft³/s (0.295 m³/s), 7,530 acre-ft/yr (9.28 hm³/yr); median of yearly mean discharges, 8.2 ft³/s (0.232 m³/s), 5,900 acre-ft/yr (7.27 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 800 ft³/s (22.7 m³/s) July 11, gage height, 10.15 ft (3.094 m), no other peak above base of 300 ft³/s (8.50 m³/s); minimum daily, 3.6 ft³/s (0.10 m³/s) Feb. 3.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.0	9.2	5.2	5.0	5.1	3.8	5.3	8.9	9.5	14	24
2	4.6	7.4	6.6	5.2	5.0	5.4	4.4	5.3	29	7.6	17	14
3	4.5	8.0	5.7	4.9	3.6	5.7	3.8	5.4	30	7.8	22	10
4	4.4	6.7	5.2	4.6	4.7	5.4	4.0	5.3	21	10	22	9.3
5	4.5	5.8	5.2	5.7	4.8	5.0	4.3	5.3	19	7.2	21	9.3
6	4.6	5.2	5.2	4.8	4.7	4.9	4.6	6.1	15	5.9	13	10
7	4.6	5.2	5.2	4.5	4.8	5.2	4.7	6.1	9.6	5.7	12	12
8	4.6	5.2	4.7	4.4	5.4	5.2	5.1	5.4	7.3	6.0	12	11
9	5.2	5.2	4.5	4.9	5.0	5.2	5.4	5.5	6.8	6.6	12	10
10	5.0	5.2	4.5	4.1	5.0	5.6	4.9	5.4	6.5	76	9.4	11
11	4.8	5.2	4.7	4.8	4.8	5.3	5.1	5.2	6.0	499	12	11
12	4.8	5.4	4.7	4.5	5.2	5.2	5.1	5.4	6.1	65	12	12
13	4.8	5.4	4.7	4.7	5.4	4.5	4.8	8.3	6.1	23	13	11
14	4.9	5.4	4.7	5.1	5.9	4.7	4.6	60	6.3	13	103	13
15	4.9	5.4	4.5	5.2	6.9	5.5	4.9	49	82	12	62	10
16	5.0	5.4	4.3	4.3	.21	5.4	4.8	36	58	10	29	8.6
17	5.4	5.2	3.8	5.1	25	4.9	5.1	16	11	8.7	24	7.8
18	5.0	5.4	4.1	5.4	12	4.3	5.0	8.8	11	10	13	6.8
19	5.0	5.7	3.9	5.3	7.2	4.5	4.8	7.1	8.2	13	10	7.7
20	5.0	5.2	4.1	5.0	6.2	4.8	4.3	7.1	7.0	12	11	7.5
21	5.0	5.4	5.8	4.7	5.2	3.9	4.2	6.9	7.0	11	7.9	7.5
22	5.0	5.7	5.9	4.5	5.7	3.8	4.4	6.2	6.6	11	7.1	7.6
23	5.2	5.7	5.4	4.8	5.7	4.3	4.6	6.1	22	13	24	7.5
24	5.2	5.5	4.7	5.0	5.4	4.5	4.7	6.5	47	12	12	7.4
25	5.2	5.5	5.2	5.4	5.7	4.2	4.7	12	24	12	9.4	7.0
26	5.2	5.7	5.7	5.2	5.1	4.3	5.0	8.5	47	15	9.2	7.0
27	5.4	5.2	5.2	5.2	4.8	4.3	5.2	6.9	38	13	7.7	5.2
28	5.4	5.3	5.0	4.8	5.1	4.5	7.1	7.9	26	9.7	7.2	6.3
29	5.4	5.9	4.8	4.8	---	5.0	6.8	12	8.6	9.3	6.6	6.7
30	5.6	9.2	5.7	5.0	---	4.4	5.7	16	6.6	11	8.4	7.1
31	5.4	---	5.7	5.0	---	3.8	---	12	---	13	28	---
TOTAL	154.2	171.7	158.6	152.1	190.3	148.8	145.9	359.0	587.6	938.0	570.9	285.3
MEAN	4.97	5.72	5.12	4.91	6.80	4.80	4.86	11.6	19.6	30.3	18.4	9.51
MAX	5.6	9.2	9.2	5.7	25	5.7	7.1	60	82	499	103	24
MIN	4.4	5.0	3.8	4.1	3.6	3.8	3.8	5.2	6.0	5.7	6.6	5.2
AC-FT	306	341	315	302	377	295	289	712	1170	1860	1130	566
CAL YR 1981	TOTAL	2647.9	MEAN	7.25	MAX	70	MIN	3.2	AC-FT	5250		
WTR YR 1982	TOTAL	3862.4	MEAN	10.6	MAX	499	MIN	3.6				

KANSAS RIVER BASIN

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06837000 REPUBLICAN RIVER AT MC COOK, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1966 to current year.

INSTRUMENTATION.--Temperature recorder since Dec. 13, 1966.

REMARKS.--Because of travel restrictions, the weekly recorder chart was not changed several times during the year resulting in the loss of 106 days of record.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 38.5°C June 24, 1971; minimum, 0.0°C on many days during winter periods.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	7.0	5.5	---	---	---	---	.5	.0	9.5	4.5
2	---	---	8.5	6.0	---	---	---	---	.5	.0	9.5	6.5
3	---	---	11.0	7.0	4.5	1.5	---	---	.5	.0	6.5	4.0
4	---	---	11.5	6.0	4.5	.0	---	---	.5	.0	4.0	3.0
5	---	---	10.5	5.5	3.5	.5	---	---	.5	.0	6.0	3.0
6	22.0	18.5	10.0	4.0	5.0	1.0	---	---	.5	.0	6.5	3.0
7	22.0	18.0	10.5	5.5	6.0	2.0	---	---	1.0	.0	7.0	3.5
8	20.5	17.0	9.0	5.5	5.5	1.5	---	---	.5	.0	9.5	6.0
9	20.5	17.0	7.0	2.0	3.5	1.0	---	---	.5	.0	10.0	4.0
10	21.5	16.5	9.0	3.0	3.5	2.0	---	---	.5	.0	12.0	6.0
11	20.5	19.0	9.0	3.5	3.0	1.5	---	---	.5	.0	11.5	6.0
12	25.5	20.0	9.0	9.0	3.5	3.0	.0	.0	.5	.0	10.0	8.0
13	24.5	19.0	9.5	4.0	4.0	3.0	.5	.0	.5	.0	11.5	4.5
14	19.0	17.0	9.5	5.0	---	---	.5	.0	.5	.0	10.0	8.5
15	19.5	15.5	10.5	6.5	---	---	.5	.0	.5	.0	9.0	7.0
16	18.5	17.0	10.5	5.5	---	---	.5	.0	.5	.0	12.0	9.5
17	---	---	10.5	5.0	---	---	.5	.0	.5	.0	13.5	8.5
18	---	---	9.5	5.5	.0	.0	.5	.0	.5	.0	11.5	8.0
19	---	---	5.5	.5	.0	.0	.5	.0	1.5	.0	12.0	8.0
20	---	---	4.0	.0	.0	.0	.0	.0	6.5	1.5	11.0	7.0
21	---	---	5.5	.0	.0	.0	.0	.0	9.5	4.0	10.5	5.0
22	---	---	6.5	1.0	---	---	.0	.0	10.5	5.5	11.0	5.0
23	---	---	---	---	---	---	.5	.0	---	---	12.0	6.5
24	---	---	---	---	---	---	.5	.0	---	---	11.5	8.0
25	---	---	---	---	---	---	.0	.0	---	---	11.0	5.5
26	---	---	---	---	---	---	.0	.0	---	---	10.5	6.0
27	---	---	---	---	---	---	.0	.0	---	---	---	---
28	12.0	7.0	---	---	---	---	.0	.0	---	---	---	---
29	13.0	6.0	---	---	---	---	.5	.0	---	---	---	---
30	12.0	8.0	---	---	---	---	.5	.0	---	---	---	---
31	10.5	5.0	---	---	---	---	.5	.0	---	---	14.5	13.0
MONTH	25.5	5.0	11.5	.0	6.0	.0	.5	.0	10.5	.0	14.5	3.0

KANSAS RIVER BASIN

06837000 REPUBLICAN RIVER AT MC COOK, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.0	9.0	---	---	---	---	24.0	21.0	26.0	24.5	---	---
2	15.0	9.5	---	---	15.0	15.0	25.5	21.5	26.0	25.0	22.0	19.0
3	13.5	6.0	---	---	15.5	14.5	26.5	22.0	27.0	25.5	23.0	19.0
4	13.0	7.0	28.0	18.0	18.0	14.0	26.5	23.5	27.0	26.0	23.0	19.0
5	11.0	8.5	21.5	13.0	18.0	16.0	26.5	23.5	26.5	25.5	22.0	20.0
6	10.0	6.0	21.0	10.5	22.0	16.5	25.5	22.0	27.0	26.0	21.0	19.0
7	10.0	5.5	23.0	11.5	23.0	18.5	24.5	21.5	27.0	26.0	20.5	18.5
8	11.0	6.5	26.0	13.0	23.0	19.0	25.0	22.0	27.0	26.0	21.0	17.0
9	12.0	5.5	26.5	16.0	23.0	19.0	25.0	23.0	27.0	26.0	23.0	18.5
10	14.5	8.0	28.0	16.5	23.0	18.0	25.0	22.0	26.0	19.0	22.0	18.0
11	16.5	9.0	22.0	15.5	22.0	18.0	23.0	21.0	19.0	17.0	20.5	19.0
12	23.5	13.0	16.5	14.0	24.0	18.0	23.5	21.0	24.5	18.0	19.0	17.0
13	24.5	11.0	18.0	14.0	23.5	19.0	24.5	23.0	24.5	21.5	---	---
14	26.0	14.5	15.0	13.0	23.0	19.0	25.0	23.5	23.5	20.5	---	---
15	27.0	16.0	19.0	13.5	22.0	19.5	26.0	24.0	21.5	20.0	---	---
16	20.0	13.0	20.5	15.5	22.0	18.0	26.5	25.0	22.0	21.0	---	---
17	21.5	8.0	20.5	17.0	21.5	19.5	26.5	25.5	22.0	21.0	---	---
18	24.5	10.0	23.5	16.5	21.0	19.5	26.0	24.5	22.0	21.0	---	---
19	20.0	11.0	25.0	18.5	23.0	18.5	---	---	23.0	21.0	---	---
20	19.0	7.0	21.5	18.5	24.0	19.5	---	---	23.0	21.5	---	---
21	17.0	6.5	21.0	15.5	24.5	20.5	---	---	23.0	21.0	15.5	12.0
22	21.0	6.5	---	---	24.0	21.0	---	---	22.0	21.0	17.0	13.0
23	---	---	---	---	25.0	21.0	---	---	22.0	21.0	18.0	15.5
24	---	---	---	---	25.0	22.0	---	---	22.0	21.0	18.0	15.0
25	---	---	---	---	23.5	20.5	---	---	20.5	19.5	16.5	13.5
26	---	---	---	---	22.0	20.0	---	---	20.5	19.0	17.0	14.0
27	---	---	---	---	23.5	19.5	---	---	---	---	17.0	15.0
28	---	---	---	---	25.0	21.0	25.5	25.0	---	---	17.0	15.0
29	---	---	---	---	25.5	23.0	25.5	24.5	---	---	16.5	13.5
30	---	---	---	---	25.0	22.0	25.0	23.5	---	---	17.0	13.0
31	---	---	---	---	---	---	25.5	24.0	---	---	---	---
MONTH	27.0	5.5	28.0	10.5	25.5	14.0	26.5	21.0	27.0	17.0	23.0	12.0

KANSAS RIVER BASIN

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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 (305 m) above county road bridge, 7.2 mi (11.6 km) upstream from Red Willow Dam, and 12 mi (19 km) northeast of Culbertson.

DRAINAGE AREA.--600 mi² (1,550 km²), approximately, of which about 200 mi² (520 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Artificial control since March 1961. Datum of gage is 2,594.80 ft (790.895 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 23, 1961, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by pump irrigation development above station.

AVERAGE DISCHARGE.--22 years, 28.2 ft³/s (0.799 m³/s), 20,430 acre-ft/yr (25.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,020 ft³/s (114 m³/s) June 16, 1972, gage height, 13.27 ft (4.045 m), from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of slope-conveyance study; minimum daily, 4.0 ft³/s (0.11 m³/s) July 4, 5, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.25 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 24	2400	*404 11.4	3.77 1.149
July 11	0600	310 8.8	3.33 1.015

Minimum daily discharge, 8.0 ft³/s (0.23 m³/s) Feb. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	20	31	15	12	29	29	42	41	29	16	16
2	15	23	36	14	12	29	28	36	68	27	15	15
3	14	27	33	15	11	30	27	33	56	27	15	14
4	14	30	32	14	10	30	27	30	57	25	11	11
5	15	31	33	15	8.0	30	27	30	47	22	9.9	12
6	15	30	33	13	14	31	26	35	38	19	12	12
7	16	29	33	12	17	29	26	39	35	19	17	13
8	15	26	33	13	18	30	25	42	32	19	22	14
9	16	24	33	12	14	31	24	35	30	19	20	14
10	18	23	34	9.0	14	32	24	31	27	104	17	15
11	19	23	33	9.4	14	36	24	27	25	224	16	15
12	18	22	30	11	16	38	24	25	27	51	15	15
13	18	22	29	10	15	37	24	35	27	35	15	15
14	18	22	28	18	17	35	23	54	27	29	41	16
15	18	22	28	16	22	34	23	70	28	25	39	17
16	19	22	25	11	26	32	22	86	27	23	36	18
17	19	22	18	13	30	31	22	73	25	20	35	18
18	20	21	19	11	33	31	22	49	25	16	28	18
19	20	21	25	11	36	31	23	37	25	15	21	17
20	20	22	29	10	39	31	24	32	23	15	18	17
21	20	22	25	10	38	31	23	31	23	15	16	16
22	20	22	22	9.6	35	32	22	29	21	14	15	16
23	20	23	19	9.0	35	32	21	27	21	14	15	15
24	20	23	17	9.4	35	30	21	25	73	13	17	15
25	20	24	17	12	33	29	20	26	112	13	17	15
26	20	24	18	14	31	29	20	38	31	13	16	15
27	20	24	17	13	30	29	21	53	33	14	17	14
28	20	23	15	12	29	29	29	41	30	22	19	13
29	20	23	14	13	---	29	35	42	30	16	21	13
30	20	25	15	12	---	29	43	44	30	15	20	13
31	20	---	16	12	---	29	---	46	---	16	17	---
TOTAL	562	715	790	378.4	644.0	965	749	1243	1094	928	608.9	447
MEAN	18.1	23.8	25.5	12.2	23.0	31.1	25.0	40.1	36.5	29.9	19.6	14.9
MAX	20	31	36	18	39	38	43	86	112	224	41	18
MIN	14	20	14	9.0	8.0	29	20	25	21	13	9.9	11
AC-FT	1110	1420	1570	751	1280	1910	1490	2470	2170	1840	1210	887

CAL YR 1981	TOTAL	9973.7	MEAN 27.3	MAX 149	MIN 5.4	AC-FT 19780
WTR YR 1982	TOTAL	9124.3	MEAN 25.0	MAX 224	MIN 8.0	AC-FT 18100

KANSAS RIVER BASIN

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 (19 km) north of McCook.

DRAINAGE AREA.--730 mi² (1,890 km²), approximately, of which about 310 mi² (800 km²) 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 (38.8 hm³) between elevations 2,522.0 ft (769 m), sill of outlet works, and 2,581.8 ft (787 m), top of irrigation pool. Top of flood-control pool and crest of main spillway at elevation 2,604.9 ft (794 m), capacity, 86,360 acre-ft (0.106 km³). Top of superstorage flood-control pool at elevation 2,627.8 ft (801 m), capacity, 162,600 acre-ft (0.200 km³). Dead storage, 6,310 acre-ft (7.78 hm³). 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 (51.4 hm³) July 15, 16, 1967, elevation, 2,584.14 ft (787.646 m); minimum since operation of reservoir began, 16,930 acre-ft (20.9 hm³) Sept. 8, 1978, elevation, 2,565.31 ft (781.906 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,900 acre-ft (41.8 hm³) June 14-18, elevation, 2,579.34 ft (786.183 m); minimum, 25,400 acre-ft (31.3 hm³) Oct. 8, elevation, 2,573.09 ft (784.278 m).

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

2,570	21,800	2,580	34,910
2,575	27,800		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25490	25770	26690	27510	28290	29240	30260	30840	32770	33580	30090	27290
2	25450	25850	26730	27540	28300	29260	30290	30900	33110	33580	29940	27200
3	25480	25890	26780	27540	28330	29300	30290	31000	33220	33560	29790	27120
4	25480	25910	26780	27570	28370	29310	30300	31060	33320	33470	29580	27060
5	25480	25950	26850	27580	28390	29320	30320	31080	33400	33430	29410	27000
6	25460	25970	26910	27580	28390	29390	30280	31080	33550	33280	29230	26950
7	25430	26030	26950	27610	28410	29420	30280	31130	33590	33170	29050	26880
8	25410	26050	26970	27630	28410	29490	30280	31170	33680	33080	28900	26830
9	25440	26050	27010	27700	28460	29540	30290	31210	33680	33130	28720	26760
10	25440	26070	27070	27720	28500	29600	30300	31210	33680	33010	28620	26670
11	25450	26100	27120	27770	28540	29600	30340	31260	33740	33250	28490	26580
12	25500	26120	27130	27800	28570	29650	30410	31300	33790	33200	28410	26510
13	25540	26160	27200	27830	28620	29680	30440	31340	33790	33050	28290	26460
14	25540	26180	27220	27870	28670	29730	30430	31470	33900	32910	28550	26460
15	25540	26220	27260	27890	28710	29790	30510	31590	33900	32760	28500	26410
16	25540	26230	27300	27910	28750	29830	30510	31750	33900	32650	28490	26410
17	25550	26260	27290	27920	28790	29850	30470	31890	33900	32480	28450	26430
18	25560	26270	27290	27930	28860	29900	30520	31960	33840	32330	28410	26430
19	25580	26270	27290	27950	28880	29960	30550	32090	33780	32180	28380	26460
20	25580	26280	27300	27960	28920	29990	30480	32110	33730	31940	28330	26460
21	25590	26290	27310	27980	28960	29990	30480	32120	33650	31790	28280	26460
22	25600	26320	27330	28060	29030	30020	30480	32120	33610	31590	28210	26480
23	25600	26320	27350	28060	29030	30040	30510	32180	33640	31410	28170	26520
24	25600	26330	27350	28060	29040	30100	30520	32210	33560	31210	28090	26530
25	25610	26380	27360	28080	29050	30110	30550	32230	33710	31040	27980	26540
26	25640	26410	27390	28120	29110	30130	30540	32260	33760	30830	27890	26560
27	25660	26420	27420	28140	29150	30140	30640	32370	33760	30620	27810	26570
28	25670	26440	27420	28180	29170	30150	30650	32550	33730	30480	27700	26580
29	25710	26470	27450	28200	---	30220	30700	32630	33680	30400	27610	26590
30	25720	26580	27490	28240	---	30250	30750	32700	33590	30290	27490	26610
31	25720	---	27510	28260	---	30250	---	32740	---	30190	27390	---
MAX	25720	26580	27510	28260	29170	30250	30750	32740	33900	33580	30090	27290
MIN	25410	25770	26690	27510	28290	29240	30260	30840	32770	30190	27390	26410
†	2573.35	2574.04	2574.77	2575.35	2576.04	2576.83	2577.19	2578.57	2579.14	2576.79	2574.68	2574.06
‡	+210	+860	+930	+750	+910	+1080	+500	+1990	+850	-3400	-2800	-780
CAL YR 1981	MAX	29040	MIN	21980	+5920							
WTR YR 1982	MAX	33900	MIN	25410	+1100							

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

KANSAS RIVER BASIN

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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 (14 m) downstream from bridge on U.S. Highway 83, 3 mi (5 km) downstream from Red Willow Dam and 10 mi (16 km) north of McCook.

DRAINAGE AREA.--740 mi² (1,920 km²), approximately, of which about 320 mi² (830 km²) 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 (757.724 m) National Geodetic Vertical Datum of 1929. October 1940 to September 1947, water-stage recorder at site 45 ft (13.7 m) upstream at datum 9.55 ft (2.911 m) 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 (13.7 m) upstream, present datum.

REMARKS.--Records fair. Natural flow affected by irrigation development above station and, since Sept. 5, 1961, by storage in Hugh Butler Lake (station 06837390).

AVERAGE DISCHARGE.--29 years, 24.2 ft³/s (0.685 m³/s), 17,530 acre-ft/yr (21.6 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) June 22, 1947, gage height, 31.95 ft (9.738 m), present datum, from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 0.60 ft³/s (0.017 m³/s) Sept. 22, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1935, reached a stage of 33.45 ft (10.196 m), from floodmarks, discharge, 45,000 ft³/s (1,270 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 105 ft³/s (2.97 m³/s) July 11, 12, gage height, 9.34 ft (2.847 m); minimum daily, 3.4 ft³/s (0.096 m³/s) May 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	3.9	4.7	4.5	4.1	4.3	4.3	3.9	4.2	38	55	70
2	3.9	4.3	4.5	4.3	4.1	4.3	4.3	3.9	6.9	39	71	60
3	4.1	4.0	4.4	4.3	4.0	4.3	4.5	4.0	4.7	38	88	45
4	3.9	4.1	4.3	4.6	4.5	4.3	4.5	4.1	4.6	37	94	35
5	3.9	4.3	4.3	4.7	4.3	4.3	4.5	4.2	4.3	40	94	35
6	3.7	4.3	4.3	4.6	4.3	4.3	4.5	3.5	4.2	51	95	35
7	3.8	4.3	4.3	4.3	4.3	4.3	4.5	3.5	4.2	51	95	34
8	4.1	4.3	4.3	4.2	4.3	4.3	4.5	4.0	4.4	54	94	38
9	4.5	4.1	4.3	4.3	4.1	4.3	4.6	4.0	3.9	75	88	47
10	4.1	4.1	4.3	4.5	4.1	4.3	4.7	4.1	4.1	82	80	47
11	4.5	4.1	4.5	4.5	4.3	4.3	4.6	4.6	4.9	88	71	47
12	4.3	4.1	4.3	4.5	4.5	4.2	4.3	4.7	4.3	101	67	47
13	4.1	4.1	4.3	4.5	4.5	4.1	4.2	4.9	4.3	94	63	40
14	4.1	4.1	4.3	4.9	4.5	4.2	4.2	4.4	4.8	90	66	33
15	4.1	4.1	4.3	4.9	4.5	4.3	4.2	4.4	4.8	87	61	32
16	4.1	4.1	4.3	4.5	4.5	4.3	4.1	4.3	4.0	79	55	19
17	4.1	4.3	4.5	4.7	4.5	4.3	4.1	4.4	7.0	76	40	6.3
18	4.1	4.3	4.5	4.7	4.4	4.3	4.0	4.0	45	78	32	6.0
19	4.1	4.3	4.3	4.7	4.3	4.4	4.0	3.4	38	88	31	5.5
20	4.1	4.2	4.3	4.7	4.3	4.3	4.0	3.8	38	89	31	5.5
21	4.1	4.3	4.3	4.7	4.3	4.3	3.9	4.3	38	94	30	5.2
22	4.2	4.4	4.3	4.5	4.3	4.1	3.9	4.0	38	101	35	5.5
23	4.1	4.5	4.5	4.5	4.3	4.4	3.8	3.5	38	101	50	5.2
24	4.1	4.3	4.5	4.9	4.3	4.5	3.9	3.8	39	101	45	5.2
25	4.1	4.3	4.5	4.7	4.3	4.5	3.8	4.3	39	100	50	5.2
26	4.1	4.3	4.3	4.1	4.3	4.5	4.0	4.3	39	99	61	4.9
27	4.1	4.3	4.3	4.1	4.3	4.5	4.3	4.2	38	95	74	4.7
28	4.1	4.3	4.3	4.1	4.3	4.5	4.7	5.1	38	82	65	4.5
29	4.1	4.3	4.5	4.1	---	4.5	4.1	4.5	38	68	70	4.5
30	4.1	4.8	4.5	4.1	---	4.4	4.0	4.4	38	59	88	4.7
31	4.1	---	4.5	4.1	---	4.3	---	4.2	---	53	85	---
TOTAL	126.7	127.2	135.8	138.8	120.8	134.2	127.0	128.7	583.6	2328	2024	736.9
MEAN	4.09	4.24	4.38	4.48	4.31	4.33	4.23	4.15	19.5	75.1	65.3	24.6
MAX	4.5	4.8	4.7	4.9	4.5	4.5	4.7	5.1	45	101	95	70
MIN	3.7	3.9	4.3	4.1	4.0	4.1	3.8	3.4	3.9	37	30	4.5
AC-FT	251	252	269	275	240	266	252	255	1160	4620	4010	1460
CAL YR 1981	TOTAL	4881.6	MEAN 13.4	MAX 110	MIN 2.5	AC-FT 9680						
WTR YR 1982	TOTAL	6711.7	MEAN 18.4	MAX 101	MIN 3.4	AC-FT 13310						

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 (revised) bank near downstream side of bridge on U.S. Highways 6 and 34, 0.8 mi (1.3 km) north of Red Willow and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--830 mi² (2,150 km²), approximately, of which about 410 mi² (1,060 km²) 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 (731.105 m) National Geodetic Vertical Datum of 1929. Prior to May 26, 1945, nonrecording gage at bridge 1.2 mi (1.9 km) upstream at datum 11.16 ft (3.402 m) 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.--Records fair except those for winter period, 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 (7.2 km) above station for irrigation of about 4,150 acres (16.8 km²).

AVERAGE DISCHARGE.--43 years, 29.1 ft³/s (0.824 m³/s), 21,080 acre-ft/yr (26.0 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) June 22, 1947, gage height, 18.36 ft (5.596 m), from rating curve extended above 6,800 ft³/s (193 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.33 ft³/s (0.009 m³/s) Sept. 8, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft³/s (4.62 m³/s) Aug. 14, gage height, 6.48 ft (1.975 m); minimum daily, 4.3 ft³/s (0.12 m³/s) Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	9.1	13	8.1	10	11	9.9	9.6	9.5	21	10	28
2	8.0	9.8	9.6	11	9.4	10	10	9.4	19	20	12	22
3	7.9	10	9.4	8.2	9.0	10	9.9	9.4	12	19	21	26
4	8.0	9.1	9.4	8.0	8.6	10	10	9.9	11	18	16	18
5	8.1	9.1	9.4	12	7.8	10	9.9	12	10	18	10	17
6	7.9	8.8	9.4	9.8	8.8	11	9.9	10	10	24	13	17
7	7.9	9.1	9.4	9.6	10	10	10	8.9	9.7	26	14	17
8	7.9	9.0	9.4	14	9.6	10	10	9.0	9.8	20	14	14
9	8.3	7.7	9.4	13	8.8	11	10	9.4	9.7	17	19	16
10	8.2	4.3	9.4	9.0	9.0	10	10	8.9	9.1	34	18	17
11	7.9	4.7	9.4	10	9.0	10	11	8.8	10	30	15	19
12	7.9	19	9.4	13	10	10	11	10	10	42	11	20
13	8.2	8.8	9.4	12	10	10	10	12	9.6	27	17	25
14	7.6	8.2	9.4	22	12	11	10	13	24	19	67	21
15	7.7	8.1	9.4	19	14	11	10	11	32	22	28	24
16	7.6	8.2	9.0	13	13	11	10	9.4	9.7	18	32	28
17	7.6	8.2	8.8	14	15	10	10	9.8	6.4	12	33	9.8
18	7.5	8.3	9.4	13	16	11	10	9.6	17	11	18	6.8
19	7.8	8.7	9.8	12	17	12	10	8.8	38	17	18	6.4
20	7.8	8.5	9.8	11	16	10	10	9.4	14	14	18	13
21	8.0	8.8	9.6	10	13	9.6	10	9.3	10	11	15	9.1
22	7.9	8.8	9.4	10	13	9.6	10	9.4	9.0	17	15	11
23	7.6	8.7	9.8	9.0	11	9.9	11	8.9	18	18	31	12
24	7.8	8.5	9.4	10	10	10	11	8.9	17	17	26	11
25	7.9	8.8	9.2	13	10	10	10	9.1	22	16	19	9.1
26	7.9	8.8	9.6	15	10	9.9	9.8	9.4	23	17	19	8.8
27	8.0	8.5	10	15	11	10	11	9.8	21	19	27	8.6
28	8.4	8.4	8.6	14	11	9.8	14	12	20	25	21	8.6
29	8.2	9.0	10	14	---	9.8	10	11	20	17	16	8.6
30	8.7	20	12	13	---	10	10	9.4	20	20	31	8.6
31	8.5	---	11	11	---	9.7	---	10	---	12	40	---
TOTAL	246.4	275.0	300.2	375.7	312.0	317.3	308.4	305.5	460.5	618	664	460.4
MEAN	7.95	9.17	9.68	12.1	11.1	10.2	10.3	9.85	15.4	19.9	21.4	15.3
MAX	8.7	20	13	22	17	12	14	13	38	42	67	28
MIN	7.5	4.3	8.6	8.0	7.8	9.6	9.8	8.8	6.4	11	10	6.4
AC-FT	489	545	595	745	619	629	612	606	913	1230	1320	913

CAL YR 1981 TOTAL 4131.5 MEAN 11.3 MAX 349 MIN 3.0 AC-FT 8190
WTR YR 1982 TOTAL 4643.4 MEAN 12.7 MAX 67 MIN 4.3 AC-FT 9210

KANSAS RIVER BASIN

253

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 (5 m) upstream from bridge on State Highway 23, 0.5 mi (0.8 km) upstream from mouth, and 1 mi (2 km) east of Curtis.

DRAINAGE AREA.--74 mi² (190 km²), 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 (767.968 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years (1952-58, 1978-82), 7.09 ft³/s (0.201 m³/s), 5,140 acre-ft/yr (6.34 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft³/s (94.6 m³/s) May 31, 1951, gage height, 15.35 ft (4.679 m); minimum daily, 0.71 ft³/s (0.020 m³/s) July 26, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.3 ft (8.32 m) June 21, 1947, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 110 ft³/s (3.12 m³/s) June 25, gage height, 6.45 ft (1.966 m), backwater from Medicine Creek; minimum daily, 2.3 ft³/s (0.065 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.7	6.7	4.9	5.9	6.4	6.4	6.3	5.8	6.1	4.1	4.3
2	4.6	4.7	6.0	5.1	5.9	6.4	6.4	6.4	8.0	7.1	3.6	4.2
3	4.6	4.7	5.7	4.9	5.7	6.5	6.4	6.4	7.1	5.9	3.6	3.9
4	4.5	4.8	5.4	4.8	5.6	6.6	6.4	6.2	6.4	5.4	3.4	4.1
5	4.4	4.7	5.5	5.1	6.0	6.3	6.4	6.6	6.3	5.2	3.6	3.9
6	4.4	4.6	5.5	4.9	6.3	6.2	6.4	7.2	6.2	5.2	2.9	4.1
7	4.5	4.6	5.9	5.0	6.3	6.5	6.4	6.5	6.1	5.7	2.8	4.1
8	4.6	4.8	5.8	4.9	6.3	6.5	6.4	6.2	6.0	5.2	3.5	3.7
9	4.6	4.6	5.8	4.8	6.4	6.5	6.3	6.2	6.2	5.2	3.4	3.7
10	4.5	4.7	5.9	4.6	6.4	6.5	6.3	6.2	6.1	9.3	2.7	4.6
11	4.4	5.0	5.9	4.8	6.4	6.4	6.3	6.0	6.1	6.0	2.4	3.4
12	4.5	4.9	5.8	5.3	6.2	6.5	6.3	5.9	6.9	5.4	3.2	3.4
13	4.8	5.0	5.9	5.6	6.5	6.5	6.3	8.1	6.2	5.2	3.4	3.7
14	4.8	5.1	5.9	5.6	7.4	6.5	6.2	9.4	6.1	5.2	5.4	3.9
15	4.7	5.2	5.9	5.6	12	6.4	6.2	6.8	6.2	5.0	4.4	3.9
16	4.8	5.1	5.6	5.7	11	6.4	6.3	6.3	6.0	3.7	3.4	4.0
17	4.8	5.4	5.6	5.6	8.1	6.4	6.4	6.1	5.8	3.5	3.5	4.0
18	4.8	5.5	5.7	6.0	7.4	6.4	6.3	6.1	5.9	3.6	3.4	4.1
19	4.8	5.4	5.2	5.9	6.8	6.8	6.2	6.0	5.8	3.7	3.3	3.9
20	4.7	5.5	5.3	5.7	6.7	6.8	6.0	6.2	5.8	3.8	3.1	3.8
21	4.6	5.4	5.5	5.7	6.6	6.7	5.8	6.7	5.8	3.5	3.1	3.9
22	4.5	5.5	5.6	5.7	6.6	6.6	5.8	6.3	5.9	3.9	3.4	3.9
23	4.4	5.3	5.5	6.3	6.6	6.6	6.0	5.9	6.1	3.1	3.9	3.7
24	4.4	5.6	4.9	6.0	6.3	6.4	6.2	5.9	6.8	2.4	4.4	3.6
25	4.5	5.9	5.2	5.9	6.2	6.4	6.2	5.8	48	2.3	4.4	3.6
26	4.6	5.8	5.1	6.0	6.2	6.4	6.1	5.8	9.2	2.5	4.3	3.5
27	4.6	5.8	4.7	6.0	6.2	6.4	6.3	5.8	7.0	2.7	4.6	3.4
28	4.6	5.7	4.8	5.9	6.2	6.4	8.0	6.4	6.4	4.4	4.4	3.4
29	4.7	5.7	4.8	6.0	---	6.4	7.0	6.7	5.8	4.6	4.2	3.4
30	4.7	6.4	5.2	6.1	---	6.4	6.4	6.2	5.7	4.6	4.1	3.2
31	4.8	---	5.2	6.0	---	6.4	---	5.9	---	4.2	4.6	---
TOTAL	142.8	156.1	171.5	170.4	190.2	200.6	190.1	198.5	231.7	143.6	114.5	114.3
MEAN	4.61	5.20	5.53	5.50	6.79	6.47	6.34	6.40	7.72	4.63	3.69	3.81
MAX	4.8	6.4	6.7	6.3	12	6.8	8.0	9.4	48	9.3	5.4	4.6
MIN	4.4	4.6	4.7	4.6	5.6	6.2	5.8	5.8	5.7	2.3	2.4	3.2
AC-FT	283	310	340	338	377	398	377	394	460	285	227	227

CAL YR 1981 TOTAL 2229.3 MEAN 6.11 MAX 100 MIN 3.1 AC-FT 4420
WTR YR 1982 TOTAL 2024.3 MEAN 5.55 MAX 48 MIN 2.3 AC-FT 4020

KANSAS RIVER BASIN

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 (0.5 km) downstream from top of Harry Strunk Lake flood-control pool, 2.5 mi (4.0 km) upstream from top of irrigation pool, 3.8 mi (6.1 km) southeast of Stockville, and 13.5 mi (21.7 km) upstream from Medicine Creek Dam.

DRAINAGE AREA.--770 mi² (1,990 km²), approximately, of which about 530 mi² (1,370 km²) 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 (725.711 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark).

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--32 years, 66.5 ft³/s (1.883 m³/s), 48,180 acre-ft/yr (59.4 hm³/yr); median of yearly mean discharges, 58 ft³/s (1.643 m³/s), 42,000 acre-ft/yr (51.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) June 21, 1967, gage height, 20.05 ft (6.111 m); minimum daily, 9.1 ft³/s (0.26 m³/s) Aug. 9, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 24.4 ft (7.44 m) June 22, 1947, from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 356 ft³/s (10.1 m³/s) June 25, gage height, 6.97 ft (2.124 m), no peak above base of 1,200 ft³/s (34.0 m³/s); minimum daily, 23 ft³/s (0.65 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	46	59	43	44	64	57	74	62	50	34	36
2	35	48	63	42	42	65	57	68	62	49	32	34
3	34	52	63	43	37	67	55	63	63	59	31	33
4	33	55	61	39	33	62	55	61	64	54	29	31
5	34	54	59	45	30	59	54	61	64	47	27	31
6	35	52	57	36	38	62	54	62	64	45	27	31
7	34	51	56	32	40	62	54	64	60	42	27	32
8	34	49	56	40	42	62	53	65	56	41	28	32
9	37	48	56	42	39	62	54	65	55	40	30	33
10	38	47	56	30	45	64	53	62	53	41	31	33
11	39	47	55	31	44	65	52	57	53	71	32	32
12	40	48	54	35	50	67	52	55	53	59	33	31
13	41	48	54	34	49	66	52	58	53	49	35	30
14	41	49	54	38	54	65	52	73	53	44	89	33
15	42	49	53	36	60	64	52	81	58	39	74	34
16	42	49	53	32	62	64	53	82	57	35	54	35
17	42	49	40	45	66	64	54	82	54	34	47	38
18	43	49	45	44	70	64	55	78	53	32	41	38
19	44	49	52	42	88	66	54	71	52	30	37	37
20	44	48	60	39	77	66	53	67	51	30	33	36
21	44	49	58	39	75	65	52	67	50	28	31	35
22	44	50	56	38	74	62	51	68	55	26	31	34
23	43	51	52	35	74	60	51	66	51	26	34	34
24	44	51	46	36	72	59	52	62	100	24	33	34
25	44	51	46	45	68	59	53	60	175	23	33	34
26	44	51	48	50	66	59	52	60	152	24	32	33
27	45	50	48	49	64	59	54	60	95	26	35	33
28	45	50	45	46	64	58	67	60	72	29	54	33
29	46	49	42	47	---	58	82	61	57	37	41	32
30	46	52	44	46	---	59	79	62	52	37	37	32
31	46	---	45	44	---	58	---	62	---	35	40	---
TOTAL	1259	1491	1636	1243	1567	1936	1668	2037	1999	1206	1172	1004
MEAN	40.6	49.7	52.8	40.1	56.0	62.5	55.6	65.7	66.6	38.9	37.8	33.5
MAX	46	55	63	50	88	67	82	82	175	71	89	38
MIN	33	46	40	30	30	58	51	55	50	23	27	30
AC-FT	2500	2960	3250	2470	3110	3840	3310	4040	3970	2390	2320	1990
CAL YR 1981	TOTAL	21631	MEAN 59.3	MAX 711	MIN 22	AC-FT	42910					
WTR YR 1982	TOTAL	18218	MEAN 49.9	MAX 175	MIN 23	AC-FT	36140					

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 (11 km) northwest of Cambridge.

DRAINAGE AREA.--880 mi² (2,280 km²), approximately, of which about 640 mi² (1,660 km²) 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, 32,230 acre-ft (39.7 hm³) between elevation 2,335.0 ft (712 m), sill of outlet gates, and 2,366.1 ft (721 m), 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 (727 m), capacity, 89,310 acre-ft (0.110 km³). Top of superstorage flood-control pool at elevation 2,400.0 ft (732 m), capacity, 147,400 acre-ft (0.182 km³). Maximum water-surface elevation, 2,408.9 ft (734 m), 196,000 acre-ft (0.242 km³). Dead storage, 4,910 acre-ft (6.05 hm³). 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, 55,750 acre-ft (68.7 hm³) Mar. 23, 1960, elevation, 2,374.10 ft (723.626 m); minimum since operation of reservoir began, 7,840 acre-ft (9.67 hm³) Sept. 7, 1978, elevation, 2,340.39 ft (713.351 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,180 acre-ft (49.5 hm³) June 30, elevation, 2,367.69 ft (721.672 m); minimum, 28,560 acre-ft (35.2 hm³) Aug. 13, elevation, 2,360.99 ft (719.630 m).

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

2,360	27,100	2,370	44,890
2,365	35,140		

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36720	38170	39140	36210	36550	36250	38170	39040	39510	39920	33280	28840
2	36730	38270	39140	36210	36570	36250	38270	39100	39760	39920	33100	28840
3	36750	38320	39180	36190	36590	36280	38280	39260	39780	40000	32700	28860
4	36750	38440	39200	36180	36590	36280	38300	39300	39820	39940	32050	28860
5	36860	38440	39200	36160	36590	36280	38320	39160	39760	39820	31470	28800
6	36860	38450	39200	36100	36570	36280	38320	39160	40000	39610	30960	28780
7	36840	38530	39100	36070	36520	36250	38340	39280	39940	39550	30440	28750
8	36910	38550	39100	36050	36480	36230	38340	39320	39920	39530	30000	28810
9	36970	38570	39100	36070	36460	36210	38360	39370	39760	39660	29460	28840
10	37030	38590	39100	36030	36480	36210	38420	39390	39720	39510	28950	28890
11	37080	38600	39100	36010	36480	36210	38470	39160	39640	39570	28660	28930
12	37180	38620	39100	36030	36480	36230	38530	39120	39720	39610	28630	28890
13	37270	38640	39100	36030	36450	36190	38530	39300	39660	39550	28580	28950
14	37330	38660	39080	36050	36450	36050	38640	39370	39900	39430	28980	29010
15	37360	38680	39040	36070	36550	36120	38740	39430	39760	39280	29130	29040
16	37510	38720	38850	36010	36660	36360	38550	39530	39760	39040	29200	29130
17	37570	38740	38550	36070	36730	36450	38530	39490	39800	38640	29320	29170
18	37610	38740	38280	36050	36730	36460	38660	39630	39680	38380	29430	29240
19	37610	38750	37950	36050	36730	36750	38570	39740	39640	37980	29570	29320
20	37650	38790	37590	36050	36640	36840	38550	39570	39680	37460	29550	29330
21	37680	38830	37250	36100	36610	36860	38570	39530	39780	36910	29570	29380
22	37700	38870	36910	36140	36570	37010	38550	39570	39760	36300	28970	29520
23	37720	38870	36570	36230	36540	37140	38590	39510	39760	35780	29000	29580
24	37780	38850	36190	36270	36520	37250	38620	39510	39800	35250	28930	29600
25	37810	38930	36210	36280	36480	37400	38680	39490	39860	34740	33300	29600
26	37930	38930	36250	36320	36430	37510	38620	39430	39960	34170	29370	29740
27	37980	38970	36270	36340	36340	37650	38830	39530	40070	33700	29060	29750
28	38020	39000	36370	36360	36270	37800	38870	39660	40150	33400	29010	29830
29	38080	39060	36360	36410	---	37870	38930	39700	40150	33230	29010	29840
30	38150	39120	36340	36450	---	37970	39000	39630	39940	33250	28870	29810
31	38150	---	36250	36500	---	38060	---	39570	---	33270	28840	---
MAX	38150	39120	39200	36500	36730	38060	39000	39740	40150	40000	33300	29840
MIN	36720	38170	36190	36010	36270	36050	38170	39040	39510	33230	28580	28750
†	2366.64	2367.15	2365.61	2365.75	2365.62	2365.59	2367.09	2367.38	2367.57	2363.92	2361.17	2361.80
‡	+1430	+970	-2870	+250	-230	+1790	+940	+570	+370	-6670	-4430	+970
CAL YR 1981	MAX 40270		MIN 18880		+17440							
WTR YR 1982	MAX 40150		MIN 28580		-6910							

†Elevation, in feet, at end of month.

‡Change in contents, in acre-feet.

KANSAS RIVER BASIN

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 (0.8 km) downstream from Medicine Creek Dam and 6.5 mi (10.5 km) northwest of Cambridge.

DRAINAGE AREA.--880 mi² (2,280 km²), approximately, of which about 640 mi² (1,660 km²) 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 (699.595 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Apr. 24, 1950, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum.

REMARKS.--Records good except those below 1.0 ft³/s (0.028 m³/s), which are fair. Flow regulated by Harry Strunk Lake (station 06842000).

