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ANNUAL AND SEASONAL LOW-FLOW CHARACTERISTICS OF IOWA STREAMS

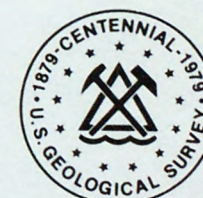
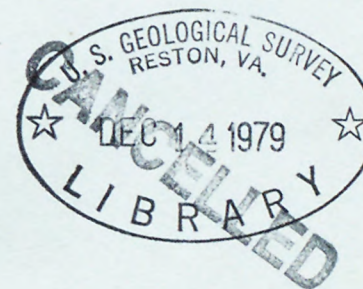
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ANNUAL AND SEASONAL LOW-FLOW
CHARACTERISTICS OF IOWA STREAMS

By Oscar G. Lara

Open-File Report 79-555

Prepared in cooperation with the
IOWA NATURAL RESOURCES COUNCIL
and the
IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY

Iowa City, Iowa

MARCH 1979

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CONVERSION FACTORS

The following factors may be used to convert inch-pound units given herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
Length		
inches (in)	25.4	millimeters (mm)
	0.0254	meters (m)
feet ³ (ft ³)	0.3048	meters (m)
miles (mi)	1.609	kilometers (km)
Area		
square miles (mi ²)	2.590	square kilometers (km ²)
Volume		
cubic feet (ft ³)	28.32	cubic decimeters (dm ³)
	0.02832	cubic meters (m ³)
Flow		
cubic feet/second (ft ³ /s)	28.32	liters per second (L/s)
	28.32	cubic decimeters per second (dm ³ /s)
	0.02832	cubic meters per second (m ³ /s)
cubic feet per second per square mile ((ft ³ /s)/mi ²)	0.01093	cubic meters per second per square kilometer ((m ³ /s)/km ²)

ANNUAL AND SEASONAL LOW-FLOW CHARACTERISTICS OF IOWA STREAMS

ABSTRACT

The low-flow characteristics of Iowa streams are described by annual and seasonal low-flow frequency and duration data. Tabulated in this report are low-flow data collected at 135 gaging stations on Iowa streams, three on the Mississippi River, four on the Missouri River, and 426 partial-record sites.

The information contained in this report is based on all of the daily discharge records collected by the U.S. Geological Survey through the 1976 water year. Consideration is given to the regional aspects of low-flow characteristics by including regression equations to estimate the average discharge and generalized maps to estimate the 7-day, 2-year and the 7-day, 10-year discharges at ungaged sites.

INTRODUCTION

Purpose and Scope

It is significant that the title of this report should refer again to low flows. This is the third time within the last 20 years that state agencies and the U.S. Geological Survey have cooperated in the preparation of a report dealing with the low-flow characteristics of Iowa Streams. Each time, these reports have been made available in response to continually increasing demand for water-related data, from state and city officials, farmers, industry, private citizens, and others. If this continually increasing demand for water is an indication of economic growth, then Iowa is growing and developing at a rapid rate. With the prospect of continuing growth making demands upon the water supplies and the multitude of water problems that need to be resolved, it is clear that we must continue to find out more about the water resources of Iowa. The purpose of this report is to make updated information on the

water supply characteristics of Iowa streams available to planners, engineers, water managers, and legislators. Previous reports on low-flow characteristics of Iowa streams were by Schwob (1958) and Heinritz (1970); the latter report included streamflow data collected through 1966.

This report extends the 1970 study by the addition of 10 more years of record. Furthermore, this report also includes:

- a. Low-flow frequency data at 29 additional gaging stations.
- b. Annual low-flow discharges, corresponding to selected periods of consecutive days, for each climatic year of record.
- c. Annual and seasonal low-flow characteristics at each gaging station having 10 or more years of record.
- d. A complete list of discharge measurements made at each of 426 low-flow partial-record stations.
- e. Selected low-flow parameters estimated for each partial record site.
- f. Regional equations for estimating the average discharge at ungaged sites.
- g. Maps that show regional trends of selected low-flow parameters.

This report, prepared by the U.S. Geological Survey, is the result of a 2-year cooperative agreement between the Iowa Department of Environmental Quality, the Iowa Natural Resources Council, and the U.S. Geological Survey.

AVAILABLE DATA

The basic streamflow data presented in this report have been compiled from the U.S. Geological Survey files. The data collection sites consist of 143 continuous-record gaging stations and 426 partial-record stations. The locations of these stations are shown in plates 1 and 2. The continuous-record gaging stations provide a chronological record of the streamflow at these sites. The period of record of these stations is shown in the bar graph, figure 1.

Low-flow partial-record stations are sites at which measurements of base flow are made systematically in order to define adequate relations with concurrent flows at a nearby continuous-record station.

LOW-FLOW CHARACTERISTICS

The low-flow characteristics of streams at gaging stations are described in tables at the end of this report. These tables show the frequency of annual and seasonal minimum flows, and annual and seasonal duration of daily discharges.

Methods for preparing low-flow and duration data, and the advantages of relating low flows to recurrence intervals, or probabilities of occurrence are generally understood by most users. These methods are well documented in publications by Riggs (1972), Chow (1964), and Linsley (1975) among others and are discussed only briefly in this report.

Low-flow Frequency Analysis

A low-flow frequency analysis consists of a study of past records of flow and an estimate of the frequency of occurrence of future flows. Following is a summary of the methods of analysis used for this study.

1. Compile annual low flows by searching the record of daily flows for the lowest average discharge corresponding to a selected period, within each climatic year. The periods selected for this study were 3, 7, 14, 30, 60, 120, and 183 consecutive days. (These data are tabulated for each continuous-record gaging station immediately following the station description).

2. Compute low-flow frequency values using as basic data the arrays of annual low-flow, computed in step 1. Two methods of fitting low-flow frequency curves were used: For stations with complete and continuous record (no missing records, or zero values) the log-Pearson distribution function was selected; for the remaining stations, a graphical (distribution-free) method was used. Fitting a log-Pearson type III frequency curve is done by substituting in

$$Q = M + K S$$

where:

Q is a discharge on the frequency curve and is expressed in log units.

M is the mean of the data expressed in log units.

S is the standard deviation of the data expressed in log units.

K is a frequency variate corresponding to the skew of the data and a selected recurrence interval. Values of K are read from tables.

For a more detailed explanation the reader is referred to Riggs (1968, 1972).

Low-flow frequency curves using a graphical method are fitted as follows:

1. Arrange the array of low-flow discharges in order of magnitude and assign ranks beginning with the smallest as number 1.

2. Compute the recurrence interval (RI) of each value using the formula:

$$RI = (n+1)/m$$

Where:

n is the number of years of record. (data items)

m is the rank.

3. Plot each value versus its computed recurrence interval using log-probability coordinates.

4. Draw a smooth curve to fit the plotted data. A typical family of low-flow frequency curves is shown in figure 2.

Seasonal low-flow characteristics were obtained by repeating the above procedure using daily discharge data for each calendar quarter of a year.

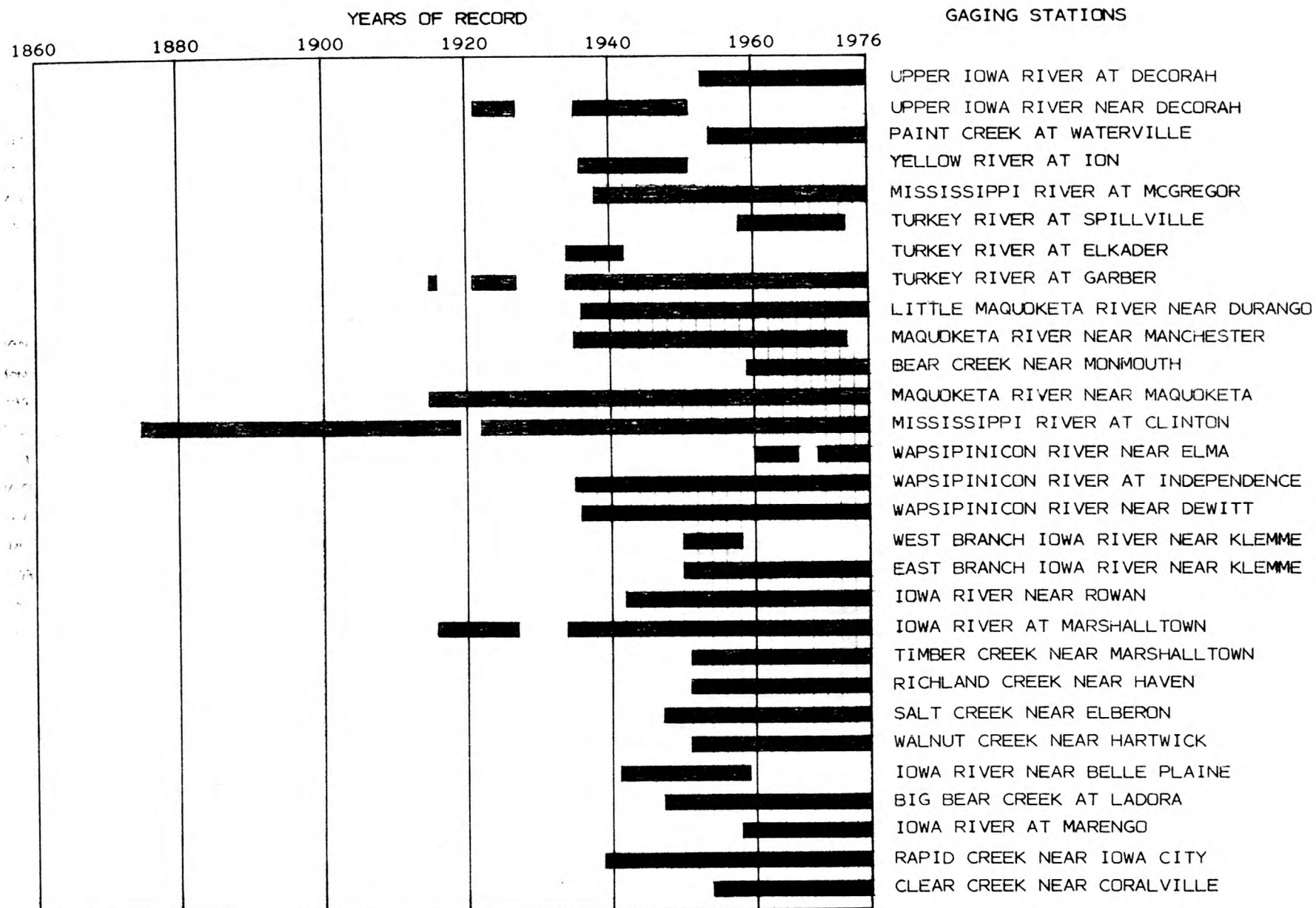


Figure 1. Period of record of continuous- record gaging stations.

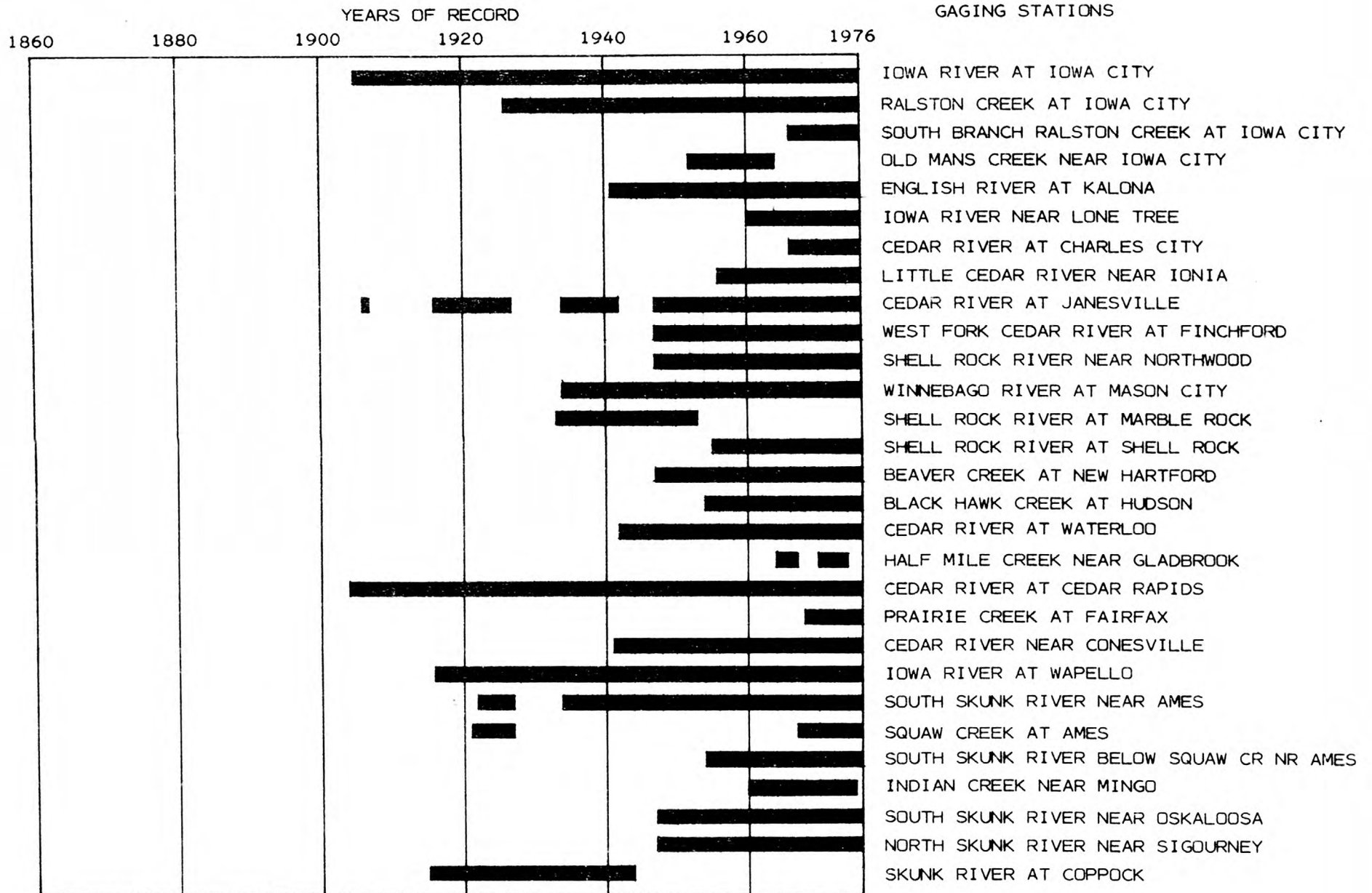


Figure 1. Period of record of continuous-record gaging stations--continued.

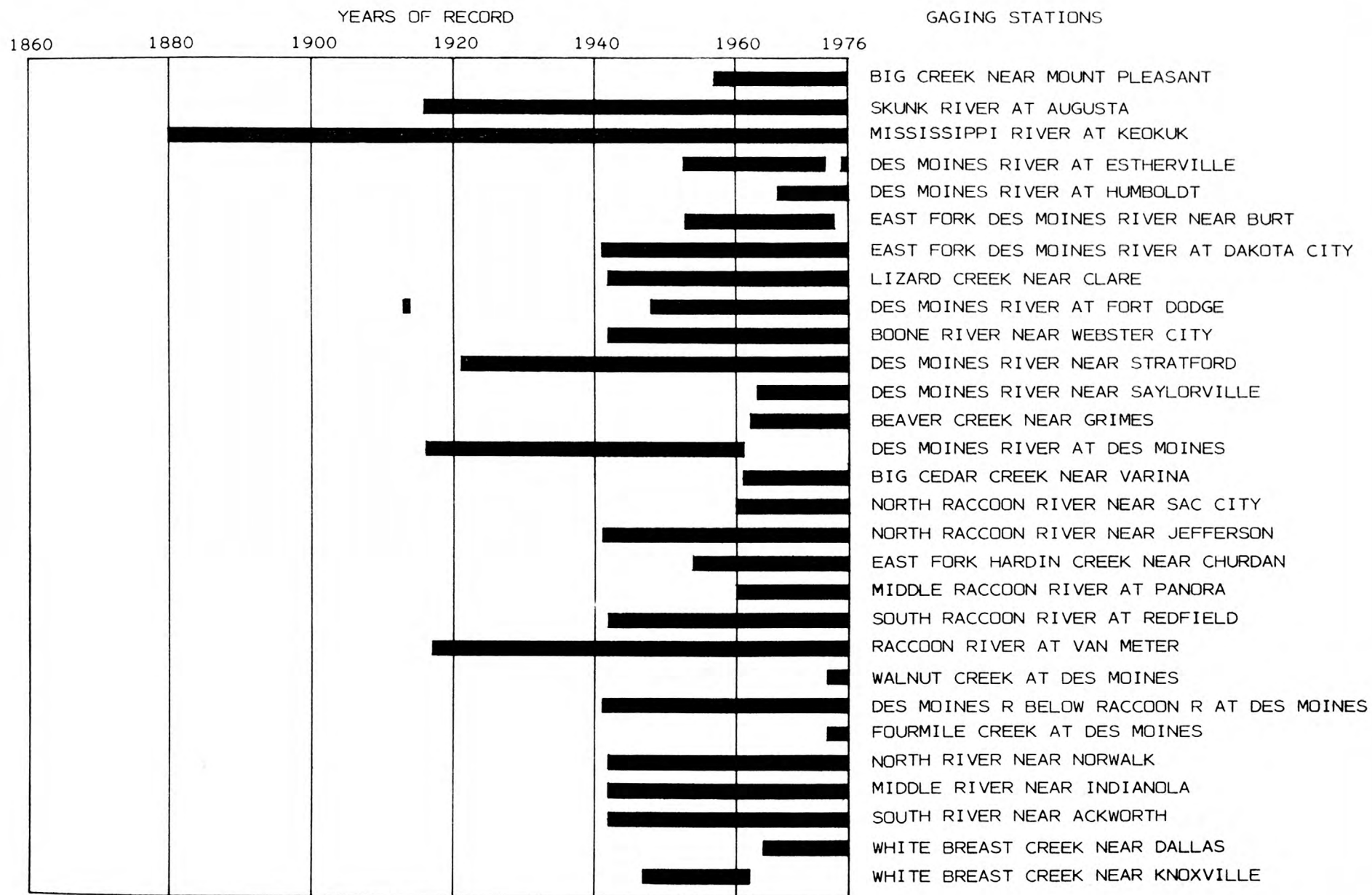


Figure 1. Period of record of continuous-record gaging stations--continued.

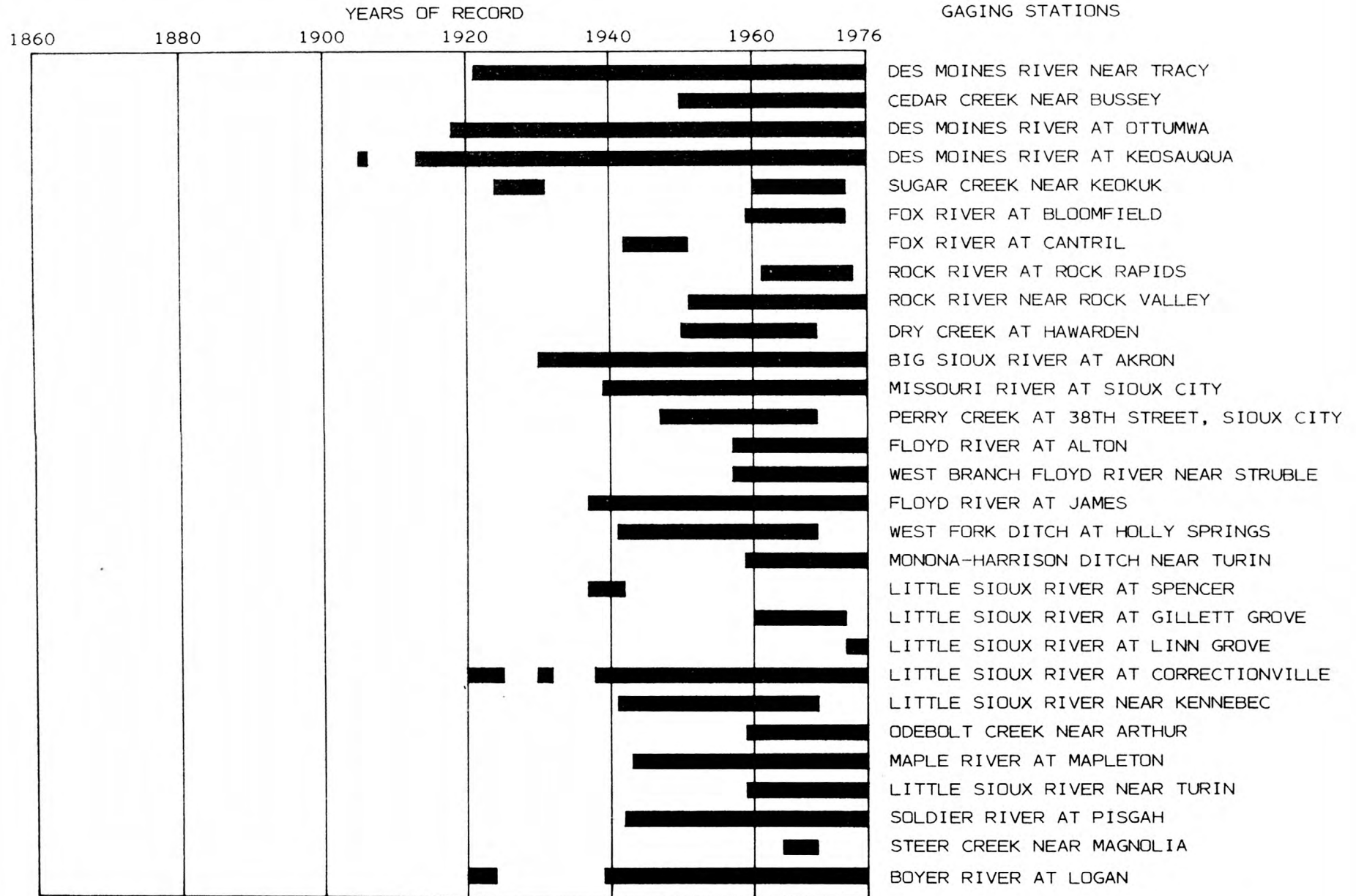


Figure 1. Period of record of continuous-record gaging stations--continued.

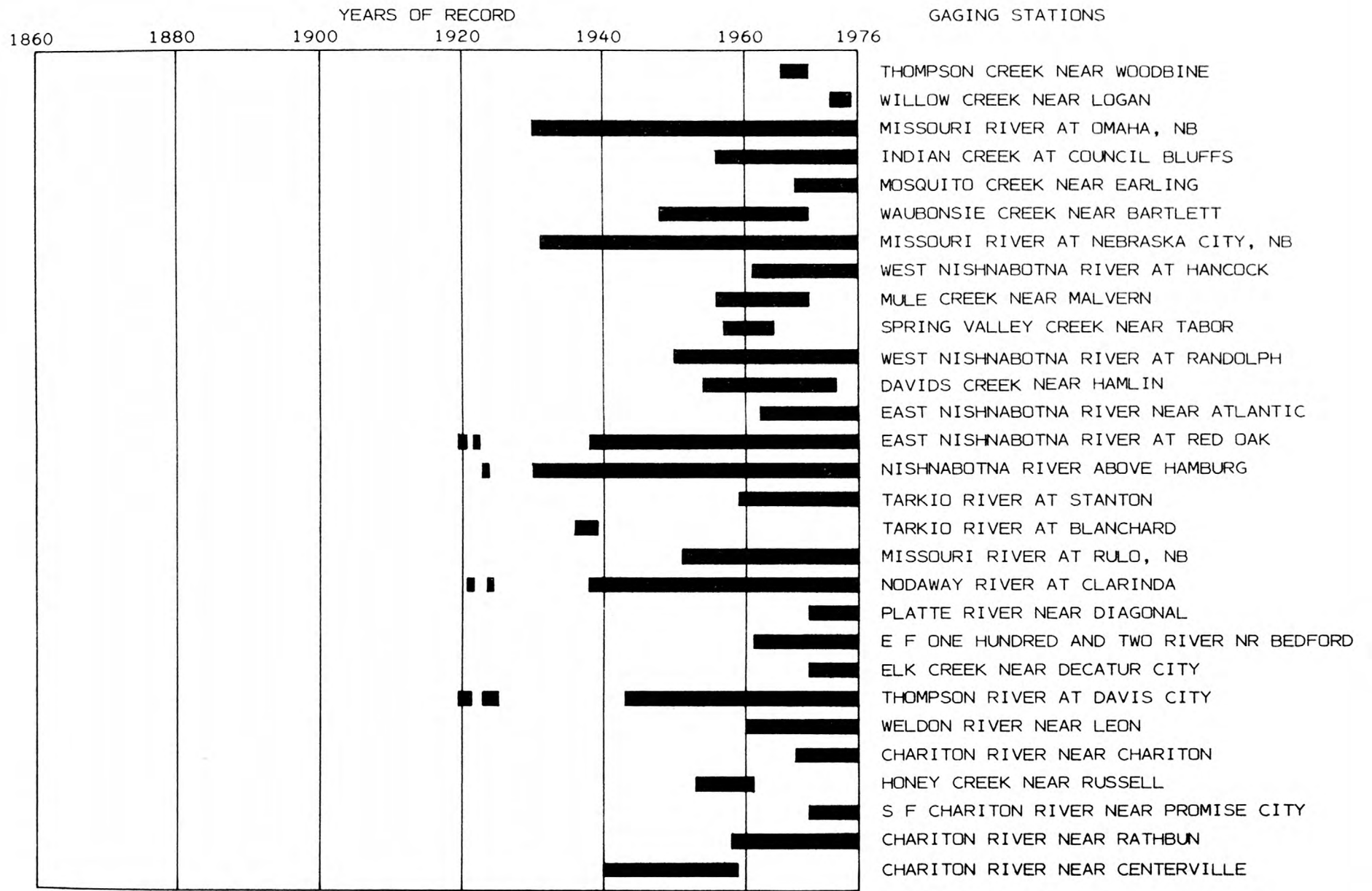


Figure 1. Period of record of continuous-record gaging stations--continued.

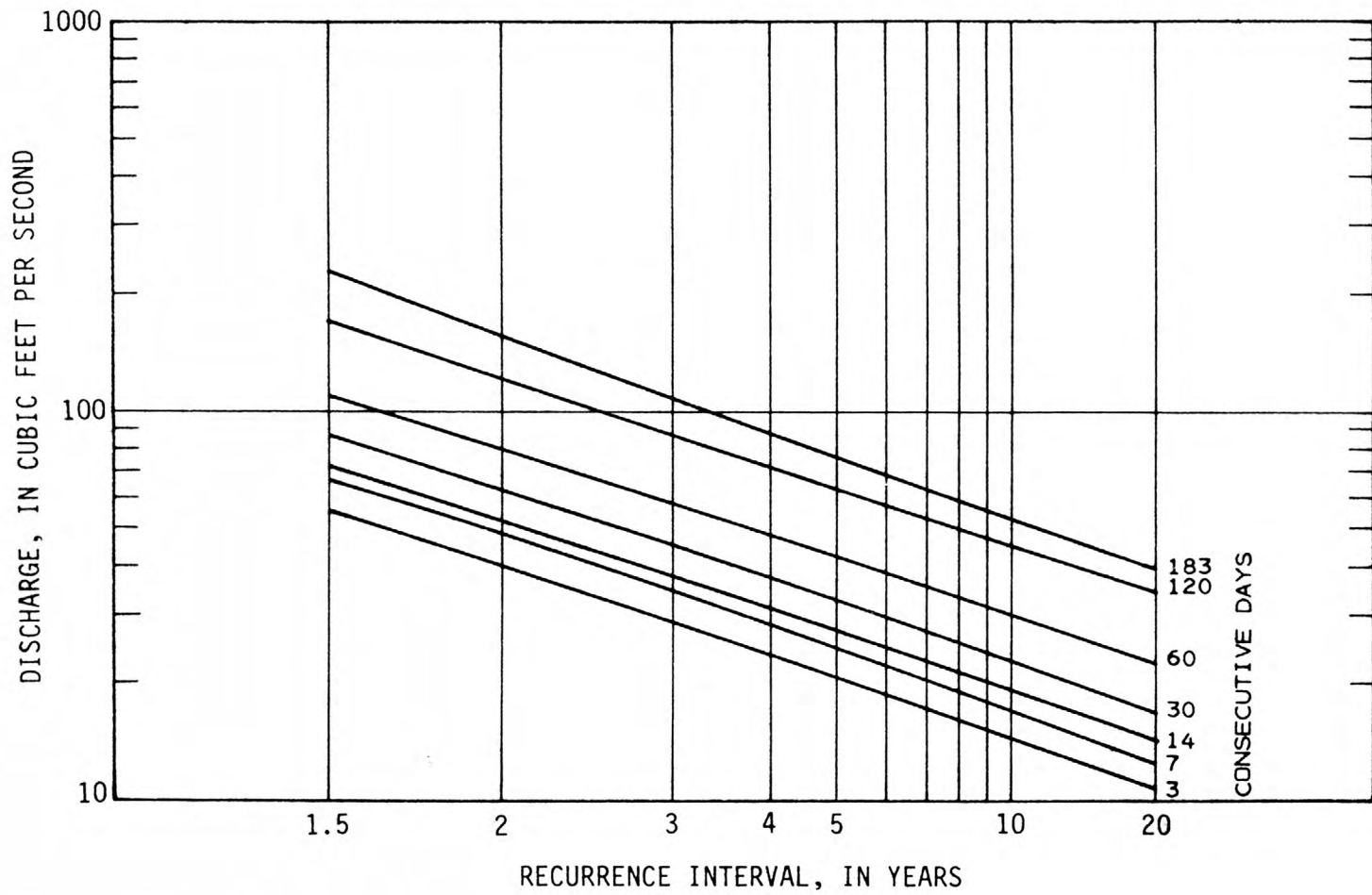


Figure 2. Low-flow frequency curves for gaging station 05421000 Wapsipinicon River at Independence, Iowa.

Flow Duration

Flow-duration is a familiar tool to those concerned with water supply problems, power development, dilution and disposal of sewage and industrial waste materials. It is also useful to hydrologists to compare basin characteristics.

The flow-duration data indicate the percent of time within a given period during which given rates of flow were exceeded. To prepare flow-duration data for a given gaging station, the daily mean discharges were arranged in class intervals, depending upon their magnitudes. Determination was then made of the percent of time during which the flow was equal or greater than the lower limit of each class. An annual and two seasonal duration data values were prepared. The first is based on the daily discharges for the entire water year. A typical flow duration curve is shown in figure 3. The second tabulation is based on the daily discharges between April 1 and September 30 of each water year. The third is based on daily discharges during the months of July and August.

ARRANGEMENT OF STATION DATA

Continuous-record Stations

Data for each continuous-record station are presented in three parts, the first part is a paragraph describing the location of the station, the second is a table listing the basic low-flow data collected at this station, the third part is a summary of the annual and seasonal low-flow and flow-duration data for the station.

Most of the data presented for each gaging station are self explanatory. However, a statement is needed concerning stream flows which are regulated by man-made structures. In this instance, a "Remarks" paragraph has been added to explain the point in time when regulation started, and also the type and extent of regulation. If adequate periods of record are available at a station for both natural and regulated flows, two sets of data are presented

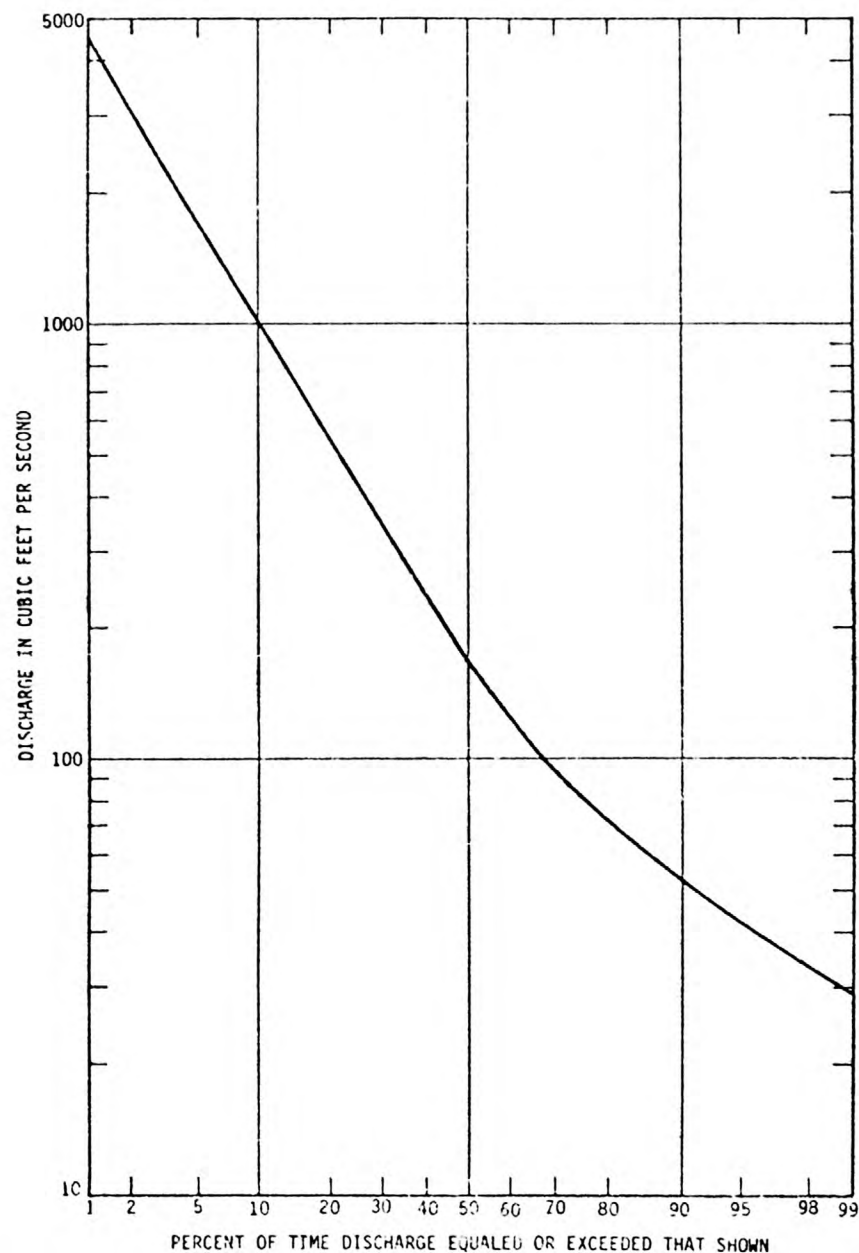


Figure 3. Flow-duration curve for gaging station 05484000 South Raccoon River at Redfield, Iowa.

for this station, one based on the natural river flows and the other based on the regulated flows. For example, see the data for Station 5-454500 Iowa River at Iowa City.

A statement is also required concerning the period of record in years listed for each station. This figure indicates the number of complete water years of record. This number does not necessarily agree with the number of climatic years shown in the tabulations of low-flow discharges. Generally, for a given station record, the number of climatic years is 1 less than the number of water years. The reason for this difference is the manner in which they are defined. The water year is a 12-month period beginning Oct. 1 and ending Sept. 30, while the climatic year is a 12-month period beginning 6 months later on April 1 and ending on March 31. In both cases the years are designated by the calendar year in which they end. Thus, if the record of a given station started October 1, 1929, the first complete water year will end September 30, 1930, and the year is called the 1930 water year. The first complete climatic year will start 6 months later on April 1, 1930, and end on March 31, 1931, and will be called the 1931 climatic year. For this reason, n complete water years of record will yield $(n-1)$ climatic years. Obviously if the record of a given station started 6 months or more before the first October of record, the number of water years and the number of climatic years will be the same.

Gaging stations are listed in downstream order, the same as in water-supply papers published by the U.S. Geological Survey.

For stations having less than 10 years of record, only the station description and the basic low-flow data are tabulated. However, selected low-flow values have been estimated and are included at the bottom of the basic data tables. Low-flow values for short-record stations were estimated on the basis of a relation developed between the short-term record and the concurrent record of a nearby long-term station.

Low-flow Partial-record Stations

Data for low-flow partial-record stations listed at the end of the report include the following:

1. Station description
2. Size of drainage area, in mi^2
3. Discharge measurements and the dates when made, listed in chronological order
4. $Q(84)$ discharge which corresponds to the 84 percent of time ordinate of a seasonal duration curve prepared by using daily discharges from April 1 through Sept. 30.
5. $7Q2$ seven-day low-flow with a 2-year recurrence interval.
6. $7Q10$ seven-day low-flow with a 10-year recurrence interval.

For estimating low-flow characteristics at a partial-record site, the base-flow measurements at the site are correlated with concurrent flows at nearby gaging stations where continuous records are available. Based on these correlations the flow characteristics at the gaging station are used to make low-flow frequency estimates for the partial-record site.

Measurements at partial-record stations were made during periods of base flow when streamflow is primarily from ground-water sources and in accordance with a predetermined plan. To obtain satisfactory correlations, measurements should be made only after substantial lapse of time following the last precipitation. The exact length of elapsed time appears to be a function of the characteristics of the basins, and may be in some instances as great as 10 days. Because of these limitations, suitable measurements often cannot be made each year. This explains why more than one measurement was made in certain years and none in others.

REGIONAL ANALYSIS

Estimates of streamflow values often are required at points remote from gaging stations. Consequently, methods are needed to transfer gaging-station information to ungaged sites. Regional analysis provides a tool for doing this. A discussion of methods of regional analysis is beyond the scope of this report. Readers who are interested in this subject are referred to Riggs (1973). The following paragraphs describe the results of regional analysis studies, conducted to provide the capability of estimating selected low-flow parameters for ungaged areas.

Average Discharge

The average discharge is an important and useful streamflow parameter because it defines the total water available from the stream at a given location.

Using standard regional analysis procedures the state was divided into three hydrologic regions (figure 4).

Within each region the following equations were developed:

$$\begin{aligned} \text{Region I} \quad Q_a &= 0.54 A^{1.02} \\ \text{Region II} \quad Q_a &= 0.19 A^{0.98} (P-25)^{0.57} \\ \text{Region III} \quad Q_a &= 0.17 A^{1.06} \end{aligned}$$

where:

Q_a is the average discharge, in cubic feet per second.

A is the size of the drainage area in square miles.

P is the normal annual precipitation, in inches, determined from map (figure 4).

The standard errors of these equations are approximately 17 percent.

The average discharge (Q_a) shown for the gaging stations with short-term record and for the partial-record stations was estimated by using the equations shown in figure 4.

Low-flow Characteristics

Although the principles of regional analysis apply quite well to average flows, they could not be applied successfully to low flows. This is because low flows are closely related to geologic parameters, which at present are not clearly identified and cannot easily be quantified or described by simple indexes. Therefore, low-flow characteristics at ungaged sites in Iowa cannot, at the present time, be reliably estimated by regional regression equations. The use of base-flow measurements at the site, as explained elsewhere in the report, remains the recommended procedure for estimating low-flow characteristics at ungaged sites.

There are times, however, when there is a need for making quick low-flow estimates, especially in certain phases of the planning stage, where time is of essence and where certain facts need not be accurate but reasonable.

For users who need to make this type of estimate, two maps have been prepared (see plates 3 and 4). These maps show areal trends of two often used low-flow parameters, the 7-day, 2-year (7Q2) and the 7-day, 10-year (7Q10) discharges. These trends were delineated on maps using the information collected at the gaging stations and at the partial-record sites. The data given on plate 4 is applicable to all stream points except to those points on the main stem of selected streams shown on plate 3. To use these maps proceed as follows.

1. Determine the size of the drainage area in square miles.
2. Determine the location of the stream point using either plate 3 or plate 4.
3. Compute the low-flow parameter in ft^3/s by multiplying the size of the drainage area by the map number. Use the upper figure to estimate the 7Q2, and the lower figure to estimate the 7Q10.

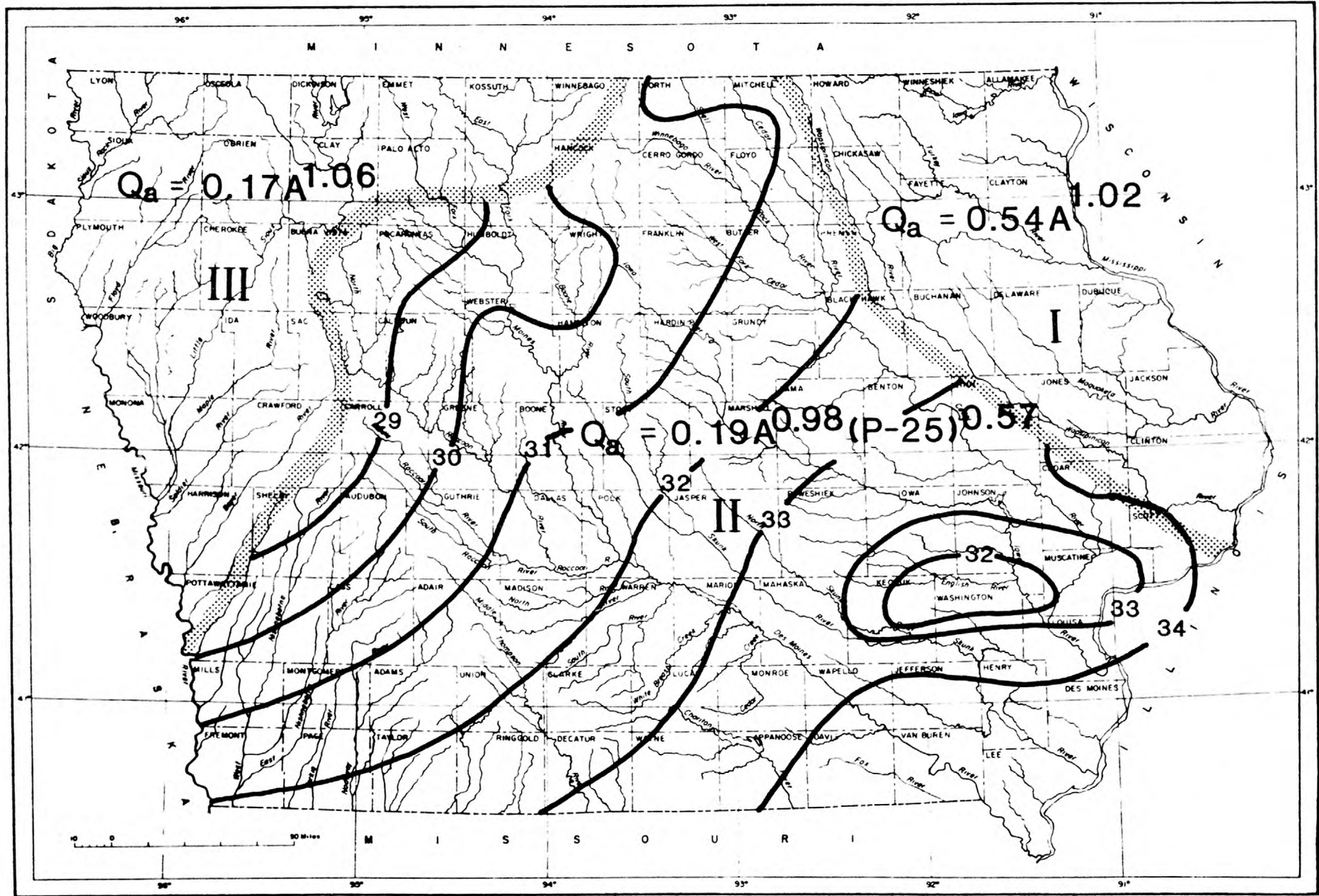


Figure 4. Regional equations to compute the average discharge, and low normal annual precipitation for region II.

DISCUSSION

In this report discussion has been directed toward an understanding of the data presented and the procedures used in compiling and analyzing these data.

Further comment should be made concerning reliability and limitations of these data. It must be recognized that any record of streamflow is but a sample from an infinitely large population of flow regimes. The longer the record the better the prediction of future hydrologic behavior of a stream. Similarly the shorter the record the greater the risk of making an erroneous decision, or a biased estimate.

A cursory examination of the low-flow basic data tables presented for each gaging station will show that the low-flow discharges in the period 1969-1975 are substantially higher than those of previous periods. Climatological records for Iowa show that precipitation during this period was significantly higher than normal. For example, Burmeister (1973), reports that during an 18-month period, March 1972 to August 1973, the monthly runoffs at selected stations throughout the state were 6 to 10 times higher than the average. Therefore, it is reasonable to expect that the low-flow frequency data for stations with short periods of record which include this period of high runoff will be significantly biased. Computations have shown that the magnitude of this "climatic bias" varies with the length of record, the geographic location of the basin, and the type of low-flow parameter. For this reason it is highly recommended that readers of this report who need to use information at a station with a short period of record determine the extent to which this station data may be biased.

A generally accepted method of computing this factor is to use the records of a nearby long-term station and compare the results based on the long-term record with the results based on the concurrent short-term record. The ratio between these values is the factor by which the short-term values should be adjusted.

To illustrate this procedure the reader is referred to the low-flow data collected at two stations on the Cedar River. The upstream station is

at Charles City where the drainage area is 1054 mi²; the period of record at this station is 11 years (1966-1976). The second station is downstream at Janesville, where data have been collected for 56 years. Now compare any low-flow frequency index listed for Charles City with an equivalent index at Janesville. This comparison will show that the Charles City indices are considerably higher than those at Janesville and are affected by some factor of climatic bias.

To compute this factor for the 7-day Q2, proceed as follows:

1. Read the 7-day Q2 listed in the table for Cedar River at Janesville, which is 136 ft³/s.

2. Using the low-flow discharges listed in the table for Janesville, compute the 7-day Q2 based on the concurrent short period (1966-1976). The result from this computation is 228 ft³/s.

The ratio between these values,

$$136/228 = 0.60$$

is the factor by which the value listed for Charles City should be adjusted or $169 \times .60 = 101$ ft³/s. Similar computation for the 7-day Q10 yielded a factor equal to:

$$68/152 = 0.45$$

The adjusted value for the 7-day Q10 at Charles City is then $113 \times .45 = 51$ ft³/s.

Similar procedures could be used to adjust other low-flow parameters.

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CONTINUOUS-RECORD
STATION DATA

UPPER IOWA RIVER AT DECORAH

Location.--Lat 43°18'19", long, 91°47'48", in NE1/4 SW1/4 sec.16, T.98 N., R.8 W., Winneshiek County, on right bank 1,200 ft upstream from bridge on U.S. Highway 52 (city route) in Decorah, 1,500 ft downstream from Dry Run cutoff, and 3.0 miles upstream from Trout Run.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1953	55	59	60	61	65	68	72
1954	41	42	44	52	65	89	104
1955	70	72	76	77	91	126	178
1956	38	41	42	45	48	53	58
1957	26	26	28	36	44	49	54
1958	42	42	43	57	70	91	113
1959	22	22	23	24	25	33	35
1960	69	71	73	78	97	155	184
1961	54	56	59	73	84	121	168
1962	67	69	71	75	77	107	120
1963	53	55	59	64	71	100	223
1964	47	47	50	54	60	68	72
1965	33	34	40	42	44	49	51
1966	55	56	58	66	94	149	420
1967	42	45	48	57	65	82	87
1968	34	36	37	41	46	52	60
1969	56	59	62	77	78	92	124
1970	70	73	77	82	86	98	117
1971	95	101	108	116	138	182	228
1972	52	52	53	56	59	77	82
1973	77	82	85	97	143	247	381
1974	98	102	110	125	167	224	271
1975	67	79	83	87	89	96	109
1976	70	77	83	92	97	109	113

05-3875.00 UPPER IOWA RIVER AT DECORAH--Continued

DRAINAGE AREA: 511 mi² PERIOD OF RECORD: 25 YEARS AVERAGE DISCHARGE: 304 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	22	22	23	24	25	33	35
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	63	66	69	78	90	118	154
2	54	56	59	66	75	95	117
5	38	39	41	47	52	62	68
10	31	32	34	38	42	49	52
20	26	27	28	32	35	41	43

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	103	111	124	76	80	91	175	197	243	100	109	123
2	82	87	96	60	64	72	137	152	190	84	91	102
5	52	55	60	40	43	49	86	93	120	59	63	69
10	42	44	47	32	35	42	68	73	96	49	51	56
20	35	36	39	27	30	37	57	60	80	42	43	47

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	968	554	328	180	141	113	75	68	58	46	39	33
APR.1-SEP.30	1079	648	389	230	188	154	98	89	75	61	49	43
JULY 1-AUG.31	621	408	266	170	142	120	89	82	72	53	44	41

UPPER IOWA RIVER NEAR DECORAH

Location.--Lat 43°18'20", long 91°44'50", in NE1/4 SE1/4 sec.14, T.98 N., R.8 W., Winneshiek County, on left bank 500 ft upstream from county highway bridge in Freeport, 1.2 miles downstream from Trout Creek, and 3 miles downstream from Decorah.

Remarks.--Discontinued September 1951.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1921	124	129	131	147	181	216	224
1922	50	50	56	66	78	106	160
1923	25	33	45	60	63	83	85
1924	40	40	44	48	58	64	72
1925	45	46	47	51	63	118	213
1926	50	50	50	50	50	62	77
1927	50	50	51	60	62	75	80
1935	11	13	22	26	32	62	96
1936	53	58	61	64	77	105	114
1937	55	58	61	68	78	97	105
1938	37	40	40	41	49	60	66
1939	114	119	131	167	243	270	388
1940	36	39	41	48	54	60	63
1941	41	46	56	62	67	101	134
1942	80	83	85	96	116	157	164
1943	135	142	153	166	188	239	386
1944	73	75	83	95	117	162	231
1945	63	69	74	82	84	100	120
1946	103	106	114	125	149	164	328
1947	82	87	99	129	151	159	280
1948	58	59	60	63	73	96	113
1949	56	57	61	68	71	76	79
1950	46	49	49	50	51	57	62
1951	56	57	58	60	70	71	84

05-3880.00 UPPER IOWA RIVER NEAR DECORAH--Continued

DRAINAGE AREA: 568 mi² PERIOD OF RECORD: 26 YEARS AVERAGE DISCHARGE: 335 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	11	13	22	26	32	57	62
CLIMATIC YEAR	1935	1935	1935	1935	1935	1950	1950

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	72	74	76	85	97	121	160
2	59	61	62	69	78	98	123
5	36	39	43	48	53	69	78
10	27	30	36	40	45	58	64
20	20	24	31	35	39	52	55

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	95	100	119	85	90	114	207	228	283	113	118	145
2	76	81	95	68	73	89	163	177	215	89	93	112
5	49	55	63	46	49	58	89	97	113	55	61	72
10	39	46	51	38	41	47	61	67	76	42	50	59
20	33	40	43	32	35	40	42	48	53	34	43	51

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1106	669	380	206	159	125	79	72	62	51	41	31
APR. 1-SEP. 30	1166	755	466	273	215	168	97	88	75	63	46	32
JULY 1-AUG. 31	936	575	350	199	157	121	81	76	70	58	44	30

PAINT CREEK AT WATERVILLE

Location.--Lat 43°12'35", long 91°18'20", in NW1/4 NW1/4 sec. 22, T.97 N., R.4
W. on right bank 100 ft downstream from highway bridge, 0.5 miles north-
west of Waterville and 10 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	5.2	6.5	6.8	7.3	8.5	11	13
1955	4.2	4.4	4.7	5.0	5.8	7.0	8.9
1956	4.0	4.0	4.1	4.3	4.5	5.1	5.4
1957	2.2	2.2	2.2	2.6	2.9	3.3	4.1
1958	2.2	2.3	2.4	2.5	2.7	3.0	3.9
1959	1.1	1.2	1.2	1.3	1.4	1.6	1.7
1960	1.4	1.6	1.9	2.5	5.7	7.5	9.0
1961	3.2	3.4	3.5	3.9	4.5	6.3	7.2
1962	1.5	2.4	3.1	3.4	4.3	6.2	9.9
1963	6.4	6.5	6.8	7.5	7.8	8.8	11
1964	3.0	3.0	3.2	3.3	3.4	3.6	3.8
1965	1.9	2.0	2.0	2.2	2.3	2.5	2.7
1966	2.4	2.5	2.6	2.8	3.4	7.8	10
1967	2.4	2.5	2.6	2.7	3.1	3.2	3.4
1968	1.5	1.5	1.5	1.6	1.8	1.9	1.9
1969	1.4	1.7	1.9	1.9	2.0	2.4	3.4
1970	3.3	3.4	3.6	3.7	4.3	4.9	5.6
1971	4.4	4.4	4.6	5.3	5.9	7.2	7.0

05-3885.00 PAINT CREEK AT WATERVILLE--Continued

DRAINAGE AREA: 42.8 mi² PERIOD OF RECORD: 21 YEARS AVERAGE DISCHARGE: 15.9 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.1	1.2	1.2	1.3	1.4	1.6	1.7
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	3.2	3.4	3.6	3.9	4.6	5.9	7.1	
2	2.6	2.7	2.9	3.2	3.7	4.6	5.5	
5	1.7	1.8	2.0	2.1	2.4	2.8	3.2	
10	1.4	1.5	1.6	1.7	1.9	2.1	2.4	
20	1.2	1.3	1.4	1.5	1.6	1.7	1.9	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	4.8	5.1	5.7	4.4	4.6	5.0	6.2	6.8	8.4	4.9	5.3	6.1
2	3.7	3.9	4.3	3.4	3.5	3.8	4.4	4.9	6.0	3.5	3.9	4.5
5	2.2	2.3	2.5	2.1	2.1	2.3	2.5	2.9	3.5	2.0	2.2	2.6
10	1.7	1.8	1.9	1.7	1.7	1.9	2.0	2.2	2.7	1.6	1.7	2.0
20	1.4	1.4	1.5	1.4	1.4	1.6	1.6	1.9	2.3	1.3	1.4	1.6

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	39	22	13	7.6	6.4	5.3	3.2	2.9	2.4	1.9	1.6	1.5
APR. 1-SEP. 30	43	25	16	9.0	7.2	6.0	3.6	3.3	2.7	2.1	1.8	1.7
JULY 1-AUG. 31	29	22	13	7.8	6.2	5.2	3.1	2.9	2.5	2.0	1.7	1.6

YELLOW RIVER AT ION

Location.--Lat 43°06'35", long 91°15'45", in SE1/4 SW1/4 sec.24, T.96 N., R.4 W., Allamakee County, on downstream side of county highway bridge at Ion, 7.5 miles northwest of McGregor, and 8 miles upstream from mouth.

Remarks.--Discontinued Sept. 30, 1951.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1936		22	22	22	23	25	33	35
1937		18	22	23	25	30	32	51
1938		17	18	19	19	20	22	23
1939		39	43	44	49	61	68	111
1940		16	18	20	21	22	23	25
1941		20	21	23	23	26	47	56
1942		30	32	35	42	48	61	75
1943		43	45	51	60	70	91	112
1944		33	36	38	51	59	75	99
1945		25	26	27	32	36	44	55
1946		38	45	49	59	66	70	92
1947		40	43	51	56	59	73	105
1948		35	38	42	44	46	56	66
1949		21	22	23	26	31	33	41
1950		20	23	25	26	26	30	30
1951		29	29	30	31	33	39	45

05-3890.00 YELLOW RIVER AT ION--Continued

DRAINAGE AREA: 221 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 140 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	16	18	19	19	20	22	23
CLIMATIC YEAR	1940	1938	1938	1938	1938	1938	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	31	33	35	40	45	55	72
2	27	29	30	34	38	46	57
5	20	22	23	24	26	31	36
10	17	19	20	21	22	26	28
20	15	17	18	18	19	22	23

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	38	41	48	36	40	52	75	79	97	53	57	67
2	32	34	39	32	34	41	61	65	77	43	47	54
5	23	25	27	24	26	28	39	43	50	29	32	36
10	20	21	23	21	22	24	31	34	39	23	26	28
20	18	19	20	19	19	21	25	28	32	19	22	24

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	406	239	138	79	64	55	36	32	27	24	21	20
APR. 1-SEP. 30	443	267	166	99	80	67	47	42	34	27	23	22
JULY 1-AUG. 31	350	231	151	90	71	60	41	37	30	25	22	21

MISSISSIPPI RIVER AT MCGREGOR

Location.--Lat 43°01'29", long 91°10'21", in SE1/4 SE1/4 sec.22, T.95 N., R.3 W., Clayton County, on right bank in city park at east end of Main Street in McGregor, 2.6 miles upstream from Wisconsin River, 4.3 miles downstream from Yellow River, and at mile 633.4 upstream from Ohio River.

Remarks.--Flow regulated by navigation dams.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1938	8130	8370	8700	9430	9640	10200	10700
1939	9970	11300	13400	15200	17400	18900	23400
1940	6700	6740	6910	7590	8490	9900	10900
1941	9180	9600	10000	10300	11900	12600	14100
1942	9680	10200	10800	12400	16000	19400	29200
1943	14400	14700	15800	17700	19800	20800	27000
1944	12900	15000	16500	17300	19900	21000	21400
1945	13200	14500	15200	15300	16600	17700	18400
1946	14100	14400	16400	19500	21900	22500	23600
1947	12600	12800	13500	15000	19500	21500	25400
1948	12400	12700	13000	13300	14400	16200	16600
1949	9000	9150	9860	10700	11000	11900	12200
1950	8970	9280	10400	12000	12600	14400	14400
1951	9930	11500	12800	13600	14200	14400	14700
1952	21100	22100	22700	23300	24700	28800	34000
1953	13600	14500	15200	15700	16000	16400	17300
1954	14100	14800	15800	16900	17800	18600	19500
1955	15000	15100	15400	15700	17100	19400	24100
1956	12900	13200	13700	14200	14400	15800	16300
1957	10700	10900	11400	12000	13100	14700	14700
1958	12800	12900	13300	14700	15700	18900	21100
1959	9030	9440	9740	9870	10300	12000	12900
1960	9810	9980	12300	13800	14600	17500	21600
1961	10600	10600	11100	12000	12600	16000	17400
1962	9100	10200	11000	11800	12600	14100	14600
1963	12000	12000	12200	12500	13100	15000	19100
1964	10800	10900	11200	12000	12300	12900	13400
1965	7400	8020	8290	9340	11800	14500	16800
1966	15000	16000	17300	18000	21100	32300	32700
1967	12000	13100	14400	15400	16300	18000	18600
1968	9830	10400	10500	11200	12100	12800	13200
1969	15900	17600	19700	23800	24000	27000	36400
1970	11200	12600	14400	14900	16400	18400	18300
1971	10200	11000	11500	12600	14300	18600	25300
1972	11400	12700	14900	17100	18100	23300	28500
1973	13500	14900	16300	24100	28900	33600	38500

MISSISSIPPI RIVER AT MCGREGOR--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	16800	17700	18900	21600	22400	27100	29900
1975	10300	14000	15200	16300	17300	18900	18900
1976	13200	14700	15600	17500	20000	23900	24100

DRAINAGE AREA: 67,500 mi² PERIOD OF RECORD: 40 YEARS AVERAGE DISCHARGE: 33,720 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	6700	6740	6910	7590	8490	9900	10700
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	10300	13600	14800	16000	17500	19900	22500
2	11000	12300	13300	14300	15600	17500	19500
5	11500	9970	10600	11400	12400	13300	14700
10	8580	8940	9430	10100	11000	12200	12900
20	5440	8160	8500	9200	10000	11200	11500

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	15100	16800	18900	15400	16000	16800	30900	35400	44100	15600	17200	19500
2	13300	14800	16500	13700	14200	14900	26000	29600	36900	13500	14900	16200
5	10400	11600	12700	11000	11300	11800	18200	20500	24800	10600	11500	12700
10	9290	10200	11100	9840	10100	10600	15100	16700	19500	9550	10200	11100
20	8470	9180	10000	9020	9220	9700	12800	14100	15800	8640	9360	10100

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	85700	70600	49600	29200	23500	19900	14900	13900	12600	11000	9730	9050
APR. 1-SEP. 30	99700	83800	67900	43800	36400	29300	18100	16500	14100	11900	10300	9620
JULY 1-AUG. 31	75500	60700	42500	28500	23800	20600	14800	13800	12300	10800	9800	9030

05-4116.00

TURKEY RIVER AT SPILLVILLE

Location.--Lat 43°12'28", Long 91°56'56", in SW1/4 NE1/4 sec.19, T.97 N., R.9 W., Winneshiek County, on right bank 60 ft downstream from bridge on county highway W14 at north edge of Spillville, 150 ft downstream from old mill dam, 0.6 mile upstream from Wonder Creek and at mile 98.5.

Remarks.--Discontinued September 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1958		10	10	12	18	20	24	26
1959		4.4	4.5	4.6	4.7	5.3	7.4	8.8
1960		23	24	25	27	32	58	79
1961		20	21	22	26	30	50	62
1962		26	27	28	30	31	38	45
1963		18	18	19	22	23	34	76
1964		11	11	12	13	14	15	17
1965		8.6	8.8	9.3	10	11	12	13
1966		19	19	20	21	23	57	124
1967		16	17	17	18	23	30	31
1968		6.6	6.7	6.9	8.0	12	14	15
1969		16	17	17	29	29	34	48
1970		19	19	19	20	22	31	39
1971		34	35	37	41	58	101	113
1972		16	16	16	18	20	28	30
1973		34	35	36	40	57	157	206

05-4116.00 TURKEY RIVER AT SPILLVILLE--Continued

DRAINAGE AREA: 177 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 109 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	4.4	4.5	4.6	4.7	5.3	7.4	8.8
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	21	21	22	26	30	45	60
2	17	17	18	21	24	32	41
5	9.9	10	10	12	14	16	19
10	7.3	7.4	7.7	8.8	9.9	12	13
20	5.6	5.6	5.9	6.5	7.5	9.1	9.6

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	33	37	44	23	24	30	55	62	79	34	38	43
2	24	26	31	17	18	22	41	45	59	28	30	34
5	13	14	16	9.4	9.9	12	24	26	35	18	19	21
10	10.0	10	11	7.2	7.5	8.9	19	20	27	14	14	16
20	8.1	8.3	9.0	5.8	6.1	7.1	15	16	21	11	11	12

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	344	206	122	60	45	35	22	19	15	12	8.8	6.7
APR. 1-SEP. 30	357	224	137	77	60	47	30	27	22	17	13	11
JULY 1-AUG. 31	232	146	92	57	47	39	28	25	21	14	11	11

05-4120.00

TURKEY RIVER AT ELKADER

Location.--Lat 42°51'05", long 91°24'15", in NW1/4 SE1/4 sec.23, T.93 N., R.5 W., Clayton County, in tailrace of Central States Power and Light Corporation's hydroelectric plant in Elkader, 2.7 miles upstream from Roberts Creek and at mile 37.0.

Remarks.--Flow regulated by powerplant. Discontinued September 1942.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1934	39	42	51	60	66	74	83
1935	28	30	39	50	70	101	127
1936	49	50	51	55	85	133	133
1937	42	46	48	55	76	129	189
1938	35	37	40	48	52	72	94
1939	134	151	191	224	286	392	552
1940	25	26	29	32	37	58	67
1941	55	62	78	91	119	316	412
1942	63	88	114	177	192	237	262

DRAINAGE AREA: 891 mi² PERIOD OF RECORD: 10 YEARS AVERAGE DISCHARGE: 487 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	25	26	29	32	37	58	67
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	52	59	70	86	111	175	216	
2	42	47	54	65	84	130	157	
5	30	32	36	41	51	75	89	
10	26	27	30	35	42	58	68	
20	24	24	27	31	36	48	56	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	120	129	154	115	126	180	237	265	335	111	130	211
2	95	103	121	87	95	134	182	202	255	80	93	144
5	58	65	76	48	52	69	93	105	130	50	57	75
10	43	51	59	34	37	47	60	69	84	42	49	56
20	34	42	48	25	27	34	40	47	56	38	42	45

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1660	1018	575	282	217	167	93	83	68	52	37	33
APR. 1-SEP. 30	1737	1082	657	350	271	214	108	94	74	53	43	34
JULY 1-AUG. 31	1682	995	551	242	202	158	89	78	62	50	40	34

TURKEY RIVER AT GARBER

Location.--Lat 42°44'24", long 91°15'42", in SE1/4 NW1/4 sec.36, T.92 N., R.4 W., Clayton County, on left bank 10 feet downstream from bridge on county highway C43, 800 ft upstream from Wayman Creek, 1,000 ft southeast of Garber, 2,000 ft downstream from Elk Creek, 1 mile downstream from Volga River, and 19.8 miles upstream from mouth.

Remarks.--Slight diurnal fluctuation caused by powerplant at Elkader to 1963.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1915	140	140	140	140	169	337	341
1916	280	280	280	377	440	671	1050
1921	297	307	324	412	539	561	575
1922	315	335	365	381	437	549	768
1923	88	123	155	199	230	331	313
1924	176	180	180	180	208	225	254
1925	209	223	236	255	272	318	441
1926	163	169	177	209	250	330	369
1927	180	183	213	265	339	430	627
1934	92	93	94	102	110	126	135
1935	61	63	72	84	95	181	216
1936	87	89	92	105	151	235	227
1937	83	86	90	102	125	218	318
1938	70	74	82	101	120	132	152
1939	236	259	320	400	507	622	820
1940	49	51	54	59	70	98	105
1941	93	113	138	166	199	562	670
1942	209	215	227	240	327	466	537
1943	333	347	392	402	491	637	862
1944	187	191	207	257	317	391	472
1945	127	137	144	150	166	218	276
1946	250	256	274	334	382	399	591
1947	113	166	199	229	270	327	469
1948	230	234	241	251	292	359	379
1949	108	113	120	125	138	154	185
1950	84	85	87	88	89	101	130
1951	110	111	115	124	136	166	244
1952	390	404	445	526	647	732	899
1953	165	173	180	188	212	223	305
1954	98	98	99	112	157	212	237
1955	138	146	154	158	194	252	336
1956	85	94	96	101	111	125	141
1957	100	100	108	133	157	170	207
1958	94	94	96	118	127	158	162
1959	56	56	58	60	65	89	98
1960	236	243	264	315	397	604	759

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1961	160	163	175	211	224	369	396
1962	266	284	287	354	437	796	1010
1963	250	250	259	293	322	399	623
1964	100	100	106	117	137	164	177
1965	96	99	106	115	121	136	142
1966	151	168	171	203	250	423	674
1967	133	160	179	180	188	212	292
1968	85	87	90	99	123	140	148
1969	190	234	243	269	301	416	510
1970	193	196	201	204	218	263	316
1971	275	288	327	388	630	766	840
1972	197	201	202	216	260	342	328
1973	371	397	416	466	657	1020	1280
1974	287	291	299	335	439	491	518
1975	183	190	203	248	301	407	409
1976	157	164	168	172	196	249	293

05-4125.00 TURKEY RIVER AT GARBER--Continued

DRAINAGE AREA: 1545 mi² PERIOD OF RECORD: 56 YEARS AVERAGE DISCHARGE: 905 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	49	51	54	59	65	89	98
CLIMATIC YEAR	1940	1940	1940	1940	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	188	200	214	242	289	386	474
2	151	161	171	192	226	298	359
5	96	102	108	120	137	177	204
10	76	80	85	93	106	134	152
20	63	66	69	76	86	107	119

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	267	288	338	250	266	361	527	593	780	273	298	376
2	209	225	261	196	209	266	400	450	592	216	235	294
5	131	140	159	121	129	150	229	258	333	137	148	181
10	102	110	123	94	99	113	169	191	241	107	116	140
20	84	90	99	76	79	90	131	148	183	88	94	113

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	3069	1882	1089	576	450	359	217	192	153	117	94	82
APR. 1-SEP. 30	3252	2032	1279	730	578	462	277	243	193	143	109	95
JULY 1-AUG. 31	2399	1455	902	568	471	377	231	208	172	135	108	95

LITTLE MAQUOKETA RIVER NEAR DURANGO

Location.--Lat 42°33'18", Long 90°44'46", in NW1/4 NE1/4 sec.5, T.89 N., R.2 E., Dubuque County, on left bank 10 ft upstream from bridge on county highway, 300 ft upstream from Cloie Branch, 1.7 miles east of Durango, 5.6 miles northwest of courthouse at Dubuque, and 6.4 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1936	10	10	11	12	12	16	16
1937	5.2	5.8	6.0	6.6	7.3	15	20
1938	8.8	9.9	11	12	13	14	15
1939	12	14	16	28	42	50	78
1940	8.7	9.3	9.9	11	12	14	15
1941	9.7	11	15	18	22	39	45
1942	11	11	11	13	17	30	40
1943	19	19	21	24	32	38	39
1944	13	17	19	20	24	32	36
1945	15	16	18	21	24	30	36
1946	31	36	40	43	63	69	72
1947	14	16	17	24	30	37	45
1948	18	19	20	20	24	32	36
1949	13	14	15	19	22	24	26
1950	11	12	12	13	14	15	20
1951	12	12	13	13	14	15	16
1952	26	28	28	36	47	89	88
1953	18	18	20	20	21	26	38
1954	11	11	11	13	17	19	20
1955	12	13	14	14	16	17	21
1956	7.3	7.6	8.1	8.5	9.6	11	12
1957	6.0	6.5	6.6	8.1	9.2	12	15
1958	6.8	7.4	7.5	9.3	11	14	16
1959	5.6	6.6	6.9	7.4	9.9	11	13
1960	13	13	13	20	33	41	55
1961	12	13	15	18	20	27	31
1962	14	17	21	27	35	40	66
1963	26	26	28	29	30	36	46
1964	13	13	14	16	18	19	20
1965	8.4	9.5	12	14	15	16	18
1966	5.6	5.7	6.7	9.2	12	21	44
1967	11	11	12	13	17	18	22
1968	6.4	7.0	7.9	8.7	12	21	34
1969	17	19	20	20	25	31	46
1970	21	21	23	24	26	28	32
1971	18	18	19	21	25	34	49
1972	22	22	23	26	34	53	57
1973	36	38	39	43	62	121	195

LITTLE MAQUOKETA RIVER NEAR DURANGO--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	33	35	35	46	53	60	62
1975	30	32	34	35	38	43	45
1976	13	14	14	15	17	28	31

05-4145.00 LITTLE MAQUOKETA RIVER NEAR DURANGO--Continued

DRAINAGE AREA: 130 mi² PERIOD OF RECORD: 42 YEARS AVERAGE DISCHARGE: 87.0 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	5.2	5.7	6.0	6.6	7.3	11	12
CLIMATIC YEAR	1937	1966	1937	1937	1937	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	16	17	18	21	26	33	41
2	13	14	15	17	20	25	31
5	8.4	9.1	9.8	11	13	16	19
10	6.8	7.4	8.0	9.2	10	13	15
20	5.8	6.3	6.8	7.8	8.9	11	13

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	23	25	30	23	26	37	39	46	64	21	23	29
2	18	20	23	18	20	28	30	35	48	16	18	22
5	12	13	15	12	13	16	16	21	28	10	11	13
10	9.5	10	12	9.4	10	12	14	16	21	8.1	8.7	10
20	8.0	8.5	10	7.8	8.4	10	11	12	17	6.7	7.2	8.2

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	271	155	84	45	36	29	18	16	13	11	9.1	8.0
APR.1-SEP.30	275	165	96	51	41	33	20	18	14	11	8.6	7.4
JULY 1-AUG.31	179	102	62	35	28	23	16	14	12	9.2	7.3	6.1

05-4170.00

MAQUOKETA RIVER NEAR MANCHESTER

Location.--Lat 42°27'22", long 91°25'56", in NW1/4 NE1/4 sec.9, T.88 N., R.5 W., Delaware County, on left bank 0.6 miles downstream from Sand Creek, 1.5 miles upstream from Spring Branch, 2.3 miles southeast from dam on Maquoketa River in Manchester, and at mile 100.5.

Remarks.--Diurnal fluctuation caused by powerplant 2 miles upstream. Discontinued September 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1935	7.4	9.3	10	12	17	34	36
1936	20	20	21	31	38	53	54
1937	27	27	29	31	35	55	73
1938	32	33	37	38	39	43	44
1939	50	58	63	78	91	119	153
1940	23	24	25	28	33	38	39
1941	26	31	36	38	45	97	133
1942	43	44	49	53	68	100	217
1943	87	93	101	113	138	219	242
1944	27	36	36	37	44	60	71
1945	36	38	39	41	44	55	66
1946	47	54	57	80	97	108	133
1947	40	44	53	60	67	106	116
1948	47	50	52	55	69	93	94
1949	35	38	38	44	47	50	57
1950	29	30	35	41	43	43	44
1951	34	35	37	41	41	48	81
1952	102	116	130	144	175	248	263
1953	44	47	50	55	56	58	68
1954	29	31	33	35	40	50	54
1955	39	41	44	46	56	62	69
1956	30	33	34	35	36	39	40
1957	20	21	23	28	32	34	37
1958	22	24	27	29	33	42	42
1959	19	19	19	20	22	26	28
1960	35	48	50	60	73	94	150
1961	52	59	67	72	81	147	150
1962	51	63	66	81	96	117	211
1963	50	50	51	69	81	101	143
1964	36	41	43	45	46	48	52
1965	28	31	35	38	40	42	43
1966	33	40	41	43	50	83	115
1967	40	45	50	53	59	63	76
1968	34	35	36	41	45	54	66
1969	77	80	86	120	129	155	184

MAQUOKETA RIVER NEAR MANCHESTER--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1970	43	48	57	64	72	88	100
1971	67	68	69	72	90	166	178
1972	44	45	50	53	63	78	96
1973	112	116	130	142	184	323	422

05-4170.00 MAQUOKETA RIVER NEAR MANCHESTER--Continued

DRAINAGE AREA: 305 mi² PERIOD OF RECORD: 40 YEARS AVERAGE DISCHARGE: 208 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.4	9.3	10	12	17	26	28
CLIMATIC YEAR	1935	1935	1935	1935	1935	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	47	51	54	61	69	89	112
2	38	41	44	49	55	69	84
5	24	27	28	32	36	44	50
10	19	21	23	25	29	36	39
20	16	17	19	21	25	31	32

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	69	74	86	59	63	80	113	126	171	65	72	85
2	54	58	66	47	50	62	87	95	128	54	58	67
5	36	39	43	31	33	39	48	52	67	37	39	44
10	30	32	35	25	27	32	34	37	46	31	32	36
20	26	28	30	21	22	27	25	27	32	26	28	31

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	650	398	232	125	98	79	50	46	39	32	26	23
APR. 1-SEP. 30	707	434	258	144	115	93	58	52	43	35	27	24
JULY 1-AUG. 31	518	307	184	105	88	74	51	47	40	34	28	25

05-4177.00

BEAR CREEK NEAR MONMOUTH

Location.--Lat 42°02'18", long 90°52'59", in NE1/4 SE1/4 sec.31, T.84 N., R.1 E., Jackson County, on right bank 15 ft downstream from bridge on county highway, 1.6 miles upstream from Rat Run, 2.8 miles south of Monmouth, and 8.2 miles upstream from mouth.

Remarks.--Discontinued September 1976.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	1.8	1.9	2.0	2.3	2.4	2.9	3.2
1960	5.6	5.7	5.9	9.0	18	27	33
1961	6.8	7.6	8.6	11	13	25	24
1962	14	15	16	20	28	48	62
1963	6.1	7.0	7.3	8.4	9.1	12	14
1964	3.2	3.3	3.5	4.0	5.0	5.4	6.0
1965	2.9	3.2	3.6	3.8	4.4	4.6	8.0
1966	4.3	5.7	6.3	9.3	12	18	43
1967	2.7	3.6	4.7	4.8	5.6	5.8	7.0
1968	3.7	4.5	4.8	5.9	7.5	12	19
1969	6.7	8.3	9.5	12	17	21	31
1970	6.5	7.0	7.7	8.6	9.6	12	14
1971	4.4	6.5	7.9	9.2	11	15	19
1972	6.2	6.4	6.6	8.0	9.9	16	24
1973	16	17	19	22	31	44	57
1974	6.8	7.0	7.3	9.5	13	23	27
1975	15	15	15	16	17	19	24
1976	2.5	2.8	3.0	3.5	5.4	8.8	9.1

05-4177.00 BEAR CREEK NEAR MONMOUTH--Continued

DRAINAGE AREA: 61.3 mi² PERIOD OF RECORD: 19 YEARS AVERAGE DISCHARGE: 44.9 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.8	1.9	2.0	2.3	2.4	2.9	3.2
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	6.8	7.7	8.5	10	14	20	27
2	5.2	6.0	6.6	8.1	10	14	19
5	3.1	3.6	4.0	4.8	5.8	7.4	9.4
10	2.5	2.8	3.1	3.6	4.2	5.1	6.2
20	2.0	2.3	2.5	2.8	3.2	3.7	4.4

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	13	14	16	11	13	19	21	24	31	9.7	10	13
2	9.2	10	12	7.7	9.1	13	15	17	22	7.6	8.2	10
5	4.5	5.0	5.8	4.1	4.7	6.0	8.3	9.1	12	4.7	5.0	5.9
10	3.1	3.3	3.9	3.0	3.3	4.0	6.1	6.8	8.7	3.6	3.8	4.4
20	2.2	2.3	2.8	2.3	2.4	2.9	4.7	5.4	6.9	2.9	3.0	3.5

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	148	89	50	24	19	16	8.4	7.2	5.4	3.9	2.7	2.4
APR.1-SEP.30	161	98	57	27	20	17	9.7	8.4	6.5	5.1	3.6	3.1
JULY 1-AUG.31	101	64	37	19	16	12	7.5	6.8	5.7	4.3	3.5	3.2

MAQUOKETA RIVER NEAR MAQUOKETA

Location.--Lat 42°05'05", long 90°38'04", in SW1/4 NE1/4 sec.17, T.84 N., R.3 E., Jackson County, on right bank 500 ft upstream from bridge on State Highway 62, 1,200 ft upstream from Prairie Creek, 2.0 miles northeast of Maquoketa, 2.2 miles downstream from North Fork, and 26.7 miles upstream from mouth.

Remarks.--Diurnal fluctuation caused by powerplant 4 miles upstream. Published as "below North Fork Maquoketa River nr Maquoketa" prior to 1940.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1915	240	244	259	297	370	592	770
1916	360	400	421	474	611	885	1060
1917	250	250	250	250	251	315	349
1918	160	160	171	187	206	262	297
1919	275	325	333	359	389	423	486
1920	370	370	371	376	423	746	1090
1921	384	430	440	479	505	510	519
1922	315	320	349	376	421	631	1050
1923	300	300	320	349	362	477	495
1924	293	314	322	326	398	481	622
1925	270	270	285	299	360	450	562
1926	281	331	351	404	451	555	572
1927	418	426	439	586	714	815	1120
1928	433	440	479	595	688	857	912
1929	450	450	451	467	564	752	882
1930	150	150	150	159	203	310	369
1931	233	248	256	264	300	314	355
1932	127	129	132	145	190	243	416
1933	268	282	293	310	316	397	459
1934	190	190	192	208	228	249	261
1935	133	147	168	170	184	363	415
1936	105	105	106	117	170	274	287
1937	128	132	136	146	169	289	393
1938	202	207	210	224	254	381	329
1939	306	337	349	465	536	623	784
1940	120	126	134	139	175	225	252
1941	226	265	268	308	359	568	629
1942	351	403	408	464	554	882	1190
1943	423	466	469	571	699	912	948
1944	150	177	202	214	295	395	452
1945	380	390	407	417	454	506	581
1946	387	409	443	572	748	769	878
1947	320	357	456	516	581	702	811
1948	416	440	456	503	514	553	580
1949	296	322	329	347	355	381	412

05-4185.00

MAQUOKETA RIVER NEAR MAQUOKETA--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1950		204	211	215	235	252	258	340
1951		193	196	202	216	230	282	443
1952		528	693	740	771	922	1220	1170
1953		314	328	333	342	346	445	497
1954		233	284	299	313	320	338	355
1955		192	199	210	239	304	322	375
1956		150	156	169	188	198	223	244
1957		186	192	193	201	213	249	302
1958		140	140	143	163	183	213	233
1959		130	130	130	140	157	172	185
1960		254	271	287	371	471	596	709
1961		280	319	361	419	463	641	631
1962		438	460	495	550	799	845	1080
1963		330	350	356	430	459	557	704
1964		210	213	223	241	287	317	338
1965		193	219	231	269	283	300	350
1966		213	236	256	313	336	452	905
1967		235	259	277	287	303	330	393
1968		240	255	269	326	402	485	628
1969		409	471	504	565	642	881	999
1970		352	374	395	423	482	523	586
1971		337	386	408	444	526	626	737
1972		315	371	412	477	602	642	759
1973		655	685	701	777	1020	1660	1900
1974		682	685	707	730	840	908	979
1975		520	524	557	682	725	755	759
1976		320	321	334	353	446	477	508

05-4185.00 MAQUOKETA RIVER NEAR MAQUOKETA--Continued

DRAINAGE AREA: 1553 mi² PERIOD OF RECORD: 63 YEARS AVERAGE DISCHARGE: 1018 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	105	105	106	117	157	172	185
CLIMATIC YEAR	1936	1936	1936	1936	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	322	347	365	408	466	573	683
2	268	287	302	335	379	464	552
5	184	194	203	222	252	310	362
10	151	158	164	177	204	253	292
20	128	132	137	146	171	214	244

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	440	468	531	421	450	567	648	711	865	435	465	544
2	358	379	431	346	369	445	520	566	680	364	388	451
5	238	253	291	230	242	275	341	370	432	253	269	306
10	193	206	239	184	192	213	275	299	344	208	220	248
20	162	175	204	152	157	171	231	252	286	176	186	207

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2940	1900	1220	744	620	523	360	329	281	230	182	158
APR. 1-SEP. 30	3010	2040	1320	825	689	584	410	375	322	259	198	170
JULY 1-AUG. 31	2190	1480	1050	683	584	503	375	346	301	242	178	151

MISSISSIPPI RIVER AT CLINTON

Location.--Lat 41°46'53", Long 90°15'04", in NW1/4 sec.34, T.81 N., R.6 W., Clinton County, on right bank at foot of Seventh Avenue in Camanche, 5.0 mi upstream from Wapsipinicon River, 6.4 mi downstream from Clinton, 10.6 mi downstream from Dam 13, and at mile 511.8 upstream from Ohio River. Prior to June 6, 1969, at site 400 ft downstream.