AVERAGE DISCHARGE.--33 years, 61.9 ft³/s (1.753 m³/s), 44,850 acre-ft/yr (55.3 km³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft³/s (36.8 m³/s) Mar. 23, 1960, gage height, 5.97 ft (1.820 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Nov. 13, 1952, Sept. 19, 1963, Sept. 27-29, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 310 ft³/s (8.78 m³/s) July 21, gage height, 2.89 ft (0.881 m); minimum daily, 0.43 ft³/s (0.012 m³/s) Oct. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.93	14	51	57	40	73	11	44	61	68	34	40
2	.43	16	48	56	39	53	16	46	71	67	116	27
3	.43	17	48	56	45	53	14	47	71	65	203	27
4	.49	18	46	56	49	53	15	48	71	63	265	27
5	.50	22	47	56	49	53	17	52	72	61	280	27
6	.51	22	47	56	49	53	17	52	72	60	259	27
7	.51	24	48	54	49	53	19	51	70	55	240	27
8	.53	27	47	45	49	53	21	52	68	53	233	27
9	.54	25	47	41	49	53	21	52	68	51	209	27
10	.52	26	48	41	49	53	23	52	64	56	192	15
11	.52	27	49	41	49	54	24	51	62	54	154	4.0
12	.52	27	49	40	49	54	27	49	61	54	102	2.4
13	.77	27	50	39	49	54	26	51	59	52	79	.66
14	1.1	29	113	39	49	54	27	54	59	91	80	.70
15	1.4	30	154	39	49	26	28	56	66	113	61	.64
16	1.8	30	155	39	49	6.4	32	57	64	153	.84	.63
17	2.8	31	150	39	70	6.4	28	58	62	150	.72	.66
18	3.1	35	174	40	90	6.4	29	58	60	167	.68	.65
19	2.9	35	229	40	90	6.4	33	58	57	237	.61	.64
20	3.4	33	221	40	91	6.4	31	62	55	269	.57	.71
21	4.3	33	215	40	91	6.4	30	62	55	286	.57	.72
22	4.5	34	212	39	92	6.4	30	60	59	292	.57	.49
23	4.8	34	212	39	92	6.4	31	58	59	270	.66	.54
24	5.2	34	190	40	92	6.4	31	59	59	259	14	.59
25	6.0	35	59	40	93	6.4	32	58	65	259	82	.59
26	6.5	36	56	40	92	6.4	32	57	71	262	126	.59
27	7.3	34	56	39	92	6.4	35	56	74	209	129	.55
28	8.0	35	56	39	92	6.9	42	61	73	140	92	.58
29	9.2	36	58	39	---	8.0	43	65	71	83	93	2.5
30	10	48	58	40	---	10	43	66	70	39	82	3.9
31	11	---	58	40	---	10	---	64	---	25	61	---
TOTAL	100.50	874	3051	1349	1838	903.7	808	1716	1949	4063	3191.22	293.74
MEAN	3.24	29.1	98.4	43.5	65.6	29.2	26.9	55.4	65.0	131	103	9.79
MAX	11	48	229	57	93	73	43	66	74	292	280	40
MIN	.43	14	46	39	39	6.4	11	44	55	25	.57	.49
AC-FT	199	1730	6050	2680	3650	1790	1600	3400	3870	8060	6330	.583

CAL YR 1981 TOTAL 11176.91 MEAN 30.6 MAX 374 MIN .34 AC-FT 22170
WTR YR 1982 TOTAL 20137.16 MEAN 55.2 MAX 292 MIN .43 AC-FT 39940

KANSAS RIVER BASIN

257

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 (122 m) south of U.S. Highways 6 and 34, 0.5 mi (0.8 km) downstream from Medicine Creek, 1 mi (2 km) east of Cambridge, and 1.3 mi (2.1 km) upstream from Cambridge diversion dam.

DRAINAGE AREA.--14,520 mi² (37,600 km²), approximately, of which about 7,810 mi² (20,200 km²) contributes directly to surface runoff.

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

REVISED RECORDS.--WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,239.07 ft (682.469 m) National Geodetic Vertical Datum of 1929. Prior to July 13, 1948, nonrecording gage at site 150 ft (46 m) upstream at same datum and July 13, 1948, to Sept. 25, 1950, at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station and since 1949 by regulation from upstream reservoirs.

AVERAGE DISCHARGE.--37 years, 308 ft³/s (8.723 m³/s), 223,100 acre-ft/yr (0.275 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 160,000 ft³/s (4,530 m³/s) June 22, 1947, gage height, 16.7 ft (5.09 m), from floodmarks, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.07 ft³/s (0.002 m³/s) Sept. 27, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1826, 17.6 ft (5.36 m) May 31 to June 1, 1935, from information by local resident, discharge, about 280,000 ft³/s (7,930 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft³/s (31.7 m³/s) Aug. 15, gage height, 5.84 ft (1.780 m); minimum daily, 61 ft³/s (1.73 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	102	203	94	135	216	150	150	216	245	146	229
2	63	131	189	96	135	208	150	149	332	229	186	180
3	62	131	180	100	130	211	151	141	407	214	268	170
4	65	123	176	106	110	209	145	135	389	190	328	161
5	65	125	176	96	86	211	142	152	332	172	337	151
6	66	121	177	90	100	208	142	161	288	162	335	158
7	69	120	178	106	110	210	142	158	259	153	312	160
8	66	120	176	116	116	206	144	150	240	145	302	160
9	82	119	176	90	110	199	144	149	224	143	274	145
10	75	120	173	70	120	206	142	145	200	159	275	133
11	75	116	176	74	130	206	143	141	200	262	262	118
12	78	115	173	84	150	211	142	143	197	439	224	122
13	80	127	173	76	150	204	141	159	185	266	161	173
14	74	124	200	92	160	201	137	217	259	232	216	187
15	82	125	284	102	180	200	135	343	501	243	769	172
16	82	126	263	90	200	165	139	267	367	273	628	169
17	86	126	249	125	240	161	138	242	291	262	351	164
18	87	124	200	106	300	161	127	221	225	259	302	150
19	83	129	287	100	350	242	123	203	233	299	269	141
20	83	127	297	110	340	188	117	225	218	345	245	129
21	84	131	316	120	320	166	112	212	215	337	229	129
22	88	129	339	110	316	155	112	192	217	347	220	119
23	92	133	311	92	293	156	111	186	193	342	226	114
24	96	133	290	94	270	155	110	187	185	319	245	105
25	98	134	157	100	256	150	107	200	211	317	244	104
26	96	136	155	160	248	146	104	250	225	326	271	99
27	93	132	160	150	235	147	110	217	274	342	288	95
28	95	135	155	130	225	149	154	263	273	265	217	88
29	97	135	145	150	---	153	160	296	273	242	212	81
30	98	193	140	140	---	157	157	251	248	184	209	83
31	100	---	125	140	---	151	---	235	---	162	233	---
TOTAL	2521	3842	6399	3309	5515	5708	4031	6140	7877	7875	8784	4189
MEAN	81.3	128	206	107	197	184	134	198	263	254	283	140
MAX	100	193	339	160	350	242	160	343	501	439	769	229
MIN	61	102	125	70	86	146	104	135	185	143	146	81
AC-FT	5000	7620	12690	6560	10940	11320	8000	12180	15620	15620	17420	8310
CAL YR 1981	TOTAL	56228	MEAN 154	MAX 1090	MIN 40	AC-FT 111500						
WTR YR 1982	TOTAL	66190	MEAN 181	MAX 769	MIN 61	AC-FT 131300						

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 (3 m) upstream from bridge on U.S. Highways 6 and 34, 0.2 mi (0.3 km) west of Arapahoe, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--246 mi² (637 km²).

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 (653.467 m), 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 (6 m) downstream from bridge at present datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station and return flow from irrigated areas.

AVERAGE DISCHARGE.--26 years (1951-72, 1978-82), 14.7 ft³/s (0.416 m³/s), 10,650 acre-ft/yr (13.1 hm³/yr); median of yearly mean discharges, 11 ft³/s (0.312 m³/s), 8,000 acre-ft/yr (9.86 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,280 ft³/s (206 m³/s) June 16, 1957, gage height, 24.62 ft (7.504 m); no flow Aug. 26 to Sept. 2, 1953, July 23, 29, Aug. 4, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 31 ft (9.4 m) occurred June 22, 1947, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 302 ft³/s (8.55 m³/s) Aug. 15, gage height, 7.88 ft (2.402 m), no peak above base of 750 ft³/s (21.2 m³/s); minimum daily, 3.2 ft³/s (0.091 m³/s) Feb. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.5	11	5.0	5.5	7.5	7.1	8.0	8.1	8.0	6.2	13
2	6.0	8.9	9.3	4.8	5.4	7.9	7.2	7.3	19	7.9	5.9	13
3	6.3	9.3	8.1	4.7	5.0	7.8	7.1	7.1	36	7.6	7.5	9.1
4	6.5	8.3	7.2	5.0	4.2	7.3	7.2	6.8	21	6.8	8.9	7.0
5	6.5	7.8	7.0	4.6	3.2	8.2	7.1	9.1	11	6.5	9.6	6.4
6	6.5	7.4	6.9	5.0	3.5	10	6.6	9.2	8.5	7.3	10	11
7	6.3	6.9	6.9	5.0	4.5	8.1	6.6	9.5	8.0	6.5	9.9	8.5
8	6.5	6.8	7.2	5.0	5.2	7.8	6.7	8.0	7.2	6.5	10	7.6
9	7.3	6.7	7.0	4.8	5.0	7.6	6.5	7.1	6.9	6.6	9.7	8.4
10	7.2	6.4	7.3	4.3	5.6	7.6	6.8	6.8	6.5	36	11	8.7
11	6.4	6.5	7.2	4.5	5.4	8.0	6.9	6.5	6.5	59	11	8.2
12	6.8	6.4	7.2	5.6	5.4	8.1	6.4	6.4	6.7	16	9.6	11
13	6.8	6.8	7.3	5.5	5.6	7.3	6.5	7.4	6.8	13	9.1	22
14	6.5	6.8	7.3	5.3	5.8	7.7	6.4	9.1	8.0	10	18	11
15	6.3	6.6	7.0	5.0	6.2	8.0	6.4	9.2	16	9.8	211	9.3
16	6.1	6.6	6.6	5.0	18	7.9	6.7	11	20	8.5	52	8.5
17	6.3	6.5	6.0	5.8	53	7.9	7.2	7.7	18	8.4	19	8.2
18	6.7	6.5	6.4	6.0	32	7.6	6.7	7.1	12	8.6	13	8.2
19	6.3	6.6	6.6	6.0	18	11	6.6	6.8	9.9	9.0	10	13
20	6.3	6.6	6.6	6.0	14	10	6.5	7.7	7.8	9.9	10	9.0
21	6.4	6.6	6.6	6.0	11	7.8	6.7	9.2	7.4	7.9	10	8.1
22	6.4	6.6	7.0	6.0	10	7.2	6.6	8.8	13	6.3	9.6	7.8
23	6.9	6.6	6.3	5.4	9.5	6.9	6.6	9.4	76	6.3	11	7.8
24	7.2	7.0	5.6	6.8	8.5	6.9	6.6	8.7	21	6.0	11	7.6
25	7.2	7.1	5.8	6.6	7.8	6.6	6.6	8.5	18	6.5	11	7.6
26	7.1	6.9	5.8	6.0	7.6	6.6	6.8	8.0	10	26	10	7.6
27	6.6	6.9	5.8	5.8	7.5	6.3	7.2	8.0	25	15	13	7.4
28	6.5	6.9	5.8	5.8	7.5	6.4	12	9.2	13	9.0	12	7.6
29	6.6	7.0	5.2	5.8	---	6.9	12	12	9.1	10	13	7.8
30	7.4	9.3	4.7	5.5	---	7.5	9.0	11	7.8	8.6	13	7.5
31	7.5	---	4.9	5.5	---	7.4	---	9.4	---	6.9	12	---
TOTAL	205.6	212.8	209.6	168.1	279.9	239.8	215.3	260.0	444.2	360.4	577.0	277.9
MEAN	6.63	7.09	6.76	5.42	10.0	7.74	7.18	8.39	14.8	11.6	18.6	9.26
MAX	7.5	9.3	11	6.8	53	11	12	12	76	59	211	22
MIN	6.0	6.4	4.7	4.3	3.2	6.3	6.4	6.4	6.5	6.0	5.9	6.4
AC-FT	408	422	416	333	555	476	427	516	881	715	1140	551
CAL YR 1981	TOTAL	4071.9	MEAN	11.2	MAX	421	MIN	4.5	AC-FT	8080		
WTR YR 1982	TOTAL	3450.6	MEAN	9.45	MAX	211	MIN	3.2	AC-FT	6840		

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 (3 m) downstream from bridge on State Highway 136, 2 mi (3 km) east of Edison and 5 mi (8 km) upstream from mouth.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 106 ft³/s (3.00 m³/s) June 15, gage height, 5.64 ft (1.719 m), from floodmark; minimum daily, 1.9 ft³/s (0.054 m³/s) Jan. 23.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.9	6.3	3.2	4.5	6.8	6.1	7.5	8.0	6.4	4.0	2.6
2	2.6	4.6	6.5	3.0	4.5	7.1	6.0	7.3	9.4	6.8	4.0	2.6
3	2.6	5.1	5.1	3.0	4.5	7.9	5.8	7.3	13	6.5	3.6	2.4
4	2.7	5.1	4.8	2.7	3.9	5.5	5.7	7.3	8.9	6.5	4.2	2.4
5	3.1	4.2	5.0	2.9	2.1	5.2	5.8	8.8	7.6	6.4	3.7	2.4
6	3.1	4.0	5.0	2.6	2.4	5.6	6.2	14	7.5	6.4	3.8	2.8
7	2.9	4.0	4.6	2.3	3.0	5.5	6.2	8.5	7.4	5.9	3.4	2.9
8	2.9	4.0	4.6	3.1	3.6	6.8	6.2	7.3	7.1	6.1	3.4	2.3
9	3.1	3.6	4.8	2.8	3.5	7.7	6.3	6.9	6.7	5.9	3.1	2.3
10	3.5	3.6	4.8	2.1	4.9	7.3	6.4	6.7	6.4	7.5	3.4	2.1
11	3.6	3.8	4.8	2.3	4.7	8.2	6.6	6.9	6.2	9.5	3.8	2.6
12	3.5	3.9	4.8	2.8	4.5	6.8	6.9	6.7	6.2	5.8	4.3	2.8
13	3.8	3.9	5.0	2.6	4.2	6.4	6.9	7.3	6.2	5.5	3.6	4.4
14	3.4	4.0	5.0	3.3	4.2	6.0	7.1	8.8	6.2	5.7	4.5	3.3
15	3.3	4.0	4.8	3.4	4.3	6.0	6.9	9.9	41	6.1	11	2.9
16	3.3	3.9	3.3	2.9	13	6.3	6.9	8.5	18	6.0	5.8	2.8
17	3.0	4.0	3.0	3.9	32	6.1	6.7	6.6	8.2	5.6	3.3	2.6
18	2.8	3.9	3.5	4.2	23	6.0	6.9	6.4	8.0	5.3	2.3	2.7
19	2.8	4.0	4.0	3.3	13	8.6	6.7	6.1	7.6	5.7	2.2	2.8
20	3.2	4.0	4.4	2.4	8.9	8.6	6.5	6.4	7.1	5.2	2.2	2.7
21	3.6	4.2	4.5	2.3	7.8	6.6	6.5	6.6	6.8	5.2	2.4	2.6
22	3.3	4.2	4.8	2.1	7.3	6.0	6.5	7.5	7.0	6.5	2.8	2.6
23	3.3	4.3	4.3	1.9	7.2	5.9	6.5	6.6	7.1	6.4	2.8	2.6
24	3.4	4.3	3.9	3.0	6.5	6.0	6.7	6.8	6.9	4.6	3.1	2.6
25	3.5	4.5	3.6	3.7	6.2	6.2	6.7	7.5	17	4.4	3.6	2.6
26	3.6	4.3	3.8	3.4	6.0	6.3	6.7	8.1	8.7	4.1	3.4	2.6
27	3.8	4.5	3.6	3.4	5.9	6.3	6.9	7.4	8.1	13	4.4	2.6
28	3.6	4.5	3.5	3.9	6.1	6.3	9.2	8.0	8.2	7.1	4.0	2.4
29	3.8	4.5	3.0	4.6	---	6.3	10	9.7	7.4	4.5	3.7	2.2
30	3.8	5.3	2.8	4.6	---	6.3	8.3	8.8	6.4	4.6	3.0	2.4
31	3.8	---	2.9	4.6	---	6.4	---	7.6	---	4.1	2.7	---
TOTAL	101.4	126.1	134.8	96.3	201.7	203.0	202.8	239.8	280.3	189.3	115.5	79.6
MEAN	3.27	4.20	4.35	3.11	7.20	6.55	6.76	7.74	9.34	6.11	3.73	2.65
MAX	3.8	5.3	6.5	4.6	32	8.6	10	14	41	13	11	4.4
MIN	2.6	3.6	2.8	1.9	2.1	5.2	5.7	6.1	6.2	4.1	2.2	2.1
AC-FT	201	250	267	191	400	403	402	476	556	375	229	158
CAL YR 1981	TOTAL	2134.6	MEAN 5.85	MAX 230	MIN 1.4	AC-FT 4230						
WTR YR 1982	TOTAL	1970.6	MEAN 5.40	MAX 41	MIN 1.9	AC-FT 3910						

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 (5 m) downstream from bridge on State Highway 89, 200 ft (61 m) downstream from Burlington Northern Inc. bridge, 2 mi (3 km) west of Orleans, 2.8 mi (4.5 km) upstream from Sappa Creek, and 23 mi (37 km) upstream from Harlan County Dam.

DRAINAGE AREA.--15,640 mi² (40,500 km²), approximately, of which about 8,910 mi² (23,100 km²) 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 (601.239 m) National Geodetic Vertical Datum of 1929. Prior to June 2, 1948, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for winter period, which are poor. Natural flow affected by irrigation development above station and regulation by upstream reservoirs.

AVERAGE DISCHARGE.--35 years, 300 ft³/s (8.496 m³/s), 217,400 acre-ft/yr (0.268 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,600 ft³/s (1,150 m³/s) June 22, 1948, gage height, 11.25 ft (3.429 m), from rating curve extended above 29,000 ft³/s (821 m³/s); maximum gage height, 12.60 ft (3.840 m) Mar. 22, 1960, backwater from ice; no flow at times in 1952-57, 1963, 1978-80.

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 (4.267 m), from floodmark (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 850 ft³/s (24.1 m³/s) Feb. 19, gage height, 5.37 ft (1.637 m), backwater from ice; minimum daily, 35 ft³/s (0.99 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	120	224	114	155	297	201	210	327	254	98	80
2	66	138	241	116	155	295	198	202	345	247	80	91
3	63	148	230	120	150	274	197	196	440	234	64	103
4	66	156	214	125	130	265	195	191	515	214	53	94
5	61	152	205	118	106	251	193	196	496	186	64	86
6	58	150	200	110	120	248	195	222	447	170	70	86
7	61	149	199	125	130	248	195	234	382	161	60	84
8	64	150	197	135	135	254	192	225	345	146	72	84
9	73	147	197	110	130	249	192	216	316	128	76	82
10	73	151	197	88	145	248	194	205	293	115	76	77
11	81	151	194	92	150	248	193	222	274	107	76	68
12	83	150	194	98	170	249	194	222	265	170	86	69
13	85	149	193	96	170	240	190	202	262	204	102	68
14	87	151	191	110	185	238	192	241	256	208	105	72
15	87	154	191	120	215	237	188	253	273	123	123	80
16	88	155	234	116	270	238	186	312	500	73	407	83
17	90	155	270	140	340	223	188	335	496	62	615	84
18	94	155	260	110	400	210	191	302	391	60	335	85
19	98	155	300	114	470	235	186	286	334	59	248	86
20	96	155	310	125	450	282	178	276	290	53	198	78
21	93	153	330	135	420	279	175	267	275	48	170	72
22	93	155	360	125	400	241	170	270	260	48	143	73
23	97	162	340	110	380	229	167	249	273	44	125	76
24	102	165	320	114	370	221	165	250	324	37	112	75
25	106	169	180	120	350	216	162	262	357	35	97	72
26	107	170	180	180	340	213	155	251	254	43	81	72
27	111	168	180	170	325	206	157	269	265	62	62	71
28	112	169	175	150	307	202	196	283	289	168	77	71
29	116	169	165	170	---	204	216	312	300	162	104	66
30	120	196	160	160	---	209	231	367	257	136	91	69
31	116	---	145	160	---	204	---	348	---	118	82	---
TOTAL	2711	4667	6976	3876	7068	7453	5632	7876	10101	3875	4152	2357
MEAN	87.5	156	225	125	252	240	188	254	337	125	134	78.6
MAX	120	196	360	180	470	297	231	367	515	254	615	103
MIN	58	120	145	88	106	202	155	191	254	35	53	66
AC-FT	5380	9260	13840	7690	14020	14780	11170	15620	20040	7690	8240	4680

CAL YR 1981 TOTAL 61648 MEAN 169 MAX 1950 MIN 35 AC-FT 122300
WTR YR 1982 TOTAL 66744 MEAN 183 MAX 615 MIN 35 AC-FT 132400

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

KANSAS RIVER BASIN

263

06844500 REPUBLICAN RIVER NEAR ORLEANS, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT							
05...	0945	10	50	1.4	16	280	.9
NOV							
02...	1000	9.0	42	1.2	15	260	.7
DEC							
02...	0930	6.0	33	1.0	15	220	.6
JAN							
04...	0940	.00	40	1.1	17	290	.8
FEB							
01...	1000	.00	31	.9	14	250	.7
MAR							
01...	0930	.00	34	1.0	14	260	.7
APR							
05...	0945	12	42	1.2	17	270	.6
MAY							
03...	0930	14	43	1.2	18	270	.8
JUN							
01...	0900	1.0	39	1.2	17	249	.7
JUL							
12...	0830	.00	34	1.1	17	231	.7
AUG							
02...	0900	.00	43	1.4	17	232	.8
31...	0900	5.0	37	1.1	16	239	.7

DATE	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	RURON, DIS- SOLVED (UG/L AS B) (01020)
OCT							
05...	40	504	.69	122	.60	.190	140
NOV							
02...	38	448	.61	163	1.3	.180	130
DEC							
02...	35	381	.52	257	1.8	.180	90
JAN							
04...	45	474	.64	307	2.2	.190	130
FEB							
01...	38	410	.56	304	2.1	.160	100
MAR							
01...	40	410	.56	332	1.6	.180	110
APR							
05...	39	459	.62	273	1.3	.100	130
MAY							
03...	36	472	.64	242	1.2	.120	140
JUN							
01...	35	425	.58	402	1.4	.270	130
JUL							
12...	37	386	.52	88.6	1.1	.340	120
AUG							
02...	30	405	.55	88.6	.10	.120	140
31...	30	410	.56	122	.74	.120	200

KANSAS RIVER BASIN

06846500 BEAVER CREEK AT CEDAR BLUFFS, KS

LOCATION.--Lat 39°59'06", long 100°33'35", in NW1/4NE1/4 sec.10, T.1 S., R.29 W., Decatur County, Hydrologic Unit 10250014, on right bank at downstream side of bridge on U.S. Highway 83, 0.2 mi (0.3 km) north of Cedar Bluffs, 1.0 mi (1.6 km) south of Kansas-Nebraska State line, and at mi 107.4 (172.8 km).

DRAINAGE AREA.--1,618 mi² (4,191 km²), of which 294 mi² (761 km²) is probably noncontributing.

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

REVISED RECORDS.--WSP 1510: 1947, 1950-51.

GAGE.--Water-stage recorder. Datum of gage is 2,520.33 ft (768.197 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1971, at site 0.1 mi (0.2 km) upstream at same datum. Aug. 19, 1971, to July 12, 1972, at site 0.8 mi (1.3 km) downstream at datum 5.00 ft (1.524 m) lower.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--37 years, 18.1 ft³/s (0.513 m³/s), 13,110 acre-ft/yr (16.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,940 ft³/s (225 m³/s) June 11, 1960, gage height, 18.71 ft (5.703 m); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1944 reached a stage of 18.16 ft (5.535 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 236 ft³/s (6.68 m³/s) July 11, gage height, 8.15 ft (2.484 m), no peak above base of 300 ft³/s (8.50 m³/s); no flow most days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.01	.00	.00	.00	.00	.00	2.8	11	4.2	.00
2	.00	.02	.01	.00	.00	.00	.00	.00	2.6	28	4.1	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	7.5	34	3.5	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	22	21	3.1	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	9.1	11	2.9	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	4.6	7.5	2.1	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	4.2	6.3	1.7	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	5.6	13	1.7	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	5.0	15	1.5	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	3.4	177	1.6	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	2.6	214	1.3	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	2.2	100	1.4	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	1.7	41	1.5	.00
14	.00	.00	.00	.00	.03	.00	.00	.00	1.2	19	1.4	.00
15	.00	.00	.00	.00	.18	.00	.00	5.0	.90	14	1.1	.00
16	.00	.00	.00	.00	1.6	.00	.00	4.9	.64	13	1.1	.00
17	.00	.00	.00	.00	.34	.00	.00	.78	.46	12	.85	.00
18	.00	.00	.00	.00	.06	.00	.00	.04	2.9	12	.39	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	1.8	11	.07	.00
20	.00	.00	.00	.00	.02	.00	.00	.00	.64	11	.00	.00
21	.00	.00	.00	.00	.10	11	.00	.00	.41	10	.00	.00
22	.00	.00	.00	.00	.02	2.8	.00	.00	1.5	10	.00	.00
23	.00	.00	.00	.00	.00	.56	.00	.00	.80	9.7	.00	.00
24	.00	.00	.00	.00	.00	.04	.00	.00	.65	9.1	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	97	8.9	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	32	8.8	.00	.00
27	.00	.00	.00	.00	.00	.00	.01	.01	27	8.2	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	2.4	25	8.2	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	4.5	5.7	7.2	.00	.00
30	.00	.03	.00	.00	.00	.00	.00	24	3.2	5.0	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	8.4	.00	4.4	.00	.00
TOTAL	.00	.06	.02	.00	2.35	14.40	.01	50.03	275.10	860.3	35.51	.00
MEAN	.000	.002	.001	.000	.084	.46	.000	1.61	9.17	27.8	1.15	.000
MAX	.00	.03	.01	.00	1.6	11	.01	24	97	214	4.2	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.41	4.4	.00	.00
AC-FT	.00	.1	.04	.00	4.7	29	.02	99	546	1710	70	.00
CAL YR 1981	TOTAL	1526.37	MEAN 4.18	MAX 238	MIN .00	AC-FT 3030						
WTR YR 1982	TOTAL	1237.78	MEAN 3.39	MAX 214	MIN .00	AC-FT 2460						

KANSAS RIVER BASIN

265

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 (122 m) downstream from bridge on U.S. Highway 283, 3.5 mi (5.6 km) west of Beaver City, and at mi 24.7 (39.7 km).

DRAINAGE AREA.--1,950 mi² (5,050 km²), approximately, of which about 1,650 mi² (4,270 km²) 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 (659.270 m) 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 (120 m) upstream at datum 2.0 ft (0.61 m) higher. Nov. 15, 1957, to Sept. 22, 1958, at site 3.6 mi (5.8 km) upstream at different datum.

REMARKS.--Records fair except those for winter period, which are poor.

AVERAGE DISCHARGE.--46 years, 23.8 ft³/s (0.674 m³/s), 17,240 acre-ft/yr (21.3 hm³/yr); median of yearly mean discharges, 13 ft³/s (0.368 m³/s), 9,420 acre-ft/yr (11.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,800 ft³/s (108 m³/s) July 19, 1944, gage height, 13.8 ft (4.21 m), from floodmark, site and datum then in use; no flow at times in 1937-40, 1946, 1953-57, 1959, 1969-74, 1976, 1978-81.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft³/s (0.48 m³/s) Feb. 18, gage height, 2.89 ft (0.881 m), maximum gage height, 2.90 ft (0.884 m) Jan. 26, backwater from ice; no peak above base of 400 ft³/s (11.3 m³/s); minimum daily discharge, 0.60 ft³/s (0.017 m³/s) July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.44	1.0	.23	.42	.74	.72	.80	.75	1.4	.11	.27
2	.11	.51	.63	.21	.38	.92	.74	.80	1.2	.83	.09	.19
3	.15	.43	.56	.20	.34	.99	.64	.85	1.1	.97	.06	.16
4	.19	.40	.51	.23	.31	1.3	.68	.78	.98	.94	.09	.13
5	.19	.33	.50	.20	.30	.98	.67	.96	.94	.95	.07	.11
6	.19	.36	.48	.19	.32	1.3	.63	.90	.87	.93	.08	.14
7	.26	.34	.47	.17	.34	.95	.68	.89	.77	.73	.07	.17
8	.42	.36	.50	.20	.37	.75	.67	.82	.78	.57	.07	.19
9	.34	.45	.50	.16	.40	.80	.64	.71	.67	.62	.06	.16
10	.22	.41	.57	.13	.48	.81	.63	.69	.57	.71	.11	.12
11	.24	.26	.55	.13	.52	.95	.60	.69	.58	.70	.17	.10
12	.39	.33	.54	.14	.60	.94	.84	.64	.74	.62	.21	.13
13	.39	.33	.49	.15	.70	.96	.66	.68	.62	.57	.18	.18
14	.28	.33	.50	.16	.80	.98	.62	1.0	.68	.56	.57	.41
15	.22	.39	.50	.15	3.7	.93	.78	1.1	.62	.55	.46	.36
16	.20	.38	.45	.14	7.4	.93	.77	.83	.66	.51	.24	.31
17	.30	.37	.35	.16	13	.94	.68	1.2	.58	2.6	.23	.29
18	.29	.36	.32	.19	7.9	1.1	.74	.77	.74	10	.18	.33
19	.21	.39	.30	.18	1.4	1.3	.69	.60	.60	4.7	.15	.28
20	.17	.36	.28	.17	1.2	1.0	.67	.65	.56	2.1	.18	.20
21	.17	.36	.30	.16	.98	.83	.67	1.2	.80	.96	.18	.21
22	.20	.36	.35	.15	.99	.76	.61	.60	1.0	.46	.17	.18
23	.25	.36	.32	.15	1.1	.69	.65	.70	.90	.21	.70	.17
24	.27	.44	.30	.16	.76	.68	.68	1.2	1.4	.08	.36	.16
25	.28	.45	.29	.20	.74	.73	.70	1.2	5.7	.17	.21	.15
26	.30	.42	.28	.30	.90	.74	.72	1.2	3.1	.06	.17	.14
27	.31	.45	.26	.40	.56	.74	.82	.83	2.5	.15	.20	.11
28	.38	.42	.24	.50	.61	.77	1.3	1.6	1.6	.15	.27	.10
29	.37	.43	.25	.49	---	.80	1.3	2.6	1.2	.14	.31	.08
30	.41	.99	.28	.48	---	.76	1.1	1.2	1.2	.16	.21	.16
31	.37	---	.25	.45	---	.73	---	1.0	---	.13	.22	---
TOTAL	8.17	12.21	13.12	6.93	47.52	27.80	22.30	29.69	34.41	34.23	6.38	5.69
MEAN	.26	.41	.42	.22	1.70	.90	.74	.96	1.15	1.10	.21	.19
MAX	.42	.99	1.0	.50	13	1.3	1.3	2.6	5.7	10	.70	.41
MIN	.10	.26	.24	.13	.30	.68	.60	.60	.56	.06	.06	.08
AC-FT	16	24	26	14	94	55	44	59	68	68	13	11

CAL YR 1981 TOTAL 299.10 MEAN .82 MAX 32 MIN .04 AC-FT 593
WTR YR 1982 TOTAL 248.45 MEAN .68 MAX 13 MIN .06 AC-FT 493

KANSAS RIVER BASIN

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 (12 m) south of Burlington Northern Inc. track, 500 ft (152 m) downstream from bridge on county highway, 2 mi (3 km) east of Stamford, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--3,740 mi² (9,690 km²), approximately, of which about 3,280 mi² (8,500 km²) 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.

GAGE.--Water-stage recorder. Datum of gage is 1,981.31 ft (603.903 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--37 years, 57.9 ft³/s (1.640 m³/s), 41,950 acre-ft/yr (51.7 hm³/yr); median of yearly mean discharges, 35 ft³/s (0.991 m³/s), 25,400 acre-ft/yr (31.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s (1,230 m³/s) June 24, 1966, gage height, 22.13 ft (6.745 m), from floodmark, from contracted opening and flow-over-road measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 290 ft³/s (8.21 m³/s) June 27, gage height, 8.71 ft (2.655 m), no peak above base of 1,000 ft³/s (28.3 m³/s); no flow for many days.

REVISIONS.--The maximum discharge for water year 1979 has been revised to 225 ft³/s (6.37 m³/s) July 28, 1979, gage height, 9.18 ft (2.798 m), superceding figure published in the report for 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	8.9	29	3.4	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	26	18	1.5	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	22	10	.87	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	10	5.9	.26	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	3.9	12	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	3.7	23	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	4.1	13	.39	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	3.3	5.1	.27	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	1.6	152	.09	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.94	182	.18	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.53	111	.06	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.11	67	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	49	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.70	43	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	22	.00	81	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	8.6	.05	49	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	2.2	.00	146	.00	.00
18	.00	.00	.00	.00	11	.00	.00	.44	.00	131	.00	.00
19	.00	.00	.00	.00	7.4	.00	.00	.00	.00	69	.00	.00
20	.00	.00	.00	.00	20	.00	.00	.00	.00	54	.00	.00
21	.00	.00	.00	.00	21	.00	.00	.00	.00	44	.00	.00
22	.00	.00	.00	.00	9.1	.00	.00	.00	.00	34	.00	.00
23	.00	.00	.00	.00	4.2	10	.00	.00	.00	24	.00	.00
24	.00	.00	.00	.00	2.3	5.5	.00	.00	.00	15	.00	.00
25	.00	.00	.00	.00	.13	1.1	.00	.00	5.5	9.4	.00	.00
26	.00	.00	.00	.00	.05	.13	.00	.00	62	6.7	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	192	3.9	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	1.5	89	1.7	.00	.00
29	.00	.00	.00	.00	---	.00	.00	1.2	51	57	.00	.00
30	.00	.00	.00	.00	---	.00	.00	8.2	47	15	.00	.00
31	.00	---	.00	.00	---	.00	---	3.9	---	16	.00	---
TOTAL	.00	.00	.00	.00	75.18	16.73	.00	48.74	531.63	1420.27	7.02	.00
MEAN	.000	.000	.000	.000	2.69	.54	.000	1.57	17.7	45.8	.23	.000
MAX	.00	.00	.00	.00	21	10	.00	22	192	182	3.4	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.57	.00	.00
AC-FT	.00	.00	.00	.00	149	33	.00	97	1050	2820	14	.00

CAL YR 1981 TOTAL 216.85 MEAN .59 MAX 36 MIN .00 AC-FT 430
WTR YR 1982 TOTAL 2099.57 MEAN 5.75 MAX 192 MIN .00 AC-FT 4160

KANSAS RIVER BASIN

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 (3 km) southeast of Republican City and 8 mi (13 km) southeast of Alma.

DRAINAGE AREA.--20,750 mi² (53,700 km²), approximately, of which about 13,530 mi² (35,000 km²) 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 (REVISED).--Reservoir is formed by earthfill dam with gravity-type concrete spillway section; storage began Nov. 14, 1952. Capacity, 319,800 acre-ft (0.394 km³) between elevations 1,885.0 ft (575 m), sill of outlet gates, and 1,946.0 ft (593 m), top of storage pool. Top of flood-control pool at elevation 1,973.5 ft (602 m), capacity, 828,800 acre-ft (1.02 km³). Top of superstorage flood-control pool at elevation 1,975.5 ft (602 m), capacity, 875,600 acre-ft (1.08 km³). Figures given herein represent total contents. Water used for irrigation in the Bostwick irrigation project.

COOPERATION.--Capacity table furnished by Corps of Engineers (revised Jan. 1, 1982).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 497,700 acre-ft (0.614 km³) Apr. 6, 1960, elevation, 1,955.67 ft (596.088 m); minimum since operation of reservoir began, 110,300 acre-ft (0.136 km³) Oct. 22 to Nov. 6, 1953, elevation, 1,922.00 ft (585.826 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 354,700 acre-ft (0.437 km³) July 6, elevation, 1,947.98 ft (593.744 m); minimum, 232,800 acre-ft (0.287 km³) Oct. 7-9, elevation, 1,938.94 ft (590.989 m).

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

1,935	203,900	1,945	314,600
1,940	255,200	1,950	383,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233000	234800	243600	254700	262800	279100	294300	302800	322500	345400	317600	289200
2	232900	235100	244200	255000	263000	279800	294600	303300	323900	346100	316000	288800
3	233200	235600	244500	255500	263300	280800	294300	303700	324700	346500	314800	288400
4	233100	235800	244600	255700	263900	281300	294800	304000	325500	346500	313300	287700
5	233000	236100	245100	256000	264100	282000	295100	305500	326300	346800	311700	287200
6	233000	236200	245400	256100	264400	282500	294800	305800	327500	346700	309900	286800
7	232800	236600	245900	256300	264600	282900	295300	306100	328100	346300	308400	286400
8	232800	236600	246200	256600	265100	283400	295500	306300	328600	346000	306400	285500
9	232900	236800	246300	256800	265300	283900	295700	306700	328900	345800	304500	285500
10	232800	236800	246800	256900	265800	284500	296100	307500	329300	346400	302800	285000
11	232800	237100	247300	257000	266200	284900	296500	308400	330000	345800	301100	284500
12	232900	237300	247600	257500	266700	285400	296900	308700	330300	346800	299900	284000
13	233400	237500	248100	257800	266900	285900	297100	310300	330500	346400	298500	283500
14	233400	237900	248300	258000	267200	286500	297500	311100	331900	345700	297600	283000
15	233400	238000	248500	258100	267500	287200	297600	311600	332200	345200	296600	282900
16	233400	238300	249200	258100	267900	287300	298200	312000	333000	343800	295500	282700
17	233600	238500	249200	258400	268300	287800	298200	312500	333700	342400	295300	282900
18	233400	238600	249300	258500	268900	288700	298700	313100	334500	341100	294600	283000
19	233600	238800	249400	258700	270100	289400	299000	313500	334900	339500	293500	283000
20	233400	238800	249800	259200	271400	290300	298700	314700	335200	337800	292800	283000
21	233400	239100	250200	259400	272300	290500	298800	314800	335900	335900	291900	282900
22	233400	239400	250800	260000	273700	291000	298900	315000	336000	334400	290500	282900
23	233400	239600	251500	260200	274700	291400	299000	315200	336400	332300	290300	283200
24	233600	239600	252100	260500	275400	291700	299200	317500	338200	330500	290300	283200
25	233600	240200	252600	260500	276200	291900	299400	317900	338600	328600	290100	283100
26	233700	240400	253200	260800	277000	292000	299400	318600	339600	327200	290100	283000
27	233800	240300	253600	261000	278000	292500	300100	318700	342000	325500	290000	282900
28	234000	240600	253900	261100	278600	292800	301800	319900	342400	324000	289400	282900
29	234000	240800	254000	261500	---	293700	302200	320200	343200	322600	289400	282700
30	234400	243600	254500	261700	---	293900	302300	321700	343800	320900	289700	282700
31	234400	---	254600	261900	---	293900	---	322400	---	319400	289300	---
MAX	234400	243600	254600	261900	278600	293900	302300	322400	343800	346800	317600	289200
MIN	232800	234800	243600	254700	262800	279100	294300	302800	322500	319400	289300	282700
†	1939.09	1939.90	1940.85	1941.47	1942.82	1944.03	1944.68	1946.19	1947.75	1945.97	1943.67	1943.15
‡	+1000	+9200	+11000	+7300	+16700	+15300	+8400	+20100	+21400	-24400	-30100	-6600
CAL YR 1981	MAX	254600	MIN	202500	+52400							
WTR YR 1982	MAX	346800	MIN	232800	+49300							

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

KANSAS RIVER BASIN

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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 (2.3 km) west of Naponee, 1.4 mi (2.3 km) upstream from Turkey Creek, and 2.8 mi (4.5 km) downstream from Harlan County Dam.

DRAINAGE AREA.--20,760 mi² (53,800 km²), approximately, of which about 13,550 mi² (35,100 km²) 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 (567.958 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records poor. Flow completely regulated by Harlan County Lake (station 06849000) and partially regulated by six upstream reservoirs.

AVERAGE DISCHARGE.--29 years (1953-82), 258 ft³/s (7.307 m³/s), 186,900 acre-ft/yr (0.230 km³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft³/s (122 m³/s) June 25, 1957, gage height, 8.65 ft (2.637 m); minimum daily, 1.5 ft³/s (0.042 m³/s) Apr. 28, 29, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1826 occurred June 1, 1935, discharge, about 260,000 ft³/s (7,360 m³/s), from slope-area measurement near Bloomington.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,680 ft³/s (104 m³/s) May 11, gage height, 7.18 ft (2.188 m); minimum daily, 3.6 ft³/s (0.10 m³/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	6.8	15	6.1	7.0	9.6	8.6	13	48	31	533	67
2	8.8	9.6	7.5	5.9	6.8	9.6	8.0	13	34	85	548	66
3	9.6	6.4	6.3	7.1	6.6	6.4	12	16	38	38	540	65
4	9.6	6.8	7.4	7.6	6.4	8.8	11	24	18	21	572	101
5	16	5.4	6.5	6.4	6.4	7.6	11	28	14	79	574	134
6	18	6.6	5.6	7.6	6.4	7.6	12	23	10	141	556	131
7	18	6.1	5.7	7.8	6.8	7.0	11	21	9.0	142	535	130
8	14	5.6	5.4	7.8	6.8	7.0	9.3	19	8.2	141	524	108
9	9.6	5.8	5.2	8.0	7.0	7.6	9.5	15	8.2	171	505	74
10	8.9	6.6	5.4	8.0	7.0	7.0	8.6	17	8.0	282	562	38
11	8.9	6.7	4.9	8.0	7.0	6.4	8.8	1300	8.0	319	495	40
12	10	5.7	5.3	8.0	7.0	6.4	8.6	93	8.2	261	360	39
13	10	5.3	5.4	7.6	7.8	8.2	9.6	76	9.0	292	332	30
14	9.6	6.1	4.9	7.6	7.9	8.2	10	190	11	322	324	16
15	8.9	7.1	4.9	7.8	9.0	8.2	10	72	18	374	319	14
16	7.6	6.4	5.6	8.0	9.2	8.8	11	49	12	459	391	13
17	6.4	6.0	5.8	8.0	9.4	8.2	11	44	10	595	435	12
18	5.4	6.5	5.9	8.0	10	8.8	12	27	9.4	664	426	13
19	7.0	6.9	6.2	8.0	11	17	12	13	8.5	653	423	12
20	7.0	7.8	6.5	8.0	12	8.8	13	10	8.2	576	421	10
21	6.4	7.3	5.5	8.0	12	11	13	9.0	8.0	547	409	9.6
22	7.0	7.6	5.6	8.2	10	11	14	9.0	8.5	581	417	9.6
23	4.9	7.2	5.3	8.4	9.6	10	13	10	8.9	576	218	9.6
24	5.9	8.2	5.3	8.4	8.8	10	13	29	66	566	26	6.7
25	7.0	6.8	6.1	8.6	9.6	8.8	12	134	30	576	22	6.8
26	4.9	7.4	6.0	8.4	9.6	8.8	12	27	16	566	38	6.4
27	4.4	6.7	5.6	8.4	9.6	9.6	13	15	150	542	68	5.9
28	4.3	7.1	5.9	8.0	9.6	9.5	14	14	54	552	68	5.9
29	3.6	7.5	6.2	7.8	---	8.5	14	13	25	533	69	5.4
30	4.7	16	7.2	7.6	---	7.5	13	79	18	533	101	5.9
31	4.1	---	7.2	7.4	---	8.3	---	73	---	533	116	---
TOTAL	258.7	212.0	191.3	240.5	236.3	270.2	338.0	2475.0	682.1	11751	10927	1184.8
MEAN	8.35	7.07	6.17	7.76	8.44	8.72	11.3	79.8	22.7	379	352	39.5
MAX	18	16	15	8.6	12	17	14	1300	150	664	574	134
MIN	3.6	5.3	4.9	5.9	6.4	6.4	8.0	9.0	8.0	21	22	5.4
AC-FT	513	421	379	477	469	536	670	4910	1350	23310	21670	2350
CAL YR 1981	TOTAL	21892.0	MEAN 60.0	MAX 677	MIN 2.5	AC-FT 43420						
WTR YR 1982	TOTAL	28766.9	MEAN 78.8	MAX 1300	MIN 3.6	AC-FT 57060						

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 (2 km) northwest of Franklin and 3 mi (5 km) upstream from mouth.