Remarks.--Flow regulated by navigation dams.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1875		18000	19400	22900	25200	26200	27000	35400
1876		14000	14300	16300	21000	26200	29900	37500
1877		16300	16900	19100	24100	25100	30800	35500
1878		23000	24400	26800	27500	28600	32700	33800
1879		11100	12900	14900	19100	19600	23400	29400
1880		20300	20900	24000	29900	31800	35100	34500
1881		16000	16600	18700	21100	21600	23500	28700
1882		24700	25500	28300	32700	37900	55300	87200
1883		15000	15900	18400	25500	28500	38300	44500
1884		14000	14700	17400	22400	23000	26700	31200
1885		18000	19000	24400	30100	35700	36300	57000
1886		15000	15400	16400	23300	25100	28500	34700
1887		12000	12600	14100	18700	18900	25500	30900
1888		12000	12100	14100	17900	18800	20300	25500
1889		12300	13100	15500	17100	19300	23100	26100
1890		8000	8290	9640	11300	12400	15100	18300
1891		14000	14000	14100	14500	15200	19500	29100
1892		10000	10400	11600	14100	17600	18800	19900
1893		13000	13700	14000	15100	14800	17200	23000
1894		13000	13700	14000	14100	14800	17200	23000
1895		9670	10100	11900	13400	14200	19000	19300
1896		8000	8570	10100	13300	14400	16700	20000
1897		11700	12400	15100	16900	18600	25200	24900
1898		10000	10600	12700	15700	16600	20000	24200
1899		9000	9290	10600	14000	16000	19100	20800
1900		14000	14300	16500	20300	21200	26300	30600
1901		16000	16000	16200	17200	19200	27200	48600
1902		9000	9140	10900	14500	16200	20300	23700
1903		15000	15600	18100	24800	28400	32800	31700
1904		16000	16000	17000	20400	21700	26300	52500
1905		14000	14600	16400	19500	20700	28700	38700
1906		21700	22700	24000	25200	31700	38500	46500
1907		26000	26400	28900	36000	38200	47100	50800
1908		13300	14100	16700	18200	19100	27300	37400
1909		11000	11300	14000	18700	19800	22900	26000

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1910	24000	25000	27100	27800	29900	33600	34700
1911	7330	7860	10600	13000	13100	15800	17300
1912	18900	19200	19400	20400	26400	29200	30900
1913	14000	14900	15900	16300	17400	20000	26100
1914	14000	14100	15400	16800	18500	22700	25800
1915	10300	11000	12800	16300	18600	25000	30400
1916	18000	18700	20900	24400	33300	37000	40400
1917	12000	12400	14700	19200	21500	25300	29400
1918	10000	10100	11800	11400	14900	20900	22600
1919	7330	9140	14000	20700	23200	26000	25700
1921	11300	12000	14000	18500	22100	25500	26300
1922	14000	14700	17100	18600	19600	22600	25600
1923	10000	10400	12400	15500	17100	19200	19900
1924	8000	8290	10500	12500	15200	17000	18400
1925	11000	11700	14300	16500	17000	22000	26400
1926	11700	12400	14100	15900	18400	19700	21300
1927	17300	19900	20500	22700	25000	31200	42300
1928	15300	16400	18500	24500	27800	32900	33300
1929	22000	23000	25400	28800	30200	39100	49500
1930	10000	10400	12100	15800	17000	20200	22200
1931	12000	12900	14300	15100	15600	17900	18500
1932	13600	14000	14200	15600	16600	20100	22300
1933	7500	8140	9890	12700	14300	15400	17100
1934	6500	7430	8580	9890	11900	13000	13700
1935	10500	10800	11100	12400	14100	16300	19600
1936	12400	12600	13700	15600	16900	21500	22600
1937	7230	7890	9480	11700	14300	16000	16300

05-4205.00 MISSISSIPPI RIVER AT CLINTON--Continued

DRAINAGE AREA: 85,600 mi² PERIOD OF RECORD: 63 YEARS AVERAGE DISCHARGE: 47,800 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	6500	7430	8580	9890	11900	13000	13700
CLIMATIC YEAR	1934	1934	1934	1934	1934	1934	1934

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	14800	15400	17200	20500	22600	27000	32100
2	12800	13400	15200	18100	19800	23700	27400
5	9720	10300	12000	14300	15800	18700	21000
10	8450	9030	10700	12700	14100	16700	18600
20	7540	8110	9780	11600	13000	15300	17000

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	16300	18700	24100	19800	20800	23000	52500	56800	66100	30400	31700	34000
2	13900	16000	20700	17300	18300	20200	44000	47400	54600	26200	27100	28900
5	10700	12600	16200	13100	14300	15900	30300	32500	36700	19300	19700	20800
10	9670	11500	14600	11200	12600	14000	24600	26300	29400	16200	16500	17400
20	8990	10700	13500	9740	11300	12700	20600	22000	24400	13900	14200	14900

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	117000	94600	70100	43400	36800	30900	22000	20400	17900	15200	12800	11500
APR. 1-SEP. 30	133000	112000	90900	63300	52700	43400	29700	27300	23700	19600	16000	14400
JULY 1-AUG. 31	98800	81900	66100	45500	40000	35500	26500	24200	20800	17900	14100	12500

MISSISSIPPI RIVER AT CLINTON--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1938	11200	11500	11900	13800	15000	16500	16900
1939	13000	14700	17300	22400	27700	32400	39600
1940	13000	12300	12600	13000	13600	16100	17200
1941	16900	17400	18200	19200	19700	23500	24500
1942	15100	15700	16500	18200	22200	29500	43500
1943	22400	22600	23400	26600	30500	33100	42900
1944	17100	18200	21400	22700	27900	29900	30400
1945	19700	19800	20100	20800	22600	24200	25700
1946	21900	22600	26000	29800	33700	35200	36500
1947	20400	20600	20900	23800	28900	41900	43400
1948	17600	17800	18100	19100	21100	23400	26300
1949	13100	14000	14700	15800	16100	17200	17800
1950	14400	15400	15700	17500	18300	19400	19900
1951	14100	14300	16600	18600	20100	20200	20900
1952	24100	26900	29400	34000	36000	42800	49800
1953	20100	20600	21000	22100	23700	24500	26500
1954	21400	21800	22300	23100	24200	25000	26200
1955	20000	20400	21000	21400	25400	29100	35300
1956	18100	18800	19900	20700	21400	22100	22400
1957	13800	14100	15400	17100	19000	20800	20800
1958	17000	17000	17600	19700	20600	24900	26600
1959	17000	17000	17600	19700	20600	24900	26600
1960	16000	16200	18400	20600	25700	31600	37700
1961	15000	15200	15500	16700	18500	24300	27000
1962	15300	16100	16800	19000	20800	25000	28800
1963	17200	17400	17700	18500	19900	23100	29300
1964	15200	15600	15900	16500	17300	18200	18700
1965	11400	11900	12000	13800	15800	21100	22800
1966	22300	24300	26000	28200	31300	46100	46700
1967	16800	17800	19400	20400	21600	23700	25000
1968	16900	17100	17600	18200	20100	21000	22500
1969	22000	24000	26400	29700	32500	37200	45400
1970	18200	19900	21300	22600	23600	25900	25700
1971	17600	18100	18900	20100	23400	26900	34100
1972	18400	19900	21200	23400	24900	31400	35400
1973	21200	21600	24100	32900	43400	50200	56400
1974	23200	23700	25100	28800	30500	36100	39000
1975	18500	18800	19600	20200	21200	23500	24900
1976	19200	20900	22900	24100	25700	32100	32500

05-4205.00 MISSISSIPPI RIVER AT CLINTON--Continued, regulated period

DRAINAGE AREA: 85,600 mi² PERIOD OF RECORD: 39 YEARS AVERAGE DISCHARGE: 46,400 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	11200	11500	11900	13000	13600	16100	16900
CLIMATIC YEAR	1938	1938	1938	1940	1940	1940	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	18900	19700	20900	22800	25300	29400	33100
2	17500	18100	19100	20700	22700	26000	28800
5	14700	15200	15900	17200	18600	20900	22300
10	13400	13800	14400	15700	16800	18800	19600
20	12300	12700	13200	14500	15600	17300	17700

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	22500	24600	27700	21400	22700	24400	43900	48500	58100	23700	25300	28700
2	20200	22100	24400	19400	20400	21900	37700	41500	49600	20900	22300	25100
5	16500	17900	19600	16500	17200	18300	27900	30600	36000	16700	17800	19700
10	14800	16100	17600	15500	16000	17000	23700	26000	30200	15100	16000	17400
20	13700	14700	16200	14800	15100	16100	20700	22800	26100	13900	14700	15900

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	111000	90300	68100	42300	34800	29200	22400	21100	19200	17200	15300	14200
APR. 1-SEP. 30	133000	107000	85700	60000	49100	40600	27000	24700	21400	18500	16400	15100
JULY 1-AUG. 31	94300	79700	62000	39800	34400	29900	22600	21000	18800	17000	15300	14300

WAPSIPINICON RIVER NEAR ELMA

Location.--Lat 43°14'34", long 92°31'48", in NW1/4 NW1/4 sec.8, T.97 N., R.14 W., Howard County, on right bank 10 ft downstream from bridge on county highway B17, 0.2 mile downstream from small left-bank tributary, 4.8 miles west of Elma, and at mile 217.9.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	4.2	4.5	4.6	4.9	8.0	15	21
1961	4.6	4.7	4.9	6.4	7.8	11	15
1962	7.1	7.6	7.8	8.4	9.9	15	19
1963	7.1	7.3	7.7	8.8	9.7	12	39
1964	4.7	4.8	4.9	5.4	6.3	7.6	7.7
1965	3.6	3.9	4.1	4.3	5.4	6.5	6.9
1966	5.7	5.9	6.0	6.4	15	23	76
1969	8.4	8.8	9.4	12	14	17	37
1970	9.9	10	11	11	11	12	14
1971	9.0	9.3	10	13	16	23	36
1972	6.7	6.7	6.8	7.0	8.4	10	11
1973	9.7	9.9	11	13	27	41	96
1974	11	12	16	18	18	36	58
1975	9.7	10	10	11	11	12	12
1976	7.9	8.1	8.4	8.7	9.0	12	12

05-4205.60 WAPSIPINICON RIVER NEAR ELMA--Continued

DRAINAGE AREA: 95.2 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 60.0 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	3.6	3.9	4.1	4.3	5.4	6.5	6.9
CLIMATIC YEAR	1965	1965	1965	1965	1965	1965	1965

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	3	7	14	30	60	120	183
1.5	8.3	8.5	9.1	10	13	18	30
2	7.2	7.4	7.7	8.6	10	14	21
5	5.2	5.4	5.5	6.1	7.5	9.5	11
10	4.4	4.6	4.7	5.1	6.5	7.9	8.1
20	3.7	4.0	4.1	4.4	5.8	7.0	6.4

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	12	13	16	9.8	10	12	19	24	34	9.0	9.7	11
2	9.5	11	13	8.0	8.2	9.0	15	17	26	7.8	8.2	9.2
5	6.3	6.9	7.9	4.9	4.9	5.3	8.9	10	15	5.7	5.0	6.4
10	5.0	5.4	6.1	3.6	3.7	4.0	7.0	7.7	11	4.9	5.0	5.3
20	4.1	4.4	4.9	2.8	2.8	3.2	5.7	6.2	9.0	4.2	4.4	4.6

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	211	113	54	23	16	12	8.8	8.0	6.8	5.4	4.1	2.8
APR. 1-SEP. 30	233	128	66	31	23	16	9.6	8.8	7.5	6.2	5.1	4.2
JULY 1-AUG. 31	101	53	30	15	12	11	7.8	7.2	6.3	5.2	4.4	4.0

WAPSIPINICON RIVER AT INDEPENDENCE

Location.--Lat 42°27'49", long 91°53'42", in SE1/4 sec.4, T.88 N., R.9 W., Buchanan County, on right bank at Sixth Street in Independence, 1,800 ft downstream from dam at abandoned hydroelectric plant, 4.9 miles downstream from Otter Creek, 9.7 miles upstream from Pine Creek, and at mile 142.5.

Remarks.--Diurnal fluctuation caused by powerplant at Independence prior to April 1958.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1935	8.0	8.0	12	12	20	28	55
1936	26	31	32	37	54	77	83
1937	9.0	9.0	9.0	9.9	17	103	226
1938	13	19	21	24	31	36	40
1939	95	128	143	204	233	336	480
1940	14	16	16	20	22	37	39
1941	10	17	25	41	56	154	268
1942	36	48	53	67	91	418	547
1943	165	174	177	187	275	367	543
1944	43	64	67	74	128	174	226
1945	32	58	60	61	65	93	131
1946	42	79	85	112	125	146	203
1947	35	55	63	82	109	190	249
1948	20	33	36	44	71	139	132
1949	32	41	48	58	83	91	103
1950	18	23	27	37	40	49	48
1951	33	48	49	52	58	68	102
1952	85	121	148	162	253	336	454
1953	44	49	55	60	67	75	108
1954	20	22	24	33	52	71	76
1955	42	50	56	65	93	146	203
1956	17	17	18	18	18	29	36
1957	16	17	22	44	55	65	74
1958	31	32	43	60	70	85	106
1959	29	29	29	30	36	61	65
1960	88	92	100	132	180	261	359
1961	39	40	41	62	88	188	184
1962	123	130	135	164	181	369	545
1963	69	71	73	81	99	147	293
1964	43	45	48	45	57	68	72
1965	26	23	33	37	41	55	62
1966	63	65	66	74	157	324	620
1967	53	56	59	65	76	89	134
1968	34	34	35	41	60	76	76
1969	122	141	178	194	201	262	399

05-4210.00

WAPSIPINICON RIVER AT INDEPENDENCE--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1970	80	80	80	81	87	97	129	135
1971	94	101	101	119	151	208	368	547
1972	45	47	47	50	55	57	88	104
1973	177	198	198	228	274	399	577	788
1974	120	131	131	144	147	170	296	332
1975	68	70	70	76	85	95	144	147
1976	46	47	47	48	50	59	79	84

DRAINAGE AREA: 1048 mi² PERIOD OF RECORD: 43 YEARS AVERAGE DISCHARGE: 569 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	8.0	8.0	9.0	9.9	17	28	36
CLIMATIC YEAR	1935	1935	1937	1937	1937	1935	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	56	67	72	87	111	171	227
2	40	48	52	63	80	122	156
5	21	25	27	33	42	63	76
10	14	17	19	23	30	45	53
20	11	13	14	17	23	34	39

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	113	125	148	87	94	124	286	347	512	91	104	138
2	80	89	105	63	67	85	214	255	389	65	74	97
5	41	47	57	34	36	43	100	120	183	31	36	47
10	29	34	43	25	26	31	60	74	108	20	24	31
20	22	26	34	19	20	24	37	47	65	14	16	21

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2340	1380	738	311	218	155	74	63	46	27	14	9.7
APR. 1-SEP. 30	2558	1593	902	421	307	221	105	86	57	31	11	9.2
JULY 1-AUG. 31	1928	995	487	232	178	137	73	59	36	19	9.4	8.3

05-4220.00

WAPSIPINICON RIVER NEAR DE WITT

Location.--Lat 41°46'01", long 90°32'05", in SW1/4 NE1/4 sec.6, T.80 N., R.4 E., Clinton County, on left bank 5 ft upstream from bridge on U.S. Highway 61, 0.9 mile downstream from Silver Creek, 4.0 miles south of water tower in De Witt, 6.2 miles upstream from Brophy Creek, and 18.2 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1936		136	137	138	155	212	356	328
1937		86	88	92	99	129	356	461
1938		122	123	125	131	150	167	188
1939		434	443	457	519	593	869	1110
1940		70	70	73	80	90	117	137
1941		154	164	204	270	366	551	586
1942		119	122	139	160	280	1030	1550
1943		564	594	631	771	932	1400	1490
1944		187	196	201	236	333	427	547
1945		203	209	216	223	239	342	416
1946		303	319	352	398	531	564	696
1947		287	300	342	416	515	810	954
1948		150	151	156	168	284	443	426
1949		172	175	203	235	244	270	313
1950		206	208	209	217	226	270	384
1951		150	153	154	162	181	234	318
1952		530	565	606	702	1100	1300	1480
1953		211	217	220	223	236	378	439
1954		100	101	102	124	180	199	219
1955		240	241	248	322	432	525	645
1956		90	90	93	101	101	130	141
1957		121	123	124	137	154	167	209
1958		147	152	158	176	211	276	306
1959		100	100	101	114	130	164	185
1960		281	288	304	372	486	809	1020
1961		280	283	290	334	392	704	669
1962		426	474	542	752	849	1220	1600
1963		208	245	299	335	344	454	699
1964		130	130	134	147	180	207	233
1965		105	109	121	129	142	167	240
1966		283	289	313	387	521	803	1500
1967		207	234	239	257	282	304	444
1968		257	271	304	460	526	623	888
1969		439	551	586	721	847	983	1100
1970		283	287	294	310	344	429	480
1971		397	403	418	460	599	1200	1280
1972		211	218	226	237	270	364	537

WAPSIPINICON RIVER NEAR DE WITT--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued								
CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1973	759	770	829	930	1250	1730	2240	
1974	485	503	513	529	633	954	1160	
1975	375	376	381	421	450	557	581	
1976	154	155	158	165	200	257	265	

05-4220.00 WAPSIPINICON RIVER NEAR DE WITT--Continued

DRAINAGE AREA: 2330 mi² PERIOD OF RECORD: 42 YEARS AVERAGE DISCHARGE: 1460 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	70	70	73	80	90	117	137
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	265	277	295	340	417	602	737
2	206	214	227	257	313	443	537
5	128	131	137	152	181	242	287
10	101	103	107	117	138	177	207
20	84	85	88	95	111	137	159

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	398	434	503	410	451	619	986	1140	1470	368	398	487
2	292	315	361	299	324	433	752	866	1120	285	308	371
5	166	175	197	163	173	215	445	512	655	176	189	221
10	125	132	147	120	125	149	339	389	494	138	148	170
20	101	105	116	94	96	110	272	311	390	113	121	136

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	5060	3460	2140	1090	797	593	315	274	213	162	127	108
APR. 1-SEP. 30	5540	3780	2390	1320	1030	770	419	364	280	209	150	121
JULY 1-AUG. 31	3720	2490	1440	816	672	552	336	296	205	181	122	96

WEST BRANCH IOWA RIVER NEAR KLEMME

Location.--Lat 42°57'50", long 93°42'20", in NE1/4 NW1/4 sec.17, T.94 N., R.24 W., Hancock County, on downstream side of highway bridge 6 miles southwest of Klemme, 12.4 miles upstream from confluence with East Branch Iowa River, and at mile 338.9 above mouth of Iowa River.

Remarks.--Published as "West Fork Iowa River near Klemme" 1948-58. Discontinued Sept. 30, 1958.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1950	0.70	0.70	0.70	0.81	0.81	1.5	1.7
1951	1.4	1.4	1.4	1.6	2.0	3.4	5.4
1952	11	11	11	11	12	19	25
1953	1.4	1.8	1.8	1.9	2.0	2.6	4.0
1954	.70	.80	.90	1.1	2.3	3.9	4.3
1955	6.1	6.3	6.6	7.6	10	17	31
1956	.30	.30	.30	.40	.40	1.1	2.0
1957	.30	.30	.30	.40	.80	1.3	1.8
1958	1.5	1.5	1.7	2.1	2.2	2.8	3.1

05-4485.00 WEST BRANCH IOWA RIVER NEAR KLEMME--Continued

DRAINAGE AREA: 112 mi² PERIOD OF RECORD: 10 YEARS AVERAGE DISCHARGE: 38.2 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.31	0.31	0.31	0.40	0.40	1.1	1.7
CLIMATIC YEAR	1957	1957	1957	1957	1956	1956	1950

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.0	2.1	2.2	2.5	3.2	4.7	6.5
2	1.2	1.2	1.3	1.5	1.9	3.0	4.0
5	.44	.46	.47	.59	.78	1.5	2.0
10	.29	.30	.30	.39	.51	1.1	1.5
20	.22	.22	.22	.29	.37	.84	1.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	3.6	3.8	4.4	2.0	2.1	2.3	13	16	22	5.8	6.5	8.3
2	2.2	2.4	2.8	1.2	1.3	1.4	9.5	11	15	3.6	3.9	4.9
5	.91	1.0	1.3	.48	.50	.60	5.3	5.8	7.5	1.3	1.5	1.7
10	.61	.66	.87	.32	.33	.41	4.0	4.2	5.2	.71	.81	.94
20	.44	.48	.66	.24	.25	.31	3.2	3.2	3.9	.44	.51	.58

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	90	84	90	95	98	99
OCT.1-SEP.30	146	72	37	13	8.4	5.2	2.3	1.9	1.4	0.81	0.43	0.28
APR.1-SEP.30	223	105	53	24	16	11	5.2	4.5	3.4	1.7	.81	.58
JULY 1-AUG.31	205	87	42	15	11	8.2	4.5	3.8	2.8	1.5	.86	.61

EAST BRANCH IOWA RIVER NEAR KLEMME

Location.--Lat 43°00'31", long 93°37'42", in NE1/4 NW1/4 sec.36, T.95 N., R.24 W., Hancock County, on left bank 15 ft downstream from bridge on county highway B55, 1.2 mile west of Chicago, Rock Island and Pacific Railroad crossing in Klemme, 1.5 miles upstream from Drainage ditch 9, 18.2 miles upstream from confluence with West Branch Iowa River, and at mile 341.0.

Remarks.--Published as "East Fork Iowa River near Klemme" 1948-58. Discontinued Sept. 30, 1976.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1950	1.0	1.1	1.1	1.2	1.3	2.8	3.3
1951	2.0	2.0	2.1	2.6	3.4	4.8	6.6
1952	14	14	14	15	18	33	41
1953	1.6	2.2	2.6	2.7	3.1	4.5	6.2
1954	2.8	2.8	2.9	3.2	4.9	6.3	7.3
1955	7.1	7.4	7.8	8.6	12	18	29
1956	1.3	1.3	1.4	1.4	1.7	2.5	3.5
1957	1.6	1.6	1.7	1.7	2.5	3.6	4.3
1958	1.5	1.6	1.8	2.4	2.9	4.6	5.1
1959	.20	.23	.26	.28	.32	.68	1.6
1960	3.7	4.0	4.4	4.8	6.1	7.1	9.4
1961	.60	.60	.63	.94	1.5	2.3	3.1
1962	4.7	5.2	5.2	5.7	6.6	13	20
1963	4.1	4.2	4.5	5.6	7.3	12	34
1964	4.9	5.0	5.1	5.7	6.9	9.2	10
1965	3.5	3.6	4.2	7.1	9.1	14	22
1966	12	12	13	14	30	69	109
1967	2.8	3.0	3.3	3.4	4.1	5.0	6.1
1968	.38	.40	.48	.91	1.5	2.8	4.0
1969	2.4	2.6	2.9	3.4	3.6	8.0	19
1970	5.6	5.7	6.0	6.3	6.8	9.3	11
1971	3.0	3.1	3.3	3.9	6.6	9.8	13
1972	3.7	3.8	3.9	4.1	5.8	9.3	16
1973	13	15	16	20	26	64	73
1974	5.4	5.5	5.7	6.9	8.9	15	15
1975	2.6	2.6	2.6	2.6	2.7	3.6	5.5
1976	2.7	2.7	2.9	3.5	4.2	6.1	7.0

05-4490.00 EAST BRANCH IOWA RIVER NEAR KLEMME--Continued

DRAINAGE AREA: 133 mi² PERIOD OF RECORD: 28 YEARS AVERAGE DISCHARGE: 56.5 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.20	0.24	0.26	0.28	0.32	0.69	1.6
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	4.5	4.7	4.9	5.6	7.3	11	15
2	3.0	3.1	3.3	3.9	4.9	7.1	9.6
5	1.2	1.3	1.4	1.7	2.1	3.1	4.4
10	.70	.75	.82	1.0	1.3	2.1	3.0
20	.44	.47	.52	.66	.83	1.6	2.3

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	7.0	8.5	10	4.8	5.1	6.0	27	33	49	9.6	10	11
2	4.6	5.6	6.9	3.2	3.4	4.0	19	22	32	7.2	7.5	8.3
5	2.3	2.7	3.2	1.3	1.4	1.7	9.3	11	14	4.2	4.5	5.2
10	1.6	1.8	2.2	.77	.84	1.1	6.4	7.4	9.4	3.2	3.5	4.3
20	1.3	1.4	1.6	.48	.54	.69	4.8	5.5	6.6	2.6	3.0	3.8

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	239	129	61	21	14	10	5.4	4.6	3.5	2.3	1.3	0.65
APR.1-SEP.30	320	183	94	37	25	17	9.1	8.0	6.4	5.2	4.0	3.3
JULY 1-AUG.31	219	96	44	21	16	12	8.1	7.3	6.2	5.3	4.3	3.9

IOWA RIVER NEAR ROWAN

Location.--Lat 42°45'36", long 93°37'23", in NW1/4 NE1/4 sec.25, T.92 N., R.24 W., Wright County, on left bank 10 ft downstream from bridge on county highway C38, 0.9 mile downstream from Drainage ditch 123, 3.8 miles northwest of Rowan, 10.7 miles downstream from confluence of East and West Branches, and at mile 316.4.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	24	25	25	27	49	161	223
1943	11	12	12	13	17	23	28
1944	19	19	20	23	34	47	54
1945	13	13	14	16	18	25	33
1946	16	17	18	23	33	46	79
1947	25	27	29	34	48	79	100
1948	8.7	9.6	10	12	20	30	28
1949	4.5	5.5	6.6	8.5	11	14	17
1950	4.3	4.4	4.6	5.1	6.2	11	12
1951	6.7	6.7	7.1	9.5	12	18	26
1952	51	51	52	53	59	103	145
1953	11	14	19	20	20	23	28
1954	5.9	6.0	6.4	9.2	15	20	22
1955	25	26	29	31	40	63	105
1956	6.4	6.6	6.8	7.0	7.2	10.0	12
1957	6.0	6.0	6.2	6.5	9.8	13	13
1958	7.9	8.1	9.2	13	14	18	18
1959	2.9	3.0	3.1	3.2	3.7	6.0	7.2
1960	15	15	17	21	29	36	48
1961	5.2	5.3	5.7	8.5	13	15	16
1962	13	13	14	16	21	40	60
1963	20	20	21	24	28	42	99
1964	14	15	15	17	21	27	30
1965	14	15	16	24	35	46	75
1966	55	56	61	74	136	217	328
1967	11	12	13	13	17	21	24
1968	5.5	5.6	5.9	7.6	11	14	17
1969	22	22	24	26	27	41	85
1970	23	23	24	25	27	37	43
1971	16	17	18	22	27	41	51
1972	21	21	22	24	31	52	76
1973	52	54	58	65	89	218	267
1974	37	40	40	41	51	86	91
1975	22	22	22	22	22	25	28
1976	15	15	16	18	19	24	26

05-4495.00 IOWA RIVER NEAR ROWAN--Continued

DRAINAGE AREA: 429 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 189 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.9	3.0	3.1	3.2	3.7	6.0	7.2
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	19	19	21	24	31	45	60
2	14	14	15	18	22	31	40
5	7.2	7.6	8.1	9.6	12	16	19
10	5.2	5.5	5.8	6.9	8.7	12	13
20	4.0	4.2	4.5	5.3	6.7	9.4	10

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	31	36	43	23	24	30	98	118	167	35	37	43
2	22	25	30	16	17	21	70	82	114	26	27	31
5	12	14	16	8.1	8.6	10	36	40	54	14	16	18
10	9.4	10	12	5.7	6.0	7.1	25	28	37	11	12	13
20	7.6	8.2	9.5	4.3	4.5	5.3	19	21	26	8.2	9.3	11

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	799	446	229	90	60	42	23	20	15	11	7.1	5.8
APR.1-SEP.30	1074	607	319	145	100	68	35	30	23	17	12	9.9
JULY 1-AUG.31	671	337	172	79	62	48	29	26	21	16	13	11

IOWA RIVER AT MARSHALLTOWN

Location.--Lat 42°03'57", long 92°54'27". in SE1/4 SE1/4 sec.23, T.84 N., R.18 W., Marshall County, on right bank 10 ft downstream from State Highway 14 bridge, 1,500 ft upstream from Burnett Creek, 2.2 miles upstream from Linn Creek, and at mile 222.9.

Remarks.--Slight diurnal fluctuation caused by powerplant at Iowa Falls.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1916	240	251	266	321	492	775	1070
1917	25	25	25	30	36	68	86
1918	20	20	23	27	30	60	84
1919	129	130	137	146	207	343	395
1920	82	87	87	94	123	294	398
1921	175	198	217	291	421	621	636
1922	80	86	94	115	141	228	415
1923	20	22	25	27	34	83	81
1924	48	51	53	58	82	129	146
1925	160	160	160	160	177	213	288
1926	40	44	50	66	104	304	311
1927	32	34	43	51	112	282	493
1934	42	42	43	46	51	61	70
1935	12	13	13	16	29	60	73
1936	94	101	112	119	166	287	289
1937	26	27	30	40	59	110	231
1938	21	24	28	36	41	59	87
1939	71	75	84	119	213	265	373
1940	9.4	10	11	13	17	30	32
1941	24	25	32	60	116	164	231
1942	46	48	53	62	119	469	538
1943	143	149	160	189	241	396	630
1944	95	95	98	104	170	216	296
1945	83	87	90	96	102	142	205
1946	105	109	117	143	156	186	404
1947	102	112	129	186	236	387	419
1948	54	55	56	67	105	175	156
1949	34	39	45	50	56	70	116
1950	21	21	23	38	42	47	49
1951	46	47	47	52	56	82	157
1952	207	213	219	249	371	526	675
1953	65	66	68	76	86	87	116
1954	34	34	35	39	48	61	66
1955	104	111	120	130	178	323	498
1956	24	27	28	30	32	40	57
1957	24	25	28	39	44	44	75
1958	67	69	74	78	88	120	150

05-4515.00

IOWA RIVER AT MARSHALLTOWN--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	45	45	46	49	60	103	144
1960	96	102	113	141	188	217	290
1961	67	70	74	89	99	158	221
1962	116	129	136	177	285	401	498
1963	80	83	86	103	127	179	302
1964	44	45	46	51	72	84	97
1965	44	54	77	85	95	123	217
1966	135	144	156	174	398	753	1110
1967	47	49	52	57	71	80	102
1968	30	30	33	40	55	70	77
1969	81	104	118	147	152	248	276
1970	106	108	115	120	139	215	257
1971	103	108	117	160	219	326	420
1972	66	67	70	77	93	146	153
1973	341	344	366	436	729	1380	1450
1974	234	246	274	291	406	844	844
1975	210	216	222	240	288	434	470
1976	63	67	69	75	90	110	134

DRAINAGE AREA: 1564 mi² PERIOD OF RECORD: 58 YEARS AVERAGE DISCHARGE: 776 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	9.4	10	11	13	17	30	32
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	87	92	99	115	155	243	324
2	62	65	71	83	109	166	223
5	31	33	36	43	55	80	106
10	22	23	25	30	38	56	72
20	16	17	19	23	29	42	52

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	158	177	211	136	150	204	466	550	766	145	161	201
2	109	121	145	94	103	135	330	385	530	101	114	141
5	54	59	73	45	48	61	145	166	223	51	58	73
10	38	42	52	30	32	40	87	98	130	36	41	52
20	28	31	39	21	22	29	54	61	80	27	31	40

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2910	1885	1082	493	333	237	110	94	69	49	33	26
APR. 1-SEP. 30	3352	2218	1363	690	493	340	150	127	92	62	40	28
JULY 1-AUG. 31	2060	1374	859	404	297	220	119	101	75	53	35	28

05-4517.00

TIMBER CREEK NEAR MARSHALLTOWN

Location.--Lat 42°00'25", long 92°51'15", in SE1/4 SW1/4 sec.8, T.83 N., R.17 W., Marshall County, on left bank 20 feet downstream from bridge on U.S. Highway 30, 3.5 miles upstream from mouth, and 4.1 miles southeast of court house in Marshalltown.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1951		0.40	0.44	0.48	0.51	0.71	0.82	1.1
1952	16		16	17	20	32	37	43
1953		2.5	2.5	2.7	3.0	3.1	5.8	9.5
1954		.40	.40	.40	.40	.69	1.5	2.0
1955		3.6	4.0	5.1	8.5	13	21	27
1956		.30	.30	.30	.33	.41	.73	1.1
1957		0	0	.07	.37	.85	1.0	1.6
1958		2.1	2.5	2.7	3.6	4.8	6.9	7.5
1959		2.5	2.6	2.7	2.9	4.0	6.3	8.2
1960		3.4	3.6	3.7	4.5	6.1	11	14
1961		3.7	3.9	4.1	5.3	7.0	11	14
1962	11		13	14	16	31	39	47
1963		6.2	6.8	7.4	8.4	8.7	12	18
1964		2.2	2.3	2.4	2.8	4.4	5.2	6.4
1965		2.8	3.4	3.5	5.4	5.7	8.1	11
1966	14		15	15	19	33	69	73
1967		1.8	2.0	2.3	2.5	3.3	3.9	5.7
1968		.21	.21	.27	.67	1.5	2.4	3.3
1969		1.2	1.3	1.7	2.9	3.5	4.3	6.6
1970		6.5	6.6	7.1	7.2	8.4	13	16
1971	14		15	17	23	35	58	68
1972		2.3	2.4	2.5	3.1	4.2	5.4	5.6
1973	13		13	15	25	48	106	118
1974		18	22	24	27	36	41	48
1975		23	20	24	26	30	47	50
1976		3.6	4.4	5.0	6.1	7.0	9.8	12

DRAINAGE AREA: 118 mi² PERIOD OF RECORD: 27 YEARS AVERAGE DISCHARGE: 66.7 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0.07	0.33	0.42	0.74	1.1
CLIMATIC YEAR	1957	1957	1957	1956	1956	1956	1951

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	5.9	6.4	7.2	8.6	11	17	21
2	3.4	3.7	4.0	4.9	6.5	9.4	12
5	.93	1.0	1.0	1.4	2.0	2.9	3.9
10	.39	.40	.43	.69	1.1	1.6	2.1
20	.11	.11	.20	.37	.60	.88	1.3

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	9.6	10	13	9.6	11	20	42	47	64	10	11	13
2	5.0	5.6	6.9	4.8	5.7	11	26	29	40	6.1	6.6	8.4
5	1.4	1.7	2.2	1.2	1.4	2.8	7.7	9.0	13	2.0	2.4	3.2
10	.61	.87	1.2	.56	.65	1.3	3.4	4.3	6.5	1.0	1.3	1.9
20	.23	.52	.71	.29	.33	.65	1.6	2.1	3.4	.54	.78	1.2

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	231	138	81	37	23	14	4.8	3.9	2.5	1.2	0.50	0.36
APR. 1-SEP. 30	248	158	98	48	33	22	8.6	6.8	3.9	2.2	1.2	.49
JULY 1-AUG. 31	154	100	63	30	23	17	7.7	6.2	4.0	1.9	.51	.21

05-4519.00

RICHLAND CREEK NEAR HAVEN

Location.--Lat 41°53'58", long 92°28'27", in SE1/4 NE1/4 sec.21, T.82 N., R.14 W., Tama County, on right bank 5 ft upstream from bridge on county highway, 0.6 mile northeast of Haven, and 2.8 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1951	0.20	0.20	0.20	0.24	0.31	0.35	0.75
1952	2.9	3.3	3.8	6.2	10	16	17
1953	1.1	1.2	1.3	1.4	1.4	2.7	4.1
1954	.10	.10	.10	.10	.15	.42	.45
1955	.27	.36	.59	.68	2.1	11	19
1956	.20	.20	.20	.22	.24	.39	.48
1957	.10	.10	.11	.14	.24	.28	2.3
1958	.37	.44	.90	1.0	2.7	3.7	4.9
1959	1.3	1.7	2.6	3.5	4.6	15	22
1960	3.1	3.3	3.7	4.2	7.4	12	18
1961	1.7	1.8	2.0	2.9	4.1	7.1	7.4
1962	3.3	3.6	4.1	4.6	12	15	21
1963	1.4	1.7	2.6	3.0	3.4	5.3	7.1
1964	.87	.90	1.0	1.1	1.8	2.3	2.6
1965	1.2	1.7	2.4	3.0	3.7	5.4	6.1
1966	4.4	4.9	5.2	7.1	23	34	41
1967	.80	1.2	1.5	1.8	2.2	2.6	5.0
1968	.60	.65	.93	1.7	2.5	3.9	5.7
1969	.44	.81	1.2	1.7	1.8	2.1	3.9
1970	3.8	3.9	4.0	4.4	5.4	8.6	11
1971	4.5	5.4	6.6	10	16	31	41
1972	.56	.87	.94	1.2	1.8	3.0	3.0
1973	8.3	8.6	9.7	13	17	26	35
1974	2.1	2.4	3.8	6.3	11	14	17
1975	12	13	13	14	16	28	32
1976	1.6	1.8	2.4	2.6	3.9	5.4	6.1

DRAINAGE AREA: 56.1 mi² PERIOD OF RECORD: 27 YEARS AVERAGE DISCHARGE: 33.3 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.11	0.11	0.11	0.11	0.15	0.28	0.45
CLIMATIC YEAR	1957	1957	1954	1954	1954	1957	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	2.0	2.4	3.1	4.0	6.2	10	14	
2	1.2	1.4	1.9	2.4	3.6	5.9	8.2	
5	.37	.44	.56	.68	1.0	1.6	2.6	
10	.21	.23	.28	.33	.47	.75	1.3	
20	.12	.13	.15	.17	.25	.38	.70	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	4.7	5.6	6.8	4.3	5.1	11	17	22	31	3.9	4.7	6.2
2	2.4	3.0	3.7	2.3	2.6	5.9	10	14	20	2.4	3.0	4.1
5	.58	.74	1.1	.58	.65	1.6	3.0	4.2	6.2	.79	1.1	1.7
10	.26	.33	.51	.28	.30	.68	1.4	1.9	2.7	.41	.54	1.1
20	.13	.17	.28	.15	.16	.33	.62	.88	1.3	.22	.30	.65

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME												
	5	10	20	40	50	60	80	84	90	95	98	99	
OCT. 1-SEP. 30	109	65	39	17	11	6.8	2.5	1.8	0.80	0.42	0.19	0.18	
APR. 1-SEP. 30	122	76	45	22	15	9.8	3.9	3.0	1.7	.66	.39	.19	
JULY 1-AUG. 31	73	44	26	14	9.7	7.1	3.3	2.5	1.3	.67	.33	.17	

SALT CREEK NEAR ELBERON

Location.--Lat 41°57'51", long 92°18'47", in NW1/4 NW1/4 sec.36, T.83 N., R.13 W., Tama County, near center of span on downstream side of bridge on U.S. Highway 30, 2.0 miles upstream from Hog Run, 3.0 miles south of Elberon, and 9.0 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1947	18	18	21	30	40	67	103	
1948	7.0	7.6	7.8	7.9	11	26	25	
1949	3.3	3.5	4.1	5.1	5.9	6.7	8.7	
1950	3.2	3.3	3.6	5.4	7.2	8.1	9.7	
1951	2.9	3.0	3.1	3.3	3.6	4.0	4.7	
1952	18	22	29	36	57	63	80	
1953	7.7	8.0	8.2	8.5	9.2	12	15	
1954	2.4	2.4	2.4	3.5	5.4	6.7	7.5	
1955	6.5	7.5	9.4	12	24	46	91	
1956	2.5	2.7	3.2	3.4	3.9	5.5	7.0	
1957	3.5	4.0	4.5	5.9	6.4	8.5	27	
1958	10	10	11	14	18	24	30	
1959	18	18	20	21	24	41	67	
1960	13	14	14	16	26	39	56	
1961	13	14	15	19	23	40	39	
1962	16	20	24	30	68	99	120	
1963	5.8	6.4	9.6	13	13	21	28	
1964	3.8	3.9	4.1	5.0	9.0	11	13	
1965	3.4	4.4	6.9	11	14	20	26	
1966	17	20	21	25	69	105	135	
1967	5.7	6.6	7.2	7.4	9.4	13	23	
1968	7.1	7.5	9.4	13	17	22	30	
1969	8.6	10.0	13	19	25	33	47	
1970	17	17	18	20	23	37	49	
1971	20	21	22	26	41	67	97	
1972	3.5	3.6	3.7	4.4	7.9	12	12	
1973	25	26	28	72	100	135	148	
1974	23	25	28	31	39	47	61	
1975	41	42	45	50	69	115	121	
1976	3.4	3.8	4.2	4.6	7.0	13	15	

DRAINAGE AREA: 201 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 124 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.4	2.4	2.4	3.3	3.6	4.0	4.7
CLIMATIC YEAR	1954	1954	1954	1951	1951	1951	1951

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	11	12	14	18	25	38	52
2	8.0	8.7	10.0	12	17	25	34
5	4.1	4.4	5.0	6.0	7.8	11	14
10	2.9	3.1	3.5	4.2	5.3	7.0	9.0
20	2.2	2.4	2.6	3.1	3.9	4.9	6.1

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	23	26	31	22	26	41	55	64	91	19	21	27
2	15	16	20	14	16	25	37	44	65	13	15	19
5	6.3	7.3	9.0	5.5	6.4	9.5	17	21	33	7.2	8.1	10
10	4.2	4.9	6.0	3.4	3.9	5.6	12	14	23	5.2	5.8	7.5
20	3.0	3.6	4.3	2.4	2.7	3.6	8.3	10	16	4.0	4.5	5.9

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	412	234	138	65	46	31	15	12	8.3	6.0	4.2	3.5
APR. 1-SEP. 30	452	277	161	80	58	41	20	17	12	8.4	5.9	4.7
JULY 1-AUG. 31	323	172	97	49	36	29	16	14	10	7.8	5.9	5.0

05-4522.00

WALNUT CREEK NEAR HARTWICK

Location.--Lat 41°50'06", long 92°23'10", in SE1/4 SW1/4 sec.8, T.81 N., R.13 W., Poweshiek County, on left bank 5 ft upstream from bridge on county highway V21, 1.2 miles downstream from North Walnut Creek, 4.0 miles northwest of Hartwick, and 6.5 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1951	0.11	0.11	0.11	0.12	0.36	0.49	1.2
1952	3.0	3.4	4.0	4.5	8.5	18	22
1953	.27	.57	.72	.82	1.1	3.0	4.0
1954	.10	.10	.10	.10	.15	.36	.36
1955	0	.04	.31	.61	1.4	11	24
1956	0	0	0	0	.04	.14	.61
1957	0	0	0	0	.01	.27	3.3
1958	0	0	.01	.22	1.1	1.6	2.3
1959	1.6	1.9	2.1	2.7	5.0	11	28
1960	3.0	3.1	3.3	3.8	7.0	12	28
1961	1.2	1.2	1.3	1.8	2.8	7.2	6.7
1962	3.0	3.2	3.7	4.5	13	16	20
1963	2.7	2.9	3.5	3.9	4.0	6.3	9.4
1964	.60	.60	.61	.73	1.4	1.6	2.1
1965	1.5	2.0	2.1	3.3	3.8	7.8	10
1966	3.5	4.0	4.4	6.3	22	41	48
1967	.11	.16	.19	.33	1.2	1.9	5.2
1968	2.3	2.6	3.0	4.5	5.6	8.2	9.9
1969	.51	.77	1.2	1.6	1.7	2.5	3.7
1970	4.8	4.9	5.0	5.2	6.6	9.9	12
1971	4.3	4.9	5.5	8.7	14	34	56
1972	.87	.92	1.0	1.1	1.3	2.1	2.9
1973	8.5	9.2	11	18	28	43	53
1974	4.1	4.2	4.8	5.8	7.3	7.6	14
1975	11	11	11	12	15	25	30
1976	1.9	2.0	2.3	3.0	4.0	6.9	7.1

05-4522.00 WALNUT CREEK NEAR HARTWICK--Continued

DRAINAGE AREA: 70.9 mi² PERIOD OF RECORD: 27 YEARS AVERAGE DISCHARGE: 41.8 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.01	0.14	0.37
CLIMATIC YEAR	1958	1958	1957	1957	1957	1956	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.4	2.7	3.2	3.8	6.6	11	16
2	1.3	1.4	1.7	2.1	3.4	5.7	8.9
5	.14	.18	.23	.42	.60	1.4	2.7
10	0	0	.02	.09	.19	.60	1.4
20	0	0	0	0	.06	.28	.71

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	4.9	5.5	8.8	6.0	7.4	14	20	32	38	4.3	4.7	7.0
2	2.3	2.7	4.6	2.8	3.5	7.9	13	19	24	2.4	2.7	4.0
5	.35	.51	.75	.46	.58	1.9	3.8	3.5	6.3	.41	.60	1.2
10	.09	.16	.21	.14	.17	.63	1.2	.87	2.6	.07	.14	.50
20	.01	.03	.06	.03	.03	.14	0	.20	1.1	0	0	.24

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	148	87	48	21	12	7.7	2.5	1.8	0.80	0.23	0.09	0.04
APR. 1-SEP. 30	167	101	58	26	18	11	4.0	3.1	1.6	.43	.13	.06
JULY 1-AUG. 31	97	53	30	14	10	7.5	3.1	2.4	1.3	.44	.14	.07

05-4525.00

IOWA RIVER NEAR BELLE PLAINE

Location.--Lat 41°51'20", long 92°14'20", in NW1/4 sec.5, T.81 N., R.12 W., Iowa County, on right bank 5 ft downstream from State Highway 212 bridge, 0.5 mile downstream from Walnut Creek, 2.7 miles south of Belle Plaine and at mile 159.0.

Remarks.--Discontinued Sept. 30, 1959.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	55	57	64	94	138	241	237
1942	86	89	94	106	207	590	662
1943	350	351	369	445	498	681	932
1944	190	191	196	205	305	395	562
1945	177	181	183	192	201	279	396
1946	163	169	180	234	301	357	600
1947	247	276	320	413	465	767	869
1948	100	101	105	127	198	300	276
1949	70	71	78	85	89	112	165
1950	54	56	61	74	79	85	95
1951	64	65	68	80	82	125	181
1952	327	377	439	464	634	801	1030
1953	117	120	125	136	140	151	207
1954	41	41	42	45	58	79	93
1955	169	226	245	267	353	564	906
1956	35	35	36	40	44	57	79
1957	52	54	58	67	77	79	147
1958	110	112	138	164	194	257	274
1959	110	112	116	119	151	251	448

DRAINAGE AREA: 2455 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 1156 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	35	35	36	40	44	57	79
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	141	149	160	185	237	351	464
2	105	109	117	135	171	246	325
5	59	61	64	74	89	119	157
10	45	45	48	55	64	80	107
20	36	36	38	43	49	58	77

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	203	218	266	216	232	352	752	865	1142	271	301	381
2	142	152	181	144	153	216	509	580	757	182	203	251
5	75	80	90	63	67	84	226	256	330	86	97	118
10	56	59	64	40	43	51	145	163	210	59	67	82
20	44	46	49	28	29	34	99	111	143	43	50	61

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	4228	2735	1639	778	520	368	159	131	89	72	49	39
APR. 1-SEP. 30	4923	3320	2049	1135	824	585	268	223	155	103	80	70
JULY 1-AUG. 31	3270	2234	1466	781	593	448	219	162	125	96	74	61

05-4530.00

BIG BEAR CREEK AT LADORA

Location.--Lat 41°44'58", long 92°10'55", in SW1/4 SW1/4 sec.7, T.80 N., R.11 W., Iowa County, on left bank 10 ft. downstream from bridge on county highway V52, 0.4 mile south of Ladora, 1.2 miles downstream from Coats Creek, 2.8 miles upstream from Little Bear Creek, and 8.1 miles upstream from mouth.

Remarks.--Prior to October 1966, published as Bear Creek at Ladora.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	23	24	30	38	45	102	125
1948	1.0	1.3	1.7	2.1	7.8	17	15
1949	2.8	2.9	3.8	5.2	6.1	8.7	28
1950	2.0	2.1	2.3	3.2	6.1	6.6	8.9
1951	.60	.60	.61	.66	1.0	2.7	3.9
1952	16	17	18	20	28	66	74
1953	3.7	3.9	4.2	4.5	4.5	8.7	12
1954	1.3	1.3	1.3	1.4	2.4	3.1	3.9
1955	2.5	2.7	2.9	5.3	7.8	22	44
1956	0	0	0	.06	.17	.66	1.8
1957	.10	.10	.15	.25	.59	1.1	4.7
1958	1.7	1.8	3.5	4.2	7.3	11	11
1959	7.7	9.0	12	15	20	33	69
1960	5.7	6.2	7.0	8.9	22	41	74
1961	5.0	5.1	5.5	7.2	9.0	19	19
1962	13	15	16	20	52	54	75
1963	10	10	10	12	12	20	27
1964	.60	.66	.68	.87	1.4	5.5	7.1
1965	2.4	2.7	3.3	4.8	6.8	10	15
1966	11	12	12	17	60	87	127
1967	2.8	2.9	3.0	3.0	5.9	7.6	16
1968	6.7	7.1	7.7	9.6	10	15	19
1969	2.4	2.7	3.8	6.3	6.9	9.4	11
1970	15	15	15	16	22	33	44
1971	16	19	24	46	57	111	158
1972	4.0	4.8	5.5	6.9	8.3	12	17
1973	36	38	43	67	91	125	169
1974	14	15	17	20	26	29	47
1975	25	26	27	27	34	55	64
1976	5.7	6.2	7.1	9.0	11	17	20

DRAINAGE AREA: 189 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 117 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.06	0.18	0.67	1.8
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	8.4	9.1	10	14	20	31	41
2	4.9	5.3	6.1	7.9	11	18	25
5	1.4	1.5	1.7	2.0	3.1	5.7	8.9
10	.53	.56	.69	.77	1.4	2.9	5.1
20	.16	.16	.21	.32	.66	1.6	3.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	17	18	24	18	21	43	66	78	112	15	16	19
2	8.8	9.6	13	9.4	11	24	42	50	72	9.5	10	12
5	2.1	2.4	3.5	2.4	2.8	5.1	12	16	23	3.0	3.5	4.9
10	.83	1.1	1.7	1.0	1.2	1.8	5.3	7.2	11	1.4	1.8	3.1
20	.37	.50	.81	.36	.40	.67	2.3	3.4	5.1	.66	1.0	2.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	431	247	140	60	39	25	9.0	7.2	4.5	2.3	0.73	0.34
APR.1-SEP.30	491	288	169	73	50	34	13	10	6.5	3.8	2.0	.76
JULY 1-AUG.31	261	150	86	43	31	24	12	9.7	6.6	4.2	2.7	2.1

IOWA RIVER AT MARENGO

Location.--Lat 41°48'41", long 92°03'42", in SW1/4 NE1/4 sec.24, T.81 N., R.11 W., Iowa County, on right bank 10 ft downstream from abandoned highway bridge, 0.7 mile downstream from Big Bear Creek, 0.8 mile north of Marengo, 4.9 miles upstream from Hilton Creek, and at mile 139.4.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1958		120	124	149	178	208	278	296
1959		130	130	135	144	180	296	618
1960		207	209	235	301	344	488	668
1961		127	129	135	179	218	366	416
1962		258	285	293	412	835	954	1100
1963		180	184	196	242	266	382	617
1964		74	75	77	80	117	160	184
1965		142	146	159	185	206	307	398
1966		313	330	335	401	951	1630	2210
1967		85	89	95	102	132	160	221
1968		90	93	105	137	179	211	228
1969		230	234	268	290	371	457	527
1970		212	217	228	253	281	437	550
1971		314	330	372	499	674	956	1210
1972		146	146	150	163	184	266	289
1973		611	629	698	1200	1700	2370	2570
1974		463	491	515	548	734	1140	1190
1975		590	610	627	695	745	1200	1180
1976		168	170	172	182	217	279	324

05-4531.00 IOWA RIVER AT MARENGO--Continued

DRAINAGE AREA: 2794 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 1724 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	74	75	77	83	117	160	184
CLIMATIC YEAR	1964	1964	1964	1964	1964	1967	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	244	253	271	327	430	622	776
2	187	192	206	242	308	440	554
5	114	117	125	142	173	240	300
10	91	93	99	112	135	182	224
20	76	78	82	93	112	149	180

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	419	463	520	327	358	502	1160	1360	1890	387	423	539
2	276	305	348	222	241	335	844	985	1370	304	328	410
5	129	142	168	111	119	175	432	494	652	198	210	251
10	89	97	119	79	86	133	297	334	417	162	170	198
20	66	72	91	61	66	110	215	238	280	139	146	164

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	6570	4370	2160	1220	865	602	288	254	203	158	99	80
APR. 1-SEP. 30	7570	5180	3060	1580	1220	913	476	410	311	250	201	171
JULY 1-AUG. 31	5650	2980	1930	1120	886	698	456	417	355	291	250	229

05-4540.00

RAPID CREEK NEAR IOWA CITY

Location.--Lat 41°41'19", long 91°29'15", in NE1/4 NE1/4 sec.36, T.80 N., R.6 W., Johnson County, on left bank 80 ft upstream from bridge on State Highway 1, 3.5 miles northeast of Iowa City, and 4.7 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1939		0.40	0.51	0.55	1.2	2.8	6.1	7.3
1940		0	0	0	0	.25	.60	.78
1941		0	0	0	0	.05	.38	.47
1942		0	0	0	.12	1.3	11	11
1943		.18	.31	.67	1.2	3.1	5.9	7.6
1944		.30	.44	.60	.77	1.2	1.9	4.0
1945		.08	.11	.14	.20	.60	.90	.87
1946		0	0	0	.07	.51	1.4	2.0
1947		.20	.30	.48	1.1	2.6	3.9	4.1
1948		0	0	0	.04	.08	.38	.55
1949		0	0	0	.03	.14	.42	3.8
1950		0	0	.01	.04	.28	1.4	1.3
1951		.11	.15	.16	.19	.25	.40	2.0
1952		.34	.40	.56	1.0	1.5	3.8	5.1
1953		.06	.07	.07	.10	.17	.91	4.4
1954		0	0	0	0	0	.09	.13
1955		0	0	0	.07	.52	1.9	2.6
1956		0	0	0	0	0	0	0
1957		0	0	0	0	.03	.13	.69
1958		0	0	0	0	0	.61	.58
1959		0	0	0	.12	.19	.59	2.8
1960		0	0	0	.17	2.5	3.9	7.4
1961		0	0	.06	.31	1.0	6.1	7.7
1962		.47	.57	.75	1.6	5.2	7.9	14
1963		.60	.86	1.4	1.5	1.7	2.6	3.4
1964		0	0	.03	.03	.13	.44	.51
1965		0	0	0	0	.16	.21	.57
1966		.03	.16	.47	.79	2.3	11	15
1967		0	0	.03	.07	.16	.22	.68
1968		.29	.40	.49	1.3	8.0	8.8	18
1969		.14	.17	.65	1.0	3.4	4.4	6.0
1970		1.1	1.2	1.4	1.4	1.7	2.8	3.5
1971		1.1	1.4	1.6	2.5	5.3	6.8	17
1972		.08	.09	.11	.18	.64	1.3	3.1
1973		3.6	3.7	3.8	4.4	6.7	10	19
1974		.63	.04	1.3	1.6	2.8	4.3	6.5
1975		2.7	2.7	2.9	3.1	3.6	6.2	9.3
1976		0	0	0	.01	.14	.33	.43

DRAINAGE AREA: 25.3 mi² PERIOD OF RECORD: 39 YEARS AVERAGE DISCHARGE: 15.4 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1976	1976	1976	1965	1958	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	0.19	0.21	0.36	0.51	1.4	3.0	5.0	
2	.03	.04	.09	.22	.67	1.7	2.9	
5	0	0	0	.01	.13	.45	.86	
10	0	0	0	0	.03	.20	.40	
20	0	0	0	0	0	.09	.18	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.92	1.1	1.8	2.1	2.8	6.6	5.7	6.7	15	0.32	0.43	1.0
2	.33	.43	.83	1.1	1.4	3.3	3.1	3.9	9.9	.07	.16	.40
5	0	.03	.13	0	.10	.40	.67	1.1	2.1	0	0	.04
10	0	0	0	0	0	.06	.22	.51	.47	0	0	0
20	0	0	0	0	0	0	.06	.21	.06	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	56	32	16	6.2	4.0	2.3	0.36	0.28	0.14	0.07	0.03	0.01
APR.1-SEP.30	61	37	19	7.4	4.6	2.9	.52	.38	.16	.08	.03	.02
JULY 1-AUG.31	39	19	8.6	3.4	2.0	1.2	.23	.19	.12	.06	.02	.01

05-4543.00

CLEAR CREEK NEAR CORALVILLE

Location.--Lat 41°40'36", Long 91°35'55", in NE1/4 SE1/4 sec.1, T.79 N., R.7 W., Johnson County, on left bank about 50 ft upstream from bridge on county highway, 1.1 miles west of Post Office in Coralville, 1.5 miles downstream from Deer Creek and 2.7 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	0.31	0.31	0.31	0.32	0.40	1.7	1.4
1955	.57	.84	1.2	1.7	2.0	2.5	6.9
1956	.30	.30	.30	.41	.55	.71	1.0
1957	.17	.31	.44	.72	1.4	1.6	6.2
1958	.20	.31	.40	.49	.71	1.7	1.6
1959	2.4	2.9	3.4	4.2	4.7	9.3	25
1960	2.6	2.6	2.8	3.8	10	22	37
1961	4.3	4.5	4.9	6.6	7.2	23	19
1962	1.6	2.4	2.7	4.7	12	17	26
1963	7.4	7.7	8.1	9.4	10.0	15	18
1964	.70	.70	.71	1.0	2.2	3.4	3.9
1965	2.1	2.4	3.2	4.2	4.9	6.5	12
1966	7.4	9.9	12	15	37	53	74
1967	2.1	2.5	3.0	3.2	4.9	5.2	9.0
1968	1.6	1.7	2.1	5.9	13	23	33
1969	1.5	2.1	2.9	3.1	4.7	6.2	8.4
1970	10	10	11	11	14	22	28
1971	8.1	9.5	9.9	12	21	45	57
1972	1.6	1.8	1.9	2.6	3.9	6.6	12
1973	16	16	18	22	32	51	91
1974	11	12	17	20	26	39	50
1975	12	12	12	13	21	37	35
1976	2.3	2.7	3.3	3.8	5.0	7.3	10

DRAINAGE AREA: 98.1 mi² PERIOD OF RECORD: 24 YEARS AVERAGE DISCHARGE: 63.4 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.18	0.31	0.31	0.32	0.40	0.71	1.0
CLIMATIC YEAR	1957	1956	1956	1954	1954	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	4.0	4.5	5.2	6.8	11	17	26
2	2.3	2.6	3.1	4.1	6.4	10	16
5	.67	.83	1.0	1.4	2.0	3.4	5.2
10	.35	.44	.52	.70	1.1	1.8	2.7
20	.20	.26	.30	.40	.58	1.1	1.5

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	8.3	10.0	13	12	13	22	26	32	52	5.5	6.3	10
2	4.3	5.2	6.7	6.3	7.2	12	15	19	31	3.3	3.8	6.3
5	1.2	1.4	1.9	1.7	1.9	3.0	4.8	6.1	9.9	1.2	1.5	2.4
10	.53	.62	.88	.77	.85	1.4	2.4	3.1	5.0	.69	.87	1.4
20	.28	.32	.47	.40	.43	.63	1.3	1.8	2.7	.45	.58	.84

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	230	133	73	32	22	13	4.1	3.3	1.9	1.0	0.53	0.34
APR. 1-SEP. 30	261	161	88	36	25	16	5.1	4.1	2.5	1.3	.70	.54
JULY 1-AUG. 31	188	96	49	21	14	9.8	4.2	3.3	2.1	1.3	.74	.62

05-4545.00

IOWA RIVER AT IOWA CITY

Location.--Lat 41°39'24", long 91°32'27", in SE1/4 SE1/4 sec.9, T.79 N., R.6 W., Johnson County, on right bank 25 ft downstream from Hydraulics Laboratory of University of Iowa in Iowa City, 175 ft downstream from University Dam, 0.8 mile upstream from Ralston Creek, 3.6 miles downstream from Clear Creek, and at mile 74.2.

Remarks.--Slight fluctuation at low stages caused by powerplant at Iowa City. Flow regulated by Coralville Lake, 9.1 miles upstream, since Sept. 17, 1958.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1905	130	130	130	132	134	159	208
1906	327	342	364	472	538	810	795
1907	393	427	469	753	948	1140	1170
1908	354	432	500	520	592	755	1130
1909	88	93	108	127	166	206	254
1910	190	200	208	228	305	493	823
1911	49	53	62	70	86	124	168
1912	55	62	89	143	255	378	498
1913	81	99	106	114	142	184	196
1914	81	92	104	131	146	185	226
1915	165	178	187	219	341	788	1130
1916	400	400	489	630	1040	1740	2500
1917	57	80	80	92	101	159	169
1918	48	59	66	111	191	206	269
1919	235	282	296	311	449	619	724
1920	168	184	198	270	470	1020	1260
1921	295	328	385	535	817	883	918
1922	218	249	361	464	511	875	1330
1923	180	180	186	194	211	327	314
1924	86	96	120	160	312	477	545
1925	308	358	384	388	426	516	624
1926	79	109	139	178	220	366	398
1927	150	171	201	339	491	545	1380
1928	278	290	312	488	550	828	1000
1929	501	523	556	720	945	1330	1370
1930	156	167	181	211	276	422	533
1931	95	106	108	123	176	204	223
1932	55	57	64	82	126	205	370
1933	147	251	282	303	383	492	695
1934	87	89	94	100	114	130	162
1935	33	38	43	56	75	155	176
1936	284	303	310	342	425	781	710
1937	79	95	101	112	166	391	483
1938	67	73	77	90	124	163	275
1939	241	265	293	461	517	648	718

05-4545.00

IOWA RIVER AT IOWA CITY--Continued

CLIMATIC YEAR	LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued							
	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1940		34	34	38	39	49	92	105
1941		91	94	101	141	182	280	286
1942		137	138	154	192	388	862	1040
1943		441	519	543	654	784	998	1200
1944		260	273	287	329	470	602	857
1945		235	242	246	257	276	362	511
1946		262	284	299	399	506	527	781
1947		360	427	473	604	676	1120	1220
1948		148	151	155	182	280	400	374
1949		120	124	134	153	174	205	338
1950		93	105	115	132	149	190	219
1951		89	91	93	96	107	146	205
1952		410	552	717	745	1060	1330	1510
1953		138	148	154	163	176	251	320
1954		65	66	66	71	83	109	130
1955		216	292	321	346	482	714	1140
1956		44	45	46	52	57	78	109
1957		59	70	76	94	102	111	227
1958		142	146	170	203	236	301	322

05-4545.00 IOWA RIVER AT IOWA CITY--Continued

DRAINAGE AREA: 3271 mi² PERIOD OF RECORD: 54 YEARS AVERAGE DISCHARGE: 1470 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	33	34	38	39	49	78	105
CLIMATIC YEAR	1935	1940	1940	1940	1940	1956	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	190	213	234	285	377	540	682
2	140	155	120	205	269	384	484
5	75	63	91	108	138	194	246
10	54	60	66	77	96	134	172
20	41	46	50	58	71	100	128

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	336	370	447	364	417	587	1030	1170	1490	319	358	468
2	240	264	316	245	281	393	749	843	1060	222	250	324
5	124	136	161	114	129	176	354	396	498	117	131	167
10	88	96	114	77	86	114	223	249	317	86	97	122
20	66	71	85	56	61	80	146	164	212	67	76	95

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	5060	3540	2220	1090	777	571	257	216	155	109	77	62
APR. 1-SEP. 30	5430	4040	2590	1420	1040	747	361	298	203	135	95	75
JULY 1-AUG. 31	4020	2840	1710	907	681	506	267	228	169	119	83	65

05-4545.00

IOWA RIVER AT IOWA CITY--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	194	206	227	251	263	382	762
1960	103	126	131	138	155	468	737
1961	208	225	241	268	338	586	704
1962	141	157	166	241	756	911	1200
1963	250	254	281	298	321	554	774
1964	122	135	139	144	152	192	283
1965	160	162	163	198	247	360	436
1966	258	304	487	514	1200	2290	2690
1967	96	99	109	117	127	212	317
1968	211	238	254	296	460	586	621
1969	131	137	158	235	327	463	647
1970	396	400	402	403	563	672	1200
1971	323	329	335	524	944	1410	1480
1972	149	150	151	154	167	248	411
1973	888	958	1070	2000	2380	2800	3130
1974	184	209	421	536	827	1320	1550
1975	601	654	669	768	933	1410	1350
1976	154	155	155	157	187	357	412

05-4545.00 IOWA RIVER AT IOWA CITY--Continued, regulated period

DRAINAGE AREA: 3271 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 2160 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	96	99	109	117	127	192	283
CLIMATIC YEAR	1967	1967	1967	1967	1967	1964	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	245	261	304	359	553	838	1070	
2	244	201	231	262	382	593	793	
5	127	136	147	163	198	320	458	
10	108	117	122	135	145	238	351	
20	97	105	106	119	114	190	285	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	532	621	794	481	535	809	1240	1790	2710	350	437	638
2	353	396	506	355	387	555	841	1230	1910	254	306	427
5	170	179	220	203	216	289	360	517	874	153	172	221
10	120	123	146	155	164	215	219	304	545	124	135	167
20	91	92	105	124	132	172	141	188	357	108	114	137

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	7330	5370	3810	1700	1170	852	405	338	238	161	139	127
APR. 1-SEP. 30	3680	6200	4500	2500	1650	1120	522	428	287	184	146	133
JULY 1-AUG. 31	6290	5080	3920	1580	1020	735	472	404	302	203	162	136

05-4550.00

RALSTON CREEK AT IOWA CITY

Location.--Lat 41°39'50", long 91°30'48", in SE1/4 NW1/4 sec.11, T.79 N., R.6 W., Johnson County, on left bank 10 ft upstream from bridge on Rochester Avenue, 1.0 mile northeast of post office in Iowa City and 2.2 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1926	0	0	0	0.02	0.04	0.25	0.38
1927	0	0	0	.07	.48	.89	2.0
1928	.02	.02	.02	.04	.09	1.2	1.5
1929	.06	.07	.11	.30	.47	1.9	1.7
1930	0	0	0	.05	.18	.44	.41
1931	0	0	0	0	.01	.38	.49
1932	0	0	0	.01	.10	.20	.37
1933	0	0	0	.07	.28	.35	.70
1934	0	0	0	0	0	.01	.05
1935	0	0	0	0	0	.08	.23
1936	.02	.02	.03	.04	.13	.42	.35
1937	0	0	0	0	0	.63	.85
1938	0	0	0	0	.04	.07	.32
1939	.02	.02	.03	.09	.29	.72	.74
1940	0	0	0	0	0	.04	.05
1941	0	0	0	0	0	.01	.06
1942	0	0	0	0	.11	1.3	1.7
1943	0	0	0	0	.09	.61	.82
1944	.01	.02	.03	.04	.13	.20	.47
1945	.01	.01	.03	.03	.07	.12	.12
1946	0	0	0	.01	.07	.24	.33
1947	.01	.03	.03	.11	.29	.42	.54
1948	0	0	0	0	.01	.06	.09
1949	0	0	0	0	.03	.06	.52
1950	0	0	0	0	.02	.14	.11
1951	.01	.01	.01	.02	.07	.10	.30
1952	.05	.06	.09	.16	.24	.43	.56
1953	.01	.01	.01	.01	.03	.14	.68
1954	0	0	0	0	0	.01	.01
1955	0	0	0	0	.01	.15	.23
1956	0	0	0	0	0	0	0
1957	0	0	0	0	0	.01	.08
1958	0	0	0	0	0	.04	.05
1959	0	0	0	.01	.03	.09	.51
1960	0	0	.01	.07	.59	.70	1.1
1961	.02	.02	.03	.08	.21	.80	1.0
1962	.10	.10	.12	.30	.65	1.1	1.8
1963	.10	.14	.22	.25	.33	.39	.46

05-4550.00

RALSTON CREEK AT IOWA CITY--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1964	0	0	0	0	0	0.07	0.08
1965	0	0	0	0	.02	.04	.10
1966	.02	.03	.05	.09	.20	1.1	1.7
1967	0	0	0	.03	.03	.12	.20
1968	.04	.04	.05	.10	.43	.65	1.4
1969	0	0	.03	.09	.21	.39	.47
1970	.12	.12	.14	.15	.21	.39	.48
1971	.23	.24	.30	.36	.62	1.1	2.2
1972	0	0	.01	.03	.13	.33	.45
1973	.36	.39	.48	.67	1.0	1.2	2.0
1974	.43	.46	.50	.60	.79	1.3	1.4
1975	.60	.61	.65	.80	.91	1.1	1.1
1976	0	0	0	.01	.05	.12	.19

05-4550.00 RALSTON CREEK AT IOWA CITY--Continued

DRAINAGE AREA: 3.01 mi² PERIOD OF RECORD: 52 YEARS AVERAGE DISCHARGE: 1.7 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1976	1976	1976	1967	1964	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.01	0.02	0.02	0.06	0.17	0.45	0.71
2	0	0	0	.02	.09	.26	.44
5	0	0	0	0	0	.07	.14
10	0	0	0	0	0	.03	.07
20	0	0	0	0	0	.01	.03

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.11	0.16	0.27	0.15	0.26	0.62	0.37	0.52	1.1	0.02	0.04	0.12
2	.04	.07	.14	.08	.14	.34	.21	.28	.54	0	0	.06
5	0	0	.01	0	0	.05	.02	.06	.17	0	0	0
10	0	0	0	0	0	0	0	.01	.05	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	6.1	3.3	1.6	0.60	0.36	0.22	0.09	0.07	0.05	0.02	0.01	0
APR.1-SEP.30	6.3	3.6	1.8	.64	.37	.21	.09	.07	.04	.02	.01	0
JULY 1-AUG.31	4.1	1.8	.79	.25	.16	.13	.06	.05	.03	.02	.01	0

05-4550.10

SOUTH BRANCH RALSTON CREEK AT IOWA CITY

Location.--Lat 41°39'05", long 92°30'27", in SW1/4 NE1/4 sec.14, T.79 N., R.6 W., Johnson County, on right bank 60 ft downstream from bridge on Muscatine Avenue in Iowa City, and 1.2 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1966	0	0	0	0	0.19	0.44	1.5	1.6
1967	0	0	0	0	.01	.02	.14	.27
1968	0	0	0	0	.14	.79	.91	1.8
1969	0	0	0	.01	.07	.20	.50	.58
1970		.04	.05	.06	.06	.11	.33	.52
1971		.12	.16	.24	.40	.80	1.2	2.4
1972	0		.02	.04	.13	.45	1.0	1.0
1973		.31	.35	.47	.61	1.1	1.2	2.2
1974		.25	.30	.48	.68	1.1	1.7	1.7
1975		.33	.35	.43	.51	.74	1.8	1.9
1976	0		0	0	.01	.10	.22	.27

05-4550.10 SOUTH BRANCH RALSTON CREEK AT IOWA CITY--Continued

DRAINAGE AREA: 2.94 mi² PERIOD OF RECORD: 13 YEARS AVERAGE DISCHARGE: 2.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.01	0.02	0.14	0.27
CLIMATIC YEAR	1976	1976	1976	1976	1967	1967	1976

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.14	0.13	0.16	0.27	0.66	1.2	1.6
2	0	.04	.05	.15	.42	.81	1.1
5	0	0	0	.04	.13	.37	.52
10	0	0	0	.02	.06	.23	.34
20	0	0	0	.01	.03	.15	.23

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.33	0.38	0.54	0.22	0.29	0.90	0.74	1.2	2.4	0.17	0.18	0.33
2	.15	.21	.32	.11	.14	.50	.51	.74	1.5	0	.06	.20
5	0	0	.05	0	0	.13	.24	.35	.65	0	0	.07
10	0	0	0	0	0	.06	.17	.24	.42	0	0	.04
20	0	0	0	0	0	.03	.12	.18	.29	0	0	.02

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	9.8	5.6	2.7	1.1	0.74	0.52	0.15	0.12	0.07	0.04	0.01	0.01
APR. 1-SEP. 30	13	7.4	3.5	1.3	.83	.60	.21	.16	.09	.05	.02	.01
JULY 1-AUG. 31	9.1	3.9	1.7	.67	.43	.28	.11	.09	.05	.03	.01	.01

05-4551.00

OLD MANS CREEK NEAR IOWA CITY

Location.--Lat 41°36'23", long 91°36'56", in NW1/4 sec.36, T.79 N., R.7 W.,
Johnson County, at bridge, 3 miles southwest of Iowa City.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1952	13	17	18	30	79	104	106
1953	1.1	1.1	1.1	1.3	1.6	7.9	21
1954	.40	.40	.40	.40	.49	.79	.92
1955	.23	.26	.27	.53	1.6	6.5	14
1956	.20	.20	.20	.25	.28	.33	.49
1957	.30	.34	.66	.91	1.1	1.6	6.0
1958	.10	.10	.14	.21	.26	2.1	1.5
1959	3.2	3.6	3.7	3.9	4.4	12	30
1960	3.6	3.7	3.8	7.0	18	39	64
1961	3.6	3.6	3.8	5.2	6.9	26	21
1962	3.5	4.3	4.8	6.2	44	50	65
1963	8.9	10	11	12	14	20	33
1964	.90	.90	1.3	1.4	3.1	4.0	5.0

05-4551.00 OLD MANS CREEK NEAR IOWA CITY--Continued

DRAINAGE AREA: 201 mi² PERIOD OF RECORD: 14 YEARS AVERAGE DISCHARGE: 97.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.10	0.10	0.14	0.21	0.26	0.33	0.49
CLIMATIC YEAR	1958	1958	1958	1958	1958	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.4	2.6	2.9	3.7	7.1	17	27
2	1.2	1.3	1.5	1.9	3.2	8.4	14
5	.31	.33	.39	.51	.70	1.9	2.9
10	.16	.16	.20	.27	.33	.78	1.2
20	.9	.9	.11	.16	.18	.38	.52

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	4.3	5.4	7.5	7.8	8.2	15	31	45	76	4.7	5.5	11
2	2.0	2.5	3.2	3.2	3.3	6.5	16	24	42	2.6	3.1	5.6
5	.47	.55	.66	.51	.56	1.2	4.2	6.0	10	.66	.81	1.4
10	.23	.26	.32	.20	.22	.43	2.0	2.7	4.5	.29	.36	.59
20	.13	.15	.18	.9	.10	.19	1.1	1.4	2.1	.14	.18	.28

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	415	215	108	36	19	9.3	1.9	1.5	0.76	0.41	0.25	0.20
APR.1-SEP.30	405	232	131	45	28	16	4.6	3.3	1.4	.72	.35	.26
JULY 1-AUG.31	284	139	69	26	17	12	3.8	2.9	1.4	.91	.60	.45

05-4555.00

ENGLISH RIVER AT KALONA

Location.--Lat 41°27'59", long 91°42'56", in SE1/4 SE1/4 sec.13, T.77 N., R.8 W., Washington County, on right bank 30 ft upstream from bridge on State Highway 1, 0.8 mile south of Kalona, 1.1 mile upstream from Camp Creek, 4.5 miles downstream from Smith Creek, and 14.5 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	2.6	2.8	3.1	3.5	4.7	9.4	21
1942	6.7	8.0	11	13	54	139	135
1943	9.0	9.1	9.7	12	27	44	61
1944	32	33	34	38	57	75	145
1945	21	22	24	29	30	35	39
1946	23	24	28	34	69	97	127
1947	39	48	68	94	124	202	224
1948	4.0	4.0	4.4	5.0	9.5	19	20
1949	13	15	16	21	35	50	176
1950	4.8	5.0	5.2	6.3	9.6	13	24
1951	3.7	3.8	3.9	4.1	5.3	5.9	11
1952	34	38	43	58	218	310	343
1953	5.8	6.1	6.2	7.4	8.4	23	51
1954	2.0	2.2	2.5	2.6	3.3	4.3	5.0
1955	2.2	2.5	3.4	4.8	11	41	76
1956	1.1	1.1	1.3	1.7	2.0	2.2	2.9
1957	1.5	1.6	1.9	2.5	3.5	5.3	18
1958	4.8	5.2	5.8	11	19	32	33
1959	10	10	11	11	13	30	78
1960	14	14	16	28	62	157	236
1961	14	14	15	22	30	106	84
1962	27	30	33	46	87	152	258
1963	10	10	14	22	27	64	57
1964	4.5	4.5	4.5	5.0	11	16	20
1965	5.8	6.2	6.6	7.1	13	15	31
1966	25	28	29	47	209	293	365
1967	5.8	5.9	6.1	7.0	17	21	43
1968	8.2	8.9	11	20	40	67	117
1969	7.0	8.2	9.8	12	20	27	37
1970	27	27	28	31	41	69	94
1971	64	68	81	105	164	290	491
1972	13	13	14	16	22	51	121
1973	100	104	115	136	272	371	486
1974	18	22	26	33	52	98	181
1975	45	46	49	56	74	125	147
1976	13	14	16	18	25	45	94

05-4555.00 ENGLISH RIVER AT KALONA--Continued

DRAINAGE AREA: 573 mi² PERIOD OF RECORD: 37 YEARS AVERAGE DISCHARGE: 367 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.1	1.1	1.3	1.7	2.0	2.2	2.9
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	16	17	19	25	45	83	129	
2	10	11	12	16	27	49	79	
5	4.1	4.4	4.8	6.0	9.3	16	26	
10	2.6	2.7	3.0	3.7	5.4	8.3	14	
20	1.8	1.8	2.1	2.5	3.4	4.8	7.8	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	29	35	49	52	59	110	148	189	335	23	28	45
2	16	19	27	28	32	60	91	116	204	15	18	28
5	5.6	6.4	8.5	7.7	8.7	16	29	38	62	6.5	7.9	11
10	3.2	3.6	4.8	3.7	4.1	7.3	14	19	29	4.2	5.1	7.1
20	2.1	2.3	3.0	2.0	2.2	3.7	7.6	10	15	3.0	3.6	4.9

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1555	823	417	166	106	66	21	16	9.2	5.0	2.8	2.3
APR.1-SEP.30	1932	977	494	196	130	86	30	24	14	8.7	3.9	2.9
JULY 1-AUG.31	1043	522	242	105	78	56	26	21	14	8.5	4.0	2.9

05-4557.00

IOWA RIVER NEAR LONE TREE

Location.--Lat 41°25'15", long 91°28'25", in NW1/4 NE1/4 sec.6, T.76 N., R.5 W., Louisa County, on left bank 10 ft downstream from bridge on county highway W66, 5 miles southwest of Lone Tree, 6.2 miles downstream from English River, and at mile 47.2.

Remarks.--Flow regulated by Coralville Lake, 36.1 miles upstream, since Sept. 17, 1958.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	155	172	176	218	328	799	1240
1961	210	245	308	361	454	821	901
1962	315	349	398	576	1110	1250	1670
1963	340	364	370	393	421	727	970
1964	162	164	167	190	202	240	354
1965	194	198	205	246	302	427	563
1966	624	651	684	722	2260	3300	3680
1967	119	128	150	175	193	286	466
1968	254	281	335	505	608	852	926
1969	231	235	245	365	431	562	804
1970	433	500	501	508	679	873	1510
1971	509	540	622	980	1380	2060	2430
1972	202	205	208	217	239	378	720
1973	1370	1480	1690	2460	2970	3510	4140
1974	345	384	566	656	1040	1560	2040
1975	786	801	823	904	1300	1870	1730
1976	209	210	211	219	266	490	589

05-4557.00 IOWA RIVER NEAR LONE TREE--Continued

DRAINAGE AREA: 4293 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 2700 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	119	128	150	175	193	240	354
CLIMATIC YEAR	1967	1967	1967	1967	1967	1964	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	370	398	443	542	800	1200	1520
2	279	299	331	396	552	846	1120
5	175	186	201	235	283	440	628
10	144	152	163	188	208	319	475
20	126	132	140	160	165	248	382

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	643	743	908	633	702	1060	1730	2290	3300	526	618	905
2	414	469	573	433	477	705	1180	1550	2280	389	447	628
5	190	207	248	214	234	350	545	690	1020	238	263	340
10	131	140	164	150	165	254	359	439	638	193	209	258
20	98	104	119	113	125	199	253	298	424	166	177	211

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	9760	6980	4760	2140	1480	1080	493	418	307	213	166	126
APR.1-SEP.30	10900	7980	5710	3160	2110	1480	705	597	435	312	230	204
JULY 1-AUG.31	7780	6100	4560	2090	1470	1100	684	606	487	379	300	256

05-4577.00

CEDAR RIVER AT CHARLES CITY

Location.--Lat 43°03'45", long 92°40'23", in SE1/4 NE1/4, sec.12, T.95 N., R.16 W., Floyd County, on right bank 800 ft downstream from bridge on U.S. Highway 18 (Brantingham Street) in Charles City, 10.6 miles upstream from Gizzard Creek, and at mile 252.9 upstream from mouth of Iowa River.

Remarks.--Occasional minor regulation by dam 0.2 mile upstream of gage.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1966		128	148	167	171	215	352	688
1967		108	126	134	141	151	187	210
1968		88	88	93	104	127	142	152
1969		157	162	169	232	233	270	482
1970		155	159	169	174	184	202	221
1971		164	179	189	200	223	278	458
1972		181	183	185	195	202	237	265
1973		210	217	229	241	349	421	546
1974		189	250	257	304	365	613	795
1975		161	176	187	190	201	217	255
1976		156	156	158	178	214	274	261

05-4577.00 CEDAR RIVER AT CHARLES CITY--Continued

DRAINAGE AREA: 1054 mi² PERIOD OF RECORD: 12 YEARS AVERAGE DISCHARGE: 687 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	88	88	93	104	127	142	152
CLIMATIC YEAR	1968	1968	1968	1968	1968	1968	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	172	188	197	215	241	307	430
2	157	169	178	191	211	257	340
5	124	131	139	149	164	189	217
10	107	113	119	129	146	165	174
20	93	98	103	114	133	149	146

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	246	273	296	200	216	240	447	494	603	215	224	247
2	202	223	239	174	187	209	359	390	487	196	204	218
5	142	155	165	129	137	157	238	251	333	157	163	168
10	120	129	139	109	115	133	193	201	279	138	142	145
20	105	112	122	94	98	115	164	169	243	122	125	128

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2290	1400	821	430	345	271	200	188	169	144	117	107
APR. 1-SEP. 30	2560	1600	983	530	426	348	234	216	188	168	141	117
JULY 1-AUG. 31	1350	865	519	355	308	268	205	193	176	159	141	130

05-4580.00

LITTLE CEDAR RIVER NEAR IONIA

Location.--Lat 43°02'05", long 92°30'05", in SW1/4 NE1/4 sec.21, T.95 N., R.14 W., Chickasaw County, on left bank 12 ft downstream from bridge on county highway B57, 2.4 miles west of Ionia, 6.4 miles upstream from mouth, and 7.6 miles downstream from Beaver Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1956	5.6	5.7	5.9	6.0	6.2	8.7	11	
1957	10	10	10	11	15	19	23	
1958	10	10	11	16	20	28	28	
1959	3.0	3.1	3.1	3.3	3.8	6.1	8.9	
1960	22	23	23	25	31	56	70	
1961	13	13	14	17	21	32	56	
1962	26	27	29	31	31	45	61	
1963	24	25	27	30	32	47	119	
1964	12	12	12	13	16	21	23	
1965	7.4	7.6	8.1	8.8	13	16	19	
1966	25	25	26	29	59	92	245	
1967	13	13	14	15	19	27	31	
1968	6.0	6.2	6.6	8.0	15	18	20	
1969	26	27	30	42	43	54	114	
1970	24	25	27	28	29	36	43	
1971	32	37	38	43	63	87	139	
1972	21	21	22	22	24	43	43	
1973	36	37	40	46	77	108	203	
1974	51	54	58	64	70	119	165	
1975	23	23	24	25	26	29	34	
1976	16	16	16	18	25	35	35	

05-4580.00 LITTLE CEDAR RIVER NEAR IONIA--Continued

DRAINAGE AREA: 306 mi² PERIOD OF RECORD: 22 YEARS AVERAGE DISCHARGE: 156 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	3.0	3.1	3.1	3.3	3.8	6.1	8.9
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	23	23	25	28	35	49	69
2	17	18	18	21	26	36	46
5	9.1	9.2	9.6	11	13	18	21
10	6.2	6.3	6.5	7.2	8.8	12	14
20	4.5	4.5	4.7	5.1	6.2	8.9	11

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	39	44	50	25	27	32	64	74	107	33	35	41
2	28	31	36	18	19	22	49	56	80	27	29	33
5	15	16	18	9.4	9.9	11	30	34	46	17	18	20
10	10	11	13	6.5	6.8	7.8	24	26	35	13	13	15
20	7.5	7.9	9.4	4.7	4.9	5.8	20	22	28	10	10	12

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	579	301	158	73	54	41	26	22	18	13	7.2	5.5
APR. 1-SEP. 30	637	345	195	100	75	57	35	31	26	19	14	11
JULY 1-AUG. 31	328	171	107	63	51	42	29	25	20	16	11	8.7

05-4585.00

CEDAR RIVER AT JANESVILLE

Location.--Lat 42°38'54", long 92°27'54", in NE1/4 SW1/4 sec.35, T.91 N., R.14 W., Bremer County, on left bank 300 ft downstream from bridge on county highway at Janesville, 3.6 miles upstream from West Fork Cedar River, and at mile 207.7 upstream from mouth of Iowa River.

Remarks.--Diurnal fluctuation caused by powerplant at Waverly, 10 miles upstream.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1906	190	197	200	230	267	316	352
1916	140	140	163	183	271	444	553
1917	60	60	62	68	74	114	143
1918	50	50	60	81	132	190	255
1919	250	250	253	300	415	704	724
1920	120	120	129	141	175	318	318
1921	118	142	223	251	344	407	437
1922	140	140	140	158	165	223	291
1923	60	60	65	77	89	125	154
1924	89	89	92	100	162	216	247
1925	90	91	96	101	116	193	322
1926	59	70	83	107	141	168	167
1927	114	123	139	185	197	251	299
1934	60	61	66	73	92	103	115
1935	51	57	64	77	81	85	93
1936	83	87	89	101	117	165	183
1937	97	100	105	128	138	227	319
1938	74	80	82	87	96	145	185
1939	252	269	298	379	463	509	744
1940	90	92	98	108	122	141	149
1941	71	77	92	106	146	218	331
1942	190	213	226	240	322	474	599
1947	181	192	204	224	234	367	566
1948	162	164	167	171	198	252	285
1949	117	130	145	157	175	191	202
1950	79	83	90	114	128	143	150
1951	100	100	101	114	124	138	158
1952	307	350	417	440	545	641	702
1953	127	144	174	184	193	203	254
1954	110	112	115	125	154	206	225
1955	187	193	195	202	243	335	431
1956	77	77	82	88	93	115	130
1957	84	87	95	112	126	147	176
1958	94	103	115	141	160	182	186
1959	52	55	56	62	74	94	107

05-4585.00

CEDAR RIVER AT JANESVILLE--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued								
CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1960	213	231	248	264	312	437	494	
1961	155	158	164	192	236	267	318	
1962	177	179	187	203	223	299	366	
1963	240	241	250	271	294	356	641	
1964	156	161	163	175	191	205	223	
1965	127	129	133	142	165	191	206	
1966	184	209	240	246	344	555	1100	
1967	157	163	175	186	227	292	322	
1968	128	129	134	143	169	185	203	
1969	199	211	220	335	364	452	741	
1970	248	250	258	266	272	322	372	
1971	296	308	319	346	405	494	755	
1972	191	202	213	220	263	356	347	
1973	284	296	358	367	526	659	834	
1974	451	459	467	523	592	950	1140	
1975	240	265	274	283	298	316	331	
1976	201	206	210	216	274	353	354	

05-4585.00 CEDAR RIVER AT JANESVILLE--Continued

DRAINAGE AREA: 1661 mi² PERIOD OF RECORD: 56 YEARS AVERAGE DISCHARGE: 780 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	50	50	56	62	74	85	93
CLIMATIC YEAR	1918	1918	1959	1959	1917	1935	1935

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	164	172	185	205	245	319	392	
2	130	136	147	164	194	250	300	
5	83	87	93	106	124	158	180	
10	65	68	74	85	99	125	141	
20	54	56	61	71	83	104	116	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	239	262	300	207	216	257	478	532	676	278	298	334
2	190	207	235	161	169	194	372	412	515	224	242	270
5	122	131	147	99	104	116	218	240	296	143	156	177
10	96	103	116	77	82	90	161	178	219	111	122	142
20	79	84	95	62	66	74	124	137	170	89	99	118

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	2701	1629	946	505	389	313	198	177	146	112	85	73
APR.1-SEP.30	2934	1856	1126	657	520	409	256	228	186	145	110	82
JULY 1-AUG.31	1892	1214	797	475	386	319	211	190	153	127	94	76

05-4589.00

WEST FORK CEDAR RIVER AT FINCHFORD

Location.--Lat 42°37'50", long 92°32'24", in SW1/4 SE1/4 sec.6, T.90 N., R.14 W., Black Hawk County, on left bank 100 ft downstream from bridge on county highway C55 at Finchford, 3.2 miles upstream from Shell Rock River, and 5.0 miles upstream from mouth.

Remarks.--An authorized diversion is made into Big Marsh, 16 miles upstream from gage, of 2,100 acre-ft each year between Sept. 1 and Nov. 15. Net effect on daily flows at gage is unknown.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	67	72	83	105	113	162	179
1948	36	36	37	40	59	93	96
1949	25	26	27	28	33	42	48
1950	16	17	18	21	22	30	35
1951	21	21	21	26	32	49	73
1952	140	142	146	167	227	308	390
1953	50	51	53	54	55	59	67
1954	17	18	18	26	36	50	56
1955	37	40	43	49	83	146	216
1956	8.0	8.0	8.4	9.0	10	21	27
1957	11	11	12	13	17	21	21
1958	18	20	25	33	35	42	53
1959	6.0	6.1	6.4	6.4	7.9	13	18
1960	78	89	101	127	146	224	251
1961	42	43	45	57	71	110	142
1962	30	32	37	42	53	75	82
1963	64	64	66	70	76	118	241
1964	48	49	50	51	56	69	76
1965	38	38	41	48	74	94	150
1966	89	96	107	116	214	417	694
1967	37	39	41	45	58	64	73
1968	22	22	23	30	48	57	60
1969	61	66	79	98	140	222	312
1970	100	101	103	104	111	145	167
1971	65	67	70	81	95	154	219
1972	36	36	37	38	44	98	119
1973	109	112	132	156	256	394	453
1974	121	125	152	174	217	417	500
1975	90	91	94	103	110	141	148
1976	43	44	45	47	55	88	91

05-4589.00 WEST FORK CEDAR RIVER AT FINCHFORD--Continued

DRAINAGE AREA: 846 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 450 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	6.0	6.1	6.4	6.4	7.9	13	18
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	58	60	65	75	95	137	170
2	42	44	47	54	67	93	114
5	20	21	22	25	31	43	51
10	13	14	15	16	20	28	34
20	9.4	9.6	10	11	13	20	24

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	97	107	126	76	80	96	264	299	389	87	94	115
2	64	71	84	51	53	62	185	209	269	63	68	82
5	30	33	39	23	23	26	90	101	129	34	36	44
10	20	22	27	14	15	17	61	68	88	25	27	32
20	15	16	19	10.0	10	12	44	49	63	19	21	25

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1745	1058	544	245	166	126	63	55	41	27	16	11
APR. 1-SEP. 30	2061	1326	748	359	262	183	99	84	61	39	28	23
JULY 1-AUG. 31	1393	844	452	217	170	143	90	77	58	38	30	25

05-4590.00

SHELL ROCK RIVER NEAR NORTHWOOD

Location.--Lat 43°24'51", long 93°13'14", in NW1/4 NW1/4 sec.9, T.99 N., R.20 W., Worth County, on right bank 50 ft downstream from bridge on county highway A27, 1.3 miles downstream from Drainage ditch 2, 2.0 miles south of Northwood, 3.7 miles upstream from Elk Creek, and 84.5 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	11	12	14	18	24	77	92
1948	11	11	11	13	23	33	34
1949	17	17	18	23	31	32	33
1950	11	11	12	14	17	22	23
1951	13	13	14	15	18	22	22
1952	36	44	45	49	54	76	93
1953	9.0	11	14	18	19	21	23
1954	10	11	12	15	20	23	26
1955	20	21	23	24	30	43	56
1956	9.3	11	12	13	14	15	15
1957	7.0	7.3	7.8	8.1	12	16	17
1958	9.4	9.5	10	16	20	27	26
1959	.30	.30	.33	.41	.75	2.3	5.6
1960	11	13	15	29	34	62	85
1961	10	11	11	14	18	23	24
1962	17	18	19	24	30	45	62
1963	20	21	22	25	26	37	91
1964	11	12	12	13	15	17	19
1965	3.1	3.3	3.8	4.1	7.3	15	18
1966	22	23	23	27	45	105	162
1967	16	17	17	18	26	36	37
1968	2.7	2.8	3.4	4.9	8.3	13	14
1969	23	24	27	60	61	85	207
1970	21	21	22	24	26	34	35
1971	17	18	20	24	33	51	101
1972	17	19	19	19	21	37	47
1973	38	42	44	47	82	103	130
1974	36	38	41	46	50	124	198
1975	27	27	27	28	31	33	35
1976	22	23	23	26	32	50	49

05-4590.00 SHELL ROCK RIVER NEAR NORTHWOOD--Continued

DRAINAGE AREA: 300 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 144 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.30	0.30	0.33	0.41	0.75	2.3	5.6
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	21	23	24	29	36	51	59
2	17	18	20	24	29	37	41
5	7.4	7.9	8.7	10	14	18	20
10	3.8	4.0	4.4	5.3	7.6	11	14
20	2.0	2.1	2.3	2.8	4.3	7.3	10

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	37	42	49	34	35	40	69	82	115	25	27	35
2	27	30	35	25	26	30	50	60	84	18	20	25
5	13	15	18	9.9	10	12	29	34	48	10	11	13
10	9.2	10	12	4.9	5.2	6.2	22	26	37	8.1	8.8	9.9
20	6.6	7.4	8.8	2.4	2.6	3.2	18	21	30	6.7	7.3	7.9

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	608	358	199	82	55	39	23	20	16	12	7.0	4.1
APR. 1-SEP. 30	735	453	267	133	91	59	29	25	19	14	7.9	6.0
JULY 1-AUG. 31	435	269	149	65	49	37	22	19	15	9.9	5.6	4.5

05-4595.00

WINNEBAGO RIVER AT MASON CITY

Location.--Lat 43°09'54", long 93°11'33", in NE1/4 NW1/4 sec.3, T.96 N., R.20 W., Cerro Gordo County, on right bank 650 ft upstream from Thirteenth Street Bridge in Mason City, 0.1 mile downstream from Calmus Creek, and 1.0 mile upstream from Willow Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1934	2.5	3.1	4.3	4.5	7.7	9.8	11
1935	3.4	4.0	4.4	4.7	5.4	9.0	11
1936	8.8	10.0	10	10	13	21	22
1937	7.1	7.4	7.4	7.8	11	37	64
1938	11	12	13	13	14	18	22
1939	37	39	42	46	89	106	255
1940	8.2	8.4	8.7	9.8	11	16	17
1941	8.1	8.6	10	12	27	36	67
1942	27	29	32	38	123	235	286
1943	26	27	30	32	38	45	63
1944	26	27	29	35	57	94	121
1945	18	20	21	23	26	40	57
1946	19	20	22	27	39	50	82
1947	41	47	52	65	72	127	155
1948	13	14	14	16	32	51	54
1949	9.0	9.8	14	14	17	22	29
1950	6.9	7.3	7.7	8.6	11	16	18
1951	9.9	11	12	14	16	17	21
1952	47	50	53	59	63	112	161
1953	12	14	21	25	26	28	31
1954	8.0	8.3	9.0	12	18	27	31
1955	27	29	32	35	52	79	120
1956	9.1	9.9	10	12	13	16	19
1957	13	13	13	14	19	24	27
1958	17	18	19	26	29	37	36
1959	6.7	6.8	7.2	7.5	8.6	12	14
1960	26	36	37	41	56	129	170
1961	15	15	16	20	25	34	42
1962	37	39	44	50	54	81	123
1963	35	37	39	45	47	72	151
1964	26	28	29	30	34	43	48
1965	25	26	27	31	44	62	115
1966	47	50	52	59	83	247	385
1967	18	19	21	22	27	36	42
1968	11	11	12	14	19	26	31
1969	31	32	40	78	79	119	263
1970	35	35	37	39	42	56	64
1971	43	47	55	55	73	108	190

05-4595.00

WINNEBAGO RIVER AT MASON CITY--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1972	31	34	35	37	52	87	105	
1973	71	75	82	88	172	237	297	
1974	58	63	63	66	73	189	270	
1975	23	23	23	24	25	31	44	
1976	25	26	27	31	42	67	67	

05-4595.00 WINNEBAGO RIVER AT MASON CITY--Continued

DRAINAGE AREA: 526 mi² PERIOD OF RECORD: 44 YEARS AVERAGE DISCHARGE: 239 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.5	3.1	4.3	4.5	5.4	9.0	11
CLIMATIC YEAR	1934	1934	1934	1934	1935	1935	1934

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	26	27	29	34	44	67	94
2	19	20	22	24	32	46	62
5	9.6	10	11	12	16	22	27
10	6.5	7.1	7.9	8.7	11	15	18
20	4.7	5.2	5.8	6.4	8.2	11	13

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	47	54	66	33	35	43	125	147	212	49	54	66
2	32	36	44	24	25	30	88	104	149	35	38	46
5	15	17	21	13	13	16	41	48	69	17	18	21
10	10	12	14	9.1	9.5	11	26	30	44	11	12	14
20	7.7	8.7	11	6.9	7.3	8.7	17	20	29	8.0	8.6	9.7

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	955	598	319	133	88	62	30	25	19	13	9.0	7.0
APR.1-SEP.30	1126	732	426	197	142	100	49	41	27	17	10	7.1
JULY 1-AUG.31	706	448	247	117	87	66	35	29	19	12	7.0	5.2

05-4605.00

SHELL ROCK RIVER AT MARBLE ROCK

Location.--Lat 42°58'00", long 92°52'15", in SE1/4 SE1/4 sec.8, T.94 N., R.17 W., Floyd County, on left bank 20 ft above dam at Marble Rock, 1.1 mile upstream from Ackley Creek, 9.5 miles downstream from Winnebago River, and at mile 247.1 above mouth of Iowa River.

Remarks.--Flow regulated by powerplant at station prior to Oct. 1, 1942. Published as "at Greene", 1933-42. Discontinued September 1953.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1935	14	20	24	28	32	39	47
1936	23	27	29	29	44	76	88
1937	28	35	37	44	54	139	272
1938	52	59	62	64	68	91	108
1939	135	150	168	193	272	314	649
1940	22	41	45	47	57	73	79
1941	33	43	47	57	95	149	269
1942	136	144	155	161	309	554	732
1943	100	102	107	111	134	159	241
1944	76	78	86	99	148	204	280
1945	63	67	72	78	85	120	164
1946	86	89	95	113	147	181	263
1947	122	125	130	196	209	378	444
1948	60	60	61	67	102	150	168
1949	51	58	70	74	81	89	100
1950	39	42	42	46	60	69	73
1951	46	50	51	57	69	74	93
1952	219	225	229	238	242	367	456
1953	44	53	73	90	91	98	112

05-4605.00 SHELL ROCK RIVER AT MARBLE ROCK--Continued

DRAINAGE AREA: 1318 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 612 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	14	20	24	28	32	39	47
CLIMATIC YEAR	1935	1935	1935	1935	1935	1935	1935

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	76	82	89	101	128	179	251
2	56	63	69	77	97	133	179
5	31	38	42	46	58	76	93
10	22	30	32	36	45	59	67
20	17	24	27	29	36	48	52

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	120	131	163	106	113	133	365	406	556	154	166	214
2	89	98	121	78	83	95	258	287	383	111	119	149
5	53	60	71	45	48	52	119	130	169	57	62	75
10	42	48	56	35	37	39	75	80	104	39	43	53
20	36	40	47	28	30	32	49	52	69	29	32	40

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2422	1465	809	377	252	182	92	81	65	47	33	27
APR. 1-SEP. 30	2741	1738	1022	555	416	292	137	116	85	54	32	27
JULY 1-AUG. 31	1647	1137	684	355	246	184	107	89	61	38	27	21

05-4620.00

SHELL ROCK RIVER AT SHELL ROCK

Location.--Lat 42°39'10", long 92°35'46", in NE1/4 NW1/4 sec.11, T.91 N., R.15 W., Butler County, on right bank 400 ft upstream from bridge on county highway C45 in Shell Rock, 2.2 miles downstream from Curry Creek, and 10.4 miles upstream from mouth.

Remarks.--Diurnal fluctuation caused by powerplant 24 miles upstream at Greene.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1955	181	184	189	194	247	354	472
1956	79	81	82	87	90	102	112
1957	71	73	83	88	95	110	122
1958	100	102	113	130	149	172	171
1959	39	39	40	42	45	61	73
1960	164	173	183	232	281	455	562
1961	105	108	113	134	157	204	271
1962	147	170	184	187	198	282	367
1963	196	203	207	231	243	331	633
1964	118	136	146	149	160	179	214
1965	96	98	106	120	155	194	276
1966	216	244	245	256	359	817	1200
1967	108	128	145	163	215	243	248
1968	50	53	59	76	109	124	138
1969	132	154	172	315	339	454	859
1970	193	208	217	222	233	291	341
1971	256	264	295	321	391	490	787
1972	175	176	179	189	222	323	349
1973	274	282	302	333	503	669	843
1974	313	330	378	396	437	843	915
1975	133	137	156	175	198	230	264
1976	160	168	178	190	232	316	302

05-4620.00 SHELL ROCK RIVER AT SHELL ROCK--Continued

DRAINAGE AREA: 1746 mi² PERIOD OF RECORD: 23 YEARS AVERAGE DISCHARGE: 868 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	39	39	40	42	45	61	73
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	174	186	200	225	269	366	471
2	141	151	162	182	215	276	342
5	87	92	99	111	128	153	177
10	66	69	74	82	94	111	125
20	52	53	57	63	71	85	93

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	300	332	371	202	216	239	593	666	902	258	277	325
2	221	242	271	156	165	181	435	484	667	206	221	258
5	119	128	144	91	97	107	235	258	360	134	144	164
10	85	90	103	69	73	82	170	185	257	107	115	129
20	64	67	77	54	57	66	129	140	192	90	96	106

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2897	1919	1186	571	414	321	196	173	138	102	82	57
APR. 1-SEP. 30	3368	2369	1544	825	624	472	273	240	191	146	109	92
JULY 1-AUG. 31	2198	1565	1004	551	449	368	238	215	181	129	102	89

05-4630.00

BEAVER CREEK AT NEW HARTFORD

Location.--Lat 42°30'50", long 92°37'55", in SE1/4 SE1/4 sec.28, T.90 N., R.15 W., Butler County, on downstream side of center bridge pier of bridge on county highway T55, 0.2 mile north of New Hartford, and 8 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	31	31	33	41	46	63	85
1948	17	17	17	19	28	43	39
1949	11	11	12	12	14	17	24
1950	6.3	6.4	6.4	8.1	8.3	11	12
1951	6.0	6.1	6.7	8.8	11	18	37
1952	77	79	84	93	119	167	207
1953	15	15	16	17	19	20	22
1954	5.9	5.9	6.4	9.0	13	17	19
1955	12	13	14	14	19	34	52
1956	2.3	2.4	2.6	2.8	3.3	6.7	9.6
1957	3.2	3.5	3.7	4.4	6.2	7.5	8.8
1958	9.8	10	11	13	15	21	25
1959	5.0	5.1	5.2	5.4	6.3	12	21
1960	40	44	49	64	79	116	130
1961	19	20	21	29	40	65	103
1962	24	25	28	30	35	51	60
1963	14	14	14	15	17	24	35
1964	8.6	8.8	9.0	9.8	13	19	22
1965	11	12	12	14	19	26	45
1966	41	46	52	64	164	207	282
1967	15	16	16	17	23	33	43
1968	6.0	6.2	6.6	8.1	14	18	20
1969	16	18	21	25	36	69	141
1970	25	25	27	28	30	43	51
1971	15	16	17	20	28	42	75
1972	13	14	14	14	17	32	30
1973	77	80	87	109	183	214	245
1974	56	61	64	71	92	198	200
1975	45	46	47	51	56	94	97
1976	11	12	12	13	20	29	30

05-4630.00 BEAVER CREEK AT NEW HARTFORD--Continued

DRAINAGE AREA: 347 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 188 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.3	2.4	2.6	2.8	3.3	6.7	8.8
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	21	22	23	27	35	53	68
2	15	15	16	18	23	35	45
5	7.0	7.2	7.5	8.6	11	16	21
10	4.8	4.9	5.2	5.9	7.4	11	14
20	3.5	3.7	3.8	4.4	5.6	8.2	10

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	37	41	49	28	30	39	98	113	144	36	39	49
2	25	27	32	18	19	24	68	78	100	27	29	35
5	11	12	15	8.0	8.3	9.7	32	36	47	14	15	17
10	7.6	8.3	10	5.2	5.5	6.4	20	23	31	9.8	10	12
20	5.6	6.1	7.5	3.7	3.9	4.6	14	15	21	7.1	7.5	8.5

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	650	396	217	98	67	48	24	21	15	10	6.2	4.7
APR. 1-SEP. 30	732	470	268	131	95	69	36	31	24	16	9.6	6.8
JULY 1-AUG. 31	484	273	156	86	67	53	32	28	22	14	6.7	4.3

05-4635.00

BLACK HAWK CREEK AT HUDSON

Location.--Lat 42°24'28", long 92°27'47", in SW1/4 NE1/4 sec.27, T.88 N., R.14 W., Black Hawk County, on left bank 35 ft downstream from bridge on State Highway 58, 0.2 mile northwest of Chicago Great Western Railway tracks at the west edge of Hudson, 4.5 miles upstream from Prescotts Creek, and 9.6 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	4.4	4.5	4.6	7.1	12	13	14
1955	13	18	19	22	29	47	80
1956	1.9	2.0	2.1	2.2	2.6	4.5	5.8
1957	2.2	2.6	3.3	4.1	7.2	9.4	19
1958	12	13	17	19	39	58	59
1959	13	13	14	15	16	28	36
1960	21	22	22	25	28	45	58
1961	15	15	16	21	30	50	51
1962	20	23	25	32	64	83	117
1963	14	14	14	16	18	24	32
1964	6.7	6.9	7.1	7.7	9.4	13	15
1965	6.0	6.4	11	14	16	19	27
1966	26	29	35	39	134	158	280
1967	17	17	17	19	24	32	49
1968	3.4	3.5	3.6	4.6	12	16	20
1969	20	22	26	30	39	62	110
1970	22	23	23	25	27	39	49
1971	16	17	17	20	26	41	76
1972	12	12	13	14	18	22	23
1973	63	64	66	97	107	183	203
1974	53	55	58	65	83	124	138
1975	37	37	38	42	48	87	89
1976	8.5	8.7	8.9	9.2	14	22	24

05-4635.00 BLACK HAWK CREEK AT HUDSON--Continued

DRAINAGE AREA: 303 mi² PERIOD OF RECORD: 24 YEARS AVERAGE DISCHARGE: 161 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.9	2.0	2.1	2.2	2.6	4.5	5.8
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	19	21	22	26	37	53	70
2	13	14	16	18	25	36	47
5	6.0	6.4	7.1	8.2	11	16	21
10	3.8	4.0	4.5	5.3	7.4	11	14
20	2.6	2.7	3.0	3.6	5.2	7.6	9.7

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	36	40	46	28	30	41	84	98	137	32	34	43
2	23	26	30	18	19	26	57	65	92	24	26	32
5	10.0	11	14	7.1	7.7	11	25	29	40	12	13	16
10	6.4	7.6	9.7	4.4	4.8	6.8	17	19	25	7.8	8.7	10
20	4.5	5.5	7.2	3.0	3.3	4.7	12	13	17	5.1	5.9	7.2

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	575	363	199	89	62	44	22	18	14	9.6	5.5	3.6
APR. 1-SEP. 30	640	429	251	118	84	61	31	27	20	14	8.1	5.2
JULY 1-AUG. 31	450	267	155	80	59	45	27	24	19	12	4.8	3.1

05-4640.00

CEDAR RIVER AT WATERLOO

Location.--Lat 42°29'44", Long 92°20'03", in NW1/4 NW1/4 sec.25, T.89 N., R.13 W., Black Hawk County, on left bank at foot of East Seventh Street, 0.3 mile upstream from Eleventh Avenue Bridge in Waterloo, 1.1 mile downstream from Black Hawk Creek, and at mile 187.9 above mouth of Iowa River.

Remarks.--Slight diurnal fluctuation caused by powerplant upstream of station.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1942		584	600	643	688	1000	1790	2350
1943		980	1010	1040	1100	1170	1380	2020
1944		564	569	587	609	759	934	1170
1945		450	454	464	475	495	648	823
1946		587	667	671	735	852	991	1750
1947		620	628	679	813	908	1310	1590
1948		420	427	437	468	592	805	882
1949		331	362	392	447	491	555	603
1950		237	254	283	332	354	397	452
1951		308	311	317	347	373	431	541
1952		841	1020	1130	1260	1540	1960	2340
1953		370	433	510	536	546	581	669
1954		314	321	328	357	437	562	624
1955		530	558	583	607	734	1050	1380
1956		213	219	235	251	258	308	351
1957		230	236	255	307	332	365	425
1958		328	345	368	430	487	551	551
1959		164	173	176	183	222	289	346
1960		782	804	811	866	1030	1490	1670
1961		458	463	478	536	615	799	998
1962		620	681	716	750	777	1050	1240
1963		641	653	674	711	766	1040	1780
1964		443	450	455	474	506	576	642
1965		377	386	404	441	503	586	780
1966		805	833	894	928	1630	2520	3980
1967		495	508	543	568	642	773	839
1968		356	357	361	386	485	535	566
1969		574	604	662	1120	1340	1640	2470
1970		796	804	828	832	872	1070	1220
1971		751	804	849	925	1080	1370	2070
1972		557	571	576	595	700	959	995
1973		981	1010	1080	1220	1890	2380	2740
1974		1290	1310	1380	1520	1630	2950	3190
1975		765	786	800	822	864	991	1090
1976		561	577	590	608	771	944	965

05-4640.00 CEDAR RIVER AT WATERLOO--Continued

DRAINAGE AREA: 5146 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 2772 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	164	173	176	183	222	289	346
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	624	652	683	746	875	1130	1410
2	513	535	560	609	701	876	1070
5	337	351	368	400	448	534	619
10	267	278	292	318	354	415	470
20	219	228	240	262	292	339	377

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	904	987	1110	754	783	899	1980	2230	2800	958	1010	1150
2	699	758	846	589	608	670	1550	1720	2160	780	818	923
5	430	460	509	363	375	402	934	1020	1270	536	558	626
10	337	358	395	282	293	318	709	763	956	446	466	521
20	277	292	322	228	240	266	560	599	749	385	405	452

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	9510	6050	3610	1940	1440	1120	704	631	521	411	319	273
APR. 1-SEP. 30	10600	7270	4520	2620	2070	1610	951	878	722	574	476	425
JULY 1-AUG. 31	7330	4760	3130	1860	1490	1230	858	783	669	557	481	445

05-4641.33

HALF MILE CREEK NEAR GLADBROOK

Location.--Lat 42°12'40", long 92°36'39". in SW1/4 SW1/4 sec.33, T.86 N., R.15 W., Tama County, on right bank 10 ft downstream from bridge on county highway, 0.8 mile upstream from mouth, and 5.3 miles northeast of Gladbrook.

Remarks.--Discontinued September 1974.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1964	0.04	0.04	0.04	0.04	0.07	0.08	0.09	
1965	0	0	0	.03	.04	.10	.12	
1966	.02	.02	.02	.04	.14	.54	.79	
1967	0	0	0	.02	.05	.06	.23	
1970	.03	.04	.04	.05	.11	.17	.17	
1971	.02	.04	.04	.09	.16	.21	.36	
1972	0	0	0	0	.01	.04	.06	
1973	.12	.14	.17	.40	.51	.76	1.2	
1974	.08	.12	.13	.17	.30	.39	.45	

05-4641.33 HALF MILE CREEK NEAR GLADBROOK--Continued

DRAINAGE AREA: 1.33 mi² PERIOD OF RECORD: 10 YEARS AVERAGE DISCHARGE: 0.8 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.01	0.04	0.06
CLIMATIC YEAR	1972	1972	1972	1972	1972	1972	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.04	0.05	0.05	0.08	0.17	0.26	0.37
2	.02	.03	.03	.05	.10	.16	.24
5	0	0	0	.02	.04	.07	.11
10	0	0	0	0	.02	.05	.07
20	0	0	0	0	.01	.03	.05

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.18	0.20	0.26	0.15	0.18	0.25	0.27	0.33	0.52	0.07	0.07	0.10
2	.10	.12	.16	.09	.11	.15	.19	.23	.37	.04	.04	.06
5	.01	.03	.05	.03	.03	.06	.10	.11	.18	0	.01	.02
10	0	.01	.01	.01	.01	.04	.07	.08	.13	0	0	.01
20	0	0	0	0	0	.03	.05	.06	.09	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2.8	1.5	0.80	0.40	0.30	0.20	0.10	0.06	0	0	0	0
APR. 1-SEP. 30	3.5	2.1	1.1	.60	.40	.30	.10	.06	0	0	0	0
JULY 1-AUG. 31	3.1	1.6	1.0	.40	.20	.20	.10	.06	0	0	0	0

05-4645.00

CEDAR RIVER AT CEDAR RAPIDS

Location.--Lat 41°58'14", long 91°40'01", in SE1/4 NW1/4 sec.28, T.83 N., R.7 W., Linn County, on right bank 400 ft upstream from bridge on Eighth Avenue in Cedar Rapids, 2.7 miles upstream from Prairie Creek, and at mile 112.7 upstream from mouth of Iowa River.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1904	670	687	709	825	919	1230	2400
1905	330	330	330	352	395	540	676
1906	600	600	609	803	809	1240	1320
1907	1060	1340	1430	1650	1990	2230	2270
1908	883	887	893	946	1140	1400	2160
1909	500	500	509	585	722	916	1070
1910	800	800	800	840	1000	1670	2740
1911	250	253	274	298	324	454	548
1912	410	433	461	533	737	1220	1380
1913	498	519	570	599	684	781	937
1914	520	557	584	639	732	796	806
1915	653	693	726	747	936	1550	1590
1916	800	814	986	1290	2040	3240	3800
1917	400	400	400	408	413	631	749
1918	490	490	490	536	548	637	852
1919	1060	1100	1210	1310	1760	2380	2480
1920	587	600	659	723	773	1530	1880
1921	867	1130	1340	1590	1700	2130	2220
1922	840	840	845	918	1010	1370	1790
1923	470	486	503	534	575	749	814
1924	450	450	464	483	756	1080	1340
1925	880	949	971	1010	1070	1360	1750
1926	711	757	806	853	958	1350	1270
1927	719	754	819	1040	1220	1330	1830
1928	610	630	723	844	891	1320	1530
1929	1160	1230	1280	1610	2030	2450	3610
1930	450	450	493	513	575	822	973
1931	360	371	386	399	531	669	758
1932	377	385	394	428	512	583	819
1933	850	850	896	993	1120	1240	1500
1934	343	399	454	464	511	544	603
1935	258	276	314	340	403	477	529
1936	673	745	731	810	891	1200	1140
1937	418	428	442	475	553	1080	1460
1938	436	536	571	615	619	691	803
1939	818	855	908	1180	1540	1930	2400
1940	280	281	284	300	329	439	492
1941	435	457	499	709	902	1190	1460

05-4645.00

CEDAR RIVER AT CEDAR RAPIDS--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued							
CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	682	698	729	768	1160	2520	3030
1943	1240	1470	1530	1590	1750	2130	2830
1944	590	678	700	729	934	1140	1450
1945	620	629	637	651	680	993	1150
1946	687	914	937	1060	1310	1430	2350
1947	836	985	1020	1150	1370	1980	2490
1948	573	579	585	632	822	1110	1180
1949	460	564	626	657	706	749	833
1950	268	301	371	434	446	508	539
1951	330	404	406	430	477	552	768
1952	946	1260	1550	1690	2190	2800	3310
1953	483	554	607	651	711	739	873
1954	347	394	401	443	519	641	699
1955	643	680	742	777	977	1350	1810
1956	280	281	299	318	328	386	449
1957	309	317	344	401	425	474	583
1958	410	417	443	539	625	732	750
1959	250	250	258	280	321	421	534
1960	1060	1120	1220	1470	1940	2250	2410
1961	590	601	633	730	833	1190	1360
1962	800	811	844	935	1180	1940	2620
1963	673	691	716	783	878	1200	2020
1964	420	500	507	549	610	714	787
1965	352	491	604	638	666	773	915
1966	937	999	1100	1180	2110	3170	4920
1967	437	528	625	657	808	995	1160
1968	543	558	577	659	718	808	851
1969	945	1200	1330	1680	1800	2160	2840
1970	887	970	988	1050	1090	1310	1570
1971	863	929	980	1130	1440	1930	2540
1972	763	790	817	892	942	1240	1310
1973	1960	2010	2190	2370	3390	3710	3990
1974	1990	2060	2150	2190	2390	3820	4050
1975	967	1160	1210	1260	1400	1610	1700
1976	562	661	677	697	982	1050	1110

05-4645.00 CEDAR RIVER AT CEDAR RAPIDS--Continued

DRAINAGE AREA: 6510 mi² PERIOD OF RECORD: 74 YEARS AVERAGE DISCHARGE: 3262 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	250	250	258	280	321	386	449
CLIMATIC YEAR	1959	1959	1959	1959	1959	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	706	768	814	909	1080	1430	1750
2	578	625	662	734	856	1120	1350
5	395	422	446	487	551	700	823
10	328	346	367	397	443	552	640
20	282	297	315	339	374	455	523

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1020	1120	1310	923	989	1190	2370	2630	3330	1170	1260	1440
2	809	884	1020	716	762	886	1840	2030	2540	936	998	1140
5	526	571	645	454	479	534	1100	1190	1450	621	653	736
10	426	462	518	365	385	422	827	889	1060	507	531	596
20	361	390	436	308	325	353	649	691	805	432	451	505

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	10400	7240	4590	2480	1870	1460	893	787	642	513	396	339
APR. 1-SEP. 30	11200	8100	5440	3150	2480	1950	1190	1060	858	661	514	439
JULY 1-AUG. 31	7910	5640	3730	2210	1770	1490	1010	897	733	580	458	407

05-4646.40

PRAIRIE CREEK AT FAIRFAX

Location.-- Lat 41°55'30", long 91°46'55", in SW1/4SE1/4 sec.9, T.82 N., R.8 W., on right bank 12 ft upstream from bridge on State Highway 149 at west side of Fairfax, and 10.7 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1968	11	12	13	18	20	28	42	
1969	10	11	14	22	23	29	43	
1970	19	20	22	22	27	45	53	
1971	14	15	15	20	34	74	96	
1972	6.9	7.5	7.9	8.3	9.4	12	19	
1973	39	41	43	48	77	116	134	
1974	15	16	17	20	30	45	62	
1975	33	33	35	39	43	54	58	
1976	4.8	5.0	5.4	5.9	8.4	9.2	9.8	

05-4646.40 PRAIRIE CREEK AT FAIRFAX--Continued

DRAINAGE AREA: 178 mi² PERIOD OF RECORD: 10 YEARS AVERAGE DISCHARGE: 136 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	4.8	5.0	5.4	5.9	8.4	9.2	9.8
CLIMATIC YEAR	1976	1976	1976	1976	1976	1976	1976

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	18	20	21	26	34	52	69
2	14	15	16	20	25	37	51
5	7.9	8.5	9.1	11	14	18	24
10	5.9	6.3	6.8	7.9	9.9	12	16
20	4.7	5.0	5.4	5.9	7.6	8.4	11

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	29	32	39	32	34	50	80	94	143	25	27	33
2	20	22	27	21	23	33	59	69	105	17	18	22
5	9.4	11	13	9.3	10	15	30	35	52	7.9	8.4	9.7
10	6.1	7.1	8.1	6.0	6.5	9.9	21	24	35	5.0	5.4	6.2
20	4.2	5.0	5.4	4.2	4.5	7.1	15	17	24	3.4	3.6	4.3

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	468	269	163	79	61	46	22	18	12	8.7	6.2	5.2
APR. 1-SEP. 30	576	352	211	97	73	57	28	23	15	10	7.6	5.3
JULY 1-AUG. 31	446	227	105	59	47	37	20	17	13	10	7.0	5.2

05-4650.00

CEDAR RIVER NEAR CONESVILLE

Location.--Lat 41°24'36", long 91°17'06", in SW1/4 SW1/4 sec.2, T.76 N., R.4 W., Muscatine County, on right bank 10 ft downstream from bridge on county highway G28, 3.4 miles northeast of Conesville. 5.2 miles downstream from Wapsinonoc Creek, 10.7 miles upstream from mouth, and at mile 39.8 upstream from mouth of Iowa River.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	630	641	682	878	1060	1390	1600
1942	1020	1030	1050	1110	1630	3190	3900
1943	1500	1700	1980	2150	2720	3030	3680
1944	817	957	971	1020	1250	1510	1910
1945	943	951	961	982	1030	1250	1500
1946	1010	1140	1150	1330	1560	1770	2670
1947	1160	1180	1230	1470	1790	2710	2860
1948	770	776	784	814	1020	1320	1410
1949	573	637	731	840	889	929	1110
1950	497	587	621	670	702	751	923
1951	467	510	536	555	592	720	967
1952	1270	1570	1840	1890	2630	3350	3900
1953	680	760	867	915	959	1050	1240
1954	490	501	515	565	644	764	835
1955	907	926	996	1040	1320	1780	2450
1956	310	354	384	412	421	494	552
1957	380	386	420	481	504	562	693
1958	500	560	596	732	831	933	990
1959	400	406	428	437	477	612	786
1960	1380	1430	1580	1930	2340	2790	3000
1961	700	710	749	860	1000	1630	1770
1962	1410	1420	1440	1770	2090	3140	3610
1963	1100	1100	1150	1230	1290	1610	2580
1964	517	573	592	638	797	926	1060
1965	480	674	751	806	898	1090	1150
1966	1420	1490	1530	1800	2830	4140	6060
1967	613	663	797	888	1070	1250	1460
1968	793	916	994	1080	1350	1530	1900
1969	1540	1830	1970	2100	2540	3050	3590
1970	1100	1160	1240	1390	1410	1760	2070
1971	1310	1410	1490	1670	2260	3040	3460
1972	939	960	996	1060	1110	1480	1690
1973	2330	2580	3020	3240	4470	4750	5310
1974	2130	2230	2290	2400	2770	4350	4620
1975	1490	1610	1640	1790	1910	2180	2180
1976	743	766	796	850	1090	1270	1380

05-4650.00 CEDAR RIVER NEAR CONESVILLE--Continued

DRAINAGE AREA: 7785 mi² PERIOD OF RECORD: 37 YEARS AVERAGE DISCHARGE: 4412 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	310	354	384	412	421	494	552
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1050	1130	1200	1330	1600	2060	2440
2	847	912	966	1070	1260	1590	1880
5	554	600	636	699	783	945	1110
10	444	484	516	564	616	723	851
20	371	407	437	473	506	580	682

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1420	1600	1810	1390	1490	1840	3690	4140	5100	1580	1680	1980
2	1090	1210	1360	1060	1130	1350	2830	3180	3920	1270	1350	1590
5	669	728	804	630	666	754	1630	1820	2230	855	907	1050
10	523	563	619	481	509	565	1200	1320	1610	702	748	857
20	430	458	502	386	409	449	920	1000	1210	601	643	724

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	14400	9710	6220	3510	2680	2080	1200	1060	863	682	516	441
APR. 1-SEP. 30	16300	11300	7560	4470	3630	2890	1740	1540	1230	959	780	702
JULY 1-AUG. 31	10300	7470	5140	3300	2710	2260	1580	1410	1150	920	744	680

05-4655.00

IOWA RIVER AT WAPELLO

Location.--Lat 41°10'48", long 91°10'57", in NW1/4 SE1/4 sec.27, T.74 N., R.3 W., Louisa County, on right bank 30 ft downstream from bridge on State Highway 99 at east edge of Wapello, 13.0 miles downstream from Cedar River, and at mile 16.0.

Remarks.--Flow regulated by Coralville Lake, 67.3 miles upstream, since Sept. 17, 1958.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	1	3	7	14	30	60	120
1916	1100	1200	1490	2050	3480	5660	7610
1917	600	600	600	607	626	979	1170
1918	900	900	913	973	1020	1280	1730
1919	1500	1600	1810	1930	2570	3230	3620
1920	740	896	1150	1390	2110	3690	4330
1921	2020	2050	2130	2380	2840	3110	3270
1922	1400	1490	1540	1810	2240	3360	5080
1923	693	896	945	1000	1070	1360	1330
1924	673	800	800	859	1470	2090	2520
1925	1780	1800	1820	1930	2080	2710	3400
1926	767	797	901	1270	1410	2380	2370
1927	1090	1140	1230	1800	2740	3050	5770
1928	1150	1210	1350	1610	1660	3120	3990
1929	2480	2570	2680	3240	4130	6250	7270
1930	700	700	700	782	1030	1520	1840
1931	700	700	736	775	1050	1190	1310
1932	570	570	579	588	751	1050	1540
1933	1460	1460	1460	1890	2110	2350	3050
1934	600	643	718	729	826	873	978
1935	536	550	574	591	682	1080	1100
1936	1040	1080	1170	1330	1820	2810	2500
1937	613	630	666	717	909	2190	2520
1938	860	934	962	971	1040	1130	1450
1939	1130	1470	1900	2420	2550	3320	3880
1940	430	430	441	470	499	723	835
1941	676	723	812	1130	1530	2130	2180
1942	1090	1110	1150	1300	2220	4320	5370
1943	2100	2420	2590	3070	4150	4660	5480
1944	1140	1310	1340	1460	1900	2340	3090
1945	1230	1240	1270	1320	1400	1780	2200
1946	1570	1640	1660	2010	2300	2620	3780
1947	1830	1880	2040	2390	2990	4340	4600
1948	1030	1040	1050	1110	1500	1930	2030
1949	820	969	1090	1130	1190	1270	1830
1950	678	819	913	972	1010	1100	1350

05-4655.00

IOWA RIVER AT WAPELLO--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1951	593	617	641	666	765	933	1230
1952	2030	2510	3140	3220	4440	5590	6560
1953	1100	1230	1280	1280	1330	1580	1810
1954	620	621	641	700	801	943	1020
1955	1300	1350	1470	1540	2000	2720	3910
1956	400	401	434	459	504	622	722
1957	540	543	581	671	722	762	1110
1958	790	797	839	986	1110	1360	1430

05-4655.00 IOWA RIVER AT WAPELLO--Continued

DRAINAGE AREA: 12,499 mi² PERIOD OF RECORD: 44 YEARS AVERAGE DISCHARGE: 5950 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	400	401	434	459	499	622	722
CLIMATIC YEAR	1956	1956	1956	1956	1940	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	1130	1220	1320	1510	1890	2570	3120	
2	925	993	1060	1200	1470	1970	2370	
5	639	674	712	778	907	1180	1400	
10	533	555	583	622	707	901	1063	
20	461	475	497	516	575	722	851	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1670	1830	2150	1710	1890	2450	4320	4860	6120	1820	1990	2440
2	1310	1430	1660	1320	1450	1800	3240	3610	4490	1420	1540	1860
5	839	909	1050	805	859	995	1780	1960	2360	914	977	1140
10	672	726	839	621	652	734	1280	1390	1660	744	794	907
20	563	607	708	503	519	573	962	1040	1220	636	678	758

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	19500	13300	8460	4530	3490	2640	1480	1310	1050	830	643	566
APR. 1-SEP. 30	21500	13400	9960	5810	4490	3480	2020	1760	1360	1010	772	652
JULY 1-AUG. 31	13500	9780	6440	4100	3410	2780	1890	1490	1190	879	665	569

05-4655.00

IOWA RIVER AT WAPELLO--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	660	683	719	757	855	1180	1820
1960	1940	1950	2110	2690	2820	3900	4510
1961	1270	1320	1420	1660	1870	2640	2820
1962	1780	1810	1880	2390	3690	4430	5410
1963	1420	1450	1530	1730	1950	2500	3980
1964	767	941	654	1010	1160	1250	1540
1965	933	1170	1270	1400	1410	1770	1870
1966	2140	2200	2270	2720	5530	8430	10200
1967	761	1010	1270	1300	1500	1690	2140
1968	1460	1510	1670	1900	2250	2510	3070
1969	2400	2500	2650	2870	3200	4300	4630
1970	2000	2160	2190	2310	2430	2980	3940
1971	2280	2430	2520	3050	4290	5950	6290
1972	1410	1410	1420	1460	1540	2020	2710
1973	4780	4940	5530	6560	8340	9610	10100
1974	2800	3050	3180	3750	4730	6590	7210
1975	2750	2840	3000	3240	3690	4580	4410
1976	1260	1300	1330	1390	1540	1950	2120

05-4655.00 IOWA RIVER AT WAPELLO--Continued, regulated period

DRAINAGE AREA: 12,499 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 8440 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	660	683	654	757	855	1180	1540
CLIMATIC YEAR	1959	1959	1964	1959	1959	1959	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2000	2090	2240	2540	3130	4050	4700
2	1600	1690	1790	2020	2410	3080	3660
5	1040	1140	1160	1320	1480	1850	2300
10	826	937	921	1069	1160	1432	1820
20	685	800	763	899	962	1170	1520

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	3080	3450	3790	2600	2740	3600	6950	7980	10200	2630	2810	3550
2	2280	2540	2770	1950	2050	2620	5460	6310	8120	2160	2280	2840
5	1300	1420	1550	1190	1260	1530	3440	4030	5140	1490	1560	1840
10	984	1060	1160	950	1020	1200	2710	3200	4010	1230	1290	1470
20	787	837	920	799	868	1010	2240	2650	3250	1050	1100	1220

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	26200	18600	12500	7250	5300	4130	2440	2140	1690	1360	1080	919
APR. 1-SEP. 30	29600	21500	14900	9360	7500	5580	3260	2920	2370	1840	1470	1220
JULY 1-AUG. 31	18500	14300	10800	6720	5110	4150	2860	2620	2250	1830	1430	1300

05-4700.00

SOUTH SKUNK RIVER NEAR AMES

Location.--Lat 42°04'05", long 93°37'02", in NW1/4 SW1/4 sec.23, T.84 N., R.24 W., Story County, on left bank 2.5 miles north of Ames, 3.5 miles downstream from Keigley Branch, 5.2 miles upstream from Squaw Creek, and at mile 228.1 upstream from mouth of Skunk River.

Remarks.--Several diversions for irrigation upstream of station. Published as Skunk River near Ames prior to October 1966.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1922		1.6	1.6	1.9	3.7	16	41	108
1923		4.0	4.6	6.2	10	11	28	24
1924		2.0	2.0	3.0	5.5	9.8	34	72
1925		7.0	7.0	7.0	9.1	14	25	41
1926		2.0	2.0	2.5	2.9	9.9	25	26
1927		1.0	1.3	1.5	3.1	5.9	15	116
1934		.43	.47	.49	1.1	2.4	3.2	8.0
1935		0	0	.01	.04	.21	2.0	5.8
1936		6.4	7.4	11	13	16	58	67
1937		.20	.24	.26	.34	.78	4.6	4.5
1938		.18	.19	.22	.39	.46	.85	3.1
1939		3.0	3.4	4.6	11	23	28	45
1940		.10	.10	.10	.12	.28	.89	.81
1941		.46	.62	.82	2.0	11	32	57
1942		2.0	2.4	3.4	4.5	12	86	106
1943		22	25	27	33	43	78	129
1944		14	15	17	21	54	72	92
1945		9.4	9.8	10	11	12	19	40
1946		2.2	2.4	2.7	4.2	7.4	8.3	34
1947		4.8	5.7	10	19	28	52	51
1948		1.5	1.6	1.8	2.3	4.1	12	13
1949		.30	.34	.59	.69	1.3	3.7	6.5
1950		.30	.30	.36	.40	.64	.89	1.1
1951		.70	.70	.74	1.2	1.5	5.0	14
1952		23	24	26	32	49	74	92
1953		1.0	1.1	1.4	1.7	2.3	3.0	4.9
1954		0	0	0	.04	.20	.45	.55
1955		4.6	4.9	5.2	10	27	62	108
1956		0	0	0	0	.03	.07	.20
1957		0	0	0	0	.24	5.4	6.5
1958		5.1	6.3	7.1	9.1	14	24	44
1959		1.5	1.6	1.6	1.7	2.1	4.3	9.8
1960		7.3	13	14	22	47	55	79
1961		3.7	3.8	4.0	6.7	11	23	39
1962		13	15	17	25	62	119	127
1963		3.7	3.7	3.9	5.2	6.9	17	30
1964		.20	.26	.29	.65	2.3	2.9	4.8
1965		.60	.60	.67	.81	1.9	2.3	3.3

05-4700.00

SOUTH SKUNK RIVER NEAR AMES--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued								
CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1966		1.3	1.6	2.0	5.2	23	141	175
1967		.13	.26	.53	1.0	1.9	2.2	2.7
1968		.74	.77	1.0	1.6	3.4	4.2	4.2
1969		4.0	5.2	7.4	12	18	40	42
1970		11	11	12	12	17	36	43
1971		5.0	5.7	7.1	14	33	47	78
1972		1.1	1.2	1.2	1.4	2.7	7.8	7.4
1973		32	34	39	57	124	186	267
1974		20	22	27	37	88	186	270
1975		8.4	8.6	9.0	20	33	72	89
1976		.46	.63	.89	1.0	4.2	12	14

05-4700.00 SOUTH SKUNK RIVER NEAR AMES--Continued

DRAINAGE AREA: 315 mi² PERIOD OF RECORD: 51 YEARS AVERAGE DISCHARGE: 150 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.03	0.07	0.20
CLIMATIC YEAR	1957	1957	1957	1957	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	3.7	4.1	5.5	8.0	15	33	51
2	1.9	2.1	2.7	3.9	7.5	17	26
5	.37	.43	.44	.69	1.5	3.5	5.7
10	.08	.10	.09	.20	.52	1.4	2.3
20	0	0	0	.03	.21	.57	1.0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	16	19	28	14	16	29	63	95	135	7.6	10	18
2	6.8	8.6	13	7.0	8.0	14	38	60	82	3.6	4.8	8.7
5	1.0	1.5	2.3	1.4	1.6	2.6	11	14	22	.62	.67	1.6
10	.27	.46	.81	.42	.48	.79	4.7	4.6	8.8	.16	.18	.50
20	.07	.14	.32	.08	.09	.22	1.9	1.5	3.7	0	.04	.15

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	630	364	186	75	48	28	6.1	4.5	2.0	0.70	0.21	0.10
APR. 1-SEP. 30	793	469	245	101	67	40	9.4	6.8	2.9	1.1	.25	.12
JULY 1-AUG. 31	513	286	137	51	29	18	4.9	3.7	1.9	.61	.18	.09

05-4705.00

SQUAW CREEK AT AMES

Location.--Lat 42°01'21", long 93°37'45", in NE1/4 NW1/4 sec.10, T.83 N., R.24 W., Story County, on left bank 65 ft downstream from Lincoln Way Bridge in Ames, 0.1 mile downstream from College Creek, and 1.8 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1921		3.1	3.8	5.0	13	30	66	71
1922		4.0	5.2	7.0	14	21	28	54
1923		6.0	6.0	6.0	8.4	12	23	21
1924		1.0	2.5	3.2	5.1	8.4	29	65
1925		4.0	4.0	4.0	5.5	9.1	16	29
1926		0	.14	.79	1.6	6.1	17	18
1927		.50	.50	.64	1.6	2.6	7.6	93
1967		.13	.15	.19	.21	.29	.43	.52
1968		.14	.14	.17	.28	.75	1.2	1.4
1969		2.7	3.2	4.0	7.7	11	30	32
1970		7.5	7.8	8.1	9.1	13	27	28
1971		3.5	4.7	7.6	18	26	48	58
1972		0	0	0	.07	.26	2.3	2.1
1973		14	15	17	29	67	92	125
1974		18	22	32	41	78	167	221
1975		4.5	4.8	5.6	10	13	39	40
1976		.07	.14	.26	.59	2.4	5.0	5.4

05-4705.00 SQUAW CREEK AT AMES--Continued

DRAINAGE AREA: 204 mi² PERIOD OF RECORD: 19 YEARS AVERAGE DISCHARGE: 120 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	1	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s		0	0	0	0.07	0.26	0.43	0.52
CLIMATIC YEAR		1972	1972	1972	1972	1972	1967	1967

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	4.0	4.4	5.6	9.8	17	37	56	
2	1.9	2.1	2.9	4.8	8.7	20	30	
5	.19	.33	.54	.88	1.9	4.9	6.6	
10	0	.08	.14	.31	.75	2.0	2.5	
20	0	0	0	.12	.33	.85	1.0	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	26	34	41	18	19	25	50	62	97	5.5	7.0	13
2	13	16	22	8.3	9.0	11	27	35	56	2.4	3.1	6.5
5	2.1	2.4	4.8	1.1	1.3	1.9	6.2	9.6	16	.33	.49	1.2
10	.42	.61	1.8	.19	.24	.67	2.5	4.4	7.6	.08	.17	.43
20	0	.16	.72	0	0	.26	1.1	2.2	3.8	0	.06	.17

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	489	293	146	63	42	27	6.8	4.8	1.7	0.53	0.19	0.1
APR. 1-SEP. 30	587	350	179	76	51	29	5.9	4.3	2.0	.76	.25	.1
JULY 1-AUG. 31	296	155	88	32	20	12	2.8	2.4	1.8	.82	.40	.1

05-4710.00

SOUTH SKUNK RIVER BELOW SQUAW CREEK NEAR AMES

Location.--Lat 42°00'31", long 93°35'37", in NE1/4 NW1/4 sec.13, T.83 N., R.24 W., Story County, on right bank 15 ft downstream from bridge on county highway, 0.2 mi downstream from Squaw Creek, 0.2 mi upstream from bridge on U.S. Highway 30, 2 mi southeast of Ames, and at mile 222.6 upstream from mouth of Skunk River.

Remarks.--Low flows are affected by pumpage by City of Ames from surficial aquifer and do not represent the natural flow of the stream. Prior to October 1966, published as Skunk River below Squaw Creek near Ames.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	0	0	0	0.02	0.09	0.26	0.75
1955	8.0	9.0	9.8	23	49	111	199
1956	0	0	0	0	0	.05	.24
1957	0	0	0	0	.02	2.5	4.8
1958	8.1	9.0	12	17	29	52	79
1959	.20	.21	.26	.33	1.1	5.1	16
1960	8.8	19	23	36	56	75	105
1961	3.8	3.9	4.4	10	17	40	65
1962	28	33	35	55	169	230	281
1963	3.2	3.3	3.6	5.2	9.3	22	38
1964	0	.01	.09	.69	2.2	2.8	5.2
1965	0	0	.01	.02	.44	1.0	3.4
1966	2.6	3.4	3.9	8.6	35	229	261
1967	0	0	0	0	.38	.58	.93
1968	0	0	0	0	1.6	2.1	3.1
1969	5.1	6.7	9.4	17	27	62	65
1970	16	16	17	19	30	63	78
1971	9.4	14	20	40	65	109	159
1972	.10	.10	.10	.19	1.6	8.5	6.8
1973	32	35	44	68	187	284	406
1974	23	31	41	58	164	368	487
1975	19	19	20	43	61	142	145
1976	1.2	1.3	1.4	1.7	7.4	16	19

05-4710.00 SOUTH SKUNK RIVER BELOW SQUAW CREEK NEAR AMES--Continued

DRAINAGE AREA: 556 mi² PERIOD OF RECORD: 24 YEARS AVERAGE DISCHARGE: 295 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0.05	0.24
CLIMATIC YEAR	1968	1968	1968	1968	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	7.7	9.0	9.2	15	28	59	80	
2	2.7	2.6	2.7	4.3	10.0	22	33	
5	0	0	0	.02	.75	2.4	4.6	
10	0	0	0	0	.11	.61	1.5	
20	0	0	0	0	0	.18	.52	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	27	32	42	20	24	29	150	224	288	18	22	37
2	6.1	8.8	15	6.3	6.6	8.4	88	131	170	9.0	11	19
5	.04	.32	1.3	0	.04	.35	21	22	45	1.5	1.8	3.4
10	0	.01	.23	0	0	.01	6.7	5.5	19	.34	.40	.87
20	0	0	.02	0	0	0	1.0	1.3	8.1	.03	.03	.05

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1243	724	371	141	85	47	5.7	3.8	0.91	0.22	0.09	0.04
APR. 1-SEP. 30	1666	956	511	212	140	85	21	15	6.2	1.8	.23	.08
JULY 1-AUG. 31	1069	527	262	114	76	51	16	12	0.9	2.2	.15	.05

05-4712.00

INDIAN CREEK NEAR MINGO

Location.--Lat 41°48'17", long 93°18'26", in NW1/4 NW1/4 sec.28, T.81 N., R.21 W., Jasper County, on right bank 30 ft downstream from bridge on State Highway 117, 0.7 mile downstream from Wolf Creek, 2.9 miles northwest of Mingo, and 3.3 miles upstream from Clear Creek.

Remarks.--Discontinued September 1975.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	2.2	2.3	3.5	7.9	9.8	18	27
1961	5.8	5.9	6.3	8.4	11	24	35
1962	12	14	16	27	108	147	160
1963	3.0	3.1	3.2	4.0	4.6	9.5	13
1964	4.0	4.2	4.5	4.8	6.2	6.7	9.3
1965	3.7	4.8	5.8	6.7	7.1	8.8	12
1966	3.8	4.3	4.7	6.5	18	47	66
1967	1.2	1.4	1.6	1.9	2.4	3.5	3.4
1968	.14	.16	.21	.54	1.5	2.6	2.9
1969	2.4	2.9	3.7	4.5	6.0	17	16
1970	4.6	5.1	5.9	6.7	10	17	21
1971	4.6	5.9	7.0	11	40	97	122
1972	.78	.80	.83	.92	1.3	4.8	6.1
1973	20	21	26	42	100	223	268
1974	26	34	38	44	60	146	209
1975	14	14	14	19	22	75	75

05-4712.00 INDIAN CREEK NEAR MINGO--Continued

DRAINAGE AREA: 276 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 182 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.14	0.16	0.21	0.54	1.3	2.6	2.9
CLIMATIC YEAR	1968	1968	1968	1968	1972	1968	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	7.3	8.2	9.3	12	19	41	52	
2	4.5	5.0	5.7	7.3	11	22	28	
5	1.4	1.5	1.8	2.5	3.5	6.8	8.4	
10	.66	.73	.87	1.4	2.0	3.8	4.5	
20	.34	.38	.47	.79	1.3	2.4	2.8	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	20	24	32	19	21	27	101	122	180	11	13	20
2	10	12	16	9.7	11	14	67	81	122	7.0	8.1	12
5	2.8	3.5	4.5	2.3	2.6	4.0	23	28	43	2.6	3.1	4.4
10	1.4	1.8	2.3	.93	1.2	2.2	11	14	21	1.6	1.8	2.6
20	.81	1.1	1.3	.43	.53	1.4	5.6	7.2	11	1.0	1.2	1.6

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	719	453	249	99	62	35	10	8.5	5.9	4.0	2.7	2.3
APR. 1-SEP. 30	902	531	311	139	93	61	17	14	8.3	4.9	3.1	2.4
JULY 1-AUG. 31	529	325	164	69	46	32	12	9.8	5.6	4.4	3.3	2.4

05-4715.00

SOUTH SKUNK RIVER NEAR OSKALOOSA

Location.--Lat 41°21'19", long 92°39'31", in NW1/4 SW1/4 sec.25, T.76 N., R.16 W., Mahaska County, on right bank 400 ft upstream from bridge on U.S. Highway 63, 0.3 mile downstream from Painter Creek, 4.0 miles north of Oskaloosa, 53.7 miles upstream from confluence with North Skunk River, and at mile 147.3 upstream from mouth of Skunk River.

Remarks.--Prior to October 1966 published as "Skunk River near Oskaloosa."

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	193
1947	152	156	184	303	321	550	565
1948	37	37	45	64	107	179	168
1949	29	31	32	32	52	79	141
1950	28	29	33	50	51	57	72
1951	7.6	7.6	7.9	8.9	11	26	33
1952	170	174	184	226	357	462	512
1953	56	57	57	58	63	110	159
1954	14	14	14	15	19	27	30
1955	58	64	68	130	198	373	670
1956	4.4	4.6	4.7	4.9	5.6	12	23
1957	1.8	2.0	3.4	7.5	9.6	10	26
1958	52	54	57	63	86	122	149
1959	27	27	27	30	38	87	145
1960	98	106	108	151	199	276	339
1961	75	77	78	93	106	194	255
1962	155	176	191	267	653	696	866
1963	47	51	65	83	84	130	162
1964	25	26	27	31	50	66	86
1965	33	37	41	44	54	77	110
1966	93	101	104	127	183	571	572
1967	23	26	29	32	47	52	69
1968	23	23	25	34	45	51	56
1969	53	56	61	67	86	130	163
1970	92	96	99	103	132	218	262
1971	125	136	159	199	272	505	613
1972	36	36	38	45	53	80	80
1973	263	274	308	454	736	1090	1190
1974	184	200	221	273	406	897	1140
1975	158	165	175	188	219	412	447
1976	61	67	70	72	86	143	183

05-4715.00 SOUTH SKUNK RIVER NEAR OSKALOOSA--Continued

DRAINAGE AREA: 1635 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 887 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.8	2.0	3.4	4.9	5.6	10	23
CLIMATIC YEAR	1957	1957	1957	1956	1956	1957	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	84	88	93	114	153	246	296
2	55	58	60	72	94	148	184
5	19	20	22	26	33	50	70
10	10	10	12	15	18	28	42
20	5.6	5.9	7.1	9.0	11	17	28

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	139	155	183	143	158	261	553	634	866	138	154	197
2	79	88	105	78	85	141	364	421	574	97	108	136
5	23	27	35	24	25	41	142	169	229	43	49	63
10	12	14	20	13	13	21	81	98	133	26	30	42
20	6.5	8.2	12	7.4	8.0	12	49	61	82	16	20	29

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	3699	2241	1244	555	350	224	85	70	47	28	13	8.0
APR. 1-SEP. 30	4549	2650	1522	743	534	360	151	123	81	52	29	17
JULY 1-AUG. 31	2734	1489	930	483	351	271	144	122	90	58	23	15

05-4725.00

NORTH SKUNK RIVER NEAR SIGOURNEY

Location.--Lat 41°18'03", long 92°12'16", in NE1/4 SE1/4 sec.14, T.75 N., R.12 W., Keokuk County, on right bank 20 ft downstream from bridge on State Highway 149, 1.2 miles downstream from Cedar Creek, 2.2 miles south of Sigourney, 4.0 miles upstream from Bridge Creek, and 16.2 miles upstream from confluence with South Skunk River.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft^3/s , FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	81	83	105	147	166	312	289
1948	4.4	6.3	8.7	21	41	54	57
1949	11	11	13	14	27	44	75
1950	7.2	7.5	8.1	11	15	23	35
1951	3.3	3.4	3.5	3.7	4.5	5.7	8.8
1952	48	53	72	91	171	300	304
1953	11	13	13	14	19	72	113
1954	1.4	1.5	1.5	2.0	2.9	3.7	4.8
1955	12	14	18	22	57	92	152
1956	.63	.93	1.1	2.3	2.4	3.8	13
1957	.10	.10	.10	.10	.26	2.3	16
1958	7.4	8.0	8.4	13	25	36	36
1959	18	18	18	19	23	58	100
1960	19	21	31	51	115	199	284
1961	31	32	32	38	46	103	99
1962	57	64	69	84	145	277	415
1963	25	25	26	29	32	61	69
1964	10	10	10	12	22	27	37
1965	14	15	16	19	23	31	48
1966	44	45	47	56	274	372	433
1967	10	11	13	14	19	21	34
1968	12	14	16	23	26	44	45
1969	9.2	12	12	15	18	24	32
1970	36	37	38	38	48	82	107
1971	43	45	54	70	189	400	581
1972	13	14	14	14	19	36	55
1973	129	133	155	266	402	530	566
1974	69	78	87	97	132	246	310
1975	63	64	66	70	83	151	196
1976	38	39	40	41	43	77	120

05-4725.00 NORTH SKUNK RIVER NEAR SIGOURNEY--Continued

DRAINAGE AREA: 730 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 435 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.10	0.10	0.10	0.10	0.26	2.3	4.8
CLIMATIC YEAR	1957	1957	1957	1957	1957	1957	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	33	35	40	50	76	118	148	
2	20	22	24	31	43	66	88	
5	4.8	5.4	5.9	7.4	10	18	30	
10	1.9	2.1	2.3	2.8	4.1	8.4	16	
20	.76	.85	.90	1.2	1.8	4.4	9.7	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	59	65	88	63	72	140	187	230	380	46	55	75
2	31	34	46	33	38	75	118	147	241	29	35	48
5	6.7	7.1	9.2	9.0	10	20	42	55	85	9.3	11	18
10	2.5	2.6	3.2	4.4	5.0	9.3	23	31	45	4.4	5.2	9.7
20	1.0	1.1	1.2	2.4	2.7	4.8	14	18	25	2.1	2.5	5.7

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1913	1072	544	218	138	86	31	24	14	6.6	2.9	1.9
APR. 1-SEP. 30	2214	1245	634	268	177	117	51	40	23	12	6.8	4.3
JULY 1-AUG. 31	1336	651	320	149	113	84	42	34	22	14	8.5	6.2

05-4730.00

SKUNK RIVER AT COPPOCK

Location.--Lat 41°09'50", long 91°43'05", in NE1/4 NE1/4 sec.1, T.73 N., R.8 W., Jefferson County, at bridge on State Highway 78, 0.5 mile west of Coppock, 3/4 mile upstream from Crooked Creek, and 66 miles upstream from mouth of Skunk River.

Remarks.--Station operation discontinued Sept. 30, 1944. Peak data collected by observer until 1951.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1915		33	39	49	57	101	302	644
1916		400	429	500	723	961	1520	2410
1917		55	67	80	117	148	169	175
1918		30	30	31	36	50	77	133
1919		88	91	95	100	137	173	235
1920		84	86	99	133	278	772	1170
1921		185	193	203	261	349	382	406
1922		187	203	236	368	554	742	1130
1923		150	156	179	207	236	328	340
1924		168	180	206	298	355	573	708
1925		120	120	123	150	239	346	568
1926		82	87	100	160	228	325	375
1927		157	173	208	273	391	997	2000
1928		78	83	88	99	183	445	399
1929		311	327	334	417	613	1650	1630
1930		200	200	200	235	290	398	428
1931		20	20	20	20	102	126	146
1932		66	83	122	150	196	269	453
1933		206	219	248	272	358	531	690
1934		20	22	36	38	54	77	112
1935		19	19	19	22	32	49	83
1936		50	50	50	80	217	524	485
1937		50	52	54	64	87	241	235
1938		15	16	20	27	38	55	143
1939		107	116	134	166	202	306	342
1940		8.3	8.7	9.4	11	21	46	66
1941		47	65	75	89	152	247	459
1942		105	114	133	176	301	811	828
1943		183	227	261	296	463	618	660
1944		180	183	187	218	310	432	681

05-4730.00 SKUNK RIVER AT COPPOCK--Continued

DRAINAGE AREA: 2916 mi² PERIOD OF RECORD: 31 YEARS AVERAGE DISCHARGE: 1350 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	8.3	8.7	9.4	11	21	46	66
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	126	137	155	197	293	494	624	
2	85	93	105	132	204	334	424	
5	36	39	44	53	89	141	193	
10	22	23	26	31	54	87	128	
20	14	15	17	19	35	57	90	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	255	282	366	277	327	486	677	782	1165	220	258	383
2	160	179	236	178	213	315	508	580	809	147	170	246
5	61	71	99	66	78	117	244	277	349	69	77	104
10	35	43	62	36	42	64	151	172	209	47	52	66
20	22	26	42	21	24	37	95	110	132	35	38	45

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	5350	3421	1858	874	602	437	191	155	101	64	37	22
APR. 1-SEP. 30	5996	3909	2173	1099	303	568	256	209	140	86	51	34
JULY 1-AUG. 31	4177	2615	1570	722	468	350	192	161	116	70	36	24

BIG CREEK NEAR MOUNT PLEASANT

Location.--Lat 41°00'52", long 91°34'49", in NW1/4 NW1/4 sec.29, T.72 N., R.6 W., Henry County, on left bank 12 ft downstream from bridge on county highway, 100 ft downstream from Lynn Creek, 0.7 mile downstream from Brandywine Creek, and 3.7 miles northwest of courthouse at Mount Pleasant.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1957	0	0	0	0	0	0	0.40
1958	0	0	0	.10	.20	1.2	2.4
1959	.80	1.3	1.5	1.8	3.1	7.6	8.0
1960	0	.10	.40	.90	5.3	32	55
1961	.10	.10	.10	.20	.40	2.8	2.4
1962	.30	.30	.40	.60	2.6	18	44
1963	0	0	0	.30	.90	5.9	5.3
1964	0	0	0	0	.10	.80	2.8
1965	0	0	0	0	.70	1.3	2.4
1966	.10	.10	.20	1.2	16	23	47
1967	0	0	0	0	0	1.3	1.6
1968	.66	.77	1.2	6.6	10	20	39
1969	0	0	.18	.72	4.1	9.1	12
1970	.22	.37	1.2	1.6	4.7	12	13
1971	1.4	4.7	7.2	13	24	36	64
1972	0	.01	.05	.42	1.2	1.7	5.2
1973	.50	.62	1.1	1.5	2.1	12	19
1974	3.4	3.8	5.4	14	44	99	131
1975	.66	.73	.88	1.5	2.2	9.0	15
1976	0	0	0	.46	4.5	20	23

05-4735.00 BIG CREEK NEAR MOUNT PLEASANT--Continued

DRAINAGE AREA: 106 mi² PERIOD OF RECORD: 21 YEARS AVERAGE DISCHARGE: 66.5 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0.40
CLIMATIC YEAR	1976	1976	1976	1967	1967	1957	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	0.31	0.38	0.63	1.4	4.6	14	21	
2	.07	.09	.23	.66	2.2	7.5	11	
5	0	0	0	.07	.36	2.1	3.0	
10	0	0	0	0	.03	.83	1.5	
20	0	0	0	0	0	.12	.77	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	3.2	5.2	7.3	8.3	9.6	19	16	22	40	0.50	0.84	2.6
2	1.1	2.0	2.4	4.1	4.9	10	9.2	13	26	.13	.23	1.3
5	0	0	.04	.55	.80	1.9	2.1	3.4	9.3	0	0	.19
10	0	0	0	.03	.07	.47	.66	1.2	4.3	0	0	.04
20	0	0	0	0	0	.03	.06	.11	.87	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME												
	5	10	20	40	50	60	80	84	90	95	98	99	
OCT. 1-SEP. 30	287	141	60	23	14	7.8	1.2	0.77	0.25	0.13	0.05	0.02	
APR. 1-SEP. 30	314	164	71	26	16	9.3	1.4	.94	.27	.13	.05	.03	
JULY 1-AUG. 31	170	75	29	9.6	6.0	3.7	.67	.48	.20	.10	.04	.02	

SKUNK RIVER AT AUGUSTA

Location.--Lat 40°45'13", long 91°16'40", in NE1/4 NE1/4 sec.26, T.69 N., R.4 W., Des Moines County, on left bank 300 ft upstream from bridge on State Highway 394 at Augusta, 2.0 miles upstream from Long Creek, and at mile 12.5.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1916		800	800	800	1020	1490	2550	3330
1917		64	73	86	151	193	236	259
1918		40	40	40	43	62	101	197
1919		150	161	168	179	221	271	454
1920		72	120	133	178	410	1150	1610
1921		127	181	195	262	367	392	433
1922		267	272	303	503	793	1060	1770
1923		107	130	171	189	251	384	390
1924		118	170	250	340	444	717	849
1925		170	179	184	208	407	509	847
1926		81	109	127	358	433	936	956
1927		200	283	339	385	622	1760	3580
1928		88	95	131	173	288	801	717
1929		325	334	370	670	838	2560	2630
1930		249	250	250	278	370	647	636
1931		27	29	29	30	129	166	182
1932		56	69	139	186	532	867	1130
1933		270	270	281	480	512	726	1460
1934		20	23	35	40	57	100	136
1935		7.0	7.5	14	23	64	101	130
1936		100	100	100	152	291	733	692
1937		55	64	71	83	110	487	566
1938		18	18	25	35	49	71	212
1939		137	143	176	211	247	434	460
1940		14	15	15	18	30	63	88
1941		66	73	88	158	191	329	662
1942		120	140	167	197	354	1020	1060
1943		244	263	295	376	627	759	918
1944		210	221	227	264	385	535	808
1945		340	344	351	357	437	726	983
1946		262	336	352	418	561	869	942
1947		397	407	428	563	731	1190	1110
1948		87	99	113	148	263	380	440
1949		69	87	96	124	210	260	426
1950		66	73	83	103	116	168	288
1951		36	37	43	45	64	81	108
1952		422	447	508	681	1140	1420	1910
1953		88	107	109	112	141	352	541
1954		16	16	17	22	29	42	53

SKUNK RIVER AT AUGUSTA--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1955	102	264	301	368	610	859	1350
1956	20	21	22	24	29	41	108
1957	12	14	14	15	18	19	81
1958	66	71	80	113	166	271	383
1959	100	100	104	112	133	361	583
1960	210	227	288	461	889	1500	1720
1961	172	179	185	221	255	566	572
1962	396	415	426	585	1030	1510	2150
1963	125	125	128	148	155	314	383
1964	59	59	61	67	120	149	205
1965	78	84	95	106	144	175	331
1966	267	304	316	474	1290	1840	2110
1967	62	69	77	83	128	159	227
1968	125	129	144	237	341	434	818
1969	129	141	161	251	294	326	460
1970	236	243	250	267	345	640	748
1971	360	376	416	516	979	1840	3050
1972	72	74	79	102	155	250	521
1973	766	918	1080	1320	1720	2190	2480
1974	581	724	767	931	1800	3240	3440
1975	409	432	473	481	600	972	1100
1976	188	191	197	209	246	481	622

05-4740.00 SKUNK RIVER AT AUGUSTA--Continued

DRAINAGE AREA: 4303 mi² PERIOD OF RECORD: 62 YEARS AVERAGE DISCHARGE: 2350 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.0	7.5	14	15	18	19	53
CLIMATIC YEAR	1935	1935	1935	1957	1957	1957	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	182	207	229	299	448	770	975
2	118	135	151	195	290	490	642
5	46	52	60	75	111	178	264
10	27	30	35	44	65	99	162
20	17	19	22	27	40	59	107

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	328	377	496	388	468	771	1126	1340	2127	338	387	532
2	198	228	299	231	278	449	779	933	1451	231	265	370
5	72	83	108	80	92	146	359	436	630	97	116	170
10	41	48	63	44	50	79	232	285	388	58	72	109
20	26	30	40	27	29	46	159	197	254	36	47	74

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	9929	6254	3365	1430	964	644	265	212	132	75	39	26
APR. 1-SEP. 30	11099	6988	3876	1757	1270	889	391	320	213	113	58	31
JULY 1-AUG. 31	7254	4375	2400	1162	835	609	325	278	209	119	56	22

05-4745.00

MISSISSIPPI RIVER AT KEOKUK

Location.--Lat 40°23'37", Long 91°22'27", in SE1/4 SW1/4 sec.30, T.65 N., R.4 W., Lee County, near right bank in tailwater of dam and powerplant of Union Electric Co. at Keokuk, 0.2 mile upstream from bridge on U.S. Highway 136, 2.7 miles upstream from Des Moines River, and at mile 364.2 upstream from Ohio River.