DRAINAGE AREA.--74 mi² (190 km²), approximately, of which about 56 mi² (150 km²) 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.

GAGE.--Water-stage recorder. Datum of gage is 1,858.34 ft (566.422 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Dec. 19, 1952, nonrecording gage at site 1.5 mi (2.4 km) downstream at datum 30.27 ft (9.226 m) lower and Dec. 19, 1952, to Sept. 30, 1956, at present site at datum 0.84 ft (0.256 m) 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.--Records fair except those for winter period, which are poor. Two small diversions above station for irrigation.

AVERAGE DISCHARGE.--20 years (1948-56, 1968-75, 1978-82) 7.79 ft³/s (0.221 m³/s), 5,640 acre-ft/yr (6.95 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,150 ft³/s (89.2 m³/s) Sept. 20, 1950, gage height, 6.8 ft (2.07 m), from floodmark, site and datum then in use, from rating curve extended above 420 ft³/s (11.9 m³/s) on basis of slope-area measurement of peak flow; no flow at times during 1948-50.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	2145	174 4.9	2.62 0.799	June 24	1945	214 6.1	2.78 0.847
May 11	0145	508 14.4	3.74 1.140	June 26	1615	*585 16.6	3.95 1.204
May 24	0130	219 6.2	2.80 0.853	July 2	0700	145 4.1	2.50 0.762
May 30	0645	254 7.2	2.94 0.896	Aug. 10	0100	493 14.0	3.70 1.128
June 14	2200	190 5.4	2.68 0.817	Aug. 23	0245	219 6.2	2.80 0.853

Minimum daily discharge, 2.9 ft³/s (0.082 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	8.5	8.0	4.5	6.5	6.3	9.9	9.2	17	16	11	5.0
2	6.4	8.3	7.8	4.0	6.4	7.8	9.4	8.6	13	59	3.6	5.5
3	6.4	8.8	8.2	4.0	5.6	6.8	11	7.6	14	76	3.5	4.5
4	6.4	9.6	8.8	3.8	4.8	7.6	9.0	7.6	11	15	6.8	4.5
5	6.4	9.6	9.7	3.6	5.4	8.7	7.8	7.9	9.0	11	4.6	4.5
6	8.1	8.1	10	3.8	7.0	8.8	8.7	5.9	8.6	9.9	4.6	5.5
7	10	6.7	9.6	3.5	8.4	8.9	11	4.7	9.7	9.2	4.8	5.5
8	11	6.8	10	4.0	9.4	6.8	9.5	5.0	9.6	7.5	5.9	5.5
9	11	7.0	8.8	4.5	9.0	9.5	10	6.7	10	7.2	7.4	5.5
10	11	7.5	8.8	3.2	8.4	8.2	9.1	11	7.3	7.2	6.6	5.0
11	12	6.4	8.8	2.9	7.6	6.7	8.7	6.2	10	7.2	6.1	6.1
12	10	6.5	8.1	4.0	7.1	7.2	7.8	7.4	8.7	6.0	4.3	6.7
13	9.0	6.4	8.8	3.8	7.2	6.8	5.6	14	10	5.0	4.8	6.1
14	8.8	6.6	8.1	4.5	7.3	8.2	7.6	19	17	4.3	11	6.7
15	9.5	6.0	8.1	5.0	9.0	9.2	8.2	15	17	5.9	20	6.1
16	10	5.1	8.8	4.2	11	7.8	7.9	12	14	4.9	8.8	5.5
17	10	4.2	9.2	4.6	15	9.0	6.8	10	15	6.0	8.1	5.5
18	9.4	5.1	9.6	5.0	19	9.7	6.4	13	15	5.9	5.0	5.5
19	9.3	6.8	8.8	5.0	70	13	6.4	12	12	3.6	6.1	5.5
20	9.6	6.1	8.8	5.0	111	9.6	5.3	11	10	3.5	8.1	6.1
21	9.4	6.7	8.1	5.5	31	10	5.8	11	11	3.3	6.7	6.1
22	9.6	7.2	6.7	6.0	7.9	9.0	5.7	10	14	3.5	7.4	6.7
23	8.9	6.5	6.7	5.6	6.7	7.9	6.5	10	13	3.5	14	5.0
24	8.0	7.0	6.7	6.2	7.1	9.0	6.9	45	21	3.4	8.0	5.0
25	7.9	6.8	8.1	6.7	6.1	10	6.4	19	19	3.4	7.0	4.5
26	8.0	7.0	6.1	6.7	6.7	11	6.3	15	49	3.6	6.6	4.0
27	8.5	8.1	6.1	7.4	6.7	9.2	6.9	11	93	8.1	6.4	4.0
28	7.9	9.0	5.5	6.1	6.4	9.8	14	12	61	64	6.1	4.5
29	8.0	9.1	5.5	6.1	---	6.8	5.3	9.9	17	38	5.0	4.5
30	7.2	13	5.5	6.6	---	6.8	6.8	58	15	35	5.0	8.8
31	8.0	---	5.0	6.8	---	6.6	---	38	---	27	5.5	---
TOTAL	272.1	220.5	246.8	152.6	413.7	262.7	236.7	488.5	550.9	463.1	278.2	163.9
MEAN	8.78	7.35	7.96	4.92	14.8	8.47	7.89	15.8	18.4	14.9	8.97	5.46
MAX	12	13	10	7.4	111	13	14	62	93	76	66	8.8
MIN	6.4	4.2	5.0	2.9	4.8	6.3	5.3	4.7	7.3	3.3	3.5	4.0
AC-FT	540	437	490	303	821	521	469	969	1090	919	552	325

CAL YR 1981 TOTAL 3340.0 MEAN 9.15 MAX 103 MIN 4.2 AC-FT 6620
WTR YR 1982 TOTAL 3749.7 MEAN 10.3 MAX 111 MIN 2.9 AC-FT 7440

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 8 ft (2 m) downstream from bridge on State Highway 136, at west edge of Riverton, 240 ft (73 m) upstream from Burlington Northern Inc. bridge, and 0.5 mi (0.8 km) upstream from mouth.

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.

GAGE.--Water-stage recorder. Datum of gage is 1,753.38 ft (534.430 m) National Geodetic Vertical Datum of 1929. Apr. 1 to Oct. 1, 1948, nonrecording gage 240 ft (73 m) downstream at datum 2.32 ft (0.707 m) higher. Oct. 1, 1948, to July 11, 1950, water-stage recorder at present site at datum 1.32 ft (0.402 m) 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.

AVERAGE DISCHARGE.--20 years (1948-56, 1968-75, 1978-82), 30.8 ft³/s (0.872 m³/s), 22,310 acre-ft/yr (27.5 hm³/yr); median of yearly mean discharges, 28 ft³/s (0.793 m³/s), 20,300 acre-ft/yr (25.0 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 280 ft³/s (7.93 m³/s) and maximum (*):

Minimum daily discharge, 16 ft³/s (0.45 m³/s) Oct. 29, 31.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	18	31	22.	21	24	32	26	58	197	26	19
2	18	21	27	22	21	24	25	24	45	749	24	19
3	19	18	27	22	20	24	25	23	39	75	23	19
4	19	18	25	21	18	25	23	22	38	42	23	19
5	19	17	25	21	17	25	22	26	38	60	24	18
6	19	17	24	20	18	26	21	23	38	62	29	19
7	18	18	24	20	19	25	23	23	36	29	32	20
8	19	17	23	21	21	25	22	22	39	29	31	19
9	20	17	23	22	23	25	23	22	38	28	44	18
10	19	18	24	21	25	25	23	24	38	29	32	19
11	20	18	24	19	23	25	23	1630	36	27	28	19
12	20	18	24	18	21	25	23	74	36	27	26	20
13	20	18	25	19	25	25	23	73	36	29	26	21
14	20	20	24	19	23	26	23	215	42	30	35	22
15	20	20	24	20	45	26	24	76	86	42	46	20
16	19	19	24	19	87	26	24	35	46	42	45	20
17	20	20	22	18	85	25	24	32	39	30	38	22
18	19	20	25	22	110	25	24	31	39	30	32	21
19	19	19	24	22	143	50	25	31	39	30	26	20
20	19	19	24	21	230	24	24	35	38	31	25	20
21	18	20	24	21	125	22	24	31	254	32	26	21
22	18	21	23	21	49	23	24	29	121	32	25	20
23	18	21	22	20	30	23	24	29	55	29	74	20
24	18	22	22	19	24	23	25	117	40	30	26	20
25	18	22	22	21	23	30	25	300	397	31	25	20
26	17	22	22	21	23	25	25	67	242	90	23	20
27	17	22	22	22	23	24	27	39	1490	61	21	20
28	17	23	22	21	23	23	58	33	447	24	21	20
29	16	23	21	21	---	24	30	30	99	25	20	20
30	17	59	22	21	---	25	27	188	56	26	19	21
31	16	---	22	20	---	48	---	197	---	24	19	---
TOTAL	574	625	737	637	1315	815	765	3527	4045	2022	914	596
MEAN	18.5	20.8	23.8	20.5	47.0	26.3	25.5	114	135	65.2	29.5	19.9
MAX	20	59	31	22	230	50	58	1630	1490	749	74	22
MIN	16	17	21	18	17	22	21	22	36	24	19	18
AC-FT	1140	1280	1460	1260	2610	1620	1520	7000	8020	4010	1810	1180
CAL YR 1981	TOTAL	12581	MEAN	34.5	MAX	1190	MIN	13	AC-FT	24950		
WTR YR 1982	TOTAL	16572	MEAN	45.4	MAX	1630	MIN	16	AC-FT	32870		

KANSAS RIVER BASIN

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06852500 COURTLAND CANAL AT NEBRASKA-KANSAS STATE LINE

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 (0.3 km) upstream from Nebraska-Kansas State line and 3.5 mi (5.6 km) southwest of Superior, NE.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder and concrete Parshall flume. Datum of gage is 1,612.46 ft (491.478 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. 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.

AVERAGE DISCHARGE.--28 years, 76.5 ft³/s (2.166 m³/s), 55,420 acre-ft/yr (68.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 781 ft³/s (22.1 m³/s) Sept. 2, 1973, gage height, 5.05 ft (1.539 m); no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 386 ft³/s (10.9 m³/s) July 20; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	166	342	104
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	196	336	100
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	170	326	96
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	152	323	94
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	159	321	94
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	168	321	97
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	170	326	115
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	170	330	124
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	171	336	120
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	182	338	107
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	184	316	101
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	176	289	102
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	176	249	74
14	.00	.00	.00	.00	.00	.00	.00	8.1	.00	180	203	37
15	.00	.00	.00	.00	.00	.00	.00	4.5	.00	211	188	13
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	217	188	18
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	258	198	28
18	.00	.00	.00	.00	.00	.00	.00	.00	29	258	211	30
19	.00	.00	.00	.00	.00	.00	.00	.00	120	296	206	4.2
20	.00	.00	.00	.00	.00	.00	.00	.00	121	382	209	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	354	214	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	125	348	220	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	128	344	226	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	120	336	175	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	121	334	136	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	338	135	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	131	344	132	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	142	356	120	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	142	356	115	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	154	352	114	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	342	114	.00
TOTAL	.00	.00	.00	.00	.00	.00	.00	12.60	1717.00	7846	7257	1458.20
MEAN	.000	.000	.000	.000	.000	.000	.000	.41	57.2	253	234	48.6
MAX	.00	.00	.00	.00	.00	.00	.00	8.1	154	382	342	124
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	152	114	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	25	3410	15560	14390	2890
CAL YR 1981	TOTAL	24639.60	MEAN 67.5	MAX 432	MIN .00	AC-FT 48870						
WTR YR 1982	TOTAL	18290.80	MEAN 50.1	MAX 382	MIN .00	AC-FT 36280						

LOCATION.--Lat 40°04'05", long 98°22'25", in SW1/4NE1/4 sec.7, T.1 N., R.9 W., Webster County, Hydrologic Unit 10250016, on left bank 300 ft (91 m) upstream from Willow Creek, 0.2 mi (0.3 km) downstream from Courtland diversion dam, and 2 mi (3 km) southwest of Guide Rock.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 2119: Drainage area.

REMARKS.--Records good except those for winter period, 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).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,200 ft³/s (827 m³/s) June 16, 1957, gage height, 20.73 ft (6.319 m), present datum; minimum daily, 0.1 ft³/s (0.003 m³/s) May 26, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft³/s (331 m³/s) May 12, gage height, 19.29 ft (5.880 m), from floodmark; minimum daily, 44 ft³/s (1.25 m³/s) Sept. 5.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	123	368	130	98	153	140	175	749	289	87	90
2	93	153	236	135	120	149	136	161	541	2550	85	84
3	96	158	193	140	100	133	124	164	494	1770	72	54
4	104	150	174	106	90	113	124	168	462	493	65	46
5	101	137	165	110	94	174	124	187	422	271	95	44
6	99	128	159	114	86	162	123	197	403	266	115	70
7	98	129	157	90	90	147	123	191	378	246	102	82
8	97	130	153	80	120	149	127	175	360	215	97	77
9	102	126	152	86	114	139	121	173	350	191	122	75
10	104	130	151	70	114	144	120	173	333	278	159	92
11	104	130	146	66	120	152	119	4690	333	276	189	84
12	110	128	148	90	140	163	122	9600	298	330	224	79
13	113	130	150	86	150	146	123	1800	293	228	198	148
14	115	133	153	90	200	146	119	1270	292	184	199	172
15	113	134	155	120	250	147	121	1390	360	181	266	162
16	112	133	150	94	500	145	120	677	322	135	256	133
17	114	131	110	90	920	137	118	516	211	101	213	123
18	106	137	90	110	720	131	116	461	181	141	213	119
19	101	139	130	120	540	280	122	416	170	177	180	112
20	103	138	160	114	500	322	119	385	162	148	171	116
21	103	141	180	110	450	203	113	396	178	120	187	101
22	101	145	160	116	383	161	115	381	389	88	179	99
23	102	147	140	110	246	152	114	345	264	95	372	96
24	103	145	140	100	194	147	114	378	193	87	522	95
25	109	145	145	110	174	142	116	1800	211	72	205	92
26	108	149	140	130	162	139	118	1660	451	68	115	91
27	108	151	150	135	157	132	123	781	1210	161	60	88
28	108	154	140	140	157	125	184	572	2200	138	59	86
29	109	156	130	116	---	127	270	498	753	98	63	80
30	112	237	140	116	---	137	192	611	388	111	67	83
31	110	---	160	100	---	136	---	1200	---	92	69	---
TOTAL	3256	4267	4925	3324	6989	4833	3920	31591	13351	9600	5006	2873
MEAN	105	142	159	107	250	156	131	1019	445	310	161	95.8
MAX	115	237	368	140	920	322	270	9600	2200	2550	522	172
MIN	93	123	90	66	86	113	113	161	162	68	59	44
AC-FT	6460	8460	9770	6590	13860	9590	7780	62660	26480	19040	9930	5700
CAL YR 1981	TOTAL	45368.8	MEAN 124	MAX 2790	MIN 1.7	AC-FT	89990					
WTR YR 1982	TOTAL	93935.0	MEAN 257	MAX 9600	MIN 44	AC-FT	186300					

KANSAS RIVER BASIN

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06853000 REPUBLICAN RIVER NEAR GUIDE ROCK, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
05...	1645	100	615	8.1	19.0	9.6	51	K410	260	270	82	17
NOV												
02...	1645	160	550	7.9	12.0	11.1	51	K15000	38000	250	76	15
DEC												
02...	1700	234	560	7.8	4.0	12.3	77	6600	K110000	270	83	16
JAN												
04...	1640	105	715	7.8	.0	13.2	23	K6	K44	320	97	18
FEB												
01...	1730	108	620	7.9	.0	12.8	17	K75	1900	280	87	15
MAR												
01...	1700	154	690	8.0	11.0	11.0	22	<10	K350	340	110	17
APR												
05...	1600	129	690	8.1	11.0	11.8	13	K6	K76	310	94	18
MAY												
03...	1720	167	715	8.0	26.0	8.6	24	220	600	380	120	20
JUN												
01...	1630	680	530	7.6	19.0	8.6	70	28000	68000	270	88	12
JUL												
12...	1630	334	645	8.1	29.0	7.2	44	K1100	2400	260	76	17
AUG												
02...	1615	87	595	8.0	29.0	7.6	150	K400	1000	250	64	22
31...	1615	66	710	8.0	26.6	9.5	25	K420	1200	320	92	22

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
05...	96	17	--	508	.73	.150	.50	.65	1.4	.190	5.8
NOV											
02...	79	15	--	384	.68	.060	1.3	1.40	2.1	.170	5.5
DEC											
02...	87	20	--	443	1.3	.510	.89	1.40	2.7	.390	12
JAN											
04...	100	24	--	516	1.7	.210	.65	.86	2.6	.180	3.1
FEB											
01...	88	15	53	--	1.6	.210	.58	.79	2.4	.190	4.3
MAR											
01...	100	18	44	--	1.4	.140	1.2	1.30	2.7	.220	4.5
APR											
05...	100	22	27	--	.86	.070	.58	.65	1.5	.130	4.1
MAY											
03...	120	21	95	--	.72	.140	1.2	1.30	2.0	.220	6.6
JUN											
01...	89	16	391	--	1.1	.320	2.7	3.00	4.1	.760	26
JUL											
12...	100	20	330	--	.95	<.060	--	1.70	2.7	.380	13
AUG											
02...	82	20	234	--	.67	.070	1.5	1.60	2.3	.380	8.4
31...	120	23	43	--	.92	.270	1.0	1.30	2.2	.260	5.8

KANSAS RIVER BASIN

06853000 REPUBLICAN RIVER NEAR GUIDE ROCK, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 AS CAC03) (90410)	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)
OCT 05...	1645	55	31	.9	11	220	.4	30	420	.57
JAN 04...	1640	46	32	.8	10	270	.3	35	486	.60
APR 05...	1600	59	32	.8	11	250	.2	27	455	.62
JUL 12...	1630	41	36	1.0	14	219	.6	18	413	.56

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
OCT 05...	113	.73	.190	8	300	60	0	0	8	90
JAN 04...	138	1.7	.150	6	--	60	--	--	--	--
APR 05...	158	.75	.090	4	200	70	<1	10	8	850
JUL 12...	372	.86	.160	7	100	130	1	40	27	7500

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SFLE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
OCT 05...	<10	3	90	70	24	.0	2	0	30
JAN 04...	<10	--	--	--	41	.1	3	--	--
APR 05...	<9	4	110	90	16	.4	3	<1	20
JUL 12...	4	10	430	430	3	.4	2	<1	40

KANSAS RIVER BASIN

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06853500 REPUBLICAN RIVER NEAR HARDY, NE

LOCATION.--Lat 39°59'33", long 97°55'53", in NE1/4NE1/4SE1/4 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 (1.9 km) southwest of Hardy and at mi 141.2 (227.2 km).

DRAINAGE AREA.--22,401 mi² (58,019 km²), of which about 7,500 mi² (19,425 km²) 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), 1907-9, 1912, 1914-15, 1931. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,501.46 ft (457.645 m) National Geodetic Vertical Datum of 1929. Prior to May 19, 1932, nonrecording gage at site at Bostwick, 20 mi (32 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station and by storage in reservoirs in Colorado, Kansas and Nebraska. Considerable regulation since 1952 by Harlan County Reservoir (see site 06849000).

AVERAGE DISCHARGE.--51 years (water years 1914, 1933-82), 571 ft³/s (16.17 m³/s), 413,700 acre-ft/yr (0.510 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 225,000 ft³/s (6,370 m³/s) June 2, 1935, gage height, 19.4 ft (5.91 m), based on records for stations upstream; no flow Aug. 9-19, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stages since at least 1895, that of June 2, 1935, and 17.00 ft (5.182 m) June 24, 1947, discharge, 100,000 ft³/s (2,830 m³/s), based on records for upstream stations.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,920 ft³/s (253 m³/s) May 14, gage height, 11.68 ft (3.560 m); minimum daily, 70 ft³/s (1.98 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	144	811	120	120	222	188	297	1630	410	196	196
2	113	185	541	120	100	219	190	250	886	2640	183	192
3	110	270	335	115	100	213	188	229	692	7550	168	201
4	119	205	257	115	100	190	168	215	627	2330	165	165
5	142	179	220	120	105	167	161	211	555	770	165	151
6	119	157	207	100	120	208	161	221	502	541	195	147
7	114	147	203	100	115	215	157	235	452	463	222	167
8	112	140	197	95	110	205	160	230	417	410	226	200
9	112	136	191	100	115	205	162	202	396	361	222	180
10	118	132	187	70	120	204	160	192	377	353	308	174
11	120	133	183	80	120	204	159	554	351	475	349	178
12	125	134	183	90	125	213	159	4160	316	411	363	187
13	130	137	184	90	130	217	157	7250	314	405	373	192
14	133	137	180	95	135	211	156	4540	301	339	334	261
15	135	139	176	95	150	215	153	2110	317	321	340	309
16	127	138	172	90	200	216	159	1650	358	300	382	308
17	127	136	150	100	400	211	162	990	323	257	363	276
18	128	137	160	105	500	205	155	817	235	225	319	275
19	124	133	170	110	450	711	156	707	203	241	319	256
20	119	131	180	105	1500	850	155	632	189	261	280	222
21	115	130	175	100	3500	484	148	616	175	236	295	217
22	114	132	160	90	1670	327	146	589	355	223	309	205
23	112	135	150	75	543	267	144	535	555	212	379	205
24	114	132	140	80	378	240	144	612	376	198	609	200
25	118	132	135	82	304	230	144	3500	224	187	642	195
26	120	128	133	85	261	212	143	4410	214	175	376	191
27	121	125	130	100	237	208	143	2180	440	163	266	186
28	120	126	130	120	228	205	194	999	1450	209	214	182
29	123	127	130	130	---	198	303	787	1970	230	202	178
30	125	188	130	140	---	208	368	795	676	196	204	176
31	125	---	130	110	---	202	---	1430	---	196	188	---
TOTAL	3755	4405	6430	3127	11936	8082	5143	42145	15876	21288	9156	6172
MEAN	121	147	207	101	426	261	171	1360	529	687	295	206
MAX	142	270	811	140	3500	850	368	7250	1970	7550	642	309
MIN	110	125	130	70	100	167	143	192	175	163	165	147
AC-FT	7450	8740	12750	6200	23680	16030	10200	83590	31490	42220	18160	12240
CAL YR 1981	TOTAL	67369	MEAN 185	MAX 1980	MIN 39	AC-FT 133600						
WTR YR 1982	TOTAL	137515	MEAN 377	MAX 7550	MIN 70	AC-FT 272800						

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 (15 m) downstream from bridge on county road at south edge of Surprise.

DRAINAGE AREA.--345 mi² (894 km²).

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. Altitude of gage is 1,520 ft (463 m), from topographic map.

REMARKS.--Records good above 5 ft³/s (0.14 m³/s) and poor below.

AVERAGE DISCHARGE.--18 years, 26.1 ft³/s (0.739 m³/s), 18,910 acre-ft/yr (23.3 hm³/yr); median of yearly mean discharges, 23 ft³/s (0.651 m³/s), 16,700 acre-ft/yr (20.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s (303 m³/s) July 19, 1965, gage height, 11.52 ft (3.511 m); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 22	1600	535 15.2	4.03 1.228	June 15	0915	1270 36.0	6.93 2.112
May 13	0845	522 14.8	4.61 1.405	July 12	2115	*1350 38.2	7.13 2.173
May 27	0400	873 24.7	5.86 1.786	Aug. 19	1200	738 20.9	5.24 1.597

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	7.1	.03	.02	109	52	15	2.0
2	.00	.00	.00	.00	.00	4.9	.10	.04	67	118	9.4	1.6
3	.00	.00	.06	.00	.00	2.4	.03	.04	40	46	6.9	1.3
4	.00	.00	.03	.00	.00	1.6	.03	.04	25	42	6.7	1.0
5	.00	.00	.03	.00	.00	2.6	.03	.04	15	48	6.4	.89
6	.00	.00	.03	.00	.00	2.2	.02	.08	8.9	31	6.3	.61
7	.00	.00	.01	.00	.00	1.2	.02	.11	8.1	19	10	.56
8	.00	.00	.00	.00	.00	1.6	.02	.31	8.1	11	16	.44
9	.00	.00	.00	.00	.00	.89	.01	.50	7.8	9.3	20	1.0
10	.00	.00	.00	.00	.00	1.8	.01	.56	4.6	316	26	.76
11	.00	.00	.00	.00	.00	1.8	.01	2.8	2.4	728	24	1.1
12	.00	.00	.00	.00	.00	1.8	.03	189	1.5	1110	33	43
13	.00	.00	.00	.00	.00	2.0	.09	369	1.3	746	51	75
14	.00	.00	.00	.00	.00	2.0	.12	149	26	76	93	19
15	.00	.00	.00	.00	.10	2.0	.10	143	884	38	75	3.8
16	.00	.00	.00	.00	.20	2.6	.08	70	519	164	76	1.4
17	.00	.00	.00	.00	.60	3.0	.06	86	470	97	228	.97
18	.00	.00	.00	.00	.30	2.8	.07	46	343	32	380	.97
19	.00	.00	.00	.00	295	22	.02	38	70	18	582	1.2
20	.00	.00	.00	.00	380	18	.02	31	48	9.2	56	.78
21	.00	.00	.00	.00	440	18	.02	51	23	6.1	31	.55
22	.00	.00	.02	.00	470	10	.02	53	16	3.7	19	.41
23	.00	.00	.03	.00	367	22	.04	28	11	3.5	20	.27
24	.00	.00	.02	.00	218	14	.02	15	7.8	2.6	19	.11
25	.00	.00	.00	.00	102	11	.03	91	50	2.8	25	.10
26	.00	.00	.00	.00	42	6.8	.04	728	57	2.0	15	.13
27	.00	.00	.00	.00	23	2.6	.04	718	48	12	10	.14
28	.00	.00	.00	.00	15	2.0	.20	190	46	5.7	6.0	.22
29	.00	.00	.00	.00	---	1.1	.02	150	26	56	7.0	.18
30	.00	.00	.00	.00	---	.32	.02	191	18	50	4.0	.12
31	.00	---	.00	.00	---	.06	---	139	---	25	2.6	---
TOTAL	.00	.00	.23	.00	2353.20	172.17	1.35	3479.54	2961.5	3879.9	1879.3	159.61
MEAN	.000	.000	.007	.000	84.0	5.55	.045	112	98.7	125	60.6	5.32
MAX	.00	.00	.06	.00	470	22	.20	728	884	1110	582	75
MIN	.00	.00	.00	.00	.00	.06	.01	.02	1.3	2.0	2.6	.10
AC-FT	.00	.00	.5	.00	4670	341	2.7	6900	5870	7700	3730	317

CAL YR 1981 TOTAL 227.41 MEAN .62 MAX 50 MIN .00 AC-FT 451
WTR YR 1982 TOTAL 14886.80 MEAN 40.8 MAX 1110 MIN .00 AC-FT 29530

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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 20 ft (6 m) downstream from county road bridge, 2 mi (3 km) west of Seward, and 2.5 mi (4.0 km) upstream from mouth.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 2119: Drainage area.

REMARKS.--Records good except those for winter period, which are poor. Small diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) June 17, 1957, gage height, 20.53 ft (6.258 m); minimum daily, 1.3 ft³/s (0.037 m³/s) July 31, 1955.

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Feb. 21	2000	1400	39.6	15.41	4.697	May 30	2300	561	15.9	11.00	3.353
Mar. 19	1100	353	10.0	9.07	2.765	June 16	0630	*3360	95.2	18.64	5.681
May 16	0600	400	11.3	9.58	2.920	July 6	0630	934	26.5	13.47	4.106
May 25	1700	702	19.9	12.12	3.694	July 11	2330	869	24.6	13.15	4.008
May 28	0100	1370	38.8	15.32	4.670						

Minimum daily discharge, 4.5 ft³/s (0.13 m³/s) Oct. 6, Dec. 17.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	7.6	13	7.0	10	32	12	17	294	175	40	31
2	4.8	9.9	8.2	7.0	8.0	26	12	21	258	131	100	26
3	5.0	7.3	6.9	6.4	6.6	22	12	29	240	190	67	22
4	5.0	7.7	6.9	6.2	6.6	20	11	44	135	444	49	20
5	4.7	6.7	6.8	6.4	6.4	18	11	38	70	761	41	19
6	4.5	6.3	6.9	6.0	6.0	16	11	30	52	812	44	19
7	4.6	6.2	7.0	5.6	8.4	17	11	24	42	266	47	18
8	4.8	6.2	6.9	6.4	8.0	18	11	20	37	94	41	17
9	5.0	6.2	6.8	6.0	7.4	16	11	18	36	61	42	19
10	5.2	6.3	6.7	5.0	7.8	14	11	17	31	477	58	16
11	5.7	6.3	6.8	6.6	8.6	16	10	82	30	830	47	15
12	6.4	6.2	6.9	7.4	9.0	15	11	66	28	371	49	56
13	7.4	6.5	7.5	7.2	8.8	15	10	138	28	105	91	187
14	7.1	6.5	8.0	7.4	9.6	13	10	182	54	141	72	225
15	6.6	6.5	7.8	9.0	10	13	10	268	2580	100	240	100
16	6.4	6.7	6.8	8.0	12	12	10	297	3060	65	160	37
17	8.1	6.9	4.5	9.0	14	12	10	106	2480	61	93	46
18	6.9	6.9	4.8	9.6	40	11	9.9	66	1580	48	96	73
19	6.0	6.8	6.0	9.0	200	248	10	44	404	47	98	32
20	6.1	7.1	6.4	8.0	800	145	10	54	211	56	63	22
21	6.9	7.3	7.0	8.2	1250	62	9.6	78	134	44	77	17
22	6.1	7.1	7.4	8.4	1230	36	9.6	54	88	46	69	15
23	6.5	6.3	7.6	7.6	659	28	9.8	128	64	36	49	14
24	7.3	6.9	7.4	8.2	296	27	9.7	295	54	32	133	14
25	8.0	6.1	7.0	8.8	273	41	9.9	522	97	31	102	13
26	8.1	6.5	7.2	8.8	234	37	10	497	41	31	113	13
27	7.1	6.5	7.0	9.6	85	28	10	973	40	31	158	13
28	6.9	6.7	6.6	9.0	45	22	25	1030	35	30	106	13
29	7.1	6.8	6.2	12	---	19	29	291	37	38	110	13
30	7.0	13	7.4	11	---	17	18	399	76	35	172	13
31	7.0	---	7.2	11	---	14	---	452	---	36	50	---
TOTAL	193.7	210.0	219.6	245.8	5259.2	1030	354.5	6280	12316	5625	2677	1138
MEAN	6.25	7.00	7.08	7.93	188	33.2	11.8	203	411	181	86.4	37.9
MAX	8.1	13	13	12	1250	248	29	1030	3060	830	240	225
MIN	4.5	6.1	4.5	5.0	6.0	11	9.6	17	28	30	40	13
AC-FT	384	417	436	488	10430	2040	703	12460	24430	11160	5310	2260
CAL YR 1981	TOTAL	5148.3	MEAN	14.1	MAX	333	MIN	3.6	AC-FT	10210		
WTR YR 1982	TOTAL	35548.8	MEAN	97.4	MAX	3060	MIN	4.5	AC-FT	70510		

KANSAS RIVER BASIN

06880000 LINCOLN CREEK NEAR SEWARD, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-70, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
20...	1100	6.2	523	8.0	8.0	9.6	39	K130	980	240	74	14
NOV												
16...	1215	6.7	550	8.7	8.0	--	43	K69	1100	230	72	13
DEC												
14...	1145	7.8	--	8.2	1.5	13.3	36	K28	480	230	70	14
JAN												
13...	1150	7.1	--	7.7	.0	8.8	11	K10	1400	--	--	16
FEB												
09...	1200	7.5	--	7.6	.0	9.5	47	K180	1600	250	76	14
MAR												
08...	1130	18	465	7.7	.2	12.6	19	K30	1500	210	62	13
APR												
06...	1215	11	570	8.0	3.5	13.0	16	K28	K1800	240	72	15
MAY												
04...	1220	44	348	7.3	18.5	7.0	110	2800	9400	140	43	9.0
JUN												
03...	1215	250	105	7.5	16.5	7.8	130	K3000	14000	34	9.3	2.5
JUL												
27...	1100	32	435	7.9	24.0	5.6	61	K2000	11000	180	53	11
AUG												
31...	1300	47	254	7.1	22.0	6.3	80	30000	52000	84	24	5.9
SEP												
24...	1300	14	540	8.3	15.0	8.6	25	4700	K13000	300	87	21

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
20...	35	7.5	--	363	1.4	.080	.77	.85	2.3	.450	4.8
NOV											
16...	42	7.1	--	355	.92	<.060	--	.69	1.6	.380	3.3
DEC											
14...	31	14	--	285	1.3	.380	.82	1.20	2.5	.440	9.2
JAN											
13...	48	8.4	--	432	2.3	.170	.93	1.10	3.4	.340	2.6
FEB											
09...	42	6.7	7	--	2.1	.230	.87	1.10	3.2	.380	2.0
MAR											
08...	28	8.3	57	--	2.2	.630	.87	1.50	3.7	.390	5.5
APR											
06...	34	8.0	64	--	3.0	.170	.00	.17	3.2	.490	4.4
MAY											
04...	6.0	13	408	--	2.3	1.10	4.8	5.90	8.2	1.90	29
JUN											
03...	9.0	3.0	844	--	1.2	.550	5.1	5.60	6.8	.850	42
JUL											
27...	35	6.7	547	--	2.9	.210	2.6	2.80	5.7	.990	18
AUG											
31...	17	5.7	666	--	1.9	.430	6.1	6.50	8.4	1.10	26
SEP											
24...	88	10	103	--	2.3	.220	2.0	2.20	4.5	.570	10

06880000 LINCOLN CREEK NEAR SEWARD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 16...	1215	.00	29	.9	7.1	250	.3	26	347	.47	6.3
FEB 09...	1200	.00	27	.8	6.8	260	.3	40	379	.52	7.7
MAY 04...	1220	--	--	--	--	--	--	--	--	--	--
JUN 03...	1215	.00	2.9	.2	12	38	.3	12	74	.10	49.9
AUG 31...	1300	.00	11	.6	12	88	.3	19	156	.21	19.8

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 16...	--	--	.92	.360	8	100	40	<1	<10	7	2100
FEB 09...	--	--	2.1	.290	--	--	40	--	--	--	--
MAY 04...	2.1	.180	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	1.1	.620	10	200	20	<1	30	42	37000
AUG 31...	--	--	1.8	.330	--	--	40	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 16...	2100	27	2	190	50	140	<.1	8	<1	20
FEB 09...	--	<10	--	--	--	250	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--
JUN 03...	37000	200	19	570	560	12	.1	3	1	180
AUG 31...	--	190	--	--	--	39	--	--	--	--

KANSAS RIVER BASIN

06880500 BIG BLUE RIVER AT SEWARD, NE

LOCATION.--Lat 40°54'05", long 97°05'55", in NW1/4NW1/4 sec.28, T.11 N., R.3 E., Seward County, Hydrologic Unit 10270201, at downstream end of left abutment of bridge on State Highway 15 at south edge of Seward, 0.5 mi (0.8 km) upstream from Plum Creek and 1.4 mi (2.3 km) downstream from Lincoln Creek.

DRAINAGE AREA.--1,101 mi² (2,852 km²).

WATER-DISCHARGE RECORDS

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 1,415.16 ft (431.341 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 19, 1969, at site 1.2 mi (1.9 km) upstream at datum 6.33 ft (1.929 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by ground-water withdrawals and diversions for irrigation and return flow from irrigated areas.

AVERAGE DISCHARGE.--29 years, 113 ft³/s (3.200 m³/s), 81,870 acre-ft/yr (0.101 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,300 ft³/s (433 m³/s) June 18, 1957, gage height, 22.34 ft (6.809 m), site and datum then in use; maximum gage height, 22.83 ft (6.959 m) June 16, 1967, site and datum then in use, from stage readings during 1967 flood, gage height at current site and datum was approximately 25.66 ft (7.821 m); no flow July 30, 31, 1955, result of irrigation pumping.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 22	1900	3420 96.9	20.72 6.315	June 16	1600	*6730 191	24.33 7.416
Mar. 19	1600	1500 42.5	14.48 4.414	July 5	2400	1130 32.0	12.57 3.831
May 16	1000	950 26.9	11.50 3.505	July 12	0200	1480 41.9	14.38 4.383
May 28	1300	2310 65.4	17.82 5.432	Aug. 15	1200	1590 45.0	14.92 4.548

a Affected by backwater.

Minimum daily discharge, 8.7 ft³/s (0.25 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	22	87	16	17	94	44	76	721	608	106	79
2	10	25	62	17	15	77	40	61	506	287	123	61
3	11	23	76	16	14	66	37	56	411	363	92	51
4	11	24	41	16	14	47	33	69	286	748	66	45
5	9.1	34	34	17	14	40	33	71	166	1040	58	41
6	8.7	34	30	16	13	34	31	62	121	1010	54	40
7	9.2	29	28	14	17	35	39	53	98	504	55	39
8	9.6	22	26	18	16	36	37	50	82	210	51	37
9	10	20	25	16	15	38	33	50	95	138	53	46
10	11	17	24	12	17	40	33	44	96	677	69	70
11	15	16	22	17	19	43	32	156	111	1350	89	58
12	13	15	21	16	22	47	32	168	82	1210	156	126
13	13	15	21	15	21	50	32	178	72	929	312	571
14	15	15	21	18	27	45	29	571	94	1190	911	685
15	14	15	21	21	35	42	27	701	4200	667	1470	460
16	12	15	19	18	38	40	26	840	6280	204	702	216
17	17	15	12	21	40	38	24	500	5760	164	233	159
18	14	16	13	23	125	37	25	292	4120	278	170	187
19	14	15	16	20	800	975	25	206	1890	157	199	87
20	13	15	18	18	1770	799	25	167	647	121	157	73
21	12	15	19	19	2440	412	24	251	362	98	125	60
22	11	14	18	20	3200	194	24	346	251	86	102	52
23	12	15	18	18	2880	132	23	280	184	74	80	48
24	15	15	17	21	1370	95	22	500	156	61	358	45
25	17	16	16	22	622	112	21	1000	556	60	178	40
26	18	16	17	20	448	103	22	1200	420	59	126	37
27	17	18	17	24	227	81	22	1830	234	57	150	35
28	16	18	16	23	132	65	61	2250	166	55	99	35
29	17	17	14	25	---	56	108	1440	142	59	202	36
30	18	32	18	23	---	55	71	781	188	62	421	38
31	17	---	17	24	---	48	---	1100	---	86	113	---
TOTAL	412.6	578	804	584	14368	3976	1035	15349	28497	12612	7080	3557
MEAN	13.3	19.3	25.9	18.8	513	128	34.5	495	950	407	228	119
MAX	18	34	87	25	3200	975	108	2250	6280	1350	1470	685
MIN	8.7	14	12	12	13	34	21	44	72	55	51	35
AC-FT	818	1150	1590	1160	28500	7890	2050	30440	56520	25020	14040	7060

CAL YR 1981 TOTAL 11736.4 MEAN 32.2 MAX 773 MIN 1.7 AC-FT 23280
WTR YR 1982 TOTAL 88852.6 MEAN 243 MAX 6280 MIN 8.7 AC-FT 176200

KANSAS RIVER BASIN

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06880500 BIG BLUE RIVER AT SEWARD, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
20...	0930	13	624	7.8	8.0	8.2	51	270	980	290	82	20
NOV												
16...	1040	15	760	8.0	7.0	8.5	59	K38	780	310	90	21
DEC												
14...	1000	21	790	8.3	1.0	12.4	0	K20	400	340	98	23
JAN												
13...	1015	15	--	8.1	.0	9.8	18	K110	520	410	120	27
FEB												
09...	1045	14	--	7.7	.0	8.6	<7	K93	980	320	95	20
MAR												
08...	1045	37	580	7.7	.5	12.9	23	K30	1250	260	73	18
APR												
06...	1045	31	650	8.0	3.5	12.2	26	K39	2100	290	82	20
MAY												
04...	1050	72	560	7.4	18.0	7.2	84	2500	9600	240	68	16
JUN												
03...	1000	429	205	7.2	16.5	7.4	130	K2000	40000	72	20	5.3
JUL												
27...	0945	58	440	7.8	25.0	5.8	52	11000	7300	190	56	13
AUG												
31...	1030	112	404	7.2	22.0	6.4	80	39000	21000	150	42	11
SEPT												
24...	1400	45	685	8.0	15.5	8.8	34	2100	7800	190	56	12

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED TOTAL (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
20...	72	9.5	--	450	.69	.080	.91	.99	1.7	.390	8.8
NOV											
16...	100	11	--	517	.82	.070	1.2	1.30	2.1	.390	6.7
DEC											
14...	98	12	--	486	1.5	<.070	--	.72	2.2	.270	2.3
JAN											
13...	120	15	--	591	2.0	.360	.59	.95	3.0	.260	5.1
FEB											
09...	78	13	12	--	2.2	.340	2.1	2.40	4.6	.370	3.2
MAR											
08...	74	11	26	--	1.9	.900	1.2	2.10	4.0	.420	9.0
APR											
06...	88	11	55	--	2.2	.350	1.4	1.70	3.9	.440	7.6
MAY											
04...	47	14	94	--	1.4	.920	3.3	4.20	5.6	.980	16
JUN											
03...	30	4.5	1010	--	1.6	.460	2.2	2.70	4.3	1.10	42
JUL											
27...	51	7.5	363	--	2.4	.210	2.3	2.50	4.9	.780	16
AUG											
31...	43	6.7	--	--	1.4	.300	5.4	5.70	7.1	.860	24
SEPT											
24...	41	7.3	178	--	3.1	.180	2.0	2.20	5.3	.620	9.0

KANSAS RIVER BASIN

06880500 BIG BLUE RIVER AT SEWARD, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 16...	1040	11	41	1.1	11	300	.3	22	477	.65	19.3
FEB 09...	1045	.00	39	1.0	8.2	320	.3	34	490	.67	18.5
MAY 04...	1050	--	--	--	--	--	--	--	--	--	--
JUN 03...	1000	7.0	7.0	.4	14	65	.3	16	137	.19	159
AUG 31...	1030	7.0	18	.7	12	143	.4	16	241	.33	72.9

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 16...	--	--	.82	.370	7	<100	50	3	<10	35	2600
FEB 09...	--	--	2.2	.290	--	--	50	--	--	--	--
MAY 04...	1.3	.120	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	1.6	.590	11	600	20	<1	30	42	35000
AUG 31...	--	--	1.3	.370	--	--	40	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 16...	2600	17	6	320	80	240	.4	5	<1	50
FEB 09...	--	<10	--	--	--	340	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--
JUN 03...	34000	780	18	700	640	57	.1	3	1	170
AUG 31...	--	77	--	--	--	59	--	--	--	--

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE

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 (18 m) downstream from bridge on county road, 6.2 mi (10.0 km) northwest of Dorchester, and 19 mi (31 km) upstream from mouth.

DRAINAGE AREA.--1,206 mi² (3,124 km²).

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 (427.781 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1970, at site 60 ft (18 m) upstream at same datum.