Remarks.--Flow regulated by powerplant upstream of station since 1913, and reservoirs and navigation dams upstream of station since about 1935.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1880	20700	22300	27300	31700	33300	38800	41700
1881	18000	19100	22000	23000	23900	27000	34300
1882	38000	38400	40400	42000	49000	77600	119000
1883	18300	19400	22600	30800	33700	46400	51200
1884	18000	18700	21200	26500	27900	32800	37900
1885	24300	26300	32100	37500	41400	46600	72100
1886	19000	19600	21500	30300	34300	38800	49000
1887	14000	14600	16800	21500	21700	32400	34300
1888	14300	16100	19000	19400	20700	24200	29200
1889	16700	17900	18600	19500	22000	27100	30000
1890	9330	10900	13200	15000	19500	21800	24100
1891	18700	19700	20600	21600	22600	26300	33800
1892	15300	16000	17000	17700	22500	23200	23600
1893	15000	15700	16000	16100	17400	20900	26400
1894	11300	12600	14400	18800	23500	24700	25900
1895	10700	11000	13100	15000	15800	21300	22500
1896	9000	9430	10600	14600	15800	18100	21100
1897	19000	19700	21700	25800	27500	30700	32900
1898	11000	11600	13500	16500	18200	23100	27300
1899	10000	10100	11700	15300	17600	21600	23400
1900	14000	14600	16600	20900	23900	29700	32700
1901	17000	17000	17600	18700	20700	35800	53400
1902	24400	24800	25500	26700	31200	41400	43800
1903	25000	25000	26300	28100	32100	43200	54600
1904	16700	17000	19000	22300	25000	31400	64600
1905	14000	14100	15600	20700	22700	33500	42700
1906	38700	40000	42100	43600	47900	55700	60200
1907	28000	28300	30900	46100	52500	57200	59000
1908	20700	20900	22100	23100	26100	34600	47300
1909	14000	14700	17300	21400	23300	27200	32700
1910	28000	30300	31600	32400	37700	44600	46000
1911	9000	9860	12000	14100	15700	19000	20800
1912	21800	21900	22700	24000	32000	39100	41200
1913	16700	18200	21000	22000	22300	27400	36200
1914	16000	17000	17800	20300	21500	27700	30100
1915	12000	13200	15000	18500	24300	34000	39500
1916	22000	23600	26400	36500	51100	59900	63600

MISSISSIPPI RIVER AT KEOKUK--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1917		15000	15600	18100	23200	25300	30200	34300
1918		10000	10700	13000	17400	17800	24300	26500
1919		14300	15500	18900	24000	26900	29900	32200
1920		22100	22300	26500	28100	28900	38500	41500
1921		11600	13400	16700	23200	27600	30000	31400
1922		18500	20000	23300	25100	28200	33000	38100
1923		11100	11500	14100	18600	20300	22700	23100
1924		8770	9510	12200	14800	18400	21100	23300
1925		12500	14300	16400	19600	20400	26900	33100
1926		14200	15400	16900	21600	24000	27300	27400
1927		20300	22900	24100	28800	32500	40700	58500
1928		18400	20400	22300	30400	33500	41500	42200
1929		26000	27800	30200	35200	37800	57900	64500
1930		13100	14300	17600	21200	21800	26100	27600
1931		13800	15100	16800	18200	19400	21100	21500
1932		14300	14800	15000	16100	18400	24400	26500
1933		8300	9840	11900	16200	18200	19400	23500
1934		5870	8270	10300	12200	14400	15500	16300

05-4745.00 MISSISSIPPI RIVER AT KEOKUK--Continued

DRAINAGE AREA: 119,000 mi² PERIOD OF RECORD: 56 YEARS AVERAGE DISCHARGE: 61,200 ft³ /s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	5870	8270	10300	12200	14400	15500	16300
CLIMATIC YEAR	1934	1934	1934	1934	1934	1934	1934

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	18500	19300	21400	25100	27900	34700	40600
2	15700	16500	18600	21900	24300	29900	34300
5	11400	12400	14400	17200	19200	23000	25600
10	9670	10800	12700	15400	17200	20400	23800
20	8440	9620	11500	14100	15900	18600	20200

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	21700	24600	31200	24000	25300	28400	69100	74400	86200	35200	36700	40300
2	17900	20500	26200	20600	21900	24400	57100	61300	70700	29900	31000	33600
5	13200	15400	19900	15300	16800	18900	38200	40700	46400	21900	22600	24100
10	11700	13700	17800	13100	14800	16800	30500	32300	36500	18700	19300	20500
20	10800	12700	16400	11600	13500	15400	25100	26500	29700	16500	17000	18000

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	155000	128000	94400	56600	45700	38200	26700	24700	21600	18600	15600	14100
APR. 1-SEP. 30	176000	150000	120000	81000	65800	53300	35900	32700	27800	23400	19400	16800
JULY 1-AUG. 31	123000	105000	82400	55800	47700	41700	30900	28900	26300	21900	17200	15100

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1935	11700	12000	12900	14100	16200	18400	21600
1936	16000	16300	17600	21000	22000	28300	28800
1937	10400	10700	11900	12600	15600	23800	23100
1938	10900	12600	14200	16500	18200	18900	20000
1939	17800	20700	23600	30300	35900	45800	57300
1940	10700	13000	14300	14500	15800	19800	20500
1941	18400	19300	22000	23300	23800	30100	32400
1942	14800	16500	17700	20700	27100	47900	64400
1943	29100	30200	30300	34200	44700	49400	57800
1944	25700	26800	28500	30400	33900	36600	38100
1945	22500	25000	25300	25400	27800	30100	32900
1946	29200	30400	33300	36200	42300	44500	49100
1947	20700	22200	23900	29700	36200	42300	44700
1948	18400	19700	20300	21900	26900	30400	31000
1949	12600	14500	15500	17500	18000	20600	23000
1950	13800	15600	16200	19700	20800	22400	25500
1951	17100	17300	20000	21000	22600	24000	25900
1952	28300	34100	39600	46600	57600	65400	68500
1953	23700	24600	25500	26400	27800	31000	36600
1954	22600	24300	25000	25200	26400	28500	29500
1955	26900	28300	29300	30600	38900	42500	48500
1956	20100	20600	20700	23800	24700	25600	25800
1957	14200	15200	16400	17700	20700	23200	24500
1958	20000	22000	22500	24700	26600	30700	32200
1959	15400	16400	17000	17800	19400	21900	23100
1960	20800	22300	25300	29600	35900	46200	51700
1961	22000	23500	24500	25200	27100	34600	37000
1962	17700	20200	21300	24000	31900	40000	49200
1963	21600	23100	23600	25000	27100	30100	38600
1964	17700	18500	19200	20000	21100	21600	22100
1965	10400	12100	13200	16300	20100	26900	26800
1966	24100	30400	32300	34400	45000	66300	71600
1967	19700	20300	20700	23200	28400	28700	30700
1968	19400	19800	22800	24500	26800	30000	31700
1969	26800	28700	31900	40800	44400	55600	58700
1970	25000	26200	27100	29100	29800	32600	33500
1971	19500	20000	22700	27600	35200	47200	54400
1972	19100	21800	23200	26200	28100	36800	43900
1973	32600	33400	37000	50100	70200	85700	89200
1974	35600	40600	43600	47100	49400	61200	61400
1975	24200	28400	28600	31500	33600	39200	39700
1976	24300	25500	27500	29200	33400	39500	40900

05-4745.00 MISSISSIPPI RIVER AT KEOKUK--Continued, regulated period

DRAINAGE AREA: 119,000 mi² PERIOD OF RECORD: 42 YEARS AVERAGE DISCHARGE: 64,200 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	10400	10700	11900	12600	15600	18400	20000
CLIMATIC YEAR	1965	1937	1937	1937	1937	1935	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	22500	24200	25800	28700	32600	38800	42700
2	19800	21200	22600	24900	28000	33000	36000
5	15000	16200	17400	19100	21200	24600	26400
10	12800	14000	15100	16700	18600	21400	22700
20	11200	12400	13500	14900	16800	19300	20100

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	28500	20900	34800	30900	32500	36100	63400	69400	82100	28800	31400	36000
2	24600	26700	29900	26800	28200	30900	52400	57600	68900	24500	26700	30500
5	18400	20400	22700	21000	22000	23800	35700	40100	48800	16000	19600	22300
10	15900	17900	19900	18700	19600	21200	29100	33200	40700	15500	16700	18900
20	14100	16100	18100	17200	18000	19500	24500	28500	35100	13700	14600	16500

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	157000	129000	94700	59700	48800	40400	28500	26500	23500	20200	17300	15400
APR. 1-SEP. 30	181000	151000	118000	79500	65800	54800	34800	31400	26300	21200	17600	15100
JULY 1-AUG. 31	121000	99500	78300	54300	46100	39200	28700	26300	22500	19000	15000	13100

DES MOINES RIVER AT ESTHERVILLE

Location.--Lat 43°23'51", long 94°50'38", in SW1/4 SE1/4 sec.10, T.99 N., R.34 W., Emmet County, on right bank in city park, 1,200 ft downstream from bridge on State Highway 9 at Estherville, 0.1 mile upstream from School Creek, 2.3 miles upstream from Brown Creek, and at mile 404.2.

Remarks.--Diurnal fluctuation at low flow caused by powerplant 0.3 mile upstream from station which discharges an average daily flow of about 0.5 ft³/s into river from subterranean wells. Prior to 1971 published as West Fork Des Moines River at Estherville, Iowa.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1953	2.0	4.4	8.6	10	11	12	15
1954	3.3	3.3	3.6	5.8	11	18	37
1955	12	13	14	15	20	45	57
1956	.73	.86	1.0	1.1	1.1	1.6	1.8
1957	.87	1.0	1.2	1.6	3.2	7.1	6.7
1958	15	16	17	22	32	55	70
1959	.27	.43	.50	.62	.77	1.2	1.1
1960	1.4	1.8	2.3	2.6	6.5	14	26
1961	18	18	18	23	35	67	144
1962	15	16	17	22	25	34	43
1963	5.4	5.4	6.0	8.8	9.9	16	31
1964	15	17	18	20	23	35	69
1965	17	18	22	27	31	37	69
1966	27	28	31	38	56	124	123
1967	11	13	17	18	22	33	36
1968	1.7	1.8	1.9	2.6	3.1	7.4	9.5
1969	7.1	8.2	11	13	19	34	73
1970	21	21	21	22	27	41	55
1971	30	35	39	41	79	143	188
1972	11	11	12	13	18	39	36
1973	13	17	25	34	44	98	108
1976	7.8	9.0	9.2	9.7	13	21	24

05-4765.00 DES MOINES RIVER AT ESTHERVILLE--Continued

DRAINAGE AREA: 1372 mi² PERIOD OF RECORD: 25 YEARS AVERAGE DISCHARGE: 288 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.27	0.44	0.50	0.63	0.77	1.2	1.1
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	13	14	16	19	27	47	68
2	7.7	8.7	10	12	17	30	43
5	2.3	2.8	3.3	4.1	5.7	9.4	12
10	1.1	1.4	1.6	2.1	2.8	4.6	5.5
20	.53	.72	.84	1.1	1.5	2.4	2.6

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	33	40	52	19	21	26	182	222	298	32	39	57
2	19	23	29	11	12	15	104	130	177	17	22	32
5	5.1	6.3	7.7	3.5	3.8	4.7	32	40	56	4.1	5.2	7.6
10	2.3	2.9	3.5	1.7	1.9	2.4	16	20	29	1.7	2.1	3.0
20	1.2	1.5	1.8	.87	1.0	1.3	8.8	11	16	.71	.89	1.3

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1222	758	369	117	69	45	16	12	6.8	2.0	1.0	0.78
APR. 1-SEP. 30	1776	1056	639	262	166	95	31	24	13	3.7	1.3	.78
JULY 1-AUG. 31	1024	634	347	146	94	59	20	14	5.7	2.4	1.4	.85

DES MOINES RIVER AT HUMBOLDT

Location.--Lat 42°43'12", long 94°13'06", in SE1/4 SW1/4 sec.1, T.91 N., R.29 W., Humboldt County, on left bank 5 ft downstream from First Avenue bridge in city of Humboldt, about 700 ft below dam, 3.2 miles upstream from Indian Creek, 3.9 miles upstream from East Fork Des Moines River, and at mile 334.3.

Remarks.--Low-flow discharges occasionally affected by minor regulation. Prior to October 1970 published as West Fork Des Moines River at Humbolt, Iowa.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1966	98	102	111	145	220	364	425
1967	42	44	46	49	50	69	75
1968	20	21	23	27	33	43	54
1969	49	57	62	66	85	117	159
1970	88	90	98	103	112	167	233
1971	79	80	86	114	162	250	289
1972	57	68	78	81	94	174	155
1973	166	172	192	224	349	497	473
1974	114	117	124	130	167	462	598
1975	27	30	31	32	37	48	60
1976	37	39	39	41	54	78	97

05-4767.50 DES MOINES RIVER AT HUMBOLDT--Continued

DRAINAGE AREA: 2256 mi² PERIOD OF RECORD: 12 YEARS AVERAGE DISCHARGE: 758 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	20	21	23	27	30	43	54
CLIMATIC YEAR	1968	1968	1968	1968	1968	1968	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	79	84	91	102	131	218	252
2	60	65	69	77	94	149	175
5	34	37	40	43	50	71	85
10	26	28	29	32	37	48	59
20	20	22	23	24	29	35	43

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	166	201	244	109	117	138	659	839	1069	128	139	157
2	119	144	171	79	84	95	479	590	739	100	109	118
5	63	74	83	41	43	47	216	247	298	60	65	69
10	45	52	57	29	30	33	129	141	166	45	48	52
20	34	38	41	21	22	24	80	84	97	35	37	42

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2987	1942	1059	445	306	210	94	82	63	45	34	29
APR. 1-SEP. 30	3621	2626	1620	753	505	302	132	115	89	69	39	31
JULY 1-AUG. 31	1990	1153	697	329	259	206	134	118	95	54	37	34

EAST FORK DES MOINES RIVER NEAR BURT

Location.--Lat 43°12'38", long 94°10'35", in NW1/4 NE1/4 sec.20, T.97 N., R.28 W., Kossuth County, on right bank 30 ft downstream from bridge on county highway, 0.8 mile upstream from Buffalo Creek, 2.2 miles northeast of Burt, 4.7 miles downstream from Mud Creek, and at mile 389.7 upstream from mouth of Des Moines River.

Remarks.--Discontinued September 1974.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1953	2.4	2.8	3.4	3.6	4.1	4.5	8.1
1954	.40	.40	.40	.63	1.9	3.7	4.2
1955	5.4	5.6	5.9	6.3	9.1	23	47
1956	.13	.20	.24	.47	.67	.74	.76
1957	.20	.23	.28	.48	.88	1.7	1.9
1958	.90	.93	1.2	1.7	2.7	5.5	5.1
1959	0	0	0	0	.08	.41	.53
1960	1.3	1.7	2.3	3.4	12	16	24
1961	1.7	1.7	1.9	2.7	3.6	4.3	6.7
1962	5.9	6.0	6.3	8.4	10	14	23
1963	5.7	5.8	6.3	8.3	10	18	55
1964	2.3	2.3	2.4	2.8	3.2	4.6	9.2
1965	11	14	15	18	21	30	69
1966	4.0	4.8	5.5	6.1	12	44	52
1967	2.0	2.3	2.7	2.8	3.4	4.1	4.5
1968	1.6	1.6	1.7	2.0	2.8	4.4	6.5
1969	3.9	4.5	5.4	6.5	33	71	74
1970	6.9	7.2	8.0	8.6	10	16	22
1971	1.4	1.7	2.0	2.6	6.4	25	60
1972	.33	.36	.52	.83	1.8	12	14
1973	8.9	10	11	13	30	61	85
1974	3.3	3.7	4.4	4.8	10	52	106

05-4780.00 EAST FORK DES MOINES RIVER NEAR BURT--Continued

DRAINAGE AREA: 462 mi² PERIOD OF RECORD: 23 YEARS AVERAGE DISCHARGE: 144 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.08	0.42	0.53
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	3.5	3.8	4.3	5.1	9.9	19	30
2	2.1	2.3	2.7	3.3	5.9	11	16
5	.59	.67	.79	1.2	1.7	3.1	4.1
10	.23	.28	.33	.56	.72	1.5	1.9
20	.04	.06	.07	.16	.33	.78	.89

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	12	16	22	8.9	9.4	11	82	101	148	7.5	9.1	14
2	6.1	8.2	11	4.8	5.1	6.6	49	61	96	3.9	4.9	7.3
5	1.7	2.1	3.0	1.2	1.3	2.1	15	21	39	1.1	1.3	2.3
10	.80	1.0	1.5	.47	.51	1.1	7.7	11	24	.48	.62	1.3
20	.44	.52	.76	.11	.12	.64	4.2	6.3	15	.25	.33	.75

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	684	393	183	61	37	20	4.9	3.9	2.3	0.94	0.50	0.31
APR. 1-SEP. 30	959	602	311	121	77	48	12	9.1	4.5	2.1	.77	.47
JULY 1-AUG. 31	587	273	135	60	39	24	8.9	7.1	4.4	2.2	1.1	.74

EAST FORK DES MOINES RIVER AT DAKOTA CITY

Location.--Lat 42°43'26", long 94°11'30", in NW1/4 SE1/4 sec.6, T.91 N., R.28 W., Humboldt County, on right bank 50 ft upstream from old mill dam, in city park at east edge of Dakota City, 500 ft upstream from bridge on county highway P56, 0.6 mile downstream from bridge on State Highway 3, 3.4 miles upstream from confluence with Des Moines River, and at mile 333.8 upstream from mouth of Des Moines River.

Remarks.--Published as "near Hardy", 1940-54.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	18	19	21	26	56	69	81
1942	38	40	45	60	171	568	678
1943	21	23	25	33	39	70	107
1944	48	49	51	61	96	151	197
1945	27	27	29	29	34	71	164
1946	32	33	33	42	49	59	159
1947	33	34	37	54	87	173	206
1948	15	15	16	17	25	35	34
1949	5.8	6.8	7.9	9.3	14	21	28
1950	6.4	7.0	8.5	12	15	18	18
1951	16	16	16	18	20	24	41
1952	72	73	75	80	111	206	323
1953	18	19	19	20	22	26	35
1954	14	14	15	17	20	23	30
1955	34	35	38	42	61	116	197
1956	11	11	12	14	15	15	16
1957	6.9	7.9	8.8	9.8	14	17	18
1958	13	13	14	16	18	24	24
1959	7.9	8.4	6.5	8.7	9.7	11	11
1960	27	29	32	39	88	128	154
1961	14	15	16	18	21	24	30
1962	54	58	60	77	91	116	162
1963	37	38	41	50	58	98	235
1964	18	19	21	23	26	34	40
1965	47	48	53	68	100	158	295
1966	41	43	45	53	106	320	488
1967	17	17	18	19	20	24	26
1968	16	17	18	21	22	26	30
1969	26	30	33	40	92	181	227
1970	26	27	31	32	36	62	78
1971	17	18	19	23	29	61	115
1972	15	15	17	18	22	60	71
1973	73	78	86	90	220	413	466
1974	39	41	42	45	82	369	587
1975	15	17	20	21	23	25	28
1976	23	23	24	25	28	37	38

05-4790.00 EAST FORK DES MOINES RIVER AT DAKOTA CITY--Continued

DRAINAGE AREA: 1308 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 487 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	5.8	6.8	7.9	8.7	9.7	11	11
CLIMATIC YEAR	1949	1949	1949	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	29	30	32	37	53	90	132
2	22	23	24	28	37	57	80
5	13	13	14	16	19	25	31
10	9.4	10	11	12	14	17	19
20	7.4	8.0	8.9	9.9	11	12	13

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	60	71	90	39	43	54	299	354	478	50	56	80
2	33	38	49	25	27	33	200	235	318	32	36	49
5	15	17	20	16	17	18	84	99	138	15	16	22
10	11	12	15	15	15	16	51	61	88	10	11	15
20	9.7	10	12	15	15	15	33	40	60	7.6	8.6	11

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2039	1315	699	265	156	94	33	28	21	16	12	9.8
APR. 1-SEP. 30	2493	1765	1050	449	307	191	70	56	35	22	14	10
JULY 1-AUG. 31	1882	1146	603	263	169	114	56	48	36	25	18	15

LIZARD CREEK NEAR CLARE

Location.--Lat 42°32'35", long 94°20'45", in NE1/4 NE1/4 sec.11, T.89 N., R.30 W., Webster County, on right bank 20 ft downstream from bridge on county highway, 2.3 miles downstream from Drainage ditch 3, 3.0 miles south of Clare, and 8.2 miles upstream from South Lizard Creek.

Remarks.--Published as "North Lizard Creek near Clare", 1940-54.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1942		1.1	1.3	1.5	2.0	4.0	38	45
1943		4.0	4.5	5.3	8.0	11	16	23
1944		.10	.13	.25	.29	1.2	2.1	2.3
1945		2.7	2.9	3.0	3.8	4.6	9.6	16
1946		1.0	1.0	1.3	2.6	6.5	7.2	15
1947		.50	.67	1.4	3.1	4.6	7.6	6.9
1948		1.0	1.3	1.5	2.2	2.7	6.4	6.5
1949		.30	.33	.36	.41	.70	3.3	5.2
1950		.27	.30	.30	.30	.42	1.3	2.6
1951		1.3	1.3	1.4	1.8	3.1	6.2	16
1952		23	23	25	35	42	58	89
1953		2.9	3.3	3.9	4.5	5.2	5.3	7.8
1954		1.0	1.0	1.1	1.2	1.7	3.5	4.3
1955		5.5	5.5	5.8	7.6	18	39	73
1956		.10	.10	.12	.18	.30	.73	1.1
1957		0	.06	.08	.11	.25	.46	.71
1958		.50	.67	.93	2.3	5.8	7.0	12
1959		.10	.10	.10	.11	.27	1.1	1.8
1960		3.6	3.9	5.2	10	13	19	26
1961		.40	.40	.44	.76	1.3	2.9	5.0
1962		7.7	8.7	9.1	12	13	16	16
1963		6.6	6.8	7.4	11	14	24	61
1964		.60	.60	.62	.71	1.1	2.9	3.7
1965		1.2	1.3	1.8	2.0	2.9	6.4	13
1966		3.5	4.1	4.5	5.7	9.5	55	95
1967		.55	.68	.80	.93	1.0	1.5	2.0
1968		.04	.12	.24	.57	1.2	2.0	2.9
1969		.92	1.6	2.5	3.9	6.1	14	14
1970		4.1	4.3	4.5	5.2	6.0	10	15
1971		.76	1.3	1.5	2.9	4.9	12	14
1972		.87	1.1	1.2	1.8	2.4	14	15
1973		37	39	40	50	63	132	139
1974		17	19	19	26	41	133	225
1975		.77	.94	1.3	1.5	1.6	2.0	2.7
1976		.33	.40	.84	1.2	2.3	4.4	4.7

05-4800.00 LIZARD CREEK NEAR CLARE--Continued

DRAINAGE AREA: 257 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 96.3 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0.06	0.08	0.12	0.25	0.46	0.71
CLIMATIC YEAR	1957	1957	1957	1959	1957	1957	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.2	2.4	2.9	4.2	6.3	13	19
2	1.1	1.2	1.5	2.2	3.5	7.0	10
5	.27	.33	.43	.60	1.1	2.3	3.3
10	.12	.17	.22	.30	.57	1.3	1.9
20	.05	.10	.13	.17	.34	.81	1.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	6.4	8.0	11	5.1	5.8	8.0	54	68	94	6.2	7.4	12
2	3.1	3.9	5.5	2.5	2.9	3.9	35	44	60	3.1	3.7	6.2
5	.77	1.0	1.7	.57	.72	1.0	10	14	21	.68	.88	1.6
10	.40	.51	1.0	.26	.34	.48	4.6	6.3	11	.30	.39	.74
20	.23	.30	.62	.14	.19	.26	2.0	3.0	6.2	.14	.20	.39

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	404	240	124	43	23	13	3.9	3.0	1.6	0.76	0.37	0.2
APR.1-SEP.30	508	303	166	75	49	31	8.4	6.4	3.3	1.4	.40	.1
JULY 1-AUG.31	281	173	90	37	24	16	7.1	5.4	2.8	1.1	.23	.1

DES MOINES RIVER AT FORT DODGE

Location.--Lat 42°30'22", long 94°12'04", in NW1/4 SW1/4 sec.19, T.89 N., R.28 W., Webster County, on right bank 400 ft upstream from Soldier Creek, 1,800 ft downstream from Illinois Central Railroad bridge in Fort Dodge, 2,000 ft downstream from Lizard Creek, and at mile 314.6.

Remarks.--Diurnal fluctuation caused by powerplant upstream from station from 1918 to 1971, occasional minor regulation caused by dam since 1971.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1913		61	73	83	95	105	117	115
1948		50	53	58	72	119	168	162
1949		77	77	78	81	98	122	156
1950		31	32	33	35	41	62	79
1951		67	68	69	76	85	139	263
1952		290	341	357	523	590	803	1290
1953		82	94	98	107	110	123	165
1954		57	58	60	71	89	129	171
1955		147	159	178	191	234	416	643
1956		17	39	40	42	43	46	53
1957		23	28	29	33	43	52	54
1958		63	67	80	108	145	199	200
1959		29	31	33	33	34	41	44
1960		104	116	124	151	224	255	331
1961		57	67	74	98	116	164	245
1962		87	103	116	143	189	254	315
1963		56	67	87	135	175	277	617
1964		77	84	87	95	109	144	190
1965		123	137	168	210	306	433	733
1966		200	209	213	237	413	804	1240
1967		29	54	77	83	88	108	113
1968		35	36	40	52	66	80	95
1969		101	111	117	172	222	439	417
1970		139	141	153	172	177	266	360
1971		112	119	133	140	188	313	435
1972		80	100	111	121	137	306	273
1973		376	405	435	485	863	1360	1280
1974		235	246	249	304	389	1350	1720
1975		69	70	70	73	84	106	127
1976		93	98	100	104	124	152	171

05-4805.00 DES MOINES RIVER AT FORT DODGE--Continued

DRAINAGE AREA: 4190 mi² PERIOD OF RECORD: 44 YEARS AVERAGE DISCHARGE: 1365 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	17	28	29	33	34	41	44
CLIMATIC YEAR	1956	1957	1957	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	103	111	122	145	184	280	369
2	75	83	91	107	131	188	241
5	41	49	53	60	70	90	108
10	30	38	41	46	52	64	73
20	23	32	34	37	41	50	53

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	200	233	279	137	147	177	1051	1221	1577	216	234	299
2	134	155	182	96	103	122	730	843	1103	153	164	203
5	65	73	84	52	55	64	319	370	516	83	89	104
10	46	51	57	39	42	48	193	228	335	62	67	76
20	35	38	43	32	34	38	124	148	230	49	54	60

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	5638	3585	1940	744	466	298	137	118	89	60	38	33
APR. 1-SEP. 30	7068	4759	2825	1242	856	570	236	194	132	81	44	33
JULY 1-AUG. 31	4825	2981	1421	600	463	360	202	168	116	85	53	35

BOONE RIVER NEAR WEBSTER CITY

Location.--Lat 42°26'01", long 93°48'12", in NW1/4 SE1/4 sec.18, T.88 N., R.25 W., Hamilton County, on right bank 100 ft upstream from bridge on State Highway 17, 1.0 miles southeast of junction of U.S. Highway 20 and State Highway 17 in Webster City, and 3.2 miles downstream from Brewers Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	5.3	5.5	6.1	8.6	24	169	233
1943	18	19	21	26	33	58	81
1944	18	18	20	29	47	68	82
1945	13	13	14	15	17	25	47
1946	22	22	24	30	35	46	198
1947	13	13	15	22	42	85	83
1948	6.0	6.0	6.8	8.0	15	24	22
1949	4.9	5.7	6.6	7.5	9.0	16	24
1950	2.8	2.8	3.0	3.6	4.4	7.9	7.7
1951	8.0	8.1	8.4	10	12	21	46
1952	57	70	74	114	118	159	252
1953	12	14	14	15	16	19	23
1954	5.5	6.1	7.1	9.0	11	14	17
1955	20	21	23	26	51	97	187
1956	5.8	6.2	6.5	6.9	7.1	9.6	15
1957	1.7	2.0	2.2	3.1	7.4	10	11
1958	6.6	7.3	8.2	12	15	19	27
1959	5.0	5.1	5.2	5.3	6.3	9.5	13
1960	15	15	18	28	53	63	93
1961	7.4	7.6	7.8	8.6	9.5	13	18
1962	44	48	56	64	83	113	154
1963	16	17	18	22	29	53	141
1964	12	12	13	17	22	29	32
1965	15	15	18	19	31	49	116
1966	29	30	30	38	103	251	490
1967	7.7	9.0	9.4	9.8	12	14	14
1968	3.5	3.6	3.8	5.8	12	15	16
1969	21	24	27	41	59	106	201
1970	25	26	29	31	35	61	73
1971	11	12	13	18	25	55	79
1972	13	14	16	21	21	65	78
1973	103	114	125	181	365	509	546
1974	34	37	39	51	72	440	504
1975	16	17	21	28	34	42	42
1976	6.7	7.3	8.8	12	20	36	35

05-4810.00 BOONE RIVER NEAR WEBSTER CITY--Continued

DRAINAGE AREA: 844 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 380 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.7	2.0	2.2	3.1	4.4	7.9	7.7
CLIMATIC YEAR	1957	1957	1957	1957	1950	1950	1950

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	17	18	19	24	35	63	96
2	11	12	13	16	23	39	57
5	5.6	6.0	6.5	8.0	11	16	22
10	4.0	4.3	4.6	5.7	7.9	11	13
20	3.0	3.3	3.5	4.4	6.2	8.3	9.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	36	43	51	31	33	45	204	254	377	30	35	50
2	21	25	31	20	21	26	135	167	247	20	22	31
5	8.2	9.7	13	8.7	9.1	10	56	67	100	8.4	9.7	14
10	5.2	6.1	8.5	5.8	6.1	7.0	33	40	60	5.4	6.3	9.5
20	3.6	4.2	6.2	4.3	4.5	5.1	22	26	38	3.8	4.4	7.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1658	983	491	172	102	62	23	20	14	9.5	6.6	4.8
APR.1-SEP.30	2017	1285	717	304	198	124	42	34	22	14	8.1	5.4
JULY 1-AUG.31	1331	736	357	144	103	73	34	28	20	13	8.3	6.4

DES MOINES RIVER NEAR STRATFORD

Location.--Lat 42°15'04", long 93°59'52", in NW1/4 NE1/4 sec.21, T.86 N., R.27 W., Webster County, on right bank 6 ft downstream from bridge on State Highway 175, 0.1 mile downstream from Skillet Creek, 4.0 miles southwest of Stratford, 7.3 miles downstream from Boone River and at mile 276.7.

Remarks.--Slight diurnal fluctuation caused by powerplant at Fort Dodge to 1971. Since 1971 occasional minor regulation caused by dam at Fort Dodge.
Published as 05481500 Des Moines River near Boone, Iowa, 1920-67

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1921		622	653	752	859	1240	1570	1760
1922		170	173	178	181	187	368	875
1923		71	83	96	101	103	160	149
1924		71	82	104	109	172	371	555
1925		100	100	100	102	134	263	470
1926		45	58	65	95	162	408	458
1927		59	60	69	94	143	209	558
1928		86	86	92	96	107	173	219
1929		141	187	268	430	514	732	917
1930		110	110	117	136	187	299	298
1931		60	64	72	96	133	157	178
1932		57	62	74	81	128	188	266
1933		155	155	155	227	293	308	431
1934		40	43	61	74	94	120	141
1935		55	58	65	83	91	112	191
1936		71	71	80	114	153	214	198
1937		43	47	50	56	98	183	423
1938		55	69	82	91	95	173	277
1939		292	302	355	373	580	865	1840
1940		18	19	20	23	35	62	71
1941		43	58	75	133	237	419	553
1942		112	114	133	173	406	1230	1690
1943		147	156	185	224	283	534	1140
1944		273	316	333	373	515	625	808
1945		148	158	172	179	207	314	582
1946		80	81	89	139	184	305	629
1947		187	203	223	292	378	666	682
1948		51	53	65	72	126	198	186
1949		78	84	93	100	113	150	196
1950		40	40	41	46	52	81	103
1951		59	60	68	86	95	160	329
1952		324	424	444	669	774	1010	1620
1953		103	117	126	141	145	151	199
1954		66	67	70	82	100	136	189
1955		187	219	234	246	317	585	992
1956		47	50	51	53	54	63	73

DES MOINES RIVER NEAR STRATFORD--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1957	29	29	34	45	54	67	73
1958	85	91	105	157	216	285	278
1959	33	33	34	36	42	55	66
1960	149	153	160	214	327	365	468
1961	82	83	86	95	107	180	280
1962	250	251	260	323	406	539	701
1963	145	146	152	178	225	382	861
1964	84	87	89	104	124	172	227
1965	163	181	209	267	387	545	1020
1966	279	279	289	334	590	1260	2040
1967	74	101	106	108	119	144	152
1968	46	47	53	68	90	105	131
1969	155	162	175	247	326	755	687
1970	194	197	206	238	245	395	511
1971	153	162	176	198	254	418	543
1972	99	116	131	150	170	409	383
1973	618	689	791	959	1620	2510	2370
1974	301	320	330	406	530	2170	2560
1975	139	139	142	150	157	183	205
1976	119	121	125	128	157	197	215

DRAINAGE AREA: 5452 mi² PERIOD OF RECORD: 56 YEARS AVERAGE DISCHARGE: 1760 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	18	19	20	23	35	55	66
CLIMATIC YEAR	1940	1940	1940	1940	1940	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	133	144	158	192	252	409	591
2	96	104	114	138	177	278	394
5	53	57	63	75	94	136	178
10	40	43	47	56	69	97	119
20	32	34	38	44	55	75	86

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	251	290	356	214	231	285	1303	1521	1992	280	312	416
2	168	193	236	143	155	184	872	1012	1330	185	207	270
5	83	95	114	70	75	86	359	414	557	89	100	128
10	60	68	81	49	53	59	213	246	337	62	71	91
20	47	53	63	38	41	45	134	155	217	47	54	70

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	7028	4622	2632	1074	671	439	189	160	116	84	57	47
APR. 1-SEP. 30	8676	5926	3601	1758	1203	787	311	260	183	113	72	56
JULY 1-AUG. 31	5523	3555	2085	918	655	484	251	209	146	92	57	39

DES MOINES RIVER NEAR SAYLORVILLE

Location.--Lat 41°40'50", long 93°40'07", near center of sec.5, T.79 N., R.24 W., Polk County, near center of span on downstream side of bridge on county highway F42, 2.0 miles west of Saylorville, 2.1 miles downstream from Rock Creek, 2.4 miles upstream from Beaver Creek, and at mile 211.6.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1963	170	170	175	206	250	402	891
1964	99	103	105	117	149	195	255
1965	210	214	236	292	401	580	1190
1966	333	347	357	410	749	1320	2280
1967	77	99	103	109	118	137	147
1968	45	46	52	68	96	115	145
1969	183	185	205	276	395	882	786
1970	220	229	243	284	298	457	595
1971	173	178	190	261	338	500	610
1972	156	166	177	186	199	406	390
1973	795	920	1060	1210	1780	2720	2670
1974	498	519	543	641	839	2700	3010
1975	150	180	188	221	222	249	276
1976	130	134	139	142	180	215	243

DRAINAGE AREA: 5841 mi² PERIOD OF RECORD: 15 YEARS AVERAGE DISCHARGE: 2546 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	45	46	52	68	96	115	145
CLIMATIC YEAR	1968	1968	1968	1968	1968	1968	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	238	251	264	310	395	681	904	
2	173	183	191	224	277	439	580	
5	96	102	108	126	152	201	250	
10	72	78	83	96	117	140	165	
20	57	63	68	80	98	107	119	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	479	571	679	330	350	413	2380	2770	3620	421	460	592
2	310	372	437	221	234	272	1790	2030	2610	316	342	424
5	144	167	193	111	119	139	852	930	1180	170	181	215
10	100	113	128	81	88	105	517	558	718	118	125	148
20	75	82	93	65	70	86	321	345	452	86	90	108

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	10200	6550	3790	1700	1090	659	287	247	187	139	102	86
APR. 1-SEP. 30	12800	8450	5570	2820	2010	1360	521	433	301	221	156	98
JULY 1-AUG. 31	7670	5270	3100	1460	1060	762	470	416	305	251	156	132

BEAVER CREEK NEAR GRIMES

Location.--Lat 41°41'18", long 93°44'08", in SW1/4 SW1/4 sec.35, T.80 N., R.25 W., Polk County, on right bank 6 ft upstream from Northwest 70th Avenue Bridge, 0.5 mile downstream from Little Beaver Creek, 2.5 miles east of Grimes and 6 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1962	8.7	10	12	35	139	188	236	
1963	.57	.64	.69	.75	.88	5.1	6.1	
1964	1.2	2.0	2.1	2.5	3.9	4.6	7.5	
1965	3.0	3.1	3.7	6.4	8.5	12	15	
1966	.70	.74	.83	3.1	21	62	69	
1967	.10	.10	.10	.15	.28	.50	.65	
1968	.28	.34	.48	1.0	1.4	2.3	2.3	
1969	2.9	3.6	5.1	6.3	8.7	42	45	
1970	7.6	12	14	15	19	37	36	
1971	0	.08	.20	2.5	6.0	21	32	
1972	0	0	.01	.19	.26	3.8	4.7	
1973	2.0	5.0	18	47	72	156	193	
1974	31	46	80	101	146	291	339	
1975	4.8	5.2	6.6	7.6	9.7	28	32	
1976	1.6	1.8	1.9	2.1	4.1	12	16	

DRAINAGE AREA: 358 mi² PERIOD OF RECORD: 16 YEARS AVERAGE DISCHARGE: 203 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0.01	0.15	0.26	0.50	0.65
CLIMATIC YEAR	1972	1972	1972	1967	1972	1967	1967

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	3.1	4.0	5.8	8.9	17	41	50	
2	1.5	1.8	2.3	4.0	7.1	19	24	
5	.22	.28	.29	.80	1.4	4.2	5.2	
10	0	.07	.08	.34	.53	1.8	2.3	
20	0	0	.03	.17	.25	.86	1.1	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	14	21	31	18	20	30	133	156	224	5.6	8.5	17
2	5.5	8.8	13	7.7	8.7	13	79	97	145	2.4	3.8	8.3
5	.67	1.2	2.4	1.5	1.7	2.4	22	28	48	.42	.68	1.8
10	.14	.25	1.0	.59	.66	1.0	9.8	13	23	.16	.27	.76
20	0	0	.44	.28	.31	.48	4.5	5.9	11	.07	.12	.37

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	871	542	308	105	60	33	8.0	5.7	2.3	0.81	0.39	0.24
APR. 1-SEP. 30	1060	654	362	161	101	60	14	10	5.2	1.4	.41	.20
JULY 1-AUG. 31	539	327	185	69	45	30	11	8.6	5.1	2.2	.79	.43

05-4820.00

DES MOINES RIVER AT DES MOINES

Location.--Lat 41°36'45", long 93°37'15", in NE1/4 NE1/4 sec.34, T.79 N., R. 24 W., Polk County, on right bank 5 ft upstream from Second Avenue bridge in Des Moines, 1.8 miles upstream from Center Street dam, 2.8 miles upstream from Raccoon River, 4.5 miles downstream from Beaver Creek, and at mile 204.3 upstream from mouth.

Remarks.--Discontinued Sept. 30, 1961.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1916	580	580	698	985	1820	2720	3440
1917	100	100	100	100	111	201	246
1918	70	70	76	83	106	155	217
1919	288	324	340	401	647	888	1220
1920	355	367	375	435	470	837	905
1921	935	1000	1000	1150	1290	1780	1990
1922	200	201	203	208	238	516	1180
1923	53	81	111	158	176	256	259
1924	51	89	120	124	233	471	733
1925	110	113	120	125	180	349	566
1926	105	106	124	134	195	436	497
1927	73	77	91	136	253	371	1050
1928	93	93	96	98	114	247	300
1929	325	445	505	553	672	1230	1420
1930	129	142	145	168	236	391	436
1931	41	41	46	53	75	92	91
1932	41	44	50	60	68	134	209
1933	179	185	188	259	341	363	488
1934	60	61	79	90	118	149	183
1935	59	62	70	95	112	142	218
1936	80	82	98	134	195	366	322
1937	67	68	68	72	133	209	428
1938	80	83	97	124	129	194	297
1939	332	345	393	404	617	911	1960
1940	24	24	26	30	44	71	80
1941	72	84	98	171	294	541	849
1942	154	172	207	263	483	1430	2040
1943	228	241	266	320	403	721	1420
1944	287	351	361	398	555	710	926
1945	183	189	199	219	250	397	766
1946	90	91	101	162	205	353	772
1947	280	287	372	472	592	963	914
1948	100	106	110	130	200	290	271
1949	102	106	112	125	136	179	257
1950	32	37	42	55	84	117	150
1951	58	62	71	94	104	173	324

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1952	490	508	531	812	951	1250	1910
1953	100	129	155	166	175	182	303
1954	72	72	74	86	111	161	213
1955	280	283	293	326	499	833	1380
1956	50	51	54	57	59	65	77
1957	54	54	56	59	60	84	95
1958	92	98	118	181	249	312	312
1959	45	46	48	48	59	94	145
1960	213	222	247	319	414	467	579
1961	120	121	126	134	151	305	455

05-4820.00 DES MOINES RIVER AT DES MOINES--Continued

DRAINAGE AREA: 6245 mi² PERIOD OF RECORD: 46 YEARS AVERAGE DISCHARGE: 1984 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	50	120	183
DISCHARGE, IN ft ³ /s	24	24	26	30	44	65	77
CLIMATIC YEAR	1940	1940	1940	1940	1940	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	153	165	183	221	297	482	707
2	107	115	128	154	204	327	470
5	56	61	68	80	103	156	210
10	42	45	50	58	74	108	138
20	34	36	40	46	58	81	98

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	263	297	394	249	273	342	1527	1773	2319	383	441	587
2	183	204	264	164	178	215	1038	1199	1572	246	282	370
5	97	107	131	76	82	94	431	494	664	110	125	158
10	72	80	95	52	57	63	253	290	400	75	84	104
20	58	64	74	39	42	47	157	180	255	55	61	75

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	7796	5212	3139	1306	852	557	222	186	131	91	63	53
APR. 1-SEP. 30	9585	6450	4138	2119	1452	989	397	330	231	139	80	62
JULY 1-AUG. 31	5779	4103	2642	1194	874	622	315	264	186	109	71	57

BIG CEDAR CREEK NEAR VARINA

Location.--Lat 42°41'16", long 94°47'52", in NE1/4 NE1/4 sec.24, T.91 N., R.34 W., Pochahontas County, on left bank 5 ft downstream from bridge on county highway N33, 2.0 miles downstream from Drainage ditch 21, 3.5 miles upstream from Drainage ditch 74, and 5.5 miles northeast of Varina.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1961	0.11	0.11	0.11	0.15	0.31	1.1	2.1
1962	.70	.80	.83	.89	.92	1.3	1.5
1963	3.5	3.6	3.9	5.0	5.7	8.4	23
1964	0	0	0	0	.12	.62	.88
1965	.90	.93	1.1	1.5	2.0	3.4	7.8
1966	1.3	1.4	1.5	1.8	2.8	13	27
1967	0	0	0	0	0	.10	.31
1968	0	0	0	.02	.08	.25	.39
1969	.34	.40	.73	1.1	1.4	3.1	3.1
1970	1.2	1.3	1.3	1.5	1.6	2.9	4.2
1971	.34	.38	.50	.68	1.0	2.5	2.7
1972	0	0	0	.03	.26	1.5	1.7
1973	6.4	6.7	7.0	9.5	21	29	38
1974	3.7	3.9	5.1	9.1	22	41	74
1975	0	0	0	0	0	.04	.23
1976	0	0	0	0	.07	1.7	1.6

05-4821.70 BIG CEDAR CREEK NEAR VARINA--Continued

DRAINAGE AREA: 80.0 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 34.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0.04	0.24
CLIMATIC YEAR	1976	1976	1976	1976	1975	1975	1975

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.0	1.1	1.4	1.5	1.8	4.5	6.1
2	.39	.43	.52	.47	.71	2.1	2.9
5	0	0	0	0	.09	.39	.71
10	0	0	0	0	0	.16	.36
20	0	0	0	0	0	.07	.21

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.5	3.8	4.7	2.1	2.2	2.1	19	23	35	2.0	2.2	3.1
2	1.2	1.7	1.9	.77	.81	.61	12	15	23	1.2	1.4	1.8
5	.14	.11	.23	0	0	.02	3.6	4.7	6.9	.48	.55	.75
10	0	0	.05	0	0	0	1.6	2.1	3.0	.32	.37	.51
20	0	0	.02	0	0	0	.65	.91	1.4	.24	.27	.39

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	155	83	37	12	6.2	3.8	1.1	0.77	0.38	0.18	0.07	0.03
APR.1-SEP.30	197	111	56	22	14	8.6	2.3	1.8	.94	.54	.36	.30
JULY 1-AUG.31	107	46	20	7.9	5.6	4.1	2.1	1.8	1.3	.72	.43	.34

NORTH RACCOON RIVER NEAR SAC CITY

Location.--Lat 42°20'28", long 94°59'05", in NE1/4 NW1/4 sec.24, T.87 N., R.36 W., Sac County, on right bank 15 ft downstream from bridge on county highway, 0.2 mile upstream from Indian Creek, 0.9 mile downstream from Drainage ditch 73, and 5.6 miles south of Sac City.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	13	15	18	23	30	39	60
1961	8.4	8.6	9.0	10	11	17	28
1962	15	15	16	17	20	34	36
1963	38	38	39	44	51	76	177
1964	5.0	5.2	5.2	6.6	9.5	14	17
1965	9.0	9.8	11	12	13	19	31
1966	12	13	14	17	24	101	204
1967	4.9	5.0	5.2	5.7	7.3	9.0	9.7
1968	2.5	2.7	3.0	4.2	7.8	11	12
1969	11	13	15	23	35	45	51
1970	28	28	29	30	34	54	69
1971	9.8	11	13	14	17	42	59
1972	8.6	9.3	9.8	13	14	34	30
1973	67	71	76	138	262	407	396
1974	126	140	150	201	226	359	637
1975	7.4	7.6	8.1	9.1	11	15	18
1976	18	18	19	19	25	37	37

05-4823.00 NORTH RACCOON RIVER NEAR SAC CITY--Continued

DRAINAGE AREA: 713 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 288 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.5	2.7	3.0	4.2	7.3	9.0	9.7
CLIMATIC YEAR	1968	1968	1968	1968	1967	1967	1967

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	18	19	21	24	30	54	75
2	12	12	13	15	19	33	45
5	5.8	6.0	6.5	7.7	10.0	15	18
10	4.3	4.5	4.8	5.9	7.9	11	13
20	3.5	3.6	3.9	4.9	6.8	9.0	9.7

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	34	43	53	28	29	33	156	195	274	29	32	46
2	20	25	30	16	17	19	103	127	185	19	21	29
5	7.5	8.9	11	5.5	5.8	6.6	41	51	77	9.3	10	13
10	4.8	5.4	7.2	3.1	3.3	3.8	25	31	46	6.7	7.5	9.1
20	3.5	3.7	5.0	1.9	2.1	2.5	16	20	29	5.3	5.8	7.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1229	730	366	126	72	45	19	16	12	8.3	4.9	2.9
APR. 1-SEP. 30	1535	955	525	218	145	90	32	27	18	14	9.6	7.3
JULY 1-AUG. 31	1000	561	231	84	59	45	26	22	17	13	10	8.0

NORTH RACCOON RIVER NEAR JEFFERSON

Location.--Lat 41°59'17", long 94°22'36", in SW1/4 NW1/4 sec.20, T.83 N., R.30 W., Greene County, on right bank 5 ft downstream from bridge on State Highway 4, 0.1 mile downstream from Drainage ditches 33, and 40, 1.9 miles south of Jefferson, and 4.2 miles upstream from Hardin Creek.

Remarks.--Published as "Raccoon River near Jefferson", 1940-55.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	28	28	32	51	90	215	290
1942	28	29	30	34	48	89	216
1943	36	38	45	62	80	123	183
1944	73	75	78	93	125	170	205
1945	63	67	69	75	91	118	208
1946	40	41	48	75	96	114	253
1947	30	32	43	68	92	136	126
1948	25	25	26	38	50	84	80
1949	13	18	20	24	33	46	63
1950	12	12	13	15	22	34	57
1951	18	18	19	21	24	34	56
1952	230	230	240	298	371	588	810
1953	36	41	52	61	62	68	87
1954	16	16	17	19	25	31	37
1955	90	91	92	106	164	286	530
1956	13	14	14	15	15	17	17
1957	.77	.91	1.2	3.2	9.3	13	18
1958	26	27	31	40	50	78	134
1959	12	12	12	13	14	22	32
1960	42	47	49	59	63	83	122
1961	24	25	25	30	34	52	75
1962	103	105	111	122	152	232	229
1963	71	71	74	84	102	150	312
1964	23	24	24	27	33	42	49
1965	22	24	27	29	31	43	55
1966	43	43	43	47	75	304	575
1967	21	22	23	24	27	32	34
1968	15	16	18	24	36	43	48
1969	49	54	63	84	106	215	197
1970	69	70	73	81	93	138	171
1971	36	38	41	46	59	120	150
1972	26	28	29	32	35	55	62
1973	168	177	184	278	727	1010	1010
1974	464	480	504	606	678	1210	1760
1975	30	30	32	35	42	55	65
1976	40	41	42	47	57	79	84

05-4825.00 NORTH RACCOON RIVER NEAR JEFFERSON--Continued

DRAINAGE AREA: 1619 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 671 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.77	0.92	1.2	3.2	9.3	13	17
CLIMATIC YEAR	1957	1957	1957	1957	1957	1957	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	57	59	62	69	83	134	186
2	37	39	41	45	54	85	115
5	14	15	17	20	26	38	49
10	8.3	8.9	9.9	14	19	26	32
20	5.1	5.6	6.3	10	15	20	24

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	99	108	126	74	79	102	393	478	651	97	102	127
2	60	66	77	47	50	62	264	313	421	62	65	81
5	21	25	30	21	22	26	109	125	169	26	29	37
10	11	15	19	15	16	18	65	73	101	16	19	26
20	6.5	10	13	11	12	13	41	46	65	11	14	20

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2777	1698	909	343	214	135	57	48	35	25	16	13
APR. 1-SEP. 30	3602	2302	1305	574	391	245	89	73	50	34	16	8.9
JULY 1-AUG. 31	2402	1465	816	310	214	157	80	67	48	30	11	8.2

EAST FORK HARDIN CREEK NEAR CHURDAN

Location.--Lat 42°06'27", long 94°22'12", in SE1/4 SW1/4 sec.5, T.84 N., R.30 W., Greene County, on left bank 35 ft upstream from bridge on county highway E26, 1.6 miles upstream from small left-bank tributary, 4.4 miles upstream from mouth, and 6.5 miles southeast of Churdan.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1954	0	0	0	0	0	0	0	
1955	0	.01	.07	.25	1.5	4.9	13	
1956	0	0	0	0	0	0	0	
1957	0	0	0	0	0	.02	.02	
1958	0	0	.03	.14	.23	.55	1.8	
1959	0	0	0	0	0	.03	.16	
1960	0	0	0	.02	.05	.07	.08	
1961	0	0	0	0	.03	.20	.37	
1962	.43	.50	.58	1.1	1.5	3.1	5.4	
1963	0	0	0	.02	.06	.16	.36	
1964	0	0	0	0	.03	.04	.10	
1965	0	0	0	0	.01	.02	.08	
1966	.10	.13	.14	.17	.29	2.8	7.2	
1967	0	0	0	0	0	.03	.03	
1968	0	0	0	.01	.04	.04	.06	
1969	.07	.13	.17	.38	.61	2.6	2.6	
1970	.36	.38	.39	.44	.54	.68	.77	
1971	.01	.01	.02	.02	.06	.38	1.4	
1972	0	0	0	0	0	.07	.07	
1973	.72	.75	1.0	2.8	5.6	11	14	
1974	1.9	2.5	2.9	4.4	9.2	16	22	
1975	0	0	0	.01	.12	.30	.28	
1976	0	0	0	0	0	.03	.03	

05-4830.00 EAST FORK HARDIN CREEK NEAR CHURDAN--Continued

DRAINAGE AREA: 24.0 mi² PERIOD OF RECORD: 24 YEARS AVERAGE DISCHARGE: 9.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1976	1976	1976	1976	1976	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0	0.01	0.05	0.09	0.21	0.51	0.94
2	0	0	0	.02	.07	.18	.33
5	0	0	0	0	0	.02	.04
10	0	0	0	0	0	.01	.01
20	0	0	0	0	0	0	0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.21	0.40	0.55	0.56	0.27	0.24	4.7	6.1	9.6	0.18	0.23	0.32
2	0	.08	.14	0	0	.02	2.3	3.1	5.2	.06	.08	.12
5	0	0	0	0	0	0	.25	.45	1.0	0	0	0
10	0	0	0	0	0	0	.02	.05	.31	0	0	0
20	0	0	0	0	0	0	0	0	.10	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	43	24	12	3.3	1.3	0.46	0.13	0.10	0.06	0.03	0.01	0.01
APR.1-SEP.30	55	29	16	6.0	3.2	1.5	.26	.20	.11	.05	.02	.01
JULY 1-AUG.31	31	15	6.5	1.8	1.2	.62	.22	.17	.10	.05	.02	.01

MIDDLE RACCOON RIVER AT PANORA

Location.--Lat 41°41'14", long 94°22'15", in NE1/4 NW1/4 sec.5, T.79 N., R.30 W., Guthrie County, on left bank 15 ft downstream from bridge on county highway, 0.2 miles southwest of Panora, 1.5 miles upstream from Andy's Branch, and 1.7 miles downstream from Lake Panorama.

Remarks.--City of Panora diverts approximately 100 acre-ft/yr upstream of station. Flow regulated by dam on Lake Panora since August 1970.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	17	18	21	24	26	30	33
1961	20	21	21	26	27	35	43
1962	43	58	62	84	96	134	138
1963	18	22	27	29	30	39	50
1964	21	21	22	25	31	36	40
1965	18	20	23	27	31	33	40
1966	23	24	24	30	42	109	163
1967	19	19	20	21	24	26	27
1968	10	10	11	14	20	23	26
1969	22	25	27	34	40	71	70
1970	26	27	28	28	33	41	49

05-4836.00 MIDDLE RACCOON RIVER AT PANORA--Continued

DRAINAGE AREA: 440 mi² PERIOD OF RECORD: 12 YEARS AVERAGE DISCHARGE: 180 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	50	120	183
DISCHARGE, IN ft ³ /s	10	10	11	14	20	23	26
CLIMATIC YEAR	1968	1968	1968	1968	1968	1968	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	23	25	27	31	35	52	60
2	20	21	23	26	30	40	46
5	15	16	17	20	24	27	31
10	13	14	15	18	22	23	26
20	12	12	14	17	22	21	23

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	35	43	48	36	38	42	104	127	166	38	41	54
2	27	32	37	28	30	33	78	95	128	32	35	44
5	19	21	24	17	19	23	40	48	66	24	25	30
10	17	18	20	14	15	19	27	31	42	21	22	24
20	16	16	18	11	13	17	19	21	28	19	19	20

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	678	357	198	92	64	47	32	30	26	22	18	16
APR. 1-SEP. 30	859	484	273	141	103	74	40	36	30	25	21	19
JULY 1-AUG. 31	410	261	162	85	70	58	36	33	29	24	21	19

MIDDLE RACCOON RIVER AT PANORA--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1971	4.9	5.8	6.4	6.9	6.9	9.6	14
1972	12	13	17	20	21	23	39
1973	31	32	33	59	134	165	272
1974	57	84	111	125	246	297	371
1975	42	43	45	53	56	65	72
1976	33	33	33	34	43	71	68

05-4836.00 MIDDLE RACCOON RIVER AT PANORA--Continued, regulated period

DRAINAGE AREA: 440 mi² PERIOD OF RECORD: 6 YEARS AVERAGE DISCHARGE: 303 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	4.9	5.8	6.4	6.9	6.9	9.6	14
CLIMATIC YEAR	1971	1971	1971	1971	1971	1971	1971

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	38	42	46	58	87	113	138
2	27	28	31	39	51	66	81
5	12	12	13	16	17	22	29
10	7	7	8	9	9	12	16
20	4.1	4.7	5.4	5.7	5.2	6.9	10

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	62	67	89	92	98	111	165	215	343	49	54	64
2	38	41	51	54	56	59	105	130	224	39	41	49
5	15	15	17	16	17	17	41	44	82	22	25	29
10	9.0	9.1	9.3	8.2	8.7	8.7	24	24	44	16	19	22
20	5.9	6.0	5.7	4.5	4.8	5.0	15	14	25	12	15	17

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1173	704	405	198	106	64	32	29	24	16	7.6	6.9
APR.1-SEP.30	1351	849	479	220	150	87	36	32	28	24	21	20
JULY 1-AUG.31	582	317	211	96	70	54	30	28	25	23	21	21

SOUTH RACCOON RIVER AT REDFIELD

Location.--Lat 41°34'48", long 94°10'58", in SW1/4 SW14/ sec.3, T.78 N., R.29 W., Dallas County, on left bank 15 ft downstream from bridge on county highway at Redfield, 0.8 mile downstream from bridge on U.S. Highway 6, 1.0 mile downstream from Middle Raccoon River, and 15.6 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	31	33	48	54	92	140	175
1943	26	27	33	49	64	84	178
1944	32	36	38	46	66	82	117
1945	55	63	71	76	91	98	138
1946	40	41	46	60	78	103	192
1947	102	106	121	129	165	266	348
1948	30	31	37	48	71	109	100
1949	29	34	37	41	45	65	91
1950	25	25	26	29	36	52	77
1951	36	37	38	43	44	49	58
1952	140	144	154	185	203	275	375
1953	67	79	87	91	100	109	183
1954	20	20	21	31	40	50	53
1955	35	36	37	42	81	133	202
1956	21	23	24	27	33	33	34
1957	31	36	36	44	54	75	79
1958	44	46	51	68	84	111	156
1959	45	45	45	48	51	65	139
1960	49	50	57	74	75	89	102
1961	46	47	50	63	63	83	119
1962	104	117	125	180	231	320	329
1963	39	48	60	68	71	92	114
1964	47	48	48	57	71	80	87
1965	48	53	64	69	80	87	136
1966	53	54	57	70	102	250	337
1967	42	46	50	51	57	59	60
1968	23	24	26	34	47	54	60
1969	26	37	41	56	79	110	120
1970	62	63	65	66	77	101	120
1971	26	27	28	31	46	83	79
1972	36	36	38	43	50	64	74
1973	74	75	77	158	413	456	533
1974	197	240	266	282	501	595	728
1975	73	74	75	80	103	125	143
1976	99	101	105	108	141	170	186

05-4840.00 SOUTH RACCOON RIVER AT REDFIELD--Continued

DRAINAGE AREA: 988 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 450 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	20	20	21	27	33	33	34
CLIMATIC YEAR	1954	1954	1954	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	53	56	62	73	93	127	172
2	42	44	48	58	71	96	128
5	28	30	32	39	48	61	75
10	24	25	28	33	42	50	59
20	21	23	25	30	38	44	49

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	76	90	109	80	89	114	255	297	415	90	101	137
2	58	68	81	59	65	80	179	205	281	70	78	102
5	39	44	50	35	38	45	88	98	130	44	48	59
10	33	36	41	28	29	35	60	67	86	35	38	45
20	30	32	36	23	24	29	43	48	61	29	31	36

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1623	993	558	244	166	121	72	64	52	42	33	29
APR. 1-SEP. 30	2015	1256	732	354	257	184	94	82	62	48	39	34
JULY 1-AUG. 31	1314	740	454	238	181	142	81	72	57	45	37	32

RACCOON RIVER AT VAN METER

Location.--Lat 41°32'02", long 93°56'59", in SW1/4 SW1/4 sec.22, T.78 N., R.27 W., Dallas County, on right bank 10 ft downstream from bridge on county highway R16, 0.3 mile northeast of Van Meter, 0.7 mile upstream from small left bank tributary, 1.2 miles downstream from confluence of North and South Raccoon River, and 30 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1917	53	53	53	53	60	108	125
1918	42	42	44	46	57	107	191
1919	39	41	43	58	77	164	208
1920	82	90	95	130	272	786	860
1921	285	290	303	350	528	627	721
1922	150	150	150	157	173	402	789
1923	150	160	160	164	191	294	290
1924	94	94	94	94	265	564	1270
1925	100	100	100	100	139	245	392
1926	56	56	63	77	110	186	228
1927	76	84	106	109	192	461	1060
1928	40	40	46	61	71	132	207
1929	107	127	138	287	480	864	868
1930	92	100	101	130	152	195	186
1931	70	70	70	70	81	91	93
1932	95	98	112	127	166	340	350
1933	118	128	135	209	238	276	350
1934	45	48	56	64	85	103	142
1935	23	25	27	33	52	96	120
1936	50	50	50	60	118	206	189
1937	17	19	20	21	40	71	112
1938	23	24	25	30	34	44	82
1939	100	111	133	220	261	368	799
1940	10	10	11	14	24	40	42
1941	35	48	63	104	176	394	549
1942	80	89	126	187	208	393	724
1943	119	127	138	204	236	331	601
1944	140	157	170	197	283	342	464
1945	177	190	196	222	263	297	449
1946	80	83	89	130	193	265	655
1947	163	186	252	286	368	645	799
1948	63	66	77	102	151	227	213
1949	62	63	70	80	94	136	185
1950	35	36	37	45	65	102	153
1951	52	53	57	66	71	97	136
1952	443	459	492	599	706	1110	1540
1953	117	134	159	176	190	198	330

RACCOON RIVER AT VAN METER--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	45	45	47	56	76	98	114
1955	190	190	192	217	340	686	1110
1956	42	44	46	49	52	57	61
1957	35	36	38	58	85	112	123
1958	99	105	116	152	165	226	333
1959	70	71	73	79	92	125	283
1960	111	117	134	165	166	221	279
1961	100	101	106	126	132	195	299
1962	320	343	360	479	706	934	917
1963	170	170	174	203	226	319	766
1964	91	93	98	107	125	150	171
1965	91	107	152	166	189	190	259
1966	139	143	145	165	244	726	1160
1967	71	72	76	83	94	108	113
1968	50	51	55	70	94	107	125
1969	78	109	142	212	286	475	441
1970	189	193	202	212	242	335	385
1971	100	104	109	123	162	281	311
1972	83	87	89	95	99	156	161
1973	351	365	393	531	1590	2000	2100
1974	939	1050	1050	1400	1520	2280	3060
1975	178	179	180	187	209	246	269
1976	143	199	205	211	266	309	368

DRAINAGE AREA: 3441 mi² PERIOD OF RECORD: 61 YEARS AVERAGE DISCHARGE: 1309 ft³ /s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	10	10	11	14	24	40	42
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	118	127	139	168	216	338	472	
2	84	90	99	118	151	232	319	
5	44	46	50	60	78	116	150	
10	32	33	36	43	57	83	104	
20	24	26	27	32	46	64	77	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	203	231	291	206	221	281	783	906	1263	228	261	362
2	137	156	196	134	143	174	524	600	827	155	177	242
5	68	77	97	59	62	72	222	256	347	73	84	111
10	49	55	69	39	41	47	136	160	215	50	57	75
20	37	43	53	27	29	34	89	108	144	36	41	54

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	5287	3355	1840	767	505	337	161	136	100	68	47	37
APR. 1-SEP. 30	6389	4147	2451	1165	796	534	235	196	138	100	66	47
JULY 1-AUG. 31	4156	2606	1502	648	473	359	190	163	122	90	51	30

05-4848.00

WALNUT CREEK AT DES MOINES

Location.--Lat 41°35'14", long 93°42'11", in SW1/4 SE1/4 sec.2, T.78 N., R.25 W., Polk County, on left bank, 25 ft downstream from bridge on 63rd Street in Des Moines, and 2.2 miles upstream from Raccoon River.

Drainage area.--78.4 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1973		4.9	5.4	5.9	14	28	40	43
1974		7.4	10	12	16	33	75	82
1975		.93	1.1	1.6	2.3	3.5	8.3	9.3
1976		2.1	5.1	6.2	7.8	9.9	15	21

Qa=

Q(84)= 0.4

Q(7,2)= 0.2

Q(7,10)= 0

05-4855.00

DES MOINES RIVER BELOW RACCOON RIVER AT DES MOINES

Location.--Lat 41°34'30", long 93°35'48", in NE1/4 SE1/4 sec.10, T.78 N., R.24 W., Polk County, on right bank 10 ft downstream from bridge on Southeast 14th Street at Des Moines, 0.8 mile downstream from Raccoon River and Scott Street Dam, and at mile 200.7.

Remarks.--Des Moines municipal water supply is taken from infiltration galleries on Raccoon River, 3.5 miles above station. Average daily pumpage since 1963 was about 50 cfs. At times, water is pumped from Raccoon River into recharge basins, or into Waterworks Reservoir (capacity, 4,800 acre-ft). Effluent from sewage treatment plant enters the river 2.3 miles downstream from station. Net effect of diversions not known.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1941		85	103	144	275	516	953	1450
1942		227	260	345	496	720	1910	2830
1943		393	410	463	550	675	1260	2220
1944		480	542	562	614	872	1080	1430
1945		400	407	425	452	528	705	1240
1946		272	283	308	369	492	713	1600
1947		483	557	757	887	1010	1720	1990
1948		149	157	163	218	346	532	501
1949		152	156	162	173	210	310	461
1950		80	84	91	108	134	215	306
1951		120	120	126	155	174	270	468
1952		920	977	1090	1480	1730	2420	3550
1953		215	261	320	366	378	392	685
1954		110	110	113	132	175	246	318
1955		500	506	519	582	894	1620	2540
1956		77	80	83	88	95	108	127
1957		56	60	64	85	125	143	170
1958		217	239	288	354	436	535	672
1959		109	110	110	115	138	215	455
1960		287	333	373	556	562	700	896
1961		245	249	260	305	317	526	754
1962		707	898	977	1240	1470	2130	2310
1963		300	304	316	371	459	814	1670
1964		190	190	194	221	269	356	439
1965		320	340	459	553	639	865	1600
1966		456	466	483	541	959	2060	3470
1967		145	160	168	184	214	245	259
1968		70	74	83	115	176	210	269
1969		252	279	320	519	746	1450	1280
1970		421	444	481	523	576	818	1040
1971		346	366	376	444	534	809	955
1972		211	223	234	251	272	571	567
1973		1490	1550	1630	1860	3560	4870	5290

DES MOINES RIVER BELOW RACCOON RIVER AT DES MOINES--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	182
1974	1100	1750	1880	2010	3110	5860	6880
1975	350	377	408	457	465	510	568
1976	277	316	345	373	469	536	656

05-4855.00 DES MOINES RIVER BELOW RACCOON RIVER AT DES MOINES--Continued

DRAINAGE AREA: 9879 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 4079 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	56	60	64	85	95	108	127
CLIMATIC YEAR	1957	1957	1957	1957	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	347	377	419	505	641	999	1410
2	248	264	293	355	440	662	936
5	129	135	148	180	221	305	416
10	93	98	106	128	159	209	275
20	71	76	81	98	123	155	196

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	593	692	839	549	593	747	3360	3860	5020	763	853	1130
2	386	447	534	363	388	471	2310	2630	3430	510	571	770
5	181	206	238	167	178	206	975	1110	1500	237	269	380
10	127	143	162	113	121	139	579	667	936	160	184	269
20	97	108	120	83	89	102	362	421	618	117	136	205

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	15800	10400	6010	2700	1700	1100	474	399	286	187	122	103
APR. 1-SEP. 30	20200	13800	8520	4460	3330	2230	899	740	501	332	210	152
JULY 1-AUG. 31	12700	8780	5510	2770	2010	1490	797	683	512	368	243	183

05-4856.40

FOURMILE CREEK AT DES MOINES

Location.--Lat 41°36'50", long 93°32'43", in NE1/4 NE1/4 sec.32, T.79 N., R.23 W., Polk County, on right bank 20 ft downstream from bridge on Easton Blvd., 4.4 miles downstream from Muchikinock Creek and 5.0 miles upstream from Des Moines River.

Drainage area.--92.6 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1973		0.70	0.90	1.9	16	25	35	47
1974		7.0	10	22	27	34	81	94
1975		1.5	1.7	2.1	3.2	4.0	8.7	12
1976		1.9	2.1	2.4	3.3	3.8	5.5	6.2

Qa= 48

Q(84)= 0.5

7Q2= 0.3

7Q10= *

NORTH RIVER NEAR NORWALK

Location.--Lat 41°27'25", long 93°39'10", in NW1/4 SW1/4 sec.20, T.77 N.,
R.24 W., Warren County, on left bank 10 ft downstream from bridge on county
highway R57, 1.7 miles southeast of Norwalk, 5.2 miles upstream from Middle
Creek, and 6.2 miles downstream from Badger Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	0.20	0.27	0.55	1.5	12	73	92
1943	17	18	18	24	41	59	92
1944	2.0	2.2	3.0	3.9	7.8	13	26
1945	9.7	10	13	20	27	31	50
1946	1.0	1.0	1.2	4.1	11	13	26
1947	10.0	11	14	21	45	99	205
1948	2.0	2.2	2.6	4.3	12	24	27
1949	.57	.81	.91	1.1	2.1	18	31
1950	.10	.10	.10	.21	.56	1.3	5.4
1951	.27	.33	.36	.66	1.3	1.5	2.4
1952	9.9	13	20	24	32	41	55
1953	2.2	2.5	2.9	4.2	7.4	20	47
1954	.20	.20	.20	.23	.29	.54	.91
1955	0	0	0	.12	6.1	17	44
1956	0	0	.02	.10	.28	.35	2.8
1957	0	0	0	.19	2.7	5.3	8.2
1958	0	0	0	0	.26	.77	3.6
1959	1.5	2.3	3.4	7.0	8.1	15	44
1960	3.7	4.4	7.2	19	22	46	63
1961	4.9	5.2	8.6	13	15	30	54
1962	3.2	4.2	4.8	9.7	39	137	187
1963	1.8	2.0	3.2	6.7	7.2	13	12
1964	.47	.67	.77	1.2	1.4	3.0	5.1
1965	9.4	11	13	16	17	26	55
1966	4.5	4.6	5.4	9.1	19	46	59
1967	.20	.21	.23	.38	.61	1.1	1.9
1968	.10	.10	.14	.31	.46	1.1	1.6
1969	.04	.06	.13	.18	.28	.37	1.7
1970	7.3	7.6	8.1	11	17	28	34
1971	3.5	4.2	5.6	7.5	22	53	102
1972	.28	.30	.32	.48	1.1	10	10
1973	16	18	21	47	80	120	243
1974	38	47	51	60	103	235	244
1975	4.3	4.6	5.0	6.4	7.7	20	27
1976	5.9	6.2	6.9	9.2	15	28	31

05-4860.00 NORTH RIVER NEAR NORWALK--Continued

DRAINAGE AREA: 349 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 180 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.26	0.36	0.92
CLIMATIC YEAR	1958	1958	1958	1958	1958	1956	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	3.4	3.9	4.9	7.2	14	31	49
2	1.5	1.7	2.1	3.2	6.8	15	25
5	.17	.20	.24	.54	1.5	3.1	6.4
10	0	0	.02	.17	.57	1.2	2.9
20	0	0	0	.05	.26	.49	1.5

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	10	12	18	17	20	40	59	80	139	6.0	7.7	15
2	3.8	4.7	7.1	8.4	9.8	19	32	43	78	2.7	3.3	7.2
5	.41	.58	1.2	1.9	2.2	4.1	7.2	10	21	.30	.42	1.4
10	.08	.16	.40	.84	1.0	1.7	2.9	4.3	9.5	0	.10	.51
20	0	.04	.17	.42	.48	.80	1.2	1.9	4.6	0	.02	.21

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	828	416	199	62	37	22	5.6	3.9	1.4	0.51	0.19	0.09
APR.1-SEP.30	1048	486	250	87	54	32	8.5	6.0	2.3	.59	.20	.10
JULY 1-AUG.31	472	235	107	39	25	17	5.8	4.1	1.5	.31	.13	.06

Location.--Lat 41°25'27", Long 93°35'09", 1n SW1/4 SE1/4 sec.35, T.77 N., R.24 W., Warren County, Hydrologic Unit 07100008, on right bank 10 ft downstream from bridge on county highway, 0.4 mile upstream from Cavitt Creek, 1.5 miles upstream from bridge on U.S. Highway 69, and 4.6 miles northwest of Indianola.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	11	12	13	17	32	178	222
1943	27	32	39	44	58	74	110
1944	3.7	6.3	8.9	14	18	27	39
1945	13	17	24	35	45	55	117
1946	2.0	2.2	2.5	6.4	16	20	47
1947	30	31	34	38	71	137	224
1948	4.7	5.0	5.5	6.9	17	33	38
1949	3.0	3.1	4.3	7.3	15	33	43
1950	4.6	4.8	5.2	6.5	8.5	9.8	19
1951	3.4	3.4	3.5	3.7	3.9	5.5	9.2
1952	15	19	29	42	52	61	74
1953	16	16	17	19	20	42	83
1954	1.7	1.8	1.9	2.2	3.1	4.5	5.5
1955	8.0	9.0	9.3	10	14	27	51
1956	1.2	1.3	1.4	1.6	1.8	2.2	6.9
1957	1.0	1.1	1.2	2.3	5.9	7.9	9.1
1958	1.6	1.8	2.3	4.4	7.6	9.3	14
1959	11	12	13	14	15	29	101
1960	17	18	20	34	48	56	83
1961	11	11	13	16	17	36	72
1962	23	25	29	33	52	148	225
1963	8.0	8.1	8.3	9.3	10	17	20
1964	1.8	1.9	2.1	2.7	3.9	6.2	9.3
1965	26	28	31	34	37	62	155
1966	17	18	20	27	51	121	135
1967	3.4	3.6	3.8	3.8	5.2	6.2	7.5
1968	.80	.88	1.7	4.5	5.1	5.9	8.7
1969	.74	.85	1.1	1.7	3.0	4.7	6.7
1970	13	13	14	20	39	69	80
1971	12	13	15	18	60	142	134
1972	3.3	3.6	3.7	4.4	7.0	20	21
1973	26	27	29	74	179	228	438
1974	46	57	63	80	133	284	395
1975	12	13	13	15	16	27	33
1976	11	11	12	12	17	24	27

DRAINAGE AREA: 503 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 257 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.75	0.86	1.1	1.6	1.8	2.2	5.5
CLIMATIC YEAR	1969	1969	1969	1956	1956	1956	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	11	13	14	18	28	51	77
2	7.2	7.8	8.8	12	17	30	45
5	2.6	2.8	3.3	4.6	6.6	10	15
10	1.5	1.6	1.9	2.8	4.0	5.6	8.7
20	.89	1.0	1.2	1.8	2.7	3.5	5.4

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	19	23	31	26	30	56	97	129	215	21	25	37
2	10	12	17	14	16	29	63	83	133	14	16	24
5	3.3	3.9	6.1	4.4	5.0	8.1	22	29	46	5.7	6.8	10
10	1.9	2.2	3.7	2.4	2.8	4.2	12	15	24	3.3	4.1	6.4
20	1.2	1.4	2.5	1.5	1.7	2.5	6.5	7.9	14	2.1	2.6	4.6

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1067	564	270	99	64	41	14	11	7.0	4.3	2.5	1.1
APR. 1-SEP. 30	1330	697	331	137	91	62	24	19	12	7.0	3.8	1.2
JULY 1-AUG. 31	603	297	156	71	52	39	20	17	12	7.4	4.2	1.2

SOUTH RIVER NEAR ACKWORTH

Location.--Lat 41°20'14", long 93°29'10", in SE1/4 SE1/4 sec.34, T.76 N., R.23 W., Warren County, on right bank 15 ft downstream from bridge on county highway, 0.5 mile downstream from Otter Creek, and 2.2 miles southwest of Ackworth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	1.4	1.8	2.8	3.4	13	132	160
1943	9.4	10	13	15	34	44	58
1944	2.0	2.0	2.5	2.7	4.8	6.9	16
1945	7.0	7.7	8.7	19	23	44	68
1946	4.0	4.0	4.6	5.7	9.6	16	24
1947	5.4	7.0	10	19	45	85	104
1948	2.0	2.0	2.4	3.4	6.0	15	24
1949	1.4	1.8	2.0	2.5	8.0	11	17
1950	1.5	1.7	1.9	2.4	3.4	4.3	11
1951	1.6	1.6	1.7	1.8	2.0	2.2	2.9
1952	4.9	5.2	5.3	8.0	17	37	65
1953	4.5	4.8	5.3	5.5	5.9	72	99
1954	1.3	1.4	1.5	1.6	2.2	3.1	3.6
1955	2.0	2.1	2.3	3.0	3.1	3.2	13
1956	.60	.64	.71	.81	.94	1.4	2.9
1957	0	0	0	.02	.41	.73	2.0
1958	.53	.69	.75	1.0	1.4	1.6	1.8
1959	.87	.93	1.1	1.4	2.2	9.0	8.4
1960	8.2	8.6	9.6	21	71	136	179
1961	12	13	15	23	25	68	162
1962	5.0	5.9	7.5	17	36	96	165
1963	4.5	4.5	4.9	7.5	10	17	25
1964	1.8	2.1	2.3	2.7	3.1	3.5	4.0
1965	2.6	3.2	3.6	4.6	16	24	73
1966	5.1	5.5	6.0	6.3	13	142	155
1967	2.1	2.4	2.5	3.0	3.7	4.0	10
1968	.84	.85	1.5	4.3	4.5	5.1	7.8
1969	.60	1.0	1.6	2.0	2.5	4.3	6.1
1970	13	14	14	20	46	72	114
1971	4.0	4.6	6.0	6.7	18	138	223
1972	2.0	2.4	2.8	3.3	4.9	8.6	20
1973	8.0	8.2	9.3	23	85	189	319
1974	18	26	33	49	142	256	444
1975	6.0	6.5	6.7	7.6	9.0	17	26
1976	4.0	4.2	4.4	5.4	6.8	11	18

05-4874.70 SOUTH RIVER NEAR ACKWORTH--Continued

DRAINAGE AREA: 460 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 244 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.02	0.42	0.74	1.8
CLIMATIC YEAR	1957	1957	1957	1957	1957	1957	1958

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	4.4	4.7	5.5	8.3	15	35	57	
2	2.9	3.2	3.7	5.3	8.3	17	29	
5	1.3	1.4	1.7	2.2	2.8	4.4	7.7	
10	.76	.89	1.1	1.3	1.6	2.2	3.8	
20	.44	.55	.68	.80	1.0	1.2	2.1	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
DON, CHECK THESE COLUMNS TO MAKE SURE NONE OF THE OTHER NUMBERS GOT CHANGED ACCIDENTALLY.												
1.5	10	14	18	16	21	45	38	60	160	5.9	7.2	11
2	5.5	7.3	9.0	8.2	10	21	23	36	91	4.1	5.0	7.3
5	1.7	2.1	2.4	2.3	2.6	4.8	7.3	11	24	2.0	2.5	3.2
10	.91	1.1	1.3	1.2	1.3	2.2	3.7	5.4	11	1.3	1.7	2.2
20	.49	.66	.71	.67	.71	1.1	2.0	2.9	5.2	.77	1.3	1.7

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1066	449	182	59	33	18	4.8	4.0	2.6	1.7	1.0	0.6
APR.1-SEP.30	1332	532	207	69	39	23	7.3	5.9	3.9	2.2	1.2	.7
JULY 1-AUG.31	371	147	64	24	17	12	5.7	4.8	3.5	2.0	1.2	.9

WHITE BREAST CREEK NEAR DALLAS

Location.--Lat 41°14'41", long 93°16'08", in NW1/4 NW1/4 sec.3, T.74 N., R.21 W., Marion County on left bank 15 ft downstream from bridge on county highway, 0.5 mile downstream from Kirk Branch, and 1.7 miles northwest of Dallas.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1964	0.50	0.62	0.71	0.80	1.1	1.2	1.8
1965	2.1	2.2	2.3	2.7	14	24	53
1966	1.4	1.6	1.9	2.4	7.9	72	107
1967	.50	.50	.58	1.2	1.6	2.3	4.7
1968	.40	.53	1.4	1.9	2.8	7.8	10
1969	.09	.21	.38	.58	1.3	2.0	4.0
1970	9.0	9.7	9.9	14	23	52	81
1971	2.1	2.5	2.9	4.9	16	99	147
1972	.14	.15	.27	.70	1.9	2.8	12
1973	2.3	2.6	3.1	6.6	39	141	225
1974	18	22	24	43	180	263	422
1975	2.6	2.7	2.9	4.9	6.1	15	36
1976	1.2	1.6	2.0	3.2	3.5	9.2	36

05-4879.80 WHITE BREAST CREEK NEAR DALLAS--Continued

DRAINAGE AREA: 342 mi² PERIOD OF RECORD: 14 YEARS AVERAGE DISCHARGE: 189 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.09	0.15	0.27	0.58	1.1	1.2	1.8
CLIMATIC YEAR	1969	1972	1972	1969	1964	1964	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.3	2.5	3.0	4.6	11	35	69
2	1.2	1.4	1.7	2.7	5.7	16	34
5	.33	.42	.63	1.1	1.9	3.6	7.8
10	.17	.24	.40	.67	1.2	1.7	3.6
20	.10	.15	.28	.49	.78	.87	1.8

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	9.0	12	17	13	14	47	20	33	99	3.0	3.4	7.8
2	4.4	5.7	8.9	5.9	6.9	25	13	21	62	1.9	2.2	4.1
5	.95	1.3	2.3	1.4	1.9	6.3	5.3	8.9	24	.79	1.1	1.6
10	.40	.52	1.1	.68	.95	3.0	3.4	5.7	14	.53	.83	1.1
20	.19	.25	.54	.38	.57	1.6	2.3	3.9	9.3	.39	.70	.77

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	892	375	157	51	30	17	4.4	3.4	1.9	1.2	0.74	0.55
APR.1-SEP.30	1255	508	177	57	34	19	4.5	3.6	2.3	1.6	1.0	.71
JULY 1-AUG.31	330	135	43	14	8.9	5.7	2.8	2.5	2.0	1.5	.93	.70

WHITE BREAST CREEK NEAR KNOXVILLE

Location.--Lat 42°19'25", long 93°08'55", in NE1/4 SW1/4 sec.3, T.75 N., R.20 W., Marian County, on right bank 10 ft downstream from bridge on State Highway 92, 1.1 miles upstream from Butcher Creek, 2.2 miles west of Knoxville, and 11.1 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	3.0	3.6	6.4	14	31	57	65
1948	2.0	2.0	2.0	2.6	4.1	6.1	14
1949	1.2	1.4	1.8	1.9	6.2	8.3	13
1950	1.1	1.1	1.2	1.7	2.9	4.2	6.3
1951	1.3	1.3	1.4	1.5	1.7	2.0	4.1
1952	6.1	6.9	7.9	8.6	13	34	47
1953	2.4	2.7	2.8	3.1	3.3	27	82
1954	.70	.80	.90	1.0	1.2	1.9	1.9
1955	1.1	1.1	1.2	1.3	2.0	5.1	22
1956	.50	.50	.60	.70	.80	1.0	1.8
1957	.40	.40	.40	.70	.70	.80	2.0
1958	.70	.80	1.0	2.0	2.9	3.0	3.9
1959	.70	1.7	3.0	3.8	6.7	34	29
1960	7.0	7.3	8.6	20	73	144	174
1961	6.8	7.6	9.4	20	21	62	83
1962	1.6	1.8	2.4	6.5	21	54	167

05-4880.00 WHITE BREAST CREEK NEAR KNOXVILLE--Continued

DRAINAGE AREA: 380 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 198 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.40	0.40	0.40	0.70	0.70	0.81	1.8
CLIMATIC YEAR	1957	1957	1957	1957	1957	1957	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.2	2.5	3.1	4.6	8.3	20	34
2	1.5	1.7	2.1	2.8	4.6	10	17
5	.70	.79	.92	1.2	1.6	2.6	4.5
10	.50	.56	.62	.78	.93	1.3	2.2
20	.39	.43	.45	.58	.63	.68	1.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	5.6	6.5	9.6	10.0	13	25	25	37	98	3.4	4.2	7.2
2	3.1	3.5	5.0	4.8	6.3	11	14	20	51	2.3	2.7	4.5
5	1.1	1.3	1.6	1.3	1.6	2.3	3.9	5.6	12	1.1	1.3	2.0
10	.66	.76	.89	.67	.75	1.0	1.9	2.7	5.0	.67	.83	1.4
20	.46	.53	.59	.40	.43	.52	1.0	1.5	2.3	.48	.62	1.0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	951	394	143	38	21	10	2.6	2.2	1.6	1.1	0.63	0.52
APR. 1-SEP. 30	1104	426	165	47	27	16	4.0	3.2	1.9	1.3	.87	.59
JULY 1-AUG. 31	372	142	56	20	15	9.9	3.7	3.0	1.9	1.3	1.0	.68

DES MOINES RIVER NEAR TRACY

Location.--Lat 41°16'53", long 92°51'34", in NW1/4 SE1/4 sec.19, T.75 N., R.17 W., Mahaska County, on right bank 250 ft upstream from abandoned Bellefontaine Bridge, 0.5 mile downstream from bridge on State Highway 92, 0.8 mile east of Tracy, 3.1 miles upstream from Cedar Creek, 6.4 miles downstream from English Creek, and at mile 130.4.

Remarks.--Flow regulated by Lake Red Rock 11.9 miles upstream since March 12, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1921	840	840	1160	1650	1940	2430	2960
1922	560	590	680	924	1070	1500	2710
1923	400	400	503	569	634	885	1080
1924	550	550	550	550	843	1540	2330
1925	310	310	310	325	438	758	1140
1926	435	445	458	485	689	1020	1070
1927	409	438	482	552	800	1540	3380
1928	140	140	157	215	247	591	741
1929	1130	1170	1170	1230	1590	2790	3270
1930	375	375	385	450	543	679	696
1931	195	230	232	236	290	330	357
1932	160	179	202	481	552	955	1080
1933	375	375	532	749	995	1260	1560
1934	170	170	204	232	284	382	419
1935	127	143	160	189	296	391	482
1936	442	465	481	676	800	1520	1430
1937	164	164	170	191	263	564	792
1938	125	125	139	164	196	311	524
1939	610	707	909	1070	1070	1590	3590
1940	45	45	46	55	75	134	180
1941	238	251	281	427	591	1160	1830
1942	433	455	609	772	1120	3190	3640
1943	640	733	814	861	1250	1760	2720
1944	580	659	705	799	1100	1290	1770
1945	583	618	641	688	751	965	1720
1946	453	480	488	545	740	994	2480
1947	460	561	856	1180	1370	2290	2830
1948	270	291	305	377	533	767	732
1949	239	248	251	280	357	462	689
1950	155	166	176	209	252	336	462
1951	170	170	177	204	227	362	553
1952	983	1250	1410	1670	2100	3080	4160
1953	459	464	485	521	640	948	1350

DES MOINES RIVER NEAR TRACY--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1954		130	130	139	168	231	309	396
1955		607	611	641	716	1070	2150	3220
1956		104	117	123	129	138	156	221
1957		95	111	118	129	152	212	254
1958		290	317	371	421	495	627	718
1959		200	203	213	215	245	432	857
1960		499	523	570	927	1210	1310	1600
1961		430	431	441	501	590	927	1450
1962		1010	1060	1160	1570	2560	3800	4280
1963		500	500	506	611	695	1120	2440
1964		250	250	254	284	339	455	544
1965		547	650	773	839	853	1220	2160
1966		670	699	748	852	1440	3230	4500
1967		167	183	227	249	313	362	405
1968		90	90	104	184	286	368	431

05-4885.00 DES MOINES RIVER NEAR TRACY--Continued

DRAINAGE AREA: 12,479 mi² PERIOD OF RECORD: 48 YEARS AVERAGE DISCHARGE: 4230 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	45	45	46	55	75	134	180
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	444	470	524	630	806	1240	1750
2	329	346	382	457	580	870	1210
5	173	181	196	234	294	427	567
10	120	125	135	161	202	290	374
20	87	91	98	117	147	210	262

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	660	751	951	731	819	1050	2880	3320	4470	912	1030	1370
2	458	516	648	493	544	685	1970	2250	2990	649	731	958
5	232	259	320	221	238	297	884	998	1280	339	379	490
10	165	184	226	142	153	191	562	631	802	243	271	349
20	126	141	171	98	105	133	380	425	535	185	206	265

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	15900	10300	6050	2790	1870	1300	603	511	372	246	166	133
APR. 1-SEP. 30	19900	12900	8030	4160	2990	2120	999	849	623	436	273	208
JULY 1-AUG. 31	11500	8110	5250	2720	2010	1560	899	782	606	394	238	183

DES MOINES RIVER NEAR TRACY--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	450	483	541	723	928	1610	1540
1970	513	533	538	639	839	1230	1990
1971	372	376	446	730	1130	1930	2050
1972	342	345	353	357	384	776	792
1973	1250	1610	1760	2540	5760	6650	7220
1974	2990	3050	3130	5860	7320	9040	10100
1975	513	514	517	521	662	1110	1100
1976	411	474	500	532	653	859	1090

05-4885.00 DES MOINES RIVER NEAR TRACY--Continued

DRAINAGE AREA: 12,479 mi² PERIOD OF RECORD: 8 YEARS AVERAGE DISCHARGE: 7100 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	342	345	353	357	384	776	792
CLIMATIC YEAR	1972	1972	1972	1972	1972	1972	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	705	777	828	1110	1670	2440	2770
2	515	559	597	743	1050	1630	1850
5	341	354	378	420	510	871	981
10	300	303	323	344	383	679	757
20	280	275	294	303	316	573	633

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1260	1780	2210	1380	1580	1940	5880	6740	9690	1110	1270	2210
2	830	1130	1330	859	964	1140	4280	4980	7360	759	864	1320
5	427	513	550	427	461	504	2500	2910	4180	386	426	511
10	325	356	364	328	347	364	1970	2260	3060	281	301	321
20	268	269	265	277	287	291	1650	1860	2350	220	229	222

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	20300	18800	15300	6030	4080	2570	993	841	615	477	360	328
APR. 1-SEP. 30	20500	19600	17800	11000	7120	4750	1640	1330	863	480	343	320
JULY 1-AUG. 31	19800	19000	17500	8170	4140	2580	1170	1050	856	577	448	402

CEDAR CREEK NEAR BUSSEY

Location.--Lat 41°13'09", long 92°54'38", at SW corner sec.11, T.74 N., R.18 W., Marion County, on left bank 10 ft downstream from bridge on State Highway 156, 0.8 mile downstream from North Cedar Creek, 1.6 miles northwest of Bussey, 3.0 miles upstream from Honey Creek, and 8.9 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1949	0.44	0.67	1.4	3.7	14	28	37
1950	2.7	2.9	3.0	3.4	5.9	7.6	20
1951	.50	.56	.57	.61	1.8	2.3	7.9
1952	4.4	4.5	5.1	8.2	18	45	54
1953	1.8	2.0	2.3	2.7	3.6	46	86
1954	.20	.20	.21	.31	.42	.72	.88
1955	.70	.74	.87	1.5	1.9	4.2	30
1956	0	0	0	.14	.18	.28	1.4
1957	.03	.07	.10	.11	.34	.47	.91
1958	.37	.51	.59	1.2	3.7	8.0	10
1959	5.6	6.5	8.9	16	17	42	71
1960	2.2	2.4	2.5	4.1	29	74	76
1961	2.3	2.5	2.9	3.8	7.4	25	25
1962	3.5	3.7	4.9	7.6	32	37	237
1963	4.1	4.1	4.5	15	18	39	53
1964	.70	.76	.91	1.3	1.4	2.6	3.5
1965	1.4	1.5	1.5	1.6	3.0	8.3	12
1966	2.4	2.6	2.9	3.6	12	44	138
1967	1.3	1.3	1.7	2.2	2.5	3.2	8.8
1968	1.0	1.1	2.1	4.8	15	44	54
1969	1.0	1.4	1.9	2.1	3.8	5.5	6.6
1970	7.4	9.2	15	16	17	32	36
1971	3.8	4.7	5.8	10	20	71	209
1972	.65	.68	.71	.87	4.3	5.8	19
1973	13	13	15	24	46	102	131
1974	19	22	24	43	120	351	364
1975	3.8	4.1	4.4	7.0	11	35	41
1976	2.4	2.5	2.8	3.4	4.2	12	43

DRAINAGE AREA: 374 mi² PERIOD OF RECORD: 29 YEARS AVERAGE DISCHARGE: 196 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.12	0.19	0.28	0.88
CLIMATIC YEAR	1956	1956	1956	1957	1956	1956	1954

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	3.2	3.3	4.0	6.1	13	32	58	
2	1.8	1.9	2.3	3.4	6.9	16	30	
5	.47	.57	.69	.93	1.8	3.5	7.2	
10	.18	.25	.32	.44	.82	1.5	3.1	
20	.05	.09	.11	.23	.41	.63	1.5	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	7.1	8.7	13	16	19	48	36	56	142	4.4	5.6	10
2	3.4	4.2	6.0	7.8	9.1	23	22	33	88	2.7	3.6	6.1
5	.79	.94	1.4	1.6	1.9	4.1	6.7	8.7	24	.88	1.3	2.4
10	.36	.42	.57	.59	.73	1.4	3.0	3.7	9.5	.44	.68	1.5
20	.18	.22	.28	.25	.32	.51	1.4	1.7	3.9	.18	.31	1.0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	869	381	149	50	30	17	4.2	3.3	1.9	0.81	0.27	0.14
APR. 1-SEP. 30	986	422	174	63	38	22	6.3	5.0	3.1	1.6	.44	.20
JULY 1-AUG. 31	329	143	61	23	15	10	4.9	4.1	2.9	1.8	1.1	.50

05-4895.00

DES MOINES RIVER AT OTTUMWA

Location.--Lat 41°00'39", long 92°24'40", in SE1/4 NE1/4 sec.25, T.72 N., R.14 W., Wapello County, on right bank 15 ft downstream from Wabash Railroad Bridge at Ottumwa, 0.4 mile downstream from Ottumwa powerplant, 6.5 miles upstream from Village Creek, 9.5 miles downstream from South Avery Creek, and at mile 94.1.

Remarks.--Prior to Dec. 12, 1958 and since Nov. 30, 1960, diurnal fluctuation at low flow caused by powerplant upstream of station. Flow regulated by Lake Red Rock, 48.2 miles upstream, since March 12, 1969. Published as "at Eldon", 1930-35.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1918	100	100	100	103	153	312	623
1919	558	596	619	677	1010	1400	1630
1920	525	615	755	1020	1560	2440	2720
1921	790	790	1160	1750	2120	2630	3200
1922	600	630	704	1030	1160	1610	2960
1923	405	420	479	602	713	1110	1310
1924	590	624	637	644	943	1590	2470
1925	350	357	379	393	453	793	1270
1926	447	460	482	529	796	1230	1280
1927	490	517	602	695	990	1960	4040
1928	150	150	167	228	261	581	809
1929	1300	1300	1310	1400	1770	3290	3620
1930	400	400	407	490	585	729	730
1931	190	190	191	199	243	324	350
1932	108	171	215	404	542	1020	1260
1933	370	370	417	763	1010	1290	1580
1934	85	104	135	154	215	313	403
1935	62	99	112	164	336	408	504
1936	497	512	544	876	1040	1760	1590
1937	100	121	183	253	332	514	844
1938	100	116	135	175	204	322	552
1939	433	614	798	952	997	1580	3500
1940	30	46	49	63	92	151	198
1941	120	180	248	453	599	1270	1880
1942	380	454	672	841	1270	3440	3810
1943	492	748	896	982	1440	1950	2900
1944	618	679	727	835	1150	1350	1870
1945	698	719	755	796	872	1160	1960
1946	505	541	552	682	1040	1400	2870

DES MOINES RIVER AT OTTUMWA--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	449	589	927	1330	1490	2430	3050
1948	287	317	334	473	682	935	911
1949	245	274	277	299	404	572	820
1950	163	182	208	347	358	417	557
1951	140	177	201	257	262	431	641
1952	1060	1270	1540	1820	2290	3350	4430
1953	430	536	550	569	674	1140	1560
1954	127	142	157	185	236	317	394
1955	633	667	673	728	1110	2100	3210
1956	54	103	119	136	139	169	237
1957	98	115	130	139	158	205	248
1958	310	349	414	473	590	720	813
1959	220	220	228	238	272	511	1030
1960	618	638	698	1040	1420	1600	1930
1961	437	501	506	542	565	954	1450
1962	1150	1260	1400	1740	2700	4100	4790
1963	334	526	537	663	742	1240	2670
1964	153	261	271	319	383	509	609
1965	528	675	834	900	924	1330	2220
1966	706	788	834	967	1600	3540	4780
1967	170	189	231	253	320	374	422
1968	103	112	129	221	357	449	572

05-4895.00 DES MOINES RIVER AT OTTUMWA--Continued

DRAINAGE AREA: 13,374 mi² PERIOD OF RECORD: 51 YEARS AVERAGE DISCHARGE: 4670 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	30	46	49	63	92	151	198
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	441	495	560	697	899	1390	1930
2	310	356	402	502	641	971	1350
5	144	176	199	249	317	467	634
10	92	118	134	168	214	312	416
20	63	83	95	119	152	221	289

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	708	804	1040	760	862	1150	3130	3600	4960	1040	1190	1550
2	483	548	704	503	568	752	2160	2470	3310	726	838	1090
5	232	265	340	216	243	317	968	1120	1430	351	416	546
10	159	183	235	136	153	199	608	722	902	236	286	382
20	117	136	175	92	103	134	404	493	607	169	209	285

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	18500	11600	6760	3060	2110	1500	661	553	391	248	159	108
APR.1-SEP.30	23000	15100	9110	4620	3330	2410	1160	975	696	471	288	207
JULY 1-AUG.31	12400	9200	5840	3020	2300	1820	1030	872	628	422	238	166

05-4895.00

DES MOINES RIVER AT OTTUMWA--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	569	606	711	740	693	1730	1870
1970	520	550	609	795	1030	1470	2240
1971	333	342	408	759	1340	2460	2620
1972	260	312	325	337	402	835	907
1973	1420	1880	1960	3090	6020	7090	7690
1974	3520	3800	3900	6560	8660	9910	11000
1975	508	524	537	578	802	1390	1370
1976	363	438	493	575	702	1120	1330

05-4895.00 DES MOINES RIVER AT OTTUMWA--Continued, regulated period

DRAINAGE AREA: 13,374 mi² PERIOD OF RECORD: 8 YEARS AVERAGE DISCHARGE: 7590 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	260	312	325	337	402	835	907
CLIMATIC YEAR	1972	1972	1972	1972	1972	1972	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	754	850	926	1260	1820	2840	3240	
2	520	582	642	821	1130	1920	2200	
5	306	338	376	439	536	1040	1190	
10	253	278	309	348	399	813	918	
20	225	245	273	299	326	684	763	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1470	2000	2500	1620	1770	2290	6450	7500	10600	1260	1450	2440
2	949	1250	1490	1040	1120	1390	4750	5570	8150	823	944	1460
5	453	527	586	540	578	667	2830	3250	4790	381	425	561
10	324	347	375	423	453	504	2240	2510	3570	262	286	350
20	252	250	265	361	387	420	1890	2050	2790	196	208	240

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	20700	19000	16000	6900	4460	2930	1180	1010	748	534	377	323
APR. 1-SEP. 30	22700	19900	18000	11900	8140	5420	1950	1570	1000	511	346	308
JULY 1-AUG. 31	20000	19100	17400	8950	4550	2900	1260	1120	912	603	441	356

DES MOINES RIVER AT KEOSAUQUA

Location.--Lat 40°43'40", long 91°57'34", in SW1/4 SW1/4 sec.36, T.69 N., R.10 W., Van Buren County, on right bank 10 ft upstream from bridge on State Highway 1 at Keosauqua, 4.0 miles downstream from Chequest Creek, and at mile 51.3.

Remarks.--Prior to Dec. 21, 1958, and since Nov. 30, 1960, some diurnal fluctuation at medium and low stages caused by powerplant at Ottumwa. Flow regulated by Lake Red Rock, 91.0 miles upstream, since March 12, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1905	320	320	331	359	428	602	1190
1906	1630	1790	2040	2440	3290	4300	4620
1913	630	630	630	633	681	897	1330
1914	520	559	583	606	744	805	864
1915	620	620	622	674	901	2000	3280
1916	1490	1490	1600	2440	3670	5330	7560
1917	295	300	300	337	360	491	498
1918	130	130	130	130	164	316	644
1919	478	523	563	621	1070	1660	1830
1920	573	627	721	1020	1650	2660	3030
1921	750	824	1200	1740	2170	2600	3190
1922	633	714	764	1130	1260	1760	3250
1923	400	400	464	612	741	1210	1340
1924	417	443	607	692	897	1600	2490
1925	425	429	445	448	509	879	1390
1926	335	350	459	513	985	1610	1650
1927	580	604	795	892	1140	2270	4920
1928	127	139	179	231	270	610	904
1929	973	1200	1250	1340	1720	3800	3990
1930	400	400	407	440	549	972	994
1931	129	163	187	201	270	342	362
1932	138	210	225	487	664	1700	1920
1933	400	446	539	825	1170	1540	1840
1934	90	113	153	181	242	354	444
1935	77	141	149	186	375	457	527
1936	457	494	516	813	988	1740	1610
1937	115	161	213	237	322	590	976
1938	120	124	132	186	209	324	562
1939	539	713	915	1080	1120	1710	3530
1940	50	63	69	85	109	179	233
1941	243	320	430	508	670	1320	1960
1942	460	524	781	907	1380	3760	4060

DES MOINES RIVER AT KEOSAUQUA--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1943	567	784	988	1120	1730	2190	3170
1944	657	714	761	876	1200	1410	1960
1945	795	840	856	919	1040	1370	2230
1946	573	590	601	820	1220	1740	3210
1947	550	679	1030	1440	1590	2540	3200
1948	360	390	401	536	770	1050	1010
1949	269	284	289	335	482	616	916
1950	178	241	296	366	388	454	636
1951	193	199	209	250	270	442	665
1952	1220	1400	1620	1940	2450	3620	4690
1953	443	545	567	597	721	1200	1680
1954	153	166	183	210	273	364	450
1955	690	716	724	770	1330	2360	3680
1956	101	114	134	151	161	192	278
1957	98	110	117	126	140	203	251
1958	303	324	389	475	582	718	831
1959	200	204	211	217	275	595	1160
1960	687	743	856	1350	1480	2070	2470
1961	454	499	507	543	585	1000	1520
1962	1220	1370	1450	1800	3020	4240	5100
1963	430	553	671	769	781	1310	2840
1964	123	236	291	328	401	529	621
1965	503	624	788	919	938	1370	2220
1966	756	809	849	973	1520	3700	4930
1967	190	217	258	271	344	410	464
1968	110	123	141	270	447	548	858

05-4905.00 DES MOINES RIVER AT KEOSAUQUA--Continued

DRAINAGE AREA: 14,038 mi² PERIOD OF RECORD: 59 YEARS AVERAGE DISCHARGE: 5160 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	50	63	69	85	109	179	233
CLIMATIC YEAR	1940	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	501	557	637	771	1010	1590	2200
2	357	403	459	551	710	1100	1530
5	176	207	234	278	350	528	720
10	119	143	162	192	192	239	353
20	84	105	118	141	173	251	333

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	766	868	1140	830	936	1280	3350	3960	5590	1100	1280	1710
2	530	612	779	563	630	833	2360	2770	3790	780	907	1190
5	260	302	381	254	283	357	1110	1300	1680	402	465	597
10	180	211	266	165	183	229	720	841	1070	287	329	419
20	133	158	200	114	127	159	495	579	720	218	248	315

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	20100	12900	7640	3460	2330	1620	720	608	440	292	184	135
APR. 1-SEP. 30	24700	16400	10000	5220	3810	2710	1270	1070	766	534	329	244
JULY 1-AUG. 31	14600	10200	6540	3300	2450	1860	1090	938	710	475	280	205

DES MOINES RIVER AT KEOSAUQUA--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	619	668	747	794	1000	1680	1880
1970	510	534	608	817	1010	1570	2350
1971	531	551	625	1060	1490	2790	3310
1972	328	340	353	371	438	902	1170
1973	1430	1840	2230	3720	6220	7220	7940
1974	3720	4180	4710	6970	9350	10400	11700
1975	579	596	613	630	846	1460	1460
1976	421	499	537	611	748	1160	1400

05-4905.00 DES MOINES RIVER AT KEOSAUQUA--Continued, regulated period

DRAINAGE AREA: 14,038 mi² PERIOD OF RECORD: 8 YEARS AVERAGE DISCHARGE: 8090 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	328	340	353	371	438	902	1170
CLIMATIC YEAR	1972	1972	1972	1972	1972	1972	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	828	930	1050	1440	1990	2980	3500
2	593	653	727	936	1250	2020	2410
5	378	400	429	487	602	1100	1340
10	326	338	356	378	450	858	1050
20	299	305	316	319	367	721	884

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1590	2130	2730	1730	1880	2460	6590	7530	10500	1350	1570	2800
2	1030	1330	1620	1100	1210	1520	4950	5660	8220	902	1030	1690
5	495	564	628	570	626	745	3120	3470	5110	443	481	647
10	355	371	396	445	490	572	2570	2780	4000	316	330	395
20	276	266	276	379	419	483	2240	2350	3270	244	245	264

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	23200	19900	16600	7150	4870	3220	1310	1120	847	607	409	353
APR.1-SEP.30	25400	20700	18600	12300	8310	5790	2230	1760	1050	593	379	322
JULY 1-AUG.31	20800	19900	18100	9540	5040	3060	1380	1230	1010	747	568	430

05-4910.00

SUGAR CREEK NEAR KEOKUK

Location.--Lat 40°26'33", Long 91°28'24", in NW1/4 SE1/4 sec.7, T.65 N., R.5 W., Lee County, on left bank 13 ft downstream from bridge on county highway W62, 2.8 miles downstream from Barlean Creek, 4.6 miles upstream from mouth, and 6.0 miles northwest of post office in Keokuk.

Remarks.--Discontinued September 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1924	0	0	0	0	0.15	0.56	0.74
1925	0	0	0	.30	2.3	5.7	15
1926	.37	.46	1.0	9.6	27	52	60
1927	.83	1.2	3.8	6.4	20	52	123
1928	0	0	0	.27	1.3	28	55
1929	.73	2.2	3.2	5.9	13	18	48
1930	.90	1.1	3.0	4.9	10	27	25
1931	0	0	0	0	3.2	17	17
1959	.20	.20	.26	.49	.72	4.6	13
1960	.30	.66	.92	5.6	7.8	41	89
1961	0	0	0	0	.17	4.7	3.4
1962	0	0	0	.09	4.7	13	54
1963	0	0	0	.06	.31	5.5	4.9
1964	0	0	0	0	0	0	0
1965	0	0	0	0	.14	1.6	3.1
1966	.50	.70	.79	1.6	2.6	16	23
1967	0	0	0	.18	.66	3.2	2.9
1968	1.0	1.1	1.5	5.5	11	14	38
1969	0	0	0	0	2.3	2.6	5.9
1970	.66	.75	.94	1.8	3.2	12	22
1971	1.5	1.8	2.4	3.4	9.1	41	71
1972	0	0	0	.51	2.2	3.9	8.7
1973	.06	.13	.30	.42	3.1	7.8	10

05-4910.00 SUGAR CREEK NEAR KEOKUK--Continued

DRAINAGE AREA: 105 mi² PERIOD OF RECORD: 24 YEARS AVERAGE DISCHARGE: 70.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1972	1972	1972	1969	1964	1964	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.40	0.55	0.84	1.5	4.8	17	30
2	0	0	0	.57	2.5	10	17
5	0	0	0	0	.52	3.1	4.7
10	0	0	0	0	.18	1.4	1.9
20	0	0	0	0	.03	.34	.40

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.7	4.2	7.9	5.1	7.2	19	6.9	12	24	1.1	1.6	3.1
2	.66	1.4	2.8	3.0	3.9	9.7	3.6	6.5	13	.22	.54	1.3
5	0	0	.06	0	.52	1.7	.88	1.3	3.8	0	0	.09
10	0	0	0	0	0	.41	.35	.41	1.9	0	0	0
20	0	0	0	0	0	.04	.09	.14	1.1	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	316	131	54	18	11	6.7	1.2	0.78	0.25	0.13	0.05	0.02
APR.1-SEP.30	419	153	60	20	12	6.6	1.4	.94	.26	.13	.05	.03
JULY 1-AUG.31	154	62	31	9.1	4.6	2.7	.64	.46	.18	.09	.04	.02

05-4943.00

FOX RIVER AT BLOOMFIELD

Location.--Lat 40°46'10", Long 92°25'05", in SW1/4 SE1/4 sec.13, T.69 N., R.14 W., Davis County, on left bank 15 ft downstream from bridge on county highway V20, 1.3 miles northwest of county courthouse at Bloomfield, and 8.6 miles downstream from North Fox Creek.

Remarks.--Discontinued September 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1959	0.24	0.57	1.2	1.6	1.7	12	23	
1960	.93	1.1	1.1	6.1	7.6	44	69	
1961	.10	.16	.35	.59	.65	1.1	1.4	
1962	0	.06	.10	.20	1.4	2.0	12	
1963	.73	.80	.80	1.3	2.0	6.9	11	
1964	.10	.10	.10	.18	.24	.51	.61	
1965	.10	.14	.17	.30	.41	.57	2.9	
1966	.10	.14	.24	.34	1.3	16	17	
1967	0	.01	.05	.57	.70	1.3	1.6	
1968	.17	.21	.55	1.1	2.4	9.6	26	
1969	.10	.21	.33	.40	.88	1.2	1.6	
1970	.32	.40	.44	.60	1.2	2.5	2.4	
1971	.68	.78	.94	1.4	7.8	40	88	
1972	.68	.11	.17	.38	.86	1.1	1.7	
1973	.07	.26	.30	.65	1.2	2.3	5.2	

DRAINAGE AREA: 87.7 mi² PERIOD OF RECORD: 16 YEARS AVERAGE DISCHARGE: 49.4 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0.01	0.05	0.19	0.25	0.51	0.62
CLIMATIC YEAR	1967	1967	1967	1964	1964	1964	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.23	0.38	0.50	0.83	1.8	5.9	11
2	.14	.24	.33	.56	1.2	3.1	5.9
5	.06	.08	.14	.30	.57	1.0	1.7
10	0	.04	.09	.23	.41	.58	.92
20	0	.02	.06	.19	.32	.39	.57

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.5	2.2	3.1	2.5	3.3	11	1.6	2.8	11	0.53	0.69	1.5
2	.77	1.2	1.7	1.4	1.8	5.5	1.2	1.8	6.2	.32	.43	.81
5	.19	.30	.51	.44	.59	1.6	.61	.83	1.8	.10	.17	.35
10	.07	.12	.30	.27	.37	.81	.45	.57	.86	.05	.10	.25
20	0	0	.19	.19	.27	.48	.36	.43	.47	.03	.07	.20

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	197	75	30	8.5	4.6	2.4	0.81	0.67	0.44	0.25	0.11	0.05
APR. 1-SEP. 30	231	78	29	8.1	4.6	2.3	.79	.63	.40	.21	.08	.04
JULY 1-AUG. 31	79	23	7.1	2.2	1.4	1.0	.47	.38	.25	.12	.05	.02

05-4945.00

FOX RIVER AT CANTRIL

Location.--Lat 40°39'35", long 92°03'46", in NW1/4 SW1/4 sec.30, T.68 N., R.10 W., Van Buren County, on left bank 5 ft downstream from bridge on State Highway 2, 0.25 mile upstream from Bone Run, and 1 mile northeast of Cantril.

Remarks.--Discontinued September 1951.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	0	0	0.11	0.31	7.3	61	64
1943	.50	.50	.80	1.0	1.2	3.2	13
1944	.20	.30	.30	.50	1.1	1.7	3.8
1945	.90	1.1	1.2	2.8	7.2	27	39
1946	1.0	1.0	1.1	3.9	5.0	14	13
1947	.20	.50	3.0	4.8	9.0	17	20
1948	.50	.60	.90	2.0	2.8	7.9	21
1949	.80	.90	1.4	2.6	6.9	11	13
1950	2.3	2.6	2.8	3.1	3.5	5.1	11
1951	.80	.80	.90	1.0	1.0	1.3	2.0

05-4945.00 FOX RIVER AT CANTRIL--Continued

DRAINAGE AREA: 161 mi² PERIOD OF RECORD: 11 YEARS AVERAGE DISCHARGE: 97.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0.11	0.31	1.0	1.3	2.0
CLIMATIC YEAR	1942	1942	1942	1942	1951	1951	1951

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.82	0.89	1.6	2.7	5.2	14	22
2	.57	.67	1.1	1.9	3.7	8.2	15
5	.25	.39	.42	.79	1.7	3.0	6.0
10	.09	.24	.23	.48	1.1	1.7	3.6
20	0	0	.13	.30	.74	1.1	2.3

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.3	2.5	4.7	5.7	8.0	21	13	20	49	2.2	3.4	4.5
2	1.5	1.7	2.9	3.3	4.6	13	9.0	14	33	1.6	2.3	3.0
5	.73	.86	1.4	1.1	1.4	4.4	3.3	6.4	14	.87	.72	1.2
10	.52	.65	1.0	.52	.66	2.5	1.7	3.9	7.9	.63	.33	.69
20	.41	.53	.76	.29	.36	1.5	.84	2.5	4.8	0	.15	.42

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	395	145	62	21	13	7.7	3.0	2.4	1.5	0.94	0.57	0.36
APR. 1-SEP. 30	511	172	64	24	17	10	3.7	3.0	2.1	1.2	.57	.25
JULY 1-AUG. 31	118	55	24	9.4	6.3	4.9	2.6	2.0	1.2	.59	.23	.12

ROCK RIVER AT ROCK RAPIDS

Location.--Lat 43°26'13", long 96°09'58", in NE1/4 SW1/4 sec.33, T.100 N., R.45 W., Lyon County, on right bank at dam on north side of city park in Rock Rapids, 0.3 mile upstream from Tom Creek, 0.5 mile northeast of junction of U.S. Highways 75 and 9, and at mile 42.8.

Remarks.--Discontinued September 1974.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1962	8.3	9.0	11	14	18	25	44
1963	3.6	3.6	4.0	6.2	8.4	17	24
1964	4.7	5.0	5.2	5.8	6.1	8.9	13
1965	.80	1.0	1.3	1.6	2.6	5.6	18
1966	7.0	7.0	7.4	11	21	35	43
1967	4.3	5.4	5.5	5.6	6.1	14	20
1968	1.3	1.3	1.3	2.0	3.0	5.8	5.7
1969	4.2	5.8	6.3	7.6	15	22	29
1970	16	16	16	16	18	25	31
1971	3.9	3.9	6.1	11	17	55	54
1972	2.1	2.3	2.6	3.8	6.3	17	17
1973	14	17	18	25	31	58	66
1974	6.8	7.9	9.0	9.1	11	23	27

06-4832.70 ROCK RIVER AT ROCK RAPIDS--Continued

DRAINAGE AREA: 788 mi² PERIOD OF RECORD: 15 YEARS AVERAGE DISCHARGE: 164 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.81	1.0	1.3	1.6	2.6	5.6	5.7
CLIMATIC YEAR	1965	1965	1968	1965	1965	1965	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	6.7	7.4	8.3	10	14	27	36	
2	4.8	5.3	6.0	7.7	11	20	28	
5	2.2	2.5	2.9	3.8	5.4	10	15	
10	1.5	1.6	1.9	2.5	3.7	7.3	11	
20	1.0	1.1	1.3	1.8	2.7	5.4	7.8	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	16	20	28	10	11	13	56	64	94	12	13	17
2	13	15	21	6.8	7.2	8.5	39	45	64	8.6	9.9	12
5	7.2	8.5	11	2.9	3.0	3.9	19	23	31	4.9	5.9	7.5
10	5.1	5.8	7.7	1.8	1.9	2.6	14	16	22	3.8	4.6	6.0
20	3.6	4.1	5.6	1.2	1.3	1.9	10	12	17	3.2	3.9	5.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	474	271	136	51	35	24	13	11	7.4	5.2	3.4	2.0
APR. 1-SEP. 30	595	351	182	78	56	39	17	14	10	7.0	5.1	4.4
JULY 1-AUG. 31	354	190	92	43	32	23	12	10	7.7	5.8	4.5	4.1

ROCK RIVER NEAR ROCK VALLEY

Location.--Lat 43°21'52", long 96°17'39", in SW1/4 SW1/4 sec.16, T.97 N., R.46 W., Sioux County, on right bank 3 ft upstream from bridge on county highway K30, 0.3 mile north of Rock Valley and at mile 19.1. Prior to May 5, 1976, at site 3.2 miles downstream.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1950		8.0	9.0	9.0	9.0	12	25	43
1951		1.0	1.0	1.2	2.0	2.8	7.1	16
1952		65	65	66	70	91	152	251
1953		16	16	16	17	21	29	36
1954		25	25	25	25	33	46	60
1955		15	15	15	16	25	47	68
1956		1.2	1.2	1.2	1.3	2.0	4.2	6.4
1957		1.0	1.0	1.2	2.2	6.8	13	14
1958		16	16	17	19	24	56	70
1959		0	0	0	.10	.50	2.9	3.1
1960		2.2	3.5	8.2	16	19	40	42
1961		17	17	17	18	30	50	98
1962		12	13	16	23	31	40	63
1963		7.0	7.1	7.8	14	20	33	51
1964		5.7	6.6	7.2	7.7	8.6	14	22
1965		5.5	5.5	5.9	6.3	8.2	16	59
1966		23	23	24	41	60	104	117
1967		9.5	9.5	9.9	10	12	22	30
1968		3.5	3.5	3.6	4.6	6.9	13	14
1969		5.2	7.3	9.4	11	18	34	44
1970		27	27	28	29	33	49	61
1971		19	20	20	22	29	100	88
1972		6.7	6.9	7.3	9.0	12	33	34
1973		46	47	50	70	78	114	136
1974		27	27	27	26	33	65	60
1975		6.2	6.2	6.2	6.6	6.9	14	20
1976		31	34	38	43	44	48	94

DRAINAGE AREA: 1592 mi² PERIOD OF RECORD: 28 YEARS AVERAGE DISCHARGE: 295 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.11	0.50	2.9	3.1
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	16	17	18	24	29	49	71
2	9.9	11	12	16	19	33	49
5	3.3	3.6	4.1	4.5	6.7	14	20
10	1.6	1.7	2.0	1.9	3.4	8.4	12
20	.55	.58	.68	.76	1.8	5.3	7.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	34	40	53	19	24	26	148	172	220	45	50	66
2	23	28	37	12	16	16	101	119	152	28	31	42
5	10.0	12	15	4.2	3.9	4.5	46	56	72	9.7	11	15
10	6.0	6.9	8.8	1.9	1.3	1.9	30	37	48	5.1	6.0	8.2
20	3.7	4.2	5.3	.63	.40	.83	21	26	34	2.9	3.5	4.7

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	975	526	271	106	73	52	24	19	11	5.8	2.2	1.3
APR.1-SEP.30	1220	706	387	183	130	92	44	36	23	12	4.7	3.2
JULY 1-AUG.31	636	402	233	107	79	60	30	24	15	8.1	4.7	4.0

06-4840.00

DRY CREEK AT HAWARDEN

Location.--Lat 42°59'48", long 96°28'10", in NE1/4 NE1/4 sec.2, T.94 N., R.48 W., Sioux County, on left bank 6 ft downstream from bridge on State Highway 10 at east edge of Hawarden and 2.0 miles upstream from mouth.

Remarks.--Discontinued September 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1950	0	0	0	0	0.13	0.14	0.24
1951	0	0	0	0	0	.10	.32
1952	1.9	2.0	2.1	2.2	3.7	6.1	10
1953	.60	1.2	1.3	1.3	1.3	1.6	3.1
1954	.50	.50	.51	.60	1.1	1.4	1.9
1955	.30	.30	.30	.39	.68	1.1	1.4
1956	0	0	0	0	0	.01	.03
1957	0	0	0	0	0	.01	.01
1958	0	0	0	0	.08	.13	.42
1959	0	0	0	0	0	0	0
1960	0	0	0	0	0	.06	.11
1961	0	0	0	.02	.09	.45	1.2
1962	0	0	0	0	.01	.42	.49
1963	0	0	.01	.09	.17	.41	1.1
1964	0	0	0	0	0	.02	.02
1965	0	0	0	0	0	0	.03
1966	0	0	0	.10	.82	1.7	2.3
1967	0	0	0	.01	.03	.12	.19
1968	0	0	0	.01	.01	.04	.05
1969	0	0	0	0	0	.08	1.4

06-4840.00 DRY CREEK AT HAWARDEN--Continued

DRAINAGE AREA: 48.4 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 7.8 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1969	1969	1969	1969	1969	1965	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0	0	0	0.05	0.17	0.37	0.75
2	0	0	0	0	.03	.15	.32
5	0	0	0	0	0	.02	.05
10	0	0	0	0	0	0	.01
20	0	0	0	0	0	0	0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.14	0.20	0.28	0	0	0.03	0.94	1.4	1.7	0.44	0.55	0.63
2	.02	.04	.10	0	0	0	.44	.65	.84	.11	.13	.27
5	0	0	0	0	0	0	0	0	.13	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	19	8.6	3.2	1.1	0.52	0.25	0.13	0.10	0.06	0.03	0.01	0.01
APR. 1-SEP. 30	20	10	4.8	1.9	1.2	.57	.17	.14	.09	.04	.02	.01
JULY 1-AUG. 31	15	6.8	3.5	1.2	.53	.28	.13	.11	.07	.03	.01	.01

06-4855.00

BIG SIOUX RIVER AT AKRON

Location.--Lat 42°49'42", long 96°33'45", in NW1/4 SW1/4 sec.31, T.93 N., R.48 W., Plymouth County, Iowa, on left bank at west edge of Akron, 0.6 mile downstream from bridge on State Highway 48, and 2.3 miles upstream from Union Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1930	60	60	64	78	97	177	192
1931	75	75	75	75	87	106	121
1932	27	31	31	39	81	98	104
1933	25	26	35	53	63	71	129
1934	55	61	71	90	95	103	124
1935	36	37	38	40	41	76	89
1936	7.0	9.3	10	12	19	39	50
1937	13	14	16	20	31	52	157
1938	40	41	43	46	48	63	88
1939	117	121	133	150	207	228	551
1940	38	40	41	47	59	69	74
1941	34	35	36	38	43	52	65
1942	19	21	25	39	44	60	63
1943	75	83	89	123	161	300	656
1944	103	107	114	139	256	313	423
1945	113	123	144	151	215	378	646
1946	74	77	81	89	93	160	230
1947	160	161	179	204	232	392	481
1948	60	60	61	67	89	166	199
1949	60	61	63	67	91	162	277
1950	40	41	44	47	58	92	137
1951	35	36	39	44	51	82	137
1952	250	250	272	295	359	541	808
1953	85	90	106	116	122	141	181
1954	80	80	83	109	169	217	361
1955	63	67	75	86	124	173	235
1956	29	29	30	31	33	37	41
1957	25	25	26	33	45	63	72
1958	55	57	64	86	109	184	217
1959	12	13	14	14	19	29	31
1960	55	57	60	65	71	107	120
1961	52	54	56	73	93	144	236
1962	53	56	57	66	84	150	153
1963	68	71	74	86	112	165	209
1964	53	57	61	62	64	87	127
1965	23	25	26	28	34	65	128
1966	97	99	101	115	171	265	293
1967	64	55	66	67	73	106	146
1968	24	25	27	42	53	69	78

BIG SIOUX RIVER AT AKRON--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	59	61	61	64	82	134	159
1970	103	108	113	118	123	165	218
1971	62	64	71	80	112	194	202
1972	69	70	72	78	101	151	145
1973	223	229	241	296	407	435	501
1974	83	88	94	107	131	199	227
1975	27	27	30	39	48	63	73
1976	62	64	69	71	82	101	161

06-4855.00 BIG SIOUX RIVER AT AKRON--Continued

DRAINAGE AREA: 9030 mi² PERIOD OF RECORD: 48 YEARS AVERAGE DISCHARGE: 832 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.0	9.3	10	12	19	29	31
CLIMATIC YEAR	1936	1936	1936	1936	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	72	74	79	90	112	163	224	
2	54	55	59	68	84	122	163	
5	29	30	33	38	47	69	88	
10	20	22	24	28	35	52	64	
20	15	17	18	21	28	41	50	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	126	135	157	79	84	96	516	576	720	181	197	249
2	97	102	118	59	62	71	365	406	511	122	132	163
5	57	60	67	32	34	40	175	194	246	59	63	76
10	43	45	50	23	25	29	115	127	163	41	44	52
20	34	35	39	17	19	23	80	89	114	31	33	38

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

P E R I O D	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME												
	5	10	20	40	50	60	80	84	90	95	98	99	
OCT. 1-SEP. 30	3207	1639	964	376	260	182	92	60	61	44	32	17	
APR. 1-SEP. 30	3750	2347	1370	663	481	344	156	130	91	59	40	34	
JULY 1-AUG. 31	2355	1504	995	427	303	222	118	101	76	52	30	33	

MISSOURI RIVER AT SIOUX CITY

Location.--Lat 42°29'10", long 96°24'47", in NW1/4 SE1/4 sec.16, T.29 N., R.9 E., sixth principal meridian, Dakota County, Nebraska, on right bank on upstream side of bridge on U.S. Highway 77 at South Sioux City, Nebraska, 2.0 miles downstream from Big Sioux River, and at mile 732.3.

Remarks.--Flow partly regulated by upstream main-stem reservoirs since Nov. 1937.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1939	6870	7190	7700	8390	9600	11900	13100
1940	3100	3130	3260	3700	4590	7220	8190
1941	4000	4270	5020	6270	7280	7540	9600
1942	3100	4080	4610	5570	6620	9040	13200
1943	6000	6030	6350	6720	7840	11600	15500
1944	10400	10400	10600	11900	14000	16800	20600
1945	12000	12400	13100	13600	14200	19300	21800
1946	3870	4810	6080	8100	9120	12000	17300
1947	3650	4020	4770	6010	9250	13000	19200
1948	7600	8240	9250	11600	12600	14800	22200
1949	4330	5210	6000	7200	10400	16700	23300
1950	3830	4090	4910	6150	7390	11100	16800
1951	4230	4790	5930	8530	13000	14400	21700
1952	6800	6910	6990	8290	12700	20300	27900
1953	7270	7510	7700	8830	10600	14300	19500
1954	8070	8430	9140	9580	10800	14100	19500
1955	6270	6710	7400	8570	9000	10400	15300
1956	8250	8330	8740	8800	8980	9430	16000
1957	7230	7700	8070	8500	8670	8900	12700
1958	5500	6950	7550	8350	8790	9110	13400
1959	7300	7860	7960	8170	9040	9910	14000
1960	7200	7710	8200	8530	8640	8950	13000
1961	5670	6540	7110	8180	8770	9760	15000
1962	4500	6390	6610	6720	7090	8030	10100
1963	5400	5430	5570	5850	6790	8380	14400
1964	5900	5960	6040	6880	7300	8310	15300
1965	7330	7940	8160	8330	8460	9220	16000
1966	14000	15800	16400	16600	17600	19300	23300
1967	7000	7410	8260	9030	10000	12800	19700
1968	9890	11000	12700	14700	15400	17700	23200
1969	7550	10200	12000	13600	15300	17900	22800
1970	10500	12200	13400	15300	16500	21000	28700
1971	13500	13900	14300	15000	16300	22800	29400
1972	16000	17100	17600	18800	20100	25100	34300
1973	19800	20300	20600	21300	22200	25300	33600

MISSOURI RIVER AT SIOUX CITY--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	13200	13900	15100	16800	18000	19500	23000
1975	10400	14700	16600	17400	17800	18500	23700
1976	13800	16800	18800	21800	23600	28300	40200

06-4860.00 MISSOURI RIVER AT SIOUX CITY--Continued

DRAINAGE AREA: 314,600 mi² PERIOD OF RECORD: 39 YEARS AVERAGE DISCHARGE: 32,000 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	3100	3130	3260	3700	4590	7220	8190
CLIMATIC YEAR	1942	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	8630	9500	10200	11300	12700	15500	21600
2	7030	7760	8400	9460	10700	13100	18500
5	4770	5320	5860	6780	7850	9580	13700
10	3930	4400	4910	5750	6730	8200	11700
20	3360	3770	4250	5060	5940	7230	10200

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	10800	11500	13500	10900	11900	13000	29800	31200	31700	32000	32900	34000
2	8650	9420	11200	9210	9980	11000	26100	27500	28300	28000	29100	30300
5	5780	6640	8250	6560	7060	7830	19600	20800	23400	20100	21700	23500
10	4770	5650	7190	5490	5850	6510	16700	17700	21500	16300	18000	20200
20	4100	5000	6500	4730	4990	5580	14500	15400	20200	13400	15100	17600

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	60900	47900	37900	30400	28000	24500	13500	11800	9160	7760	6390	5590
APR. 1-SEP. 30	72400	57100	44600	34900	32200	30500	26600	25500	23700	21100	17600	14900
JULY 1-AUG. 31	62100	51500	44300	35900	33400	31500	28300	26800	24600	21400	18100	15900

06-6000.00

PERRY CREEK AT 38TH ST, SIOUX CITY

Location.--Lat42°32'05", long 96°24'35", in SE1/4SE1/4 sec.8, T.89 N., R.47 W., on right upstream abutment of bridge on 38th Street in Sioux City, 3.6 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1947	0	0.09	0.21	0.26	0.28	2.1	3.4
1948	.20	.21	.28	.37	.45	.81	1.2
1949	.20	.21	.28	.35	.83	1.1	1.6
1950	1.3	1.5	2.2	2.9	3.4	4.7	12
1951	.90	.93	1.2	1.7	1.9	2.7	4.1
1952	3.0	3.0	3.1	4.8	6.9	12	31
1953	5.1	5.4	5.9	6.5	6.8	7.0	7.5
1954	1.7	1.9	2.4	4.5	6.0	8.4	8.4
1955	2.8	3.5	3.7	3.8	4.2	4.9	5.4
1956	.27	.39	.44	.47	.68	1.8	1.9
1957	.10	.14	.16	.18	.29	.81	1.0
1958	.27	.43	.70	1.1	1.3	1.9	2.6
1959	0	0	.01	.07	.11	.39	.47
1960	0	0	0	.08	.35	.73	1.0
1961	0	.03	.11	1.0	1.2	1.7	3.0
1962	.30	.33	.58	1.2	1.4	2.0	3.0
1963	1.8	2.2	2.7	3.3	3.3	3.5	4.2
1964	.57	.66	.86	1.1	1.4	1.5	1.6
1965	.27	.34	.41	.60	.78	.80	1.8
1966	.10	.13	.24	.26	1.1	2.9	4.1
1967	.53	.60	.82	.91	1.6	2.1	2.5
1968	.30	.30	.34	.52	1.0	1.5	1.8
1969	.08	.15	.26	.50	.70	1.5	2.4

06-6000.00 PERRY CREEK AT 38TH ST, SIOUX CITY--Continued

DRAINAGE AREA: 65.1 mi² PERIOD OF RECORD: 23 YEARS AVERAGE DISCHARGE: 15.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.07	0.12	0.39	0.48
CLIMATIC YEAR	1961	1960	1960	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.65	0.76	1.2	1.5	2.0	2.9	3.9
2	.35	.41	.62	.82	1.2	2.0	2.6
5	.07	.11	.15	.28	.48	1.0	1.3
10	0	.03	.05	.16	.29	.71	.94
20	0	0	.01	.09	.19	.54	.74

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.7	2.0	2.6	1.6	1.9	2.2	3.3	4.1	6.0	1.2	1.5	2.6
2	1.1	1.3	1.9	1.1	1.3	1.5	2.2	2.8	4.2	.58	.78	1.3
5	.37	.56	1.0	.56	.71	.86	1.0	1.4	2.2	.12	.19	.34
10	.19	.35	.71	.41	.53	.73	.64	.91	1.6	.03	.08	.17
20	.10	.23	.55	.32	.42	.67	.46	.67	1.2	0	.02	.09

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	42	20	9.6	4.4	3.2	2.3	1.2	0.92	0.63	0.38	0.19	0.09
APR.1-SEP.30	43	22	12	5.4	3.9	2.8	1.1	.80	.46	.26	.10	.05
JULY 1-AUG.31	42	17	9.2	3.9	2.2	1.4	.49	.41	.29	.15	.06	.03

06-6001.00

FLOYD RIVER AT ALTON

Location.--Lat 42°58'55", long 96°00'03", in NE1/4 NE1/4 sec.11, T.94 N., R.44 W., Sioux County, on left bank at downstream side of Chicago and Northwestern Railway Company bridge at east edge of Alton, 34.3 miles upstream from West Branch Floyd River at mile 58.1.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1957	0	0	0	0	0.20	0.70	0.61
1958	.20	.20	.30	1.0	1.6	4.5	5.1
1959	0	0	0	0	.10	.10	.10
1960	0	.10	.20	1.0	2.0	2.5	3.7
1961	1.5	1.5	1.7	3.1	4.9	10	24
1962	1.3	1.3	1.3	1.7	2.2	4.5	6.5
1963	1.3	1.4	1.7	2.1	2.7	4.2	6.7
1964	.10	.20	.20	.20	.30	.70	.90
1965	0	0	.10	.50	1.1	2.4	8.0
1966	2.1	2.3	2.7	3.3	4.9	20	22
1967	.20	.20	.50	.60	1.0	1.8	1.8
1968	.04	.07	.13	.19	.34	1.1	1.1
1969	.01	.02	.03	.08	.45	2.0	3.9
1970	1.7	1.8	1.9	2.3	2.9	4.2	6.3
1971	.21	.32	.62	.82	1.5	5.9	6.4
1972	1.0	1.0	1.0	1.0	1.5	4.4	4.4
1973	7.1	7.8	8.4	9.7	11	19	35
1974	14	15	16	19	20	37	46
1975	1.2	1.3	1.4	1.4	1.7	6.8	10
1976	4.5	4.7	5.2	6.3	9.3	16	19

06-6001.00 FLOYD RIVER AT ALTON--Continued

DRAINAGE AREA: 265 mi² PERIOD OF RECORD: 21 YEARS AVERAGE DISCHARGE: 46.3 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.11	0.11	0.11
CLIMATIC YEAR	1965	1965	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.3	1.3	1.5	2.1	3.0	7.5	11
2	.45	.52	.69	1.1	1.7	4.3	6.2
5	0	.05	.11	.24	.51	1.3	1.6
10	0	0	.01	.03	.27	.58	.68
20	0	0	0	0	.16	.30	.31

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	3.4	4.8	7.2	1.4	1.5	2.1	16	19	27	3.2	3.9	6.1
2	1.9	2.5	3.9	.59	.68	1.1	8.7	11	16	1.5	2.0	3.3
5	.50	.46	.82	.10	.16	.26	2.2	3.1	5.2	.24	.38	.80
10	.13	.16	.31	.02	.07	.13	.93	1.5	2.9	.08	.14	.34
20	0	.06	.12	0	.02	.07	.44	.79	1.7	.03	.06	.15

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	147	74	40	14	8.1	4.9	1.8	1.3	0.59	0.21	0.08	0.04
APR. 1-SEP. 30	187	100	57	24	16	9.1	3.0	2.4	1.5	.59	.18	.09
JULY 1-AUG. 31	106	60	30	12	7.5	5.1	2.2	1.8	1.2	.43	.15	.08

06-6003.00

WEST BRANCH FLOYD RIVER NEAR STRUBLE

Location.--Lat 42°55'15", long 96°10'30", in NE1/4 NE1/4 sec.32, T.94 N., R.45 W., Sioux County, on right bank at downstream side of bridge on county highway B62, 0.2 mile west of U.S. Highway 75, 0.8 mile downstream from Orange City slough, 2.2 miles northeast of Struble, 14 miles upstream from Floyd River, and at mile 39.3.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1957	0	0	0	0.02	0.30	0.61	0.62
1958	.10	.14	.23	.54	1.1	2.9	2.9
1959	0	0	0	0	0	.07	.13
1960	.10	.10	.10	.16	.30	.93	1.1
1961	0	0	0	.34	.79	2.6	7.4
1962	.60	.60	.61	1.3	2.3	3.7	7.1
1963	0	0	.04	.12	1.2	3.5	6.0
1964	0	0	0	0	0	.31	.84
1965	0	0	0	0	.01	.21	1.3
1966	0	0	.04	.80	5.2	11	24
1967	0	0	0	0	.03	.61	1.2
1968	0	0	0	.07	.15	.49	.76
1969	.13	.40	.45	.67	.75	1.7	7.4
1970	1.3	1.4	1.5	1.7	1.9	3.4	4.4
1971	1.2	1.3	1.5	1.7	3.4	6.2	11
1972	0	.24	.24	.24	.25	.53	2.3
1973	3.8	4.5	5.5	5.0	7.4	6.8	18
1974	2.8	2.8	2.8	3.0	4.6	11	15
1975	.40	.43	.46	.53	.63	1.5	2.7
1976	.75	.79	.83	.85	1.4	2.8	3.8

06-6003.00 WEST BRANCH FLOYD RIVER NEAR STRUBLE--Continued

DRAINAGE AREA: 181 mi² PERIOD OF RECORD: 21 YEARS AVERAGE DISCHARGE: 29.7 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0.07	0.13
CLIMATIC YEAR	1972	1968	1968	1967	1964	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	3	7	14	30	60	120	183
1.5	0.38	0.49	0.49	0.83	1.6	3.1	5.8
2	.06	.16	.17	.37	.73	1.8	3.4
5	0	0	0	.01	.08	.50	1.1
10	0	0	0	0	0	.25	.52
20	0	0	0	0	0	.13	.29

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.3	2.7	3.5	0.42	0.43	0.75	7.9	9.1	12	3.1	3.3	4.0
2	1.3	1.5	2.1	.12	.13	.31	4.4	5.1	7.1	1.9	2.1	2.5
5	.20	.29	.58	0	0	0	1.3	1.5	2.1	.56	.69	.92
10	.01	.07	.25	0	0	0	.60	.76	1.1	.26	.36	.53
20	0	0	.12	0	0	0	.33	.43	.59	.13	.20	.32

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	83	38	19	6.9	4.3	2.6	0.93	0.70	0.36	0.17	0.06	0.03
APR. 1-SEP. 30	103	56	29	12	8.0	5.3	1.8	1.5	1.1	.60	.34	.20
JULY 1-AUG. 31	51	32	19	8.1	5.7	3.5	1.7	1.4	1.0	.56	.32	.17

06-6005.00

FLOYD RIVER AT JAMES

Location.--Lat 42°34'36", long 96°18'43", in SE1/4 SE1/4 sec.30, T.90 N., R.46 W., Plymouth County, on right bank at downstream side of bridge on county highway C70, 0.2 mile east of James, 14.3 miles downstream from West Branch Floyd River, and at mile 9.5.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1937	1.7	1.9	2.0	2.5	5.0	8.2	30
1938	6.4	9.6	10	11	13	20	30
1939	10	11	12	22	34	39	95
1940	2.0	2.2	2.5	2.6	3.0	4.7	5.3
1941	9.4	9.8	10	12	12	14	25
1942	6.7	7.2	8.8	15	22	29	34
1943	15	15	15	16	18	33	80
1944	10	10	11	13	24	28	42
1945	21	21	23	27	37	68	132
1946	21	21	21	23	26	34	63
1947	8.4	9.2	12	15	23	37	57
1948	8.0	8.3	9.0	10	17	23	23
1949	9.0	9.5	9.8	11	15	18	31
1950	10	11	13	13	17	28	72
1951	13	13	13	14	16	22	39
1952	135	136	138	145	190	261	466
1953	15	21	30	36	37	40	47
1954	29	30	31	33	44	58	64
1955	23	23	23	24	32	41	53
1956	5.3	5.4	5.7	5.9	6.1	7.8	9.8
1957	1.7	1.7	1.8	2.3	3.6	5.6	6.2
1958	8.0	8.0	8.3	9.3	10	21	24
1959	1.0	1.0	1.0	1.2	1.6	2.7	3.2
1960	7.0	7.0	7.0	7.2	7.5	12	13
1961	12	12	12	15	17	27	60
1962	10	10	10	12	17	28	35
1963	10	10	11	17	22	32	51
1964	4.0	4.0	4.2	4.4	6.2	9.3	11
1965	4.5	4.5	4.8	5.9	6.9	10	27
1966	15	15	17	23	35	69	77
1967	9.5	9.5	9.5	9.6	10.0	12	14
1968	6.0	6.1	6.1	7.0	9.3	14	15
1969	6.6	7.6	9.5	12	14	22	27
1970	12	12	13	15	23	38	52
1971	14	14	16	18	20	42	47
1972	9.2	9.2	9.3	9.5	12	25	29
1973	40	41	43	50	54	70	112
1974	41	41	41	42	50	79	94

06-6005.00

FLOYD RIVER AT JAMES--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1975	6.2	6.2	6.4	7.2	8.4	17	26
1976	15	16	18	22	32	43	55

06-6005.00 FLOYD RIVER AT JAMES--Continued

DRAINAGE AREA: 882 mi² PERIOD OF RECORD: 41 YEARS AVERAGE DISCHARGE: 177 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.0	1.0	1.0	1.2	1.6	2.7	3.2
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	14	15	16	19	24	35	55
2	9.5	10	11	13	16	24	37
5	4.5	4.7	5.0	5.9	7.6	12	16
10	3.0	3.2	3.4	3.9	5.1	7.9	10
20	2.2	2.3	2.4	2.7	3.6	5.7	7.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	23	25	32	16	17	20	77	88	115	34	39	53
2	16	18	22	11	11	13	51	58	77	22	25	34
5	8.0	8.9	11	5.0	5.2	6.0	22	25	34	9.5	10	13
10	5.6	6.1	7.5	3.3	3.5	4.0	14	16	22	6.0	6.5	8.2
20	4.1	4.5	5.5	2.4	2.6	2.9	9.6	11	15	4.0	4.3	5.4

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	634	347	177	70	49	35	16	14	10	7.1	3.9	2.8
APR. 1-SEP. 30	756	437	247	115	83	60	27	23	16	11	7.2	4.3
JULY 1-AUG. 31	563	327	189	89	62	45	22	19	14	10	5.7	3.1

06-6020.00

WEST FORK DITCH AT HOLLY SPRINGS

Location.--Lat 42°15'34", long 96°04'41", in SE1/4 SE1/4 sec.16, T.86 N., R.45 W., Woodbury County, on right bank 10 ft downstream from bridge on county road, three-quarters of a mile south of Holly Springs, 11.4 miles upstream from Wolf Creek, 15.7 miles north of Onawa and 22 miles southeast of Sioux City.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	4.0	5.0	5.5	6.3	8.7	9.6	21
1942	1.7	1.9	2.0	2.5	6.0	23	34
1943	2.7	3.3	4.0	4.6	5.0	8.2	19
1944	1.0	1.2	1.8	3.3	4.0	4.3	7.9
1945	3.0	3.2	3.6	5.7	9.5	11	28
1946	15	15	16	18	22	30	71
1947	3.3	5.3	5.9	9.3	13	22	32
1948	6.0	6.5	8.8	9.5	12	15	18
1949	8.4	9.4	9.8	11	14	15	28
1950	5.5	5.6	6.2	8.5	13	22	48
1951	7.6	7.6	7.8	8.9	10	14	20
1952	45	55	61	65	80	120	203
1953	22	22	23	24	26	31	34
1954	9.0	9.0	9.2	9.8	14	23	25
1955	9.0	9.0	9.8	10	13	19	26
1956	5.0	5.0	5.0	5.0	5.2	6.9	7.9
1957	.27	.53	1.1	1.7	2.2	2.7	2.9
1958	7.6	9.2	9.4	9.8	11	20	23
1959	1.2	1.4	1.7	2.1	2.3	2.8	3.4
1960	7.7	7.9	8.4	9.5	13	16	18
1961	10	10	10	13	18	26	53
1962	18	18	18	20	24	33	38
1963	26	26	26	29	37	48	63
1964	10	10	11	14	15	17	21
1965	8.0	8.5	9.6	11	13	15	20
1966	15	15	16	17	26	37	49
1967	7.3	7.8	8.1	8.7	9.5	11	13
1968	4.1	4.1	4.2	4.3	4.6	9.6	12
1969	12	12	13	14	16	28	41

06-6020.00 WEST FORK DITCH AT HOLLY SPRINGS--Continued

DRAINAGE AREA: 399 mi² PERIOD OF RECORD: 29 YEARS AVERAGE DISCHARGE: 95.8 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.27	0.53	1.1	1.7	2.2	2.7	2.9
CLIMATIC YEAR	1957	1957	1957	1957	1957	1957	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	11	11	11	13	16	23	36
2	7.3	7.5	7.9	9.1	12	17	25
5	2.8	3.1	3.7	4.6	5.9	8.3	12
10	1.5	1.9	2.5	3.3	4.1	5.6	7.6
20	.86	1.2	1.8	2.5	3.1	4.0	5.3

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	16	18	21	12	12	15	37	44	54	23	23	33
2	11	13	15	8.1	8.5	10	25	30	37	15	15	21
5	5.0	5.8	7.0	3.8	4.2	5.3	12	14	17	5.3	5.9	9.0
10	3.1	3.8	4.6	2.6	2.9	3.8	8.0	9.1	12	2.9	3.6	5.6
20	2.1	2.6	3.1	1.9	2.2	2.9	5.8	6.4	8.7	1.7	2.3	3.8

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	359	180	86	39	28	21	12	9.7	6.8	4.2	2.4	2.0
APR.1-SEP.30	428	231	123	58	43	31	16	14	11	6.7	3.3	2.3
JULY 1-AUG.31	406	215	101	47	35	25	15	13	9.8	5.0	2.5	1.3

MONONA-HARRISON DITCH NEAR TURIN

Location.--Lat 41°57'52", Long 95°59'30", in NW1/4 NE1/4 sec.32, T.83 N., R.44 W., Monona County, on left pier at downstream side of bridge on county highway E54, 1.0 mile west of gaging station on Little Sioux River near Turin, 4 miles southwest of Turin, 5.2 miles northeast of Blencoe, and 12.5 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	8.5	8.5	8.9	10	11	13	15
1960	23	24	25	29	36	41	45
1961	27	28	28	30	33	49	102
1962	38	38	39	43	47	68	76
1963	56	56	56	61	73	95	126
1964	20	20	22	31	35	41	49
1965	23	25	28	29	32	36	45
1966	41	42	44	47	59	102	150
1967	23	24	27	28	30	36	41
1968	15	18	19	21	28	34	36
1969	18	21	22	31	40	50	73
1970	51	53	54	54	55	67	80
1971	33	35	38	42	50	84	100
1972	25	26	26	28	31	43	44
1973	48	52	52	67	85	112	177
1974	70	70	70	73	86	116	118
1975	40	41	41	43	44	48	50
1976	49	50	51	55	62	74	76

06-6024.00 MONONA-HARRISON DITCH NEAR TURIN--Continued

DRAINAGE AREA: 900 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 213 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	8.5	8.5	8.9	10	11	13	15
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	39	41	42	47	55	72	90
2	31	33	35	39	45	58	71
5	19	21	22	25	29	35	41
10	15	16	17	19	22	26	30
20	12	12	13	15	17	20	23

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	54	57	66	44	45	49	96	107	131	57	61	75
2	43	45	50	34	36	39	74	83	103	45	49	57
5	25	26	29	20	21	24	43	50	62	29	31	35
10	18	19	22	15	16	18	31	37	46	23	25	28
20	14	15	17	12	13	15	24	29	36	19	21	24

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2697	1549	685	207	140	101	54	48	38	28	17	12
APR. 1-SEP. 30	3473	2056	999	334	209	146	74	65	50	36	24	18
JULY 1-AUG. 31	2903	1819	918	311	179	117	65	57	45	32	16	9.4

LITTLE SIOUX RIVER AT GILLETT GROVE

Location.--Lat 43°01'06", long 95°02'34", in SW1/4 NE1/4 sec.25, T.95 N., R.36 W., Clay County, on left bank 5 ft downstream from bridge on county highway B53, 0.4 mile northwest of Gillett Grove, 0.9 mile above Elk Creek, and at mile 146.1.

Remarks.--Discontinued September 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	13	14	16	22	28	31	49
1961	30	30	31	35	50	83	150
1962	14	15	15	21	26	33	43
1963	20	20	21	25	29	46	82
1964	6.9	7.0	7.1	8.2	9.8	17	21
1965	31	33	40	47	56	75	123
1966	33	35	39	54	68	169	186
1967	11	13	14	15	18	23	26
1968	5.3	5.4	5.6	8.4	10	18	20
1969	6.6	7.7	9.9	13	25	30	47
1970	46	46	47	50	58	87	137
1971	39	42	48	55	89	124	217
1972	14	14	14	18	33	80	74
1973	68	71	79	91	98	165	188

06-6056.00 LITTLE SIOUX RIVER AT GILLETT GROVE--Continued

DRAINAGE AREA: 1334 mi² PERIOD OF RECORD: 15 YEARS AVERAGE DISCHARGE: 380 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	5.3	5.4	5.8	8.2	9.8	17	20
CLIMATIC YEAR	1968	1968	1968	1964	1964	1964	1968

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	26	27	30	36	48	75	108
2	19	19	21	26	36	53	76
5	9.5	10	11	14	19	27	37
10	6.7	7.1	7.7	10.0	13	19	24
20	5.0	5.3	5.8	7.6	9.9	15	17

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	57	70	84	39	42	51	243	281	374	55	60	72
2	40	46	56	25	26	32	164	188	246	39	43	49
5	17	18	23	8.5	8.9	10	65	75	93	20	22	26
10	9.8	10	14	4.3	4.4	5.1	36	42	51	14	16	19
20	6.0	6.4	8.5	2.3	2.4	2.6	21	26	30	10	12	16

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1512	909	475	166	105	71	33	28	22	13	6.6	2.8
APR. 1-SEP. 30	1974	1247	780	352	215	128	56	47	34	25	19	14
JULY 1-AUG. 31	1320	702	352	147	105	80	48	42	30	25	15	11

LITTLE SIOUX RIVER AT LINN GROVE

Location.--Lat 42°53'24", Long 95°14'30", in SW1/4 SW1/4 sec. 5, T.93 N., R.37 W., Buena Vista County, on right bank at downstream side of bridge on State Highway 264, in Linn Grove, Iowa, and at mile 123.7.

Drainage area.--1548 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31.

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN FT ³ /S, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	90	95	100	127	165	261	341
1975	8.0	8.2	8.3	8.6	9.2	16	27
1976	84	85	85	87	99	140	151

Qa = 425

Q(84) = 54

7Q2 = 23

7Q10 = 8.1

06-6066.00

LITTLE SIOUX RIVER AT CORRECTIONVILLE

Location.--Lat 42°28'20", long 95°47'49", in NE1/4 NW1/4 sec.1, T.88 N., R.43 W., Woodbury County, on right bank 10 ft upstream from bridge on State Highway 31, 0.3 mile upstream from Bacon Creek, 0.5 mile west of Correctionville, 0.8 mile downstream from Pierson Creek, and at mile 56.0.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1920	130	130	130	136	159	329	334
1921	234	247	250	264	307	353	396
1922	47	50	50	50	57	105	166
1923	6.4	12	23	32	45	82	98
1924	28	31	41	52	83	234	222
1925	119	121	123	124	135	184	319
1930	15	15	18	23	30	71	67
1931	18	19	20	22	24	36	35
1932	9.4	10	13	15	21	49	65
1938	31	31	32	34	40	74	112
1939	97	99	105	121	171	274	547
1940	18	18	18	20	22	35	42
1941	31	32	33	36	48	65	99
1942	33	36	38	44	74	228	286
1943	83	89	94	95	107	221	382
1944	113	117	119	140	236	271	349
1945	107	109	113	120	146	297	521
1946	82	83	87	110	122	175	347
1947	98	101	107	128	150	266	304
1948	47	48	48	61	103	138	132
1949	45	46	48	52	63	73	98
1950	24	25	25	29	37	61	85
1951	27	27	28	30	35	55	93
1952	346	370	374	428	523	669	1060
1953	71	72	74	78	83	98	113
1954	40	40	41	47	72	105	146
1955	60	60	61	71	102	183	276
1956	8.0	10	11	12	13	20	23
1957	4.2	4.6	5.5	6.3	15	23	23
1958	50	50	58	81	110	198	199
1959	6.5	5.7	6.9	6.9	7.8	14	14
1960	47	50	57	78	110	125	176
1961	56	56	57	73	98	154	251
1962	115	115	117	128	141	170	186
1963	110	110	114	135	146	184	309
1964	30	30	31	35	40	51	60
1965	57	58	65	77	98	145	298
1966	83	87	89	99	143	362	363
1967	30	30	31	33	35	45	51

LITTLE SIOUX RIVER AT CORRECTIONVILLE--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1968	16	16	16	19	24	37	43
1969	25	29	37	57	71	95	131
1970	120	121	124	126	133	191	309
1971	59	68	74	82	115	208	353
1972	50	51	52	57	82	153	145
1973	174	185	220	237	271	377	437
1974	167	172	194	321	435	652	686
1975	45	46	47	51	57	76	97
1976	140	143	150	156	194	275	300

06-6066.00 LITTLE SIOUX RIVER AT CORRECTIONVILLE--Continued

DRAINAGE AREA: 2500 mi² PERIOD OF RECORD: 49 YEARS AVERAGE DISCHARGE: 696 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	4.2	4.6	5.5	6.3	7.8	14	14
CLIMATIC YEAR	1957	1957	1957	1957	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	75	77	81	94	119	189	257
2	50	52	56	64	81	131	175
5	21	22	25	28	37	59	74
10	13	14	16	18	24	38	45
20	8.3	9.4	11	12	16	26	29

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	133	146	170	107	111	126	480	547	704	147	162	218
2	90	98	113	71	74	82	320	367	476	90	100	132
5	38	41	48	30	31	34	126	146	201	33	39	51
10	23	25	29	19	20	21	71	84	121	20	24	31
20	14	16	19	12	13	14	43	50	77	12	16	21

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2639	1655	951	418	280	190	84	68	46	28	16	12
APR. 1-SEP. 30	3344	2184	1297	642	454	312	127	102	64	38	22	15
JULY 1-AUG. 31	2680	1625	935	387	271	195	90	73	47	31	20	15

06-6067.00

LITTLE SIOUX RIVER NEAR KENNEBEC

Location.--Lat 42°04'55", long 96°00'50", in SE1/4 SW1/4 sec.18, T.84 N., R.44 W., Monona County, near left bank on downstream side of pier of bridge on Monona county highway A, 1.1 miles south of Kennebec, 5.5 miles northeast of Onawa, 6.0 miles upstream from Maple River and at mile 22.0.

Remarks.--Discontinued Sept. 30, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1941	44	45	48	52	65	87	139
1942	40	44	46	57	100	266	339
1943	92	96	99	103	119	243	430
1944	120	123	127	152	249	287	364
1945	138	144	150	160	190	346	579
1946	92	92	97	141	156	201	424
1947	127	133	139	156	178	286	333
1948	67	68	69	85	130	165	162
1949	56	57	61	66	74	84	115
1950	27	27	28	31	44	72	103
1951	38	38	40	43	51	76	125
1952	400	401	409	462	577	741	1170
1953	110	110	113	116	123	134	155
1954	50	51	53	64	90	126	168
1955	82	83	86	95	128	216	327
1956	24	25	25	27	30	35	36
1957	12	12	13	15	24	33	33
1958	65	65	68	92	133	238	223
1959	17	18	18	19	19	26	26
1960	70	72	80	110	133	143	188
1961	90	90	90	103	127	196	315
1962	120	120	124	138	153	197	215
1963	140	140	142	170	183	223	357
1964	45	45	47	51	60	76	89
1965	70	73	86	108	122	171	401
1966	107	109	111	124	190	424	423
1967	45	46	47	48	54	69	78
1968	20	20	21	25	31	52	60
1969	26	32	41	68	85	122	156

06-6067.00 LITTLE SIOUX RIVER NEAR KENNEBEC--Continued

DRAINAGE AREA: 2738 mi² PERIOD OF RECORD: 29 YEARS AVERAGE DISCHARGE: 779 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	12	12	13	15	19	26	26
CLIMATIC YEAR	1957	1957	1957	1957	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5	85	87	92	108	136	202	286	
2	62	63	67	79	99	145	198	
5	32	33	35	41	51	72	89	
10	23	24	25	29	36	49	56	
20	17	18	19	21	26	35	38	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	137	150	186	93	98	122	549	620	794	189	207	272
2	84	91	113	59	62	75	341	386	504	121	132	170
5	43	47	56	36	37	40	148	166	222	52	57	74
10	35	37	43	32	32	33	100	111	149	34	38	49
20	31	33	37	30	31	30	75	82	110	24	27	36

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	2990	1876	1049	435	295	205	103	86	60	38	25	21
APR. 1-SEP. 30	3991	2593	1502	745	518	356	161	135	95	60	37	30
JULY 1-AUG. 31	3386	2273	1192	512	357	257	133	113	83	54	41	37

06-6070.00 ODEBOLT CREEK NEAR ARTHUR--Continued

DRAINAGE AREA: 39.3 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 15.7 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.20	0.20	0.20	0.20	0.21	0.39	0.61
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.8	2.0	2.2	2.7	3.5	4.6	5.3
2	1.2	1.4	1.5	1.8	2.3	3.0	3.5
5	.54	.60	.65	.78	.92	1.4	1.7
10	.36	.39	.42	.49	.58	.89	1.2
20	.26	.27	.29	.33	.39	.65	.91

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	3.1	3.6	4.4	2.8	3.1	3.6	9.6	10	13	3.9	4.1	4.7
2	2.1	2.4	2.9	1.8	2.0	2.3	6.6	7.2	9.4	2.8	3.0	3.5
5	.93	1.1	1.3	.68	.76	.90	3.0	3.3	4.5	1.5	1.6	1.9
10	.62	.71	.85	.42	.46	.54	1.9	2.2	2.9	1.1	1.1	1.4
20	.45	.50	.59	.28	.30	.36	1.3	1.5	2.0	.75	.79	1.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	48	29	18	8.3	5.6	4.0	2.3	1.9	1.4	0.92	0.63	0.28
APR. 1-SEP. 30	54	35	22	12	9.1	6.7	3.6	3.0	2.2	1.4	1.1	.91
JULY 1-AUG. 31	28	20	14	9.0	7.2	5.8	3.3	2.8	1.9	1.3	1.0	.77

MAPLE RIVER AT MAPLETON

Location.--Lat 42°09'28", long 95°48'27", in SE1/4 SE1/4 sec.23, T.85 N., R.43 W., Monona County, on right bank on downstream side of bridge on State Highway 175, 80 ft downstream from Chicago & Northwestern Railway Company bridge, 0.5 miles southwest of Mapleton, 0.8 mile downstream from Wilsey Creek, 2.0 miles upstream from McClarey Creek, and 16 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1943	18	18	19	22	23	32	56
1944	18	21	21	23	31	38	49
1945	38	42	44	47	57	80	128
1946	25	26	29	49	69	87	160
1947	37	37	41	49	53	73	86
1948	26	27	28	31	37	47	46
1949	13	13	13	14	21	23	32
1950	8.0	8.1	8.8	12	23	32	51
1951	14	14	14	15	19	27	39
1952	133	160	166	175	204	278	439
1953	65	70	71	73	77	85	105
1954	14	19	21	26	31	43	50
1955	35	35	35	36	46	72	108
1956	9.8	10.0	10	11	12	15	18
1957	3.5	3.5	3.7	4.2	5.3	7.9	8.4
1958	6.2	7.0	8.4	17	27	54	54
1959	2.5	2.6	2.7	2.8	3.1	6.8	10
1960	20	21	21	22	30	49	50
1961	22	22	23	27	35	54	100
1962	42	42	44	51	60	78	96
1963	65	66	70	85	98	124	178
1964	30	34	34	37	42	51	55
1965	10	11	13	16	22	28	40
1966	22	36	41	45	60	116	146
1967	17	17	17	19	21	29	37
1968	6.0	6.0	6.2	8.1	15	25	34
1969	19	21	27	31	39	50	57
1970	33	34	34	34	37	57	82
1971	24	25	27	31	34	55	68
1972	11	11	12	13	16	33	35
1973	66	68	70	92	136	172	195
1974	117	122	129	136	172	234	238
1975	18	19	21	22	34	47	59
1976	50	51	52	57	66	86	92

06-6072.00 MAPLE RIVER AT MAPLETON--Continued

DRAINAGE AREA: 669 mi² PERIOD OF RECORD: 35 YEARS AVERAGE DISCHARGE: 229 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.5	2.6	2.7	2.8	3.1	6.8	8.4
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	32	34	36	42	53	73	94
2	22	23	25	29	37	52	66
5	9.9	10	11	13	17	25	32
10	6.6	6.8	7.3	8.5	11	17	22
20	4.6	4.8	5.1	5.9	7.6	12	16

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	53	60	75	40	42	50	136	154	180	76	82	100
2	38	42	53	27	28	33	92	104	124	53	58	70
5	18	20	25	12	12	14	39	44	59	25	28	33
10	11	13	16	7.4	7.7	8.8	23	27	39	17	18	21
20	7.8	8.7	11	5.1	5.3	6.0	15	17	28	11	13	15

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	752	470	263	127	96	72	39	33	23	15	8.0	5.1
APR.1-SEP.30	901	596	357	185	141	109	57	49	37	24	13	8.4
JULY 1-AUG.31	698	456	283	159	124	98	53	47	37	26	13	8.9

06-6075.00

LITTLE SIOUX RIVER NEAR TURIN

Location.--Lat 41°57'52", long 95°58'21", in NW1/4 NE1/4 sec.33, T.83 N., R.44 W., Monona County, on left bank on downstream side of bridge on county highway E54, 1.0 mile east of gaging station on Monona-Harrison ditch near Turin, 2.5 miles downstream from Maple River, 3.8 miles south of Turin, 6.2 miles northeast of Blencoe, and at mile 13.5.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	22	22	22	23	24	32	37
1960	100	106	117	128	153	195	235
1961	120	120	120	135	168	261	422
1962	160	150	169	192	216	289	327
1963	250	250	260	303	331	400	633
1964	72	86	88	96	112	135	150
1965	105	111	125	143	164	224	460
1966	164	169	175	190	284	565	587
1967	68	68	69	69	75	102	119
1968	30	31	33	44	63	88	105
1969	41	52	70	105	128	183	222
1970	180	186	193	202	212	271	401
1971	104	109	118	139	176	296	502
1972	60	61	63	69	88	189	189
1973	342	357	379	428	451	630	676
1974	417	431	464	558	734	965	1050
1975	94	95	98	109	124	153	190
1976	240	244	251	264	318	429	468

06-6075.00 LITTLE SIOUX RIVER NEAR TURIN--Continued

DRAINAGE AREA: 3526 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 1085 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	22	22	22	23	24	32	37
CLIMATIC YEAR	1959	1959	1959	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	157	164	174	198	238	342	447
2	112	118	126	143	172	248	325
5	55	59	63	71	85	121	152
10	38	40	43	48	57	80	96
20	27	29	31	35	41	56	64

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	251	284	327	190	191	216	737	816	1062	265	294	363
2	176	198	228	128	124	147	516	573	737	193	214	254
5	81	91	105	55	46	64	240	270	335	100	112	130
10	52	58	67	34	26	40	155	176	213	70	79	93
20	35	39	45	23	15	26	106	122	144	51	58	71

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	3853	2361	1389	619	441	324	168	145	111	72	33	25
APR. 1-SEP. 30	4950	3137	1958	1019	722	515	254	220	170	134	99	64
JULY 1-AUG. 31	3327	2154	1197	610	473	380	231	209	175	144	105	78

06-6085.00

SOLDIER RIVER AT PISGAH

Location.--Lat 41°49'52", long 95°55'50", in NW1/4 NE1/4 sec.14, T.81 N., R.44 W., Harrison County, on left bank on downstream side of bridge on county highway F20, at west edge of Pisgah, 0.4 mile downstream from Cobb Creek, 0.5 mile upstream from Mogger Ditch, and 13.1 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1942	4.7	4.9	6.0	14	21	35	44
1943	8.4	8.9	11	11	13	16	35
1944	6.0	6.2	6.4	8.1	10	13	22
1945	2.0	2.0	2.4	3.9	7.2	19	26
1946	30	30	31	36	39	50	74
1947	23	24	26	32	42	63	80
1948	11	11	14	27	36	44	44
1949	13	13	15	16	18	25	34
1950	4.0	4.0	4.0	5.5	14	23	40
1951	8.0	9.2	9.6	12	14	17	28
1952	62	66	76	82	116	161	237
1953	59	59	59	59	64	72	81
1954	7.4	8.0	11	18	30	38	39
1955	18	18	19	21	27	35	46
1956	6.0	6.0	6.2	6.5	6.7	10	12
1957	3.3	3.3	3.4	4.0	6.8	10	11
1958	2.9	3.2	3.9	5.5	11	30	35
1959	2.5	2.5	2.9	3.3	3.9	7.0	9.7
1960	7.9	8.9	13	17	20	26	27
1961	20	21	23	25	27	36	51
1962	24	28	31	34	39	49	53
1963	58	58	59	66	71	88	114
1964	30	32	33	34	39	46	50
1965	20	20	23	30	31	37	53
1966	30	30	31	34	61	72	91
1967	13	14	15	17	18	25	29
1968	10	10	10	12	22	29	32
1969	11	12	15	20	23	41	58
1970	27	30	30	30	32	38	46
1971	7.4	7.8	7.9	9.5	13	23	24
1972	5.1	5.1	5.3	5.8	8.3	19	17
1973	30	31	33	42	75	98	116
1974	71	73	77	88	99	118	135
1975	45	47	52	55	56	59	60
1976	33	34	36	39	44	51	57

06-6085.00 SOLDIER RIVER AT PISGAH--Continued

DRAINAGE AREA: 407 mi² PERIOD OF RECORD: 36 YEARS AVERAGE DISCHARGE: 124 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.0	2.0	2.4	3.3	3.9	7.0	9.7
CLIMATIC YEAR	1945	1945	1945	1959	1959	1959	1959

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	20	22	24	26	35	47	58
2	13	14	16	19	25	35	43
5	5.8	6.1	6.8	8.7	12	19	24
10	3.7	3.9	4.4	5.7	8.3	14	17
20	2.6	2.7	3.0	4.0	6.0	10	14

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	30	34	41	27	29	37	59	69	88	36	40	52
2	21	24	30	17	19	25	42	49	63	26	29	39
5	10	12	16	7.1	7.9	11	19	23	30	13	15	21
10	7.2	8.2	11	4.4	4.9	7.0	12	14	19	8.9	10	15
20	5.2	6.0	8.5	2.9	3.3	4.8	8.1	9.6	13	6.5	7.6	11

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	313	195	118	65	51	40	22	19	13	9.4	6.1	4.4
APR. 1-SEP. 30	360	230	144	81	63	49	27	23	16	12	8.5	6.3
JULY 1-AUG. 31	335	180	117	74	60	46	24	20	15	11	8.6	7.1

STEER CREEK NEAR MAGNOLIA

Location.--Lat 41°45'10", long 95°56'15", in NW1/4SE1/4 sec. 11, T.80 N., R.44 W., on upstream side of right wingwall of highway bridge, 5.6 miles upstream from Allen Creek ditch and 5 miles northwest of Magnolia.