REMARKS.--Records good except those for winter period, 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.--24 years, 168 ft³/s (4.758 m³/s), 121,700 acre-ft/yr (0.150 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft³/s (323 m³/s) Mar. 20, 1969, gage height, 20.34 ft (6.200 m); minimum daily, 12 ft³/s (0.34 m³/s) Dec. 31, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1950, reached a stage of 24.8 ft (7.56 m), present datum, from floodmarks, discharge, 49,400 ft³/s (1,400 m³/s), from contracted-opening and flow-over-road measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	1230	2870 81.3	14.21 4.331	June 15	1030	1810 51.3	12.42 3.786
May 27	1100	1720 48.7	11.39 3.472	June 28	0830	2320 65.7	13.96 4.255
June 2	0400	2350 66.6	13.57 4.136	July 2	1630	*5620 159	18.60 5.669

Minimum daily discharge, 21 ft³/s (0.59 m³/s) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	39	86	36	45	145	65	305	2200	2380	188	110
2	37	47	136	37	35	112	61	194	2320	4860	166	98
3	37	52	153	34	25	98	59	158	1630	5130	139	91
4	40	59	117	35	23	87	59	118	474	3610	126	87
5	37	62	90	38	23	80	58	98	329	2610	125	85
6	34	61	82	35	21	74	56	87	265	1780	132	77
7	31	57	64	32	33	69	58	78	219	990	136	74
8	30	55	57	38	32	66	56	70	193	659	149	71
9	28	48	52	30	29	64	55	65	170	443	156	69
10	28	45	51	25	33	62	53	61	151	733	160	66
11	30	43	51	33	40	63	53	408	140	469	144	64
12	34	41	49	32	50	62	51	403	125	349	138	99
13	34	39	48	29	54	60	51	449	112	421	147	124
14	31	39	48	38	70	57	50	444	126	344	152	117
15	32	38	48	45	110	57	49	748	1540	239	150	115
16	34	36	38	35	160	58	49	433	1120	203	146	102
17	54	36	25	40	150	57	49	234	713	186	137	85
18	51	37	26	45	250	56	48	260	410	197	127	81
19	44	37	30	43	1500	724	48	293	292	165	117	78
20	43	37	35	40	2680	684	47	270	186	145	128	69
21	35	36	40	42	2570	482	45	283	141	134	263	64
22	33	36	45	45	2350	342	46	216	122	128	538	61
23	34	36	44	35	1840	347	46	257	109	129	658	60
24	34	36	40	40	1510	243	45	212	107	134	705	58
25	36	37	35	48	737	172	45	586	105	140	591	57
26	36	37	36	52	379	140	45	1330	93	149	338	56
27	35	35	35	54	280	108	46	1620	1150	157	194	56
28	35	34	34	52	200	91	183	1170	1810	151	150	55
29	34	35	32	50	---	82	473	1200	594	143	139	55
30	35	53	41	50	---	77	419	1510	651	170	131	58
31	34	---	39	52	---	69	---	1870	---	199	141	---
TOTAL	1108	1283	1707	1240	15149	4888	2468	15430	17597	27547	6711	2342
MEAN	35.7	42.8	55.1	40.0	541	158	82.3	498	587	889	216	78.1
MAX	54	62	153	54	2600	724	473	1870	2320	5130	705	124
MIN	28	34	25	25	21	56	45	61	93	128	117	55
AC-FT	2200	2540	3390	2460	30050	9700	4900	30610	34900	54640	13310	4650
CAL YR 1981	TOTAL	23363	MEAN	64.0	MAX	821	MIN	21	AC-FT	46340		
WTR YR 1982	TOTAL	97470	MEAN	267	MAX	5130	MIN	21	AC-FT	193300		

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.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
12...	1015	40	--	7.6	13.0	8.7	30	2100	4000	230	71	13
NOV												
10...	1035	46	560	8.0	4.0	11.9	52	K1000	3900	200	61	12
DEC												
07...	1015	64	470	8.2	4.5	11.2	73	2000	K32000	160	47	10
JAN												
04...	1045	35	613	8.0	.0	10.9	21	560	1200	240	76	13
FEB												
04...	1400	23	600	7.7	.0	10.8	11	K179	176	240	75	13
MAR												
02...	1000	112	326	7.7	4.5	9.7	100	K260	4000	120	37	7.5
31...	1030	68	455	8.1	9.5	10.1	43	300	6600	190	57	12
APR												
29...	0930	452	275	7.8	7.8	9.2	160	K700000	840000	81	23	5.8
MAY												
26...	1315	1380	120	7.3	14.5	5.6	190	130000	330000	32	9.0	2.4
JUN												
28...	1200	2240	98	7.3	21.3	5.3	150	39000	--	23	6.3	1.8
JUL												
23...	1245	129	500	8.0	28.0	6.6	52	K1500	13000	180	55	11
AUG												
17...	1400	140	550	8.1	25.5	7.4	38	5000	7500	200	60	13
SEP												
20...	1130	69	459	7.4	14.1	8.6	120	K20000	K180000	160	49	10

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

DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
12...	46	14	--	415	.73	.000	1.1	1.10	1.8	.560	6.5
NOV											
10...	52	31	--	371	1.6	.380	.92	1.30	2.9	1.00	6.7
DEC											
07...	48	37	--	396	2.5	.480	2.1	2.60	5.1	1.60	9.8
JAN											
04...	58	13	--	400	2.2	.500	.38	.88	3.1	.600	2.7
FEB											
04...	54	22	23	--	2.0	.600	.70	1.30	3.3	.620	2.8
MAR											
02...	17	12	168	--	1.4	1.30	1.8	3.10	4.5	.630	6.7
31...	42	10	334	--	2.0	.750	1.2	1.90	3.9	.610	6.8
APR											
29...	8.0	13	1200	--	2.5	1.00	6.9	7.90	10	2.20	26
MAY											
26...	10	5.7	1900	--	1.7	.560	5.2	5.80	7.5	1.40	14
JUN											
28...	14	5.2	1430	--	1.9	.760	4.0	4.80	6.7	1.20	56
JUL											
23...	50	12	171	--	2.0	.230	4.0	4.20	6.2	.970	13
AUG											
17...	60	16	103	--	2.3	.200	.90	1.10	3.4	.870	11
SEP											
20...	44	14	216	--	2.0	2.30	5.1	7.40	9.4	2.00	28

KANSAS RIVER BASIN

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06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
NOV 10...	1035	22	39	1.3	12	180	.3	28	351	.48
FEB 04...	1400	1.0	35	1.0	7.4	240	.3	32	392	.53
APR 29...	0930	--	--	--	--	--	--	--	--	--
MAY 26...	1315	.00	5.7	.5	10	35	.3	12	84	.11
AUG 17...	1400	9.0	31	1.0	12	194	.4	27	346	.47

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 10...	43.6	--	--	1.6	.910	8	100	60	4	10
FEB 04...	23.9	--	--	2.0	.540	--	--	50	--	--
APR 29...	--	2.2	.260	--	--	--	--	--	--	--
MAY 26...	313	--	--	1.7	.510	14	700	20	<1	40
AUG 17...	131	--	--	2.3	.520	--	--	50	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	8	2100	14	9	160	120	.1	3	<1	20
FEB 04...	--	--	<10	--	--	260	--	--	--	--
APR 29...	--	--	--	--	--	--	--	--	--	--
MAY 26...	60	48000	250	16	1000	36	.2	3	<1	220
AUG 17...	--	--	14	--	--	24	--	--	--	--

KANSAS RIVER BASIN

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (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 .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)
OCT								
12...	1035	34	13.5	89	8.2	--	--	--
NOV								
10...	1035	46	4.0	75	9.3	--	--	--
DEC								
07...	1015	64	4.5	236	41	--	--	--
JAN								
04...	1045	35	13.0	28	2.6	--	--	--
FEB								
04...	1400	23	.0	14	.87	--	--	--
24...	1445	1480	2.5	1010	4040	--	--	--
MAR								
02...	1000	112	4.5	222	67	--	--	--
31...	1030	68	9.5	378	69	--	--	--
APR								
29...	0940	452	11.5	1800	2200	71	74	77
MAY								
26...	1315	1380	14.5	2840	10600	68	72	75
JUN								
28...	1200	2250	21.3	2360	14300	81	82	84
JUL								
23...	1245	129	28.0	484	169	77	81	--
AUG								
18...	1500	128	24.5	241	83	--	--	--
SEP								
20...	1130	69	14.1	426	79	49	51	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	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 .062 MM (70331)
OCT							
12...	--	--	--	--	--	--	64
NOV							
10...	--	--	--	--	--	--	84
DEC							
07...	--	79	80	93	97	100	--
JAN							
04...	--	--	--	--	--	--	92
FEB							
04...	--	--	--	--	--	--	88
24...	--	97	99	100	--	--	--
MAR							
02...	--	88	89	90	98	100	--
31...	--	--	--	--	--	--	98
APR							
29...	81	--	--	--	--	--	99
MAY							
26...	80	99	100	--	--	--	--
JUN							
26...	85	90	91	93	98	100	--
JUL							
23...	91	--	--	--	--	--	99
AUG							
18...	--	--	--	--	--	--	99
SEP							
20...	58	78	80	84	94	99	--

06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. FALL STEVE DIAM. % FINER THAN 16.0 MM (80172)
UCT												
12...	1035	34	4	6	8	22	76	94	98	99	100	--
NOV												
10...	1035	46	5	--	0	14	55	81	92	98	99	100
DEC												
07...	1015	64	5	--	0	12	60	94	99	100	--	--
MAR												
02...	1000	112	3	--	0	13	75	92	96	99	99	100
31...	1030	68	5	5	7	21	62	90	97	99	99	100
APR												
29...	0940	452	2	0	1	9	52	79	93	99	100	--
MAY												
26...	1315	1380	4	0	1	7	53	82	95	99	100	--
JUN												
28...	1200	2250	4	19	22	31	62	82	93	99	100	--
JUL												
23...	1245	120	2	3	5	17	52	78	90	97	99	100
AUG												
18...	1500	128	4	2	3	9	34	61	80	92	96	100
SEP												
20...	1130	60	4	10	13	25	46	72	87	95	100	--

KANSAS RIVER BASIN

06881000 BIG BLUE RIVER NEAR CRETE, NE

LOCATION.--Lat 40°35'47", long 96°57'36", in SW1/4SE1/4 sec.3, T.7 N., R.4 E., Saline County, Hydrologic Unit 10270202, on right bank on downstream side of county road bridge, 1.8 mi (2.9 km) south of Missouri Pacific Railroad station in Crete, 3.3 mi (5.3 km) downstream from Walnut Creek, and 3.6 mi (5.8 km) upstream from Squaw Creek.

DRAINAGE AREA.--2,716 mi² (7,034 km²).

WATER-DISCHARGE RECORDS

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 (399.81 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 20, 1954, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, 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.--29 years (1953-82), 349 ft³/s (9.884 m³/s), 252,900 acre-ft/yr (0.312 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,600 ft³/s (782 m³/s) July 10, 1950, gage height, 28.74 ft (8.760 m); maximum gage height, 29.80 ft (9.083 m) June 16, 1967; minimum daily discharge, 6.0 ft³/s (0.17 m³/s) Aug. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 23	1300	4920 139	20.32 6.194	June 17	2200	*8180 232	23.49 7.160
Mar. 20	0500	3510 99.4	17.52 5.340	June 18	2000	3420 96.9	17.53 5.343
May 26	0700	5740 163	20.72 6.315	July 4	0500	6430 182	21.91 6.678

Minimum daily discharge, 54 ft³/s (1.53 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	92	250	64	72	408	182	611	3080	1860	299	395
2	56	144	259	64	70	343	167	459	2870	4360	313	294
3	59	133	247	78	64	298	154	350	2720	5920	285	242
4	58	112	271	76	88	269	141	297	1660	6440	250	215
5	54	118	205	73	96	226	134	282	943	5470	208	194
6	79	120	163	88	94	197	129	241	729	4210	204	190
7	74	127	150	70	100	210	130	215	584	2690	196	179
8	65	119	130	76	90	190	129	185	511	1470	198	170
9	60	110	117	66	70	178	131	158	451	944	214	170
10	60	98	109	56	74	175	126	142	436	1520	218	152
11	55	90	104	70	80	185	118	614	401	2620	241	196
12	57	86	99	74	74	186	119	2150	396	2000	258	197
13	62	82	94	70	70	191	115	1180	357	1590	306	360
14	60	79	92	78	67	183	111	1070	333	1430	527	723
15	58	77	90	86	71	183	108	1300	3700	1510	1180	779
16	56	75	76	76	74	172	106	1710	6770	879	1580	583
17	62	74	64	80	110	166	101	1270	7680	494	980	383
18	58	75	66	88	280	159	94	889	7590	420	486	352
19	87	76	80	80	1200	1060	93	717	5680	503	390	349
20	73	76	90	74	2860	3170	92	650	2450	391	382	230
21	73	75	81	70	4170	1680	87	1040	924	334	416	187
22	66	73	80	74	4810	986	84	830	645	293	570	166
23	61	73	82	70	4890	611	81	742	497	269	772	150
24	61	73	80	76	4530	534	79	698	402	250	894	142
25	62	75	76	80	2440	405	76	1820	384	245	1440	136
26	61	74	76	74	1170	347	79	5100	759	248	924	131
27	59	74	79	65	802	310	79	3740	1020	254	567	127
28	57	74	78	65	535	261	540	3300	3040	247	468	122
29	58	73	74	67	---	229	929	3220	2340	232	379	131
30	61	173	72	68	---	213	912	2860	842	232	604	128
31	61	---	68	66	---	196	---	2950	---	265	674	---
TOTAL	1934	2800	3602	2262	29051	13921	5426	40790	60194	49590	16323	7773
MEAN	62.4	93.3	116	73.0	1038	449	181	1316	2006	1600	527	259
MAX	87	173	271	88	4890	3170	929	5100	7680	6440	1580	779
MIN	54	73	64	56	64	159	76	142	333	232	196	122
AC-FT	3840	5550	7140	4490	57620	27610	10760	80910	119400	98360	32380	15420
CAL YR 1981 TOTAL	47237.6			MEAN 129	MAX 1810	MIN 7.0	AC-FT 93700					
WTR YR 1982 TOTAL	233666.0			MEAN 640	MAX 7680	MIN 54	AC-FT 463500					

06881000 BIG BLUE RIVER NEAR CRETE, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-63, 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1961 to September 1962, April 1968 to current year.

SEDIMENT RECORDS: October 1961 to September 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 33.5°C July 10, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 31.5°C July 21, 22; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
09...	1700	60	600	8.2	13.0	9.6	48	4400	1800	250	75	15
NOV												
10...	1400	98	610	8.0	6.0	12.2	57	7800	4300	230	70	14
DEC												
07...	1315	152	525	7.9	3.5	12.1	75	3700	K46000	200	56	14
JAN												
04...	1300	76	721	8.1	.0	11.7	23	K11000	7400	290	88	18
FEB												
04...	1145	82	649	7.7	.5	9.4	26	K39200	K350000	290	90	16
MAR												
02...	1300	337	325	7.8	4.5	10.0	64	1600	7900	120	34	7.4
31...	1315	197	525	8.1	10.7	9.5	51	K9400	18000	210	62	14
APR												
30...	1505	898	310	7.5	10.5	9.1	140	270000	150000	97	27	7.2
MAY												
14...	1315	1210	285	7.5	18.4	7.7	160	29000	36000	87	25	5.9
JUN												
24...	1200	404	448	7.8	21.3	7.8	41	2800	11000	180	51	12
JUL												
22...	1700	290	460	7.9	28.0	7.9	53	2700	4700	170	49	11
AUG												
17...	1200	660	335	7.8	23.0	6.8	76	3600	20000	120	33	8.0
SEP												
20...	1600	222	425	7.4	14.6	9.0	47	K13000	79000	160	44	11

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

DATE	SULFATE DIS- SOLVED (MG/L AS SU4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARRON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
09...	65	22	--	475	.64	.180	.79	.97	1.6	.720	7.8
NOV											
10...	59	32	--	401	1.5	.280	.92	1.20	2.7	.860	7.3
DEC											
07...	57	21	--	366	2.1	.930	2.2	3.10	5.2	1.10	15
JAN											
04...	81	11	--	466	2.3	.540	1.1	1.60	3.9	.580	3.4
FEB											
04...	72	26	32	--	2.8	.750	1.3	2.00	4.8	.810	3.9
MAR											
02...	12	10	230	--	2.0	1.30	.50	1.80	3.8	.670	18
31...	61	11	265	--	2.3	.810	1.6	2.40	4.7	.700	7.5
APR											
30...	8.0	11	1070	--	2.8	.850	7.4	8.20	11	1.80	45
MAY											
14...	32	8.9	1780	--	2.6	.600	3.3	3.90	6.5	3.20	5.0
JUN											
24...	51	10	366	--	2.7	.130	2.0	2.10	4.8	.830	15
JUL											
22...	45	12	400	--	2.5	.300	1.2	1.50	4.0	.960	90
AUG											
17...	43	7.9	690	--	2.0	.380	4.1	4.50	6.5	1.50	28
SEP											
20...	49	10	232	--	1.7	.150	3.3	3.40	5.1	.870	15

06881000 BIG BLUE RIVER NEAR CRETE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 10...	1400	12	39	1.2	14	220	.3	25	392	.53
FEB 04...	1145	21	42	1.1	9.2	270	.3	33	464	.63
APR 30...	1505	--	--	--	--	--	--	--	--	--
MAY 14...	1315	12	13	.6	13	75	.3	12	181	.25
AUG 17...	1200	18	16	.7	12	97	.2	17	204	.28

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 10...	104	--	--	1.4	.740	9	100	60	3	<10
FEB 04...	103	--	--	2.8	.610	--	--	60	--	--
APR 30...	--	2.5	.260	--	--	--	--	--	--	--
MAY 14...	591	2.2	.440	2.6	.480	14	800	30	<1	50
AUG 17...	364	--	--	2.0	.310	--	--	40	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	6	2200	39	8	200	110	<.1	3	<1	50
FEB 04...	--	--	17	--	--	250	--	--	--	--
APR 30...	--	--	--	--	--	--	--	--	--	--
MAY 14...	45	44000	160	28	1000	<3	.2	3	<1	230
AUG 17...	--	--	80	--	--	5	--	--	--	--

06881000 BIG BLUE RIVER NEAR CRETE, NE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	13.0	10.0	3.0	2.0	.5	.0	1.5	.5	4.5	2.5
2	---	---	11.5	10.0	2.5	2.0	1.0	.5	1.5	.5	5.0	2.5
3	---	---	11.5	10.0	3.5	2.5	.5	.0	.5	.5	4.5	2.0
4	---	---	10.5	9.5	3.5	2.0	.5	.0	.5	.5	4.0	2.0
5	---	---	10.0	9.0	2.5	2.0	.5	.0	.5	.0	3.5	1.5
6	---	---	10.0	7.5	3.0	2.5	.0	.0	.5	.0	3.5	1.5
7	---	---	9.0	7.5	4.5	3.0	.0	.0	.5	.0	3.0	1.5
8	---	---	9.0	8.0	4.5	3.5	.0	.0	.5	.5	3.5	1.5
9	---	---	8.0	5.5	4.0	3.5	.5	.0	.5	.5	3.5	2.0
10	---	---	6.5	5.0	3.5	3.0	.0	.0	1.0	.5	5.5	3.0
11	---	---	7.5	5.5	3.0	3.0	.0	.0	1.5	.0	6.5	4.0
12	---	---	8.0	6.0	3.5	3.0	.0	.0	2.5	.5	8.0	5.5
13	---	---	8.5	7.0	4.0	3.5	.5	.0	2.5	.5	8.0	6.5
14	---	---	10.0	8.0	4.0	2.5	.5	.0	2.5	.5	8.0	7.5
15	---	---	11.0	10.0	2.5	1.5	1.0	.5	2.5	1.0	7.5	7.0
16	---	---	11.0	8.0	1.5	.5	.5	.0	1.5	1.0	9.5	7.0
17	---	---	9.5	7.5	1.0	.5	.5	.0	1.0	.5	9.5	8.5
18	---	---	10.5	9.0	1.0	1.0	.5	.0	1.0	.0	8.5	8.0
19	---	---	10.0	4.5	1.0	.5	1.0	.5	.0	.0	8.0	6.0
20	---	---	4.5	3.0	1.0	.5	1.0	.5	.0	.0	6.0	5.5
21	---	---	3.5	2.5	2.0	1.0	1.0	.5	.5	.0	6.0	5.5
22	---	---	4.5	3.0	2.0	1.0	1.0	.0	1.5	.5	6.0	5.0
23	---	---	6.0	4.5	2.0	1.0	.5	.0	2.0	1.5	7.5	5.5
24	---	---	6.0	5.0	1.5	.5	.5	.5	2.0	2.0	7.5	7.0
25	---	---	6.0	5.0	2.0	1.0	1.5	.0	2.0	2.0	7.0	6.0
26	---	---	6.0	5.5	2.0	1.0	2.0	.5	2.0	1.5	8.0	6.0
27	---	---	5.5	2.5	1.5	1.0	2.0	1.0	2.0	1.5	8.0	7.0
28	---	---	4.0	3.5	1.5	.0	2.0	.5	3.0	1.5	8.0	7.5
29	---	---	4.0	3.0	1.0	.0	2.0	1.0	---	---	8.5	7.5
30	13.5	12.5	4.5	3.0	2.0	.0	2.0	.5	---	---	11.0	8.5
31	13.5	12.5	---	---	1.0	.0	1.0	.5	---	---	12.0	10.0
MONTH	13.5	12.5	13.0	2.5	4.5	.0	2.0	.0	3.0	.0	12.0	1.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.5	10.5	14.0	11.5	18.0	17.0	23.5	22.0	27.5	25.5	23.0	21.0
2	17.0	13.5	17.0	14.0	17.5	17.5	23.0	22.0	29.0	26.5	22.0	20.0
3	14.5	8.0	19.5	16.5	17.5	17.0	24.5	23.0	29.5	27.0	21.0	18.5
4	10.0	8.5	21.5	19.0	17.5	17.0	26.5	24.5	30.0	28.0	21.0	19.5
5	10.0	6.5	21.5	16.0	18.0	17.0	27.0	26.5	30.0	28.0	20.0	18.0
6	6.5	5.0	16.5	14.5	20.5	17.5	27.0	27.0	29.5	27.5	18.0	17.5
7	6.5	5.5	18.0	14.5	21.0	19.0	27.0	26.0	29.5	27.0	---	---
8	5.5	5.0	20.0	16.5	21.0	19.0	26.5	26.0	29.0	26.5	---	---
9	8.5	4.0	20.5	18.0	21.0	19.0	28.0	26.5	29.0	26.0	---	---
10	11.0	8.0	21.5	18.0	21.0	18.5	28.0	24.5	25.5	21.5	---	---
11	13.0	9.0	21.5	18.5	21.0	19.5	25.0	24.0	23.0	20.5	---	---
12	16.0	12.0	19.0	17.5	21.5	20.0	25.5	24.5	23.0	21.0	---	---
13	17.0	14.0	19.0	18.5	21.5	20.0	26.5	26.5	23.5	21.5	---	---
14	17.5	15.0	19.0	18.5	21.0	20.0	27.0	26.0	23.5	22.0	---	---
15	19.5	16.0	19.5	19.0	21.0	18.5	27.0	26.5	22.0	22.0	---	---
16	19.5	14.0	19.5	18.0	19.0	18.0	29.0	27.5	23.0	22.0	---	---
17	15.5	11.0	18.5	18.0	20.0	19.0	29.5	28.0	24.0	23.0	---	---
18	16.5	13.0	20.5	18.0	20.5	20.0	29.5	27.5	25.0	23.5	---	---
19	16.5	15.0	21.5	19.5	20.5	20.0	30.0	28.0	26.0	24.0	---	---
20	16.0	12.5	21.5	20.5	20.5	20.0	31.0	28.5	26.0	24.5	---	---
21	14.5	11.5	20.5	18.5	20.5	20.0	31.5	29.0	23.5	22.0	14.5	12.5
22	15.5	11.5	18.5	17.5	21.5	20.0	31.5	29.5	24.5	22.5	15.0	13.0
23	17.0	13.0	19.0	17.5	22.0	20.5	30.5	27.5	25.0	23.5	15.0	14.5
24	18.0	14.5	19.0	18.5	23.0	21.5	30.0	28.0	25.0	24.0	15.5	14.0
25	19.0	15.5	18.5	17.5	23.5	22.5	30.5	28.0	23.0	21.0	15.5	13.5
26	19.0	16.0	17.5	17.5	23.5	22.5	30.5	28.0	21.0	21.0	14.5	14.0
27	18.5	14.0	18.0	17.5	22.5	22.0	30.5	28.5	21.0	20.5	15.5	14.0
28	14.0	8.5	18.5	18.0	23.0	22.0	29.0	27.5	20.5	19.0	16.5	15.0
29	9.0	8.5	19.5	19.0	25.0	23.0	29.0	27.0	19.5	19.0	18.0	17.0
30	11.5	9.0	19.5	19.5	25.0	23.5	27.5	25.5	19.5	19.0	---	---
31	---	---	19.5	18.0	---	---	28.0	26.0	21.5	19.5	---	---
MONTH	19.5	4.0	21.5	11.5	25.0	17.0	31.5	22.0	30.0	19.0	23.0	12.5

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 (4.5 km) west of Wilber.

DRAINAGE AREA.--460 mi² (1,191 km²).

WATER-DISCHARGE RECORDS

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 (402.946 m) National Geodetic Vertical Datum of 1929. Prior to July 10, 1970, at site 0.2 mi (0.3 km) downstream at same datum.

REMARKS.--Records fair except those for winter period, which are poor. Many diversions above station for irrigation.

AVERAGE DISCHARGE.--23 years, 80.5 ft³/s (2.280 m³/s), 58,320 acre-ft/yr (71.9 hm³/yr); median of yearly mean discharges, 62 ft³/s (1.756 m³/s), 44,900 acre-ft/yr (55.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft³/s (207 m³/s) Mar. 28, 1960, gage height, 14.92 ft (4.548 m) site then in use; maximum gage height, 17.92 ft (5.462 m) Oct. 12, 1973, from high-water mark; no flow Sept. 20, 21, 24, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	0230	1400 39.6	12.60 3.840	May 29	1000	1550 43.9	12.88 3.926
Apr. 29	1430	1140 32.3	11.54 3.517	June 28	1100	*4280 121	16.25 4.953
May 12	2200	3770 107	15.80 4.816	July 3	1300	2750 77.9	14.69 4.478
May 25	2130	2500 70.8	14.35 4.374	July 11	2330	1380 39.1	12.54 3.822

a From floodmark.

Minimum daily discharge, 0.26 ft³/s (0.007 m³/s) Oct. 2-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	2.5	59	6.0	5.4	25	18	232	1110	782	34	16
2	.26	4.0	49	5.6	5.0	22	16	118	441	1410	35	13
3	.26	7.0	29	5.0	4.0	19	14	73	214	2530	34	12
4	.26	12	39	4.4	3.7	13	14	53	143	2030	33	8.8
5	.26	14	34	4.6	3.6	12	13	113	106	750	32	6.6
6	.26	13	27	4.3	3.5	11	12	104	91	411	35	5.6
7	1.7	12	20	4.0	5.0	12	13	48	79	245	33	5.1
8	1.2	10	18	4.5	5.4	13	13	33	71	222	36	4.8
9	1.0	8.0	15	3.8	5.0	14	12	27	126	143	44	3.9
10	1.1	6.5	13	3.5	5.4	16	12	23	224	273	38	4.2
11	1.4	5.4	11	4.0	6.0	17	12	275	104	1040	33	5.3
12	1.6	4.9	10	4.0	7.0	16	11	2350	73	776	33	6.6
13	1.6	4.5	10	3.8	7.0	14	11	3320	59	275	34	14
14	1.4	4.2	9.9	4.3	8.0	13	11	2310	52	153	32	44
15	1.5	4.0	9.4	5.0	9.0	13	10	575	150	106	30	38
16	4.0	3.8	7.0	4.0	10	13	11	501	712	84	24	31
17	6.0	4.0	4.0	4.5	35	14	11	200	454	74	24	24
18	5.4	4.2	4.2	5.6	300	12	11	132	152	61	21	19
19	4.5	4.2	6.0	5.2	1130	240	11	101	94	53	19	14
20	4.0	4.3	7.0	5.0	1300	796	10	85	68	47	22	11
21	2.5	4.3	7.8	5.4	1210	769	9.9	166	53	47	28	9.4
22	2.0	4.7	8.4	5.0	843	392	9.6	127	44	45	48	7.6
23	1.6	4.2	8.0	4.5	337	154	9.1	85	38	48	60	6.6
24	1.5	4.3	7.4	5.0	150	81	9.1	82	35	41	108	5.9
25	1.6	4.3	6.6	5.4	83	52	9.4	967	35	40	72	5.9
26	1.6	4.3	7.0	6.0	52	39	9.4	2200	169	36	45	5.3
27	1.5	4.3	7.4	6.0	36	29	9.4	1110	523	37	27	5.2
28	1.5	4.7	7.0	5.4	28	25	273	535	3760	38	17	4.7
29	1.5	4.3	5.6	5.6	---	21	1020	1110	3230	38	14	5.6
30	1.5	9.9	6.4	5.6	---	20	538	1200	1980	38	12	6.3
31	1.5	---	6.4	5.8	---	18	---	1340	---	39	19	---
TOTAL	56.68	181.8	459.5	150.8	5597.0	2905	2142.9	19595	14390	11912	1076	349.4
MEAN	1.83	6.06	14.8	4.86	200	93.7	71.4	632	480	384	34.7	11.6
MAX	6.0	14	59	6.0	1300	796	1020	3320	3760	2530	108	44
MIN	.26	2.5	4.0	3.5	3.5	11	9.1	23	35	36	12	3.9
AC-FT	112	361	911	299	11100	5760	4250	38870	28540	23630	2130	693
CAL YR 1981	TOTAL	5179.00	MEAN	14.2	MAX	620	MIN	.26	AC-FT	10270		
WTR YR 1982	TOTAL	58816.08	MEAN	161	MAX	3760	MIN	.26	AC-FT	116700		

KANSAS RIVER BASIN

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06881200 TURKEY CREEK NEAR WILBER, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-70, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
09...	1500	1.0	565	7.3	12.5	6.4	48	1100	1000	83	23	6.3
NOV												
10...	1215	6.6	410	7.8	4.5	10.3	75	K46	740	120	35	7.8
DEC												
07...	1130	20	360	7.8	3.0	11.0	100	K12000	K120000	94	28	5.9
JAN												
04...	1415	4.4	758	7.8	.0	8.0	20	K15	130	250	75	14
FEB												
04...	0945	3.6	743	7.5	.5	--	16	K93	170	270	82	15
MAR												
02...	1125	22	284	7.8	4.5	10.2	63	K150	840	86	25	5.8
31...	1210	18	371	8.0	10.0	10.1	55	290	3600	120	36	8.2
APR												
30...	1330	494	185	7.5	10.0	9.6	160	120000	98000	47	13	3.6
MAY												
14...	1110	2330	85	6.7	17.5	7.6	140	K6900	18000	20	5.6	1.4
JUN												
24...	1330	35	450	8.2	22.7	7.6	38	K2020	6200	160	46	11
JUL												
23...	1030	48	570	8.1	26.0	6.7	42	10000	2400	200	59	13
AUG												
17...	1035	24	560	8.1	24.0	7.2	31	300	760	180	53	12
SEP												
20...	1340	12	458	7.4	14.2	8.4	53	3900	41000	120	35	8.4

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARRON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
09...	10	88	--	611	1.4	.220	1.9	2.10	3.5	.100	17
NOV											
10...	7.0	43	--	327	1.1	.290	1.4	1.70	2.8	.980	18
DEC											
07...	14	40	--	373	1.9	2.50	3.5	6.00	7.9	1.90	22
JAN											
04...	65	64	--	477	1.3	.170	.49	.66	2.0	.410	2.5
FEB											
04...	71	64	21	--	1.2	.140	.65	.79	2.0	.340	3.4
MAR											
02...	9.0	14	114	--	1.5	.870	2.0	2.90	4.4	.530	14
31...	28	17	266	--	1.4	.940	2.3	3.20	4.6	.620	20
APR											
30...	9.0	10	1320	--	2.3	.880	6.7	7.60	9.9	1.60	53
MAY											
14...	10	3.2	336	--	1.4	.690	2.5	3.20	4.6	2.50	48
JUN											
24...	48	26	290	--	1.3	.130	1.5	1.60	2.9	.820	14
JUL											
23...	59	20	136	--	.71	.090	1.7	1.80	2.5	.610	13
AUG											
17...	68	29	92	--	1.3	.170	1.7	1.90	3.2	.610	7.6
SEP											
20...	38	44	162	--	1.3	.080	2.2	2.30	3.6	.790	12

KANSAS RIVER BASIN

06881200 TURKEY CREEK NEAR WILBER, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)	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)
NOV 10...	1215	.00	31	1.3	17	120	.3	20	239	.33
FEB 04...	0945	17	63	1.8	7.8	250	.3	34	493	.67
APR 30...	1330	--	--	--	--	--	--	--	--	--
MAY 14...	1110	.00	2.4	.3	8.1	22	.2	7.5	73	.10
AUG 17...	1035	11	37	1.3	12	171	.4	19	339	.46

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 10...	4.3	--	--	1.1	.790	8	100	50	2	10
FEB 04...	4.8	--	--	1.2	.310	--	--	60	--	--
APR 30...	--	2.0	.280	--	--	--	--	--	--	--
MAY 14...	459	1.0	.400	1.4	.400	14	500	20	<1	40
AUG 17...	22.0	--	--	1.3	.420	--	--	50	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 10...	12	5400	340	7	110	67	<.1	1	<1	60
FEB 04...	--	--	32	--	--	180	--	--	--	--
APR 30...	--	--	--	--	--	--	--	--	--	--
MAY 14...	40	41000	800	10	520	12	.2	3	1	170
AUG 17...	--	--	20	--	--	48	--	--	--	--

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 (1.1 km) south of the intersection of U.S. Highways 136 and 77, 1.2 mi (1.9 km) downstream from Indian Creek, and 3.1 mi (5.0 km) upstream from Bear Creek.

DRAINAGE AREA.--3,900 mi² (10,101 km²), of which about 3,830 mi² (9,920 km²) contributes directly to surface runoff.

WATER-DISCHARGE RECORDS

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 (371.826 m) National Geodetic Vertical Datum of 1929. October 1910 to September 1915, non-recording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--13 years (water years 1911-15, 1975-82), 622 ft³/s (17.62 m³/s), 450,600 acre-ft/yr (0.556 km³/yr); median of yearly mean discharges, 500 ft³/s (14.16 m³/s), 362,000 acre-ft/yr (0.446 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s (935 m³/s) July 23, 1911, gage height, 26.00 ft (7.925 m); minimum daily, 20 ft³/s (0.57 m³/s) Aug. 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1902, 49,100 ft³/s (1,390 m³/s) Oct. 12, 1973, gage height, 33.02 ft (10.064 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
a	----	6300 178	Ice jam	June 19	2100	8030 227	14.61 4.453
Mar. 19	unknown	7720 219	b14.27 4.349	June 28	2200	*11700 331	b18.20 5.547
May 13	1600	6120 173	12.44 3.792	July 4	1400	9300 263	c15.95 4.862
May 27	0900	10700 303	17.27 5.264	July 12	0100	4460 126	10.34 3.152
May 30	2100	7770 220	14.32 4.365	July 14	1300	4490 127	10.38 3.164

a Sometime during period Feb. 19 and 20.

b From floodmark.

c From graph based on gage readings.

Minimum daily discharge, 60 ft³/s (1.70 m³/s) Dec. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	159	604	84	150	709	341	1950	5980	4340	369	1050
2	130	228	719	82	135	556	329	1310	4980	4720	410	689
3	125	319	504	86	114	476	307	943	3990	8050	420	508
4	125	352	395	100	114	412	286	687	3480	9180	388	428
5	125	256	377	108	110	374	276	550	2250	8470	405	375
6	120	210	319	112	100	330	266	1520	1480	7180	572	356
7	120	185	266	100	130	295	259	1080	1140	5520	443	339
8	118	176	228	120	125	283	259	635	898	3720	331	305
9	116	166	201	100	120	278	257	482	810	2340	312	320
10	104	159	179	70	140	275	259	386	785	1950	332	269
11	100	155	169	90	180	275	255	911	851	3170	328	276
12	104	148	163	90	240	287	251	4240	653	4340	335	492
13	104	141	150	86	230	280	248	6060	585	3290	360	346
14	104	137	142	96	350	292	245	5760	518	3970	392	407
15	104	137	134	120	500	290	244	5330	785	3260	522	803
16	108	130	80	110	700	293	241	3200	3800	2330	1120	913
17	108	120	60	130	1100	276	241	2830	5900	1570	1530	794
18	100	134	110	140	2800	267	237	2070	6870	1050	1050	557
19	100	130	125	130	4800	4350	236	1410	7780	795	636	440
20	116	125	147	130	5300	5370	226	1180	7520	815	818	453
21	125	130	123	135	5560	5660	224	1100	4190	648	1050	320
22	116	130	120	140	5400	3270	220	1160	1720	556	853	282
23	112	134	114	130	5470	1770	219	1180	1170	494	834	256
24	108	134	110	140	4990	1100	213	1180	856	464	1030	236
25	108	134	104	150	4700	874	212	3440	663	424	1240	221
26	108	130	104	160	2920	683	212	9150	581	392	1670	212
27	108	120	100	170	1500	568	212	10300	2360	380	1290	202
28	108	120	96	165	1040	505	436	7660	9710	393	865	196
29	108	116	86	170	---	445	2420	7700	10600	384	737	202
30	108	213	90	160	---	400	3150	6910	8000	366	829	202
31	108	---	90	160	---	364	---	6970	---	347	996	---
TOTAL	3483	4928	6209	3764	49018	31607	12781	99284	100905	84908	22467	12469
MEAN	112	164	200	121	1751	1020	426	3203	3364	2739	725	416
MAX	135	352	719	170	5560	5660	3150	10300	10600	9180	1670	1050
MIN	100	116	60	70	100	267	212	386	518	347	312	196
AC-FT	6910	9770	12320	7470	97230	62690	25350	196900	200100	168400	44560	24730
CAL YR 1981	TOTAL	74921	MEAN	205	MAX	1900	MIN	22	AC-FT	148600		
WTR YR 1982	TOTAL	431823	MEAN	1183	MAX	10600	MIN	60	AC-FT	856500		

KANSAS RIVER BASIN

06881500 BIG BLUE RIVER AT BEATRICE, NE--Continued

WATER QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
09...	1220	118	670	8.2	12.5	9.4	41	600	720	220	65	14
NOV												
13...	1115	139	670	8.3	7.5	12.4	62	K180	3000	210	63	13
DEC												
08...	0850	228	535	8.0	2.0	11.6	95	5100	K120000	160	46	12
JAN												
06...	1430	112	808	7.9	.0	11.3	25	560	1300	270	82	17
FEB												
02...	1400	135	--	7.7	.0	10.4	16	900	4500	260	80	15
MAR												
03...	1630	463	335	7.6	3.5	11.8	62	K300	5800	100	30	6.7
31...	1015	364	520	7.9	9.0	9.7	54	1200	960	170	50	12
APR												
30...	1030	3260	245	7.8	9.0	9.7	150	110000	120000	74	21	5.2
MAY												
13...	1015	6060	150	7.4	18.0	6.0	260	40000	130000	42	12	2.8
JUN												
25...	1100	662	461	8.0	23.1	7.8	56	K2300	12000	160	46	11
JUL												
21...	1330	621	505	7.7	28.2	7.3	47	K4000	7300	170	49	11
AUG												
26...	1015	1780	285	7.4	22.5	7.4	130	13000	40000	88	25	6.2
SEP												
15...	1400	876	516	7.4	17.7	8.5	59	9000	24000	180	53	12

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED TOTAL (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
09...	64	55	--	495	1.3	.100	.90	1.00	2.3	.660	8.0
NOV											
13...	66	60	--	446	2.1	.100	.90	1.00	3.1	.970	6.3
DEC											
08...	37	44	--	393	2.5	1.20	2.5	3.70	6.2	1.40	19
JAN											
06...	87	56	--	525	2.7	.560	.74	1.30	4.0	.570	2.6
FEB											
02...	77	64	33	--	3.3	.630	1.1	1.70	5.0	.750	4.0
MAR											
03...	11	19	247	--	2.0	1.30	.90	2.20	4.2	.630	24
31...	52	41	297	--	2.4	.910	.99	1.90	4.3	.250	15
APR											
30...	8.0	8.5	1710	--	2.0	.700	7.0	7.70	9.7	1.80	50
MAY											
13...	8.0	5.3	2820	--	2.2	.970	--	--	--	3.10	69
JUN											
25...	46	24	670	--	2.4	.130	2.4	2.50	4.9	.840	18
JUL											
21...	48	28	408	--	2.4	.170	2.2	2.40	4.8	.910	63
AUG											
26...	29	9.6	1510	--	2.5	.230	4.0	4.20	6.7	.350	42
SEP											
15...	51	23	546	--	1.9	.160	3.6	3.80	5.7	1.00	15

KANSAS RIVER BASIN

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06881500 BIG BLUE RIVER AT BEATRICE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 13...	1115	11	57	1.8	12	200	.3	25	417	.57	157
FEB 02...	1400	12	66	1.9	8.3	250	.3	31	507	.69	185
APR 30...	1030	--	--	--	--	--	--	--	--	--	--
MAY 13...	1015	5.0	5.8	.4	9.7	37	.3	11	87	.12	1420
AUG 26...	1015	9.0	17	.8	12	79	.3	16	174	.24	836

DATE	NITRO- GEN, NITRATE (MG/L AS N) (00620)	NITRO- GEN, NITRITE (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 13...	--	--	2.0	.840	7	100	70	<1	<10	7	1800
FEB 02...	--	--	3.3	.690	--	--	70	--	--	--	--
APR 30...	1.8	.210	--	--	--	--	--	--	--	--	--
MAY 13...	1.5	.650	2.1	.290	19	1100	30	<1	50	150	64000
AUG 26...	--	--	2.5	.270	--	--	40	--	--	--	--

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 13...	1800	24	3	140	60	76	<.1	3	<1	20
FEB 02...	--	19	--	--	--	260	--	--	--	--
APR 30...	--	--	--	--	--	--	--	--	--	--
MAY 13...	--	350	13	1500	--	7	.2	3	<1	350
AUG 26...	--	150	--	--	--	4	--	--	--	--

KANSAS RIVER BASIN

06882000 BIG BLUE RIVER AT BARNESTON, NE

LOCATION.--Lat 40°02'40"N, long 96°35'12"W, 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 (1.0 km) southwest of Barneston, 1.3 mi (2.1 km) upstream from Plum Creek, and 4.3 mi (6.9 km) upstream from Nebraska-Kansas State line.

DRAINAGE AREA.--4,447 mi² (11,518 km²) (revised), of which about 4,370 mi² (11,318 km²) contributes directly to surface runoff.

PERIOD OF RECORD.--May 1932 to current year.

REVISED RECORDS.--WSP 896: 1932, 1935. WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,162.2 ft (354.24 m) National Geodetic Vertical Datum of 1929. Prior to June 9, 1941, water-stage recorder at site 0.3 mi (0.5 km) downstream at datum 1.56 ft (0.475 m) 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 (1.1 km) upstream at datum 2.0 ft (0.61 m) higher.