Drainage area.--9.26 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31.

CLIMATIC YEAR	LOWEST AVERAGE FLOW, IN FT ³ /S, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1965		0.11	0.18	0.25	0.34	0.49	0.55	0.65
1966		.30	.33	.55	.83	1.3	1.8	2.3
1967		.17	.19	.21	.26	.34	.42	.69
1968		.10	.10	.10	.13	.25	.33	.34
1969		0	0	.01	.21	.27	.34	.39

Q_a = 1.8

Q(84) = 0.6

7Q₂ = 0.3

7Q₁₀ = 0.1

BOYER RIVER AT LOGAN

Location.--Lat 41°38'33", long 95°46'57" , in SE1/4 NW1/4 sec.19, T.79 N., R.42 W., Harrison County, on left bank 9 ft downstream from Illinois Central Railroad bridge at Logan, 0.4 mile downstream from Elk Grove Creek, 10.5 miles upstream from Willow Creek, and 15.8 miles upstream from mouth.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1920	43	44	49	75	92	135	162
1921	50	50	55	68	97	145	166
1922	60	60	60	66	81	96	175
1923	40	40	42	47	59	88	85
1924	142	151	157	159	181	240	330
1939	1.9	4.4	13	19	23	37	142
1940	2.0	2.0	2.0	2.8	3.3	5.8	8.3
1941	19	19	20	22	27	36	63
1942	7.0	8.0	14	32	45	61	65
1943	21	22	24	27	30	45	92
1944	16	18	20	26	38	48	70
1945	38	39	40	48	57	82	127
1946	88	89	89	98	117	144	245
1947	40	40	42	52	57	104	140
1948	23	26	30	43	62	87	86
1949	22	22	23	24	26	33	48
1950	3.0	8.9	10	16	25	43	98
1951	13	13	14	16	22	34	56
1952	140	140	140	162	230	400	513
1953	97	97	98	99	111	126	164
1954	7.7	8.0	9.3	15	34	41	45
1955	35	37	38	40	53	80	110
1956	7.0	7.0	7.2	7.4	8.4	12	20
1957	4.0	4.0	4.2	5.5	10	17	22
1958	7.7	7.9	9.6	12	58	80	84
1959	5.7	5.8	6.3	6.8	8.9	16	22
1960	40	40	40	44	51	71	74
1961	25	26	28	31	37	57	86
1962	68	75	79	101	111	129	136
1963	90	93	98	114	120	163	215
1964	38	40	41	44	55	65	78
1965	36	41	45	49	57	72	129
1966	84	88	92	101	147	195	248
1967	20	21	22	25	31	43	49
1968	12	12	12	16	33	44	52
1969	19	21	27	33	43	143	144
1970	40	40	40	41	53	73	87
1971	14	15	15	17	24	51	52

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1972	15	16	17	19	25	47	40
1973	56	64	66	91	205	405	499
1974	160	179	185	195	309	475	544
1975	106	106	106	107	109	117	124
1976	45	46	49	56	70	86	96

06-6095.00 BOYER RIVER AT LOGAN--Continued

DRAINAGE AREA: 871 mi² PERIOD OF RECORD: 44 YEARS AVERAGE DISCHARGE: 308 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.9	2.0	2.0	2.8	3.3	5.8	8.3
CLIMATIC YEAR	1939	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	44	45	49	58	77	109	143
2	28	29	32	39	53	75	100
5	10	11	13	17	23	34	47
10	6.0	6.8	8.0	10	14	22	31
20	3.7	4.3	5.2	6.7	9.5	15	22

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	65	75	95	55	59	76	152	177	240	84	92	126
2	43	51	65	33	35	45	101	118	160	56	63	90
5	18	23	30	11	12	16	42	50	69	23	28	45
10	11	15	19	6.4	6.9	8.8	25	31	43	14	18	30
20	7.8	10	13	3.9	4.2	5.4	16	20	29	9.0	12	22

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1049	645	375	173	127	94	48	40	27	16	8.0	5.8
APR. 1-SEP. 30	1302	810	480	239	181	135	67	56	39	24	14	11
JULY 1-AUG. 31	1082	678	400	211	161	121	64	54	39	25	15	13

THOMPSON CREEK NEAR WOODBINE

Location.--Lat 41°44'20", long 95°48'20", in SW1/4SW1/4 sec. 13, T.80 N., R.43 W., on left bank 225 ft upstream from county highway bridge, 0.5 miles upstream from Willow Creek, and 6.0 miles northeast of Magnolia, Iowa.

Remarks.--Discontinued Sept. 30, 1969.

Drainage area.--6.97 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1965	0.40	0.40	0.46	0.58	0.64	0.74	1.2
1966	.47	.60	.68	.88	1.3	1.5	2.0
1967	.20	.24	.29	.39	.53	.65	.79
1968	.06	.06	.06	.11	.22	.34	.38
1969	.04	.07	.08	.31	.49	.68	.93

Qa= 1.3

Q(84)= 0.4

7Q2= 0.2

7Q10= 0

06-6096.00

WILLOW CREEK NEAR LOGAN

Location.--Lat 41°37'54", long 95°53'27", in NW1/4 NE1/4 sec.30, T.79 N., R.43 W., Harrison County, on right bank on downstream side of bridge on county highway F50, 5.5 miles west of Logan, and 7.5 miles upstream from mouth.

Remarks.--Discontinued September 30, 1975.

Drainage area.--129 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	20	21	23	26	39	46	52
1975	13	15	16	18	19	20	21

=====
 Qa= 47 Q(84)= 8.6 7Q2= 4.4 7Q10= 1.1

06-6100.00

MISSOURI RIVER AT OMAHA, NEBRASKA

Location.--Lat 41°15'32", long 95°55'20", in SE1/4 NW1/4 sec.23, T.15 N., R.13 E., Douglas County, on right bank on left side of concrete floodwall, at foot of Douglas Street, 275 ft downstream from Interstate 480 Highway bridge in Omaha, and at mile 615.9.

Remarks.--Flow partly regulated by upstream main-stem reservoirs since Nov. 1937.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1930	5810	5950	6530	7780	8670	11900	13100
1931	6030	6590	7550	8120	8380	12100	13600
1932	5010	5440	5580	6030	6830	8540	9120
1933	4000	4140	4320	5330	7100	8900	10600
1934	3500	3690	3960	4930	7610	10100	12400
1935	3700	4120	4150	5080	5580	7590	7750
1936	4430	4830	5090	5610	6470	7000	7920
1937	2270	2880	4190	5350	6300	7840	8830

06-6100.00 MISSOURI RIVER AT OMAHA, NEBRASKA--Continued

DRAINAGE AREA: 322,800 mi² PERIOD OF RECORD: 8 YEARS AVERAGE DISCHARGE: 26,000 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2270	2880	3960	4930	5580	7000	7750
CLIMATIC YEAR	1937	1937	1934	1934	1935	1936	1935

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	4920	5190	5430	6240	7520	9800	11200
2	4350	4630	4900	5740	7050	8950	10100
5	3270	3650	4110	5040	6220	7620	8410
10	2740	3190	3810	4790	5830	7060	7650
20	2330	2850	3610	4620	5500	6650	7080

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	5450	6110	7830	6500	6860	8270	20700	22100	27100	11200	12200	13700
2	5040	5660	7300	5480	6020	7600	18500	19700	23700	9820	10600	11900
5	4290	4860	6180	3890	4730	6500	14900	16100	18200	7580	8040	8980
10	3920	4480	5580	3230	4180	6000	13400	14500	15800	6640	6930	7740
20	3630	4180	5080	2760	3800	5620	12300	13400	14000	5970	6110	6840

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	61500	46100	30700	18300	15300	12100	8710	7950	6800	5700	4710	410
APR. 1-SEP. 30	72400	56900	41700	27900	23800	20600	14400	13000	10800	9210	7750	689
JULY 1-AUG. 31	66300	53100	36300	25800	21600	18500	13200	12300	10900	9890	9190	895

06-6100.00

MISSOURI RIVER AT OMAHA, NEBRASKA--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1938	2630	2900	3270	4370	5550	7530	8350
1939	5370	5810	7100	9500	11500	12500	16000
1940	3000	3030	3170	3660	4650	7410	8380
1941	4300	4660	6180	6930	7990	8500	10400
1942	3870	4470	5010	6830	7850	10300	14300
1943	6570	6600	6860	7610	8460	12800	16200
1944	9730	9990	10300	11300	14100	18100	21700
1945	11500	12100	12200	13100	14100	20200	22700
1946	4830	5000	6250	9260	9910	13400	18300
1947	3330	4760	5340	6890	9860	13700	19800
1948	6600	7000	8160	11100	12100	15900	22700
1949	6210	6280	6480	7220	10500	18300	24100
1950	3970	4190	5100	6460	7850	12000	17300
1951	4870	5380	6370	8770	14200	15800	22900
1952	7020	7230	7460	8580	14100	23100	30100
1953	7930	8240	8350	9950	11100	15600	20600
1954	5800	6160	7830	8290	9910	14400	19800
1955	6450	7190	7470	8700	9730	11500	17000
1956	3210	4300	7000	8360	8850	9700	16600
1957	4590	5640	7190	8040	8580	9060	13200
1958	5790	6740	8210	8560	9260	10300	14500
1959	4470	5290	6870	7880	8960	9790	14200
1960	4580	5740	8430	8570	9120	9460	13700
1961	8000	8460	9210	9400	9860	12400	17600
1962	2730	4650	6410	7340	8090	8870	11700
1963	3630	5390	7430	7890	8420	10200	16100
1964	6590	7060	7110	7960	8510	9310	16100
1965	3700	5900	8220	9170	9390	12000	18100
1966	11800	13000	14900	16300	17700	20600	24500
1967	5370	7740	8290	10300	10600	13500	20300
1968	9100	11000	13000	15000	15600	17700	23200
1969	8030	11200	13200	14100	15000	19300	24100
1970	11700	13400	14100	15900	17200	22400	29900
1971	9170	11400	12100	14100	16000	25400	31300
1972	7210	13600	15500	18000	20000	26400	35500
1973	19900	20500	21400	23600	24900	29900	37300
1974	13600	14700	16000	17900	19400	21500	25000
1975	10200	14600	16600	17700	18200	19700	24900
1976	16300	18900	20200	22400	24300	29500	41800

06-6100.00 MISSOURI RIVER AT OMAHA, NEBRASKA--Continued, regulated period

DRAINAGE AREA: 322,800 mi² PERIOD OF RECORD: 40 YEARS AVERAGE DISCHARGE: 30,000 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2630	2900	3170	3660	4650	7410	8350
CLIMATIC YEAR	1938	1938	1940	1940	1940	1940	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	7510	8800	10200	11600	13100	16600	22800
2	6030	7120	8390	9720	11100	14000	19400
5	4050	4860	5630	6960	8180	10200	14100
10	3340	4030	4850	5890	7010	8760	11900
20	2670	3490	4170	5150	6190	7720	10300

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	10600	11800	14100	10500	11700	13200	31700	32800	33700	32700	33600	34400
2	8290	9570	11600	8770	9890	11200	27900	28900	30100	28600	29700	30600
5	5390	6560	8270	6280	7100	8110	21100	22100	24700	20800	22200	24000
10	4390	5470	7070	5300	5960	6830	17900	18900	22500	17100	18500	21000
20	3750	4740	6270	4620	5150	5920	15500	16500	20900	14400	15800	18800

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	63800	51500	40000	32000	29200	26300	14500	12600	9830	8220	6500	5420
APR. 1-SEP. 30	79000	60500	47700	35900	34000	32100	28000	26800	25100	21900	18300	15700
JULY 1-AUG. 31	65800	56200	47000	36600	34600	32900	28900	27900	26400	22400	19200	16900

06-6105.00

INDIAN CREEK AT COUNCIL BLUFFS

Location.--Lat 41°17'32", long 95°49'59", in SE1/4 SW1/4 sec.18, T.75 N., R.43 W., Pottawattamie County, on left bank at downstream side of first bridge off State Highway 183, on Mud Hollow Road at north edge of Council Bluffs, and 8.8 miles upstream from mouth.

Remarks.--Discontinued September 1976.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1956	0	0	0	0	0	0.02	0.13	
1957	0	0	0	0	.07	.11	.14	
1958	0	0	0	.02	.08	.17	.46	
1959	0	.04	.10	.10	.17	.32	.40	
1960	.17	.19	.20	.38	.45	.49	.50	
1961	0	0	.02	.19	.49	.94	1.3	
1962	.20	.21	.29	.38	.82	1.1	1.6	
1963	.27	.40	.45	.51	1.0	1.1	1.2	
1964	0	0	.05	.13	.20	.36	.45	
1965	.20	.24	.34	.36	.41	.65	.89	
1966	0	0	.04	.24	.57	.87	1.6	
1967	.20	.21	.31	.38	.42	.45	.50	
1968	0	.02	.07	.18	.24	.35	.45	
1969	.06	.11	.16	.20	.51	.68	.81	
1970	0	0	0	.03	.09	.37	.42	
1971	0	0	.02	.05	.17	.35	.47	
1972	.04	.04	.07	.11	.16	.38	.42	
1973	.38	.43	.45	.57	.92	1.2	1.4	
1974	.51	.59	.63	.77	1.2	1.9	2.2	
1975	0	.01	.03	.10	.24	.47	.62	
1976	0	0	0	0	.10	.20	.33	

06-6105.00 INDIAN CREEK AT COUNCIL BLUFFS--Continued

DRAINAGE AREA: 7.99 mi² PERIOD OF RECORD: 22 YEARS AVERAGE DISCHARGE: 1.5 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0.01	0.13
CLIMATIC YEAR	1976	1976	1976	1976	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.13	0.12	0.15	0.26	0.43	0.78	0.86
2	0	.03	.08	.16	.29	.56	.62
5	0	0	0	.04	.12	.21	.33
10	0	0	0	0	.07	.10	.23
20	0	0	0	0	.03	.05	.17

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.46	0.52	0.68	0.27	0.30	0.56	0.65	0.78	1.3	0.32	0.36	0.58
2	.28	.33	.46	.10	.15	.33	.40	.52	.86	.21	.21	.40
5	0	.09	.18	0	.03	.10	.12	.22	.29	0	.02	.12
10	0	0	.06	0	0	.05	.03	.12	.14	0	0	.02
20	0	0	0	0	0	.01	0	.05	.07	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	4.2	2.5	1.6	0.82	0.61	0.50	0.24	0.19	0.12	0.05	0.02	0.
APR.1-SEP.30	5.1	2.9	1.7	.90	.64	.50	.23	.18	.11	.05	.02	.
JULY 1-AUG.31	3.5	1.7	1.1	.56	.46	.36	.14	.11	.07	.03	.01	.

MOSQUITO CREEK NEAR EARLING

Location.--Lat 41°45'10", long 95°27'50", in N1/2 SE1/4 sec.11, T.80 N., R.40 W., Shelby County, on right bank at stream-stabilization structure 1,300 ft downstream from bridge on State Highway 191, 0.5 mile downstream from small left-bank tributary and 2.3 miles southwest of Earling.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1967	0.63	0.75	1.0	1.1	1.2	1.3	1.7
1968	.21	.21	.21	.28	.90	1.2	1.3
1969	.18	.26	.41	.85	1.1	1.7	2.5
1970	.31	.44	.67	.68	.92	1.8	2.4
1971	0	.02	.02	.03	.22	1.2	1.1
1972	0	.08	.11	.19	.32	1.0	1.0
1973	.24	.30	.91	1.5	2.5	3.0	38
1974	8.2	8.7	9.6	13	17	22	31
1975	1.0	1.2	2.1	2.9	3.2	4.0	4.6
1976	1.5	1.5	1.7	2.1	2.4	3.0	3.4

06-6105.20 MOSQUITO CREEK NEAR EARLING--Continued

DRAINAGE AREA: 32.0 mi² PERIOD OF RECORD: 11 YEARS AVERAGE DISCHARGE: 15.9 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0.02	0.02	0.03	0.23	1.0	1.0
CLIMATIC YEAR	1972	1971	1971	1971	1971	1972	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.65	0.84	1.4	1.9	2.1	2.6	4.8
2	.35	.41	.65	.92	1.2	1.8	2.7
5	.10	.10	.14	.21	.47	1.1	1.2
10	0	.05	.06	.09	.31	.94	.84
20	0	.03	.03	.04	.22	.88	.68

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.8	3.1	4.1	2.4	2.9	3.6	5.7	6.3	8.1	1.6	2.2	3.0
2	1.3	1.6	2.4	1.1	1.4	1.9	3.6	4.0	5.2	.77	1.2	1.8
5	.24	.48	.94	.20	.24	.47	1.4	1.7	2.2	.18	.34	.60
10	.10	.27	.64	.08	.09	.22	.81	1.1	1.5	.08	.17	.34
20	.05	.17	.48	.03	.03	.11	.53	.70	1.0	.04	.09	.20

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	50	27	15	5.6	4.1	2.8	1.3	1.1	0.74	0.32	0.13	0.0
APR. 1-SEP. 30	55	26	15	6.4	4.8	3.5	1.6	1.3	.88	.47	.18	0.0
JULY 1-AUG. 31	28	16	10.0	5.0	3.9	2.9	1.4	1.1	.66	.30	.12	0.0

06-8060.00

WAUBONSIE CREEK NEAR BARTLETT

Location.--Lat 40°53'04", long 95°44'47", in NE1/4 NE1/4 sec.11, T.70 N., R.43 W., Fremont County, on left pier on downstream side of highway bridge, 2.5 miles east of Bartlett, 3.5 miles west of Tabor, and 3.6 miles upstream from mouth.

Remarks.--Discontinued Sept. 30, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1948	0.74	1.0	1.2	1.4	1.6	2.0	2.5
1949	.60	.60	.64	1.4	1.8	3.5	6.0
1950	.53	.57	.71	.74	1.1	1.9	3.3
1951	1.0	1.0	1.2	2.6	2.9	3.8	5.9
1952	4.6	4.9	5.6	6.3	7.0	8.3	9.6
1953	3.5	3.6	3.9	4.2	4.4	5.7	6.3
1954	.50	.50	.51	1.4	1.5	2.4	2.5
1955	.03	.06	.24	.67	2.2	3.0	3.6
1956	0	0	0	0	.04	.84	1.9
1957	0	0	0	0	.20	.41	.61
1958	0	0	.08	.16	1.2	1.6	2.2
1959	0	0	.02	.38	1.0	1.6	4.9
1960	.63	.76	1.4	2.5	3.0	4.1	4.4
1961	.57	.70	.85	1.9	3.1	5.7	9.4
1962	1.7	2.0	4.7	5.9	7.4	8.7	10.0
1963	3.6	3.8	4.0	4.8	5.4	6.7	7.1
1964	.80	1.1	1.3	1.9	2.8	3.2	3.9
1965	2.0	2.1	2.2	2.8	3.4	3.6	4.8
1966	2.0	2.1	2.5	3.5	4.5	5.7	6.4
1967	1.5	1.7	1.7	1.9	2.4	2.6	2.8
1968	1.1	1.4	1.5	1.9	2.6	3.1	3.3
1969	.35	.51	.60	1.1	1.5	2.8	3.4

06-8060.00 WAUBONSIE CREEK NEAR BARTLETT--Continued

DRAINAGE AREA: 30.4 mi² PERIOD OF RECORD: 22 YEARS AVERAGE DISCHARGE: 11.6 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0.04	0.42	0.62
CLIMATIC YEAR	1959	1959	1957	1957	1956	1957	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.5	1.6	2.0	2.6	3.8	4.4	5.7
2	.88	1.0	1.2	1.8	2.7	3.3	4.5
5	.07	.11	.20	.59	.94	1.7	2.5
10	0	0	.02	.14	.43	1.2	1.7
20	0	0	0	0	.19	.77	1.2

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.7	3.1	4.1	2.4	2.9	3.8	4.3	5.2	6.6	2.7	3.3	5.1
2	2.0	2.3	3.2	1.5	1.9	2.6	3.3	3.7	4.8	1.7	2.1	3.6
5	.87	1.2	1.3	.49	.54	1.1	1.3	1.4	2.2	.33	.52	1.3
10	.49	.67	.62	.21	.23	.59	.55	.68	1.3	0	.08	.54
20	.19	.29	.29	.05	.10	.34	.11	.33	.76	0	0	.11

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	27	14	8.5	5.3	4.2	3.3	1.9	1.6	1.1	0.61	0.18	0.08
APR.1-SEP.30	42	17	10	6.0	4.8	3.8	2.1	1.7	1.1	.50	.13	.07
JULY 1-AUG.31	47	14	8.3	5.0	3.9	2.9	1.5	1.2	.65	.19	.08	.04

MISSOURI RIVER AT NEBRASKA CITY, NEBRASKA

Location.--Lat 40°40'55", long 95°50'48", in NW1/4 NE1/4 sec.9, T.8 N., R.14 E., Oteo County, on right bank 0.7 mile upstream from Waubonsie Highway Bridge at Nebraska City, and at mile 562.6.

Remarks.--Flow regulated by upstream main-stem reservoirs since Nov. 1937.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1931	9900	10200	11000	12900	14200	19700	21400
1932	8300	8570	8760	10500	11600	13000	12900
1933	3500	3840	4550	7040	10700	12900	15000
1934	4500	4810	5220	7560	12500	14600	17100
1935	4260	4850	6440	7000	7540	10100	10300
1936	5120	5310	5810	6430	7600	9460	10600
1937	3700	4030	4820	6620	7430	9880	11000

06-8070.00 MISSOURI RIVER AT NEBRASKA CITY, NEBRASKA--Continued

DRAINAGE AREA: 414400 mi² PERIOD OF RECORD: 8 YEARS AVERAGE DISCHARGE: 27,000 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	3500	3840	4550	6430	7430	9460	10300
CLIMATIC YEAR	1933	1933	1933	1936	1937	1936	1935

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	5860	6220	6980	8550	11100	13500	14900
2	4910	5270	6050	7610	9900	12000	13200
5	3700	4060	4810	6430	7880	9930	10700
10	3290	3640	4370	6040	7000	9160	9790
20	3030	3370	4070	5800	6330	8630	9150

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	6960	8870	12200	7760	8490	11200	23700	25000	30800	12600	13600	15500
2	5810	7590	10800	6810	7610	9900	21600	23000	27800	11100	11900	13800
5	4350	5680	8470	5170	6040	7660	18300	19800	23000	8970	9620	11200
10	3840	4920	7380	4420	5300	6660	16900	18500	21000	8180	8730	10100
20	3520	4380	6560	3850	4730	5910	15800	17600	19500	7660	8130	9340

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	72300	52700	35700	23600	19800	16100	11600	10600	9050	7360	5540	4840
APR. 1-SEP. 30	82100	58500	48000	32200	28200	24400	16700	15000	12500	11000	9870	9080
JULY 1-AUG. 31	75000	62500	43800	30000	24500	20400	14700	13700	12200	11300	10700	10500

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31							
CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1938	3900	4170	4940	6970	8670	10800	11300
1939	6930	7770	9500	12600	14300	16100	20300
1940	3700	3840	4240	4980	6290	9910	10600
1941	4690	5300	7150	8830	10200	11500	13000
1942	5930	6090	6440	9000	11600	14300	18200
1943	9300	9440	9880	10900	11800	17600	20700
1944	8270	8490	8840	10700	16600	22200	25200
1945	13000	13000	13500	14800	17200	23100	26400
1946	5230	5770	6470	10400	12700	17400	21600
1947	2930	5190	7230	9190	13200	19200	25800
1948	7290	8170	10000	12100	15400	21800	27000
1949	8170	9070	10200	11400	14100	22700	28200
1950	5200	5660	7080	9000	11100	17300	22700
1951	6200	7310	8810	11700	17000	20100	27000
1952	8230	8770	9810	12400	19700	31800	39000
1953	11800	12400	13200	15100	16500	21800	25900
1954	6730	7210	9170	11700	13800	19600	24300
1955	8580	9360	9840	11700	13400	15400	21600
1956	4970	5590	8140	9820	11000	12800	19700
1957	4510	6110	8280	9360	10200	11900	16100
1958	7380	8150	10200	12000	12400	15000	20000
1959	6670	7200	9190	11300	12300	14500	19400
1960	5870	6930	10200	11500	13000	14100	18600
1961	6780	9070	10800	12900	13300	17200	22800
1962	5830	7240	10400	11700	12600	13600	17000
1963	5930	7060	9530	11500	12600	16400	22000
1964	5330	5930	7960	10600	11400	13500	20300
1965	8670	10900	12200	12900	13300	18500	23600
1966	10000	11200	14600	18500	22200	27700	32600
1967	9000	11000	11200	13500	14400	17400	24000
1968	8670	9570	11800	14600	18100	21900	27400
1969	8170	13600	15700	16500	17600	24300	29100
1970	12000	14100	15700	17600	21100	27800	35300
1971	9670	10200	12800	16100	18900	31000	36100
1972	10700	16200	19300	21500	23700	32000	40500
1973	25700	26200	26400	29800	33200	40800	46000
1974	18500	19200	20500	22500	26400	30900	35500
1975	12600	16500	18900	20500	21300	23800	28600
1976	16400	21200	24000	26700	28500	35000	46100

06-8070.00 MISSOURI RIVER AT NEBRASKA CITY, NEBRASKA--Continued, regulated period

DRAINAGE AREA: 410,000 mi² PERIOD OF RECORD: 39 YEARS AVERAGE DISCHARGE: 36,800 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2930	3840	4240	4980	6290	9910	10600
CLIMATIC YEAR	1947	1940	1940	1940	1940	1940	1940

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	8980	10300	12300	14500	16900	22000	28100
2	7380	8530	10300	12500	14700	18900	24400
5	5210	6070	7510	9400	11200	14300	18200
10	4420	5180	6420	8180	9780	12400	15500
20	3890	4590	5660	7300	8780	11100	13500

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	13200	14800	18200	12400	14200	16800	37300	38800	40300	36400	37100	38400
2	10500	12200	15300	10500	12200	14400	33000	34300	36000	32200	33000	34400
5	7060	8650	11400	7660	9010	10800	25900	27100	30100	23700	24900	27000
10	5830	7310	9930	6530	7690	9260	22800	23900	27900	19500	20900	23400
20	5020	6410	8940	5740	6760	8190	20500	21700	26500	16200	17800	20600

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	77600	61000	47800	36500	34100	31600	18700	16600	13400	11000	8490	6750
APR. 1-SEP. 30	95200	73100	56700	42900	39200	36300	32800	31400	29300	25200	20500	17800
JULY 1-AUG. 31	76500	63700	52800	41400	38200	36000	32700	31200	29000	24400	20400	18500

WEST NISHNABOTNA RIVER AT HANCOCK

Location.--Lat 41°23'24", long 95°22'17", 1n NE1/4 sec.18, T.76 N., R.39 W., Pottawattamie County, on downstream end of right pier of bridge on county highway G30, 0.6 mile west of Hancock school, and 3.0 miles downstream from Jim Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1961	26	26	27	36	45	58	98
1962	90	91	95	99	104	134	169
1963	65	70	70	75	78	91	116
1964	12	13	13	16	22	30	38
1965	34	35	38	41	50	63	94
1966	48	52	55	65	96	172	244
1967	10	13	19	21	24	32	35
1968	7.5	7.5	7.7	12	23	32	36
1969	10	12	15	19	25	31	40
1970	26	27	27	29	35	46	58
1971	2.3	2.5	2.6	2.7	6.6	17	21
1972	11	11	12	13	15	34	30
1973	43	44	47	74	142	166	536
1974	209	221	234	244	341	435	568
1975	39	41	47	57	70	90	104
1976	48	49	51	57	68	92	106

06-8074.10 WEST NISHNABOTNA RIVER AT HANCOCK--Continued

DRAINAGE AREA: 609 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 274 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	2.3	2.5	2.6	2.7	6.6	17	21
CLIMATIC YEAR	1971	1971	1971	1971	1971	1971	1971

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	42	44	48	58	70	88	122
2	27	28	31	38	46	61	79
5	10	11	12	15	20	32	37
10	5.9	6.4	7.1	8.4	13	24	26
20	3.8	4.1	4.5	5.2	9.5	19	20

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	66	72	85	56	60	76	164	187	229	86	93	113
2	41	46	55	34	36	47	107	123	155	60	65	80
5	18	21	27	12	13	17	44	52	67	28	30	37
10	12	14	19	7.2	7.7	10.0	27	32	42	18	19	24
20	8.9	11	15	4.6	4.9	6.2	17	21	27	12	13	17

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	983	582	326	156	117	86	41	35	27	18	14	9.2
APR. 1-SEP. 30	1079	647	380	201	162	131	63	52	37	22	16	14
JULY 1-AUG. 31	608	419	268	166	135	109	54	46	33	24	17	15

MULE CREEK NEAR MALVERN

Location.--Lat 40°56'36", long 95°35'42", in NE1/4 NE1/4 sec.19, T.71 N., R.41 W., Mills County, on right bank 170 ft upstream from culvert on county highway L63, 0.2 mile downstream from unnamed tributary, 1.8 miles upstream from mouth, and 4.3 miles south of Malvern.

Remarks.--Discontinued Sept. 30, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1956	0	0.02	0.06	0.11	0.13	0.15	0.33
1957	.10	.10	.10	.11	.17	.46	.45
1958	.20	.20	.29	.44	.73	1.1	1.2
1959	.13	.40	.53	.65	.80	1.1	1.9
1960	1.4	1.5	1.7	2.4	2.6	3.0	3.2
1961	2.4	2.5	2.7	3.0	3.1	3.9	5.1
1962	2.2	2.4	3.0	3.3	3.6	5.1	5.3
1963	1.4	1.6	1.7	2.0	2.3	2.8	2.9
1964	.70	.70	.74	.77	1.0	1.2	1.4
1965	1.1	1.2	1.3	1.6	2.3	2.3	2.5
1966	1.3	1.4	1.4	1.9	2.4	2.9	3.5
1967	.67	.90	1.1	1.2	1.3	1.3	1.4
1968	.40	.44	.51	.93	1.4	1.6	1.8
1969	.21	.27	.33	.36	.50	.76	1.1

06-8080.00 MULE CREEK NEAR MALVERN--Continued

DRAINAGE AREA: 10.6 mi² PERIOD OF RECORD: 13 YEARS AVERAGE DISCHARGE: 4.4 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0.01	0.06	0.11	0.13	0.15	0.33
CLIMATIC YEAR	1956	1956	1956	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.0	1.3	1.3	1.6	2.0	2.4	2.6
2	.59	.75	.79	1.1	1.3	1.7	1.9
5	.19	.19	.28	.36	.51	.71	.90
10	.07	.07	.14	.19	.28	.41	.58
20	0	.03	.08	.11	.16	.25	.39

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.7	2.1	2.3	1.7	1.8	2.1	2.1	2.4	3.2	1.6	1.9	2.4
2	1.2	1.4	1.6	1.1	1.2	1.5	1.3	1.6	2.1	1.1	1.2	1.6
5	.44	.55	.65	.31	.42	.59	.46	.55	.74	.38	.43	.59
10	.24	.30	.35	.12	.21	.33	.25	.30	.39	.20	.23	.31
20	.14	.17	.20	.05	.11	.19	.15	.17	.21	.12	.13	.17

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	10	6.7	4.6	2.8	2.2	1.8	0.94	0.74	0.44	0.25	0.13	0.0
APR. 1-SEP. 30	13	7.7	5.4	3.1	2.5	2.0	.91	.71	.40	.23	.10	.0
JULY 1-AUG. 31	9.6	6.0	4.4	2.8	2.2	1.8	.77	.59	.33	.20	.08	.0

SPRING VALLEY CREEK NEAR TABOR

Location.--Lat 40°54'35", long 95°36'00", in SW1/4 NE1/4 sec.31, T.71 N., R.41 W., Mills County, on left bank 20 ft downstream from highway bridge, 1.5 miles upstream from mouth and 4.0 miles northeast of Tabor.

Remarks.--Discontinued Sept. 30, 1964.

Drainage area.--7.65 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1957	0	0	0	0	0.17	0.25	0.25
1958	.03	.07	.11	.17	.37	.55	.61
1959	.03	.11	.18	.32	.50	.75	1.2
1960	1.1	1.2	1.3	1.6	2.2	2.4	2.6
1961	1.7	1.8	1.9	2.3	2.4	2.9	3.6
1962	1.9	2.1	2.7	3.2	3.3	3.8	4.1
1963	1.2	1.3	1.4	1.6	1.7	2.0	2.3
1964	.90	.93	1.0	1.2	1.3	1.3	1.3

Qa= 3.9

Q(84)= 0.6

7Q2= 0.3

7Q10= *

WEST NISHNABOTNA RIVER AT RANDOLPH

Location.--Lat 40°52'23", long 95°34'48", in NE1/4 NE1/4 sec.17, T.70 N., R.41 W., Fremont County, on right bank 30 ft upstream from bridge on State Highway 184, 0.3 mile downstream from Deer Creek, 0.5 mile west of Randolph, and 16.2 miles upstream from confluence with East Nishnabotna River.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1950		50	50	50	51	54	81	129
1951		63	67	69	76	78	109	152
1952		120	120	120	129	223	359	437
1953		200	200	201	231	244	279	427
1954		29	29	30	31	47	79	90
1955		36	37	44	54	95	108	164
1956		10	11	13	16	17	23	26
1957		12	12	12	15	24	48	58
1958		42	46	60	73	114	127	142
1959		56	60	60	63	73	112	231
1960		97	104	133	141	150	164	167
1961		120	121	128	154	197	245	358
1962		240	240	247	259	277	341	386
1963		143	151	160	171	173	223	292
1964		40	41	45	57	71	86	94
1965		90	91	104	124	134	162	231
1966		191	210	216	255	368	458	564
1967		81	86	89	94	103	109	114
1968		65	68	69	77	98	112	127
1969		25	29	40	55	59	81	93
1970		60	60	63	73	99	128	154
1971		45	47	50	56	62	88	89
1972		46	48	50	56	62	88	89
1973		46	48	50	52	57	97	92
1974		491	527	549	576	754	985	1120
1975		191	196	202	227	231	244	255
1976		170	186	188	200	215	231	257

DRAINAGE AREA: 1326 mi² PERIOD OF RECORD: 28 YEARS AVERAGE DISCHARGE: 545 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	10	11	12	15	17	23	26
CLIMATIC YEAR	1956	1956	1957	1957	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	105	109	116	130	154	191	240
2	72	75	80	91	108	137	170
5	33	34	38	44	54	74	88
10	22	23	26	30	37	55	63
20	16	16	18	22	28	43	49

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	150	162	186	137	146	184	324	358	464	194	211	286
2	100	111	129	92	97	119	216	242	313	135	147	201
5	47	54	66	42	44	51	91	108	139	60	67	91
10	31	37	48	28	29	33	56	69	89	38	43	56
20	23	28	37	20	21	23	37	47	61	25	28	37

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1876	1100	667	328	245	183	103	89	68	47	26	18
APR. 1-SEP. 30	2212	1324	810	448	349	273	130	112	85	56	34	23
JULY 1-AUG. 31	1644	941	621	380	317	259	126	107	80	51	32	20

06-8090.00

DAVIDS CREEK NEAR HAMLIN

Location.--Lat 41°40'25", long 94°48'20", in NE1/4 NE1/4 sec.9, T.79, R.34 W., Audubon County, on left bank 20 ft downstream from bridge on State Highway 64, 5.2 miles east of Hamlin, and 8 miles upstream from mouth.

Remarks.--Discontinued Sept. 30, 1973.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1954	0	0	0	0.04	0.13	0.26	0.27
1955	.10	.10	.10	.13	.36	.70	1.7
1956	0	0	0	0	0	.02	.04
1957	0	0	.05	.12	.35	1.7	2.7
1958	.63	.67	.75	1.1	1.8	3.5	5.9
1959	1.0	1.0	1.0	1.0	1.1	2.5	5.3
1960	.87	1.1	1.3	1.7	2.2	2.4	3.0
1961	.80	.84	.84	1.2	1.7	2.9	4.7
1962	1.5	1.9	2.3	3.6	5.1	9.7	10
1963	1.5	1.6	1.6	1.9	2.0	2.4	3.0
1964	.40	.40	.43	.54	.64	.80	.87
1965	1.0	1.1	1.4	2.2	2.4	2.6	3.7
1966	1.9	1.9	2.1	2.4	3.8	7.3	10
1967	.40	.40	.43	.45	.66	.86	1.1
1968	.02	.02	.03	.13	.71	1.1	1.2
1969	.12	.13	.13	.15	.17	.32	.75
1970	1.0	1.1	1.3	1.5	1.5	2.0	2.6
1971	0	0	0	.01	.02	.68	.58
1972	.07	.07	.07	.14	.27	1.0	1.1
1973	1.4	1.6	1.8	2.0	4.5	6.5	14

06-8090.00 DAVIDS CREEK NEAR HAMLIN--Continued

DRAINAGE AREA: 26.0 mi² PERIOD OF RECORD: 21 YEARS AVERAGE DISCHARGE: 11.1 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0.02	0.04
CLIMATIC YEAR	1971	1971	1971	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	3	7	14	30	60	120	183
1.5	0.81	0.84	0.86	1.1	1.7	3.0	4.1
2	.42	.44	.44	.54	.94	1.8	2.5
5	.01	.01	.05	.10	.22	.51	.68
10	0	0	0	.03	.06	.21	.30
20	0	0	0	0	0	.09	.14

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.4	2.1	2.5	1.5	1.6	2.1	6.1	7.8	10	1.9	2.4	3.3
2	.79	1.2	1.5	.70	.75	1.1	3.8	4.5	6.0	1.0	1.3	1.7
5	.22	.22	.52	.11	.12	.22	1.2	1.2	1.7	.20	.25	.31
10	.05	.06	.27	.01	.01	.07	.49	.45	.72	.03	.04	.09
20	0	0	.08	0	0	.01	.09	.19	.33	0	0	.01

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	40	24	13	5.4	3.4	2.2	0.78	0.57	0.25	0.12	0.05	0.02
APR.1-SEP.30	127	44	22	9.3	6.4	4.1	1.1	.82	.39	.14	.06	.03
JULY 1-AUG.31	138	29	15	6.2	4.4	2.7	.78	.55	.21	.11	.04	.02

EAST NISHNABOTNA RIVER NEAR ATLANTIC

Location.--Lat 37°41'20'37", long 95°04'31", in NW1/4 NW1/4 sec.35, T.76 N., R.67 W., Cass County, on left bank at downstream side of bridge on county highway, 1.9 miles upstream from Turkey Creek, and 5.4 miles southwest of junction of U.S. Highway 6 and State Highway 83 in Atlantic.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1962	43	53	59	75	87	125	135
1963	27	27	28	29	32	41	48
1964	7.0	7.0	7.5	9.8	14	19	22
1965	29	31	34	36	38	52	92
1966	31	33	35	42	64	117	147
1967	12	13	14	16	18	21	22
1968	7.2	8.4	8.8	10	14	19	22
1969	8.1	8.8	9.1	11	13	20	25
1970	20	20	20	21	23	30	37
1971	7.0	7.0	7.2	7.5	8.2	18	19
1972	9.2	11	12	14	16	28	29
1973	30	34	36	91	164	182	465
1974	125	134	137	150	221	256	289
1975	41	43	44	56	62	69	76
1976	39	40	40	43	48	55	66

06-8092.10 EAST NISHNABOTNA RIVER NEAR ATLANTIC--Continued

DRAINAGE AREA: 436 mi² PERIOD OF RECORD: 16 YEARS AVERAGE DISCHARGE: 218 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.0	7.0	7.2	7.5	8.2	18	19
CLIMATIC YEAR	1971	1971	1971	1971	1971	1971	1971

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	28	31	32	40	49	64	81
2	19	21	22	27	32	43	52
5	9.7	10	11	13	15	22	24
10	7.0	7.4	7.8	8.8	10	16	18
20	5.4	5.7	6.0	6.6	8.1	13	14

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	49	53	59	41	43	53	127	153	209	47	52	66
2	31	34	37	25	27	33	85	101	140	34	37	47
5	13	14	18	11	12	15	34	39	54	18	19	24
10	8.9	9.7	13	7.9	8.4	11	19	22	30	12	13	16
20	6.5	7.1	9.9	6.0	6.4	8.4	11	13	18	9.4	9.9	12

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	757	462	259	114	75	56	27	24	19	13	9.4	8.2
APR.1-SEP.30	789	517	311	158	116	82	41	34	24	14	11	9.3
JULY 1-AUG.31	436	292	186	106	84	67	36	31	23	13	10	8.9

06-8095.00

EAST NISHNABOTNA RIVER AT RED OAK

Location.--Lat 41°00'41", long 95°14'07", in NW1/4 SE1/4 sec.29, T.72 N., R.38 W., Montgomery County, on left bank on downstream side of Coolbaugh Street bridge in Red Oak, and 0.2 mile upstream from Red Oak Creek.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1920	38	40	43	51	74	194	230
1922	34	40	40	40	57	104	178
1938	7.7	8.2	9.9	13	13	17	17
1939	20	21	22	23	25	36	94
1940	9.7	10	11	12	13	16	21
1941	12	15	25	28	30	43	61
1942	31	33	45	87	95	209	233
1943	43	48	50	54	66	80	123
1944	15	17	22	28	39	49	80
1945	58	60	64	65	71	92	174
1946	28	29	32	43	71	93	168
1947	72	79	96	134	187	261	397
1948	34	35	36	40	52	91	99
1949	25	27	32	39	48	75	149
1950	25	25	26	30	37	46	58
1951	11	17	20	21	23	33	52
1952	80	80	80	82	121	159	229
1953	115	120	122	122	136	152	257
1954	18	18	18	21	26	37	39
1955	16	16	19	24	41	64	111
1956	14	14	17	22	25	27	28
1957	15	15	15	20	32	56	71
1958	47	52	53	65	108	116	146
1959	60	60	60	60	69	96	239
1960	63	68	75	79	94	101	116
1961	54	56	57	70	85	120	195
1962	90	97	112	129	156	235	247
1963	61	62	63	68	76	95	116
1964	18	18	19	24	33	41	49
1965	45	46	52	59	66	100	187
1966	90	92	97	142	174	232	293
1967	30	34	36	41	48	53	55
1968	20	21	22	27	37	49	58
1969	22	26	29	33	36	39	50
1970	44	48	50	58	61	73	84
1971	12	13	15	17	23	44	48
1972	24	25	26	30	33	58	56
1973	55	58	68	146	273	314	796
1974	190	212	250	278	388	497	559

EAST NISHNABOTNA RIVER AT RED OAK--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1975		107	108	116	135	148	170	179
1976		69	71	72	75	83	116	134

06-8095.00 EAST NISHNABOTNA RIVER AT RED OAK--Continued

DRAINAGE AREA: 894 mi² PERIOD OF RECORD: 46 YEARS AVERAGE DISCHARGE: 373 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.7	8.2	9.9	12	13	16	17
CLIMATIC YEAR	1938	1938	1938	1940	1940	1940	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	46	49	53	63	80	113	163
2	33	35	39	46	57	81	114
5	18	19	21	25	30	42	55
10	13	14	16	19	22	30	38
20	9.9	11	12	15	18	23	28

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	71	78	93	63	67	89	178	215	293	89	101	143
2	48	53	65	43	45	57	118	142	190	62	70	99
5	24	27	35	21	22	27	52	62	80	29	34	46
10	17	20	26	16	16	19	33	40	51	19	23	30
20	13	15	21	12	13	15	23	27	34	14	17	21

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1355	783	430	201	147	106	54	46	34	24	17	14
APR.1-SEP.30	1634	976	564	285	217	164	77	65	47	32	23	19
JULY 1-AUG.31	1123	680	406	238	190	149	73	62	46	30	23	20

06-8100.00

NISHNABOTNA RIVER ABOVE HAMBURG

Location.--Lat 40°37'57", long 95°37'32", in SW1/4 SE1/4 sec.11, T.67 N., R.42 W., Fremont County, on left bank 1.6 miles downstream from confluence of East Nishnabotna and West Nishnabotna Rivers, 2 miles northeast of Hamburg, and at mile 13.2.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1923	165	166	172	191	235	273	319
1930	224	229	231	253	316	426	396
1931	54	56	69	76	98	112	113
1932	72	74	91	110	165	559	551
1933	193	193	207	320	407	529	538
1934	42	49	82	106	116	145	165
1935	7.2	10.0	14	15	36	144	159
1936	11	13	19	38	64	143	132
1937	13	17	19	25	40	100	342
1938	16	17	19	24	28	35	40
1939	41	48	59	65	68	90	329
1940	15	15	17	20	25	37	47
1941	52	64	74	83	94	123	168
1942	59	64	97	137	198	776	854
1943	163	170	172	185	216	259	419
1944	47	57	79	82	109	127	191
1945	97	113	149	184	215	270	432
1946	222	225	235	276	319	386	690
1947	329	339	372	458	508	707	948
1948	133	139	150	164	260	336	367
1949	118	126	130	148	179	261	453
1950	80	90	100	107	153	186	232
1951	150	150	151	158	168	226	322
1952	230	230	236	269	498	701	858
1953	285	380	384	403	465	488	754
1954	48	54	57	64	80	131	149
1955	59	72	82	98	163	209	337
1956	23	23	28	39	46	53	59
1957	27	27	27	36	62	118	140
1958	62	82	98	141	253	290	331
1959	170	171	174	175	190	266	601
1960	240	291	334	352	378	452	487
1961	240	241	250	280	351	486	721
1962	420	505	578	669	789	958	962
1963	250	300	300	325	332	391	487
1964	77	85	100	117	138	160	179
1965	210	216	241	250	278	326	497
1966	417	444	454	523	813	922	1090
1967	135	140	140	145	180	195	206

06-8100.00

NISHNABOTNA RIVER ABOVE HAMBURG--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1968	80	80	82	111	164	210	226
1969	50	54	59	86	102	123	151
1970	187	221	232	235	246	305	353
1971	59	69	77	89	122	172	157
1972	32	32	35	39	70	160	173
1973	217	222	231	345	661	607	1600
1974	916	960	992	1020	1430	2080	2210
1975	320	334	355	390	395	421	466
1976	260	311	313	326	355	381	444

06-8100.00 NISHNABOTNA RIVER ABOVE HAMBURG--Continued

DRAINAGE AREA: 2806 mi² PERIOD OF RECORD: 49 YEARS AVERAGE DISCHARGE: 1019 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	7.2	10.0	14	15	25	35	40
CLIMATIC YEAR	1935	1935	1935	1935	1940	1938	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	159	172	188	217	272	368	488
2	102	111	124	146	186	258	342
5	39	43	51	63	84	125	162
10	23	26	31	39	55	85	107
20	14	17	20	26	39	62	76

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	229	261	310	243	267	354	520	610	784	282	324	463
2	147	172	214	155	171	221	338	396	510	181	214	309
5	61	75	104	66	73	91	138	163	214	68	86	122
10	38	47	72	43	47	58	84	100	133	38	50	69
20	25	32	53	30	33	40	55	65	89	23	31	42

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	3890	2322	1313	609	435	324	162	133	91	60	37	26
APR.1-SEP.30	4660	2831	1667	833	613	440	204	165	108	73	45	29
JULY 1-AUG.31	3633	2235	1321	733	560	403	179	147	100	68	29	19

06-8118.40

TARKIO RIVER AT STANTON

Location.--Lat 40°58'52", long 95°06'32", in NW1/4 SW1/4 sec.4, T.71 N., R.37 W., Montgomery County, on right bank 10 ft downstream from bridge on county highway, 0.1 mile downstream from Little Tarkio Creek, and 0.5 mile west of Stanton.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1959	0.20	0.33	0.62	1.0	1.2	2.3	6.7
1960	.63	.76	1.3	2.9	5.8	7.7	10
1961	3.3	3.7	4.0	5.2	6.8	13	27
1962	.87	1.6	2.7	4.1	6.1	14	20
1963	.40	.40	.45	1.1	1.7	3.0	3.6
1964	.17	.19	.23	.24	.60	.86	1.1
1965	.47	1.0	1.9	2.5	3.9	4.5	8.1
1966	2.8	3.9	4.3	5.9	13	16	19
1967	.03	.13	.19	.24	.80	1.1	1.3
1968	.11	.16	.25	.56	.77	1.2	1.5
1969	0	0	.06	.06	.18	.25	.36
1970	.60	.64	.71	1.1	1.7	2.8	4.9
1971	0	0	0	.10	.36	3.0	2.9
1972	.04	.04	.04	.04	.31	1.2	4.0
1973	2.5	2.7	3.0	6.6	19	28	39
1974	7.9	9.0	9.3	10	17	28	39
1975	.27	.43	.56	.84	1.0	1.6	2.0
1976	.17	.27	.35	.64	1.2	2.1	2.8

DRAINAGE AREA: 49.3 mi² PERIOD OF RECORD: 19 YEARS AVERAGE DISCHARGE: 25.8 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.04	0.19	0.25	0.37
CLIMATIC YEAR	1971	1971	1971	1972	1969	1969	1969

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.73	1.0	1.4	2.1	3.4	6.0	9.3
2	.34	.50	.67	1.1	1.9	3.4	5.3
5	.06	.10	.15	.24	.57	1.2	1.7
10	0	0	.05	.10	.32	.65	.93
20	0	0	0	.05	.20	.41	.56

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	2.2	4.0	4.8	2.4	2.9	4.6	8.2	11	18	2.2	2.6	3.8
2	.89	1.9	2.5	1.1	1.4	2.6	4.4	6.4	10	1.0	1.2	1.9
5	.15	.34	.67	.24	.30	.92	.85	1.6	2.7	.10	.18	.40
10	.05	.10	.30	.10	.12	.56	.29	.58	1.2	0	.04	.16
20	.01	.01	.06	.02	.02	.27	.10	.23	.50	0	0	.07

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	84	52	29	12	7.4	4.8	1.7	1.3	0.62	0.25	0.11	0.05
APR. 1-SEP. 30	93	57	33	15	10	7.1	2.5	1.8	.68	.21	.08	.04
JULY 1-AUG. 31	56	33	19	9.8	7.2	5.0	1.4	.94	.25	.13	.05	.03

06-8135.00

MISSOURI RIVER AT RULO, NEBRASKA

Location.--Lat 40°03'14", long 95°25'12", in NW1/4 NW1/4 sec.17, T.1 N., R.18 E., Richardson County, on downstream end of middle pier of bridge on U.S. Highway 159 at Rulo, 3.2 miles upstream from Nemaha River, and at mile 498.0.

Remarks.--Flow regulated by upstream main-stem reservoirs since Nov. 1937.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1951	6100	7140	8890	12000	17800	20900	28200
1952	6670	7270	8390	11400	21000	33700	42000
1953	12700	13600	14500	16600	17200	23300	27800
1954	7000	7490	9280	11900	14500	19900	24400
1955	8700	9330	9780	11800	13700	15900	22300
1956	5100	5560	7670	9430	11100	13000	19800
1957	4640	6020	8770	9800	10900	12500	16700
1958	7200	8070	9560	12200	12600	16300	21500
1959	6310	7290	9620	11500	12600	15100	20400
1960	7340	8720	12300	14100	15000	15600	20400
1961	7150	9320	11600	13700	14100	18500	24100
1962	8110	9260	12100	12400	13500	15100	19600
1963	5530	6990	9590	11800	13100	17900	23700
1964	5500	5860	7420	10500	11600	13800	20700
1965	9330	12100	13200	13600	13900	19600	24900
1966	10000	11400	14700	19100	23000	28700	33600
1967	9670	11100	11900	14000	15000	18000	24500
1968	8670	9430	11600	14700	18500	22700	28300
1969	10800	14600	16100	17000	18300	26200	30400
1970	12300	14200	16000	17900	21800	29200	36700
1971	10000	10100	12600	16500	19500	31800	36800
1972	13600	19500	20200	22200	24600	32900	41400
1973	26300	27000	27200	32100	38000	45400	50100
1974	21000	22100	24300	26800	31900	36200	41500
1975	14600	18400	20500	21900	22500	25000	29900
1976	17200	21200	24100	27300	29100	36000	47100

DRAINAGE AREA: 414,900 mi² PERIOD OF RECORD: 39 YEARS AVERAGE DISCHARGE: 38,870 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	4640	5560	7420	9430	10900	12500	16700
CLIMATIC YEAR	1957	1956	1964	1956	1957	1957	1957

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	10500	12300	14300	16600	19300	25100	31200
2	8660	10100	12200	14400	16600	21400	27300
5	6260	7250	9200	11300	13000	16000	21500
10	5420	6210	8110	10200	11600	13900	19100
20	4870	5530	7370	9500	10700	12400	17500

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	17000	18800	21900	13400	15200	18000	41700	42800	44200	40300	38700	39800
2	13500	15600	18300	11300	13200	15500	37200	38100	39600	36700	35700	37000
5	8730	10800	13300	8470	10500	12300	29400	30300	32800	29700	31800	33700
10	6940	8890	11400	7430	9540	11300	25800	26900	30100	26000	30500	32800
20	5730	7570	10100	6730	8920	10600	23000	24300	28300	23100	29700	32300

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	72100	61500	50200	39300	36400	34100	22200	19500	15400	13000	10300	8410
APR.1-SEP.30	85600	69000	56300	44400	40800	38600	34700	34100	33100	32200	29500	28400
JULY 1-AUG.31	68700	61000	52500	41800	39900	38000	34600	34000	33000	32300	29700	28600

06-8170.00

NODAWAY RIVER AT CLARINDA

Location.--Lat 40° 44' 19", long 95° 00' 47", in SW1/4 NE1/4 sec.32, T.69 N., R.36 W., Page County, near left abutment on downstream side of bridge on State Highway 2 (City Route), 0.5 mile downstream from North Branch, 1.2 miles east of city square of Clarinda, and 7.5 miles upstream from East Nodaway River.

Remarks.--Clarinda municipal water supply is taken from Nodaway River, 500 ft upstream from station.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1921	10	10	10	13	15	26	33
1924	1.0	1.3	2.0	2.1	3.9	34	74
1938	5.4	6.0	6.5	6.7	7.2	8.2	9.3
1939	7.0	8.0	8.1	8.8	12	13	44
1940	5.0	5.0	5.5	6.5	7.9	9.6	10
1941	11	12	13	14	16	24	60
1942	15	15	20	23	42	331	407
1943	22	23	26	32	43	67	100
1944	14	15	16	17	25	34	69
1945	27	30	34	45	69	96	139
1946	5.7	6.5	6.9	15	29	38	67
1947	32	34	45	47	82	112	185
1948	8.4	9.2	13	19	29	44	43
1949	10	11	14	16	22	43	69
1950	12	17	19	21	22	32	34
1951	13	13	14	15	17	29	68
1952	50	52	53	57	87	134	198
1953	35	37	38	39	43	61	89
1954	8.0	8.0	8.8	14	17	21	22
1955	9.0	9.0	9.0	9.9	15	20	68
1956	5.0	5.2	6.6	9.4	10	13	16
1957	4.7	6.2	9.7	11	15	32	45
1958	14	15	18	23	35	41	51
1959	19	25	32	33	35	50	143
1960	52	55	79	90	125	142	215
1961	28	29	30	39	48	82	218
1962	25	30	54	61	78	211	371
1963	30	33	33	37	42	53	62
1964	15	15	15	20	26	32	36
1965	30	32	39	47	55	75	174
1966	55	63	64	94	184	209	231
1967	7.3	7.6	7.9	10	18	23	26
1968	10	10	10	15	24	30	34
1969	9.4	12	12	16	21	27	32

NODAWAY RIVER AT CLARINDA--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1970	22	22	22	24	34	46	67
1971	12	13	13	18	26	38	37
1972	14	14	14	16	22	31	40
1973	32	33	36	82	267	300	799
1974	173	187	190	220	361	447	688
1975	33	34	35	39	42	56	59
1976	30	30	31	33	40	53	59

06-8170.00 NODAWAY RIVER AT CLARINDA--Continued

DRAINAGE AREA: 762 mi² PERIOD OF RECORD: 46 YEARS AVERAGE DISCHARGE: 322 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.0	1.3	2.0	2.1	3.9	8.2	9.3
CLIMATIC YEAR	1924	1924	1924	1924	1924	1938	1938

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	23	24	26	33	44	66	107
2	15	16	18	23	29	44	68
5	7.1	7.8	8.9	11	14	21	30
10	4.7	5.3	6.2	7.6	10	16	21
20	3.4	3.9	4.7	5.6	7.9	12	15

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	34	39	48	35	40	64	93	122	196	36	44	66
2	21	24	30	21	24	37	57	76	118	25	30	44
5	8.9	11	13	9.7	10	14	22	30	44	13	15	20
10	5.9	7.2	9.0	6.8	7.2	9.2	14	19	26	8.9	10	13
20	4.3	5.4	6.7	5.3	5.4	6.6	9.0	13	17	6.7	7.4	9.1

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1345	696	333	125	81	54	26	22	16	11	7.9	6.6
APR. 1-SEP. 30	1539	830	407	168	118	81	34	28	20	14	9.4	7.5
JULY 1-AUG. 31	855	477	259	126	92	67	28	24	18	13	9.7	7.9

06-8187.50

PLATTE RIVER NEAR DIAGONAL

Location.--Lat 40°46'10", long 94°24'30", in NE1/4 NW1/4 sec.22, T.69 N., R.31 W., on left bank at downstream side of highway bridge, 2.2 miles upstream from Turkey Creek, 3 1/2 miles southwest of Diagonal, and 5.1 miles downstream from Gard Creek.

Drainage area.--217 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	0.21	0.25	0.38	3.8	4.8	6.9	11
1970	2.5	2.7	3.0	4.1	8.1	12	13
1971	1.8	1.9	2.1	3.5	12	19	40
1972	1.5	1.6	1.8	2.0	2.6	6.1	15
1973	2.8	4.2	5.7	6.3	33	39	139
1974	8.2	9.1	11	18	59	68	149
1975	2.1	2.4	2.6	3.1	3.4	4.6	8.3
1976	.90	1.0	1.4	2.8	8.1	15	17
Qa= 111	Q(84)= 3.0	7Q2= 1.7	7Q10= 0.2				

EAST FORK ONE HUNDRED AND TWO RIVER NEAR BEDFORD

Location.--Lat 40°38'01", long 94°44'41", in NE1/4 NE1/4 sec.9, T.67 N., R.34 W., Taylor County, on left bank at downstream side of bridge of county highway J55, 0.4 mile upstream from Daugherty Creek, and 2.8 miles southwest of junction of U.S. Highways 2 and 148 in Bedford.

Remarks.--Slight regulation at low flow by low dam used for water supply in Bedford.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1961	0.27	0.37	0.42	1.6	2.9	10	33
1962	.27	.33	.51	.90	3.0	9.6	30
1963	.60	.67	.86	1.2	2.2	5.1	4.6
1964	.10	.10	.11	.20	.23	.37	.47
1965	1.2	1.3	1.3	1.5	2.6	2.9	31
1966	.50	.53	.62	.84	6.8	16	18
1967	0	0	0	.01	.11	.24	.59
1968	.10	.12	.12	.25	.37	.69	.68
1969	.01	.06	.12	.32	.41	.81	4.0
1970	0	0	0	.36	1.5	3.7	4.1
1971	.06	.20	.30	.43	.49	1.3	6.2
1972	.05	.08	.10	.15	.57	1.0	3.1
1973	.28	.32	.39	.46	13	19	35
1974	.83	1.2	1.4	3.6	4.7	8.5	70
1975	.15	.19	.25	.42	.49	.81	1.5
1976	.01	.01	.01	.11	.93	2.0	4.8

06-8191.90 EAST FORK ONE HUNDRED AND TWO RIVER NEAR BEDFORD--Continued

DRAINAGE AREA: 92.1 mi² PERIOD OF RECORD: 17 YEARS AVERAGE DISCHARGE: 50.4 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.01	0.12	0.25	0.48
CLIMATIC YEAR	1970	1970	1970	1967	1967	1967	1964

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	3	7	14	30	60	120	183
1.5	0.27	0.38	0.49	0.88	2.1	4.4	12
2	.14	.21	.27	.52	1.2	2.5	6.2
5	.02	.04	.04	.15	.39	.76	1.5
10	0	0	0	.07	.22	.41	.76
20	0	0	0	.03	.14	.25	.41

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.3	1.8	3.3	2.4	3.3	7.2	2.9	4.9	16	0.45	0.67	1.0
2	.56	.80	1.7	1.0	1.4	3.0	1.8	3.0	9.5	.31	.44	.59
5	.10	.17	.39	.08	.09	.46	.60	1.1	3.1	.13	.14	.25
10	.03	.08	.18	0	0	.13	.33	.65	1.7	0	.06	.17
20	0	.04	.09	0	0	0	.20	.41	.89	0	.03	.13

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	179	71	27	8.3	4.8	2.8	0.64	0.52	0.32	0.17	0.06	0.03
APR.1-SEP.30	201	71	26	8.6	4.8	2.5	.68	.56	.38	.22	.09	.04
JULY 1-AUG.31	51	17	6.3	1.8	1.2	.83	.43	.36	.26	.13	.05	.03

THOMPSON RIVER AT DAVIS CITY

Location.--Lat 40°38'25", long 93°48'29", in SE1/4 SE1/4 sec.35, T.68 N., R.26 W., Decatur County, on right bank 15 feet downstream from bridge on U.S. Highway 69 at Davis City, 2.6 miles upstream from Dickersons Branch, and 5.2 miles upstream from Iowa-Missouri State line.

Remarks.--Published as "Grand River" prior to 1918.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1920	8.4	9.0	9.3	14	18	95	142
1921	13	15	19	20	23	32	63
1923	13	15	18	28	45	90	225
1924	15	21	24	26	28	42	76
1925	19	19	19	19	27	33	72
1943	25	28	30	38	73	88	105
1944	6.0	6.6	7.3	7.6	12	16	30
1945	22	24	26	53	76	107	166
1946	11	12	21	26	45	73	78
1947	25	27	29	39	55	89	123
1948	6.2	6.7	10	12	17	29	45
1949	3.6	4.3	4.6	4.9	9.1	16	27
1950	10	11	12	16	19	24	46
1951	2.7	2.8	3.1	4.4	5.4	8.1	15
1952	6.1	8.8	19	51	98	158	183
1953	6.9	7.3	7.6	7.9	9.5	31	64
1954	.87	1.2	1.2	1.5	2.1	2.9	3.4
1955	1.1	1.4	1.7	3.8	6.1	11	40
1956	.60	.60	.60	.61	.71	1.2	2.9
1957	.20	.36	.51	.90	1.5	2.7	3.1
1958	2.4	2.5	3.0	4.7	7.9	13	13
1959	7.1	8.2	9.1	10	16	45	50
1960	32	36	47	76	111	289	461
1961	23	23	24	35	40	81	152
1962	20	22	24	28	81	176	348
1963	11	11	12	22	26	49	59
1964	3.9	3.9	4.0	4.4	6.9	9.3	16
1965	34	36	39	52	81	115	295
1966	16	17	19	26	61	208	231
1967	5.6	6.3	6.8	7.4	10	12	23
1968	3.4	3.5	3.7	6.1	10.0	13	21
1969	3.2	3.5	3.7	5.0	5.8	8.7	39
1970	28	31	35	36	48	94	118
1971	12	12	14	19	42	95	215
1972	2.5	2.9	3.1	4.3	10	18	49
1973	15	17	25	39	132	154	464

06-8980.00

THOMPSON RIVER AT DAVIS CITY--Continued

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31--Continued

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1974	78	98	116	143	364	390	742
1975	6.4	6.7	6.8	8.6	11	27	47
1976	11	11	12	14	18	45	72

DRAINAGE AREA: 701 mi² PERIOD OF RECORD: 41 YEARS AVERAGE DISCHARGE: 368 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.20	0.37	0.51	0.62	0.71	1.2	2.9
CLIMATIC YEAR	1957	1957	1957	1956	1956	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	15	16	18	24	38	70	123
2	9.2	9.9	11	15	22	41	72
5	3.0	3.4	3.9	5.1	7.1	12	22
10	1.5	1.8	2.1	2.7	3.8	6.3	11
20	.80	1.1	1.2	1.6	2.2	3.5	6.0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	25	28	41	33	38	71	94	127	265	22	27	44
2	14	16	23	18	21	37	62	80	155	14	17	29
5	4.1	5.0	7.1	5.6	6.0	9.2	19	24	41	5.3	6.8	11
10	2.1	2.7	3.8	2.9	3.0	4.3	8.7	11	17	2.9	4.0	6.6
20	1.2	1.7	2.3	1.6	1.7	2.2	4.0	4.9	7.8	1.7	2.5	4.2

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1672	789	338	116	74	49	18	14	8.9	4.7	2.1	1.2
APR.1-SEP.30	2104	956	390	146	96	63	26	21	14	8.5	3.9	1.9
JULY 1-AUG.31	786	358	161	70	52	38	21	18	14	9.6	6.0	4.5

06-8984.00

WELDON RIVER NEAR LEON

Location.--Lat 40°41'45", long 93°38'07", in NE1/4 NE1/4 sec.17, T.68 N., R.24 W., Decatur County, on left bank 10 ft downstream from bridge on county highway A, 200 ft upstream from unnamed creek, 1.3 miles downstream from Brush Creek, and 6.5 miles southeast of post office at Leon.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1960	0.74	0.81	0.88	1.3	15	56	86
1961	.73	1.1	2.1	3.4	4.1	20	21
1962	1.8	2.3	3.4	4.4	32	59	124
1963	.77	.80	1.0	1.3	4.7	8.9	20
1964	.17	.30	.30	.30	.36	.60	1.1
1965	.33	.56	.80	2.0	2.6	7.2	29
1966	.30	.34	.48	.63	3.7	17	28
1967	.10	.10	.13	.19	.32	.44	.63
1968	0	.01	.07	.15	.26	.76	1.3
1969	0	0	.04	.11	.51	.69	2.0
1970	.56	.73	.82	1.0	2.2	5.7	8.0
1971	.01	.02	.08	1.6	2.8	17	67
1972	.02	.03	.13	.15	1.7	3.5	8.3
1973	.18	.24	.33	1.1	13	20	53
1974	.60	1.3	3.4	6.2	38	55	123
1975	.13	.18	.28	.54	.83	8.7	12
1976	0	0	0	.02	.24	2.8	10

06-8984.00 WELDON RIVER NEAR LEON--Continued

DRAINAGE AREA: 104 mi² PERIOD OF RECORD: 18 YEARS AVERAGE DISCHARGE: 72.3 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0.02	0.25	0.44	0.63
CLIMATIC YEAR	1976	1976	1976	1976	1976	1967	1967

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.43	0.53	0.69	1.4	4.5	14	31
2	.21	.26	.38	.73	2.2	7.3	16
5	.01	.03	.10	.19	.57	1.8	3.6
10	0	0	.04	.09	.29	.78	1.5
20	0	0	0	.04	.17	.39	.70

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.8	2.8	4.4	4.0	4.4	9.2	4.2	5.8	21	0.62	0.88	2.2
2	.87	1.4	2.4	1.9	2.1	4.8	2.7	3.5	13	.33	.49	1.2
5	.22	.39	.72	.24	.35	1.3	.66	1.3	4.4	.06	.14	.29
10	.11	.20	.38	.05	.10	.56	.24	.74	2.1	0	.05	.13
20	.06	.12	.23	0	0	0	.08	.46	1.0	0	0	.06

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	258	102	37	12	7.2	4.1	1.1	0.84	0.46	0.21	0.08	0.04
APR. 1-SEP. 30	307	107	37	11	6.4	3.6	.91	.70	.38	.18	.07	.04
JULY 1-AUG. 31	81	22	8.1	2.8	1.8	1.2	.44	.35	.21	.11	.04	.02

06-9034.00

CHARITON RIVER NEAR CHARITON

Location.--Lat 40°57'12", long 93°15'27", 1n SW1/4 NE1/4 sec.15, T.71 N., R.21 W., Lucas County, on right bank 15 ft downstream from bridge on county highway S43, 0.4 mile downstream from Wolf Creek, and 5.0 miles southeast of Chariton.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1967	0.11	0.13	0.17	0.25	0.36	0.56	1.1
1968	.46	.70	.83	1.1	1.2	8.1	9.2
1969	.29	.30	.33	.49	.64	.69	1.0
1970	2.9	3.3	4.8	6.0	8.6	26	37
1971	.37	.44	.92	2.6	8.8	45	93
1972	.51	.58	.62	.68	2.0	9.6	14
1973	.76	.80	.93	2.6	18	30	72
1974	2.8	4.2	5.5	15	94	158	225
1975	.26	.27	.34	.46	.92	11	13
1976	.42	.46	.57	1.0	1.4	8.8	27

06-9034.00 CHARITON RIVER NEAR CHARITON

DRAINAGE AREA: 182 mi² PERIOD OF RECORD: 11 YEARS AVERAGE DISCHARGE: 102 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.11	0.13	0.17	0.25	0.36	0.56	1.0
CLIMATIC YEAR	1967	1967	1967	1967	1967	1967	1969

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0.77	0.89	1.2	2.1	5.4	25	42
2	.48	.55	.71	1.2	2.5	12	21
5	.22	.25	.31	.45	.69	2.6	4.1
10	.15	.18	.21	.29	.40	1.1	1.6
20	.11	.14	.16	.22	.27	.46	.71

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	1.7	2.4	4.2	3.7	4.8	20	4.8	10	43	1.2	1.4	3.2
2	.87	1.2	2.1	2.0	2.4	9.4	3.1	6.3	21	.57	.68	1.5
5	.28	.33	.54	.57	.64	2.0	1.0	1.9	4.8	.14	.20	.41
10	.16	.19	.28	.30	.34	.84	.47	.86	2.0	.07	.11	.23
20	.11	.12	.17	.18	.21	.41	.24	.43	.90	.03	.07	.15

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	578	246	72	19	11	6.6	1.8	1.4	0.81	0.50	0.33	0.25
APR.1-SEP.30	812	321	88	19	10	6.0	1.7	1.4	.85	.55	.35	.24
JULY 1-AUG.31	335	96	20	4.2	3.0	2.2	1.1	1.0	.74	.53	.38	.33

06-9035.00

HONEY CREEK NEAR RUSSELL

Location.--Lat 40°55'25", long 93°07'55", in SW1/4 NW1/4 sec.26, T.71 N., R.20 W., Lucas County, on left bank 15 ft downstream from highway bridge, 0.7 mile upstream from Chariton River, and 5.5 miles southeast of Russell.

Remarks.--Discontinued Sept. 30, 1962.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1953	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	.30
1955	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0
1957	0	0	0	0	.20	.40	.50
1958	0	0	.10	.40	.40	2.0	3.0
1959	0	0	0	0	.40	3.6	4.1
1960	0	0	0	0	0	.70	1.4
1961	0	0	0	0	.40	.40	4.7

DRAINAGE AREA: 13.2 mi² PERIOD OF RECORD: 10 YEARS AVERAGE DISCHARGE: 7.7 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0	0	0	0	0	0	0
CLIMATIC YEAR	1961	1961	1961	1961	1960	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	0	0	0	0	0.32	0.76	1.8
2	0	0	0	0	0	.37	.86
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	0.01	0.02	0.05	0.04	0.07	0.13	0.01	0.03	0.25	0	0	0
2	0	0	.02	.01	.03	.04	0	.02	.13	0	0	0
5	0	0	0	0	0	0	0	0	.03	0	0	0
10	0	0	0	0	0	0	0	0	.01	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	2.9	1.0	0.32	0.13	0.12	0.09	0.04	0.03	0.02	0.01	0	0
APR.1-SEP.30	2.3	.70	.31	.13	.11	.09	.04	.03	.02	.01	0	0
JULY 1-AUG.31	.83	.31	.14	.10	.09	.07	.03	.03	.02	.01	0	0

06-9037.00

SOUTH FORK CHARITON RIVER NEAR PROMISE CITY

Location.--Lat 40°48'02", long 93°11'32", in SW1/4 SW1/4 sec.5, T.69 N., R.20 W., Wayne County, on right bank 20 ft downstream from bridge on county highway S50, 1.3 miles downstream from Jordan Creek and 4.3 miles northwest of Promise City.

Drainage area.--168 mi².

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1969	0.13	0.13	0.36	0.50	1.4	2.4	3.0
1970	.74	1.0	1.5	2.5	4.0	12	13
1971	.09	.13	.54	1.4	4.3	43	146
1972	.15	.16	.18	.58	.71	3.8	8.1
1973	2.7	3.4	3.5	6.6	28	43	62
1974	3.1	3.4	3.6	7.3	26	76	125
1975	.34	.41	.50	1.0	1.3	12	13
1976	.39	.44	.54	.78	.88	1.4	11

QA= 96

Q(84)= 0.6

7Q2= 0.3

7Q10= *

CHARITON RIVER NEAR RATHBUN

Location.--Lat 40°49'22", long 92°53'22", in SE1/4 NE1/4 sec.35, T.70 N., R.18 W., Appanoose County, on left bank 600 ft downstream from outlet of Rathbun Dam, 1.8 miles north of Rathbun, 3.7 miles upstream from Walnut Creek and at mile 142.1.

Remarks.--Flow regulated by Rathbun Lake since Nov. 21, 1969.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1958	0.11	0.11	0.13	1.1	7.5	12	16
1959	2.9	4.1	5.5	14	23	63	110
1960	2.5	2.8	3.8	11	54	154	157
1961	.43	1.2	1.6	6.7	13	49	56
1962	2.9	3.6	4.7	14	54	123	350
1963	2.8	3.3	4.5	24	27	84	148
1964	.20	.24	.42	.63	3.5	3.9	6.8
1965	2.5	2.6	3.4	5.8	9.1	42	73
1966	1.4	1.7	2.2	2.4	5.6	48	164
1967	.17	.30	1.2	1.3	1.7	2.9	5.4
1968	1.5	3.6	3.8	4.4	8.6	56	87
1969	1.8	1.8	2.2	3.4	5.0	7.0	8.1

06-9039.00 CHARITON RIVER NEAR RATHBUN--Continued

DRAINAGE AREA: 549 mi² PERIOD OF RECORD: 13 YEARS AVERAGE DISCHARGE: 303 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.11	0.11	0.13	0.63	1.7	2.9	5.4
CLIMATIC YEAR	1958	1958	1958	1964	1967	1967	1967

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	1.9	2.7	3.7	7.6	17	60	102
2	1.2	1.7	2.6	4.5	10	35	57
5	.37	.54	.91	1.8	4.3	10	16
10	.18	.25	.45	1.0	2.7	4.9	7.5
20	.10	.13	.22	.62	1.9	2.6	4.0

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	8.8	14	23	19	23	63	16	30	101	4.1	5.7	16
2	4.0	6.2	12	10	12	34	10	19	62	3.1	4.1	9.1
5	.68	1.1	3.3	3.2	3.7	11	5.4	8.7	26	2.0	2.6	3.5
10	.24	.40	1.6	1.8	1.9	6.5	4.1	6.2	18	1.7	2.2	2.3
20	.09	.17	.82	1.1	1.1	4.3	3.4	4.8	13	1.6	2.0	1.7

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1804	1065	329	87	48	29	9.5	7.4	4.3	2.4	0.94	0.1
APR. 1-SEP. 30	1819	922	327	89	50	30	7.7	6.3	4.2	3.0	2.2	1.1
JULY 1-AUG. 31	788	278	94	27	16	9.5	4.1	3.6	2.9	2.3	1.8	1.1

CHARITON RIVER NEAR RATHBUN--Continued, regulated period

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft^3/s FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1970	4.2	4.3	4.5	5.4	6.5	7.3	32
1971	1.0	1.1	1.9	6.0	7.7	9.8	42
1972	7.7	7.9	8.8	11	11	12	12
1973	8.1	8.1	8.2	8.4	28	95	100
1974	6.9	20	110	314	555	733	761
1975	7.3	7.5	8.0	8.3	8.8	11	85
1976	12	12	12	12	12	23	82

06-9039.00 CHARITON RIVER NEAR RATHBUN--Continued, regulated period

DRAINAGE AREA: 549 mi² PERIOD OF RECORD: 7 YEARS AVERAGE DISCHARGE: 317 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	1.0	1.1	1.9	5.4	6.5	7.3	12
CLIMATIC YEAR	1971	1971	1971	1970	1970	1970	1972

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	3	7	14	30	60	120	183	
1.5 &	9.0	11	13	14	21	38	105	
2	7.0	8.0	7.4	8.6	12	19	59	
5	3.3	3.4	3.4	5.0	5.9	7.3	24	
10	1.9	1.9	2.5	4.5	5.0	5.3	16	
20	1.1	1.1	2.1	4.4	4.8	4.4	12	

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	12	18	29	28	32	33	20	56	114	21	24	28
2	9.4	13	20	16	16	17	11	24	45	11	12	13
5	6.1	7.5	9.1	6.7	6.2	6.8	3.1	4.5	8.6	5.0	4.9	5.1
10	4.9	5.5	5.8	4.5	4.3	5.0	1.4	1.9	4.0	4.1	4.0	4.0
20	4.2	4.2	4.0	3.3	3.4	4.2	.65	.91	2.2	3.7	3.6	3.6

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT.1-SEP.30	1278	935	493	32	21	17	12	11	9.1	7.6	5.5	4
APR.1-SEP.30	1332	1108	681	73	22	19	12	11	9.5	8.0	6.0	4
JULY 1-AUG.31	1218	1061	406	21	18	15	10	9.2	8.1	6.8	5.8	5

06-9040.00

CHARITON RIVER NEAR CENTERVILLE

Location.--Lat 40°44'20", long 92°48'05", in NE1/4 NW1/4 sec. 34, T.69 N., R.17 W., Appanoose County, on left bank 10 feet downstream from bridge on State Highway 2, 3.5 miles downstream from Cooper Creek, and 3 miles east of Centerville.

Remarks.--Discontinued Sept. 30, 1959.