REMARKS.--Records fair except those for winter period, which are poor. Low flow regulated by powerplant 0.7 mi (1.1 km) upstream prior to July 1978. 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.--50 years, 782 ft³/s (22.15 m³/s), 566,600 acre-ft/yr (0.699 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,700 ft³/s (1,630 m³/s) June 9, 1941, gage height, 34.3 ft (10.45 m); minimum daily, 1 ft³/s (0.028 m³/s) Nov. 30, 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s (283 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 19	1900	10900 309	17.13 5.221	May 30	1800	11100 314	17.28 5.267
May 26	0800	*14800 419	20.27 6.178	June 29	0615	10600 300	16.85 5.136

Minimum daily discharge, 70 ft³/s (1.98 m³/s) Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	260	1680	114	210	1010	572	2030	6150	4830	458	1130
2	184	747	1210	110	200	808	396	1390	4930	3950	588	846
3	165	654	956	130	200	674	439	981	4080	7060	539	603
4	162	707	711	130	190	571	453	608	3470	8090	443	381
5	153	754	545	135	180	496	360	611	2590	7780	662	339
6	137	386	473	140	180	442	338	991	1600	7240	669	321
7	130	317	396	130	200	382	337	1360	1260	5660	660	437
8	125	197	347	140	210	350	323	729	1060	3950	544	350
9	120	224	309	130	200	471	320	546	1030	2520	515	319
10	121	258	255	120	220	246	276	476	967	1810	504	359
11	120	163	232	130	230	180	158	612	991	2370	472	150
12	118	169	229	130	250	342	407	4470	861	3970	445	384
13	120	202	170	140	260	350	312	6980	763	3540	510	489
14	122	160	219	150	340	373	327	6350	720	3490	457	385
15	120	158	220	150	690	428	280	5250	2300	3540	587	653
16	120	156	147	150	2190	433	244	3620	3210	2470	1070	957
17	124	162	110	160	4580	412	263	2990	5210	1760	1570	931
18	116	149	130	180	5700	383	270	2350	6090	1200	1370	702
19	111	142	150	175	6250	5950	275	1620	6810	1010	847	509
20	113	142	120	170	6640	7390	251	1330	7010	928	1110	512
21	117	136	82	185	6430	6070	146	2630	5000	968	1620	442
22	121	137	70	190	5870	3940	225	2550	1950	785	1150	355
23	120	135	80	190	5840	2440	214	1790	1300	715	950	310
24	120	137	100	195	5330	1240	172	1430	1040	593	1020	277
25	114	135	100	210	4920	1430	260	5180	873	589	1110	227
26	113	133	100	215	3710	772	218	13200	758	578	1470	167
27	117	131	104	220	1980	625	216	11000	2810	530	1350	271
28	120	127	108	215	1400	706	391	8520	7900	508	923	222
29	120	126	106	220	---	624	1800	8800	10200	540	771	255
30	116	262	110	220	---	582	2950	8350	8220	519	894	289
31	118	---	116	215	---	483	---	7970	---	356	905	---
TOTAL	3984	7566	9685	5089	64600	40603	13193	116714	101153	83849	26183	13572
MEAN	129	252	312	164	2307	1310	440	3765	3372	2705	845	452
MAX	207	754	1680	220	6640	7390	2950	13200	10200	8090	1620	1130
MIN	111	126	70	110	180	180	146	476	720	356	443	150
AC-FT	7900	15010	19210	10090	128100	80540	26170	231500	200600	166300	51930	26920
CAL YR 1981	TOTAL	104098	MEAN	285	MAX	7330	MIN	57	AC-FT	206500		
WTR YR 1982	TOTAL	486191	MEAN	1332	MAX	13200	MIN	70	AC-FT	964400		

KANSAS RIVER BASIN

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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 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
13...	1300	123	665	7.8	16.0	9.0	46	1100	740	240	71	15
NOV												
13...	1320	182	618	8.2	8.0	12.2	63	K730	1000	230	69	15
DEC												
08...	1110	357	500	7.9	2.0	12.7	70	2800	K36000	180	50	13
JAN												
06...	1015	139	838	8.1	.0	14.5	20	330	540	300	89	20
FEB												
02...	1040	205	--	7.8	.0	12.6	51	K6300	K25400	210	61	13
MAR												
03...	1315	708	315	7.6	4.0	12.4	78	K6100	5700	100	30	7.1
31...	1200	676	480	8.0	10.0	9.9	46	300	K250	170	48	12
APR												
29...	1430	1660	562	8.5	12.5	10.4	44	16000	K36000	190	50	16
MAY												
13...	1120	7100	238	7.2	18.0	7.7	250	29000	78000	78	23	5.0
JUN												
25...	1330	901	399	7.7	22.8	8.8	31	590	3200	150	42	10
JUL												
21...	1040	1170	485	7.7	28.0	6.4	73	K4500	K6400	150	43	10
AUG												
17...	0825	1500	585	8.2	23.5	7.8	39	800	1200	200	58	14
SEP												
15...	1645	937	509	7.3	18.8	7.7	31	1900	2200	180	50	13

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

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
13...	70	47	--	533	1.2	.000	1.6	1.60	2.8	.700	8.8
NOV											
13...	67	41	--	443	1.9	.090	1.2	1.30	3.2	.940	7.3
DEC											
08...	48	29	--	350	2.3	.490	1.9	2.40	4.7	1.00	11
JAN											
06...	98	57	--	557	2.9	.460	1.0	1.50	4.4	.620	4.0
FEB											
02...	52	42	57	--	2.6	.720	2.0	2.70	5.3	.580	12
MAR											
03...	--	12	302	--	2.1	1.30	2.6	3.90	6.0	.680	20
31...	55	23	98	--	2.4	.840	.66	1.50	3.9	.070	11
APR											
29...	77	42	79	--	.57	.180	2.6	2.80	3.4	.260	9.8
MAY											
13...	22	14	2620	--	2.4	.840	8.3	9.10	12	1.70	78
JUN											
25...	43	17	96	--	2.4	.130	1.6	1.70	4.1	.450	12
JUL											
21...	43	27	692	--	2.4	.280	1.0	1.30	3.7	.950	48
AUG											
17...	60	25	94	--	2.7	.240	1.7	1.90	4.6	.750	11
SEP											
15...	53	31	121	--	2.0	.140	2.4	2.50	4.5	.720	9.2

KANSAS RIVER BASIN

06882000 BIG BLUE RIVER AT BARNESTON, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)	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)
NOV 13...	1320	24	48	1.4	12	210	.3	24	403	.55	198
FEB 02...	1040	16	44	1.4	11	190	.3	21	371	.50	205
MAY 13...	1120	11	11	.6	11	67	.3	10	159	.22	3050
AUG 17...	0825	8.0	40	1.3	11	194	.4	24	361	.49	1460

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
NOV 13...	--	--	1.8	.790	8	100	50	<1	<10	8	1800
FEB 02...	--	--	2.6	.460	4	200	50	2	<10	16	1600
MAY 13...	1.8	.570	2.2	.250	22	1000	30	<1	70	110	86000
AUG 17...	--	--	2.7	.500	7	100	60	<1	10	11	5800

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
NOV 13...	1800	30	2	270	170	100	<.1	2	<1	20
FEB 02...	--	89	4	420	--	320	.1	2	<1	40
MAY 13...	--	190	<1	1900	--	14	.3	3	1	390
AUG 17...	--	13	9	270	--	5	.1	3	<1	50

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 (3 m) downstream from bridge on State Highway 14, 1 mi (2 km) upstream from Walnut Creek, 3.2 mi (5.1 km) southeast of Deweese, and 6 mi (10 km) northwest of Angus.

DRAINAGE AREA.--979 mi² (2,536 km²).

PERIOD OF RECORD.--February 1953 to September 1972, October 1974 to current year.

REVISED RECORDS.--WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,632.67 ft (497.638 m) National Geodetic Vertical Datum of 1929. Prior to May 16, 1957, non-recording gage and Oct. 1, 1974, to Mar. 24, 1981, 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 (460 m) upstream from bridge at present datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--27 years (water years 1954-72, 1975-82), 144 ft³/s (4.078 m³/s), 104,300 acre-ft/yr (0.129 km³/yr); median of yearly mean discharges, 117 ft³/s (3.313 m³/s), 84,800 acre-ft/yr (0.105 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,100 ft³/s (711 m³/s) Aug. 31, 1969, gage height, 18.57 ft (5.660 m); minimum daily, 6.3 ft³/s (0.18 m³/s) Sept. 7, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1951, reached a stage of 14.9 ft (4.54 m), from information by local residents, discharge, 16,000 ft³/s (453 m³/s), based on records for former station at Angus.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 11	2200	4540 129	8.72 2.658	July 2	2200	*9400 266	b12.50 3.810
May 25	1900	7650 217	a11.26 3.432				

a From observers reading.

b From floodmark.

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	106	348	48	64	100	74	116	326	2010	124	81
2	44	99	204	52	66	91	73	95	317	5980	110	69
3	45	116	138	50	60	83	66	82	229	6320	102	59
4	48	77	110	52	52	93	66	79	184	1970	39	56
5	47	63	96	54	54	76	63	83	155	790	99	51
6	48	58	84	52	40	73	63	81	141	369	112	47
7	47	57	76	50	43	70	64	76	128	263	123	45
8	49	55	66	52	54	70	64	72	123	201	102	46
9	52	53	63	54	52	67	61	68	115	174	96	44
10	53	53	61	35	50	70	62	67	107	219	90	43
11	54	53	59	20	52	100	62	2030	103	203	97	40
12	60	53	59	37	56	108	61	2140	98	146	91	59
13	63	53	57	35	62	102	60	413	94	126	88	86
14	66	53	55	37	70	94	61	376	93	118	89	97
15	59	52	54	64	90	85	61	1100	207	107	95	86
16	61	51	52	45	220	77	62	691	196	112	92	73
17	67	51	35	45	560	70	60	344	189	115	93	70
18	59	52	54	56	740	65	60	212	146	97	75	62
19	66	51	60	58	967	252	63	149	116	95	65	57
20	67	49	56	56	1020	408	58	131	101	95	65	52
21	62	50	56	50	810	270	58	120	94	97	69	51
22	63	50	54	52	530	175	59	119	130	123	64	51
23	65	50	54	42	362	138	60	117	373	246	63	50
24	73	48	58	35	238	112	60	908	280	130	61	50
25	75	49	58	64	175	101	60	6280	372	108	53	50
26	75	49	61	80	140	92	58	3490	183	95	57	53
27	76	47	58	94	129	88	64	1400	264	121	56	50
28	77	47	55	100	111	84	138	837	323	637	56	50
29	79	47	50	92	---	85	255	686	285	296	59	49
30	88	111	52	92	---	81	184	570	377	180	68	53
31	84	---	52	60	---	74	---	630	---	140	76	---
TOTAL	1916	1803	2395	1713	6867	3454	2260	23562	5849	21683	2589	1730
MEAN	61.8	60.1	77.3	55.3	245	111	75.3	760	195	699	83.5	57.7
MAX	88	116	348	100	1020	408	255	6280	377	6320	124	97
MIN	44	47	35	20	40	65	58	67	93	95	53	40
AC-FT	3800	3580	4750	3400	13620	6850	4480	46740	11600	43010	5140	3430
CAL YR 1981 TOTAL	33846			92.7	MAX 964	MIN 17	AC-FT 67130					
WTR YR 1982 TOTAL	75821			208	MAX 6320	MIN 20	AC-FT 150400					

KANSAS RIVER BASIN

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-70, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1979 to September 1981.

WATER TEMPERATURES: February 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 508 micromhos Feb. 14, 1980; minimum daily, 82 micromhos May 4, 1979.

WATER TEMPERATURES: Maximum, 28.0°C Aug. 8, 9, 10, 1980; minimum, 1.0°C Jan. 29, 30, 31, Feb. 1, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
06...	1000	48	440	7.8	11.0	10.9	52	200	120	190	61	9.6
NOV												
03...	1030	125	330	7.5	9.0	10.9	95	60000	K200000	150	47	8.0
DEC												
03...	1020	138	245	7.7	3.0	11.9	93	K800	220000	96	29	5.8
JAN												
05...	1100	54	470	7.5	.0	12.0	<12	6	K38	210	67	10
FEB												
02...	1015	65	360	7.4	.0	12.4	23	310	6200	160	51	7.6
MAR												
02...	0920	102	420	7.7	7.0	10.8	20	K62	920	200	63	10
APR												
06...	0915	63	460	7.9	3.0	13.4	<10	K25	250	210	67	11
MAY												
04...	1000	80	430	7.8	18.0	9.6	18	2600	2000	230	73	11
JUN												
02...	1045	340	250	7.3	15.0	8.8	77	3400	K9800	110	32	6.2
JUL												
13...	0950	127	425	7.8	23.0	8.0	40	1300	2900	190	58	10
AUG												
03...	1120	100	400	8.2	25.0	8.6	14	3200	900	170	50	10
SEP												
01...	1130	85	385	7.8	24.0	9.4	43	K1600	1200	170	52	10

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

DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
06...	30	10	--	299	.65	.120	.46	.58	1.2	.230	2.4
NOV											
03...	6.0	11	--	242	1.0	.110	1.7	1.80	2.8	.820	17
DEC											
03...	11	10	--	274	1.3	.340	1.6	1.90	3.2	.640	24
JAN											
05...	39	14	--	311	1.2	.080	.25	.33	1.5	.240	1.4
FEB											
02...	16	12	22	--	1.3	.320	.78	1.10	2.4	.470	7.2
MAR											
02...	31	11	53	--	1.1	.310	.47	.78	1.9	.290	4.2
APR											
06...	40	11	19	--	1.2	.060	.39	.45	1.7	.260	1.9
MAY											
04...	38	15	122	--	.98	<.060	--	1.10	2.1	.450	5.2
JUN											
02...	7.0	11	416	--	1.0	1.00	1.6	2.60	3.6	.990	29
JUL											
13...	38	15	188	--	1.2	<.060	--	1.00	2.2	.370	6.9
AUG											
03...	31	10	12	--	.85	.060	1.7	1.80	2.7	.540	7.5
SEP											
01...	30	10	248	--	.51	.300	2.3	2.60	3.1	.450	11

06883000 LITTLE BLUE RIVER NEAR DEWEESE, NE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINE- LAB (MG/L AS CACO3) (90410)	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)
OCT 06...	1000	12	17	.6	6.9	180	.4	30	282	.38	36.5
JAN 05...	1100	9.0	18	.6	7.0	200	.3	34	315	.43	45.9
APR 06...	0915	13	18	.6	7.2	200	.2	32	307	.42	52.2
MAY 04...	1000	--	--	--	--	--	--	--	--	--	--
JUL 13...	0950	10	16	.5	11	176	.3	31	285	.39	97.7

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BORON, DIS- SOLVED (UG/L AS B) (01020)	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)
OCT 06...	--	--	.65	.230	7	200	30	0	0	5	440
JAN 05...	--	--	1.2	.250	--	--	40	--	--	--	--
APR 06...	--	--	1.1	.240	5	200	40	<1	<10	13	550
MAY 04...	.96	.020	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	1.2	.280	5	100	40	<1	20	33	5000

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
OCT 06...	--	<10	2	40	20	20	.1	2	0	20
JAN 05...	--	12	--	--	--	24	--	--	--	--
APR 06...	530	19	3	50	10	37	.1	3	<1	20
MAY 04...	--	--	--	--	--	--	--	--	--	--
JUL 13...	5000	4	7	240	210	35	.4	2	<1	30

KANSAS RIVER BASIN

06883570 LITTLE BLUE RIVER NEAR ALEXANDRIA, NE

LOCATION.--Lat 40°12'27", long 97°23'23", in SE1/4SE1/4 sec.23, T.3 N., R.1 W., Thayer County, Hydrologic Unit 10270206, on left bank 750 ft (229 m) upstream from bridge on State Highway 53, 2.7 mi (4.3 km) south of Alexandria, 9.8 mi (15.8 km) downstream from Dry Creek, and 5.7 mi (9.2 km) upstream from Big Sandy Creek.

DRAINAGE AREA.--1,557 mi² (4,033 km²).

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 (414.312 m) National Geodetic Vertical Datum of 1929. July 1959 to Sept. 30, 1972, at site 2.3 mi (3.7 km) upstream at datum 12.0 ft (3.66 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by irrigation development above station.

AVERAGE DISCHARGE.--21 years (water years 1960-72, 1975-82), 231 ft³/s (6.542 m³/s), 167,400 acre-ft/yr (0.206 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft³/s (725 m³/s) Mar. 28, 1960, gage height, 17.30 ft (5.273 m), site and datum then in use; maximum gage height, 18.93 ft (5.770 m) July 4, 1982; minimum daily discharge, 2.9 ft³/s (0.082 m³/s) Aug. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	----	2740 77.6	Ice jam	May 27	0230	6480 184	15.74 4.798
May 12	1800	4240 120	13.31 4.057	July 4	0630	*12400 351	18.93 5.770

Minimum daily discharge, 45 ft³/s (1.27 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	138	415	68	140	162	133	340	1210	2050	242	94
2	55	199	818	76	155	157	126	233	771	6960	203	97
3	55	216	432	74	145	114	117	189	553	9170	177	94
4	60	248	264	76	110	110	117	169	415	10200	161	80
5	60	159	191	78	120	106	117	185	343	2390	162	70
6	78	108	160	76	90	100	113	164	299	1260	155	67
7	69	94	144	74	96	120	113	155	265	785	159	66
8	58	90	128	78	130	122	113	147	240	566	165	71
9	54	85	114	82	114	111	111	138	228	447	158	66
10	54	81	106	60	100	110	109	130	211	445	165	62
11	57	80	101	45	104	111	105	290	199	745	147	59
12	66	80	99	62	110	117	105	3130	201	446	142	71
13	65	80	100	60	114	137	103	2200	200	336	137	76
14	70	80	98	62	120	144	103	976	175	284	130	92
15	71	81	94	90	140	154	103	785	185	251	127	110
16	73	82	80	70	250	140	103	1180	212	225	123	122
17	78	82	60	70	500	131	109	826	282	212	126	107
18	77	82	80	80	1300	124	103	606	258	202	121	95
19	71	82	84	84	1900	1010	107	453	218	202	116	87
20	69	79	76	80	2050	1200	101	358	190	193	116	77
21	69	79	76	74	2180	988	95	369	170	187	104	71
22	68	80	72	76	1610	600	87	337	151	235	95	68
23	67	80	72	66	1030	387	87	286	145	340	107	65
24	65	80	74	60	723	298	87	361	288	425	110	64
25	64	81	70	90	506	237	87	2840	387	259	106	59
26	64	84	74	120	373	197	87	5540	418	198	100	57
27	67	85	72	155	288	171	89	4510	507	180	88	58
28	70	79	70	180	213	158	202	1710	328	173	86	59
29	75	80	66	170	---	154	322	1170	364	564	87	66
30	80	149	70	170	---	151	478	1080	339	464	87	62
31	82	---	70	135	---	139	---	1460	---	317	88	---
TOTAL	2069	3103	4430	2741	14711	7960	3832	32317	9752	40711	4090	2292
MEAN	66.7	103	143	88.4	525	257	128	1042	325	1313	132	76.4
MAX	82	248	818	180	2180	1200	478	5540	1210	10200	242	122
MIN	54	79	60	45	90	100	87	130	145	173	86	57
AC-FT	4100	6150	8790	5440	29180	15790	7600	64100	19340	80750	8110	4550

CAL YR 1981 TOTAL 51987.4 MEAN 142 MAX 2630 MIN 9.1 AC-FT 103100
WTR YR 1982 TOTAL 128008.0 MEAN 351 MAX 10200 MIN 45 AC-FT 253900

KANSAS RIVER BASIN

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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 (5 m) upstream from bridge on State Highway 53, 0.8 mi (1.3 km) south of Alexandria.

DRAINAGE AREA.--607 mi² (1,572 km²).

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

GAGE.--Water stage recorder. Altitude of gage is 1,395 ft (425.2 m) from topographic map.

REMARKS.--Records good. Natural flow of stream affected by ground-water withdrawals and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s (186 m³/s) July 2, 1982, gage height, 14.47 ft (4.410 m); minimum daily, 16 ft³/s (0.45 m³/s) Apr. 6, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,580 ft³/s (186 m³/s) July 2, gage height, 14.47 ft (4.410 m); minimum daily, 17 ft³/s (0.48 m³/s) Feb. 4-7, 9-14.

REVISION.--The maximum discharge for the water year 1981 has been revised to 2,140 ft³/s (60.6 m³/s) Aug. 6, 1981, gage height, 9.19 ft (2.801 m), superseding figure published in the report for 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	38	107	21	19	41	24	72	335	1950	110	44
2	22	115	114	21	19	39	24	50	160	4870	101	41
3	22	72	83	21	18	33	22	40	108	5000	110	39
4	21	77	57	20	17	28	22	36	84	3660	100	38
5	21	61	44	20	17	27	22	769	70	1370	158	38
6	21	43	37	20	17	25	21	61	61	733	153	38
7	21	33	32	20	17	24	21	37	58	520	117	39
8	21	27	28	19	18	23	21	31	49	273	114	36
9	21	23	25	19	17	22	21	28	44	166	110	37
10	20	21	24	19	17	22	21	26	36	1440	117	36
11	21	21	23	19	17	21	21	1070	36	747	102	33
12	21	20	23	20	17	21	21	1240	40	209	94	47
13	20	20	22	20	17	19	21	458	193	122	93	56
14	20	20	22	19	17	20	21	173	65	498	93	66
15	20	20	22	19	18	20	21	115	55	196	100	56
16	20	20	22	19	58	19	21	72	54	112	93	42
17	20	19	21	19	341	19	21	60	40	84	88	38
18	20	20	21	19	838	18	21	59	36	73	86	40
19	20	19	21	19	1110	643	21	50	34	67	87	35
20	20	19	20	19	1060	681	20	80	30	65	910	32
21	20	19	21	19	730	203	20	390	291	69	938	30
22	20	18	21	19	486	101	20	131	164	92	272	29
23	20	18	21	19	282	77	20	77	47	121	139	29
24	20	18	21	18	130	57	20	156	37	104	90	28
25	20	18	21	19	74	46	20	2070	163	90	64	28
26	20	18	21	19	53	39	20	923	152	91	55	30
27	20	18	21	19	48	34	20	455	2390	83	52	29
28	20	18	21	19	45	31	58	256	1660	92	47	28
29	20	18	20	19	---	28	158	500	457	102	63	30
30	20	47	20	19	---	27	118	869	224	101	54	29
31	20	---	21	18	---	25	---	753	---	103	46	---
TOTAL	634	918	997	599	5517	2433	902	11107	7173	23203	4756	1121
MEAN	20.5	30.6	32.2	19.3	197	78.5	30.1	358	239	748	153	37.4
MAX	22	115	114	21	1110	681	158	2070	2390	5000	938	66
MIN	20	18	20	18	17	18	20	26	30	65	46	28
AC-FT	1260	1820	1980	1190	10940	4830	1790	22030	14230	46020	9430	2220
CAL YR 1981	TOTAL	14237	MEAN	39.0	MAX	1420	MIN	16	AC-FT	28240		
WTR YR 1982	TOTAL	59360	MEAN	163	MAX	5000	MIN	17	AC-FT	117700		

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 (1.3 km) south of Fairbury, and 5.2 mi (8.4 km) upstream from Rose Creek.

DRAINAGE AREA.--2,350 mi² (6,087 km²).

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 1,282.19 ft (390.812 m) 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 (5.6 km) downstream at various datums.

REMARKS.--Records good except those for winter period, which are poor. Some regulation at low stage by powerplants above station. Natural flow of stream affected by irrigation development above station.

AVERAGE DISCHARGE.--61 years, 368 ft³/s (10.42 m³/s), 266,600 acre-ft/yr (0.329 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft³/s (1,070 m³/s) Oct. 12, 1973, gage height, 18.96 ft (5.779 m); minimum daily, 14 ft³/s (0.40 m³/s) Nov. 22, 1929, discharge measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 19	1400	4130 117	6.97 2.124	June 28	0500	4130 117	a7.05 2.149
May 13	0200	5990 170	a8.50 2.591	July 4	2015	*18100 513	b14.42 4.395
May 27	0900	6980 198	9.52 2.902				

a From floodmark.

b Observer's reading.

Minimum daily discharge, 66 ft³/s (1.87 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	155	405	92	165	300	168	495	1910	2440	412	161
2	93	363	702	96	180	276	170	359	1130	9850	340	155
3	90	269	559	92	155	249	153	282	829	13900	297	153
4	93	288	318	100	130	220	148	246	644	15700	287	148
5	92	245	235	110	140	210	146	1310	541	7320	875	139
6	93	172	197	102	110	200	142	559	476	2630	458	139
7	100	142	180	96	116	210	144	317	420	1630	335	144
8	95	125	168	98	150	217	141	252	389	1080	300	148
9	92	118	160	104	135	212	137	224	375	800	300	142
10	92	113	153	74	120	205	137	209	354	1330	337	139
11	93	116	146	66	125	202	135	1140	336	2110	303	137
12	100	115	142	82	130	196	135	3630	326	1080	261	154
13	98	116	141	80	140	205	132	3780	417	695	254	185
14	97	116	141	82	150	219	128	1580	411	800	246	219
15	98	117	137	110	200	226	127	935	357	737	241	228
16	97	116	100	90	400	217	132	1130	332	518	241	202
17	98	116	72	90	900	202	130	957	377	364	236	202
18	97	115	94	100	2400	196	125	713	380	368	234	187
19	95	113	110	106	3800	1100	128	555	335	308	226	178
20	92	108	102	100	4060	2250	123	450	276	297	934	172
21	88	108	100	94	2950	1460	118	719	264	287	1770	161
22	88	109	96	96	2130	816	114	641	569	524	590	150
23	90	110	94	86	1460	533	112	467	269	510	377	148
24	87	109	98	80	1000	396	108	526	251	628	269	144
25	88	109	94	110	708	308	110	3830	514	500	226	142
26	90	107	98	140	502	249	114	6180	448	352	213	139
27	90	106	96	185	399	222	115	5920	3000	300	195	137
28	90	104	94	210	332	200	284	2460	3100	290	181	132
29	93	104	92	200	---	193	526	1770	1170	547	212	142
30	93	186	94	205	---	191	629	2010	703	671	220	137
31	100	---	94	160	---	176	---	2520	---	535	186	---
TOTAL	2899	4290	5312	3436	23187	12058	5011	46166	20903	69101	11556	4769
MEAN	93.5	143	171	111	828	389	167	1489	697	2229	373	159
MAX	100	363	702	210	4060	2250	629	6180	3100	15700	1770	228
MIN	87	104	72	66	110	176	108	209	251	287	181	132
AC-FT	5750	8510	10540	6820	45990	23920	9940	91570	41460	137100	22920	9460
CAL YR 1981	TOTAL	70208	MEAN	192	MAX	2960	MIN	32	AC-FT	139300		
WTR YR 1982	TOTAL	208688	MEAN	572	MAX	15700	MIN	66	AC-FT	413900		

KANSAS RIVER BASIN

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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 (1 m) downstream from bridge on county road, 0.6 mi (1.0 km) west of Hollenberg, and 1.75 mi (2.82 km) downstream from Nebraska-Kansas State line.

DRAINAGE AREA.--2,752 mi² (7,128 km²).

WATER-DISCHARGE RECORDS

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 (370.667 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

AVERAGE DISCHARGE.--8 years, 466 ft³/s (13.20 m³/s), 337,600 acre-ft/yr (0.416 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft³/s (487 m³/s) Mar. 15, 1978, gage height, 16.58 ft (5.054 m) from high-water mark; minimum daily, 40 ft³/s (1.13 m³/s) Dec. 17, 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 12, 1973, reached a stage of 23.07 ft (7.032 m), present datum, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 20	0030	5140 146	9.64 2.938	May 31	0730	3390 96.0	a8.12 2.475
Mar. 19	1430	6440 182	10.62 3.237	June 27	1730	5100 144	a9.61 2.929
May 13	0500	5750 163	10.11 3.082	July 5	0500	*15700 445	15.85 4.831
May 25	1730	10100 286	12.98 3.956				

a From observers reading.

Minimum daily discharge, 82 ft³/s (2.32 m³/s) Dec. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	311	749	120	245	347	242	638	2680	1400	477	257
2	124	948	821	125	270	324	233	456	1660	7430	417	215
3	129	804	893	120	240	293	224	345	1150	13900	361	201
4	124	503	523	130	210	262	218	278	889	14300	360	198
5	121	420	369	145	220	252	218	747	730	11100	682	185
6	114	306	294	140	190	230	218	1100	634	3500	692	185
7	122	238	260	130	195	245	212	408	581	2110	431	185
8	122	204	236	130	230	239	212	304	513	1390	371	185
9	118	181	215	135	215	230	212	259	505	966	358	180
10	115	169	207	104	200	227	207	228	475	888	365	177
11	115	159	198	96	205	224	201	742	433	2380	380	174
12	126	157	188	112	210	218	198	3510	405	1460	320	182
13	126	156	182	110	230	218	196	4510	429	825	306	221
14	120	156	182	110	250	245	188	2190	668	672	295	242
15	119	156	177	140	400	269	185	1420	600	935	293	270
16	118	152	154	120	800	263	185	1250	740	601	270	248
17	117	152	82	120	1500	239	188	1250	531	483	260	230
18	114	151	116	130	2800	225	182	889	483	483	254	220
19	113	149	135	135	4000	3810	188	699	433	445	242	210
20	110	149	125	130	4550	3900	180	624	386	412	248	195
21	106	146	125	122	3450	2330	168	1420	345	395	1390	185
22	104	148	122	125	2470	1070	164	1050	545	454	840	172
23	105	152	120	116	1760	721	157	684	558	626	475	165
24	103	152	125	110	1160	538	157	778	324	634	345	162
25	105	152	120	140	801	436	154	6830	425	588	283	160
26	106	148	122	180	591	360	162	8590	540	450	267	155
27	107	144	122	230	469	325	154	7940	2870	398	257	155
28	108	142	120	260	405	300	320	3460	4040	353	230	150
29	109	142	116	250	---	290	591	2190	1780	364	218	160
30	109	383	120	250	---	283	734	2420	912	724	375	165
31	109	---	122	220	---	264	---	3080	---	594	283	---
TOTAL	3577	7330	7440	4485	28266	19177	6848	60289	27264	71260	12945	5789
MEAN	115	244	240	145	1010	619	228	1945	909	2299	418	193
MAX	139	948	893	260	4550	3900	734	8590	4040	14300	1990	270
MIN	103	142	82	96	190	218	154	228	324	353	218	150
AC-FT	7090	14540	14760	8900	56070	38040	13580	119600	54080	141300	25680	11480

CAL YR 1981 TOTAL 91583 MEAN 251 MAX 4090 MIN 46 AC-FT 181700
WTR YR 1982 TOTAL 254670 MEAN 698 MAX 14300 MIN 82 AC-FT 505100

KANSAS RIVER BASIN

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)
OCT										
13...	0930	128	525	7.4	15.0	8.4	34	700	2400	180
NOV										
12...	1540	158	520	8.5	9.5	11.5	29	700	1000	200
DEC										
08...	1230	229	445	8.0	4.0	12.1	53	1600	16000	150
JAN										
07...	1340	133	627	7.6	.0	12.9	32	210	270	230
FEB										
02...	1545	257	--	7.7	.5	10.9	63	K3000	K51800	120
MAR										
04...	1010	282	465	7.9	.5	13.1	34	1000	1800	170
APR										
01...	1415	239	598	8.4	14.5	10.3	25	150	880	220
30...	0800	742	345	8.0	10.0	9.1	110	110000	160000	130
MAY										
12...	1510	2930	210	7.4	20.0	6.0	280	87000	200000	68
13...	1200	4830	160	7.7	19.5	6.6	250	31000	88000	57
25...	1315	8530	207	8.4	17.5	6.0	210	42000	340000	74
JUN										
25...	1615	472	530	8.3	25.6	8.9	80	K8500	6700	200
JUL										
22...	1135	387	540	8.6	28.0	11.7	46	4500	3100	200
AUG										
26...	0815	264	495	7.8	21.5	7.7	43	1400	2000	170
SEP										
16...	1040	249	448	7.6	16.0	9.4	42	4100	7400	150

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

DATE	HARD- NESS NUMCAR- PLIMATE (MG/L AS CAC03) (95902)	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 LAR (MG/L AS CAC03) (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)
OCT										
13...	8.0	57	8.7	39	1.3	7.9	170	34	43	.3
NOV										
12...	17	63	9.6	40	1.3	8.7	180	44	42	.3
DEC										
08...	9.0	47	7.7	27	1.0	12	140	28	29	.3
JAN										
07...	10	74	11	43	1.3	6.4	220	50	40	.3
FEB										
02...	11	39	5.7	18	.7	12	110	--	19	.2
MAR										
04...	.00	52	8.9	28	1.0	13	170	30	37	.3
APR										
01...	19	71	10	36	1.1	9.3	200	52	38	.2
30...	17	40	6.6	17	.7	12	110	--	13	.3
MAY										
12...	--	21	3.7	8.4	.4	11	57	6.0	8.0	.3
13...	--	18	2.9	5.3	.3	9.0	52	7.0	5.5	.3
25...	7.0	24	3.3	7.4	.4	7.8	67	13	6.5	.3
JUN										
25...	10	65	10	31	1.0	10	194	43	30	.4
JUL										
22...	.00	62	11	35	1.1	11	210	40	33	.3
AUG										
26...	.00	51	9.2	34	1.2	11	168	35	36	.3
SEP										
16...	.00	46	8.5	29	1.1	12	154	34	29	.8

KANSAS RIVER BASIN

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06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS ST02) (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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT										
13...	23	319	.43	110	--	398	--	--	.84	.84
NOV										
12...	27	343	.47	146	--	383	--	--	1.3	1.2
DEC										
08...	24	266	.36	164	--	297	--	--	1.5	1.5
JAN										
07...	31	396	.54	142	--	405	--	--	1.8	1.8
FEB										
02...	18	--	.26	135	61	--	--	--	1.8	1.8
MAR										
04...	23	301	.41	229	120	--	--	--	1.3	1.3
APR										
01...	24	367	.50	237	149	--	--	--	1.4	1.4
30...	15	186	.25	373	1120	--	1.5	.120	1.6	1.6
MAY										
12...	14	113	.15	894	2840	--	.95	.450	1.4	1.3
13...	9.8	94	.13	1230	4070	--	.59	.610	1.2	1.1
25...	13	116	.16	2670	3330	--	--	--	.98	.98
JUN										
25...	26	336	.46	428	483	--	--	--	1.0	.93
JUL										
22...	18	337	.46	352	123	--	--	--	<.10	.10
AUG										
26...	19	298	.41	212	156	--	--	--	.43	.39
SEP										
16...	19	275	.37	185	214	--	--	--	1.0	1.0

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	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, DIS- SOLVED (MG/L AS P) (00666)	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)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT										
13...	.000	.82	.82	1.7	--	.320	50	<10	52	5.1
NOV										
12...	<.060	--	1.50	2.8	.450	.400	40	<10	20	3.8
DEC										
08...	.190	1.5	1.70	3.2	.370	.330	40	270	16	8.4
JAN										
07...	.170	.63	.80	2.6	.300	.240	60	<10	76	1.8
FEB										
02...	.610	2.6	3.20	5.0	.550	.440	30	110	46	14
MAR										
04...	.550	1.2	1.70	3.0	.410	.410	40	33	25	7.9
APR										
01...	.100	.79	.89	2.3	<.010	<.010	50	9	15	2.6
30...	.560	5.4	6.00	7.6	1.20	.380	30	150	6	36
MAY										
12...	.710	2.9	--	5.0	--	.330	30	700	31	74
13...	.790	4.3	5.10	6.3	2.10	.210	20	300	8	38
25...	.410	5.9	6.30	7.3	3.10	.200	30	210	5	16
JUN										
25...	.170	2.7	2.90	3.9	.740	.300	40	12	2	12
JUL										
22...	.120	2.4	2.50	--	.460	.200	60	<3	9	12
AUG										
26...	.120	.78	.90	1.3	.330	.240	50	13	8	9.4
SEP										
16...	.460	4.6	5.10	6.1	.750	.530	50	91	9	2.7

06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N) (00624)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
NOV 12...	1540	--	--	--	--	--	6	--	--	<100
FEB 02...	1545	--	--	--	--	--	18	--	--	100
MAY 12...	1510	.580	2.0	1.0	2.6	--	15	9	6	1000
13...	1200	.360	1.6	3.1	2.0	--	16	13	3	--
25...	1315	.310	1.4	4.6	1.7	2.7	14	10	4	--
AUG 26...	0815	--	--	--	--	--	6	--	--	100

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CU) (01027)	CADMIUM DIS- SOLVED (UG/L AS CU) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS CO) (01036)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
------	--	---	---	--	--	--	---	---	--

NOV 12...	<1	--	<10	--	--	--	--	--	6
FEB 02...	2	--	10	--	--	--	--	--	31
MAY 12...	<1	<3	60	--	<10	11	--	<1	85
13...	<1	<3	70	--	<10	8	--	<1	90
25...	<1	<3	80	60	20	15	14	1	95
AUG 26...	1	--	20	--	--	--	--	--	7

DATE	COPPER, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS FE) (01044)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS MN) (01054)
------	---	---	--	---	--	---	---	--	---

NOV 12...	--	--	2200	--	1	--	--	80	60
FEB 02...	--	--	2200	--	4	--	--	70	--
MAY 12...	65	20	57000	56000	<1	--	3	1500	1500
13...	56	34	82000	82000	3	0	4	2100	2100
25...	77	18	64000	64000	15	--	<1	2100	2100
AUG 26...	--	--	3300	--	49	--	--	270	--

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE TOTAL RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
------	--	---	---	--	--	--	--	---	---

NOV 12...	<.1	--	1	--	--	<1	10	--	--
FEB 02...	.3	--	1	--	--	<1	50	--	--
MAY 12...	.2	<.1	1	--	<1	1	250	190	57
13...	.2	<.1	3	--	<1	--	390	290	96
25...	.2	<.1	3	2	1	--	220	210	12
AUG 26...	.2	--	1	--	--	<1	40	--	--

KANSAS RIVER BASIN

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06884025 LITTLE BLUE RIVER AT HOLLENBERG, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	PER- THANE TOTAL (UG/L) (39034)	PCB, TOTAL (UG/L) (39516)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)
MAY										
12...	1510	<.10	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01
13...	1200	<.10	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01
25...	1315	<.10	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01

DATE	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
MAY										
12...	.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
13...	.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
25...	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2, 4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	MIREX, TOTAL (UG/L) (39755)	SILVEX, TOTAL (UG/L) (39760)
MAY									
12...	<.01	<.01	<1	<.01	.31	<.01	<.01	<.01	<.01
13...	<.01	<.01	<1	<.01	.28	<.01	<.01	<.01	<.01
25...	<.01	.01	<1	<.01	<.01	<.01	<.01	<.01	<.01

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, CHARGE, PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)
MAY							
12...	1510	2930	22.0	4800	38000	52	56
13...	1200	4830	19.5	7280	94900	46	49
25...	1315	8530	17.5	7180	165000	37	40

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	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)
MAY							
12...	58	62	93	97	100	--	--
13...	51	53	85	88	93	98	100
25...	41	48	84	92	98	100	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)	BED MAT. FALL DIAM. % FINER THAN .125 MM (80159)	BED MAT. FALL DIAM. % FINER THAN .250 MM (80160)	BED MAT. FALL DIAM. % FINER THAN .500 MM (80161)	BED MAT. FALL DIAM. % FINER THAN 1.00 MM (80162)	BED MAT. FALL DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. FALL DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. FALL DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. FALL DIAM. % FINER THAN 16.0 MM (80172)
MAY												
12...	1510	2930	5	0	1	3	31	59	69	73	75	100
13...	1200	4830	5	0	1	6	36	72	89	95	98	100
25...	1315	8530	3	0	1	12	45	75	88	96	98	100

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 1982

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft ³ /s)
Tekamah Creek basin							
06608000	Tekamah Creek at Tekamah, NE	Lat 41°46'30", long 96°13'10" in SE1/4 sec.19, T.21 N., R.11 E., Burt County, on left bank upstream from bridge, 1 block east of U.S. Highway 73 in Tekamah.	23	*1949-81 1982	07-10-82	13.22	3,660
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	1961-82	08-14-82	2.84	75
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	1961-82	07-14-82	—	a9
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 1978-82b	05-12-82	1.70	20
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	1960-82	03-19-82	13.79	2,950

* 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

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Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of peak flow are designated by a dagger (†). 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 1982

Stream	Tributary to	Location	Drainage area (mi²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft³/s)
Niobrara River basin						
Plus Creek † (06462450)	Niobrara River	Lat 42°34'08", long 100°06'22", in NW1/4SW1/4 sec.14, T.30 N., R.24 W., Brown County, at bridge on U.S. Highway 20, 2 miles west of Johnstown.	--	1969-73 1978-81	06-01-82 08-09-82	68 38
Plus Creek † (06462470)	Niobrara River	Lat 42°40'01", long 100°03'26", in SE1/4SE1/4 sec.7, T.31 N., R.23 W., Brown County, at county road bridge 0.2 mile upstream from Sand Draw and 6.5 miles north of Johnstown.	--	1969-73 1978-81	06-01-82 08-09-82	200 72
Long Pine Creek † (06463050)	Niobrara River	Lat 42°32'59", long 99°42'23", in NE1/4NW1/4 sec.30, T.30 N., R.20 W., Brown County, at timber bridge 0.1 mile downstream from bridge on U.S. Highway 20 and 0.9 mile northwest of Long Pine.	--	1978-81	06-02-82 08-11-82	53 50
Bone Creek † (06463090)	Long Pine Creek	Lat 42°32'51", long 99°52'33", in NE1/4NE1/4 sec.27, T.30 N., R.22 W., Brown County, at bridge on U.S. Highway 20, 0.6 mile west of junction of highways 7 and 20 in Ainswerth.	--	1969-73 1978-81	06-02-82 08-10-82	11 1.6
Sand Draw † (06463290)	Bone Creek	Lat 42°34'08", long 99°58'08", in NE1/4NE1/4 sec.14, T.30 N., R.23 W., Brown County, at bridge on county road 4.5 miles east and 0.7 mile north of Johnstown.	--	1978-81	06-02-82 08-10-82	4.3 1.2
Sand Draw † (06463310)	Bone Creek	Lat 42°38'10", long 99°51'10", in NE1/4NE1/4 sec.26, T.31 N., R.22 W., Brown County, at bridge on county road 8.6 miles south of Meadville and about 4.5 miles upstream from Bone Creek.	--	1978-81	06-02-82 08-10-82	13 11
Bone Creek † (06463350)	Long Pine Creek	Lat 42°40'16", long 99°46'06", in NE1/4SW1/4 sec.10, T.31 N., R.24 W., Brown County, at bridge on U.S. Highway 183, 2.8 miles west and 8.4 miles north of Long Pine.	--	1969-73 1978-81	06-02-82 08-10-82	76 51
Eagle Creek † (06465050)	Niobrara River	Lat 42°38'01", long 98°46'21", in SW1/4NW1/4 sec.30, T.31 N., R.12 W., Holt County, at county road bridge 4.3 miles south and 6 miles west of Midway.	--	1969-81	04-19-82 09-16-82	16 17
East Branch Eagle Creek † (06465100)	Eagle Creek	Lat 42°37'35", long 98°45'49", in SW1/4SE1/4 sec.30, T.31 N., R.12 W., Holt County, at county road bridge 5 miles south and 5.4 miles west of Midway.	--	1969-81	04-19-82 09-16-82	8.4 7.5
Redbird Creek † (06465398)	Niobrara River	Lat 42°39'33", long 98°33'31", in NE1/4SE1/4 sec.14, T.31 N., R.11 W., Holt County, at site 3.2 miles east and 2.7 miles south of Meek.	--	1969-81	04-19-82 09-08-82	16 11
Blackbird Creek † (06465420)	Redbird Creek	Lat 42°39'46", long 98°34'24", in SW1/4NW1/4 sec.14, T.31 N., R.11 W., Holt County, at county road bridge 2.4 miles east and 2.3 miles south of Meek.	--	1969-81	04-19-82 09-08-82	7.7 3.3

See footnotes at end of table

DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1982--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Niobrara River basin--Continued						
Verdigre Creek (06465685)	Niobrara River	Lat 42°35'29", long 98°01'49", in SE1/4NE1/4 sec.8, T.30 N., R.6 W., Knox County, at bridge on county road (old State Highway 14) 0.2 mile south of Verdigre.	440	1947-51 1978-81	10-05-81	84
					11-02-81	127
					12-07-81	104
					03-22-82	114
					04-26-82	98
					05-17-82	120
					06-14-82	250
					07-19-82	72
					08-09-82	73
					09-14-82	80
Platte River basin						
Deer Creek ¹ (06781530)	Middle Loup	Lat 41°05'37", long 98°42'37", in SE1/4SE1/4 sec.17, T.13 N., R.12 W., Howard County, at upstream side of bridge on county road 1.2 miles north of Boleus.	--	1977-81	10-20-81 06-17-82 08-05-82	.18 4.8 1.0
Oak Creek ¹ (06784400)	Middle Loup	Lat 41°11'30", long 98°41'25", in SW1/4SW1/4 sec.10, T.14 N., R.12 W., Howard County, at upstream side of bridge on county road 3.6 miles southwest of Farwell.	--	1977-81	10-20-81 06-17-82 08-05-82	12 26 116
Oak Creek ¹ (06784500)	Middle Loup	Lat 41°07'10", long 98°36'45", in NW1/4NW1/4 sec.8, T.13 N., R.11 W., Howard County, at downstream side of bridge on county road 2 miles west of Dannebrog.	--	1949-57 1977-81	10-20-81 06-17-82 08-05-82	18 38 35
Dry Creek ¹ (06784505)	Oak Creek	Lat 41°06'18", long 98°36'16", in NE1/4NW1/4 sec.17, T.13 N., R.11 W., Howard County, at downstream side of bridge on county road 3.3 miles southwest of Dannebrog.	--	1977-81	10-20-81 06-17-82 08-05-82	2.0 5.3 5.5
Turkey Creek ¹ (06784750)	Middle Loup River	Lat 41°10'48", long 98°36'50", in SE1/4SE1/4 sec.18, T.14 N., R.11 W., Howard County, at upstream side of bridge on county road 3.1 miles north of Nysted.	--	1977-81	10-20-81 06-17-82 08-05-82	2.0 6.4 86
Turkey Creek ¹ (06784810)	Middle Loup River	Lat 41°09'28", long 98°31'06", in SE1/4NE1/4 sec.25, T.14 N., R.11 W., Howard County, at upstream side of bridge on county road 3.2 miles northeast of Dannebrog.	--	1977-81	10-20-81 06-17-82 08-05-82	6.5 39 38
Turkey Creek Tributary ¹ (06784820)	Turkey Creek	Lat 41°10'55", long 98°29'39", in NW1/4SW1/4 sec.17, T.14 N., R.10 W., Howard County, at downstream side of bridge on county road 3 miles southwest of St Paul.	--	1977-81	10-20-81 06-17-82 08-05-82	.90 2.6 6.1
Unnamed Creek ¹ (06785020)	Middle Loup River	Lat 41°12'48", long 98°28'35", in SW1/4NW1/4 sec.4, T.14 N., R.10 W., Howard County, at downstream side of bridge on county road near west edge of St Paul.	--	1977-81	10-20-81 06-17-82 08-05-82	.56 4.7 7.6
Dane Creek ¹ (06788495)	North Loup River	Lat 98°54'01", long 41°36'31", 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.	--	1962b 1977-81	04-23-82 09-21-82	.45 28
Myra Creek ¹ (06788990)	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.	--	1977-81	04-23-82 09-20-82	1.4 5.4

DISCHARGE AT PARTIAL RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites during water year 1982--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Platte River basin--Continued						
Auger Creek ^a (06790245)	North Loup River	Lat 41°17'38", long 98°34'26", in SE1/4SE1/4 sec.4, T.15 N., R.11 W., Howard County, at upstream side of bridge on State Highway 11, 0.5 mile north of Elba.	--	1977-81	10-20-81 06-18-82 08-05-82	a.2 2.1 .63
Unnamed Creek ^a (06790255)	North Loup River	Lat 41°16'22", long 98°33'24", in SE1/4NE1/4 sec.15, T.15 N., R.11 W., Howard County, downstream side of bridge on State Highway 11, 0.5 mile southeast of Elba.	--	1977-81	10-20-81 06-18-82 08-05-82	a.1 a.5 .76
Elkhorn River (06796973)	Platte River	Lat 42°29'12", long 98°54'42", in SW1/4NW1/4 sec.13, T.29 N., R.14 W., Holt County, at county road bridge, 4.5 miles west of Atkinson.	--	--	06-23-82	223
Salt Creek ^a (06803080)	Platte River	Lat 40°46'13", long 96°43'05", in SW1/4SW1/4 sec.2, T.9 N., R.6 E., Lancaster County, at bridge on county road 0.9 mile west of U.S. Highway 77 and at northwest corner of State Penitentiary, Lincoln.	221	1971-81	02-17-82 03-17-82 04-14-82 05-11-82 06-10-82 07-07-82 08-04-82 09-02-82	67 23 17 107 76 57 13 38
Salt Creek ^a (06803525)	Platte River	Lat 40°54'18", long 96°35'09", in NW1/4SW1/4 sec.24, T.11 N., R.7 E., Lancaster County, at bridge 0.5 mile north of Interstate Highway 80 and 3 miles southwest of Waverly.	815	1971-81	02-19-82 03-17-82 04-14-82 06-10-82 07-08-82 08-04-82	2690 161 123 376 354 118

¹ Also published with additional data elsewhere in this report.^a Estimate.^b Gage heights, or gage heights and discharge measurements only.

LOW-FLOW INVESTIGATIONS

Low-flow investigations were made in various drainage basins in Nebraska in the 1982 water year to obtain data on ground-water/surface-water relationships. These data are used to help calibrate numerical models of the hydrologic system.

PLATTE RIVER BASIN

Discharge measurements and observations of zero flow were made on tributaries to the Platte River in Keith, McPherson, and Lincoln Counties, Nebr. Conditions were good. Light rain had occurred before the measurements, but no surface runoff was occurring.

Location	Observation of zero flow or measured discharge, in cubic feet per second	
	November 4-5, 1981	
Clear Creek 4 mi north of Lake McConaughy in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21, T.16 N., R.41 W.-----	2.5	
Clear Creek 2 mi northwest of Lake McConaughy in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29, T.16 N., R.41 W.-----	7.8	
Otter Creek 3 mi north of Lake McConaughy in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T.16 N., R.40 W.-----	16	
Otter Creek at north edge of Lake McConaughy in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.15 N., R.40 W.-----	20	
Goldfish Creek at north edge of Lake McConaughy in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.15 N., R.40 W.-----	4.3	
West Lonergan Creek 2 mi north of Lake McConaughy in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T.16 N., R.40 W.-----	.08	
West Lonergan Creek 2 mi north of Lake McConaughy in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T.15 N., R.39 W.-----	.33	
West Lonergan Creek 1 mi north of Lake McConaughy in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T.15 N., R.39 W.-----	.10	
East Lonergan Creek 1 mi north of Lake McConaughy in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T.15 N., R.39 W.-----	5.3	
West Fork Whitetail Creek 7 mi northwest of Keystone in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T.15 N., R.38 W.-----	4.2	
East Fork Whitetail Creek 7 mi northwest of Keystone in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T.15 N., R.38 W.-----	14	
Whitetail Creek 5 mi northwest of Keystone in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T.15 N., R.38 W.-----	24	
Whitetail Creek 3 mi northwest of Keystone in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T.15 N., R.38 W.-----	26	
Whitetail Creek 1 mi west of Keystone in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T.15 N., R.38 W.-----	28	
Coon Creek 2 mi east of Keystone in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T.15 N., R.37 W.-----	.26	
Duck Creek 4 mi east of Keystone in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T.14 N., R.37 W.-----	0	
Skunk Creek 5 mi east of Keystone in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T.14 N., R.36 W.-----	1.8	
Skunk Creek 5 mi east of Keystone in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T.14 N., R.36 W.-----	2.1	
Sand Creek 6 mi southeast of Keystone in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T.14 N., R.36 W.-----	2.4	
Cedar Creek 4 mi north of Paxton in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T.14 N., R.35 W.-----	.05	
Cedar Creek 4 mi north of Paxton in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T.14 N., R.35 W.-----	1.3	
North Fork Birdwood Creek 15 mi southwest of Tryon in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T.17 N., R.34 W.-----	21	
North Fork Birdwood Creek 14 mi north of Sutherland in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T.16 N., R.33 W.-----	72	
West Birdwood Creek 19 mi north of Paxton in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T.17 N., R.35 W.-----	0	
West Birdwood Creek 18 mi north of Paxton in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T.16 N., R.35 W.-----	.01	
West Birdwood Creek 18 mi north of Paxton in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T.16 N., R.35 W.-----	17	
West Birdwood Creek 14 mi north of Sutherland in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T.16 N., R.34 W.-----	41	
West Birdwood Creek 14 mi northeast of Sutherland in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T.16 N., R.33 W.-----	54	
Birdwood Creek 12 mi northeast of Sutherland in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T.16 N., R.33 W.-----	135	
Birdwood Creek 10 mi northeast of Sutherland in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.15 N., R.33 W.-----	127	
Birdwood Creek 8 mi northeast of Sutherland in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.15 N., R.33 W.-----	145	
Birdwood Creek 7 mi northeast of Sutherland in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T.15 N., R.33 W.-----	141	
Birdwood Creek 5 mi northeast of Sutherland in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T.15 N., R.33 W.-----	140	
Birdwood Creek 4 mi northeast of Sutherland in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T.14 N., R.33 W.-----	148	
White Horse Creek tributary 5 mi northwest of North Platte in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T.14 N., R.31 W.-----	0	
White Horse Creek tributary 5 mi northwest of North Platte in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T.15 N., R.31 W.-----	0	
White Horse Creek tributary 2 mi north of North Platte in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T.14 N., R.30 W.-----	5.3	
White Horse Creek tributary 1 mi north of North Platte in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T.14 N., R.30 W.-----	15	
White Horse Creek 7 mi north of North Platte in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T.15 N., R.30 W.-----	.36	
White Horse Creek 5 mi north of North Platte in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T.15 N., R.30 W.-----	5.3	
White Horse Creek 1 mi north of North Platte in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T.14 N., R.30 W.-----	trace	
White Horse Creek 1 mi northeast of North Platte in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T.14 N., R.30 W.-----	20	
White Horse Creek 3 mi east of North Platte in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T.13 N., R.29 W.-----	24	
Pawnee Creek 3 mi east of Maxwell in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T.13 N., R.27 W.-----	8.6	
Pawnee Creek 5 mi southeast of Maxwell in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T.13 N., R.27 W.-----	8.2	
Pawnee Creek tributary 5 mi southeast of Maxwell in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T.13 N., R.27 W.-----	0	
Pawnee Creek 1 mi northwest of Brady in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T.12 N., R.27 W.-----	10	
Wild Horse Valley 7 mi northeast of Brady in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T.13 N., R.26 W.-----	0	
Wild Horse Valley 6 mi east of Brady in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T.12 N., R.26 W.-----	0	
Wild Horse Valley 7 mi southeast of Brady in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25, T.12 N., R.26 W.-----	0	

PLATTE RIVER BASIN--Continued

Cedar River Basin

Discharge measurements and observations of zero flow were made on Cedar River and its tributaries in Boone, Garfield, Greeley, Nance, and Wheeler Counties, Nebr., on October 5, 1981. Some light rain fell in the basin this date.

<u>Location</u>	<u>Observation of zero flow or measured discharge, in cubic feet per second</u>	
	October 5, 1981	
Big Cedar Creek 29 mi northwest of Erickson in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T.24 N., R.15 W.-----	0	
Big Cedar Creek 25 mi northwest of Erickson in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T.24 N., R.15 W.-----	trace	
Big Cedar Creek 22 mi northwest of Erickson in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T.24 N., R.14 W.-----	.90	
Little Cedar Creek 26 mi northwest of Erickson in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T.24 N., R.15 W.-----	.29	
Little Cedar Creek 17 mi northwest of Erickson in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T.23 N., R.14 W.-----	0	
Cedar Creek 16 mi northwest of Erickson in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T.23 N., R.14 W.-----	2.6	
Cedar Creek 12 mi northwest of Erickson in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T.23 N., R.13 W.-----	40	
Cedar Creek 7 mi northwest of Erickson in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T.22 N., R.12 W.-----	54	
Dry Cedar Creek 5 mi west of Erickson in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T.21 N., R.13 W.-----	0	
Cedar River 2 mi southeast of Erickson in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T.21 N., R.12 W.-----	101	
Cedar River 8 mi southeast of Erickson in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.20 N., R.11 W.-----	125	
Clear Creek 7 mi east of Erickson in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T.21 N., R.11 W.-----	0	
Clear Creek 7 mi east of Erickson in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T.21 N., R.11 W.-----	trace	
Clear Creek 8 mi southeast of Erickson in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T.21 N., R.11 W.-----	.12	
Cedar River 5 mi northwest of Spalding in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T.20 N., R.10 W.-----	140	
Cedar River tributary 5 mi northwest of Spalding in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T.20 N., R.10 W.-----	trace	
Cedar River tributary 5 mi northwest of Spalding in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T.20 N., R.10 W.-----	0	
Cedar River tributary 5 mi northwest of Spalding in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T.20 N., R.10 W.-----	.90	
Cedar River tributary 1 mi north of Spalding in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T.20 N., R.9 W.-----	0	
Cedar River tributary 1 mi west of Spalding in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20, T.20 N., R.9 W.-----	trace	
Cedar River 1 mi south of Spalding in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T.20 N., R.9 W.-----	142	
Freeman Creek 3 mi south of Spalding in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T.19 N., R.9 W.-----	0	
Freeman Creek tributary 4 mi south of Spalding in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T.19 N., R.9 W.-----	0	
Freeman Creek 4 mi southeast of Spalding in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T.19 N., R.9 W.-----	Ponded	
Cedar River tributary 2 mi north of Cedar Rapids in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T.19 N., R.7 W.-----	0	
Cedar River at Cedar Rapids in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.18 N., R.7 W.-----	156	
Cedar River at Belgrade in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.17 N., R.7 W.-----	180	
Cedar River 3 mi south of Belgrade in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T.17 N., R.6 W.-----	172	
Ash Creek 3 mi south of Belgrade in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T.17 N., R.6 W.-----	0	
North Branch Timber Creek 5 mi southwest of Cedar Rapids in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T.18 N., R.8 W.-----	0	
North Branch Timber Creek 5 mi southwest of Cedar Rapids in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T.18 N., R.8 W.-----	0	
North Branch Timber Creek 6 mi southwest of Cedar Rapids in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T.18 N., R.8 W.-----	0	
North Branch Timber Creek 6 mi south of Cedar Rapids in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T.17 N., R.7 W.-----	0	
South Branch Timber Creek 9 mi southwest of Cedar Rapids in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T.17 N., R.8 W.-----	0	
South Branch Timber Creek 8 mi southwest of Cedar Rapids in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T.17 N., R.8 W.-----	.24	
Timber Creek 5 mi southwest of Belgrade in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T.17 N., R.7 W.-----	1.2	
Timber Creek 4 mi southwest of Belgrade in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T.17 N., R.7 W.-----	Ponded	
Timber Creek 4 mi south of Belgrade in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T.17 N., R.7 W.-----	2.8	
Cedar River 2 mi northwest of Fullerton in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T.17 N., R.6 W.-----	176	
Cedar River at Fullerton in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T.16 N., R.6 W.-----	181	
Plum Creek 5 mi east of Belgrade in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T.18 N., R.6 W.-----	0	
Plum Creek 4 mi northeast of Fullerton in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T.17 N., R.5 W.-----	.44	
Plum Creek 4 mi northeast of Fullerton in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T.16 N., R.5 W.-----	Ponded	
Council Creek 6 mi northeast of Fullerton in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T.17 N., R.5 W.-----	0	

LOW-FLOW INVESTIGATIONS

PLATTE RIVER BASIN--Continued

Beaver Creek Basin

Discharge measurements and observations of zero flow were made on the mainstem of Beaver Creek and its tributaries in Boone, Nance, and Wheeler Counties, Nebr., in October 1981. Conditions were good, with little rainfall occurring during the period.

<u>Location</u>	Observation of zero flow or measured discharge, in cubic feet per second
October 5, 1981	
Beaver Creek 7 mi northwest of Bartlett in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T.23 N., R.11 W.-----	0
Beaver Creek 6 mi north of Bartlett in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T.23 N., R.11 W.-----	.21
Beaver Creek 6 mi northeast of Bartlett in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T.23 N., R.10 W.-----	.35
Beaver Creek 8 mi northeast of Bartlett in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T.23 N., R.9 W.-----	2.4
Beaver Creek 11 mi northeast of Bartlett in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T.23 N., R.9 W.-----	8.9
Beaver Creek 10 mi northwest of Petersburg in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T.22 N., R.8 W.-----	15
Beaver Creek 6 mi west of Petersburg in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T.22 N., R.8 W.-----	28
Beaver Creek tributary 5 mi west of Petersburg in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T.22 N., R.7 W.-----	0
Beaver Creek tributary 5 mi west of Petersburg in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T.22 N., R.7 W.-----	0
Beaver Creek 4 mi southwest of Petersburg in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T.22 N., R.7 W.-----	32
Beaver Creek 3 mi north of Loretto in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T.21 N., R.7 W.-----	38
Rae Creek 2 mi south of Petersburg in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.21 N., R.7 W.-----	0
Beaver Creek at Loretto in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T.21 N., R.7 W.-----	39
Beaver Creek 3 mi southeast of Loretto in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T.20 N., R.6 W.-----	39
Beaver Creek at Albion in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T.20 N., R.6 W.-----	40
Beaver Creek tributary 2 mi north of Albion in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.20 N., R.6 W.-----	0
Beaver Creek 1 mi east of Albion in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T.20 N., R.6 W.-----	35
O'Neil Valley 3 mi southeast of Albion in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T.20 N., R.6 W.-----	0
Beaver Creek 5 mi southeast of Albion in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T.19 N., R.5 W.-----	35
Beaver Creek 3 mi northwest of St. Edward in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T.19 N., R.5 W.-----	33
Vorhees Creek 3 mi northeast of St. Edward in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T.19 N., R.5 W.-----	0
Beaver Creek 2 mi northwest of St. Edward in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T.19 N., R.5 W.-----	39
Beaver Creek at St. Edward in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T.18 N., R.5 W.-----	38
Bogus Creek 2 mi west of St. Edward in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T.18 N., R.5 W.-----	0
Bogus Creek 2 mi southwest of St. Edward in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.18 N., R.5 W.-----	0
Bogus Creek 2 mi south of St. Edward in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T.18 N., R.5 W.-----	Ponded
Bogus Creek 2 mi southeast of St. Edward in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T.18 N., R.5 W.-----	.50
Beaver Creek 2 mi southeast of St. Edward in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T.18 N., R.5 W.-----	38
Beaver Creek tributary 2 mi southeast of St. Edward in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T.18 N., R.4 W.-----	0
Beaver Creek 4 mi northwest of Genoa in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T.18 N., R.4 W.-----	47
Skedee Creek 3 mi west of Genoa in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T.17 N., R.4 W.-----	0
Beaver Creek at Genoa in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T.17 N., R.4 W.-----	52

KANSAS RIVER BASIN

Republican River Basin

Discharge measurements and observations of zero flow were made on the Republican River and its tributaries in Franklin, Frontier, Furnas, Gosper, Harlan, and Phelps Counties, Nebr., in October 1981. Conditions were good. Light rainfall had occurred 2 days prior to the measurements, but no surface runoff was occurring.

<u>Location</u>	Observation of zero flow or measured discharge, in cubic feet per second
October 19-20, 1981	
Republican River at Arapahoe in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T.4 N., R.23 W.-----	85
East Muddy Creek 11 mi south of Eustis in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.6 N., R.24 W.-----	0
East Muddy Creek tributary 11 mi south of Eustis in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T.6 N., R.24 W.-----	0
East Muddy Creek 12 mi south of Eustis in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T.6 N., R.24 W.-----	.15
East Muddy Creek 14 mi south of Eustis in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T.6 N., R.24 W.-----	.23
West Muddy Creek 13 mi southwest of Eustis in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T.6 N., R.25 W.-----	0
West Muddy Creek 14 mi south of Eustis in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29, T.6 N., R.24 W.-----	.11
Muddy Creek 7 mi north of Holbrook in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T.5 N., R.24 W.-----	1.7
Muddy Creek 6 mi northwest of Arapahoe in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T.5 N., R.24 W.-----	3.0
Elder Creek 6 mi northwest of Arapahoe in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T.5 N., R.23 W.-----	0

LOW-FLOW INVESTIGATIONS

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KANSAS RIVER BASIN--Continued

Republican River Basin--Continued

Location	Observation of zero flow or measured discharge, in cubic feet per second	
	October 19-20, 1981	
East Branch Muddy Creek 4 mi northwest of Arapahoe in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T.5 N., R.23 W.-----	0	
Muddy Creek 3 mi northwest of Arapahoe in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T.5 N., R.23 W.-----	3.4	
Muddy Creek at Arapahoe in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T.4 N., R.23 W.-----	6.5	
Elk Creek 8 mi north of Arapahoe in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T.5 N., R.23 W.-----	0	
Elk Creek 4 mi north of Arapahoe in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T.5 N., R.23 W.-----	.13	
Elk Creek tributary 3 mi north of Arapahoe in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T.4 N., R.23 W.-----	0	
Elk Creek 2 mi north of Arapahoe in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T.4 N., R.23 W.-----	.16	
Elk Creek 1 mi east of Arapahoe in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T.4 N., R.23 W.-----	.86	
Little Antelope Creek 2 mi east of Arapahoe in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T.4 N., R.23 W.-----	0	
Big Antelope Creek 4 mi southeast of Arapahoe in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T.4 N., R.22 W.-----	.13	
Dry Creek 4 mi northeast of Arapahoe in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T.4 N., R.22 W.-----	0	
Drain 1 mi northwest of Edison in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T.4 N., R.22 W.-----	0	
Republican River at Edison in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T.4 N., R.22 W.-----	96	
East Branch Turkey Creek 4 mi south of Smithfield in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T.6 N., R.21 W.-----	0	
East Branch Turkey Creek 6 mi south of Smithfield in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T.6 N., R.21 W.-----	.86	
West Branch Turkey Creek 10 mi north of Edison in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1, T.5 N., R.22 W.-----	0	
Turkey Creek 3 mi north of Edison in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T.4 N., R.22 W.-----	3.2	
Turkey Creek 2 mi east of Edison in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T.4 N., R.21 W.-----	2.7	
Turkey Creek tributary 4 mi west of Oxford in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T.4 N., R.21 W.-----	0	
Swartz Creek 3 mi west of Oxford in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T.3 N., R.21 W.-----	4.9	
Small drain 1 mi west of Oxford in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T.3 N., R.21 W.-----	0	
Republican River tributary 1 mi east of Oxford in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T.3 N., R.21 W.-----	.24	
Small drain at Oxford in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.3 N., R.21 W.-----	0	
Republican River at Oxford in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T.3 N., R.21 W.-----	113	
Spring Creek 10 mi northeast of Oxford in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T.5 N., R.20 W.-----	0	
Spring Creek 8 mi northeast of Oxford in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T.5 N., R.20 W.-----	.30	
Spring Creek 7 mi northeast of Oxford in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T.4 N., R.20 W.-----	.72	
Elm Creek 6 mi northeast of Oxford in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.4 N., R.20 W.-----	0	
Spring Creek 4 mi northeast of Oxford in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T.4 N., R.20 W.-----	1.1	
Spring Creek 3 mi east of Oxford in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T.3 N., R.20 W.-----	1.1	
Spring Creek 3 mi southeast of Oxford in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T.3 N., R.20 W.-----	1.6	
Deep Creek 4 mi east of Oxford in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T.3 N., R.20 W.-----	0	
Deep Creek 4 mi southeast of Oxford in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T.3 N., R.20 W.-----	.52	
Foster Creek 4 mi southeast of Oxford in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T.3 N., R.20 W.-----	0	
Foster Creek 5 mi southeast of Oxford in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T.3 N., R.20 W.-----	.42	
Republican River 6 mi northwest of Orleans in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T.3 N., R.20 W.-----	110	
School Creek 5 mi northwest of Orleans in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T.3 N., R.20 W.-----	0	
Republican River 2 mi west of Orleans in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T.2 N., R.19 W.-----	97	
Milrose Creek 5 mi north of Orleans in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T.3 N., R.19 W.-----	0	
Milrose Creek 1 mi northwest of Orleans in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T.2 N., R.19 W.-----	.24	
Sappa Creek tributary 9 mi south of Hendley in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T.1 N., R.24 W.-----	0	
Sappa Creek 8 mi south of Hendley in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T.1 N., R.23 W.-----	0	
Sappa Creek tributary 8 mi southeast of Hendley in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T.1 N., R.23 W.-----	0	
Dry Creek 6 mi south of Beaver City in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T.1 N., R.22 W.-----	0	
Drain 4 mi southwest of Precept in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T.1 N., R.22 W.-----	0	
Drain 2 mi southwest of Precept in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T.1 N., R.22 W.-----	0	
Maple Creek at Precept in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T.1 N., R.21 W.-----	0	
Sappa Creek 2 mi east of Precept in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T.1 N., R.21 W.-----	0	
Jack Creek 3 mi east of Precept in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T.1 N., R.21 W.-----	.07	
Sappa Creek 3 mi northeast of Precept in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T.2 N., R.21 W.-----	0	
Honey Creek 4 mi southwest of Stamford in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T.1 N., R.21 W.-----	0	
Sappa Creek 3 mi southwest of Stamford in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T.2 N., R.21 W.-----	0	
Beaver Creek at Wilsonville in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T.2 N., R.25 W.-----	0	
Beaver Creek tributary 2 mi east of Wilsonville in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T.2 N., R.24 W.-----	0	
Beaver Creek tributary 2 mi east of Hendley in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T.2 N., R.23 W.-----	0	
Beaver Creek 2 mi east of Hendley in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T.2 N., R.23 W.-----	.06	
Beaver Creek 3 mi west of Beaver City in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T.2 N., R.23 W.-----	.27	
Beaver Creek tributary 2 mi west of Beaver City in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T.2 N., R.23 W.-----	0	
Beaver Creek at Beaver City in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T.2 N., R.22 W.-----	.65	
Beaver Creek tributary 2 mi east of Beaver City in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T.2 N., R.22 W.-----	0	

LOW-FLOW INVESTIGATIONS

KANSAS RIVER BASIN--Continued

Republican River Basin--Continued

Location	Observation of zero flow or measured discharge, in cubic feet per second	
	October 19-20, 1981	
Beaver Creek 4 mi east of Beaver City in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T.2 N., R.21 W.-----	0	
Beaver Creek tributary at Hollinger in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.2 N., R.21 W.-----	0	
Beaver Creek tributary 3 mi east of Hollinger in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T.2 N., R.21 W.-----	0	
Beaver Creek 3 mi west of Stamford in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T.2 N., R.21 W.-----	0	
Twin Creek at Stamford in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T.2 N., R.20 W.-----	0	
Sappa Creek 5 mi west of Orleans in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T.2 N., R.20 W.-----	0	
Republican River 2 mi south of Orleans in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T.2 N., R.19 W.-----	93	
Flag Creek 3 mi north of Orleans in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T.3 N., R.19 W.-----	0	
Flag Creek 2 mi north of Orleans in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T.2 N., R.19 W.-----	.12	
Flag Creek at Orleans in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T.2 N., R.19 W.-----	.54	
Rope Creek 2 mi northeast of Orleans in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T.2 N., R.18 W.-----	.08	
Rope Creek 2 mi east of Orleans in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T.2 N., R.19 W.-----	.15	
Republican River at Alma in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T.1 N., R.18 W.-----	Ponded	
Cook Creek 5 mi north of Alma in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T.3 N., R.18 W.-----	0	
Cook Creek 2 mi north of Alma in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T.2 N., R.18 W.-----	0	
Cook Creek at Alma in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T.2 N., R.18 W.-----	.19	
Methodist Creek 2 mi west of Huntley in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T.3 N., R.18 W.-----	0	
Methodist Creek 4 mi northeast of Alma in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T.2 N., R.18 W.-----	0	
Methodist Creek 3 mi northeast of Alma in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T.2 N., R.18 W.-----	.13	
Methodist Creek 2 mi east of Alma in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T.2 N., R.18 W.-----	.65	
Prairie Dog Creek 7 mi southwest of Alma in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T.1 N., R.18 W.-----	0	
Prairie Dog Creek 6 mi south of Alma in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T.1 N., R.18 W.-----	0	
Crystal Creek 7 mi southeast of Alma in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T.1 N., R.17 W.-----	.06	
Mill Creek 3 mi west of Republican City in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T.2 N., R.17 W.-----	0	
Mill Creek 3 mi southwest of Republican City in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T.1 N., R.17 W.-----	0	
Patterson Creek 5 mi south of Republican City in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T.1 N., R.17 W.-----	.05	
Eureka Creek 1 mi east of Republican City in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T.2 N., R.17 W.-----	0	
Eureka Creek 2 mi southeast of Republican City in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T.1 N., R.17 W.-----	.61	
Turkey Creek tributary 2 mi east of Huntley in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T.3 N., R.17 W.-----	0	
Turkey Creek 3 mi east of Huntley in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T.3 N., R.17 W.-----	0	
Turkey Creek 4 mi southeast of Huntley in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T.3 N., R.17 W.-----	0	
Turkey Creek 5 mi southeast of Huntley in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T.3 N., R.17 W.-----	.20	
Turkey Creek 4 mi northeast of Republican City in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T.2 N., R.17 W.-----	3.8	
Turkey Creek tributary 5 mi northwest of Naponee in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T.2 N., R.16 W.-----	.98	
Turkey Creek 3 mi northwest of Naponee in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T.2 N., R.16 W.-----	11	
Turkey Creek 1 mi north of Naponee in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T.2 N., R.16 W.-----	11	

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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)
NIOBRARA RIVER BASIN											
06459350 - AINSWORTH CANAL NR JOHNSTOWN NE (LAT 42 33 30 LONG 100 05 14)											
JUN , 1982											
01...	1610	60	172	8.5	23.0	66	.00	21	3.4	6.7	.4
AUG											
09...	1515	550	163	8.4	19.0	66	.00	21	3.4	7.5	.4
06462450 - PLUM CREEK AT JOHNSTOWN, NEBR (LAT 42 34 08 LONG 100 06 22)											
JUN , 1982											
01...	1600	68	330	8.3	21.0	140	.00	40	9.1	25	1.0
AUG											
09...	1455	38	172	7.8	18.0	69	.00	22	3.3	8.8	.5
06462470 - PLUM CREEK NEAR JOHNSTOWN, NEBR (LAT 42 40 01 LONG 100 03 26)											
JUN , 1982											
01...	1650	200	340	8.4	21.0	130	.00	40	8.2	20	.8
AUG											
09...	1625	72	173	8.2	16.5	65	.00	21	3.0	6.7	.4
06463050 - LONG PINE CREEK AT LONG PINE, NEBR. (LAT 42 32 59 LONG 099 42 23)											
JUN , 1982											
02...	1630	53	125	8.3	15.0	49	.00	16	2.2	5.7	.4
AUG											
11...	0815	50	132	7.7	13.5	49	.00	16	2.2	5.7	.4
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS S04) (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 AS (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
06459350 - AINSWORTH CANAL NR JOHNSTOWN NE (LAT 42 33 30 LONG 100 05 14)											
JUN , 1982											
01...	10	80		9.0	5.9	.4	47	152	.21	24.6	<.10
AUG											
09...	5.9	80		8.0	.9	.3	42	138	.19	205	.17
06462450 - PLUM CREEK AT JOHNSTOWN, NEBR (LAT 42 34 08 LONG 100 06 22)											
JUN , 1982											
01...	11	179		10	4.7	.6	48	258	.35	47.4	.38
AUG											
09...	6.0	79		6.0	1.3	.3	48	149	.20	15.3	1.3
06462470 - PLUM CREEK NEAR JOHNSTOWN, NEBR (LAT 42 40 01 LONG 100 03 26)											
JUN , 1982											
01...	12	175		<5.0	5.7	.7	52	--	--	--	.36
AUG											
09...	5.8	84		<5.0	1.2	.3	55	--	--	--	.82
06463050 - LONG PINE CREEK AT LONG PINE, NEBR. (LAT 42 32 59 LONG 099 42 23)											
JUN , 1982											
02...	4.4	56		<5.0	1.1	.3	54	--	--	--	1.2
AUG											
11...	4.1	60		<5.0	1.0	.2	56	--	--	--	1.1

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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)
NIOBRARA RIVER BASIN--Continued											
06463090 - BONE CREEK AT AINSWORTH, NEBR (LAT 42 32 51 LONG 099 52 33)											
JUN , 1982											
02...	1210	11	243	7.8	13.0	100	.00	31	5.8	15	.7
AUG											
10...	1315	1.6	180	7.4	16.0	74	.00	23	3.9	9.4	.5
06463290 - SAND DRAW NR JOHNSTOWN NE (LAT 42 34 08 LONG 099 58 08)											
JUN , 1982											
02...	0800	4.3	260	7.8	11.0	110	.00	37	5.3	16	.7
AUG											
10...	0830	1.2	148	7.4	14.0	58	.00	19	2.6	6.3	.4
06463310 - SAND DRAW NR MEADVILLE NE (LAT 42 38 10 LONG 099 51 10)											
JUN , 1982											
02...	1115	13	265	8.1	12.5	100	.00	33	5.4	16	.7
AUG											
10...	1215	11	265	7.6	19.5	92	.00	29	4.7	12	.6
06463350 - BONE CREEK NEAR LONG PINE, NEBR (LAT 42 40 16 LONG 099 46 06)											
JUN , 1982											
02...	1410	56	238	8.4	14.0	95	.00	30	4.9	12	.6
AUG											
10...	1435	51	240	8.3	22.0	89	.00	28	4.7	11	.5
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINTITY LAB (MG/L AS CAC03) (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 AS (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
06463090 - BONE CREEK AT AINSWORTH, NEBR (LAT 42 32 51 LONG 099 52 33)											
JUN , 1982											
02...		6.8	118	5.0	4.9	.4	44	188	.26	5.6	.96
AUG											
10...		6.6	76	6.0	2.6	.2	51	159	.22	.69	2.4
06463290 - SAND DRAW NR JOHNSTOWN NE (LAT 42 34 08 LONG 099 58 08)											
JUN , 1982											
02...		5.7	131	11	4.6	.4	41	200	.27	2.3	.10
AUG											
10...		5.0	71	<5.0	1.9	.3	45	--	--	--	.18
06463310 - SAND DRAW NR MEADVILLE NE (LAT 42 38 10 LONG 099 51 10)											
JUN , 1982											
02...		6.9	118	6.0	3.4	.3	35	185	.25	6.5	1.9
AUG											
10...		9.0	113	10	3.1	.3	48	200	.27	5.9	3.6
06463350 - BONE CREEK NEAR LONG PINE, NEBR (LAT 42 40 16 LONG 099 46 06)											
JUN , 1982											
02...		7.4	108	<5.0	4.7	.3	48	--	--	--	1.4
AUG											
10...		8.6	97	9.0	4.5	.3	51	183	.25	25.2	1.8

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHNS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
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NIOBRARA RIVER BASIN--Continued

06465050 - EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02 LONG 098 46 29)

APR , 1982									
19...	1420	16	287	7.9	17.0	10	130	16	42
SEP									
16...	1515	17	275	7.9	15.0	15	110	11	36

06465100 - EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30 LONG 098 45 56)

APR , 1982									
19...	1530	8.4	268	8.1	15.0	5	120	.00	41
SEP									
16...	1625	7.5	271	7.9	16.0	10	120	.00	41

06465398 - REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33 LONG 098 33 31)

APR , 1982									
19...	1230	16	213	7.4	13.5	15	95	6.0	32
SEP									
08...	1550	11	206	8.1	27.5	10	82	.00	28

06465420 - BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46 LONG 098 34 24)

APR , 1982									
19...	1325	7.7	286	7.9	15.0	5	130	.00	43
SEP									
08...	1445	3.3	260	8.2	27.5	10	110	.00	36

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 LAB (MG/L AS CAC03) (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 SI02) (00955)
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06465050 - EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02 LONG 098 46 29)

APR , 1982									
19...	5.2	10	.4	5.9	110	6.0	4.8	.2	41
SEP									
16...	5.0	8.6	.4	8.8	100	10	4.3	2.0	46

06465100 - EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30 LONG 098 45 56)

APR , 1982									
19...	4.4	7.5	.3	5.1	130	5.0	2.0	.3	46
SEP									
16...	4.3	6.5	.3	5.1	126	5.0	2.0	1.0	57

06465398 - REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33 LONG 098 33 31)

APR , 1982									
19...	3.6	8.3	.4	4.8	89	6.0	2.5	.3	40
SEP									
08...	3.0	7.1	.4	5.0	83	10	2.7	.2	53

06465420 - BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46 LONG 098 34 24)

APR , 1982									
19...	4.7	9.3	.4	4.9	130	6.0	2.9	.3	37
SEP									
08...	4.2	7.7	.3	5.7	111	10	2.6	.3	52

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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)
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NIOBRARA RIVER BASIN--Continued

06465050 - EAGLE CREEK NEAR MIDWAY NEBR (LAT 42 38 02 LONG 098 46 29)

APR , 1982								
19...	202	.27	8.7	4.6	.110	30	42	9
SEP								
16...	205	.28	9.2	5.5	.130	20	22	5

06465100 - EASTBRANCH EAGLE CREEK NR MIDWAY NEBR (LAT 42 37 30 LONG 098 45 56)

APR , 1982								
19...	193	.26	4.4	.85	.030	30	14	4
SEP								
16...	202	.27	4.1	1.0	.020	20	10	4

06465398 - REDBIRD CREEK NR MEEK NEBRASKA (LAT 42 39 33 LONG 098 33 31)

APR , 1982								
19...	159	.22	6.9	1.7	.080	30	65	10
SEP								
08...	167	.23	5.1	1.7	.130	--	34	3

06465420 - BLACKBIRD CREEK NEAR MEEK NEBR (LAT 42 39 46 LONG 098 34 24)

APR , 1982								
19...	193	.26	4.0	1.4	.040	30	37	14
SEP								
08...	193	.26	1.7	1.8	.120	130	12	7

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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 RIVER BASIN											
06778860 - FARWELL CANAL AT HWY 58 ABV SHERMAN RES NE (LAT 41 22 23 LONG 099 00 44)											
JUN , 1982											
16...	1400	86	204	8.2	23.0	81	.00	26	4.0	7.4	.4
AUG											
03...	0140	788	218	8.9	29.0	86	.00	28	3.9	10	.5
06781530 - DEER CREEK NEAR ROELUS NE (LAT 41 05 37 LONG 098 42 37)											
OCT , 1981											
20...	1400	.18	887	7.5	10.5	460	28	129	33	18	.4
JUN , 1982											
17...	1050	4.8	698	7.3	19.0	340	100	100	23	11	.3
AUG											
05...	1515	1.0	375	7.6	26.0	170	1.0	49	11	10	.4
06784400 - OAK CREEK NEAR FARWELL NE (LAT 41 11 30 LONG 098 41 25)											
OCT , 1981											
20...	1445	12	549	7.7	11.5	260	.00	77	17	18	.5
JUN , 1982											
17...	1015	27	532	7.6	18.0	260	1.0	78	16	18	.5
AUG											
05...	1620	116	304	7.4	24.0	110	1.0	34	7.0	8.3	.4
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB DIS- SOLVED (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLU- 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 AS (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
06778860 - FARWELL CANAL AT HWY 58 ABV SHERMAN RES NE (LAT 41 22 23 LONG 099 00 44)											
JUN , 1982											
16...		6.2	95	10	1.5	.3	53	174	.24	40.4	.49
AUG											
03...		7.6	105	10	3.1	.3	61	187	.25	398	<.10
06781530 - DEER CREEK NEAR ROELUS NE (LAT 41 05 37 LONG 098 42 37)											
OCT , 1981											
20...	20	430	99	9.1	.3	29	596	.81	.29	<.09	
JUN , 1982											
17...	18	242	72	10	.3	31	426	.58	5.5	3.4	
AUG											
05...	14	167	26	3.2	.5	40	257	.35	.69	.61	
06784400 - OAK CREEK NEAR FARWELL NE (LAT 41 11 30 LONG 098 41 25)											
OCT , 1981											
20...	11	290	<5.0	5.6	.3	45	354	.48	11.5	1.1	
JUN , 1982											
17...	14	260	15	5.9	.3	50	361	.49	26.3	1.7	
AUG											
05...	17	113	10	3.1	.4	30	207	.28	64.8	6.6	

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)
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PLATTE RIVER BASIN--Continued

06784500 - OAK CREEK NR DANNEBROG NEBR (LAT 41 07 10 LONG 098 36 45)

OCT , 1981											
20...	1300	18	592	7.6	12.0	280	.00	86	17	19	.5
JUN , 1982											
17...	1300	38	556	7.5	19.0	290	34	88	18	15	.4
AUG											
05...	1400	35	526	7.8	24.0	210	.00	62	13	17	.5

06784505 - DRY C NR DANNEBROG NE (LAT 41 06 18 LONG 098 36 16)

OCT , 1981											
20...	1330	2.0	848	7.5	11.0	400	42	118	26	32	.7
JUN , 1982											
17...	1230	5.3	808	7.6	18.0	370	110	110	24	24	.6
AUG											
05...	1430	5.5	603	7.8	23.0	260	18	74	18	24	.7

06784750 - TURKEY CREEK NEAR NYSTED NE (LAT 41 10 48 LONG 098 36 50)

OCT , 1981											
20...	1515	2.0	773	7.6	13.5	330	.00	91	24	40	1.0
JUN , 1982											
17...	0930	6.4	708	7.5	19.0	310	.00	89	22	33	.9
AUG											
05...	1705	8.6	304	7.3	25.0	100	2.0	29	6.6	14	.6

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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
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06784500 - OAK CREEK NR DANNEBROG NEBR (LAT 41 07 10 LONG 098 36 45)

OCT , 1981										
20...	12	310	<5.0	8.2	.3	44	378	.51	18.4	.84
JUN , 1982										
17...	12	260	39	10	.3	55	407	.55	41.8	3.1
AUG										
05...	13	230	23	5.3	.3	46	322	.44	30.4	1.0

06784505 - DRY C NR DANNEBROG NE (LAT 41 06 18 LONG 098 36 16)

OCT , 1981										
20...	16	360	110	13	.3	43	589	.80	3.2	3.2
JUN , 1982										
17...	19	263	110	11	.3	38	512	.70	7.3	3.9
AUG										
05...	14	241	59	8.7	.4	42	393	.53	5.8	1.8

06784750 - TURKEY CREEK NEAR NYSTED NE (LAT 41 10 48 LONG 098 36 50)

OCT , 1981										
20...	20	390	<5.0	12	.3	38	--	--	--	1.9
JUN , 1982										
17...	19	352	25	11	.3	39	472	.64	8.2	5.0
AUG										
05...	19	98	11	5.3	.4	26	203	.28	47.1	7.3

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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- SURP- TION RATIO (00931)
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PLATTE RIVER BASIN--Continued

06784810 - TURKEY CREEK NORTHEAST OF DANNEBROG NE (LAT 41 09 28 LONG 098 31 06)

OCT , 1981											
20...	1145	6.5	742	7.4	11.0	310	.00	89	22	41	1.1
JUN , 1982											
17...	1445	39	677	7.5	18.0	280	.00	81	20	30	.8
AUG											
05...	1130	38	415	7.5	23.5	160	.00	47	11	18	.7

06784820 - TURKEY CREEK TRIBUTARY NR ST PAUL NE (LAT 41 10 55 LONG 098 29 39)

OCT , 1981											
20...	1115	.90	648	7.9	10.5	320	.00	92	22	17	.4
JUN , 1982											
17...	1505	2.6	457	7.8	23.0	230	.00	64	17	12	.4
AUG											
05...	1050	6.1	386	7.7	24.5	170	.00	50	12	13	.5

06785020 - UNNAMED CREEK AT ST PAUL NE (LAT 41 12 48 LONG 098 28 35)

OCT , 1981											
20...	1050	.56	678	8.3	8.5	360	18	99	27	20	.5
JUN , 1982											
17...	1535	4.7	264	7.6	24.0	120	1.0	33	8.5	5.6	.2
AUG											
05...	1020	7.6	323	8.0	25.0	140	.00	40	8.9	10	.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CAC03) (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 AC-FT) (70301)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
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06784810 - TURKEY CREEK NORTHEAST OF DANNEBROG NE (LAT 41 09 28 LONG 098 31 06)

OCT , 1981											
20...	19	360	6.0	13	.3	38	456	.62	8.0	2.5	
JUN , 1982											
17...	20	287	53	12	.3	35	446	.61	47.0	5.0	
AUG											
05...	14	182	19	4.9	.4	42	283	.38	29.0	3.8	

06784820 - TURKEY CREEK TRIBUTARY NR ST PAUL NE (LAT 41 10 55 LONG 098 29 39)

OCT , 1981											
20...	12	320	18	15	.4	31	401	.55	.97	.26	
JUN , 1982											
17...	9.7	233	21	5.9	.3	24	298	.41	2.1	.90	
AUG											
05...	12	193	10	4.3	.4	37	255	.35	4.2	.16	

06785020 - UNNAMED CREEK AT ST PAUL NE (LAT 41 12 48 LONG 098 28 35)

OCT , 1981											
20...	19	340	79	13	.4	28	490	.67	.74	<.09	
JUN , 1982											
17...	12	116	22	4.5	.3	15	178	.24	2.3	1.6	
AUG											
05...	14	160	10	3.3	.4	36	221	.30	4.5	.51	

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
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PLATTE RIVER BASIN--Continued

06788495 - DANE C AT ORD, NEBR. (LAT 41 36 31 LONG 098 56 36)

APR , 1982									
23...	1430	.45	884	7.5	12.5	25	400	9.0	120
SEP									
21...	0935	28	179	7.5	12.5	20	69	.00	22

06788990 - MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54 LONG 098 46 46)

APR , 1982									
23...	1105	1.4	682	7.9	10.5	30	310	.00	84
SEP									
20...	1535	5.4	320	7.5	16.0	30	130	.00	39

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 LAB AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SU4) (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 SI02) (00955)
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06788495 - DANE C AT ORD, NEBR. (LAT 41 36 31 LONG 098 56 36)

APR , 1982									
23...	24	25	.6	23	390	7.0	22	.3	33
SEP									
21...	3.5	6.4	.4	6.1	72	7.0	1.4	.3	57

06788990 - MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54 LONG 098 46 46)

APR , 1982									
23...	24	23	.6	15	340	5.0	7.9	.3	20
SEP									
20...	7.8	11	.4	8.9	145	12	2.6	.2	52

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	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)
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06788495 - DANE C AT ORD, NEBR. (LAT 41 36 31 LONG 098 56 36)

APR , 1982								
23...	498	.68	.61	2.0	.630	80	64	380
SEP								
21...	149	.20	11.3	.55	.100	20	36	8

06788990 - MIRA C AT NORTH LOUP, NEBR. (LAT 41 29 54 LONG 098 46 46)

APR , 1982								
23...	386	.52	1.4	.48	.360	80	20	350
SEP								
20...	226	.31	3.3	1.2	.200	40	34	80

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCTI- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)
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PLATTE RIVER BASIN--Continued

06790245 - AUGER CREEK AT ELBA NE (LAT 41 17 38 LONG 098 34 26)

OCT , 1981											
20...	0930	.20	858	7.4	10.0	430	83	132	25	26	.6
JUN , 1982											
18...	0935	2.1	363	7.7	17.0	160	13	49	9.9	8.0	.3
AUG											
05...	0905	.63	657	7.7	19.0	310	17	98	16	15	.4

06790255 - UNNAMED CREEK SOUTH OF ELBA NE (LAT 41 16 22 LONG 098 33 24)

OCT , 1981											
20...	1015	.10	482	7.9	18.5	250	.00	69	20	10	.3
JUN , 1982											
18...	0905	.50	498	7.8	17.0	270	.00	77	19	8.8	.2
AUG											
05...	0940	.76	398	7.9	24.0	220	.00	61	16	9.6	.3

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 AS (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
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06790245 - AUGER CREEK AT ELBA NE (LAT 41 17 38 LONG 098 34 26)

OCT , 1981											
20...	13	350	130	15	.4	47	604	.82	.33	1.2	
JUN , 1982											
18...	12	150	23	5.8	.4	26	234	.32	1.3	2.2	
AUG											
05...	11	294	36	8.9	.3	55	430	.58	.73	3.0	

06790255 - UNNAMED CREEK SOUTH OF ELBA NE (LAT 41 16 22 LONG 098 33 24)

OCT , 1981											
20...	8.4	260	<5.0	4.4	.3	33	--	--	--	<.09	
JUN , 1982											
18...	8.2	275	7.0	3.5	.2	40	329	.45	.44	<.10	
AUG											
05...	7.8	245	10	3.3	.3	41	298	.41	.61	.38	

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 (0.8 km) 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 (0.20 m), depth 155 ft (47.2 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,927 ft (587 m). Measuring point: Top of casing 1.0 ft (0.30 m) 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 (30.46 m) below land-surface datum, Jan. 22, 1935; lowest, 128.82 ft (39.26 m) below land-surface datum, July 10, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	119.94	119.42	118.91	119.58	119.31	119.01	118.75	117.35	118.16	116.94	122.99	121.30
10	119.80	119.25	118.86	119.57	119.29	118.88	118.65	117.31	118.18	117.02	121.17	119.94
15	119.74	119.21	119.87	119.75	119.16	117.64	117.52	117.35	117.23	121.42	119.92	120.35
20	119.65	119.16	119.56	119.49	119.20	118.83	117.61	117.45	117.15	123.93	122.60	119.16
25	119.42	119.05	119.57	119.49	119.07	118.80	117.62	118.20	118.24	119.66	120.25	119.00
EQM	119.53	118.89	119.73	119.25	119.08	119.00	117.38	118.34	117.14	120.79	122.07	119.85

WTR YEAR 1982 MAX 116.84 JULY 9, 1982 MIN 124.72 AUG 13, 1982

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 (152 m) 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 (0.03 m), depth 13 ft (4.0 m), screened 11 to 13 ft (3.4 to 4.0 m).