LOW FLOW DISCHARGES, IN YEAR ENDING MARCH 31

CLIMATIC YEAR	LOWEST AVERAGE FLOW IN ft ³ /s FOR INDICATED PERIOD IN CONSECUTIVE DAYS							
	1	3	7	14	30	60	120	183
1940		1.1	1.2	1.3	1.7	2.0	2.4	3.5
1941		.10	.21	.68	1.1	1.5	3.3	27
1942		.63	.86	1.3	3.9	26	144	160
1943		8.0	8.3	9.5	28	45	107	179
1944		2.2	2.3	2.8	4.5	11	15	40
1945		5.2	5.5	6.9	11	44	182	222
1946		6.2	6.6	7.7	8.6	14	61	79
1947	13		17	28	59	130	161	242
1948		1.4	1.7	2.2	2.7	4.4	5.9	19
1949		1.5	1.5	1.7	2.0	3.3	5.4	9.4
1950		3.0	4.6	6.1	9.5	24	40	125
1951		1.8	2.0	2.0	2.2	2.7	3.2	6.1
1952		4.4	5.1	7.4	12	50	110	111
1953		1.3	1.9	2.4	2.8	3.6	24	45
1954		.30	.50	.55	.85	1.2	1.6	1.6
1955		.50	.50	.54	1.3	2.7	10	62
1956		.33	.37	.46	.63	.79	.82	1.1
1957		.20	.20	.26	.37	.55	1.2	1.8
1958		.20	.26	.56	2.2	12	16	23
1959		3.7	6.4	11	20	30	82	153

06-9040.00 CHARITON RIVER NEAR CENTERVILLE--Continued

DRAINAGE AREA: 708 mi² PERIOD OF RECORD: 20 YEARS AVERAGE DISCHARGE: 336 ft³/s

MINIMUM AVERAGE FLOWS FOR PERIOD OF RECORD

PERIOD OF CONSECUTIVE DAYS	3	7	14	30	60	120	183
DISCHARGE, IN ft ³ /s	0.11	0.20	0.26	0.38	0.56	0.82	1.1
CLIMATIC YEAR	1941	1957	1957	1957	1957	1956	1956

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR INDICATED PERIOD IN CONSECUTIVE DAYS						
	3	7	14	30	60	120	183
1.5	2.5	3.0	3.8	6.1	14	35	71
2	1.4	1.7	2.2	3.4	7.3	16	35
5	.42	.53	.73	1.2	2.0	3.5	7.1
10	.22	.29	.43	.69	1.0	1.6	2.8
20	.13	.18	.28	.47	.57	.78	1.3

MAGNITUDE AND FREQUENCY OF SEASONAL LOW FLOWS

RECURRENCE INTERVAL IN YEARS	LOWEST AVERAGE FLOW, IN ft ³ /s, FOR THE INDICATED PERIOD IN CONSECUTIVE DAYS WITHIN EACH WATER-YEAR QUARTER											
	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER		
	7	14	30	7	14	30	7	14	30	7	14	30
1.5	5.6	6.8	12	17	21	43	39	72	212	5.1	7.8	18
2	2.8	3.4	5.8	9.0	11	20	22	40	109	3.0	4.3	9.4
5	.74	.94	1.5	2.4	2.7	4.1	5.9	9.8	23	1.1	1.4	2.9
10	.38	.51	.75	1.2	1.3	1.7	2.7	4.2	9.3	.57	.73	1.6
20	.23	.32	.44	.61	.66	.80	1.4	1.9	4.0	.35	.45	1.0

DURATION OF DAILY DISCHARGES FOR ANNUAL AND SEASONAL PERIODS

PERIOD	DISCHARGE, IN ft ³ /s, EQUALLED OR EXCEEDED FOR THE INDICATED PERCENT OF TOTAL TIME											
	5	10	20	40	50	60	80	84	90	95	98	99
OCT. 1-SEP. 30	1835	865	279	72	39	20	4.0	3.1	1.8	1.1	0.63	0.49
APR. 1-SEP. 30	2227	1047	346	92	51	28	7.1	5.2	2.4	1.0	.55	.41
JULY 1-AUG. 31	1035	472	152	43	24	15	5.2	4.0	2.2	1.2	.65	.54

**LOW-FLOW PARTIAL-RECORD
STATION DATA**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

351

MINNESOTA RIVER BASIN

5-3176.50 BLUE EARTH R NR LAKOTA, IOWA

LAT 4330XX, LONG 9409XX, NEAR SE CORNER
OF SEC.31, T.100 N., R.27 W., KOSSUTH CO.
(55), AT BRIDGE, 4 MILES NE OF LAKOTA.

DRAINAGE AREA 64.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.75	08-17-59	0.89	08-30-66	2.61	08-23-71	0.94	08-13-75	1.4
05-13-58	5.37	08-16-60	1.14	09-22-69	2.85	10-13-71	0.44	11-04-75	0.48
10-06-58	0.39	09-28-61	7.26	08-26-70	1.50	09-25-74	0.77	08-10-76	0.41
10-20-58	0.40	10-27-64	12.9						

Qa = 14

Q(84) = 2.0

7Q2 = 0.9

7Q10 = *

5-3177.00 UNION SLOUGH OUTLET NR LAKOTA, IOWA

LAT 4324XX, LONG 9407XX, NEAR S 1/4
CORNER OF SEC.11, T.99 N., R.28 W., KOSSUTH CO.
(55), AT BRIDGE, 2 MILES NW OF LAKOTA.

DRAINAGE AREA 86.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.55	08-17-59	1.22	08-30-66	2.22	08-23-71	1.1	08-13-75	0.
05-13-58	4.24	08-16-60	1.37	09-22-69	2.06	10-13-71	0.49	11-04-75	0.
10-06-58	0.22	09-28-61	7.92	08-26-70	0.88	09-25-74	0.76	08-10-76	0.23
10-20-58	0.23	10-27-64	25.3						

Qa = 19

Q(84) = 2.2

7Q2 = 0.8

7Q10 = *

5-3178.10 WF BLUE EARTH R BL MINN.-IOWA STATE LINE.

LAT 4326XX, LONG 9404XX, NEAR W 1/4
CORNER OF SEC.36, T.101 N., R.28 W., FARIBAULT
CO., MINN., AT BRIDGE, 9 MILES NW OF LAKOTA.

DRAINAGE AREA 154 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.93	08-17-59	1.78	08-30-66	4.95	08-26-71	1.5	08-13-75	2.5
05-13-58	8.27	08-16-60	3.26	09-22-69	3.94	10-13-71	2.4	11-04-75	1.7
10-06-58	0.53	09-28-61	17.2	08-26-70	2.0	09-25-74	2.4	08-10-76	1.0
10-20-58	1.47	10-27-64	36.8						

Qa = 35

Q(84) = 4.5

7Q2 = 2.0

7Q10 = 0.6

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

UPPER IOWA RIVER BASIN

5-3873.00 UPPER IOWA R AT CHESTER, IOWA

LAT 4330XX, LONG 9222XX, IN SE 1/4 SEC.
10, T.100 N., R.13 W., HOWARD CO.(45),
AT BRIDGE AT NORTH CITY LIMITS OF CHESTER.

DRAINAGE AREA 141 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-19-57	18.8	09-15-59	17.1	08-13-64	4.28	09-22-69	16.1	10-01-74	20.
04-11-58	49.1	08-09-60	17.8	09-11-67	12.1	09-13-73	26.	08-31-76	7.5
10-08-58	5.78	08-30-61	11.1						

Q_a = 84

Q(84) = 13

7Q₂ = 7.5

7Q₁₀ = 4.3

5-3874.00 UPPER IOWA R NR KENDALVILLE, IOWA

LAT 4328XX, LONG 9202XX, NEAR CENTER OF
SEC.21, T.100 N., R.10 W., WINNESHIEK CO.(96),
AT BRIDGE 1 MILE NORTH OF KENDALVILLE.

DRAINAGE AREA 273 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-18-57	44.8	09-15-59	40.4	08-12-64	16.4	09-22-69	63.4	10-01-74	62.
04-11-58	107.	08-09-60	67.2	09-12-67	34.3	09-13-73	76.	08-31-76	31.
10-07-58	13.3	08-31-61	29.2						

Q_a = 164

Q(84) = 39

7Q₂ = 22

7Q₁₀ = 13

5-3881.00 CANOE CR NR DECORAH, IOWA

LAT 4321XX, LONG 9141XX, IN NE 1/4 SEC.
33, T.99 N., R.7 W., WINNESHIEK CO.(96),
AT BRIDGE, 7 MILES NE OF DECORAH.

DRAINAGE AREA 58.9 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-18-57	12.0	08-09-60	20.7	08-12-64	7.56	09-23-69	20.1	10-01-74	23.
10-07-58	5.00	08-31-61	7.63	09-12-67	5.55	09-13-73	26.	08-31-76	14.
09-15-59	9.02								

Q_a = 35

Q(84) = 12

7Q₂ = 7.0

7Q₁₀ = 4.3

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

353

UPPER IOWA RIVER BASIN--Continued

5-3883.00 BEAR CR NR HIGHLANDVILLE, IOWA

LAT 4327XX, LONG 9137XX, IN SE 1/4 SEC.
25, T.100 N., R.7 W., WINNESHIEK CO.(96),
AT BRIDGE, 3 MILES EAST OF HIGHLANDVILLE.

DRAINAGE AREA 53.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	16.4	08-09-60	21.2	08-12-64	17.9	09-23-69	23.1	10-01-74	39.
10-07-58	11.3	08-31-61	17.6	09-12-67	13.3	09-12-73	42.	09-01-76	26.
09-15-59	12.6								

Qa = 31

Q(84) = 16

7Q2 = 15

7Q10 = 11

VILLAGE CREEK BASIN

5-3883.50 VILLAGE CR AT VILLAGE CREEK, IOWA

LAT 4319XX, LONG 9114XX, IN NW 1/4 SEC.
18, T.98 N., R.3 W., ALLAMAKEE CO.(3),
AT BRIDGE IN VILLAGE CREEK.

DRAINAGE AREA 58.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	19.2	09-14-59	18.5	08-12-64	19.9	09-23-69	22.3	10-02-74	35.
04-10-58	23.5	08-10-60	24.0	09-12-67	16.4	09-12-73	40.	09-02-76	25.
10-07-58	18.0	08-31-61	19.4						

Qa = 34

Q(84) = 20

7Q2 = 19

7Q10 = 17

YELLOW RIVER BASIN

5-3888.00 YELLOW R AT MYRON, IOWA

LAT 4310XX, LONG 9132XX, IN NE 1/4 SEC.
3, T.96 N., R.6 W., ALLAMAKEE CO.(3),
AT BRIDGE, 0.5 MILE SOUTH OF MYRON.

DRAINAGE AREA 59.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	10.2	08-10-60	19.8	08-12-64	3.05	09-23-69	10.8	10-02-74	12.
10-07-58	3.76	09-01-61	6.67	09-12-67	2.42	09-12-73	12.	09-01-76	5.8
09-14-59	7.83								

Qa = 35

Q(84) = 7.0

7Q2 = 4.1

7Q10 = 2.0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

YELLOW RIVER BASIN--Continued

5-3890.00 YELLOW R AT ION, IOWA

LAT 4307XX, LONG 9116XX, IN SW 1/4 SEC.
24, T.96 N., R.4 W., ALLAMAKEE CO.(3),
AT BRIDGE, 7.5 MILES NW OF MCGREGOR.DRAINAGE AREA 221 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	51.6	08-10-60	113.	08-12-64	28.6	09-23-69	63.1	10-03-74	71.
10-07-58	19.4	08-31-61	49.7	09-12-67	20.9	09-12-73	84.	09-02-76	44.
09-14-59	46.3								

Qa = 133

Q(84) = 45

7Q2 = 28

7Q10 = 14

TURKEY RIVER BASIN

5-4115.50 NB TURKEY R NR VERNON SPRINGS, IOWA

LAT 4321XX, LONG 9211XX, IN SW 1/4 SEC.
31, T.99 N., R.11 W., HOWARD CO. (45),
AT BRIDGE, 3 MILES WEST OF VERNON SPRINGS.DRAINAGE AREA 40.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	3.47	09-15-59	3.05	08-30-61	1.73	09-11-67	2.08	10-01-74	3.4
04-11-58	10.7	08-09-60	6.59	08-13-64	1.00	09-13-73	5.9	08-31-76	3.0
10-08-58	1.42								

Qa = 23

Q(84) = 3.0

7Q2 = 1.6

7Q10 = 0.8

5-4115.60 TURKEY R NR VERNON SPRINGS, IOWA

LAT 4320XX, LONG 9207XX, IN NW 1/4 SEC.
2, T.98 N., R.11 W., HOWARD CO. (45),
AT BRIDGE, 2.5 MILES SOUTH OF VERNON SPRINGS.DRAINAGE AREA 87.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	6.94	09-15-59	7.04	08-30-61	4.44	09-11-67	3.69	10-01-74	7.3
04-11-58	2.96	08-09-60	16.10	08-13-64	1.43	09-13-73	11.	08-31-76	11.
10-08-58	1.62								

Qa = 51

Q(84) = 5.0

7Q2 = 2.5

7Q10 = 0.9

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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TURKEY RIVER BASIN--Continued

5-4116.20 L TURKEY R NR WAUCOMA, IOWA

LAT 4301XX, LONG 9159XX, IN NW 1/4 SEC.
25, T.95 N., R.10 W., FAYETTE CO. (33),
AT BRIDGE, 4 MILES SE OF WAUCOMA.

DRAINAGE AREA 102 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	12.5	08-11-60	23.80	08-11-64	10.8	06-11-68	29.1	09-30-74	21.
10-09-58	10.10	08-29-61	31.30	09-11-67	10.4	09-13-73	24.	08-31-76	13.
09-16-59	21.00								

Qa = 60

Q(84) = 20

7Q2 = 13

7Q10 = 5.2

5-4117.00 CRANE CR NR LOURDES, IOWA

LAT 4315XX, LONG 9219XX, IN NW 1/4 SEC.
6, T.97 N., R.12 W., HOWARD CO. (45),
AT BRIDGE ON STATE HIGHWAY 272, 1 MILE
SW OF LOURDES.

DRAINAGE AREA 75.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	4.19	09-15-59	4.76	08-30-61	5.47	09-11-67	2.01	09-30-74	5.0
04-11-58	19.1	08-09-60	7.17	08-13-64	1.06	09-13-73	6.8	08-31-76	1.1
10-08-58	1.30								

Qa = 45

Q(84) = 4.0

7Q2 = 2.0

7Q10 = 0.5

5-4118.00 L TURKEY R NR ALPHA, IOWA

LAT 4301XX, LONG 9157XX, IN SW 1/4 SEC.
30, T.95 N., R.9 W., FAYETTE CO. (33),
AT BRIDGE, 3 MILES NE OF ALPHA.

DRAINAGE AREA 319 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	28.9	08-11-60	59.5	08-11-64	22.4	06-11-68	96.2	09-30-74	45.
10-09-58	21.6	08-29-61	90.8	09-11-67	22.2	09-13-73	54.	08-31-76	28.
09-16-59	53.9								

Qa = 193

Q(84) = 46

7Q2 = 29

7Q10 = 12

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

TURKEY RIVER BASIN--Continued

5-4121.00 ROBERTS CR AB ST. OLAF, IOWA

LAT 425549, LONG 912303, IN NW 1/4 SEC.
25, T.94 N., R.5 W., CLAYTON CO. (22),
AT BRIDGE NEAR NORTH CITY LIMITS OF ST. OLAF.DRAINAGE AREA 70.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	0.07	09-14-59	0.52	09-01-61	0.22	09-12-73	9.8	08-31-76	0.02
10-06-58	0.03	08-11-60	4.77	08-11-64	0.01	09-30-74	6.3		
Qa = 42		Q(84) = 0.1		7Q2 = *		7Q10 = 0			

5-4121.50 ROBERTS CR AT ST. OLAF, IOWA

LAT 425542, LONG 912301, IN SW 1/4 SEC.
25, T.94 N., R.5 W., CLAYTON CO. (22),
AT BRIDGE NEAR EAST CITY LIMITS OF ST. OLAF.DRAINAGE AREA 101 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	0.07	09-14-59	1.74	09-01-61	0.41	09-12-73	10.	08-31-76	0.85
10-06-58	0.11	08-11-60	7.61	08-11-64	0.06	09-30-74	9.7		
Qa = 60		Q(84) = 0.1		7Q2 = *		7Q10 = 0			

5-4122.00 VOLGA R NR FAYETTE, IOWA

LAT 4249XX, LONG 9153XX, IN SW 1/4 SEC.
35, T.93 N., R.9 W., FAYETTE CO. (33),
AT BRIDGE. 4.5 MILES SW OF FAYETTE.DRAINAGE AREA 53.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	3.16	08-08-60	8.68	08-11-64	1.54	06-10-68	7.40	09-30-74	5.0
10-09-58	4.98	08-28-61	10.8	09-11-67	2.18	09-13-73	5.7	08-30-76	3.1
09-16-59	5.18								
Qa = 31		Q(84) = 3.9		7Q2 = 2.8		7Q10 = 1.6			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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TURKEY RIVER BASIN--Continued

5-4123.00 L VOLGA R NR FAYETTE, IOWA

LAT 4249XX, LONG 9153XX, NEAR S 1/4
CORNER OF SEC.35, T.93 N., R.9 W., FAYETTE CO.
(33), AT BRIDGE, 4 MILES SW OF FAYETTE.

DRAINAGE AREA 31.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.06	08-08-60	3.06	08-11-64	0.65	06-10-68	8.24	09-30-74	2.4
10-09-58	1.40	08-28-61	6.95	09-11-67	0.97	09-13-73	3.3	08-30-76	2.1
09-16-59	2.08								

Qa = 18 Q(84) = 2.4 7Q2 = 1.6 7Q10 = 0.4

5-4124.00 VOLGA R AT LITTLEPORT, IOWA

LAT 424514, LONG 912208, IN SE 1/4 SEC.
25, T.92 N., R.5 W., CLAYTON CO. (22),
AT BRIDGE IN LITTLEPORT.

DRAINAGE AREA 348 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	35.9	09-14-59	47.1	08-28-61	103.	09-12-73	127.	08-31-76	46.
10-06-58	21.1	08-11-60	88.3	08-11-64	21.3	09-30-74	93.		

Qa = 211 Q(84) = 52 7Q2 = 34 7Q10 = 17

LITTLE MAQUOKETA RIVER BASIN

5-4144.50 NF LITTLE MAQUOKETA RIVER NR RICKARDSVILLE, IOWA

LAT 423509, LONG 905120, NEAR NW CORNER
SEC. 28, T.90 N., R.1 E., DUBUQUE CO. (31),
AT BRIDGE, 1 MILE NE OF RICKARDSVILLE.

DRAINAGE AREA 21.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.47	08-17-60	2.68	10-05-66	0.56	09-12-73	1.7	10-07-75	1.1
10-06-58	0.29	08-28-61	0.93	09-23-69	2.19	09-30-74	2.3	08-31-76	0.45
09-16-59	0.59	08-11-64	0.26						

Qa = 13 Q(84) = 0.8 7Q2 = 0.6 7Q10 = 0.3

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

MAQUOKETA RIVER BASIN

5-4163.00 MAQUOKETA RIVER NR DUNDEE, IOWA

LAT 423655, LONG 913344, IN SW 1/4 SEC
9, T.90 N., R.6 W., DELAWARE CO. (28),
AT BRIDGE, 2.5 MILES NORTH OF DUNDEE.DRAINAGE AREA 61.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	6.69	09-16-59	10.2	08-11-64	8.51	09-22-69	20.1	10-07-75	12.
05-05-58	9.35	08-17-60	22.4	10-06-66	12.9	09-12-73	22.	08-31-76	11.
11-06-58	6.51	08-28-61	14.8	09-12-67	8.05	09-30-74	15.		

Qa = 36

Q(84) = 13

7Q2 = 11

7Q10 = 6.7

5-4164.00 SF MAQUOKETA R NR DUNDEE, IOWA

LAT 423608, LONG 913513, IN SW 1/4 SEC.
17, T.90 N., R.6 W., DELAWARE CO. (28),
AT BRIDGE, 2.5 MILES NW OF DUNDEE.DRAINAGE AREA 54.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	3.10	09-16-59	4.54	08-11-64	3.32	09-22-69	8.06	10-07-75	3.2
05-05-58	5.77	08-17-60	8.62	10-06-66	4.53	09-12-73	11.	08-31-76	4.4
11-06-58	2.03	08-28-61	4.11	09-12-67	2.25	09-30-74	9.5		

Qa = 32

Q(84) = 5.6

7Q2 = 4.1

7Q10 = 2.1

5-4175.40 PLUM CR NR EARLVILLE, IOWA

LAT 422604, LONG 911358, IN NE 1/4 SEC.
18, T.88 N., R.3 W., DELAWARE CO. (28),
AT BRIDGE, 4 MILES SE OF EARLVILLE.DRAINAGE AREA 65.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	8.18	09-16-59	7.86	08-12-64	10.7	09-23-69	25.3	10-07-75	13.
05-05-58	9.76	08-17-60	17.5	10-05-66	10.1	09-12-73	27.	09-01-76	9.7
11-05-58	5.46	08-29-61	11.5	09-12-67	6.34	10-01-74	28.		

Qa = 39

Q(84) = 12

7Q2 = 9.2

7Q10 = 5.0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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MAQUOKETA RIVER BASIN--Continued

5-4175.60 MAQUOKETA R NR HOPKINTON, IOWA

LAT 4222XX, LONG 9116XX, IN NE 1/4 SEC.
11, T.87 N., R.4 W., DELAWARE CO. (28),
AT BRIDGE, 2 MILES NW OF HOPKINTON.

DRAINAGE AREA 454 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	39.0	09-16-59	40.9	08-12-64	68.6	09-22-69	216.	10-07-75	118.
05-05-58	145.	08-17-60	94.2	10-05-66	218.	09-12-73	151.	09-01-76	88.
11-05-58	37.2	08-29-61	58.9	09-12-67	199.	10-01-74	137.		

Qa = 277

Q(84) = 82

7Q2 = 64

7Q10 = 34

5-4175.80 BUCK CR NR HOPKINTON, IOWA

LAT 4221XX, LONG 9117XX, IN SE 1/4 SEC.
10, T.87 N., R.4 W., DELAWARE CO. (28),
AT BRIDGE, 2.5 MILES NW OF HOPKINTON.

DRAINAGE AREA 50.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.72	09-16-59	6.38	08-12-64	8.21	09-22-69	16.2	10-07-75	7.1
05-05-58	4.47	08-17-60	13.4	10-05-66	7.74	09-12-73	12.	09-01-76	5.7
11-05-58	3.31	08-29-61	6.49	09-12-67	5.43	10-01-74	13.		

Qa = 30

Q(84) = 7.3

7Q2 = 5.9

7Q10 = 3.5

5-4176.00 MAQUOKETA R NR SCOTCH GROVE, IOWA

LAT 4212XX, LONG 9101XX, NEAR CENTER OF
SEC.6, T.85 N., R.1 W., JONES CO. (53),
AT BRIDGE ON STATE HIGHWAY 136, 6 MILES
NE OF SCOTCH GROVE.

DRAINAGE AREA 704 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	131.	09-17-59	111.	08-12-64	179.	09-23-69	310.	10-07-75	141.
05-06-58	63.1	08-18-60	307.	09-13-66	210.	09-30-74	246.	08-30-76	128.
11-05-58	91.1	08-30-61	206.	10-05-66	213.				

Qa = 433

Q(84) = 139

7Q2 = 107

7Q10 = 59

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

MAQUOKETA RIVER BASIN--Continued

5-4181.00 NF MAQUOKETA R AT DYERSVILLE, IOWA

LAT 422905, LONG 910726, IN NW 1/4 SEC.
31, T.89 N., R.2 W., DUBUQUE CO. (31),
AT BRIDGE, IN DYERSVILLE.DRAINAGE AREA 80.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	7.45	09-16-59	9.07	08-12-64	12.2	09-23-69	25.1	10-07-75	17.
05-05-58	7.35	08-17-60	18.2	09-14-66	13.2	09-12-73	30.	08-31-76	11.
11-05-58	6.08	08-29-61	14.5	09-12-67	7.54	09-30-74	37.		
Qa = 47		Q(84) = 13		7Q2 = 9.8		7Q10 = 5.2			

5-4182.00 WHITEWATER CR AT FILLMORE, IOWA

LAT 421907, LONG 905526, IN NE 1/4 SEC.
26, T.87 N., R.1 W., DUBUQUE CO. (31),
AT BRIDGE ON U.S. HIGHWAY 151, 0.5 MILE
WEST OF FILLMORE.DRAINAGE AREA 91.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	9.97	09-16-59	11.3	08-12-64	17.6	09-23-69	36.2	10-07-75	23.
05-06-58	11.3	08-16-60	25.6	09-13-66	17.1	10-01-74	36.	08-30-76	17.
11-05-58	7.61	08-29-61	25.8	09-12-67	11.0				
Qa = 54		Q(84) = 18		7Q2 = 14		7Q10 = 7.4			

5-4183.00 LYTLE CR NR BERNARD, IOWA

LAT 421757, LONG 904656, IN SE 1/4 SEC.
36, T.87 N., R.1 E., DUBUQUE CO. (31),
AT BRIDGE, 2.5 MILES SE OF BERNARD.DRAINAGE AREA 62.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	6.72	09-16-59	7.60	08-12-64	13.4	09-24-69	18.6	10-07-75	23.
05-06-58	8.61	08-16-60	18.2	09-13-66	15.9	09-12-73	29.	08-31-76	14.
11-05-58	5.56	08-29-61	17.8	09-12-67	9.68	10-01-74	35.		
Qa = 37		Q(84) = 13		7Q2 = 11		7Q10 = 6.0			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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MAQUOKETA RIVER BASIN--Continued

5-4183.50 LYTLE CR NR FULTON, IOWA

LAT 4212XX, LONG 9045XX, NEAR CENTER OF
SEC.5, T.85 N., R.2 E., JACKSON CO. (49),
AT BRIDGE, 5 MILES NW OF FULTON.

DRAINAGE AREA 114 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	15.5	09-17-59	14.6	08-11-64	30.8	09-24-69	44.3	10-07-75	47.
05-06-58	17.8	08-16-60	38.6	09-13-66	32.0	09-13-73	23.	08-31-76	28.
11-04-58	12.1	08-29-61	35.4	09-11-67	21.0	10-01-74	73.		

Qa = 68

Q(84) = 25

7Q2 = 18

7Q10 = 8.2

5-4184.00 NF MAQUOKETA R NR FULTON, IOWA

LAT 4211XX, LONG 9044XX, IN SE 1/4 SEC.
9, T.85 N., R.2 E., JACKSON CO. (49),
AT BRIDGE, 3 MILES NW OF FULTON.

DRAINAGE AREA 499 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	74.7	09-17-59	78.7	08-11-64	119.	09-24-69	206.	10-07-75	170.
05-06-58	75.8	08-16-60	148.	09-13-66	120.	10-01-74	254.	08-31-76	112.
11-04-58	61.6	08-29-61	151.	09-12-67	78.2				

Qa = 305

Q(84) = 122

7Q2 = 94

7Q10 = 52

5-4186.50 DEEP CR NR CHARLOTTE, IOWA

LAT 4200XX, LONG 9024XX, NEAR CENTER OF
SEC.17, T.83 N., R.5 E., CLINTON CO. (23),
AT BRIDGE, 4 MILES NE OF CHARLOTTE.

DRAINAGE AREA 67.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.52	09-15-59	4.25	08-11-64	5.46	09-23-69	10.0	10-07-75	6.1
05-07-58	11.5	08-15-60	11.9	09-13-66	5.51	09-12-73	12.	09-01-76	2.6
11-04-58	2.39	08-29-61	17.7	09-11-67	6.02	10-01-74	11.		

Qa = 40

Q(84) = 7.3

7Q2 = 5.2

7Q10 = 2.4

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

MAQUOKETA RIVER BASIN--Continued

5-4187.00 DEEP CR NR PRESTON, IOWA

LAT 4203XX, LONG 9026XX, NEAR N 1/4
CORNER OF SEC.31, T.84 N., R.5 E., JACKSON CO.
(49), AT BRIDGE, 2 MILES WEST OF PRESTON.DRAINAGE AREA 91.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	4.72	09-15-59	6.77	08-11-64	8.62	09-23-69	15.0	10-07-75	11.
05-07-58	14.8	08-16-60	18.2	09-13-66	7.95	09-12-73	0.	09-01-76	5.0
11-04-58	3.79	08-29-61	26.0	09-11-67	10.0	10-01-74	19.		
Qa	= 54	Q(84)	= 11	7Q2	= 8.2	7Q10	= 4.1		

ELK RIVER BASIN

5-4203.00 ELK R NR ALMONT, IOWA

LAT 420039, LONG 901205, NEAR CENTER OF
SEC.12, T.83 N., R.6 E., CLINTON CO. (23),
AT BRIDGE, 2.5 MILES NORTH OF ALMONT.DRAINAGE AREA 55.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	5.15	09-15-59	4.93	08-11-64	9.50	09-12-73	21.	10-07-75	11.
05-07-58	11.8	08-15-60	16.1	09-13-66	10.3	10-01-74	26.	09-01-76	6.6
11-04-58	3.75	08-31-61	26.2	09-23-69	15.3				
Qa	= 33	Q(84)	= 12	7Q2	= 9.7	7Q10	= 6.1		

WAPSIPINICON RIVER BASIN

5-4205.40 WAPSIPINICON R NR RICEVILLE, IOWA

LAT 4320XX, LONG 9234XX, IN NE 1/4 SEC.
12, T.98 N., R.15 W., MITCHELL CO. (66),
AT BRIDGE, 2.5 MILES SOUTH OF RICEVILLE.DRAINAGE AREA 72.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	6.41	09-15-59	4.86	08-13-64	4.70	09-02-71	6.8	10-01-74	10.
04-11-58	18.8	08-09-60	7.41	10-05-66	7.14	09-14-73	19.	08-31-76	4.8
10-08-58	7.50	08-30-61	5.59						
Qa	= 43	Q(84)	= 7.2	7Q2	= 6.1	7Q10	= 4.0		

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

363

WAPSIPINICON RIVER BASIN--Continued

5-4205.80 WAPSIPINICON R NR IONIA, IOWA

LAT 4301XX, LONG 9223XX, IN NW 1/4 SEC.
33, T.95 N., R.13 W., CHICKASAW CO. (19),
AT BRIDGE, 4 MILES SE OF IONIA.

DRAINAGE AREA 161 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	12.0	09-16-59	10.8	08-13-64	5.10	09-02-71	11.0	09-30-74	14.
05-09-58	17.2	08-08-60	13.3	10-05-66	9.47	09-13-73	28.	08-30-76	4.9
10-09-58	8.98	08-30-61	15.7	06-10-68	22.6				

Qa = 96

Q(84) = 12

7Q2 = 9.5

7Q10 = 4.7

5-4206.40 L WAPSIPINICON R AT ELMA, IOWA

LAT 4314XX, LONG 9227XX, IN NW 1/4 SEC.
12, T.97 N., R.14 W., HOWARD CO. (45),
AT BRIDGE ON COUNTY ROAD A NEAR WEST
CITY LIMITS OF ELMA.

DRAINAGE AREA 37.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	3.75	09-15-59	2.96	08-13-64	1.62	09-02-71	3.6	09-30-74	4.4
04-11-58	11.1	08-09-60	5.51	10-05-66	3.77	09-14-73	5.7	08-31-76	1.6
10-08-58	2.05	08-30-61	13.6	09-11-67	3.11				

Qa = 22

Q(84) = 4.5

7Q2 = 3.6

7Q10 = 1.4

5-4206.60 WAPSIPINICON R NR NEW HAMPTON, IOWA

LAT 4259XX, LONG 9222XX, IN NW 1/4 SEC.
10, T.94 N., R.13 W., CHICKASAW CO. (19),
AT BRIDGE, 5 MILES SW OF NEW HAMPTON.

DRAINAGE AREA 291 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	27.2	09-16-59	23.6	08-13-64	9.28	09-02-71	23.0	09-30-74	26.
05-09-58	29.3	08-08-60	28.1	10-05-66	21.1	09-13-73	44.	08-30-76	8.6
10-09-58	18.4	08-30-61	46.3	06-10-68	39.8				

Qa = 176

Q(84) = 23

7Q2 = 13

7Q10 = 5.0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

WAPSIPINICON RIVER BASIN--Continued

5-4206.80 WAPSIPINICON R NR TRIPOLI, IOWA

LAT 4250XX, LONG 9215XX, IN SW 1/4 SEC.
27, T.93 N., R.12 W., BREMER CO. (09),
AT BRIDGE ON STATE HIGHWAY 93, 2 MILES
NORTH OF TRIPOLI.DRAINAGE AREA 343 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-24-57	23.7	09-16-59	26.3	08-14-64	9.02	09-01-71	21.0	10-01-74	34.
05-09-58	38.6	08-08-60	30.7	10-05-66	16.4	09-13-73	56.	08-30-76	3.0
10-09-58	13.4	08-29-61	52.1	06-10-68	57.5				

Qa = 208

Q(84) = 23

7Q2 = 13

7Q10 = 5.0

5-4207.00 EF WAPSIPINICON R NR FREDERICKSBURG, IOWA

LAT 4301XX, LONG 9213XX, IN NW 1/4 SEC.
36, T.95 N., R.12 W., CHICKASAW CO. (19),
AT BRIDGE, 3 MILES NORTH OF FREDERICKSBURG.DRAINAGE AREA 62.2 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-20-57	5.29	09-16-59	6.79	08-13-64	2.04	09-01-71	5.3	09-30-74	5.4
05-09-58	4.97	08-08-60	6.70	10-05-66	5.32	09-13-73	6.6	08-30-76	1.9
10-09-58	4.30	08-29-61	12.5	06-10-68	9.14				

Qa = 36

Q(84) = 5.1

7Q2 = 2.8

7Q10 = 1.1

5-4207.20 EF WAPSIPINICON R NR TRIPOLI, IOWA

LAT 4251XX, LONG 9214XX, IN NW 1/4 SEC.
26, T.93 N., R.12 W., BREMER CO. (09),
AT BRIDGE ON STATE HIGHWAY 93, 3 MILES
NORTH OF TRIPOLI.DRAINAGE AREA 144 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-24-57	14.4	09-16-59	17.6	08-14-64	4.53	06-10-68	16.4	10-01-74	15.
05-09-58	16.5	08-08-60	18.1	10-05-66	10.8	09-01-71	13.0	08-30-76	3.1
10-09-58	9.05	08-29-61	27.1	10-12-66	8.91	09-13-73	14.		

Qa = 86

Q(84) = 11

7Q2 = 6.6

7Q10 = 2.6

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

365

WAPSIPINICON RIVER BASIN--Continued

5-4207.40 WAPSIPINICON R AT TRIPOLI, IOWA

LAT 4248XX, LONG 9214XX, IN SW 1/4 SEC.
2, T.92 N., R.12 W., BREMER CO. (09),
AT BRIDGE, 1.5 MILES EAST OF TRIPOLI.

DRAINAGE AREA 498 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	39.0	09-16-59	48.4	08-14-64	8.76	06-10-68	64.5	10-01-74	35.
05-09-58	55.6	08-08-60	32.8	10-05-66	18.2	09-01-71	23.0	08-30-76	3.9
10-09-58	22.7	08-29-61	65.6	10-13-66	20.0	09-14-73	53.		
Qa = 304		Q(84) = 28		7Q2 = 14		7Q10 = 4.1			

5-4208.00 CRANE CR NR DENVER, IOWA

LAT 423832, LONG 921521, IN NW 1/4 SEC.
3, T.90 N., R.12 W., BLACK HAWK CO. (07),
AT BRIDGE, 5 MILES SE OF DENVER.

DRAINAGE AREA 63.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.	09-17-59	1.95	08-13-64	0.01	10-22-68	29.9	10-01-74	0.56
05-09-58	2.09	08-11-60	0.64	10-06-66	0.34	09-01-71	0.	08-30-76	0.
10-10-58	0.17	08-28-61	0.51	06-11-68	6.87	09-14-73	1.7		
Qa = 37		Q(84) = 0.4		7Q2 = *		7Q10 = 0			

5-4208.20 CRANE CR AT DUNKERTON, IOWA

LAT 4234XX, LONG 9210XX, IN SW 1/4 SEC.
29, T.90 N., R.11 W., BLACK HAWK CO. (07),
AT BRIDGE NEAR WEST CITY LIMITS OF DUNKERTON.

DRAINAGE AREA 101 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.38	09-17-59	1.77	08-13-64	0.	09-01-71	0.	09-30-74	0.88
05-08-58	6.12	08-11-60	0.78	10-06-66	0.82	07-12-73	2.3	08-30-76	0.
10-10-58	1.16	08-28-61	0.95	06-11-68	11.1				
Qa = 60		Q(84) = 0.7		7Q2 = *		7Q10 = 0			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

WAPSIPINICON RIVER BASIN--Continued

5-4208.40 L WAPSIPINICON R NR WESTGATE, IOWA

LAT 4247XX, LONG 9205XX, IN NE 1/4 SEC.
13, T.92 N., R.11 W., BREMER CO. (09),
AT BRIDGE, 4.5 MILES NW OF WESTGATE.

DRAINAGE AREA 57.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	4.03	09-16-59	7.02	08-14-64	1.31	09-01-71	4.2	09-30-74	6.4
05-09-58	5.65	08-08-60	11.8	10-06-66	4.21	09-13-73	6.6	08-30-76	2.4
10-09-58	4.53	08-29-61	8.75	06-10-68	15.1				

Qa = 34

Q(84) = 5.2

7Q2 = 2.6

7Q10 = 0.6

5-4208.60 BUCK CR NR LITTLETON, IOWA

LAT 4235XX, LONG 9203XX, NEAR CENTER OF
SEC.29, T.90 N., R.10 W., BUCHANAN CO. (10),
AT BRIDGE, 3 MILES NW OF LITTLETON.

DRAINAGE AREA 57.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.86	09-17-59	3.21	08-13-64	0.	09-01-71	0.06	09-30-74	1.4
05-08-58	4.01	08-11-60	2.73	10-06-66	1.42	09-12-73	3.1	08-30-76	0.04
10-10-58	2.66	08-28-61	2.95	06-11-68	9.48				

Qa = 33

Q(84) = 1.6

7Q2 = 0.6

7Q10 = 0.1

5-4209.00 L WAPSIPINICON R AT LITTLETON, IOWA

LAT 4233XX, LONG 9202XX, IN NE CORNER
SEC.9, T.89 N., R.10 W., BUCHANAN CO. (10),
AT BRIDGE, 0.5 MILE NORTH OF LITTLETON.

DRAINAGE AREA 205 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	9.56	09-17-59	18.6	08-13-64	3.27	06-11-68	53.1	09-30-74	18.
05-08-58	9.74	08-11-60	20.8	10-06-66	13.9	09-01-71	10.0	08-30-76	8.5
10-26-58	11.3	08-28-61	26.9	10-13-66	25.7	09-12-73	29.		

Qa = 123

Q(84) = 17

7Q2 = 10

7Q10 = 3.9

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

367

WAPSIPINICON RIVER BASIN--Continued

5-4209.40 OTTER CR NR OTTERVILLE, IOWA

LAT 4233XX, LONG 9157XX, NEAR SW CORNER
OF SEC.5, T.89 N., R.9 W., BUCHANAN CO. (10),
AT BRIDGE, 2 MILES NORTH OF OTTERVILLE.

DRAINAGE AREA 101 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	9.83	09-17-59	17.0	08-13-64	9.26	09-01-71	12.0	09-30-74	20.
05-08-58	11.9	08-11-60	24.3	10-06-66	17.7	09-12-73	25.	08-30-76	8.0
10-20-58	8.34	08-28-61	18.9	06-11-68	52.6				
Qa = 60		Q(84) = 17		7Q2 = 9.4		7Q10 = 3.1			

5-4215.00 WAPSIPINICON R AT STONE CITY, IOWA

LAT 4207XX, LONG 9121XX, IN NE 1/4 SEC.
6, T.84 N., R.4 W., JONES CO. (53),
AT BRIDGE, IN STONE CITY.

DRAINAGE AREA 1324 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	111.	09-17-59	172.	08-13-64	75.6	09-01-71	115.0	10-07-75	91.
05-01-58	229.	08-18-60	209.	09-12-66	232.	09-12-73	321.	08-30-76	83.
11-05-58	74.4	08-30-61	286.	10-13-66	152.	09-30-74	174.		
Qa = 825		Q(84) = 164		7Q2 = 96		7Q10 = 42			

5-4215.50 BUFFALO CR ABOVE WINTHROP, IOWA

LAT 4230XX, LONG 9144XX, NEAR NE CORNER
SEC. 25, T.89 N., R. 8 W., BUCHANAN CO. (10),
AT BRIDGE, 1.5 MILES NE OF WINTHROP.

DRAINAGE AREA 68.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	2.61	09-17-59	3.90	08-13-64	2.52	09-01-71	4.4	09-30-74	6.7
05-08-58	3.90	08-12-60	10.5	10-06-66	3.99	09-12-73	8.6	08-30-76	4.3
10-20-58	1.70	08-28-61	5.99	06-11-68	63.4				
Qa = 40		Q(84) = 3.7		7Q2 = 2.7		7Q10 = 1.1			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

WAPSIPINICON RIVER BASIN--Continued

5-4217.00 BUFFALO CR NR STONE CITY, IOWA

LAT 4208XX, LONG 9121XX, NEAR E 1/4
CORNER SEC.30, T.85 N., R.4 W., JONES CO. (53),
AT BRIDGE, 2 MILES NORTH OF STONE CITY.DRAINAGE AREA 217 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	12.0	09-17-59	20.8	09-12-66	34.0	09-12-73	55.	10-07-75	22.
05-01-58	21.3	08-18-60	48.1	10-05-66	20.6	09-30-74	37.	08-30-76	28.
11-05-58	9.88	08-12-64	21.8	09-01-71	24.0				

Qa = 130

Q(84) = 29

7Q2 = 15

7Q10 = 5.3

5-4218.00 YANKEE RUN CR AT WHEATLAND, IOWA

LAT 414934, LONG 905025, IN NE 1/4 SEC.
16, T.81 N., R.1 E., CLINTON CO. (23),
AT BRIDGE, NEAR SOUTH CITY LIMITS OF WHEATLAND.DRAINAGE AREA 52.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	3.91	09-15-59	3.73	08-10-64	4.51	09-12-73	5.9	10-07-75	2.8
05-01-58	12.7	08-15-60	11.0	09-12-66	3.61	10-02-74	4.9	09-01-76	1.7
11-04-58	2.87	08-30-61	9.23	09-02-71	4.1				

Qa = 31

Q(84) = 5.4

7Q2 = 3.4

7Q10 = 1.6

5-4218.50 MUD CR NR PLAINVIEW, IOWA

LAT 414202, LONG 904526, IN SW 1/4 SEC.
29, T.80 N., R.2 E., SCOTT CO. (82),
AT BRIDGE, 2.5 MILES NE OF PLAINVIEW.DRAINAGE AREA 109 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	1.66	09-15-59	2.01	08-10-64	3.32	09-12-73	9.5	10-07-75	6.9
05-01-58	9.45	08-15-60	10.7	09-12-66	5.50	10-02-74	9.4	09-01-76	4.7
11-04-58	2.71	08-30-61	7.15	09-02-71	5.4				

Qa = 65

Q(84) = 5.9

7Q2 = 4.0

7Q10 = 2.1

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

369

WAPSIPINICON RIVER BASIN--Continued

5-4219.00 SILVER CR NR DE WITT, IOWA

LAT 414709, LONG 903313, IN SE 1/4 SEC.
25, T.81 N., R.3 E., CLINTON CO. (23),
AT BRIDGE, 2.5 MILES SOUTH OF DE WITT.

DRAINAGE AREA 60.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	8.06	09-15-59	7.50	08-10-64	7.01	09-12-73	15.	10-07-75	7.4
05-01-58	19.5	08-15-60	17.6	09-12-66	8.93	10-02-74	15.	09-01-76	5.0
11-04-58	6.44	08-30-61	13.2	09-02-71	9.6				

Qa = 36 Q(84) = 11 7Q2 = 7.8 7Q10 = 4.7

5-4221.00 BROPHY CR NR LOW MOOR, IOWA

LAT 414856, LONG 902414, NEAR N 1/4 CORNER
SEC.20, T.81 N., R.5 E., CLINTON CO. (23),
AT BRIDGE ON U. S. HIGHWAY 30, 3 MILES
NW OF LOW MOOR.

DRAINAGE AREA 72.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	10.3	09-15-59	10.0	08-10-64	11.5	09-12-73	19.	10-07-75	9.9
05-01-58	24.6	08-15-60	21.6	09-12-66	8.58	10-01-74	18.	09-01-76	6.2
11-04-58	9.31	08-30-61	26.4	09-02-71	9.9				

Qa = 43 Q(84) = 14 7Q2 = 10 7Q10 = 6.2

IOWA RIVER BASIN

5-4483.00 WB IOWA R NR BRITT, IOWA

LAT 4306XX, LONG 9345XX, NEAR CENTER OF
SEC.25, T.96 N., R.25 W., HANCOCK CO. (41),
AT BRIDGE ON U. S. HIGHWAY 18, 3 MILES EAST
OF BRITT.

DRAINAGE AREA 61.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.86	05-13-59	6.18	10-27-64	10.2	09-01-71	1.2	08-04-75	2.9
04-03-58	8.57	10-04-60	2.13	08-29-66	2.72	09-05-73	2.1	09-07-76	0.21
10-23-58	1.19	08-03-61	4.44	07-07-70	5.17				

Qa = 29 Q(84) = 2.8 7Q2 = 0.7 7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4484.00 WESTMAIN DRAINAGE DITCH 1 & 2 NR BRITT, IOWA.

LAT 4306XX, LONG 9347XX, IN SW 1/4 SEC.
27, T.96 N., R.25 W., HANCOCK CO. (41),
AT BRIDGE ON U.S. HIGHWAY 18 NEAR EAST
CITY LIMITS OF BRITT.DRAINAGE AREA 21.2 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
04-03-58	2.21	10-04-60	0.75	08-29-66	2.26	10-13-70	2.3	08-04-75	2.4
10-23-58	0.76	08-30-61	1.74	07-07-70	2.82	09-05-73	2.5	09-07-76	0.66
05-13-59	1.56	10-27-64	3.63						

Q_a = 10 Q(84) = 1.5 7Q2 = 0.5 7Q10 = 0.1

5-4511.00 SF IOWA R NR ALDEN, IOWA.

LAT 4228XX, LONG 9327XX, NEAR NW CORNER
OF SEC.5, T.88 N., R.22 W., HARDIN CO. (42),
AT BRIDGE, 5 MILES SW OF ALDEN.DRAINAGE AREA 79.5 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-25-57	0.44	05-15-59	11.2	10-26-64	0.90	07-07-70	10.8	08-06-75	2.0
05-08-58	11.5	10-04-60	7.81	09-08-66	0.13	09-02-71	0.12	09-08-76	0.
10-23-58	0.65	09-05-61	4.02	09-13-67	2.15	09-05-73	1.3		

Q_a = 37 Q(84) = 1.2 7Q2 = 0.7 7Q10 = *

5-4511.50 TIPTON CR NR NEW PROVIDENCE, IOWA

LAT 4220XX, LONG 9312XX, IN SW 1/4 SEC.
21, T.87 N., R.20 W., HARDIN CO. (42),
AT BRIDGE, 3 MILES NW OF NEW PROVIDENCE.DRAINAGE AREA 81.4 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-25-57	1.64	05-14-59	21.3	10-26-64	0.05	09-02-71	0.08	08-06-75	5.8
05-08-58	15.9	10-03-60	27.4	09-08-66	1.42	09-05-73	5.	09-08-76	0.
10-24-58	2.87	09-05-61	5.62	07-07-70	3.34				

Q_a = 40 Q(84) = 1.4 7Q2 = 0.4 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4512.00 SF IOWA R NR NEW PROVIDENCE, IOWA

LAT 4219XX, LONG 9310XX, NEAR N 1/4 CORNER
SEC.27, T.87 N., R.20 W., HARDIN CO. (42),
AT BRIDGE, 3 MILES NORTH OF NEW PROVIDENCE.

DRAINAGE AREA 223 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	5.36	05-14-59	53.6	10-26-64	3.87	09-02-71	3.4	08-06-75	12.
05-08-58	41.2	10-03-60	71.7	09-08-66	5.86	09-05-73	13.	09-08-76	0.95
10-24-58	7.94	09-05-61	19.8	07-07-70	9.97				

Qa = 108

Q(84) = 5.8

7Q2 = 2.2

7Q10 = 0.2**

5-4512.50 BEAVER CR NR ELDORA, IOWA

LAT 4221XX, LONG 9308XX, NEAR CENTER OF
SEC.13, T.87 N., R.20 W., HARDIN CO. (42),
AT BRIDGE, 2 MILES SW OF ELDORA.

DRAINAGE AREA 69.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.51	05-14-59	17.0	10-26-64	2.14	09-02-71	1.7	08-06-75	2.6
05-08-58	11.1	10-04-60	36.4	09-08-66	5.62	09-05-73	3.3	09-08-76	1.4
10-24-58	4.64	09-05-61	5.29	07-07-70	9.94				

Qa = 35

Q(84) = 4.9

7Q2 = 1.9

7Q10 = 0**

5-4513.00 HONEY CR NR NEW PROVIDENCE, IOWA

LAT 4216XX, LONG 9311XX, AT E 1/4 CORNER
SEC.16, T.86 N., R.20 W., HARDIN CO. (42),
AT BRIDGE, 1.5 MILES SOUTH OF NEW PROVIDENCE.

DRAINAGE AREA 66.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.96	05-15-59	23.2	10-26-64	0.34	09-02-71	0.10	08-06-75	4.1
05-08-58	13.7	10-03-60	34.6	09-08-66	0.65	09-05-73	6.4	09-08-76	0.18
10-24-58	2.94	09-05-61	3.97	07-07-70	4.05				

Qa = 33

Q(84) = 2.3

7Q2 = 0.7

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4513.50 HONEY CR AT BANGOR, IOWA

LAT 4210XX, LONG 9305XX, NEAR W 1/4 CORNER
SEC.16, T.85 N., R.19 W., MARSHALL CO. (64),
AT BRIDGE, 1 MILE EAST OF BANGOR.

DRAINAGE AREA 95.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	4.86	05-15-59	38.3	10-26-64	0.60	09-02-71	1.1	08-06-75	11.
05-08-58	18.6	10-03-60	40.4	09-08-66	2.04	09-05-73	13.	09-08-76	0.78
10-24-58	5.97	09-05-61	7.48	07-08-70	11.2				

Qa = 48

Q(84) = 7.1

7Q2 = 2.5

7Q10 = 0.4

5-4514.00 MINERVA CR AT CLEMONS, IOWA

LAT 4208XX, LONG 9309XX, NEAR CENTER OF
SEC.35, T.85 N., R.20 W., MARSHALL CO. (64),
AT BRIDGE, 1 MILE NE OF CLEMONS.

DRAINAGE AREA 69.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	2.01	05-15-59	37.8	10-26-64	0.26	09-02-71	0.17	08-06-75	4.7
05-08-58	13.7	10-03-60	28.3	09-08-66	0.60	09-05-73	4.	09-08-76	0.56
10-24-58	3.96	09-05-61	3.63	07-08-70	1.52				

Qa = 35

Q(84) = 3.2

7Q2 = 1.0

7Q10 = 0.1

5-4514.50 MINERVA CR NR CLEMONS, IOWA

LAT 4207XX, LONG 9305XX, NEAR CENTER OF
SEC.5, T.84 N., R.19 W., MARSHALL CO. (64),
AT BRIDGE, 3.5 MILES EAST OF CLEMONS

DRAINAGE AREA 148 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	8.21	05-15-59	9.49	10-26-64	2.36	09-02-71	3.7	08-06-75	17.
05-08-58	30.3	10-03-60	47.4	09-08-66	3.10	09-05-73	13.	09-08-76	3.4
10-24-58	11.9	09-05-61	7.19	07-08-70	6.44				

Qa = 75

Q(84) = 6.8

7Q2 = 4.4

7Q10 = 1.3

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

373

IOWA RIVER BASIN--Continued

5-4516.00 LINN CR AT MARSHALLTOWN, IOWA

LAT 420222, LONG 925440, IN SW 1/4 SEC.
35, T.84 N., R.18 W., MARSHALL CO. (64),
AT BRIDGE ON STATE HIGHWAY 14 IN MARSHALLTOWN.

DRAINAGE AREA 60.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	3.81	10-21-59	2.52	10-26-64	3.92	09-06-73	8.1	08-05-75	16.
04-23-58	16.3	08-17-60	10.8	09-12-66	2.78	09-26-74	11.	09-09-76	1.3
10-06-58	6.13	09-05-61	6.96	07-08-70	11.4				

Qa = 33 Q(84) = 4.8 7Q2 = 3.0 7Q10 = 0.6***

5-4516.50 S TIMBER CR NR LE GRAND, IOWA

LAT 4159XX, LONG 9250XX, IN SW 1/4 SEC.
21, T.83 N., R.17 W., MARSHALL CO. (64),
AT BRIDGE, 4 MILES SW OF LE GRAND.

DRAINAGE AREA 62.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	1.96	10-21-59	2.48	10-27-64	3.09	09-06-73	6.7	08-05-75	11.
04-23-58	9.32	08-17-60	9.18	09-12-66	2.81	09-26-74	13.	09-09-76	2.1
10-06-58	1.36	09-05-61	8.45	07-08-70	14.1				

Qa = 34 Q(84) = 3.2 7Q2 = 1.8 7Q10 = 0.2***

5-4518.00 DEER CR AT TOLEDO, IOWA

LAT 4159XX, LONG 9235XX, NEAR W 1/4
CORNER SEC.15, T.83 N., R.15 W., TAMA CO. (86),
AT BRIDGE NEAR NW CITY LIMITS OF TOLEDO.

DRAINAGE AREA 76.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	18.8	10-21-59	6.58	10-28-64	5.06	09-06-73	11.	08-05-75	12.
04-22-58	23.1	08-17-60	13.1	09-12-66	6.58	09-27-74	24.	09-09-76	3.2
10-06-58	23.6	09-05-61	8.36	07-08-70	16.2				

Qa = 42 Q(84) = 6.3 7Q2 = 2.5 7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4519.30 SALT CR NR CLUTIER, IOWA

LAT 4203XX, LONG 9222XX, NEAR E 1/4
CORNER SEC.33, T.84 N., R.13 W., TAMA CO. (86),
AT BRIDGE, 3.5 MILES SE OF CLUTIER.

DRAINAGE AREA 85.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	10.9	10-21-59	8.28	10-28-64	5.25	09-06-73	11.	08-05-75	11.
04-22-58	21.3	08-17-60	13.2	09-12-66	8.41	09-27-74	22.	09-10-76	2.5
10-06-58	24.0	09-05-61	8.82	07-08-70	18.5				

Qa = 48

Q(84) = 7.4

7Q2 = 4.0

7Q10 = 1.2***

5-4519.60 EB SALT CR NR ELBERON, IOWA

LAT 4204XX, LONG 9220XX, NEAR E 1/4
CORNER SEC.27, T.84 N., R.13 W., TAMA CO. (86),
AT BRIDGE, 4 MILES NW OF ELBERON.

DRAINAGE AREA 71.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	4.16	10-21-59	8.25	10-28-64	3.68	09-06-73	6.3	08-05-75	8.8
04-22-58	12.0	08-17-60	9.39	09-12-66	6.26	09-27-74	13.	09-10-76	1.7
10-06-58	11.6	09-05-61	8.55	07-08-70	16.1				

Qa = 40

Q(84) = 5.2

7Q2 = 2.6

7Q10 = 0.9***

5-4527.00 BIG BEAR CR AT BROOKLYN, IOWA

LAT 4145XX, LONG 9226XX, NEAR NE CORNER
OF SEC.14, T.80 N., R.14 W., POWESHIEK CO. (79),
AT BRIDGE, 1 MILE NORTH OF BROOKLYN.

DRAINAGE AREA 77.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	2.87	10-21-59	5.00	10-28-64	3.38	09-07-73	5.8	08-06-75	9.0
04-22-58	11.3	09-06-60	4.48	10-05-66	2.67	09-26-74	9.4	09-07-76	1.3
10-06-58	10.4	09-06-61	6.42	07-08-70	15.6				

Qa = 45

Q(84) = 3.8

7Q2 = 2.0

7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

375

IOWA RIVER BASIN--Continued

5-4542.00 CLEAR CR NR OXFORD, IOWA

LAT 4143XX, LONG 9147XX, IN NE 1/4 SEC.
28, T.80 N., R.8 W., JOHNSON CO. (52),
AT BRIDGE, 1 MILE SE OF OXFORD.

DRAINAGE AREA 55.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.10	10-23-59	5.29	10-29-64	1.86	09-06-73	5.4	08-07-75	0.43
04-22-58	2.19	08-15-60	11.1	10-06-66	0.99	09-27-74	12.	09-09-76	0.25
10-06-58	2.27	09-05-61	1.56	07-08-70	16.1				

Qa = 32

Q(84) = 1.2

7Q2 = 0.7

7Q10 = *

5-4550.50 OLD MANS CR NR PARNELL, IOWA

LAT 4136XX, LONG 9157XX, NEAR SW CORNER
OF SEC.31, T.79 N., R.9 W., IOWA CO. (48),
AT BRIDGE, 3 MILES NE OF PARNELL.

DRAINAGE AREA 81.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.14	10-23-59	4.27	10-28-64	0.52	07-08-70	21.6	08-07-75	0.21
04-21-58	2.57	09-06-60	1.57	09-13-66	1.50	09-07-73	1.0	09-10-76	0.20
10-22-58	9.29	09-07-61	0.99	10-05-66	0.57	09-26-74	13.		

Qa = 47

Q(84) = 2.0

7Q2 = 0.6

7Q10 = *

5-4552.00 N ENGLISH R NR GUERNSEY, IOWA

LAT 4138XX, LONG 9224XX, NEAR SW CORNER
SEC. 17, T.79 N., R.13 W., POWESHIEK CO. (79),
AT BRIDGE, 2.5 MILES WEST OF GUERNSEY.

DRAINAGE AREA 68.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	5.44	10-21-59	5.28	04-15-63	8.75	10-05-66	1.16	09-26-74	6.2
04-22-58	10.0	09-06-60	4.11	07-01-63	2.45	07-08-70	9.80	08-07-75	2.7
10-03-58	9.94	09-06-61	10.1	11-06-63	2.58	09-07-73	2.2	09-08-76	0.7

Qa = 40

Q(84) = 3.2

7Q2 = 1.8

7Q10 = 0.6***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4552.50 N ENGLISH R NR NORTH ENGLISH, IOWA

LAT 4133XX, LONG 9203XX, NEAR SW CORNER
SEC.17, T.78 N., R.10 W., IOWA CO. (48),
AT BRIDGE, 3.25 MILES NE OF NORTH ENGLISH.DRAINAGE AREA 221 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	8.47	09-06-60	9.46	07-01-63	9.78	10-05-66	3.86	09-26-74	26.
04-21-58	23.3	09-07-61	16.7	11-06-63	6.17	07-08-70	38.7	08-07-75	7.4
10-22-58	38.0	04-16-63	31.8	09-13-66	8.68	09-07-73	7.3	09-10-76	7.7
10-22-59	30.0	06-26-63	9.78						

Qa = 126

Q(84) = 10

7Q2 = 5.1

7Q10 = 1.5***

5-4552.60 M ENGLISH R NR NORTH ENGLISH, IOWA

LAT 4132XX, LONG 9204XX, NEAR NE CORNER
SEC.25, T.78 N., R.11 W., IOWA CO. (48),
AT BRIDGE, 2 MILES NE OF NORTH ENGLISH.DRAINAGE AREA 66.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.16	10-22-59	3.40	06-26-63	1.40	09-13-66	0.23	09-26-74	4.7
04-21-58	2.69	09-06-60	0.52	07-01-63	0.80	07-08-70	11.0	08-07-75	0.23
10-22-58	0.87	04-16-63	7.58	11-06-63	1.36	09-07-73	0.46	09-10-76	0.09

Qa = 39

Q(84) = 0.5

7Q2 = 0.2

7Q10 = 0

5-4554.00 S ENGLISH R NR KESWICK, IOWA

LAT 412813, LONG 921531, IN SW 1/4 SEC.
16, T.77 N., R.12 W., KEOKUK CO. (54),
AT BRIDGE, 1.5 MILES NW OF KESWICK.DRAINAGE AREA 66.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	1.55	09-07-61	3.47	06-03-66	39.0	11-03-66	0.18	09-26-74	4.7
10-03-58	1.66	04-15-63	5.58	07-25-66	4.69	07-08-70	9.41	08-07-75	0.03
10-22-59	7.03	07-01-63	1.33	09-13-66	0.25	09-07-73	0.38	09-10-76	0.03
09-06-60	2.03	11-06-63	1.30						

Qa = 38

Q(84) = 0.6

7Q2 = 0.2

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

377

IOWA RIVER BASIN--Continued

5-4554.50 S ENGLISH R NR KINROSS, IOWA

LAT 4130XX, LONG 9157XX, IN NW 1/4 SEC.
7, T.77 N., R.9 W., WASHINGTON CO. (92),
AT BRIDGE, 3 MILES NE OF KINROSS.

DRAINAGE AREA 125 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	5.68	09-06-60	3.23	07-01-63	4.05	09-13-66	1.95	09-26-74	9.2
04-22-58	7.20	09-07-61	5.76	11-06-63	2.13	07-08-70	22.2	08-07-75	0.74
10-03-58	1.64	04-16-63	15.3	06-02-66	70.7	09-07-73	2.5	09-10-76	0.21
10-22-59	11.0	06-26-63	4.34	07-25-66	11.8				

Qa = 72

Q(84) = 2.5

7Q2 = 1.0

7Q10 = 0.2***

5-4573.00 OTTER CR NR OTRANTO, IOWA

LAT 4328XX, LONG 9258XX, IN NW 1/4 SEC.
22, T.100 N., R.18 W., MITCHELL CO. (66),
AT BRIDGE, 1.5 MILES NE OF OTRANTO.

DRAINAGE AREA 60.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	6.04	05-13-59	8.60	08-19-64	3.95	07-07-70	8.87	08-04-75	10.
05-06-58	7.25	10-05-60	11.7	09-08-66	7.22	09-02-71	5.3	09-08-76	2.5
10-22-58	3.11	08-29-61	8.02	09-12-67	6.14	09-05-73	16.		

Qa = 30

Q(84) = 6.8

7Q2 = 4.7

7Q10 = 2.3

5-4573.50 CEDAR R AT OTRANTO, IOWA

LAT 4327XX, LONG 9259XX, IN NW 1/4 SEC.
28, T.100 N., R.18 W., MITCHELL CO. (66),
AT BRIDGE NEAR EAST CITY LIMITS OF OTRANTO.

DRAINAGE AREA 656 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	85.4	05-14-59	110.	07-21-64	81.8	09-12-67	66.9	09-05-73	193.
05-06-58	120.	10-05-60	118.	08-19-64	61.5	07-07-70	120.	08-04-75	102.
10-22-58	47.7	08-29-61	87.0	09-08-66	74.4	09-02-71	73.	09-08-76	51.

Qa = 295

Q(84) = 85

7Q2 = 61

7Q10 = 32***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4574.00 DEER CR NR MELTONVILLE, IOWA

LAT 4326XX, LONG 9305XX, IN SW 1/4 SEC.
27, T.100 N., R.19 W., WORTH CO. (98),
AT BRIDGE, 2.5 MILES WEST OF MELTONVILLE.DRAINAGE AREA 67.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.85	05-13-59	4.28	08-19-64	0.	07-07-70	4.47	08-04-75	5.9
05-06-58	10.0	10-04-60	4.20	09-08-66	1.48	09-01-71	2.3	09-07-76	1.8
10-22-58	0.65	08-29-61	2.84	09-11-67	0.83	09-05-73	4.0		

Qa = 33

Q(84) = 2.3

7Q2 = 0.9

7Q10 = 0

5-4574.50 DEER CR AT ST. ANSGAR, IOWA

LAT 4323XX, LONG 9258XX, IN SW 1/4 SEC.
15, T.99 N., R.18 W., MITCHELL CO. (66),
AT BRIDGE, 2.5 MILES NW OF ST. ANSGAR.DRAINAGE AREA 97.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	3.10	05-14-59	7.28	08-19-64	0.29	07-07-70	9.08	08-04-75	10.
05-07-58	14.8	10-05-60	8.72	09-08-66	3.76	09-02-71	4.2	09-08-76	2.1
10-22-58	1.22	08-28-61	5.00	09-12-67	1.40	09-05-73	6.8		

Qa = 47

Q(84) = 3.4

7Q2 = 1.1

7Q10 = 0.1

5-4576.00 ROCK CR NR FLOYD, IOWA

LAT 4313XX, LONG 9249XX, IN NW 1/4 SEC.
24, T.97 N., R.17 W., FLOYD CO. (34),
AT BRIDGE, 6 MILES NW OF FLOYD.DRAINAGE AREA 69.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	5.65	05-14-59	9.73	09-07-66	13.5	09-02-71	9.4	08-05-75	11.
05-07-58	20.8	10-05-60	20.9	09-12-67	6.73	09-06-73	11.	09-08-76	4.4
10-22-58	3.33	08-28-61	6.31	07-07-70	17.9				

Qa = 35

Q(84) = 8.4

7Q2 = 3.8

7Q10 = 1.0***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4578.00 L CEDAR R NR STACEYVILLE, IOWA

LAT 4328XX, LONG 9247XX, IN NE 1/4 SEC.
19, T.100 N., R.16 W., MITCHELL CO. (66),
AT BRIDGE, 2 MILES NORTH OF STACEYVILLE.

DRAINAGE AREA 77.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	6.13	05-14-59	5.99	08-19-64	1.16	07-07-70	6.57	08-04-75	7.8
05-06-58	9.49	10-05-60	15.4	09-08-66	3.82	09-02-71	4.1	09-08-76	2.8
10-22-58	2.16	08-28-61	7.78	09-12-67	2.88	09-05-73	10.		

Qa = 39 Q(84) = 6.1 7Q2 = 3.1 7Q10 = 0.8

5-4584.00 QUARTER SECTION RUN NR DENVER, IOWA

LAT 423951, LONG 922346, IN NE 1/4 SEC.
29, T.91 N., R.13 W., BREMER CO. (09),
AT BRIDGE, 3 MILES SW OF DENVER.

DRAINAGE AREA 83.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.	05-12-59	0.	08-18-64	0.	07-07-70	2.93	08-05-75	0.
06-07-58	0.	10-03-60	0.	09-08-66	0.26	09-01-71	0.	09-08-76	0.
10-21-58	0.	08-28-61	0.	09-12-67	0.	09-06-73	0.		

Qa = 44 Q(84) = 0 7Q2 = 0 7Q10 = 0

5-4585.50 BEAVERDAM CR NR ROCKWELL, IOWA

LAT 4258XX, LONG 9315XX, NEAR EAST 1/4
CORNER SEC.18, T.94 N., R.20 W., CERRO GORDO CO.
(17), AT BRIDGE, 3 MILES SW OF ROCKWELL.

DRAINAGE AREA 72.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.35	10-03-60	6.31	10-07-64	11.4	06-10-68	23.3	09-06-73	6.0
04-03-58	7.43	08-30-61	1.41	09-06-66	3.49	07-09-70	7.40	08-05-75	6.1
10-23-58	0.96	10-08-63	3.50	09-11-67	2.66	09-02-71	4.3	09-07-76	2.4
05-13-59	5.76	08-17-64	2.16						

Qa = 35 Q(84) = 3.7 7Q2 = 1.6 7Q10 = 0.4***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4586.00 BAILEY CR NR SHEFFIELD, IOWA

LAT 4254XX, LONG 9316XX, IN NW 1/4 SEC.
1, T.93 N., R.21 W., FRANKLIN CO. (35),
AT BRIDGE, 4 MILES NW OF SHEFFIELD.DRAINAGE AREA 75.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.36	10-03-60	3.70	08-17-64	4.16	09-11-67	2.74	09-06-73	5.6
04-03-58	4.74	08-30-61	1.52	10-07-64	16.5	07-08-70	8.99	08-05-75	6.7
10-23-58	1.14	10-08-63	3.50	09-06-66	3.84	09-23-71	5.4	09-07-76	2.0
05-13-59	5.33								

Qa = 36

Q(84) = 4.3

7Q2 = 1.8

7Q10 = 0.4***

5-4587.50 OTTER CR NR HANSELL, IOWA

LAT 4246XX, LONG 9307XX, IN NW 1/4 SEC.
29, T.92 N., R.19 W., FRANKLIN CO. (35),
AT BRIDGE, 1 MILE WEST OF HANSELL.DRAINAGE AREA 92.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.42	10-04-60	14.6	08-17-64	5.72	09-12-67	7.47	09-06-73	16.
05-07-58	11.3	08-30-61	3.69	10-08-64	18.9	07-08-70	17.0	08-04-75	15.
10-21-58	3.01	10-08-63	9.64	09-06-66	10.4	09-01-71	8.4	09-07-76	3.9
05-12-59	11.4								

Qa = 46

Q(84) = 8.4

7Q2 = 4.1

7Q10 = 1.3***

5-4587.70 SQUAW CR NR HANSELL, IOWA

LAT 4244XX, LONG 9307XX, NEAR CENTER OF
SEC.32, T.92 N., R.19 W., FRANKLIN CO. (35),
AT BRIDGE, 1.5 MILES SW OF HANSELL.DRAINAGE AREA 24.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.23	10-04-60	6.22	08-17-64	2.38	09-12-67	2.54	09-07-73	6.4
05-07-58	2.27	08-30-61	2.04	10-08-64	5.75	07-08-70	6.30	08-04-75	4.3
10-21-58	1.36	10-08-63	2.83	09-06-66	4.55	09-01-71	2.7	09-07-76	1.4
05-12-59	3.27								

Qa = 12

Q(84) = 3.0

7Q2 = 1.6

7Q10 = 0.5***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4587.80 HARTGRAVE CR NR HANSELL, IOWA

LAT 4244XX, LONG 9305XX, IN NW 1/4 SEC.
34, T.92 N., R.19 W., FRANKLIN CO. (35),
AT BRIDGE, 1.5 MILES SE OF HANSELL.

DRAINAGE AREA 161 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	8.69	10-04-60	30.4	08-17-64	13.8	09-12-67	17.4	09-07-73	31.
05-07-58	22.6	08-30-61	8.60	10-08-64	38.5	07-08-70	37.9	08-04-75	30.
10-21-58	8.58	10-08-63	17.2	09-06-66	24.8	09-01-71	18.0	09-07-76	7.3
05-12-59	23.0	07-29-64	11.6						

Qa = 80 Q(84) = 18 7Q2 = 10 7Q10 = 3.6***

5-4587.90 BOYLAN CR NR BRISTOW, IOWA

LAT 4246XX, LONG 9256XX, IN NE 1/4 SEC.
23, T.92 N., R.18 W., BUTLER CO. (12),
AT BRIDGE, 1 MILE WEST OF BRISTOW.

DRAINAGE AREA 55.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	10-04-60	14.7	08-18-64	0.	09-12-67	0.	09-06-73	1.8
05-07-58	2.91	08-30-61	0.17	10-08-64	2.76	07-07-70	4.28	08-05-75	0.
10-21-58	0.	10-08-63	0.88	09-07-66	1.11	09-22-71	0.32	09-08-76	0.05
05-12-59	0.								

Qa = 28 Q(84) = 0.8 7Q2 = 0 7Q10 = 0

5-4588.00 MAYNES CR NR HAMPTON, IOWA

LAT 4241XX, LONG 9312XX, IN NW 1/4 SEC.
22, T.91 N., R.20 W., FRANKLIN CO. (35),
AT BRIDGE ON U.S. HIGHWAY 65, 4 MILES
SOUTH OF HAMPTON.

DRAINAGE AREA 71.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.38	10-04-60	14.6	10-08-64	12.2	07-08-70	10.8	09-07-73	7.2
05-07-58	11.0	08-30-61	2.68	09-07-66	6.61	07-08-70	10.3	08-04-75	5.9
10-21-58	3.91	10-09-63	3.20	09-12-67	3.25	09-01-71	4.0	09-08-76	1.6
05-12-59	9.89	08-17-64	4.38						

Qa = 35 Q(84) = 5.2 7Q2 = 2.2 7Q10 = 0.5***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4588.50 MAYNES CR NR DUMONT, IOWA

LAT 4242XX, LONG 9258XX, IN SW 1/4 SEC.
15, T.91 N., R.18 W., BUTLER CO. (12),
AT BRIDGE, 4 MILES SOUTH OF DUMONT.

DRAINAGE AREA 121 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.72	10-04-60	34.1	08-18-64	7.61	09-12-67	8.88	09-06-73	17.
05-07-58	19.4	08-30-61	6.59	10-08-64	28.3	07-07-70	25.2	08-05-75	14.
10-21-58	8.00	10-08-63	7.71	09-07-66	16.2	09-02-71	9.4	09-08-76	3.1
05-12-59	30.1								

Q_a = 60 Q(84) = 11 7Q2 = 5.4 7Q10 = 1.6***

5-4590.50 LIME CR NR SCARVILLE, IOWA

LAT 4327XX, LONG 9335XX, IN SW 1/4 SEC.
28, T.100 N., R.23 W., WINNEBAGO CO. (95),
AT BRIDGE, 3.5 MILES SE OF SCARVILLE.

DRAINAGE AREA 113 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	6.11	05-13-59	75.9	08-28-63	17.4	09-11-67	6.45	09-05-73	12.
04-03-58	24.5	10-04-60	7.25	08-19-64	2.06	07-07-70	9.32	08-04-75	16.
10-22-58	3.00	08-29-61	6.61	09-07-66	8.85	09-01-71	9.5	09-07-76	2.1

Q_a = 53 Q(84) = 7.2 7Q2 = 2.6 7Q10 = 0.6***

5-4592.00 WINNEBAGO R NR FOREST CITY, IOWA

LAT 4318XX, LONG 9339XX, IN NW 1/4 SEC.
23, T.98 N., R.24 W., WINNEBAGO CO. (95),
AT BRIDGE, 2.5 MILES NORTH OF FOREST CITY.

DRAINAGE AREA 205 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	9.05	05-13-59	70.8	08-19-64	2.85	07-07-70	18.0	08-04-75	26.
04-03-58	45.5	10-04-60	11.4	09-07-66	20.0	09-01-71	10.0	09-07-76	0.74
10-22-58	3.92	08-29-61	11.7	09-11-67	7.10	09-05-73	18.		

Q_a = 93 Q(84) = 10 7Q2 = 2.9 7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4593.00 WINNEBAGO R NR FERTILE, IOWA

LAT 4315XX, LONG 9326XX, NEAR WEST 1/4
CORNER SEC.3, T.97 N., R.22 W., CERRO GORDO CO.
(17), AT BRIDGE, 1.5 MILES SW OF FERTILE.

DRAINAGE AREA 303 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	15.1	05-13-59	83.7	08-19-64	12.6	07-07-70	33.0	08-05-75	46.
04-03-58	59.0	10-04-60	20.9	09-08-66	37.8	09-01-71	21.0	09-07-76	3.9
10-23-58	8.47	08-29-61	23.4	09-11-67	17.6	09-05-73	33.		

Qa = 137 Q(84) = 23 7Q2 = 9.6 7Q10 = 2.8***

5-4594.00 BEAVER CR NR FERTILE, IOWA

LAT 4316XX, LONG 9327XX, IN SW 1/4 SEC.
28, T.98 N., R.22 W., WORTH CO. (98),
AT BRIDGE, 2 MILES NW OF FERTILE.

DRAINAGE AREA 54.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.42	05-13-59	7.84	08-19-64	1.68	07-07-70	10.7	08-05-75	6.6
04-03-58	11.6	10-04-60	2.67	09-07-66	5.60	09-01-71	4.8	09-07-76	1.2
10-23-58	0.47	08-29-61	2.05	09-11-67	1.82	09-05-73	5.4		

Qa = 26 Q(84) = 2.7 7Q2 = 0.8 7Q10 = 0.1

5-4602.00 WILLOW CR AT MASON CITY, IOWA

LAT 430946, LONG 931420, NEAR WEST 1/4
CORNER SEC.5, T.96 N., R.20 W., CERRO GORDO CO.
(17), AT BRIDGE NEAR WEST CITY LIMITS OF
MASON CITY.

DRAINAGE AREA 86.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.77	05-13-59	7.10	08-19-64	4.70	07-08-70	12.1	08-05-75	9.8
04-03-58	13.3	10-04-60	8.71	09-08-66	7.75	09-02-71	6.8	09-08-76	3.0
10-23-58	2.77	08-29-61	4.84	09-11-67	4.73	09-06-73	7.8		

Qa = 41 Q(84) = 5.9 7Q2 = 3.3 7Q10 = 1.4***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4611.00 COLD WATER CR NR GREENE, IOWA

LAT 4253XX, LONG 9251XX, IN SW 1/4 SEC.
10, T.93 N., R.17 W., BUTLER CO. (12),
AT BRIDGE, 2.5 MILES SW OF GREENE.

DRAINAGE AREA 56.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	05-14-59	0.	08-19-64	0.	07-08-70	0.04	08-05-75	0.
05-07-58	0.09	10-03-60	8.75	09-07-66	0.03	09-02-71	0.01	09-08-76	0.
10-21-58	0.	08-28-61	0.01	09-12-67	0.05	09-06-73	0.04		

Q_a = 29

Q(84) = 0.3

7Q2 = 0

7Q10 = 0

5-4613.00 FLOOD CR NR ROCKFORD, IOWA

LAT 4303XX, LONG 9251XX, IN NW 1/4 SEC.
15, T.95 N., R.17 W., FLOYD CO. (34),
AT BRIDGE, 5 MILES EAST OF ROCKFORD.

DRAINAGE AREA 59.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	0.	05-14-59	0.	08-19-64	0.	07-08-70	1.37	08-05-75	0.
05-07-58	0.	10-05-60	11.5	09-07-66	0.	09-02-71	0.	09-08-76	0.
10-22-58	0.	08-28-61	0.	09-12-67	0.	09-06-73	0.		

Q_a = 30

Q(84) = 0

7Q2 = 0

7Q10 = 0

5-4614.00 FLOOD CR NR PACKARD, IOWA

LAT 4253XX, LONG 9242XX, IN NE 1/4 SEC.
23, T.93 N., R.16 W., BUTLER CO. (12),
AT BRIDGE, 2 MILES NE OF PACKARD.

DRAINAGE AREA 145 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	05-14-59	0.	08-19-64	0.	07-08-70	6.12	08-05-75	0.
05-08-58	0.	10-03-60	11.5	09-07-66	5.91	09-02-71	0.20	09-08-76	0.
10-21-58	0.	08-28-61	0.	09-12-67	0.	09-06-73	2.8		

Q_a = 73

Q(84) = 0

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4627.00 BEAVER CR NR ACKLEY, IOWA

LAT 4234XX, LONG 9302XX, IN SW 1/4 SEC.
36, T.90 N., R.19 W., FRANKLIN CO. (35),
AT BRIDGE NEAR EAST CITY LIMITS OF ACKLEY.

DRAINAGE AREA 55.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.59	05-12-59	16.5	08-18-64	2.96	07-08-70	5.26	08-04-75	3.4
05-07-58	7.45	10-04-60	33.1	09-07-66	4.76	09-01-71	2.9	09-10-76	1.0
10-21-58	4.06	08-30-61	3.53	09-13-67	1.88	09-07-73	5.0		
Qa = 28		Q(84) = 3.4		7Q2 = 1.6		7Q10 = 0.4***			

5-4628.00 S BEAVER CR NR PARKERSBURG, IOWA

LAT 4234XX, LONG 9249XX, IN SE 1/4 SEC.
35, T.90 N., R.17 W., BUTLER CO. (12),
AT CULVERT, 2 MILES SW OF PARKERSBURG.

DRAINAGE AREA 114 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	5.14	05-12-59	26.2	08-18-64	5.08	07-08-70	6.10	08-05-75	13.
05-08-58	16.2	10-04-60	43.5	09-07-66	26.4	09-01-71	5.6	09-10-76	6.1
10-21-58	9.53	08-30-61	6.57	09-13-67	7.44	09-07-73	17.		
Qa = 58		Q(84) = 9.5		7Q2 = 4.5		7Q10 = 1.5***			

5-4631.00 BLACK HAWK CR NR GRUNDY CENTER, IOWA

LAT 4222XX, LONG 9244XX, NEAR E 1/4
CORNER SEC.8, T.87 N., R.16 W., GRUNDY CO. (38),
AT BRIDGE, 2 MILES EAST OF GRUNDY CENTER.

DRAINAGE AREA 71.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	8.49	05-14-59	28.3	08-19-64	3.23	09-02-71	4.0	08-05-75	8.1
05-08-58	15.5	10-05-60	10.7	09-08-66	11.7	09-07-73	14.	09-10-76	4.2
10-20-58	9.59	08-31-61	6.53	07-07-70	10.2				
Qa = 37		Q(84) = 6.8		7Q2 = 3.9		7Q10 = 1.3***			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4632.00 MOSQUITO CR AT REINBECK, IOWA

LAT 4220XX, LONG 9237XX, IN SE 1/4 SEC.
20, T.87 N., R.15 W., GRUNDY CO. (38),
AT BRIDGE, 1 MILE WEST OF REINBECK.

DRAINAGE AREA 24.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.27	05-14-59	9.66	08-19-64	0.40	09-02-71	0.92	08-05-75	5.6
05-08-58	4.68	10-05-60	4.72	09-08-66	1.89	09-07-73	2.	09-09-76	0.66
10-20-58	2.06	08-31-61	3.23	07-07-70	6.14				

Qa = 13

Q(84) = 1.8

7Q2 = 0.6

7Q10 = *

5-4633.00 BLACK HAWK CR AT REINBECK, IOWA

LAT 4220XX, LONG 9236XX, NEAR E 1/4
CORNER SEC.21, T.87 N., R.15 W., GRUNDY CO. (38),
AT BRIDGE, 1 MILE NORTH OF REINBECK.