DATUM.--Altitude of land-surface datum is 2,618 ft (798 m). Measuring point: Top of casing 1.40 ft (0.43 m) above land-surface datum.

PERIOD OF RECORD.--December 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.04 ft (0.32 m) below land-surface datum, Mar. 8, 1950; lowest, 6.97 ft (2.12 m) below land-surface datum, Aug. 8, 1951.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.64	DEC 21	3.82	FEB 16	3.64	APR 13	3.58	JUN 7	3.18	AUG 31	4.73
NOV 20	4.28	JAN 18	3.96	MAR 8	3.53	MAY 10	3.54	JUL 7	4.47	SEP 23	4.99

GROUND-WATER LEVELS

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BOONE COUNTY

413323098074501. Local number 18N-7W-4C1.

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 (1.6 km) east of Cedar Rapids. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

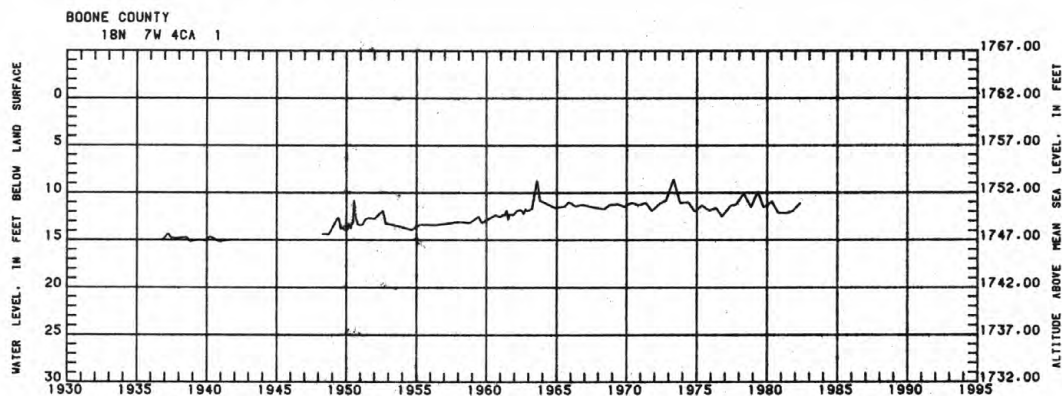
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in (0.03 m), depth 22 ft (6.7 m), screened 20 to 22 ft (6.1 to 6.7 m).

DATUM.--Altitude of land-surface datum is 1,762 ft (537 m). Measuring point: Top of casing 2.90 ft (0.88 m) 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, 8.57 ft (2.61 m) below land-surface datum, May 4, 1973; lowest, 15.17 ft (4.62 m) below land-surface datum, Oct. 26, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	11.95	MAY 9	11.15						



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 miles (5.8 km) south and 2.8 mi (4.5 km) 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 (0.03 m), depth 204 ft (62.2 m), screened 190 to 193 ft (57.9 to 58.8 m).

DATUM.--Altitude of land-surface datum is 4,032.95 ft (1,229.24 m). Measuring point: Top of pipe 2.00 ft (0.61 m) above land-surface datum.

REMARKS.--Water levels in vicinity of well are affected by large withdrawals of ground water for irrigation use.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.14 ft (19.25 m) below land-surface datum, Jan. 25, 1950; lowest, 97.61 ft (29.80 m) below land-surface datum, Oct. 23, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	97.61	MAR 17	96.24						

GROUND-WATER LEVELS

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 (1.9 km) 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 (0.15 m), depth 52 ft (15.8 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,511.44 ft (765.49 m). Measuring point: Top of casing 0.20 ft (0.06 m) 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, 33.63 ft (10.25 m) below land-surface datum, Jan. 10, 1980; lowest, 40.96 ft (12.48 m) below land-surface datum, Sept. 7, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	35.51	35.11	35.01	.....	35.08	35.18	35.24	35.32	35.37	35.44	35.97	35.90
10	35.43	35.07	34.99	.....	35.06	35.18	35.23	35.31	35.37	35.52	36.01	35.86
15	35.36	35.04	.....	35.03	35.07	35.16	35.25	35.32	35.36	35.68	35.99	35.90
20	35.27	35.05	.....	35.03	35.10	35.20	35.28	35.33	35.36	35.79	36.03	35.83
25	35.21	35.04	.....	35.03	35.14	35.23	35.28	35.36	35.36	35.82	36.03	35.72
EOM	35.16	35.04	.....	35.06	35.16	35.22	35.30	35.37	35.39	35.86	35.88	35.69

WTR YEAR 1982 MAX 34.98 DEC 18, 1981 MIN 36.03 AUG 20, 1982

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 (2.1 km) north of the intersection of Route 30 and the North-South range-line road on the east side of Gibbon, then 0.5 mi (0.8 km) 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 (0.20 m), depth 38 ft (11.6 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,060.43 ft (628.02 m). Measuring point: Top of casing 0.80 ft (0.24 m) 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 (4.68 m) below land-surface datum, June 11, 1952; lowest, 29.22 ft (8.91 m) below land-surface datum, Aug. 10, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	27.67	27.25	27.01	26.78	26.62	26.43	26.20	25.98	25.75	25.58	28.28	27.88
10		27.21	26.97	26.78	26.58	26.39	26.15	25.95	25.70	25.58	28.53	27.74
15		27.16	26.93	26.76	26.56	26.34	26.10	25.91	25.63	26.28	28.57	27.62
20		27.13	26.89	26.70	26.53	26.30	26.10	25.90	25.62	26.83	28.15	27.48
25		27.07	26.86	26.68	26.51	26.28	26.05	25.86	25.62	27.23	28.08	27.35
EOM		27.02	26.83	26.65	26.47	26.25	26.02	25.81	25.60	27.88	28.00	27.23

WTR YEAR 1982 MAX 25.58 JUL 5, 1982 MIN 28.60 AUG 14, 1982

GROUND-WATER LEVELS

335

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 (7.6 km) 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 (0.61 m), depth 54 ft (16.5 m), casing perforated below water table.

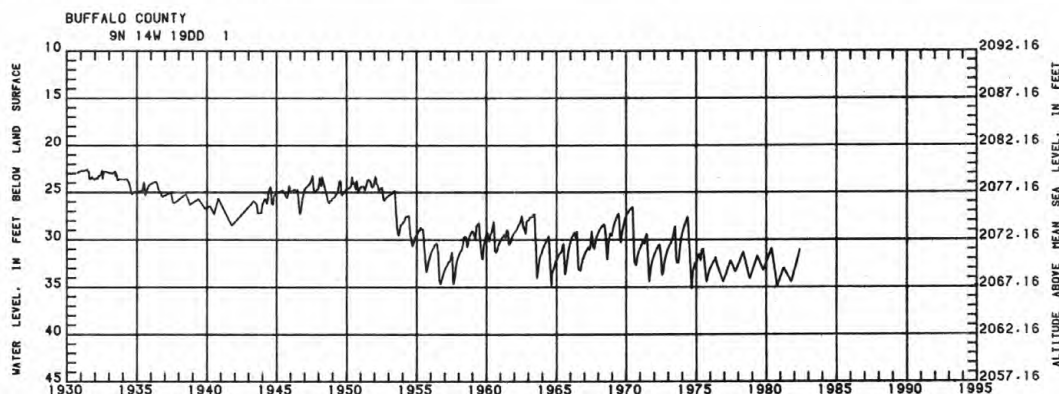
DATUM.--Altitude of land-surface datum is 2,102.16 ft (640.74 m). Measuring point: Hole in pump base 0.70 ft (0.21 m) above land-surface datum.

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 (6.87 m) below land-surface datum, June 9, 1931; lowest, 35.20 ft (10.73 m) below land-surface datum, Aug. 30, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	34.48	MAY 18	31.10



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 (3.2 km) 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 (0.13 m), depth 210.0 ft (64.01 m), perforated 199 to 210 ft (60.7 to 64.0 m).

DATUM.--Altitude of land-surface datum is 1,618 ft (493 m). 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, 104.24 ft (31.77 m) below land-surface datum, Apr. 7, 1980; lowest, 174.50 ft (53.19 m) below land-surface datum, Aug. 3, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	111.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	110.90	108.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	110.35	108.10	.....	.....	106.20H	.....	.....	.....	.....	.....	.....	.....
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
EOM	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

WTR YEAR 1982 MAX 105.62 MAY 4, 1982 MIN 144.22 AUG 3, 1982

H TAPE MEASUREMENT

GROUND-WATER LEVELS

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 (0.8 km) north of Imperial. Owner: Roy Hust.

AQUIFER.--Oqallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused observation water-table well, diameter 18 in (0.46 m), depth 143 ft (43.6 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,284.6 ft (1,001.1 m). Measuring point: Top of casing 0.30 ft (0.09 m) 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 (22.20 m) below land-surface datum, June 29, 1964; lowest measured, 106.90 ft (32.58 m) below land-surface datum, Oct. 6, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	106.20										

CHASE COUNTY

403235101395501. Local number 7N-38W-29CBB.

LOCATION.--Lat 40°32'35", long 101°39'55", NW1/4NW1/4SW1/4 sec.29, T.2 N., R.38 W., Hydrologic Unit 10250005, 0.5 mi (0.8 km) north and 1 mi (1.6 km) west of Imperial on U.S. Highway 6, then 0.5 mi (0.8 km) north on gravel road. Owner: U.S. Geological Survey.

AQUIFER.--Oqallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 5.50 in (0.14 m), depth 230 ft (70.1 m), perforated 190 to 230 ft (57.9 to 70.1 m).

DATUM.--Altitude of land-surface datum is 3,290.30 ft (1,002.88 m). Measuring point: Top of casing 0.50 ft (0.15 m) above land-surface datum.

REMARKS.--Water levels in well are affected by irrigation pumpage in area.

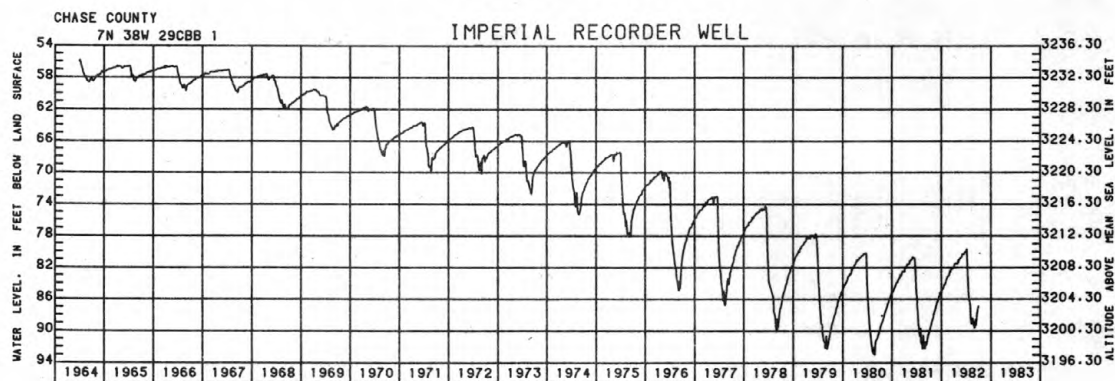
PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.87 ft (17.03 m) below land-surface datum, July 4, 1964; lowest, 93.05 ft (28.36 m) below land-surface datum, Aug. 25, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	90.04	88.04	86.16	84.68	83.61	82.70	81.81	81.41	80.30	79.67	88.81	89.35
10	89.67	87.62	85.85	84.81	83.36	82.36	81.54	81.03	80.47	81.03	89.15	89.30
15	89.38	87.40	85.68	84.63	83.19	82.06	81.43	80.96	80.30	83.55	88.35	88.55
20	88.98	87.11	85.28	84.17	83.03	82.20	81.56	80.90	80.10	85.45	88.63	87.71
25	88.65	86.69	85.11	84.20	83.10	82.19	81.58	80.72	80.08	86.14	89.17	87.22
EOM	88.44	86.38	85.10	83.85	82.81	82.02	81.56	80.75	79.93	86.82	89.64	86.30

WTR YEAR 1982 MAX 79.55 JUL 4, 1982 MIN 90.33 OCT 1, 1981



423205100321501. Local number 30N-28W-36AAA.

AQUIFER.--Sand deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 2,897.26 ft (883.08 m). Measuring point: Top of casing 3.00 ft (0.91 m) above land-surface datum.

REMARKS.—Water levels affected by evapotranspiration.

PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.20 ft (+0.06 m) above land-surface datum, Jan. 11, 1936; lowest, 1.99 ft (0.61 m) below land-surface datum, Oct. 4, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 5	0.57	FEB 8	0.00	AUG 16	0.40				

402940098154001. Local number 6N-8W-17BB.

LOCATION.--Lat 40°29'40", long 98°15'40", NW1/4NW1/4 sec.17, T.6 N., R.8 W., Hydrologic Unit 10270206, 0.7 mi (1.1 km) south of Glenville. Owner: Willard W. Kissinger.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 18 in (0.46 m), depth 151 ft (46.0 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,846 ft (563 m). Measuring point: Hole in turbine base at land-surface datum.

REMARKS.--water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--October 1952; June 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 95.53 ft (29.12 m) below land-surface datum, June 24, 1954; lowest, 108.85 ft (33.18 m) below land-surface datum, Oct. 18, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 20	108.35	MAR 27	106.66								

412810097054501. Local number 17N-3E-4CC.

LOCATION.--Lat 41028'10", long 97005'45", SW1/4SW1/4 sec.4, T.17 N., R.3 E., Hydrologic Unit 10200201, 2 mi west (3.2 km) and 1 mi (1.6 km) north of intersection of U.S. Highway 30 and State Highway 15 in Schuyler.
Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in (0.03 m), depth 16 ft (4.9 m), screened 14 to 16 ft (4.3 to 4.9 m).

DATUM.--Altitude of land-surface datum is 1,370.58 ft (417.75 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.15 ft (1.26 m) below land-surface datum, Apr. 1, 1952; lowest, 10.68 ft (3.26 m) below land-surface datum, Oct. 29, 1980.

[illegible]

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 (0.20 m), depth 39 ft (11.9 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,685 ft (1,123 m). Measuring point: Edge of iron plate 1.07 ft (0.33 m) above land-surface datum.

PERIOD OF RECORD.--August 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.87 ft (4.84 m) below land-surface datum, May 30, 1948; lowest, 22.28 ft (6.79 m) below land-surface datum, Oct. 31, 1956.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	21.66	APR 1	20.48						

DAWSON COUNTY

405250099445501. Local number 10N-21W-18DDD.

LOCATION.--Lat 40°52'50", long 99°44'55", SE1/4SE1/4SE1/4 sec.18, T.10 N., R.21 W., Hydrologic Unit 10200101, 3.5 mi (5.6 km) 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 (0.15 m), depth 120 ft (36.6 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,420.58 ft (737.79 m). Measuring point: Top of casing 0.50 ft (0.15 m) 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, 9.74 ft (2.97 m) below land-surface datum, Oct. 24, 1965; lowest, 21.50 ft (6.55 m) below land-surface datum, July 16, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	13.98	14.27	14.43	14.46	14.55	.....	.....	14.58H	13.53	12.18	18.06	12.21
10	14.02	.....	14.43	14.54	14.54	.....	14.53	14.57	13.23	13.11	14.25	12.11
15	14.07	.....	14.44	14.54	14.55	.....	14.50	14.55	12.88	18.28	13.48	12.21
20	14.13	.....	14.41	14.52	14.45	.....	14.61	14.51	12.59	18.36	12.75	12.23
25	14.14	.....	14.43	14.55	14.52	.....	14.61	14.29	12.42	18.52	12.57	12.31
ECM	14.27	.....	14.48	14.54	.....	.....	14.59	13.94	12.27	12.40	12.22	12.55

WTR YEAR 1982 MAX 12.10 SEP 9, 1982 MIN 18.63 JUL 26, 1982

H TAPE MEASUREMENT

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 (3.2 km) 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 (0.03 m), depth 12 ft (3.7 m), screened 10 to 12 ft (3.0 to 3.7 m).

DATUM.--Altitude of land-surface datum is 2,435.14 ft (742.23 m). Measuring point: Top of casing 1.80 ft (0.55 m) above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby wells during irrigation season.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.1 ft (1.55 m) below land-surface datum, Oct. 13, 1965; lowest, 17.69 ft (5.39 m) below land-surface datum, Feb. 8, 1946.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17	7.54	SEP 30	7.38						

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 (5.6 km) east of Haiqler on U.S. Highway 34 and 0.5 mi (0.8 km) north. Well is within 0.5 mi (0.8 km) 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 (0.15 m), depth 48.8 ft (14.87 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,205 ft (977 m). Measuring point: South side of casing 1.6 ft (0.49 m) 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, 15.69 ft (4.78 m) below land-surface datum, July 10, 1982; lowest, 20.97 ft (6.39 m) below land-surface datum, Sept. 12, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	16.77	16.49	16.32	16.18	16.08	15.95	15.88	16.09	15.84	15.74	16.03	16.11
10	16.71	16.44	16.29	16.19	16.03	15.92	15.86	16.00H	15.84	15.70	16.03	16.01
15	16.66	16.41	16.28	16.16	16.01	15.91	15.87	16.00	15.80	15.85	15.91	15.97
20	16.60	16.39	16.24	16.13	15.99	15.91	16.07	15.94	15.79	16.07	16.17	15.91
25	16.56	16.35	16.23	16.13	.....	15.91	16.20	15.94	15.78	16.12	16.28	15.88
END	16.53	16.33	16.21	16.09	15.96	15.90	16.14	15.90	15.77	16.08	16.21	15.98

WTR YEAR 1982 MAX 15.69 JUL 10, 1982 MIN 16.84 OCT 1, 1981

H TAPE MEASUREMENT

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 (0.13 m), depth 260.0 ft (79.25 m), perforated 100 to 260 ft (30.5 to 79.25 m).

DATUM.--Altitude of land-surface datum is 1651 ft (503 m). Measuring point: Top of casing 1.5 ft (0.46 m) 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, 90.92 ft (27.71 m) below land-surface datum, Apr. 17, 1978; lowest, 96.91 ft (29.54 m) below land-surface datum, Sept. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	96.67	96.30	95.95	95.72	95.46	95.37	95.35	95.26	94.70	94.46	95.34	96.16
10	96.51	96.10	95.86	95.92	95.40	95.25	95.12	94.86	94.77	94.55	95.74	95.99H
15	96.50	96.16	95.96	95.97	95.43	95.00	95.00	94.90	94.75	94.44	95.89	96.30
20	96.50	95.99	95.66	95.61	95.35	95.36	95.26	94.86	94.64	94.72	96.15	96.34
25	96.40	95.96	95.72	95.68	95.45	95.34	95.08	94.71	94.70	94.76	96.14	96.22
END	96.49	95.90	95.91	95.55	95.30	95.34	95.05	94.87	94.49	95.15	96.06	96.26

WTR YEAR 1982 MAX 94.18 JUL 13, 1982 MIN 96.67 OCT 5, 1981

H TAPE MEASUREMENT

GROUND-WATER LEVELS

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 (4.0 km) west on Route 6 from the principal street of Exeter, then 0.4 mi (0.6 km) south. Owner: U.S. Geological Survey.

AQUIFER.--Loess of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 40 ft (12.2 m), perforated 25 to 40 ft (7.6 to 12.2 m).

DATUM.--Altitude of land-surface datum is 1,610 ft (491 m). 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, 1.88 ft (0.57 m) below land-surface datum, May 30, 1982; lowest, 24.16 ft (7.36 m) below land-surface datum, July 10, 1958.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	10.65	10.50	9.86	9.68	10.22	9.99	8.26	5.98	3.12	2.25	5.07	6.37
10	10.73	10.52	9.70	9.99	10.20	11.02	8.26	6.04	3.83	2.51	5.43	6.67
15	10.81	10.25	9.57	9.96	10.23	10.05	8.20	3.61	2.95	3.00	5.65	6.85
20	10.83	10.38	9.60	9.97	8.65	7.25	8.50	4.10	3.41	3.78	6.05	7.00
25	10.86	10.26	9.63	10.10	9.70	8.09	8.40	4.08	3.92	4.25	5.90	7.16
EOM	11.09	10.33	9.71	10.15	9.75	8.16	5.86	2.14	2.67	4.60	6.13	7.33

WTR YEAR 1982 MAX 1.88 MAY 30, 1982 MIN 11.09 OCT 31, 1981

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 (3.2 km) west and 0.5 mi (0.8 km) 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 (0.03 m), depth 23 ft (7.0 m), screened 21 to 23 ft (6.4 to 7.0 m).

DATUM.--Altitude of land-surface datum is 2,134 ft (650 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.60 ft (1.40 m) below land surface datum, Aug. 22, 1978; lowest, 17.69 ft (5.39 m) below land-surface datum, Feb. 8, 1946.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	10.00	MAR 3	11.10	JUN 8	11.10	AUG 3	9.10	AUG 20	7.20	SEP 16	8.70
DEC 2	10.30	MAY 12	11.00	JUL 7	10.20						

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 (9.33 km) 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 (0.04 m), depth 22.1 ft (6.74 m) below land-surface datum.

DATUM.--Altitude of land-surface datum is 3783.16 ft (1153.12 m). Measuring point: Top of casing 1.61 ft (0.49 m) 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 (4.75 m) below land-surface datum, Oct. 7, 1934; lowest, 20.92 ft (6.38 m) below land-surface datum, Mar. 27, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	19.26G	DEC 17	19.30G	APR 23	19.62G	JUL 14	19.81G				

G MEASUREMENT MADE BY ANOTHER AGENCY

GROUND-WATER LEVELS

341

GARDEN COUNTY

414728102292601. Local number 21N-45W-13CA

LOCATION.--Lat 41°47'28", long 102°29'26", NE1/4SW1/4 sec.13, T.21 N., R.45 W., Hydrologic Unit 10180009, 0.5 mi (0.8 km) west of Rush Lake. Owner: Crescent Lake Migratory Bird Refuge.

AQUIFER.--Sand deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.5 in (0.04 m), depth unknown, perforated below water table.

DATUM.--Altitude of land-surface datum is 3,839.78 ft (1,170.36 m). Measuring point: Top of casing 1.52 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--August 1934-39, 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.00 ft (0.00 m) below land-surface datum, Mar. 17, 1961; lowest, 6.67 ft (2.03 m) below land-surface datum, June 17, 1949.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	3.68G	DEC 14	3.53G
MAY 4	3.61G	JUL 16	3.81G

G MEASUREMENT MADE BY ANOTHER AGENCY

GARFIELD COUNTY

414718099083201. Local number 21N-16W-14CB.

LOCATION.--Lat 41°47'18", long 99°08'32", NW1/4SW1/4 sec.14, T.21 N., R.16 W., Hydrologic Unit 10210007, 5 mi (8.0 km) east and 1 mi (1.6 km) north of Burwell. Owner: Frank Smolik.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled irrigation water-table well, diameter 18 in (0.46 m), depth 154 ft (46.9 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,174 ft (663 m). Measuring point: Hole in turbine base 2.00 ft (0.61 m) above land-surface datum.

REMARKS.--Water levels affected by pumping during irrigation season.

PERIOD OF RECORD.--October 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.62 ft (6.59 m) below land-surface datum, Oct. 16, 1973; lowest, 24.92 ft (7.60 m) below land-surface datum, Oct. 28, 1959.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	23.96		

GOSPER COUNTY

403626099451401. Local number 7N-21W-6BC.

LOCATION.--Lat 40°36'26", long 99°45'14", SW1/4NW1/4 sec.2, T.7 N., R.21 W., Hydrologic Unit 10200101, 1 mi (1.6 km) west and 2 mi (3.2 km) north of Smithfield. Owner: Andy Larson Estate.

AQUIFER.--Ogallala Formation of Pliocene age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), depth 132 ft (40.2 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 2,466.95 ft (751.93 m). Measuring point: Top of casing 0.40 ft (0.12 m) above land-surface datum.

REMARKS.--Water levels in well affected by pumping from nearby irrigation wells and by infiltration and deep percolation from nearby irrigation canal.

PERIOD OF RECORD.--September 1934 to July 1940; January 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.90 ft (16.12 m) below land-surface datum, Oct. 8, 1981; lowest, 117.80 ft (39.91 m) below land-surface datum, Sept. 26, 1935.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	52.90		

GROUND-WATER LEVELS

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 (1.6 km) north and 2.0 mi (3.2 km) 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 (0.15 m), depth 65 ft (19.8 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,924.0 ft (586.4 m). Measuring point: Top of casing 2.00 ft (0.61 m) 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, 21.66 ft (6.60 m) below land-surface datum, June 25, 1978; lowest, 25.98 ft (7.92 m) below land-surface datum, Aug. 31, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	25.56	25.31	25.12	.....	24.84	24.59	24.45	24.33	23.68	22.88	22.33	22.29
10	25.50	25.27	25.08	.....	24.81	24.58	24.44	24.31	23.56	22.71	22.36	22.28
15	25.47	25.23	25.05	.....	24.79	24.57	24.41	24.27	23.41	22.57	22.43	22.32
20	25.42	25.20	.....	24.89	24.77	24.52	24.39	24.22	23.28	22.51	22.43	22.26
25	25.38	25.18	.....	24.88	24.58	24.48	24.37	24.15	23.15	22.49	22.36	22.22
EOM	25.34	25.15	.....	24.86	24.57	24.47	24.36	23.86	23.04	22.36	22.30	22.22

WTR YEAR 1982 MAX 22.21 SEP 30, 1982 MIN 25.59 OCT 1, 1981

HAMILTON COUNTY

404825097583301. Local number 10N-6W-26BC.

LOCATION.--Lat 40°48'25", long 97°58'33", SW1/4NW1/4 sec.26, T.10 N., R.6 W., Hydrologic Unit 10270203, 4 mi (6.4 km) south of junction of Route 14 and U.S. Highway 34 in Aurora, then 1.0 mi (1.6 km) east and 0.3 mi (0.48 km) south. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 131 ft (39.9 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,790.5 ft (545.7 m). Measuring point: Top of casing 1.50 ft (0.46 m) above land-surface datum.

REMARKS.--Water levels affected by pumping at nearby irrigation wells. Recorder removed in March 1982.

PERIOD OF RECORD.--March 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.90 ft (25.88 m) below land-surface datum, June 20, 1956; lowest, 106.97 ft (32.60 m) below land-surface datum, Sept. 8, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	105.10	104.27	103.47	102.98	102.52	102.27	.....	.....	.....	.....	.....	.....
10	105.00	104.12	103.37	102.94	102.49	102.23	.....	.....	.....	.....	.....	.....
15	104.91	103.98	103.28	102.85	102.44	102.18	.....	.....	.....	.....	.....	.....
20	104.80	103.98	103.22	102.68	102.40	102.12	.....	.....	.....	.....	.....	.....
25	104.62	103.80	103.15	102.64	102.34	.....	.....	.....	.....	.....	.....	.....
EOM	104.43	103.63	103.05	102.55	102.31	.....	.....	.....	.....	.....	.....	.....

WTR YEAR 1982 MAX 102.12 MAR 20, 1982 MIN 105.19 OCT 1, 1981

GROUND-WATER LEVELS

343

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 (6.4 km) south of junction of Route 14 and U.S. Highway 34 in Aurora, then 1.0 mi (1.6 km) east and 0.3 mi (0.48 km) 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 (0.18 m), depth 170 ft (51.8 m), casing perforated below water-table.

DATUM.--Altitude of land surface datum is 1791.3 ft (546 m). Measuring point: Top of casing 1.5 ft (0.46 m) 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, 101.82 ft (31.03 m) below land-surface datum. July 15, 1982; lowest, 107.40 ft (32.73 m) below land-surface datum Aug. 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	105.80	.....	.....	103.97	103.51	103.14	102.92	102.57	102.22	101.93	104.34	105.06
10	105.60	.....	.....	104.00	103.44	103.19	102.80	102.53	102.21	101.92	104.71	104.78
15	105.52	.....	.....	103.98	103.44	102.98	102.74	102.42	102.20	101.82	104.86	104.72
20	.....	104.76	.....	103.75	103.35	103.05	102.77	102.38	102.10	102.45	104.48	104.57
25	.....	.....	104.05	103.75	103.38	103.03	102.67	102.28	102.06	103.26	104.75	104.41
ECM	.....	.....	104.11	103.58	.....	103.00	102.60	102.32	102.03	103.60	104.94	104.33

WTR YEAR 1982 MAX 101.82 JUL 15, 1982 MIN 105.92 OCT 1, 1981

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 (3.2 km) east and 3.5 mi (5.6 km) 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 (0.61 m), depth 194 ft (59.1 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,812.2 ft (552.4 m). 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 (27.44 m) below land-surface datum, Sept. 29, 1934; lowest, 117.18 ft (35.72 m) below land-surface datum, Nov. 15, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 13	107.23	APR 21	105.67						

GROUND-WATER LEVELS

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 (5.6 km) 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 (0.14 m), depth 170 ft (51.8 m), perforated from 140 to 170 ft (42.7 to 51.8 m).

DATUM.--Altitude of land-surface datum is 2,120 ft (646 m). Measuring point: Top of casing 0.50 ft (0.15 m) 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 (25.72 m) below land-surface datum, May 11, 1966; lowest, 109.96 ft (33.52 m) below land-surface datum, Sept. 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	91.64	91.34	91.10	90.76	90.62	90.51	90.29	92.92	90.13	90.01	103.46	97.45
10		91.26	91.01	90.93	90.53	90.33	90.31	90.46	90.19	90.18	104.59	98.64
15		91.16	90.91	90.88	90.52	90.31	90.19	90.28	90.15	94.03	105.81	93.21
20		91.28	90.83	90.76	90.51	90.39	90.40	90.19	90.10	100.30	100.27	92.53
25		91.07	90.89	90.76	90.66	90.46	91.63	90.15	90.09	101.65	101.85	92.35
FOM		90.94	90.91	90.70	90.48	90.40	91.41	90.20	90.07	102.15	99.52	92.24

WTR YEAR 1982 MAX 90.00 JUL 5, 1982 MIN 105.92 AUG 13, 1982

HARLAN COUNTY

400620099274001. Local number 2N-19W-28DD.

LOCATION.--Lat 40°06'20"N, long 99°27'40"W, SE1/4SE1/4 sec.28, T.2 N., R.19 W., Hydrologic Unit 10250009, 1.8 mi (2.9 km) 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 (0.03 m), depth 22 ft (6.7 m), screened 20 to 22 ft (6.1 to 6.7 m).

DATUM.--Altitude of land-surface datum is 1,960 ft (597 m). Measuring point: Top of casing 1.20 ft (0.37 m) 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, 5.9 ft (1.80 m) below land-surface datum, Feb. 15, 1966; lowest, 12.50 ft (3.81 m) below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 2	8.40	AUG 3	8.00						

HITCHCOCK COUNTY

401458100542201. Local number 3N-32W-11BB.

LOCATION.--Lat 40°14'58", long 100°54'22", NW1/4NW1/4 sec.11, T.3 N., R.32 W., Hydrologic Unit 10250005, 3 mi (4.8 km) west and 1 mi (1.6 km) north of Culbertson. 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 (0.03 m), depth 18 ft (5.5 m), screened 16 to 18 ft (4.9 to 5.5 m).

DATUM.--Altitude of land-surface datum is 2,615 ft (797 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby irrigation wells and seepage from irrigation canals.

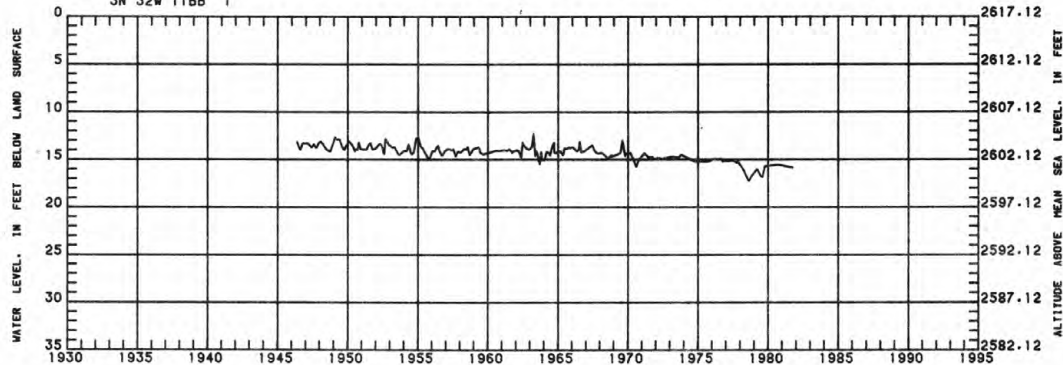
PERIOD OF RECORD.--May 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.65 ft (3.86 m) below land-surface datum, Feb. 8, 1949; lowest, 17.30 ft (5.27 m) below land-surface datum, Aug. 10, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

HITCHCOCK COUNTY
3N 32W 118B 1



421605098203001. Local number 27N-9W-34DA.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 1,841 ft (561 m). Measuring point: Top of casing 1.10 ft (0.34 m) above land-surface datum.

PERIOD OF RECORD.--December 1934 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

WATER LEVEL, IN FEET		WATER LEVEL		WATER LEVEL		WATER LEVEL		WATER LEVEL		WATER LEVEL	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 7	8.41	JAN 20	7.49	MAR 25	6.68	MAY 4	7.40	JUL 8	7.09	SEP 8	8.32
NOV 19	6.98	FEB 11	7.30	APR 14	6.90	JUN 1	3.20	AUG 17	8.20	SEP 29	8.33
DEC 9	7.68	MAR 2	6.49								

HOLT COUNTY

422845098370701. Local number 29N-11W-21BBB.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 2,001.06 ft (609.92 m). Measuring point: Top of casing 1.20 ft (0.37 m) above land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season.

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

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	35.59	MAY 4	33.27						

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 (3.2 km) east on paved road from O'Neill, then 2 mi (3.2 km) north, 4 mi (6.4 km) east, 2 mi (3.2 km) north, 2 mi (3.2 km) east, and 0.5 mi (0.8 km) north. Owner: William J. Murphy.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 85 ft (25.9 m), perforated 25.5 to 85 ft (7.8 to 25.9 m).

DATUM.--Altitude of land-surface datum is 1,952 ft (595 m). Measuring point: Top of casing 1.00 ft (0.30 m) 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 (10.79 m) below land-surface datum, Oct. 21, 1966; lowest, 53.73 ft (16.38 m) below land-surface datum, Sept. 17, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	53.10	53.26	53.33	53.36	53.38	53.33	53.18	53.03	52.94	52.78	53.23	53.68
10	53.12	53.27	53.35	53.36	53.38	53.30	53.16	53.01	52.92	52.81	53.33	53.71
15	53.16	53.28	53.36	53.38	53.37	53.27	53.13	53.00	52.89	52.84	53.42	53.72
20	53.19	53.29	53.37	53.38	53.36	53.25	53.10	52.98	52.87	52.91	53.49	53.72
25	53.21	53.31	53.37	53.39	53.35	53.23	53.08	52.97	52.83	53.00	53.55	53.72
ECM	53.23	53.32	53.38	53.38	53.35	53.21	53.06	52.96	52.78	53.12	53.64	53.69

WTR YEAR 1982 MAX 52.76 JUL 7, 1982 MIN 53.73 SEP 17, 1982

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 (9.7 km) north from Atkinson on Route 11, then 2 mi (3.2 km) east. Owner: Elmer Goldfuss.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 72 ft (21.9 m), perforated 32 to 72 ft (9.8 to 21.9 m).

DATUM.--Altitude of land-surface datum is 2,080 ft (634 m). 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.

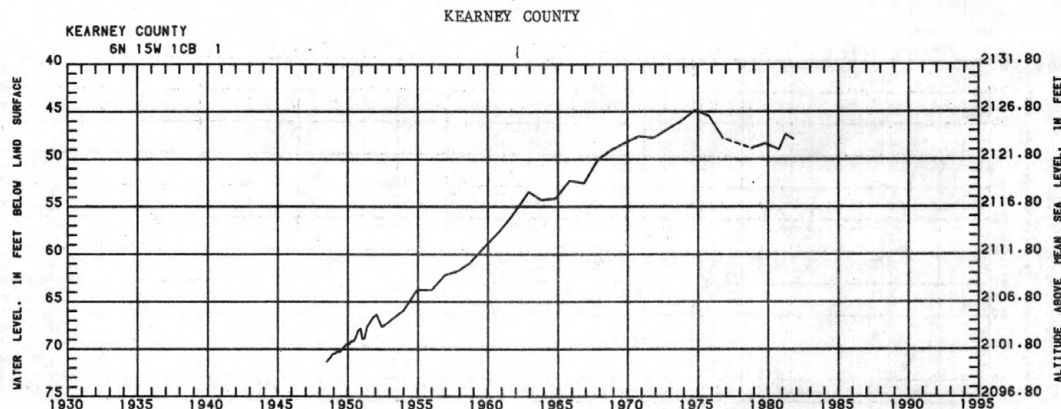
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.91 ft (9.42 m) below land-surface datum, July 7, 1966; lowest, 43.30 ft (13.20 m) below land-surface datum, Sept. 10, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	40.96	40.50	40.21	39.92	39.73	39.40	.....	38.95	38.73	38.04	39.97	40.78
10	40.88	40.45	40.14	39.91	39.68	39.35	.....	38.91	38.63	38.27	40.26	40.79
15	40.79	40.38	40.10	39.87	39.66	39.31	.....	38.90	38.46	38.52	40.33	40.85
20	40.70	40.33	40.06	39.84	39.64	39.26	.....	38.88	38.31	38.76	40.49	40.74
25	40.63	40.28	40.03	39.80	39.53	39.24	.....	38.86	38.16	39.08	40.56	40.78
ECM	40.55	40.24	39.96	39.76	39.46	39.20	38.98	38.81	38.03	39.55	40.70	40.72

WTR YEAR 1982 MAX 38.03 JUN 30, 1982 MIN 41.04 OCT 1, 1981

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 (7.2 km) south and 2.5 mi (4.0 km) 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 (0.15 m), depth 210 ft (64.0 m), cased with steel, perforated 190 to 210 ft (57.9 to 64.0 m).

DATUM.--Altitude of land-surface datum is 2,210 ft (674 m). Measuring point: Top of casing 1.00 ft (0.30 m) 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, 78.61 ft (24.21 m) below land-surface datum, July 5, 1982; lowest, 119.43 ft (36.40 m) below land-surface datum, Aug. 27, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	82.73	81.35	80.93	79.95	79.89	.....	.....	79.43	79.17	78.71	114.69	97.56
10	82.52	81.29	80.73	80.48	79.44	.....	79.87	79.25	79.29	78.82	98.77	95.19
15	82.57	80.88	80.41	80.00	79.31	.....	79.48	79.34	79.05	101.64	88.24	84.90
20	82.28	81.06	80.32	79.93	79.46	.....	79.97	79.26	79.04	112.69	92.32	83.79
25	81.97	80.57	80.29	80.02	79.81	.....	79.46	79.24	79.01	109.67	93.96	83.25
EOH	81.70	80.53	80.21	79.89	79.43	.....	79.66	79.35	78.91	102.73	91.14	82.86

WTR YEAR 1982 MAX 78.61 JUL 5, 1982 MIN 115.94 AUG 4, 1982

349

411416103361101. Local number 15N-55W-26CC.

ACUIFER.--Ogallala Formation of Pliocene age.

DATUM.--Altitude of land-surface datum is 4,652.3 ft (1,418.0 m). Measuring point: Top of casing 0.00 ft (0.00 m) above land-surface datum.

PERIOD OF RECORD.--January 1936 to October 1937; January 1951 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	53.52								

403929096401001. Local number 8N-7E-18DDDB.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

DATUM.--Altitude of land-surface datum is 1,215 ft (370 m). Measuring point: Top of casing 2.00 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--June 1954 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM. WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

LANCASTER COUNTY

LOCATION.--Lat 40°38'33", long 96°38'55", NE1/4SE1/4SE1/4 sec.20, T.8 N., R.7 E., Hydrologic Unit 10200203, 0.5 mi (0.8 km) east and 1.1 mi (1.8 km) south of Roca. Owner: U.S. Geological Survey.

ACUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 33 ft (10.1 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,243 ft (379 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--June 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.16 ft (0.05 m) below land-surface datum, Mar. 27, 1960; lowest, 12.28 ft (3.74 m) below land-surface datum, Oct. 17, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 9	8.21								

LANCASTER COUNTY

404730096440401. Local number 10N-6E-34CA.

LOCATION.--Lat 40°47'30", long 96°44'04", NE1/4SW1/4 sec.34, T.10 N., R.6 E., Hydrologic Unit 10200203, 0.3 mi (0.5 km) west of intersection of Folsom and South Streets in Lincoln. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 36 ft (11.0 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,149 ft (350 m). Measuring point: Top of casing 2.00 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--December 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.20 ft (2.80 m) below land-surface datum, Oct. 15, 1973; lowest, 18.53 ft (5.65 m) below land-surface datum, Feb. 20, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982							
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	13.85						

GROUND-WATER LEVELS

351

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 (0.41 m), depth 170 ft (51.8 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,200 ft (366 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

REMARKS.--Recorder removed in January. Well measured in spring and fall thereafter.

PERIOD OF RECORD.--August 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 50.32 ft (15.34 m) below land-surface datum, June 2, 1980; lowest 71.19 ft (21.70 m) below land-surface datum, Sept. 5, 1956.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	51.13	MAY 14	50.65

MERRICK COUNTY

410143098090301. Local number 12N-7W-7AA.

LOCATION.--Lat 41°01'43", long 98°09'03", NE1/4NE1/4 sec.7, T.12 N., R.7 W., Hydrologic Unit 10200103, 0.5 mi (0.8 km) north and 0.5 mi (0.8 km) west of Chapman. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in (0.03 m), depth 13 ft (4.0 m), screened 11 to 13 ft (3.4 to 4.0 m).

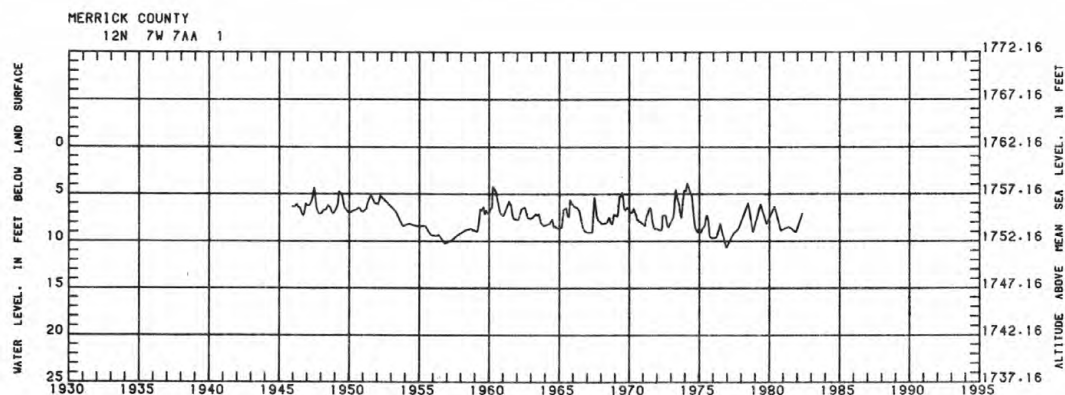
DATUM.--Altitude of land-surface datum is 1,762.16 ft (537.11 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

REMARKS.--Water levels in well affected by pumping of nearby wells during irrigation season and by evapotranspiration.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.84 ft (1.17 m) below land-surface datum, Feb. 14, 1974; lowest, 10.75 ft (3.28 m) below land-surface datum, Dec. 3, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982			
DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 20	9.07	MAY 7	7.08



414058103054001. Local number 20N-50W-28BBC.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 3,675 ft (1,120 m). Measuring point: Top of casing 2.0 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--October 1981 to current year.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
WATER		WATER		WATER		WATER		WATER		WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL
OCT 19	15.06	MAR 18	15.68								

NUCKOLLS COUNTY

ACUIFER.--Loess of Pleistocene age.

DATUM.--Altitude of land-surface datum is 1,598.15 ft (487.12 m). Measuring point: Top of casing 1.50 ft (0.46 m) above land-surface datum.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982									
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	5.85	MAY 3	4.60						

PHELPS COUNTY

AQUIFER.--Sand and gravel deposits of Pleistocene age.

DATUM.--Altitude of land-surface datum is 2,360.81 ft (719.57 m). Measuring point: Top of casing 1.00 ft (0.30 m) above land-surface datum.

[illegible]

PLATTE COUNTY

412955097192001. Local number 18N-1E-28CD.

LOCATION.--Lat 41°29'55", long 97°19'20", SE1/4SW1/4 sec.28, T.18 N., R.1 E., Hydrologic Unit 10200201, 3 mi (4.8 km) south and 8.5 mi (13.7 km) east of Platte Center. Owner: Loup River Public Power District.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (0.05 m), depth 99 ft (30.2 m), screened 97 to 99 ft (29.6 to 30.2 m).

DATUM.--Altitude of land-surface datum is 1,511.8 ft (460.8 m). Measuring point: Top of casing 0.50 ft (0.15 m) above land-surface datum.

PERIOD OF RECORD.--November 1935 to August 1940; March 1942 to November 1953; November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.30 ft (18.38 m) below land-surface datum, Mar. 27, 1940; lowest, 72.81 ft (22.19 m) below land-surface datum, Oct. 9, 1958.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	69.38										

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 (0.13 m), depth 151 ft (46.0 m), perforated 142 to 151 ft (43.3 to 46.0 m).

DATUM.--Altitude of land-surface datum is 1,496 ft (456 m). 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, 96.56 ft (29.43 m) below land-surface datum, Mar. 16, 1963; lowest, 107.15 ft (32.66 m) below land-surface datum, Aug. 25, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	103.53	103.41	103.44	102.28	.....	102.80	102.74	102.20	102.01	101.75	103.89	103.80
10	103.61	103.52	103.20	103.33	.....	102.31	102.45	102.07	102.25	101.82	104.18	103.42
15	103.76	102.97	102.90	103.05	102.29	102.34	102.10	102.17	101.91	101.69	104.31	103.92
20	103.41	103.51	102.76	102.93	102.57	102.50	102.65	102.07	101.95	101.85	104.63	103.65
25	103.25	102.93	102.92	.....	103.11	102.73	102.00	102.07	101.97	102.15	104.37	103.50
EOB	103.70	102.86	102.99	.....	102.51	102.60	102.30	102.30	102.01	103.12	103.94	103.54

WTR YEAR 1982 MAX 101.52 JUN 15, 1982 MIN 104.68 AUG 21, 1982

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 (3.2 km) 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 (0.03 m), depth 12 ft (3.7 m), screened 10 to 12 ft (3.0 to 3.7 m).

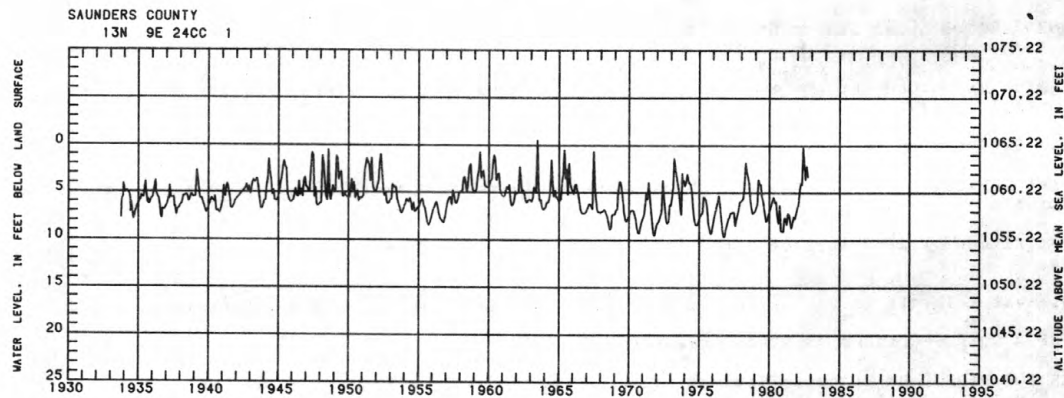
DATUM.--Altitude of land-surface datum is 1,065.22 ft (324.68 m). Measuring point: Top of casing 4.50 ft (1.37 m) above land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wells in City of Lincoln well field.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.20 ft (0.06 m) below land-surface datum, May 25, 1982; lowest, 9.65 ft (2.94 m) below land-surface datum, Oct. 18, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	7.79	DEC 25	6.60	FEB 25	4.78	APR 25	4.22	JUN 25	2.12	AUG 25	2.17
OCT 25	7.69	JAN 25	6.15	MAR 25	3.98	MAY 25	0.20	JUL 25	3.67	SEP 25	3.30
NOV 25	7.10										



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 (6.4 km) south from the intersection of Routes 92 and 692 near Mead, then 0.65 mi (1.05 km) east and 0.4 mi (0.64 km) 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 (0.15 m), depth 80 ft (24.4 m), screened 60 to 80 ft (18.3 to 24.4 m).

DATUM.--Altitude of land-surface datum is 1,171 ft (357 m). Measuring point: Top of casing 0.5 ft (0.15 m) 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, 42.47 ft (12.94 m) below land-surface datum, May 5, 1974; lowest, 46.98 ft (14.32 m) below land-surface datum, Sept. 25, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	46.95	46.85	46.75	.....	46.65	46.61	46.54	46.50	46.28	46.00	45.79	45.41
10	46.91	46.86	46.74	46.72	46.63	46.57	46.48	46.42	46.26	45.92	45.74	45.33
15	46.92	46.81	46.71	46.70	46.62	46.54	46.51	46.42	46.25	45.86	45.70	45.33
20	46.88	46.78	.....	46.57	46.63	46.55	46.47	46.44	46.17	45.84	45.62	45.30
25	46.87	46.75	.....	46.68	46.66	46.54	46.42	46.35	46.12	45.76	45.63	45.28
EOM	46.87	46.74	.....	46.67	46.63	46.53	46.45	46.32	46.08	45.70	.....	45.29

WTR YEAR 1982 MAX 45.17 SEP 30, 1982 MIN 46.97 OCT 2, 1981

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 (0.8 km) north of the west intersection of Routes 71 and 26 in Scottsbluff, then 0.8 mi (1.3 km) 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 (0.15 m), depth 32 ft (9.8 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,953 ft (1,205 m). Measuring point: Top of casing 0.00 ft (0.00 m) above land-surface datum.

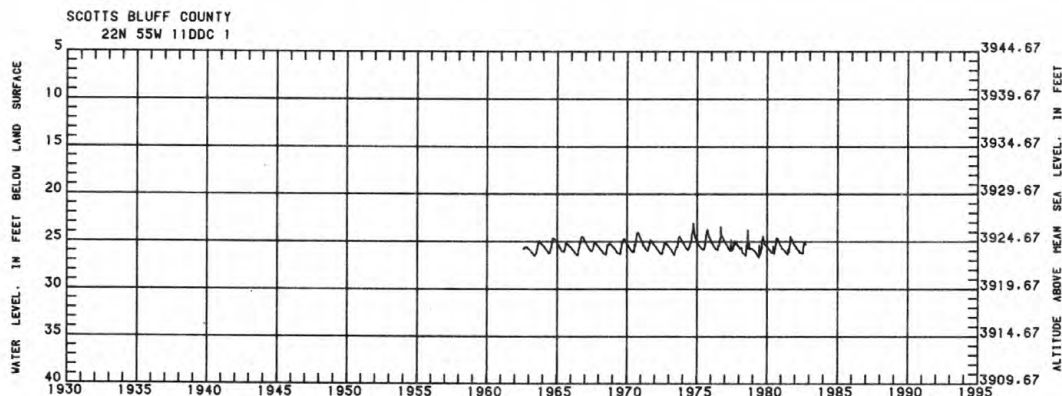
PERIOD OF RECORD.--August 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.05 ft (7.03 m) below land-surface datum, Sept. 25, 1974; lowest, 26.72 ft (8.14 m) below land-surface datum, May 31, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	24.79	.....	25.35	25.45	25.72	.....	26.00	26.25	26.18	26.32	25.64	25.07
10	24.85	25.20	25.38	25.48	25.72	25.86	26.02	26.26	26.24	26.33	25.18	25.23
15	24.91	25.22	25.41	25.51	25.72	25.89	26.05	26.28	26.27	26.35	25.37	25.25
20	24.99	25.26	25.45	25.55	.....	25.90	26.10	26.13	26.25	26.10	25.38	25.24
25	25.00	25.27	25.48	25.60	.....	25.94	.....	.....	26.27	.....	.....	.....
ECM	25.09	25.30	25.50	25.70	.....	25.96	26.20	26.12	26.29	25.50	25.28	25.30

WTR YEAR 1982 MAX 24.79 OCT 5, 1981 MIN 26.35 JUL 15, 1982



SCOTTS BLUFF COUNTY

420000103511501. Local number 23N-56W-6AA.

LOCATION.--Lat 42°00'00", long 103°51'15", NE1/4NE1/4 sec.6, T.23 N., R.56 W., Hydrologic Unit 10180009, 4 mi (6.4 km) north and 2 mi (3.2 km) 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 (0.15 m), depth 118 ft (36.0 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 4,087.7 ft (1,245.9 m). Measuring point: Hole in pump base 0.7 ft (0.21 m) above land-surface datum.

REMARKS.--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 (8.91 m) below land-surface datum, Oct. 26, 1949; lowest, 41.04 ft (12.51 m) below land-surface datum, Oct. 6, 1961.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	38.96	MAR 17	40.67								

GROUND-WATER LEVELS

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 (7.2 km) 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 (0.13 m), depth 123 ft (37.5 m), perforated 112 to 123 ft (34.1 to 37.5 m).

DATUM.--Altitude of land-surface datum is 1,550 ft (472 m). Measuring point: Top of casing 0.00 ft (0.00 m) 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, 76.37 ft (23.28 m) below land-surface datum, Dec. 20, 1965; lowest, 90.17 ft (27.48 m) below land-surface datum, Aug. 5, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	89.04	88.67	87.67	.....	.....	.....	86.44H	86.05	86.02	85.60	87.47	87.20
10	87.85	88.67	87.54	.....	.....	87.21	86.43	85.89	86.15	85.70	88.20	86.85
15	88.95	88.20	87.20	.....	.....	87.26	86.65	86.01	85.85	85.60	87.95	87.27
20	88.78	87.62	.....	.....	.....	87.04	86.02	85.97	85.86	85.64	88.06	87.06
25	88.49	87.18	.....	.....	.....	86.50	86.27	86.05	85.88	.....	87.79	86.86
EOB	88.79	87.20	.....	.....	.....	86.71	85.80	86.16	85.86	86.65	87.36	86.80

WTR YEAR 1982 MAX 85.48 JUL 16, 1982 MIN 89.04 OCT 5, 1981

H TAPE MEASUREMENT

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 (18.5 km) 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 (0.15 m), depth 100 ft (30.5 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 3,794.5 ft (1,156.6 m). Measuring point: Top of casing 1.5 ft (0.46 m) 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.

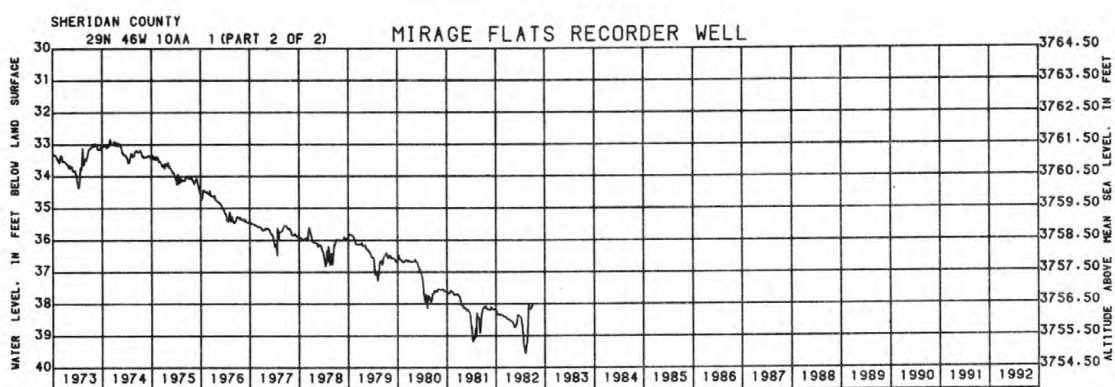
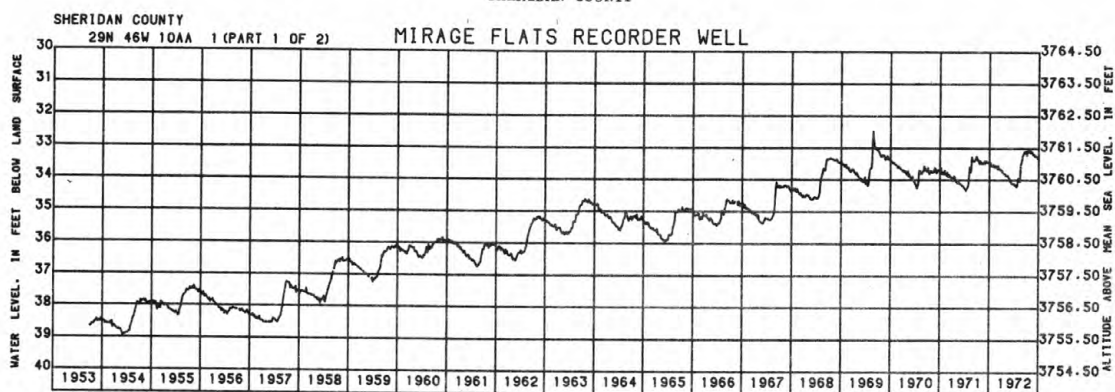
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.47 ft (9.90 m) below land-surface datum, Aug. 25, 1969; lowest, 39.57 ft (12.06 m) below land-surface datum, Aug. 7, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	38.11	38.19	38.17	38.22	38.35	38.40	38.50	38.58	38.59	38.43	39.56	38.15
10	38.08	38.17	38.17	38.34	38.34	38.41	38.50	38.63	38.34	38.50	39.50	38.16
15	38.14	38.17	38.19	38.31	38.35	38.42	38.50	38.66	38.35	38.66	39.27	38.18
20	38.16	38.20	38.15	38.31	38.37	38.45	38.55	38.75	38.37	38.93	39.26	38.14
25	38.14	38.13	38.19	38.34	38.40	38.48	38.53	38.70	38.40	39.25	38.78	38.07
EOB	38.20	38.14	38.22	38.33	38.40	38.47	38.57	38.64	38.41	39.37	38.04	38.04

WTR YEAR 1982 MAX 37.97 SEP 28, 1982 MIN 39.57 AUG 7, 1982

MIRAGE FLATS RECORDER WELL



415845100334001. Local number 23N-28W-9DA.

AQUIFER.--Sand and gravel deposits, undifferentiated, of Quaternary age.

DATUM.--Altitude of land-surface datum is 2,842 ft (866 m). Measuring point: Top of pipe 2.3 ft (0.7 m) 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 (2.66 m) below land-surface datum, Oct. 16, 1970; lowest, 10.98 ft (3.35 m) below land-surface datum, July 23, 1940.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

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 (6.4 km) west and 5 mi (8.0 km) north of Arcadia. Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel deposits of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in (0.03 m), depth 15 ft (4.6 m), screened from 13 to 15 ft (4.0 to 4.6 m).

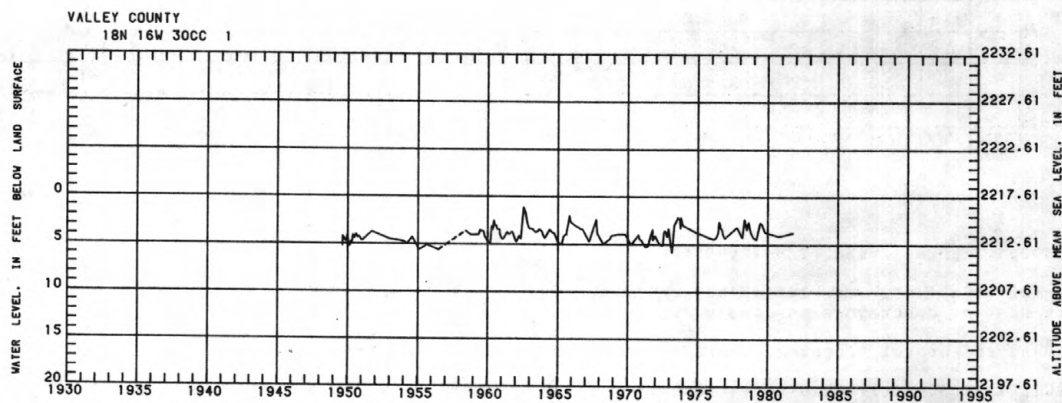
DATUM.--Altitude of land-surface datum is 2,217.61 ft (675.93 m). Measuring point: Top of casing 2.00 ft (0.61 m) above land-surface datum.

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, 1.12 ft (0.34 m) below land-surface datum, July 23, 1962; lowest, 5.90 ft (1.80 m) below land-surface datum, Mar. 1, 1973.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	3.74										



GROUND-WATER LEVELS

359

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 (1.6 km) south and 0.25 mi (0.4 km) 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 (0.20 m), depth 16.9 ft (5.2 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,686 ft (514 m). Measuring point: Top of casing 1.1 ft (0.3 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.34 ft (0.41 m) below land-surface datum, July 11, 1951; lowest, 10.56 ft (3.22 m) below land-surface datum, Apr. 5, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	8.45	MAY 3	5.65								

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 (0.8 km) 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 (0.15 m), depth 170 ft (52 m), casing perforated below water table.

DATUM.--Altitude of land-surface datum is 1,708 ft (521 m). Measuring point: Top of casing 1.50 ft (0.46 m) 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, 81.50 (24.8 m) below land-surface datum, Apr. 28, 1982; lowest, 87.52 ft (26.68 m) below land-surface datum, Aug. 20, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05											86.62	86.90
10									84.75H	.....	86.76	86.72
15										84.37	87.08	86.78
20										84.71	87.52	86.60
25										85.22	87.19	86.46
ECM							81.50	.....	.....	.....	86.90	86.47

WTR YEAR 1982 MAX 81.50 APR 28, 1982 MIN 87.52 AUG 20, 1982

H TAPE MEASUREMENT

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 (0.20 m), depth 165 ft (50.3 m), perforated below water table.

DATUM.--Altitude of land-surface datum is 1,659 ft (506 m). Measuring point: Top of casing 1.6 ft (0.5 m) 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.

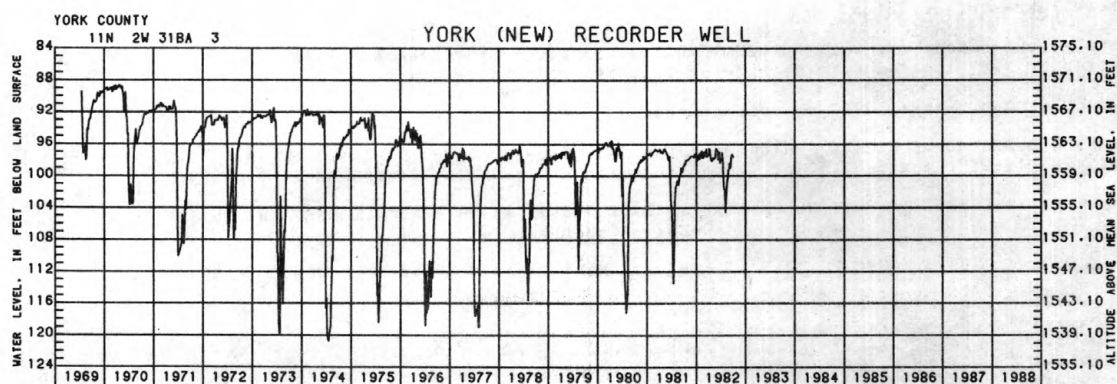
PERIOD OF RECORD.--May 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 88.65 ft (27.02 m) below land-surface datum, Apr. 20, 1970; lowest, 120.81 ft (36.82 m) below land-surface datum, July 15, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
05	98.45	97.86	.....	98.24	97.70	97.04	97.40	97.84	.....	97.77	104.58	99.10
10	98.62	97.81	97.55	97.87	96.85	97.64	96.62	97.96	98.01	97.12	102.48	99.01
15	98.25	97.70	97.66	97.97	97.73	96.65	97.55	97.72	97.92	98.10	101.08	97.76
20	98.16	97.65	97.28	97.30	97.77	97.66	98.03	97.71	97.00	100.64	100.35	97.30
25	98.03	97.55	97.31	97.99	97.23	97.50	98.22	96.60	98.47	101.75	99.21	97.47
ECM	97.96	.....	97.17	97.10	96.99	97.28	97.95	.....	97.84	101.67	99.22	97.67

WTR YEAR 1982 MAX 96.26 MAY 25, 1982 MIN 104.42 AUG 4, 1982



(Local identifier: indicates location by township, range and section. Geologic unit: 112 SDGV, sand and gravel deposits; 121 OGLL, Ogallala Formation; 211 DKOT, Dakota Sandstone; 211 NBRR, Niobrara Formation; 112 PLSC, Pleistocene series)

STATION NUMBER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	SEQ. NO.	GEOLOGIC UNIT	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPECIFIC CONDUCTANCE (UMHOS) (00095)
ADAMS									
402727098261901	6N 10W28DA 1	40 27 27	098 26 19	01	112SDGV	82-08-17	1345	--	388
402753098391801	6N 12W27AB 1	40 27 53	098 39 18	01	112SDGV	82-08-17	1240	190	--
403710098395101	8N 12W34BC 1	40 37 10	098 39 51	01	110SDGV	82-08-17	1110	130	--
BROWN									
423107099423501	29N 20W 6BAC 1	42 31 07	099 42 35	01	112SDGV	82-06-02	1530	--	113
					112SDGV	82-08-10	1545	--	122
423252099510901	30N 22W26AAA 1	42 32 52	099 51 09	01	112SDGV	82-06-02	1310	55	210
					112SDGV	82-08-10	1350	55	252
423259099515701	30N 22W26BAB 1	42 32 59	099 51 57	01	121OGLL	82-08-10	1340	360	240
423415100032401	30N 23W18ACC 1	42 34 15	100 03 24	01	112SDGV	82-06-02	0915	--	95
					112SDGV	82-08-09	1545	--	98
423440099490901	31N 21W18AAC 1	42 39 44	099 49 09	01	121OGLL	82-08-10	1145	330	198
CLAY									
402207097580801	5N 6W26CD 1	40 22 07	097 58 08	01	112SDGV	82-08-18	1345	183	675
403123098031401	6N 7W 1AA 1	40 31 23	098 03 14	01	112SDGV	82-08-18	1300	--	875
403001098152903	6N 8W 8CB 3	40 30 01	098 15 29	03	112SDGV	82-08-17	1710	192	410
FILLMORE									
402516097272001	5N 1W 8BA 1	40 25 16	097 27 20	01	112SDGV	82-08-18	1515	--	1050
402500097431401	5N 4W12BD 1	40 25 00	097 43 14	01	112SDGV	82-08-18	1640	131	432
FRANKLIN									
401801098433901	4N 13W24AD 1	40 18 01	098 43 39	01	112SDGV	82-08-18	0955	150	598
GREELEY									
412813098420501	17N 12W 4DRCD1	41 28 13	098 42 05	01	121OGLL	82-08-04	1300	159	687
412521098401901	17N 12W26BAAA1	41 25 21	098 40 19	01	121OGLL	82-08-04	1200	110	685
HOWARD									
410711098330701	13N 11W11BA 1	41 07 11	098 33 07	01	121OGLL	81-10-20	1245	144	568
					121OGLL	82-06-17	1415	144	592
					121OGLL	82-08-04	1210	144	635
410443098425501	13N 12W20DC 1	41 04 43	098 42 55	01	121OGLL	81-10-19	1230	268	508
					121OGLL	82-06-17	1125	268	585
					121OGLL	82-08-03	1110	268	512
411303098373901	14N 11W 6BAC 1	41 13 03	098 37 39	01	121OGLL	81-10-21	0920	150	--
41125098374001	14N 11W 6BC 1	41 12 59	098 37 40	01	121OGLL	81-10-21	0915	255	504
					121OGLL	82-06-17	0845	255	538
					121OGLL	82-08-04	1130	255	584
410907098360401	14N 11W29DC 1	41 09 07	098 36 04	01	121OGLL	82-08-05	1310	260	--
411711098213201	15N 9W 9BDCB1	41 17 11	098 21 32	01	121OGLL	82-08-03	1630	165	544
411616098273301	15N 10W16DAAA1	41 16 16	098 27 33	01	121OGLL	82-08-03	1720	110	--
411423098275301	15N 10W28DA 1	41 14 23	098 27 53	01	121OGLL	82-08-04	0915	162	668
411705098341701	15N 11W10CBA 1	41 17 05	098 34 17	01	121OGLL	81-10-20	1000	150	572
					121OGLL	82-06-18	1045	150	506
					121OGLL	82-08-04	1040	150	622
					121OGLL	82-08-04	0945	150	602
412249098371301	16N 11W 6CDDD1	41 22 49	098 37 13	01	110SDGV	82-08-04	1130	80	636
411935098364801	16N 11W30DADA1	41 19 35	098 36 48	01	121OGLL	82-08-04	1430	120	630
411905098333401	16N 11W34ACAD1	41 19 05	098 33 34	01	110SDGV	82-08-04	1030	40	585

CHEMICAL ANALYSES OF GROUND WATER IN NEBRASKA

STATION NUMBER	DATE OF SAMPLE	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (95902)	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)
ADAMS											
402727098261901	82-08-17	--	--	150	.00	47	7.0	17	.6	7.7	158
402753098391801	82-08-17	7.3	--	130	.00	44	6.0	20	.8	6.9	139
403710098395101	82-08-17	7.1	15.0	110	.00	34	5.8	10	.4	5.8	122
BROWN											
423107099423501	82-06-02	7.4	14.0	45	.00	15	1.9	5.8	.4	4.4	48
	82-08-10	6.9	14.5	47	3.0	15	2.2	5.7	.4	5.0	44
423252099510901	82-06-02	7.3	12.5	78	2.0	24	4.4	11	.6	6.4	76
	82-08-10	6.9	15.5	90	3.0	28	4.8	11	.5	6.2	87
423259099515701	82-08-10	7.0	--	86	.00	27	4.6	12	.6	6.2	87
423415100032401	82-06-02	7.1	12.0	37	3.0	12	1.7	6.1	.5	3.0	34
	82-08-09	6.8	15.5	38	4.0	12	1.9	5.1	.4	3.0	34
423944099490901	82-08-10	7.5	15.0	76	.00	25	3.3	7.0	.4	6.1	96
CLAY											
402207097580801	82-08-18	6.8	--	260	40	86	12	33	.9	7.4	224
403123098031401	82-08-18	7.1	16.0	330	53	110	13	43	1.1	10	275
403001098152903	82-08-17	7.4	16.0	170	23	55	8.1	16	.6	6.9	148
FILLMORE											
402516097272001	82-08-18	6.8	--	450	260	140	25	27	.6	9.3	--
402500097431401	82-08-18	7.0	--	150	.00	46	7.3	21	.8	5.3	158
FRANKLIN											
401801098433901	82-08-18	7.2	15.5	260	25	86	12	17	.5	8.8	239
GREELEY											
412813098420501	82-08-04	7.3	13.0	340	27	110	16	16	.4	8.0	314
412521098401901	82-08-04	7.3	13.5	310	4.0	99	15	15	.4	10	305
HOWARD											
410711098330701	81-10-20	6.7	14.0	270	.00	82	15	15	.4	7.1	280
	82-06-17	7.0	15.0	290	6.0	90	15	14	.4	7.8	281
	82-08-04	7.4	15.0	290	.00	89	16	16	.4	7.1	292
410443098425501	81-10-19	7.5	14.0	240	31	80	10	11	.3	7.1	210
	82-06-17	7.0	14.0	280	57	93	12	12	.3	7.1	225
	82-08-03	7.4	--	230	.00	77	9.4	8.8	.3	4.9	234
411303098373901	81-10-21	7.2	12.5	260	12	85	12	9.1	.3	6.3	250
411259098374001	81-10-21	7.1	14.0	260	.00	85	11	8.3	.2	6.0	270
	82-06-17	7.3	14.0	280	1.0	92	12	8.6	.2	5.6	278
	82-08-04	7.6	15.0	280	.00	91	12	9.4	.3	5.8	287
410907098360401	82-08-05	7.2	15.0	270	.00	85	15	13	.4	7.3	284
411711098213201	82-08-03	7.3	15.5	270	.00	87	12	11	.3	7.1	274
411616098273301	82-08-03	7.3	13.5	270	.00	88	12	9.7	.3	5.6	280
411423098275301	82-08-04	6.9	15.0	270	32	85	14	17	.5	10	238
411705098341701	81-10-20	7.0	13.0	280	16	89	13	13	.4	7.2	260
	82-06-18	7.1	13.0	250	.00	82	12	9.2	.3	7.7	258
	82-08-04	7.3	15.0	280	.00	89	14	13	.4	7.4	282
	82-08-04	7.3	13.0	290	1.0	91	14	12	.3	7.1	284
412249098371301	82-08-04	7.3	15.0	330	17	110	13	9.9	.2	5.6	311
411935098364801	82-08-04	7.2	16.0	280	7.0	92	13	13	.4	7.3	276
411905098333401	82-08-04	7.1	15.0	280	.00	92	12	8.6	.2	5.5	295

STATION NUMBER	DATE OF SAMPLE	SULFATE DIS-SOLVED (MG/L AS SO ₄) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, 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)	NITROGEN, NO ₂ +NO ₃ DIS-SOLVED (MG/L AS N) (00631)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)
ADAMS										
402727098261901	82-08-17	24	6.1	.3	32	243	1.6	30	10	9
402753098391801	82-08-17	26	4.7	.4	32	240	3.6	40	13	6
403710098395101	82-08-17	14	2.8	.3	35	187	1.4	140	52	7
BROWN										
423107099423501	82-06-02	<5.0	.9	.2	54	122	1.4	--	--	--
	82-08-10	<5.0	1.2	.2	52	120	1.6	--	--	--
423252099510901	82-06-02	8.0	3.2	.2	53	178	5.0	--	--	--
	82-08-10	9.0	3.4	.2	53	193	5.7	--	--	--
423259099515701	82-08-10	9.0	3.7	.2	54	192	5.3	--	--	--
423415100032401	82-06-02	6.0	1.3	.1	39	97	1.6	--	--	--
	82-08-09	6.0	1.3	.1	38	95	1.6	--	--	--
423944099490901	82-08-10	<5.0	1.0	.3	61	171	1.1	--	--	--
CLAY										
402207097580801	82-08-18	37	18	.3	33	402	9.1	40	10	5
403123098031401	82-08-18	80	42	.3	29	537	10	50	51	14
403001098152903	82-08-17	17	12	.3	32	258	4.9	30	16	3
FILLMORE										
402516097272001	82-08-18	170	--	.4	39	--	5.7	30	41	250
402500097431401	82-08-18	34	14	.4	30	257	.92	40	12	5
FRANKLIN										
401801098433901	82-08-18	48	10	.2	39	377	2.8	50	13	4
GREELEY										
412813098420501	82-08-04	54	7.6	.2	61	474	2.7	70	<3	<1
412521098401901	82-08-04	23	3.8	.2	57	433	6.1	70	<3	<1
HOWARD										
410711098330701	81-10-20	18	12	.3	56	376	.42	--	--	--
	82-06-17	23	11	.2	58	390	.43	--	--	--
	82-08-04	23	11	.2	59	399	.53	--	--	--
410443098425501	81-10-19	35	8.6	.3	57	338	.58	--	--	--
	82-06-17	37	11	.2	49	387	6.9	--	--	--
	82-08-03	17	5.6	.3	58	328	1.4	--	--	--
411303098373901	81-10-21	16	4.0	.2	60	344	.27	--	--	--
411259098374001	81-10-21	12	2.5	.2	59	348	.32	--	--	--
	82-06-17	18	2.5	.2	65	373	.47	--	--	--
	82-08-04	18	3.2	.2	64	378	.49	--	--	--
410907098360401	82-08-05	20	5.5	.2	62	384	1.1	--	--	--
411711098213201	82-08-03	10	5.5	.2	58	374	4.2	50	<3	<1
411616098273301	82-08-03	11	5.2	.2	61	368	1.6	60	<3	<1
411423098275301	82-08-04	31	12	.3	53	419	12	--	--	--
411705098341701	81-10-20	30	6.1	.2	57	382	2.4	--	--	--
	82-06-18	19	3.1	.2	64	356	.87	--	--	--
	82-08-04	23	5.8	.2	59	391	2.2	--	--	--
	82-08-04	25	5.4	.2	59	393	2.0	50	<3	<1
412249098371301	82-08-04	24	4.8	.2	61	433	4.0	60	5	<1
411935098364801	82-08-04	18	7.3	.2	63	407	6.1	50	<3	2
411905098333401	82-08-04	11	3.2	.2	57	373	1.3	40	<3	<1

STATION	NUMBER	LOCAL IDENT- I- FIER	LAT- I- TUDF	LONG- I- TUDE	SEQ. NO.	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)
JEFFERSON										
400422097195901		1N 1E 8AA 1	40 04 22	097 19 59	01	112SDGV	82-08-19	1055	--	698
400223097011901		1N 4E19BD 1	40 02 23	097 01 19	01	211DKOT	82-08-19	0815	--	358
400751097122001		2N 2E21AB 1	40 07 51	097 12 20	01	112SDGV	82-08-19	0915	--	510
KEARNEY										
403055098570001		6N 14W 6CB 1	40 30 55	098 57 00	01	112SDGV	82-08-18	0840	171	650
NANCE										
411732098133001		15N 8W10BAAB1	41 17 32	098 13 30	01	112SDGV	82-08-03	1530	195	--
412152097581001		16N 6W14ABAC1	41 21 52	097 58 10	01	121OGLL	82-08-03	1230	70	772
411923098061001		16N 7W27DCD 1	41 19 23	098 06 10	01	121OGLL	82-08-03	1415	80	638
411850098094701		16N 7W31DBBD1	41 18 50	098 09 47	01	121OGLL	82-08-03	1500	210	493
NUCKOLLS										
400843097522601		2N 5W15BRDB1	40 08 43	097 52 26	01	112SDGV	82-08-20	0855	180	635
401458098035801		3N 7W 1CC 1	40 14 58	098 03 58	01	211NBRR	82-08-20	0830	163	625
401735098155201		4N 8W19DC 1	40 17 35	098 15 52	01	121OGLL	82-08-18	1115	205	552
SHERMAN										
411452098472102		15N 13W27AB 2	41 14 52	098 47 21	02	121OGLL	81-10-21	1000	200	472
411447098474601		15N 13W27BDA 1	41 14 47	098 47 46	01	121OGLL	82-06-16	1700	--	568
						121OGLL	82-08-03	1715	--	--
411706098581001		15N 14W 7CA 1	41 17 06	098 58 10	01	121OGLL	81-10-19	1400	150	556
						121OGLL	82-06-16	1320	150	634
						121OGLL	82-08-03	1315	150	602
THAYER										
400037097371201		1N 3W3SAC 1	40 00 37	097 37 12	01	112SDGV	82-08-19	1150	190	388
401436097232401		3N 1W11AD 1	40 14 36	097 23 24	01	112SDGV	82-08-19	1410	--	371
401238097354601		3N 3W24DA 1	40 12 38	097 35 46	01	112SDGV	82-08-19	1650	--	518
401857097484801		4N 4W18BD 1	40 18 57	097 48 48	01	112SDGV	82-08-18	1415	--	--
VALLEY										
412849098484801		17N 13W 4ABAA1	41 28 49	098 48 48	01	121OGLL	82-08-04	1545	300	715
412720098494901		17N 13W 8DD 1	41 27 20	098 49 49	01	121OGLL	82-08-04	1615	287	597
412829098583901		17N 14W 6BCD 1	41 28 29	098 58 39	01	112SDGV	82-08-05	1630	504	589
413252098452401		18N 13W12ACDA1	41 32 52	098 45 24	01	121OGLL	82-08-06	0900	150	530
413053098541701		18N 14W22DADD1	41 30 53	098 54 17	01	121OGLL	82-08-05	1115	195	611
413305099034201		18N 15W 8AABC1	41 33 05	099 03 42	01	121OGLL	82-08-05	1700	235	843
413155098590001		18N 15W13ADDC1	41 31 55	098 59 00	01	121OGLL	82-08-05	0930	248	692
413639099050501		19N 15W18DCCD1	41 36 39	099 05 05	01	112PLSC	82-08-05	1430	--	632
413654099092001		19N 16W16DADC1	41 36 54	099 09 20	01	121OGLL	82-08-05	1530	215	559
413452099071301		19N 16W35ABAA1	41 34 52	099 07 13	01	121OGLL	82-08-05	1315	160	1160
WEBSTER										
401906098354803		4N 11W18AA 3	40 19 06	098 35 48	03	112SDGV	82-08-17	1445	168	658

STATION NUMBER	DATE OF SAMPLE	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (95902)	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 CAC03) (90410)
JEFFERSON											
400422097195901	82-08-19	--	15.0	250	.00	86	9.1	27	.8	2.4	266
400223097011901	82-08-19	--	17.0	--	53	--	9.6	23	.8	3.4	104
400751097122001	82-08-19	--	--	200	16	66	8.6	19	.6	3.2	184
KEARNEY											
403055098570001	82-08-18	7.2	--	250	50	83	11	29	.8	11	203
NANCE											
411732098133001	82-08-03	7.2	13.0	280	.00	93	12	12	.3	5.7	294
412152097581001	82-08-03	7.0	16.0	400	83	130	19	15	.3	7.0	320
411923098061001	82-08-03	7.1	12.5	300	.00	94	16	11	.3	7.9	311
411850098094701	82-08-03	7.3	13.0	260	.00	86	12	8.1	.2	4.5	275
NUCKOLLS											
400843097522601	82-08-20	6.9	--	270	130	89	12	21	.6	3.7	--
401458098035801	82-08-20	7.0	16.5	250	22	81	12	22	.6	3.9	230
401735098155201	82-08-18	7.1	--	250	69	75	14	16	.5	5.3	--
SHERMAN											
411452098472102	81-10-21	7.2	13.5	240	.00	78	12	11	.3	8.3	250
411447098474601	82-06-16	7.0	14.0	250	.00	80	12	8.9	.3	7.7	253
	82-08-03	7.4	--	250	.00	80	13	13	.4	8.5	256
411706098581001	81-10-19	7.1	14.5	260	.00	86	11	11	.3	6.3	260
	82-06-16	7.2	15.0	270	3.0	90	12	9.6	.3	7.1	271
	82-08-03	7.4	--	270	.00	90	12	12	.3	7.0	280
THAYER											
400037097371201	82-08-19	6.9	--	130	16	44	4.4	14	.6	3.5	112
401436097232401	82-08-19	--	--	120	.00	37	5.8	23	1.0	4.4	122
401238097354601	82-08-19	6.8	--	180	.00	57	9.1	28	.9	4.9	184
401857097484801	82-08-18	--	--	120	11	39	6.2	14	.6	5.0	112
VALLEY											
412849098484801	82-08-04	7.1	14.0	320	.00	100	17	16	.4	10	320
412720098494901	82-08-04	7.2	13.0	290	4.0	96	12	9.8	.3	7.2	285
412820098583901	82-08-05	7.2	14.5	280	3.0	93	12	11	.3	8.0	279
413252098452401	82-08-06	7.2	14.0	240	.00	79	10	9.3	.3	7.0	258
413053098541701	82-08-05	7.1	13.5	290	1.0	93	13	8.8	.2	7.0	285
413305099034201	82-08-05	7.2	--	430	140	140	19	14	.3	14	291
413155098590001	82-08-05	7.2	16.0	330	26	110	14	17	.4	14	306
413639099050501	82-08-05	7.3	13.5	290	1.0	94	14	7.6	.2	7.7	291
413654099092001	82-08-05	7.2	13.5	260	.00	83	13	7.6	.2	6.6	263
413452099071301	82-08-05	7.4	14.5	520	210	170	22	35	.7	17	309
WEBSTER											
401906098354803	82-08-17	7.4	16.5	260	25	86	12	13	.4	5.8	217

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). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

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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