DRAINAGE AREA 135 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	16.6	05-14-59	51.8	08-19-64	6.30	09-02-71	9.0	08-05-75	20.
05-08-58	28.3	10-05-60	25.9	09-08-66	22.6	09-07-73	24.	09-09-76	8.7
10-20-58	21.4	08-31-61	16.8	07-07-70	10.6				

Qa = 71

Q(84) = 19

7Q2 = 7.4

7Q10 = 2.2***

5-4634.00 N BLACK HAWK CR AT DIKE, IOWA

LAT 4227XX, LONG 9237XX, NEAR N 1/4
CORNER SEC.8, T.88 N., R.15 W., GRUNDY CO. (38),
AT BRIDGE NEAR SE CITY LIMITS OF DIKE.

DRAINAGE AREA 76.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.81	05-14-59	18.1	08-18-64	2.26	09-02-71	2.0	08-05-75	3.5
05-08-58	9.17	10-05-60	12.2	09-08-66	10.6	09-07-73	6.2	09-09-76	1.4
10-20-58	5.19	08-31-61	2.22	07-07-70	8.62				

Qa = 40

Q(84) = 3.7

7Q2 = 1.6

7Q10 = 0.3***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4640.50 MILLERS CR NR LAPORTE CITY, IOWA

LAT 4223XX, LONG 9215XX, IN SE 1/4 SEC.
33, T.88 N., R.12 W., BLACK HAWK CO. (07),
AT BRIDGE ON U. S. HIGHWAY 218, 6 MILES
NW OF LAPORTE CITY.

DRAINAGE AREA 54.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.68	10-21-59	4.59	09-13-66	8.18	09-26-74	3.9	09-24-75	4.14
05-09-58	7.54	08-17-60	9.78	07-07-70	10.3	10-01-74	12.1	10-29-75	3.3
10-08-58	4.50	08-28-61	8.70	09-01-71	6.5	08-04-75	5.18	09-08-76	0.67
09-18-59	2.98	10-27-64	1.53	09-06-73	9.0				

Qa = 30

Q(84) = 3.7

7Q2 = 0.9

7Q10 = *

5-4641.00 WOLF CR NR BEAMAN, IOWA

LAT 421247, LONG 924712, IN SW 1/4 SEC.
36, T.86 N., R.17 W., GRUNDY CO. (38),
AT BRIDGE, 2 MILES SE OF BEAMAN.

DRAINAGE AREA 63.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-20-57	6.44	10-21-59	3.53	09-12-66	3.63	09-06-73	8.3	08-05-75	7.39
05-09-58	12.8	08-17-60	5.59	07-07-70	8.75	09-26-74	7.8	09-26-75	3.66
10-08-58	13.5	08-28-61	4.16	09-01-71	3.4	10-01-74	13.1	09-10-76	1.7
09-18-59	3.17	10-27-64	1.77						

Qa = 33

Q(84) = 4.6

7Q2 = 2.2

7Q10 = 0.8***

5-4641.50 TWELVE MILE CR NR BUCKINGHAM, IOWA

LAT 4214XX, LONG 9226XX, IN SW 1/4 SEC.
24, T.86 N., R.14 W., TAMA CO. (86),
AT BRIDGE, 1.5 MILES SOUTH OF BUCKINGHAM.

DRAINAGE AREA 76.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	5.92	10-21-59	4.44	09-13-66	9.67	09-26-74	9.2	09-24-75	5.11
05-09-58	12.0	06-17-60	8.41	07-07-70	12.5	10-21-74	21.1	10-29-75	4.6
10-08-58	10.8	08-25-61	8.21	09-01-71	3.8	08-05-75	10.8	09-09-76	1.3
09-18-59	2.33	10-27-64	2.41	09-06-73	8.8				

Qa = 42

Q(84) = 4.1

7Q2 = 1.1

7Q10 = 0.1***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4642.00 WOLF CR NR BUCKINGHAM, IOWA

LAT 421533, LONG 922142, IN NE 1/4 SEC.
21, T.86 N., R.13 W., TAMA CO. (86),
AT BRIDGE, 4.5 MILES SE OF BUCKINGHAM.

DRAINAGE AREA 287 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	38.1	10-21-59	18.8	09-13-68	31.9	09-26-74	42.	09-24-75	21.7
05-09-58	54.0	08-17-60	39.4	07-07-70	49.6	10-21-74	89.	10-29-75	19.
10-08-58	68.6	08-28-61	28.8	09-01-71	19.0	08-05-75	45.2	09-09-76	9.5
09-18-59	12.6	10-27-64	13.5	09-06-73	43.				

Qa = 152 Q(84) = 26 7Q2 = 9.5 7Q10 = 2.2***

5-4642.50 WOLF CR AT LAPORTE CITY, IOWA

LAT 4219XX, LONG 9212XX, IN SW 1/4 SEC.
25, T.87 N., R.12 W., BLACK HAWK CO. (07),
AT BRIDGE ON U. S. HIGHWAY 218 IN LAPORTE CITY.

DRAINAGE AREA 327 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	33.2	08-17-60	62.0	07-07-70	68.4	10-21-74	93.8	09-24-75	37.3
10-20-58	65.8	08-28-61	44.7	09-01-71	31.0	06-24-75	986.	10-29-75	31.
09-18-59	18.4	10-27-64	17.1	09-06-73	60.	08-04-75	61.7	09-08-76	17.
10-21-59	27.2	09-13-66	46.7	09-26-74	54.				

Qa = 175 Q(84) = 37 7Q2 = 16 7Q10 = 4.0***

5-4643.00 SPRING CR NR LAPORTE CITY, IOWA

LAT 4220XX, LONG 9206XX, IN NW 1/4 SEC.
23, T.87 N., R.11 W., BLACK HAWK CO. (07),
AT BRIDGE, 5 MILES NE OF LAPORTE CITY.

DRAINAGE AREA 57.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	7.05	08-17-60	15.4	07-07-70	17.9	10-21-74	12.4	10-29-75	6.5
10-08-58	3.68	08-28-61	9.12	09-01-71	8.3	08-04-75	13.3	07-19-76	7.0
09-18-59	5.15	10-27-64	3.33	09-06-73	9.6	09-24-75	6.84	09-08-76	3.7
10-21-59	9.88	09-13-66	15.6	09-26-74	9.8				

Qa = 33 Q(84) = 4.5*** 7Q2 = 2.9** 7Q10 = 0.9**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4643.20 E BLUE CR NR CENTER POINT, IOWA

LAT 421141, LONG 914828, IN NW 1/4 SEC.
8, T.85 N., R.8 W., LINN CO. (57),
AT BRIDGE, 1 MILE WEST OF CENTER POINT.

DRAINAGE AREA 27.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.51	08-16-60	3.73	07-07-70	10.3	09-26-74	3.2	09-24-75	1.62
04-29-58	1.84	08-29-61	3.49	09-02-71	2.1	10-21-74	5.63	10-29-75	1.7
10-20-58	1.30	10-27-64	1.49	09-06-73	3.5	08-04-75	3.32	09-07-76	0.97
10-20-59	5.00	09-13-66	3.17						

Qa = 16

Q(84) = 2.0***

7Q2 = 1.4**

7Q10 = 0.4**

5-4643.50 BEAR CR AT SHELLSBURG, IOWA

LAT 420539, LONG 915334, IN NW 1/4 SEC.
15, T.84 N., R.9 W., BENTON CO. (06),
AT BRIDGE, 1 MILE WEST OF SHELLSBURG.

DRAINAGE AREA 55.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	6.30	08-16-60	7.41	07-07-70	16.1	09-26-74	6.9	09-24-75	1.8
04-29-58	7.76	08-29-61	5.48	09-02-71	1.8	10-21-74	10.6	10-29-75	2.4
10-21-58	4.04	10-27-64	1.44	09-06-73	4.0	08-05-75	2.92	09-10-76	0.82
10-21-59	17.2	09-13-66	2.84						

Qa = 33

Q(84) = 4.4***

7Q2 = 2.8**

7Q10 = 0.8**

5-4644.00 BEAR CR NR PALO, IOWA

LAT 420455, LONG 914740, IN SE 1/4 SEC.
17, T.84 N., R.8 W., LINN CO. (57),
AT BRIDGE, 1 MILE NORTH OF PALO.

DRAINAGE AREA 95.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	12.0	10-20-59	28.6	09-13-66	7.43	09-06-73	9.0	09-24-75	4.01
04-29-58	12.0	08-16-60	14.3	07-07-70	27.9	09-26-74	14.	10-29-75	4.2
10-21-58	7.75	08-29-61	12.2	09-02-71	5.0	10-21-74	16.4	09-07-76	1.6
09-17-59	5.09	10-27-64	2.50	06-02-72	42.2	08-05-75	6.41		

Qa = 56

Q(84) = 8.5***

7Q2 = 4.8**

7Q10 = 1.4**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4544.60 OTTER CR NR CEDAR RAPIDS, IOWA

LAT 420357, LONG 914427, IN SE 1/4 SEC.
24, T.84 N., R.8 W., LINN CO. (57),
AT BRIDGE, 7 MILES NW OF CEDAR RAPIDS.

DRAINAGE AREA 65.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	4.11	10-20-59	14.4	09-13-66	5.71	09-06-73	9.3	08-04-75	6.98
04-29-58	6.11	08-16-60	11.1	07-07-70	20.5	09-26-74	8.2	09-24-75	3.98
10-21-58	2.85	08-29-61	6.06	09-02-71	6.8	10-21-74	11.	10-29-75	4.6
09-17-59	4.89	10-27-64	3.21	06-02-72	32.3	06-24-75	119.	09-07-76	2.3

Qa = 38

Q(84) = 5.0***

7Q2 = 3.3**

7Q10 = 1.0**

5-4645.50 PRAIRIE CR NR BLAIRSTOWN, IOWA

LAT 415606, LONG 920751, NEAR NORTH 1/4
CORNER SEC.9, T.82 N., R.11 W., BENTON CO. (06),
AT BRIDGE, 3 MILES NW OF BLAIRSTOWN.

DRAINAGE AREA 64.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	4.73	08-16-60	6.83	10-06-66	1.43	09-06-73	3.4	08-06-75	3.8
10-21-58	11.8	08-29-61	3.22	07-07-70	12.6	09-26-74	8.2	09-10-76	0.27
10-21-59	11.4	10-28-64	2.06	09-02-71	1.9				

Qa = 37

Q(84) = 4.7

7Q2 = 2.6

7Q10 = 0.8

5-4646.00 PRAIRIE CR AT NORWAY, IOWA

LAT 415335, LONG 915543, NEAR SW CORNER
SEC.19, T.82 N., R.9 W., BENTON CO. (06),
AT BRIDGE, 1 MILE SW OF NORWAY.

DRAINAGE AREA 126 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	12.0	08-16-60	17.8	09-12-66	6.94	09-06-73	8.1	08-06-75	9.4
10-22-58	27.0	08-29-61	7.66	10-06-66	4.90	09-26-74	25.	09-10-76	2.0
10-21-59	26.5	10-28-64	4.50	09-02-71	5.9				

Qa = 72

Q(84) = 13

7Q2 = 8.6

7Q10 = 3.5

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4646.50 PRAIRIE CR AT CEDAR RAPIDS, IOWA

LAT 415549, LONG 914034, IN NW 1/4 SEC.
9, T.82 N., R.7 W., LINN CO. (57),
AT BRIDGE, 3 MILES SOUTH OF CEDAR RAPIDS.

DRAINAGE AREA 208 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	20.7	10-20-59	65.0	10-28-64	10.5	09-02-71	16.0	08-04-75	25.
04-29-58	24.6	08-16-60	40.1	10-06-66	13.9	09-07-73	23.	09-07-76	14.
10-21-58	45.1	08-29-61	24.8	07-07-70	65.2	09-27-74	47.		

Qa = 118 Q(84) = 32 7Q2 = 21 7Q10 = 8.9

5-4647.00 INDIAN CR AT CEDAR RAPIDS, IOWA

LAT 415942, LONG 913703, IN SW 1/4 SEC.
13, T.83 N., R.7 W., LINN CO. (57),
AT BRIDGE, NEAR NE CITY LIMITS OF CEDAR RAPIDS.

DRAINAGE AREA 72.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.47	10-20-59	20.2	10-28-64	3.00	09-02-71	6.9	08-04-75	6.3
04-29-58	4.50	08-16-60	10.4	10-06-66	4.00	09-07-73	8.2	09-07-76	1.4
10-21-58	2.91	08-30-61	7.12	07-07-70	16.4	09-27-74	8.3		

Qa = 43 Q(84) = 4.9 7Q2 = 3.1 7Q10 = 1.5

5-4647.50 BIG CR AT BERTRAM, IOWA

LAT 415723, LONG 913135, NEAR EAST 1/4
CORNER SEC.34, T.83 N., R.6 W., LINN CO. (57),
AT BRIDGE NEAR EAST CITY LIMITS OF BERTRAM.

DRAINAGE AREA 81.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	6.18	10-20-59	22.6	10-28-64	8.60	09-02-71	18.0	08-04-75	15.
04-29-58	10.9	08-15-60	22.0	10-06-66	14.6	09-07-73	26.	09-07-76	7.7
10-21-58	7.57	08-30-61	19.0	07-07-70	27.5	09-27-74	35.		

Qa = 48 Q(84) = 13 7Q2 = 10 7Q10 = 5.2

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4648.00 ROCK CR AT ROCHESTER, IOWA

LAT 414040, LONG 910952, IN NW 1/4 SEC.
2, T.79 N., R.3 W., CEDAR CO. (16),
AT BRIDGE, 0.5 MILE NW OF ROCHESTER.

DRAINAGE AREA 63.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	5.16	10-22-59	14.0	10-29-64	2.77	09-01-71	6.3	08-06-75	4.8
05-01-58	9.95	08-15-60	15.7	09-12-66	4.87	09-07-73	9.1	09-09-76	2.0
11-03-58	3.10	08-30-61	13.2	07-07-70	26.2	09-26-74	10.		

Qa = 38

Q(84) = 7.0

7Q2 = 5.2

7Q10 = 2.8

5-4648.50 SUGAR CR NR BENNETT, IOWA

LAT 414156, LONG 910243, NEAR S 1/4
CORNER OF SEC.26, T.80 N., R.2 W., CEDAR CO. (16),
AT BRIDGE, 4.5 MILES SW OF BENNETT.

DRAINAGE AREA 80.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	5.88	10-22-59	22.6	10-29-64	2.15	09-01-71	4.1	08-06-75	2.5
05-01-58	12.5	08-15-60	28.0	09-12-66	3.29	09-07-73	6.4	09-09-76	0.71
11-03-58	2.89	08-30-61	16.9	07-07-70	52.4	09-26-74	7.1		

Qa = 49

Q(84) = 5.7

7Q2 = 3.2

7Q10 = 0.8***

5-4549.00 MUD CR NR WILTON, IOWA

LAT 413445, LONG 910217, IN NW 1/4 SEC.
12, T.78 N., R.2 W., MUSCATINE CO. (70),
AT BRIDGE, 1 MILE SW OF WILTON.

DRAINAGE AREA 102 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.48	10-22-59	25.9	10-29-64	3.13	09-01-71	5.3	08-06-75	6.9
05-01-58	8.09	08-15-60	11.2	09-12-66	6.10	09-07-73	10.	09-09-76	3.8
11-03-58	4.58	08-30-61	9.14	07-07-70	36.7	09-26-74	13.		

Qa = 60

Q(84) = 7.1

7Q2 = 5.4

7Q10 = 2.9

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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IOWA RIVER BASIN--Continued

5-4649.20 SUGAR CR NR MOSCOW, IOWA

LAT 413400, LONG 910409, NEAR N 1/4
CORNER OF SEC.15, T.78 N., R.2 W., MUSCATINE CO.
(70), AT BRIDGE, 1 MILE SE OF MOSCOW.

DRAINAGE AREA 218 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	9.71	10-22-59	51.3	10-29-64	7.36	09-01-71	15.0	06-23-75	55.
05-01-58	26.0	08-15-60	42.0	09-12-66	14.5	09-07-73	24.	08-06-75	14.
11-03-58	8.09	08-30-61	32.8	07-07-70	104.	09-26-74	28.	09-09-76	8.4

Qa = 126

Q(84) = 19

7Q2 = 14

7Q10 = 7.2

5-4649.40 WAPSINOC CR AT WEST LIVERTY, IOWA

LAT 413326, LONG 911519, IN SE 1/4 SEC.
13, T.78 N., R.4 W., MUSCATINE CO. (70),
AT BRIDGE ON STATE HIGHWAY 76, 1/2 MILE
SE OF WEST LIBERTY.

DRAINAGE AREA 51.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.94	10-22-59	4.52	09-12-66	2.48	09-07-73	3.33	08-06-75	2.1
05-01-58	3.37	08-15-60	7.50	07-07-70	26.7	09-26-74	4.7	09-08-76	2.2
11-03-58	2.03	08-30-61	7.13	09-01-71	2.7				

Qa = 30

Q(84) = 3.0

7Q2 = 2.2

7Q10 = 0.7

5-4649.50 WB WAPSINOC CR AT WEST LIBERTY, IOWA

LAT 413348, LONG 911613, NEAR E 1/4
CORNER OF SEC.14, T.78 N., R.4 W., MUSCATINE CO.
(70), AT BRIDGE, 1 MILE SOUTH OF WEST LIBERTY.

DRAINAGE AREA 52.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.	10-22-59	7.04	08-30-61	7.21	07-07-70	24.5	09-26-74	7.7
05-01-58	0.	10-22-59	7.21	10-29-64	0.1	09-01-71	0.99	08-06-75	0.32
11-03-58	2.28	08-15-60	6.38	09-12-66	0.27	09-07-73	1.4	09-08-76	0.07

Qa = 31

Q(84) = 0.8

7Q2 = 0.3

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

IOWA RIVER BASIN--Continued

5-4652.00 LONG CR NR AINSWORTH, IOWA

LAT 4116XX, LONG 9130XX, IN SE 1/4 SEC.
26, T.75 N., R.6 W., WASHINGTON CO. (92),
AT BRIDGE, 2.5 MILES SE OF AINSWORTH.DRAINAGE AREA 68.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	09-06-60	0.02	05-10-66	24.1	10-31-66	1.31	09-27-74	0.
04-28-58	1.76	08-31-61	0.12	07-26-66	2.18	07-10-70	8.97	08-06-75	0.39
10-02-58	1.12	11-04-63	0.22	09-13-66	0.	09-06-73	0.26	09-08-76	0.14
10-22-59	15.9	10-29-64	0.18						

Qa = 40 Q(84) = 0.3 7Q2 = 0.3** 7Q10 = *

5-4653.00 LONG CR NR WAPELLO, IOWA

LAT 4112XX, LONG 9117XX, NEAR SOUTH 1/4
CORNER SEC.23, T.74 N., R.4 W., LOUISA CO. (58),
AT BRIDGE, 5 MILES NW OF WAPELLO.DRAINAGE AREA 146 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.03	09-06-60	1.26	06-03-66	87.6	04-17-67	91.4	09-06-73	9.8
04-28-58	5.95	08-31-61	0.58	07-26-66	6.77	06-12-67	247.0	09-27-74	8.0
10-02-58	3.53	11-04-63	0.37	09-12-66	1.30	09-11-67	0.16	08-06-75	1.1
10-22-59	39.7	10-29-64	0.20	10-31-66	0.98	07-10-70	15.8	09-08-76	0.44

Qa = 85 Q(84) = 0.8 7Q2 = 0.7** 7Q10 = 0.1**

5-4656.00 OTTER CR NR WAPELLO, IOWA

LAT 410720, LONG 910900, NEAR CENTER OF
SEC.13, T.73 N., R.3 W., LOUISA CO. (58),
AT BRIDGE, 4 MILES SE OF WAPELLO.DRAINAGE AREA 64.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.69	09-06-60	7.39	06-03-66	32.0	10-31-66	5.70	09-27-73	10.
04-28-58	9.81	08-31-61	5.53	07-26-66	7.89	07-10-70	8.60	08-06-75	5.2
10-02-58	9.04	11-04-63	3.72	09-12-66	5.30	09-06-73	36.	09-08-76	5.9
10-22-59	17.6	10-29-64	3.48						

Qa = 40 Q(84) = 5.0 7Q2 = 3.4 7Q10 = 1.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

395

FLINT CREEK BASIN

5-4697.00 FLINT CR NR BURLINGTON, IOWA

LAT 405200, LONG 911203, IN NE 1/4 SEC.
16, T.70 N., R.3 W., DES MOINES CO. (29),
AT BRIDGE, 6 MILES NW OF BURLINGTON.

DRAINAGE AREA 107 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.	09-06-61	1.02	08-18-66	0.	06-20-68	13.2	09-20-74	3.1
03-25-58	12.0	11-04-63	0.78	11-02-66	0.85	07-14-70	4.32	09-29-75	7.4
10-28-58	1.06	10-15-64	0.28	04-17-67	126.	08-26-71	1.9	09-16-76	0.23
09-07-60	1.07	06-06-66	44.5	09-11-67	1.05				

Qa = 68 Q(84) = 1.8 7Q2 = 0.5** 7Q10 = *

SKUNK RIVER BASIN

5-4698.00 S SKUNK R NR ELLSWORTH, IOWA

LAT 4219XX, LONG 9335XX, NEAR N 1/4
CORNER OF SEC.36, T.87 N., R.24 W., HAMILTON CO.
(40), AT BRIDGE ON STATE HIGHWAY 175, NEAR
WEST CITY LIMITS OF ELLSWORTH.

DRAINAGE AREA 54.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.81	07-28-59	3.13	10-12-64	1.15	08-24-71	0.19	09-29-75	0.87
04-22-58	15.0	09-07-60	1.01	09-08-66	1.30	09-20-74	2.7	09-15-76	0.02
10-21-58	0.37	09-05-61	3.50	07-13-70	1.28				

Qa = 27 Q(84) = 0.4 7Q2 = * 7Q10 = 0

5-4698.50 MUD LAKE DRAINAGE DITCH 71 AT JEWELL, IOWA

LAT 4219XX, LONG 9338XX, IN NW 1/4 SEC.
28, T.87 N., R.24 W., HAMILTON CO. (40),
AT BRIDGE, 1 MILE NORTH OF JEWELL.

DRAINAGE AREA 64.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.77	07-28-59	5.06	10-12-64	0.46	08-24-71	0.78	09-29-75	0.62
04-22-58	16.8	09-07-60	2.14	09-08-66	0.35	09-20-74	3.9	09-15-76	0.11
10-21-58	0.33	09-05-61	3.20	07-13-70	2.47				

Qa = 31 Q(84) = 0.7 7Q2 = 0.1 7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

397

SKUNK RIVER BASIN--Continued

5-4711.00 EB INDIAN CR NR NEVADA, IOWA

LAT 4102XX, LONG 9322XX, NEAR N 1/4 CORNER
OF SEC.2, T.83 N., R.22 W., STORY CO. (85),
AT BRIDGE, 4 MILES NE OF NEVADA.

DRAINAGE AREA 65.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.82	10-20-58	3.84	09-06-61	1.78	07-13-70	1.29	09-29-75	1.6
09-26-57	1.53	07-28-59	2.39	10-13-64	0.38	08-23-71	0.05	09-14-76	0.
04-22-58	15.1	09-07-60	5.64	09-07-66	0.	09-19-74	4.0		

Qa = 34

Q(84) = 2.1

7Q2 = 0.2

7Q10 = 0

5-4711.50 WB INDIAN CR NR IOWA CENTER, IOWA

LAT 4156XX, LONG 9326XX, IN NW 1/4 SEC.
8, T.82 N., R.22 W., STORY CO. (85),
AT BRIDGE, 2 MILES NW OF IOWA CENTER.

DRAINAGE AREA 65.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.16	10-20-58	5.07	09-06-61	2.41	07-13-70	2.75	09-29-75	2.4
09-26-57	0.11	07-28-59	3.38	10-13-64	2.11	08-23-71	0.82	09-14-76	0.06
04-22-58	7.96	09-07-60	7.56	09-07-66	0.09	09-19-74	2.3		

Qa = 34

Q(84) = 2.9

7Q2 = 0.3

7Q10 = 0

5-4711.80 INDIAN CR NR IOWA CENTER, IOWA

LAT 4155XX, LONG 9325XX, NEAR CENTER OF
SEC.16, T.82 N., R.22 W., STORY CO. (85),
AT BRIDGE, 1 MILE SW OF IOWA CENTER.

DRAINAGE AREA 203 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	3.01	10-20-58	13.3	09-06-61	7.43	07-13-70	6.30	09-29-75	8.8
09-26-57	2.63	07-28-59	7.33	10-12-64	1.90	08-23-71	0.63	09-14-76	0.
04-22-58	30.1	09-07-60	16.9	09-07-66	0.14	09-19-74	9.2		

Qa = 104

Q(84) = 7.3

7Q2 = 0.8

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

SKUNK RIVER BASIN--Continued

5-4713.50 CLEAR CR NR MINGO, IOWA

LAT 4147XX, LONG 9316XX, IN SW 1/4 SEC.
35, T.81 N., R.21 W., JASPER CO. (50),
AT BRIDGE, 1 MILE NE OF MINGO.DRAINAGE AREA 84.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	0.33	07-28-59	6.82	10-12-64	5.51	08-23-71	1.5	09-29-75	6.4
04-21-58	9.98	09-07-60	3.16	09-07-66	1.81	09-19-74	6.4	09-14-76	0.63
10-20-58	2.25	09-07-61	4.72	07-13-70	3.80				

Qa = 45

Q(84) = 5.0

7Q2 = 2.1

7Q10 = 0.4

5-4714.00 ELK CR NR TAINTOR, IOWA

LAT 4129XX, LONG 9251XX, IN NE 1/4 SEC.
7, T.77 N., R.17 W., MAHASKA CO. (62),
AT BRIDGE, 6 MILES SW OF TAINTOR.DRAINAGE AREA 59.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	1.40	09-08-60	4.78	05-09-66	13.6	06-10-68	1.43	09-19-74	4.1
03-28-58	4.43	09-06-61	3.09	07-25-66	12.4	07-13-70	2.39	09-30-75	4.6
10-22-58	2.87	10-13-64	1.90	11-01-66	0.46	08-23-71	0.92	09-13-76	0.27
10-21-59	7.95								

Qa = 35

Q(84) = 1.7

7Q2 = 0.4

7Q10 = *

5-4721.00 N SKUNK R NR NEWTON, IOWA

LAT 4147XX, LONG 9302XX, IN NW 1/4 SEC.
35, T.81 N., R.19 W., JASPER CO. (50),
AT BRIDGE, 6 MILES NORTH OF NEWTON.DRAINAGE AREA 101 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	1.54	07-28-59	18.9	10-13-64	8.65	07-13-70	10.4	09-29-75	16.
03-28-58	11.8	09-07-60	4.95	10-05-66	1.27	08-23-71	1.5	09-14-76	0.94
10-20-58	3.60	09-06-61	15.1	06-10-68	0.27	09-19-74	12.		

Qa = 55

Q(84) = 3.5

7Q2 = 1.4

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

399

SKUNK RIVER BASIN--Continued

5-4723.00 N SKUNK R NR SEARSBORO, IOWA

LAT 4132XX, LONG 9242XX. NEAR CENTER OF
SEC.27, T.78 N., R.16 W., POWESHIEK CO. (79),
AT BRIDGE, 3.5 MILES SOUTH OF SEARSBORO.

DRAINAGE AREA 358 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	12.4	10-21-59	31.6	10-13-64	21.2	07-13-70	31.2	09-30-75	34.
03-28-58	41.5	09-08-60	20.8	10-05-66	5.76	08-23-71	13.0	09-13-76	6.4
10-22-58	23.3	09-06-61	47.0	06-10-68	9.63	09-19-74	40.		

Qa = 196 Q(84) = 20 7Q2 = 11 7Q10 = 2.0***

5-4724.00 MIDDLE CR NR ROSE HILL, IOWA

LAT 412042, LONG 922825, IN NE 1/4 SEC.
33, T.76 N., R.14 W., MAHASKA CO. (62),
AT BRIDGE, 2 MILES NW OF ROSE HILL.

DRAINAGE AREA 58.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	1.52	10-21-59	4.73	05-09-66	20.9	06-10-68	0.81	09-19-74	4.2
03-27-58	3.07	09-09-60	1.12	07-25-66	11.2	07-13-70	3.78	09-30-75	4.0
10-22-58	0.14	09-06-61	2.06	11-03-66	0.	08-23-71	0.15	09-13-76	0.02
08-25-59	0.76	10-13-64	0.05						

Qa = 34 Q(84) = 0.5 7Q2 = 0.1 7Q10 = 0

5-4724.50 CEDAR CR NR SIGOURNEY, IOWA

LAT 411842, LONG 921333, IN SE 1/4 SEC.
10, T.75 N., R.12 W., KEOKUK CO. (54),
AT BRIDGE, 2 MILES SW OF SIGOURNEY.

DRAINAGE AREA 92.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	1.47	09-09-60	2.17	07-25-66	6.48	06-10-68	3.91	09-19-74	4.2
03-27-58	5.57	09-06-61	2.25	08-17-66	2.82	07-13-70	4.28	09-30-75	12.
10-22-58	2.41	10-13-64	0.48	10-24-66	1.27	08-23-71	1.2	09-13-76	0.28
08-25-59	4.05	05-09-66	26.3						

Qa = 53 Q(84) = 2.2 7Q2 = 0.5 7Q10 = 0.1

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

SKUNK RIVER BASIN--Continued

5-4730.20 EF CROOKED CR NR WINFIELD, IOWA

LAT 4109XX, LONG 9126XX, IN NE 1/4 SEC.
9, T.73 N., R.5 W., HENRY CO. (44),
AT BRIDGE, 2 MILES NORTH OF WINFIELD.DRAINAGE AREA 65.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.10	09-05-61	0.50	07-26-66	1.54	06-20-68	5.56	09-19-74	0.56
03-25-58	9.54	11-04-63	0.05	08-16-66	0.60	07-13-70	2.67	09-29-75	3.5
10-27-58	3.52	10-13-64	0.05	10-31-66	0.46	08-24-71	0.96	09-16-76	0.33
09-06-60	0.80								

Qa = 41 Q(84) = 0.6 7Q2 = 0.1 7Q10 = 0

5-4730.50 CROOKED CR NR COPPOCK, IOWA

LAT 4112XX, LONG 9142XX, IN NE 1/4 SEC.
30, T.74 N., R.7 W., WASHINGTON CO. (92),
AT BRIDGE, 2 MILES NE OF COPPOCK.DRAINAGE AREA 259 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.30	09-06-60	2.36	05-10-66	40.8	06-20-68	41.3	09-20-74	12.0
03-25-58	24.5	09-05-61	3.26	08-16-66	6.58	07-13-70	21.1	09-30-75	4.9
10-27-58	11.2	11-04-63	0.80	11-01-66	0.	08-24-71	3.7	09-13-76	0.16
10-20-59	76.5	10-13-64	0.27	09-11-67	1.46				

Qa = 152 Q(84) = 2.5 7Q2 = 0.7 7Q10 = *

5-4731.00 WALNUT CR AT GERMANVILLE, IOWA

LAT 4106XX, LONG 9146XX, IN SW 1/4 SEC.
27, T.73 N., R.8 W., JEFFERSON CO. (51),
AT BRIDGE, 1 MILE WEST OF GERMANVILLE.DRAINAGE AREA 66.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	0.	09-06-60	0.96	05-10-66	10.1	06-20-68	1.15	09-20-74	2.0
03-25-58	3.81	09-05-61	1.41	08-16-66	0.86	07-13-70	0.93	09-29-75	1.20
10-27-58	1.35	11-04-63	0.43	10-31-66	0.52	08-24-71	0.12	09-14-76	0.02
10-20-59	10.0	10-13-64	0.37						

Qa = 41 Q(84) = 1.0 7Q2 = 0.4 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

401

SKUNK RIVER BASIN--Continued

5-4732.00 CEDAR CR NR HIGHLAND CENTER, IOWA

LAT 410630, LONG 922158, IN SW 1/4 SEC.
21, T.73 N., R.13 W., WAPELLO CO. (90),
AT BRIDGE, 1 MILE SW OF HIGHLAND CENTER.

DRAINAGE AREA 73.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.50	09-08-60	0.30	05-09-66	16.5	06-20-68	2.33	09-19-74	4.2
03-27-58	4.18	09-07-61	0.36	08-17-66	0.35	07-13-70	1.14	09-30-75	5.0
10-22-58	7.44	11-04-63	0.40	11-01-66	0.16	08-25-71	0.28	09-14-76	0.06
08-25-59	0.63	10-14-64	0.12						

Qa = 44 Q(84) = 0.4 7Q2 = 0.1 7Q10 = 0

5-4732.50 COMPETINE CR BELOW FORKS NR BATAVIA, IOWA

LAT 4102XX, LONG 9207XX, IN NE 1/4 SEC.
21, T.72 N., R.11 W., JEFFERSON CO. (51),
AT BRIDGE, 3 MILES NE OF BATAVIA.

DRAINAGE AREA 68.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.	09-07-61	0.62	05-10-66	9.13	06-20-68	1.57	09-20-74	0.35
03-27-58	4.25	11-05-63	0.	08-17-66	0.	07-13-70	0.09	09-30-75	4.2
10-29-58	0.88	10-14-64	0.	11-01-66	0.	08-25-71	0.01	09-14-76	0.00
09-08-60	0.								

Qa = 42 Q(84) = 0.2 7Q2 = 0 7Q10 = 0

5-4733.00 CEDAR CR NR BATAVIA, IOWA

LAT 4101XX, LONG 9207XX, IN NW 1/4 SEC.
27, T.72 N., R.11 W., JEFFERSON CO. (51),
AT BRIDGE ON U.S. HIGHWAY 30, 2.5 MILES
NE OF BATAVIA.

DRAINAGE AREA 252 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.46	10-23-59	50.5	10-14-64	0.08	06-20-68	4.23	09-20-74	9.1
03-27-58	11.8	09-08-60	0.76	05-10-66	35.7	07-13-70	2.75	09-30-75	4.9
10-22-58	9.27	09-07-61	2.16	08-17-66	0.54	08-25-71	0.92	09-14-76	0.14
10-29-58	5.23	11-05-63	0.81	11-01-66	0.28				

Qa = 153 Q(84) = 0.8 7Q2 = 0.2 7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

SKUNK RIVER BASIN--Continued

5-4733.50 L CEDAR CR NR SALEM, IOWA

LAT 4051XX, LONG 9141XX, IN SW 1/4 SEC.
17, T.70 N., R.7 W., HENRY CO. (44),
AT BRIDGE, 4 MILES WEST OF SALEM.DRAINAGE AREA 55.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.	09-07-60	0.41	06-06-66	10.9	06-20-68	0.67	09-19-74	0.04
03-26-58	3.50	09-05-61	0.02	08-17-66	0.13	07-13-70	0.	09-29-75	0.1
10-27-58	0.36	11-04-63	0.	10-31-66	0.23	08-25-71	0.	09-15-76	0.10
10-23-59	4.53	10-14-64	0.02						

Qa = 35

Q(84) = 0.2

7Q2 = 0

7Q10 = 0

5-4734.00 CEDAR CR NR OAKLAND MILLS, IOWA

LAT 4055XX, LONG 9140XX, IN NW 1/4 SEC.
28, T.71 N., R.7 W., HENRY CO. (44),
AT BRIDGE, 3 MILES WEST OF OAKLAND MILLS.DRAINAGE AREA 522 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.45	09-07-60	8.46	06-06-66	120.	09-11-67	4.37	09-19-74	23.
03-25-58	36.7	09-05-61	20.9	08-17-66	8.05	06-20-68	14.4	09-29-75	11.
10-27-58	14.0	11-04-63	3.21	10-31-66	3.72	07-13-70	20.2	09-15-76	2.6
10-23-59	43.7	10-14-64	0.94	04-17-67	4.36	08-25-71	8.9		

Qa = 318

Q(84) = 6.0

7Q2 = 2.0

7Q10 = 0.3

5-4734.50 BIG CR AT MT. PLEASANT, IOWA

LAT 4100XX, LONG 9132XX, IN NW 1/4 SEC.
34, T.72 N., R.6 W., HENRY CO. (44),
AT BRIDGE, 3 MILES NE OF MT. PLEASANT.DRAINAGE AREA 58.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.	09-07-60	0.06	06-06-66	19.8	06-20-68	0.04	09-19-74	0.
03-25-58	3.67	09-06-61	0.23	08-17-66	0.	07-13-70	0.	09-29-75	2.7
10-27-58	0.52	11-04-63	0.	10-31-66	0.	08-24-71	0.03	09-14-76	0.
10-20-59	17.2	10-14-64	0.						

Qa = 37

Q(84) = 0.2

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

405

DES MOINES RIVER BASIN--Continued

5-4767.00 PRAIRIE CR NR WEST BEND, IOWA

LAT 4255XX, LONG 9427XX, NEAR N 1/4
CORNER SEC.36, T.94 N., R.31 W., PALO ALTO CO.
(74), BRIDGE, 2.5 MILES SW OF WEST BEND.

DRAINAGE AREA 61.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.15	08-18-59	0.21	08-31-66	0.18	08-24-71	0.18	08-12-75	0.
05-13-58	1.17	08-15-60	0.07	09-23-69	3.33	10-14-71	0.09	11-04-75	0.
10-08-58	0.	09-28-61	0.79	08-25-70	0.	09-26-74	0.	08-11-76	0.
10-20-58	0.	10-29-64	14.2						

Qa = 13 Q(84) = 0.4 7Q2 = 0 7Q10 = 0

5-4767.20 BEAVER CR NR ROLFE, IOWA

LAT 4250XX, LONG 9428XX, NEAR CENTER OF SEC.
35, T.93 N., R.31 W., POCAHONTAS CO. (76),
AT BRIDGE, 3 MILES NE OF ROLFE.

DRAINAGE AREA 62.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
08-18-59	2.06	10-29-64	11.4	08-28-70	0.	10-15-71	0.33	11-04-75	0.69
08-15-60	2.12	08-31-66	1.23	08-24-71	2.4	09-24-74	0.10	08-11-76	0.
09-28-61	2.01	09-23-69	8.98						

Qa = 34 Q(84) = 0.1 7Q2 = * 7Q10 = 0

5-4767.40 PILOT CR NR ROLFE, IOWA

LAT 4249XX, LONG 9427XX, IN SE 1/4 SEC.
1, T.92 N., R.31 W., POCAHONTAS CO. (76),
AT BRIDGE, 4 MILES EAST OF ROLFE.

DRAINAGE AREA 97.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
08-18-59	3.64	10-29-64	9.32	08-27-70	1.29	10-15-71	1.6	11-06-75	1.9
08-15-60	4.44	08-31-66	1.77	08-24-71	4.9	09-24-74	2.	08-11-76	0.48
09-28-61	2.44	09-23-69	10.3						

Qa = 52 Q(84) = 5.3 7Q2 = 1.6 7Q10 = 0.3

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4776.00 EF DES MOINES R NR DOLLIVER, IOWA

LAT 4328XX, LONG 9435XX, IN SW 1/4 SEC.
13, T.100 N., R.32 W., EMMET CO. (32),
AT BRIDGE, 2 MILES NE OF DOLLIVER.DRAINAGE AREA 196 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.65	08-17-59	0.	08-30-66	0.	08-24-71	0.	08-12-75	0.
05-13-58	10.3	08-15-60	2.53	09-22-69	0.10	10-13-71	0.	11-04-75	0.
10-06-58	0.	09-28-61	0.51	08-25-70	0.01	09-25-74	0.	08-10-76	0.
10-20-58	0.	10-27-64	27.7						

Qa = 46 Q(84) = 2.5 7Q2 = 0 7Q10 = 0

5-4777.00 EF DES MOINES R NR SWEA CITY, IOWA

LAT 4319XX, LONG 9425XX, NEAR CENTER OF
SEC.8, T.98 N., R.30 W., KOSSUTH CO. (55),
AT BRIDGE, 7 MILES SW OF SWEA CITY.DRAINAGE AREA 314 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.	08-17-59	0.	10-27-64	46.5	08-25-70	0.	09-25-74	0.58
05-13-58	21.4	08-16-60	3.54	08-30-66	0.27	08-24-71	0.	08-12-75	0.88
10-06-58	0.	09-28-61	0.72	09-22-69	3.03	10-13-71	0.	08-10-76	0.
10-20-58	0.								

Qa = 75 Q(84) = 5.0 7Q2 = 0 7Q10 = 0

5-4778.00 MUD CR AT BANCROFT, IOWA

LAT 4318XX, LONG 9412XX, NEAR CENTER OF
SEC.19, T.98 N., R.28 W., KOSSUTH CO. (55),
AT BRIDGE, 1 MILE EAST OF BANCROFT.DRAINAGE AREA 68.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.26	08-17-59	0.51	08-30-66	2.77	08-23-71	0.66	08-13-75	0.
05-13-58	6.67	08-16-60	0.66	09-22-69	1.82	10-13-71	0.15	11-04-75	0.
10-06-58	0.24	09-28-61	5.28	08-25-70	0.46	09-25-74	0.42	08-10-76	0.05
10-20-58	0.23	10-27-64	27.6						

Qa = 15 Q(84) = 1.6 7Q2 = 0.4 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4782.00 BLACK CAT CR NR ALGONA, IOWA

LAT 4308XX, LONG 9414XX, NEAR S 1/4 CORNER
SEC.11, T.96 N., R.29 W., KOSSUTH CO. (55),
AT BRIDGE ON U. S. HIGHWAY 169, 5 MILES
NORTH OF ALGONA.

DRAINAGE AREA 112 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	08-17-59	0.43	08-30-66	1.63	08-23-71	0.02	08-13-75	0.45
05-14-58	8.46	08-16-60	0.02	09-23-69	7.29	10-13-71	0.	11-04-75	0.
10-06-58	0.	09-28-61	9.47	08-25-70	0.	09-26-74	0.	08-08-76	0.
10-20-58	0.	10-26-64	41.6						

Qa = 25

Q(84) = 0.8

7Q2 = *

7Q10 = 0

5-4783.50 LOTTS CR NR WEST BEND, IOWA

LAT 4258XX, LONG 9423XX, NEAR S 1/4 CORNER
SEC.9, T.94 N., R.30 W., KOSSUTH CO. (55),
AT BRIDGE, 3 MILES EAST OF WEST BEND.

DRAINAGE AREA 66.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.76	08-18-59	1.42	10-26-64	20.3	08-25-70	1.42	09-26-74	1.3
05-13-58	4.44	08-15-60	1.35	08-31-66	2.03	08-26-71	2.1	08-12-75	2.8
10-08-58	0.61	09-28-61	6.96	09-23-69	7.93	10-14-71	1.1	08-11-76	1.1
10-20-58	0.41								

Qa = 27

Q(84) = 3.0

7Q2 = 1.2

7Q10 = 0.5

5-4784.00 LOTTS CR AT LIVERMORE, IOWA

LAT 4252XX, LONG 9411XX, IN NE 1/4 SEC.
18, T.93 N., R.28 W., HUMBOLDT CO. (46),
AT BRIDGE NEAR NW CITY LIMITS OF LIVERMORE.

DRAINAGE AREA 165 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.32	05-12-59	36.4	09-28-61	8.14	08-25-70	1.37	09-25-74	2.0
05-14-58	10.5	08-17-59	8.26	10-26-64	32.1	08-23-71	5.5	08-13-75	4.4
10-08-58	0.60	08-18-59	3.22	08-31-66	2.62	10-14-71	1.9	08-11-76	0.43
10-21-58	0.24	08-15-60	26.7	09-23-69	11.9				

Qa = 68

Q(84) = 5.6

7Q2 = 1.6

7Q10 = 0.5

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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DES MOINES RIVER BASIN--Continued

5-4796.00 LIZARD CR NR PALMER, IOWA

LAT 4239XX, LONG 9430XX, IN NW 1/4 SEC.
3, T.90 N., R.31 W., POCAHONTAS CO. (76),
AT BRIDGE, 5 MILES NE OF PALMER.

DRAINAGE AREA 66.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.91	08-13-59	1.09	10-29-64	1.97	08-27-70	0.58	09-24-74	1.3
05-12-58	8.12	08-15-60	1.42	08-31-66	1.13	08-24-71	1.0	11-06-75	0.57
10-08-58	2.06	09-28-61	1.10	09-23-69	3.03	10-15-71	0.46	08-11-76	0.
10-22-58	0.31								

Qa = 26 Q(84) = 1.6 7Q2 = 0.5 7Q10 = 0.1

5-4798.00 NB LIZARD CR NR HAVELOCK, IOWA

LAT 4248XX, LONG 9440XX, IN NE 1/4 SEC.
18, T.92 N., R.32 W., POCAHONTAS CO. (76),
AT BRIDGE, 4 MILES SE OF HAVELOCK.

DRAINAGE AREA 79.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.41	08-13-59	1.03	10-29-64	4.70	08-27-70	0.53	09-24-74	0.46
05-13-58	5.76	08-15-60	1.62	08-31-66	0.81	08-24-71	1.1	11-06-75	0.48
10-08-58	5.96	09-28-61	0.59	09-23-69	6.58	10-15-71	0.38	08-11-76	0.20
10-22-58	0.25								

Qa = 30 Q(84) = 1.4 7Q2 = 0.3 7Q10 = *

5-4799.00 LIZARD CR NR GILMORE CITY, IOWA

LAT 4238XX, LONG 9428XX, IN NW 1/4 SEC.
1, T.90 N., R.31 W., POCAHONTAS CO. (76),
AT BRIDGE, 6 MILES SW OF GILMORE CITY.

DRAINAGE AREA 219 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.96	08-13-59	4.65	10-29-64	9.04	08-27-70	1.63	09-24-74	1.3
05-12-58	15.6	08-15-60	5.19	08-31-66	3.76	08-24-71	4.0	11-06-75	1.5
10-22-58	1.22	09-28-61	3.79	09-23-69	12.2	10-15-71	2.0	08-11-76	0.

Qa = 86 Q(84) = 4.4 7Q2 = 1.1 7Q10 = 0.2

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4801.00 SB LIZARD CR NR PALMER, IOWA

LAT 4235XX, LONG 9432XX, IN SW 1/4 SEC.
29, T.90 N., R.31 W., POCAHONTAS CO. (76),
AT BRIDGE, 4.5 MILES SE OF PALMER.DRAINAGE AREA 66.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.40	08-13-59	0.14	10-29-64	0.10	08-28-70	0.07	09-24-74	0.10
05-12-58	5.49	08-15-60	0.49	08-31-66	0.03	08-24-71	0.06	08-11-76	0.
10-22-58	0.09	09-28-61	0.49	09-23-69	1.36	10-15-71	0.		

Q_a = 28

Q(84) = 0.3

7Q2 = *

7Q10 = 0**

5-4803.00 SB LIZARD CR NR FORT DODGE, IOWA

LAT 422950, LONG 941359, IN NE 1/4 SEC.
26, T.89 N., R.29 W., WEBSTER CO. (94),
AT BRIDGE, 3 MILES WEST OF FORT DODGE.DRAINAGE AREA 154 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.19	08-13-59	2.23	10-29-64	0.70	08-27-70	0.09	09-24-74	1.9
05-12-58	14.4	08-15-60	1.95	08-31-66	1.05	08-24-71	0.14	08-11-76	0.34
10-22-58	0.46	09-28-61	4.60	09-23-69	8.25	10-14-71	0.17		

Q_a = 64

Q(84) = 1.6

7Q2 = 0.5

7Q10 = *

5-4806.20 BRUSHY CR NR HOMER, IOWA

LAT 4223XX, LONG 9359XX, IN SE 1/4 SEC.
34, T.88 N., R.27 W., WEBSTER CO. (94),
AT BRIDGE, 3 MILES NW OF HOMER.DRAINAGE AREA 88.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.49	08-14-59	0.01	10-26-64	0.44	08-27-70	0.	09-24-74	0.36
05-12-58	6.28	08-16-60	0.63	08-29-66	0.28	08-23-71	1.0	11-06-75	0.
10-21-58	0.51	09-28-61	6.52	09-22-69	6.52	10-14-71	0.64	08-10-76	0.

Q_a = 40

Q(84) = 0.7

7Q2 = 0.2

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

411

DES MOINES RIVER BASIN--Continued

5-4806.60 BOONE R NR KANAWHA, IOWA

LAT 4255XX, LONG 9353XX, NEAR NORTH 1/4
CORNER SEC.35, T.94 N., R.26 W., HANCOCK CO.
(41), AT BRIDGE, 4 MILES SW OF KANAWHA.

DRAINAGE AREA 71.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.	08-16-60	0.	08-07-67	2.09	08-23-71	1.3	08-14-75	1.6
05-14-58	2.29	09-28-61	5.68	09-22-69	1.98	10-13-71	0.38	11-05-75	0.43
10-21-58	0.	10-27-64	5.61	08-26-70	0.32	09-25-74	0.74	08-11-76	0.79
08-14-59	0.88	08-29-66	1.42						

Qa = 32 Q(84) = 1.6 7Q2 = 0.1 7Q10 = 0**

5-4807.00 BOONE R NR RENWICK, IOWA

LAT 4253XX, LONG 9355XX, IN SW 1/4 SEC.
3, T.93 N., R.26 W., WRIGHT CO. (99),
AT BRIDGE, 6 MILES NE OF RENWICK.

DRAINAGE AREA 134 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.13	08-16-60	0.01	08-07-67	5.71	08-23-71	2.5	08-14-75	2.5
05-14-58	20.6	09-28-61	8.19	09-22-69	3.84	10-13-71	1.2	11-05-75	1.3
10-21-58	0.01	10-27-64	10.6	08-26-70	1.48	09-25-74	2.1	08-11-76	1.9
08-14-59	2.31	08-29-66	2.84						

Qa = 60 Q(84) = 3.2 7Q2 = 0.2 7Q10 = *

5-4807.20 PRAIRIE CR NR LUVERNE, IOWA

LAT 4257XX, LONG 9405XX, IN SW 1/4 SEC.
18, T.94 N., R.27 W., KOSSUTH CO. (55),
AT BRIDGE, 3 MILES NORTH OF LUVERNE.

DRAINAGE AREA 68.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.10	08-16-60	1.78	08-29-66	2.46	08-23-71	2.4	08-14-75	2.3
05-14-58	4.48	09-28-61	5.96	09-22-69	2.82	10-13-71	1.2	11-04-75	6.1
10-21-58	0.35	10-26-64	9.17	08-26-70	0.87	09-25-74	1.1	08-11-76	1.1
08-14-59	7.33								

Qa = 31 Q(84) = 2.1 7Q2 = 0.4 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4807.60 PRAIRIE CR NR RENWICK, IOWA

LAT 4252XX, LONG 9359XX, IN NE 1/4 SEC.
23, T.93 N., R.27 W., HUMBOLDT CO. (46),
AT BRIDGE, 3 MILES NW OF RENWICK

DRAINAGE AREA 118 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.	08-16-60	0.25	08-29-66	2.05	08-26-70	0.40	09-25-74	0.52
05-14-58	5.68	09-28-61	7.56	08-07-67	4.95	08-23-71	2.5	08-14-75	2.5
10-21-58	0.	10-27-64	13.4	09-22-69	3.47	10-13-71	0.62	11-05-75	0.
08-14-59	5.56								

Qa = 53

Q(84) = 2.4

7Q2 = 0.2

7Q10 = *

5-4808.00 OTTER CR NR GOLDFIELD, IOWA

LAT 4247XX, LONG 9353XX, IN NE 1/4 SEC.
15, T.92 N., R.26 W., WRIGHT CO. (99),
AT BRIDGE, 4 MILES NE OF GOLDFIELD.

DRAINAGE AREA 75.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.16	08-16-60	0.12	08-07-67	2.37	08-23-71	1.5	08-14-75	0.74
05-14-58	2.15	09-28-61	0.26	09-22-69	1.36	10-13-71	0.50	11-05-75	3.8
10-21-58	0.38	10-27-64	5.24	08-27-70	0.51	09-25-74	0.35	08-11-76	0.30
08-14-59	0.48	08-29-66	0.56						

Qa = 35

Q(84) = 0.9

7Q2 = 0.2

7Q10 = *

5-4808.20 BOONE R NR GOLDFIELD, IOWA

LAT 4242XX, LONG 9357XX, NEAR CENTER OF
SEC.5, T.91 N., R.26 W., WRIGHT CO. (99),
AT BRIDGE, 1.5 MILES SW OF GOLDFIELD.

DRAINAGE AREA 419 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.33	08-16-60	0.72	08-07-67	17.1	08-23-71	11.0	08-14-75	9.4
05-14-58	16.2	09-28-61	18.3	09-22-69	10.3	10-13-71	4.0	11-05-75	3.8
10-21-58	0.50	10-26-64	35.7	08-27-70	2.54	09-25-74	1.9	08-11-76	3.3
08-14-59	4.41	08-29-66	6.82						

Qa = 186

Q(84) = 6.4

7Q2 = 1.3

7Q10 = 0.2

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

413

DES MOINES RIVER BASIN--Continued

5-4808.60 EAGLE CR NR EAGLE GROVE, IOWA

LAT 4242XX, LONG 9349XX, IN SE 1/4 SEC.
8, T.91 N., R.25 W., WRIGHT CO. (99),
AT BRIDGE, 5 MILES NE OF EAGLE GROVE.

DRAINAGE AREA 62.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.85	08-16-60	0.53	08-07-67	1.74	08-23-71	1.5	08-14-75	0.93
05-14-58	3.06	09-28-61	0.46	09-22-69	2.27	10-13-71	0.97	11-05-75	0.
10-21-58	0.60	10-26-64	4.74	08-27-70	1.28	09-25-74	0.95	08-11-76	1.2
08-14-59	1.01	08-29-66	0.80						

Qa = 29 Q(84) = 1.4 7Q2 = 0.6 7Q10 = 0.3

5-4809.00 EAGLE CR NR WOOLSTOCK, IOWA

LAT 4234XX, LONG 9351XX, NEAR CENTER OF
SEC.36, T.90 N., R.26 W., WRIGHT CO. (99),
AT BRIDGE, 0.5 MILE WEST OF WOOLSTOCK.

DRAINAGE AREA 105 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	1.40	08-16-60	2.55	08-29-66	1.70	08-27-70	2.39	09-25-74	2.1
10-21-58	2.56	09-28-61	2.18	08-07-67	3.50	08-23-71	3.9	11-06-75	2.7
08-14-59	1.52	10-26-64	9.23	09-22-69	3.58	10-14-71	2.0	08-10-76	0.58

Qa = 48 Q(84) = 2.9 7Q2 = 1.4 7Q10 = 0.6***

5-4809.40 WHITE FOX CR NR WOOLSTOCK, IOWA

LAT 4236XX, LONG 9345XX, IN SW 1/4 SEC.
13, T.90 N., R.25 W., WRIGHT CO. (99),
AT BRIDGE, 5 MILES NE OF WOOLSTOCK.

DRAINAGE AREA 62.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	1.86	08-16-60	2.26	08-29-66	4.01	08-27-70	2.49	09-25-74	2.3
05-15-58	4.70	09-28-61	2.12	08-07-67	3.87	08-23-71	3.1	11-06-75	2.1
10-21-58	4.22	10-26-64	7.27	09-22-69	5.70	10-14-71	2.0	08-10-76	1.4
08-14-59	2.02								

Qa = 29 Q(84) = 3.5 7Q2 = 1.6 7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

415

DES MOINES RIVER BASIN--Continued

5-4819.00 BEAVER CR AT GRANGER, IOWA

LAT 414539, LONG 935101, IN SW 1/4 SEC.
2, T.80 N., R.26 W., DALLAS CO. (25),
AT BRIDGE, 1.5 MILES WEST OF GRANGER.

DRAINAGE AREA 314 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	2.25	09-08-60	35.6	09-07-66	1.08	08-24-71	0.61	09-30-75	2.1
04-23-58	41.0	09-07-61	23.6	09-24-69	22.1	09-23-74	2.9	10-14-76	0.26
10-21-58	15.3	10-26-64	9.34	07-14-70	18.2				

Qa = 152 Q(84) = 7.8 7Q2 = 1.5 7Q10 = *

5-4821.00 N RACCOON R NR REMBRANDT, IOWA

LAT 4247XX, LONG 9506XX, IN NE 1/4 SEC.
21, T.92 N., R.36 W., BUENA VISTA CO. (11),
AT BRIDGE, 5 MILES SE OF REMBRANDT.

DRAINAGE AREA 77.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.84	07-29-59	2.91	10-17-61	3.88	03-19-68	1.01	09-23-74	0.79
04-15-58	26.4	10-04-60	7.94	10-28-64	4.70	07-13-70	3.84	09-15-76	0.12
10-21-58	0.71	10-09-61	4.11	09-13-66	0.63	08-03-71	5.9		

Qa = 28 Q(84) = 3.3 7Q2 = 1.0 7Q10 = 0.2

5-4821.20 N RACCOON R NR TRUESDALE, IOWA

LAT 4242XX, LONG 9505XX, IN NE 1/4 SEC.
15, T.91 N., R.36 W., BUENA VISTA CO. (11),
AT BRIDGE, 6 MILES SE OF TRUESDALE.

DRAINAGE AREA 164 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.37	07-29-59	4.09	10-17-61	7.39	03-19-68	4.71	09-23-74	2.2
04-15-58	43.5	10-04-60	15.1	10-28-64	9.05	07-13-70	7.35	09-15-76	0.45
10-21-58	0.90	10-09-61	4.94	09-13-66	3.74	08-03-71	11.0		

Qa = 59 Q(84) = 5.0 7Q2 = 1.7 7Q10 = 0.5

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

417

DES MOINES RIVER BASIN--Continued

5-4823.20 INDIAN CR NR LAKE VIEW, IOWA

LAT 4220XX, LONG 9500XX, IN NW 1/4 SEC.
24, T.87 N., R.36 W., SAC CO. (81),
AT BRIDGE, 4 MILES NE OF LAKE VIEW.

DRAINAGE AREA 90.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.69	07-30-59	4.41	10-28-64	2.18	07-13-70	4.28	09-23-74	4.1
04-16-58	10.9	10-03-60	4.37	09-13-66	1.82	08-03-71	1.2	09-15-76	1.2
10-21-58	1.16	10-17-61	18.7	03-19-68	5.65				

Qa = 33

Q(84) = 3.6

7Q2 = 1.9

7Q10 = 0.7

5-4823.60 CAMP CR NR LYTTON, IOWA

LAT 4223XX, LONG 9450XX, IN NW 1/4 SEC.
5, T.87 N., R.34 W., CALHOUN CO. (13),
AT BRIDGE, 3 MILES SE OF LYTTON.

DRAINAGE AREA 62.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.81	07-30-59	2.05	10-28-64	0.05	07-13-70	2.05	09-23-74	0.14
04-16-58	10.0	10-03-60	3.17	09-13-66	0.69	08-03-71	0.22	09-15-76	0.
10-21-58	0.11	10-18-61	15.8	03-19-68	0.94				

Qa = 24

Q(84) = 1.5

7Q2 = 0.4

7Q10 = *

5-4823.80 CAMP CR NR LAKE CITY, IOWA

LAT 4217XX, LONG 9450XX, IN NW 1/4 SEC.
5, T.86 N., R.34 W., CALHOUN CO. (13),
AT BRIDGE, 5 MILES NW OF LAKE CITY.

DRAINAGE AREA 147 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.29	07-30-59	3.58	10-27-64	0.18	07-13-70	7.34	11-07-75	0.49
04-17-58	22.7	10-04-60	4.62	09-13-66	1.63	08-03-71	1.2	09-15-76	0.01
10-21-58	0.19	10-18-61	45.6	03-19-68	3.34	09-23-74	0.81		

Qa = 57

Q(84) = 2.2

7Q2 = 0.4

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4824.00 N RACCOON R NR LAKE CITY, IOWA

LAT 4216XX, LONG 9450XX, NEAR E 1/4
CORNER SEC.17, T.86 N., R.34 W., CALHOUN CO.
(13), AT BRIDGE ON STATE HIGHWAY 175, 4 MILES
WEST OF LAKE CITY.

DRAINAGE AREA 1003 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	18.3	07-30-59	32.3	10-28-64	38.3	07-13-70	51.7	11-07-75	28.
04-17-58	161.	10-04-60	52.1	09-13-66	20.2	08-03-71	57.0	09-15-76	6.8
10-21-58	10.1	10-18-61	116.	03-19-68	50.1	09-23-74	36.		

Qa = 363

Q(84) = 37

7Q2 = 18

7Q10 = 5.3

5-4824.10 LAKE CR NR ROCKWELL CITY, IOWA

LAT 4224XX, LONG 9436XX, IN SW 1/4 SEC.
29, T.88 N., R.32 W., CALHOUN CO. (13),
AT BRIDGE ON U. S. HIGHWAY 20. 1 MILE
EAST OF ROCKWELL CITY.

DRAINAGE AREA 71.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.96	07-29-59	1.23	10-27-64	0.10	07-14-70	5.35	09-23-74	0.57
04-16-58	13.4	10-04-60	4.94	09-13-66	0.77	08-04-71	0.80	09-15-76	0.
10-21-58	0.20	10-18-61	9.34	03-20-68	0.72				

Qa = 30

Q(84) = 0.8

7Q2 = 0.2

7Q10 = *

5-4824.20 LAKE CR NR LAKE CITY, IOWA

LAT 4216XX, LONG 9447XX, IN SW 1/4 SEC.
14, T.86 N., R.34 W., CALHOUN CO. (13),
AT BRIDGE, 3 MILES WEST OF LAKE CITY.

DRAINAGE AREA 128 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.91	07-30-59	5.33	10-27-64	0.23	03-20-68	2.10	09-23-74	1.1
04-17-58	30.5	10-04-60	6.01	08-03-65	0.52	07-14-70	7.97	11-07-75	0.
10-21-58	0.28	10-18-61	24.8	08-13-66	1.47	08-02-71	1.7	09-15-76	0.

Qa = 52

Q(84) = 1.1

7Q2 = 0.3

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

419

DES MOINES RIVER BASIN--Continued

5-4824.40 PURGATORY CR NR LANESBORO, IOWA

LAT 4210XX, LONG 9438XX, IN NE 1/4 SEC.
24, T.85 N., R.33 W., CARROLL CO. (14),
AT BRIDGE, 3 MILES SE OF LANESBORO.

DRAINAGE AREA 65.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	1.83	07-29-59	1.93	10-27-64	0.50	07-14-70	4.20	11-07-75	0.85
04-17-58	12.7	10-05-60	2.56	09-14-66	0.10	08-02-71	0.44	09-15-76	0.06
10-22-58	0.63	10-18-61	16.2	03-20-68	1.99	09-25-74	1.1		

Qa = 28

Q(84) = 0.9

7Q2 = 0.2

7Q10 = *

5-4824.60 E CEDAR CR NR SOMERS, IOWA

LAT 422207, LONG 942703, IN NW 1/4 SEC.
10, T.87 N., R.31 W., CALHOUN CO. (13),
AT BRIDGE, 1 MILE SW OF SOMERS.

DRAINAGE AREA 62.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.45	07-29-59	2.77	10-27-64	0.31	07-14-70	4.66	09-23-74	0.19
04-17-58	11.8	10-04-60	3.56	09-13-66	0.	08-04-71	4.7	09-15-76	0.
10-20-58	0.44	10-18-61	9.70	03-20-68	2.12				

Qa = 28

Q(84) = 1.3

7Q2 = 0.2

7Q10 = *

5-4824.80 CEDAR CR NR CHURDAN, IOWA

LAT 4208XX, LONG 9435XX, NEAR S 1/4
CORNER SEC.28, T.85 N., R.32 W., GREENE
Co. (37). AT BRIDGE, 5 MILES SW OF CHURDAN.

DRAINAGE AREA 151 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.64	07-29-59	4.35	10-27-64	0.11	07-14-70	9.98	09-25-74	0.
04-17-58	25.2	10-05-60	10.8	09-14-66	0.	08-02-71	0.71	09-15-76	0.
10-22-58	0.75	10-18-61	31.1	03-20-68	4.49				

Qa = 65

Q(84) = 2.2

7Q2 = *

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4827.00 HARDIN CR NR CHURDAN, IOWA

LAT 4210XX, LONG 9426XX, IN SW 1/4 SEC.
14, T.85 N., R.31 W., GREENE CO. (37),
AT BRIDGE, 2 MILES EAST OF CHURDAN.DRAINAGE AREA 74.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.85	07-29-59	1.57	10-27-64	0.01	07-14-70	3.56	09-23-74	0.16
04-17-58	13.5	10-05-60	6.21	09-14-66	0.06	08-02-71	0.43	09-15-76	0.
10-20-58	1.04	10-18-61	33.0	03-20-68	0.72				

Qa = 33

Q(84) = 0.6

7Q2 = 0.1

7Q10 = *

5-4830.50 HARDIN CR NR JEFFERSON, IOWA

LAT 4201XX, LONG 9420XX, IN NW 1/4 SEC.
10, T.83 N., R.30 W., GREENE CO. (37),
AT BRIDGE, 2 MILES EAST OF JEFFERSON.DRAINAGE AREA 161 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.44	07-28-59	6.67	10-27-64	1.31	07-14-70	6.45	09-23-74	1.7
04-17-58	31.7	10-04-60	12.1	09-14-66	1.13	08-02-71	0.46	09-14-76	0.
10-20-58	2.26	10-18-61	72.5	03-20-68	4.18				

Qa = 71

Q(84) = 2.9

7Q2 = 0.5

7Q10 = *

5-4831.00 W BUTTRICK CR NR FARNHAMVILLE, IOWA

LAT 4213XX, LONG 9422XX, IN NW 1/4 SEC.
4, T.85 N., R.30 W., GREENE CO. (37),
AT BRIDGE, 5 MILES SE OF FARNHAMVILLE.DRAINAGE AREA 80.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.20	07-29-59	0.85	10-27-64	0.16	07-14-70	3.22	11-04-75	0.
04-17-58	13.2	10-05-60	2.22	09-14-66	0.26	08-02-71	0.35	09-15-76	0.04
10-20-58	0.57	10-18-61	37.8	03-20-68	1.31	09-23-74	0.22		

Qa = 37

Q(84) = 0.9

7Q2 = 0.2

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

421

DES MOINES RIVER BASIN--Continued

5-4831.50 E BUTTRICK CR NR GRAND JUNCTION, IOWA

LAT 4204XX, LONG 9416XX, IN NE 1/4 SEC.
30, T.84 N., R.29 W., GREENE CO. (37),
AT BRIDGE, 2.5 MILES NW OF GRAND JUNCTION.

DRAINAGE AREA 79.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.76	07-28-59	1.69	10-27-64	0.48	07-14-70	2.18	09-23-74	0.53
04-17-58	20.7	10-04-60	2.78	09-14-66	0.69	08-02-71	0.25	09-15-76	0.
10-20-58	1.20	10-18-61	32.1	03-20-68	1.55				

Qa = 37

Q(84) = 0.9

7Q2 = 0.2

7Q10 = *

5-4832.00 BUTTRICK CR NR GRAND JUNCTION, IOWA

LAT 4202XX, LONG 9417XX, AT S 1/4
CORNER SEC.36, T.84 N., R.30 W., GREENE CO.
(37), AT BRIDGE, 2.5 MILES WEST OF GRAND
JUNCTION.

DRAINAGE AREA 202 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.44	07-28-59	5.71	10-27-64	1.06	07-14-70	6.80	09-23-74	0.86
04-17-58	39.1	10-04-60	6.33	09-14-66	0.96	08-02-71	0.45	09-15-76	0.
10-20-58	2.36	10-18-61	96.0	03-20-68	5.87				

Qa = 92

Q(84) = 1.4

7Q2 = 0.3

7Q10 = *

5-4832.50 GREEN BRIER CR NR JAMAICA, IOWA

LAT 4151XX, LONG 9417XX, NEAR CENTER OF
SEC.1, T.81 N., R.30 W., GUTHRIE CO. (39),
AT BRIDGE, 1.5 MILES NE OF JAMAICA.

DRAINAGE AREA 65.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	8.14	07-28-59	4.37	10-26-64	2.38	07-14-70	3.99	09-23-74	0.36
04-17-58	16.9	10-05-60	4.11	09-13-66	0.	08-02-71	1.0	09-15-76	0.
10-22-58	7.06	10-19-61	41.7	03-19-68	1.83				

Qa = 32

Q(84) = 0.8

7Q2 = 0.2

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4833.00 N RACCOON R NR PERRY, IOWA

LAT 4150XX, LONG 9408XX, NEAR CENTER OF
SEC.8, T.81 N., R.28 W., DALLAS CO. (25),
AT BRIDGE ON STATE HIGHWAY 141, 1 MILE WEST
OF PERRY.DRAINAGE AREA 2169 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	65.1	07-28-59	138.	10-26-64	72.4	07-14-70	165.	09-23-74	89.
04-17-58	445.	10-05-60	149.	09-13-66	48.6	08-02-71	132.0	09-14-76	22.
10-23-58	54.1	10-19-61	589.	03-20-68	113.				

Qa = 819

Q(84) = 90

7Q2 = 49

7Q10 = 9.0***

5-4833.10 S RACCOON R NR GUTHRIE CENTER, IOWA

LAT 4141XX, LONG 9432XX, IN SW 1/4 SEC.
36, T.80 N., R.32 W., GUTHRIE CO. (39),
AT BRIDGE, 2 MILES NW OF GUTHRIE CENTER.DRAINAGE AREA 77.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	6.74	10-04-60	12.4	09-12-66	8.75	07-13-70	8.90	09-24-74	16.
10-23-58	12.2	10-19-61	29.9	03-19-68	10.1	08-03-71	11.0	09-14-76	13.
07-31-59	10.1	10-29-64	11.9						

Qa = 35

Q(84) = 10

7Q2 = 7.6

7Q10 = 4.4***

5-4833.20 BRUSHY FORK CR NR DEDHAM, IOWA

LAT 4147XX, LONG 9454XX, IN SE 1/4 SEC.
22, T.82 N., R.34 W., CARROLL CO. (14),
AT BRIDGE, 2 MILES SE OF DEDHAM.DRAINAGE AREA 68.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	4.22	07-30-59	7.92	10-28-64	5.77	07-14-70	8.66	11-07-75	6.7
04-18-58	14.5	10-04-60	8.02	09-12-66	5.25	08-02-71	5.4	09-14-76	3.1
10-22-58	2.99	10-18-61	16.9	03-19-68	6.88	09-25-74	12.		

Qa = 28

Q(84) = 5.7

7Q2 = 3.6

7Q10 = 1.8***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

423

DES MOINES RIVER BASIN--Continued

5-4833.30 BRUSHY FORK CR NR GUTHRIE CENTER, IOWA

LAT 4139XX, LONG 9427XX, NEAR CENTER OF
SEC.15, T.79 N., R.31 W., GUTHRIE CO. (39),
AT BRIDGE, 3.5 MILES SE OF GUTHRIE CENTER.

DRAINAGE AREA 142 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	12.5	10-03-60	21.7	09-12-66	17.0	07-13-70	18.4	09-24-74	34.
10-23-58	16.7	10-18-61	44.4	03-19-68	19.3	08-03-71	21.0	09-14-76	19.
07-31-59	21.7	10-29-64	17.4						

Qa = 62

Q(84) = 19

7Q2 = 15

7Q10 = 9.6***

5-4833.40 S RACCOON R NR MONTEITH, IOWA

LAT 4138XX, LONG 9425XX, IN SE 1/4 SEC.
23, T.79 N., R.31 W., GUTHRIE CO. (39),
AT BRIDGE, 0.5 MILE EAST OF MONTEITH.

DRAINAGE AREA 267 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	23.2	10-03-60	47.4	09-12-66	29.5	07-13-70	30.1	09-24-74	57.
10-23-58	32.9	10-18-61	80.1	03-19-68	32.7	08-03-71	41.0	09-14-76	36.
07-31-59	36.0	10-29-64	39.7						

Qa = 117

Q(84) = 30

7Q2 = 22

7Q10 = 16***

5-4833.50 M RACCOON R NR CARROLL, IOWA

LAT 4203XX, LONG 9449XX, IN SE 1/4 SEC.
29, T.84 N., R.34 W., CARROLL CO. (14),
AT BRIDGE, 2 MILES SE OF CARROLL.

DRAINAGE AREA 74.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	3.45	07-30-59	7.69	10-28-64	4.18	07-14-70	7.58	11-07-75	6.2
04-17-58	15.2	10-04-60	5.00	09-12-66	2.60	08-02-71	3.1	09-14-76	3.3
10-22-58	2.01	10-19-61	14.8	03-19-68	7.18	09-25-74	10.		

Qa = 28

Q(84) = 4.0

7Q2 = 2.5

7Q10 = 1.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4833.60 M RACCOON R NR GLIDDEN, IOWA

LAT 4203XX, LONG 9446XX, NEAR CENTER OF
SEC.35, T.84 N., R.34 W., CARROLL CO. (14),
AT BRIDGE, 2.5 MILES SW OF GLIDDEN.

DRAINAGE AREA 138 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	4.51	07-30-59	8.07	10-28-64	4.80	07-14-70	9.39	11-07-75	6.1
04-17-58	30.1	10-04-60	4.23	09-12-66	4.41	08-02-71	4.0	09-14-76	3.5
10-22-58	3.29	10-19-61	36.2	03-19-68	9.74	09-25-74	9.8		

Qa = 53

Q(84) = 4.8

7Q2 = 3.0

7Q10 = 1.2***

5-4833.80 WILLOW CR NR SCRANTON, IOWA

LAT 4154XX, LONG 9435XX, IN SW 1/4 SEC.
21, T.82 N., R.32 W., GREENE CO. (37),
AT BRIDGE, 9 MILES SW OF SCRANTON.

DRAINAGE AREA 51.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.58	07-31-59	3.32	10-28-64	2.01	07-14-70	3.83	09-25-74	1.0
04-18-58	12.6	10-04-60	2.55	09-12-66	0.83	08-02-71	0.83	09-14-76	0.24
10-21-58	3.90	10-19-61	22.2	03-19-68	2.90				

Qa = 22

Q(84) = 1.8

7Q2 = 0.8

7Q10 = 0.1***

5-4834.00 WILLOW CR NR BAYARD, IOWA

LAT 4149XX, LONG 9433XX, IN SE 1/4 SEC.
15, T.81 N., R.32 W., GUTHRIE CO. (39),
AT BRIDGE, 2 MILES SOUTH OF BAYARD.

DRAINAGE AREA 112 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	7.20	10-04-60	10.3	09-12-66	2.73	07-14-70	6.65	09-24-74	6.3
04-18-58	26.5	10-19-61	47.1	03-19-68	8.16	08-02-71	2.6	09-14-76	3.0
10-22-58	9.34	10-28-64	6.96						

Qa = 49

Q(84) = 5.1

7Q2 = 2.8

7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

425

DES MOINES RIVER BASIN--Continued

5-4834.50 M RACCOON R NR BAYARD, IOWA

LAT 4147XX, LONG 9430XX, IN SE 1/4 SEC.
31, T.81 N., R.31 W., GUTHRIE CO. (39),
AT BRIDGE ON STATE HIGHWAY 25, 6 MILES SE OF
BAYARD.

DRAINAGE AREA 375 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	22.6	07-31-59	28.9	10-28-64	28.6	07-13-70	30.7	09-24-74	42.
04-18-58	85.5	10-04-60	33.2	09-12-66	22.5	08-02-71	22.0	09-14-76	21.
10-22-58	23.7	10-19-61	128.	03-19-68	33.5	09-22-71	10.0		
Qa = 152		Q(84) = 28		7Q2 = 18		7Q10 = 6.1***			

5-4836.20 MOSQUITO CR NR LINDEN, IOWA

LAT 4143XX, LONG 9415XX, NEAR S 1/4
CORNER SEC.20, T.80 N., R.29 W., DALLAS CO. (25),
AT BRIDGE, 5 MILES NE OF LINDEN.

DRAINAGE AREA 67.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.74	08-24-59	0.74	10-28-64	3.56	07-13-70	2.68	11-07-75	2.2
04-18-58	14.8	10-03-60	3.31	09-13-66	0.	08-02-71	0.78	09-14-76	0.
10-23-58	5.08	10-18-61	49.8	03-20-68	1.14	09-23-74	0.14		
Qa = 32		Q(84) = 1.4		7Q2 = 0.2		7Q10 = *			

5-4836.40 MOSQUITO CR NR REDFIELD, IOWA

LAT 4138XX, LONG 9413XX, IN NE 1/4 SEC.
27, T.79 N., R.29 W., DALLAS CO. (25),
AT BRIDGE, 3 MILES NORTH OF REDFIELD.

DRAINAGE AREA 110 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.63	08-25-59	8.16	10-29-64	5.86	07-13-70	3.40	11-07-75	5.6
04-18-58	23.0	10-03-60	12.6	09-13-66	0.	08-03-71	2.5	09-14-76	0.
10-23-58	10.3	10-18-61	77.8	03-20-68	2.10	09-24-74	0.53		
Qa = 52		Q(84) = 2.2		7Q2 = 0.4		7Q10 = *			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

427

DES MOINES RIVER BASIN--Continued

5-4857.00 NORTH R NR EARLHAM, IOWA

LAT 4124XX, LONG 9411XX, IN NE 1/4 SEC.
9, T.76 N., R.29 W., MADISON CO. (61),
AT BRIDGE, 7 MILES SW OF EARLHAM.

DRAINAGE AREA 68.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	10-23-59	5.33	10-17-61	23.0	08-29-66	0.40	08-24-71	0.67
03-26-58	10.7	09-13-60	4.19	10-29-63	0.	03-12-68	1.09	09-24-74	0.56
10-27-58	8.11	10-10-61	12.9	10-12-64	17.1				

Qa = 35

Q(84) = 0.7

7Q2 = 0.1

7Q10 = 0

5-4858.50 NB NORTH R NR WINTERSET, IOWA

LAT 4126XX, LONG 9356XX, IN NE 1/4 SEC.
34, T.77 N., R.27 W., MADISON CO. (61),
AT BRIDGE, 7 MILES NE OF WINTERSET.

DRAINAGE AREA 74.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	10-23-59	3.78	10-17-61	39.9	08-29-66	0.43	08-24-71	0.47
03-27-58	6.80	09-13-60	5.88	10-29-63	0.	03-13-68	3.44	09-24-74	0.77
10-28-58	4.88	10-10-61	14.0	10-12-64	7.53	07-29-70	0.31	08-12-75	2.6

Qa = 38

Q(84) = 0.8

7Q2 = 0.1

7Q10 = 0

5-4859.00 NORTH R NR WINTERSET, IOWA

LAT 4126XX, LONG 9355XX, IN NW 1/4 SEC.
36, T.77 N., R.27 W., MADISON CO. (61),
AT BRIDGE, 8 MILES NE OF WINTERSET.

DRAINAGE AREA 203 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	10-23-59	10.9	10-29-63	0.	03-13-68	20.1	09-24-74	2.0
03-27-58	21.6	09-13-60	13.0	10-12-64	29.0	07-29-70	1.60	08-12-75	7.0
10-28-58	12.3	10-10-61	37.5	08-29-66	1.57	08-24-71	1.1		

Qa = 102

Q(84) = 2.6

7Q2 = 0.4

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4861.00 MIDDLE R NR CASEY, IOWA

LAT 4130XX, LONG 9429XX, IN SW 1/4 SEC.
36, T.78 N., R.32 W., GUTHRIE CO. (39),
AT BRIDGE, 1.5 MILES EAST OF CASEY.

DRAINAGE AREA 72.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.94	10-23-59	2.62	10-18-61	18.0	08-29-66	0.76	08-24-71	1.1
03-27-58	29.9	09-13-60	3.63	10-29-63	0.94	03-13-68	1.11	09-24-74	1.8
10-27-58	16.9	10-10-61	26.0	10-12-64	13.7	07-28-70	1.75	08-12-75	4.7

Qa = 35

Q(84) = 2.5

7Q2 = 0.7

7Q10 = *

5-4861.50 MIDDLE R AT MIDDLE RIVER, IOWA

LAT 4120XX, LONG 9414XX, NEAR CENTER OF
SEC.6, T.75 N., R.29 W., MADISON CO. (61),
AT BRIDGE NEAR SOUTH CITY LIMITS OF MIDDLE
RIVER.

DRAINAGE AREA 164 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.81	10-23-59	21.8	10-17-61	55.9	08-29-66	3.14	08-24-71	4.4
03-26-58	54.2	09-13-60	8.17	10-29-63	1.67	03-12-68	18.0	09-24-74	3.3
10-26-58	30.4	10-10-61	37.6	10-12-64	48.0	07-28-70	8.55	08-12-75	12.

Qa = 80

Q(84) = 8.8

7Q2 = 2.9

7Q10 = 0.4***

5-4863.00 CLANTON CR AT EAST PERU, IOWA

LAT 4114XX, LONG 9355XX, IN NE 1/4 SEC.
AT BRIDGE NEAR EAST CITY LIMITS OF EAST PERU.

DRAINAGE AREA 84.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.01	09-13-60	0.24	10-29-63	0.	03-12-68	2.17	09-24-74	0.01
10-28-58	0.30	10-09-61	10.1	10-12-64	14.3	07-09-70	0.02	08-12-75	0.46
10-22-59	6.38	10-17-61	40.8	08-29-66	0.16	08-23-71	0.02		

Qa = 45

Q(84) = *

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4869.00 SQUAW CR NR JAMISON, IOWA

LAT 4108XX, LONG 9344XX, IN NE 1/4 SEC.
16, T.73 N., R.25 W., CLARKE CO. (20),
AT BRIDGE, 0.5 MILE NW OF JAMISON.DRAINAGE AREA 60.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.	10-22-59	4.16	10-17-61	9.88	08-29-66	0.07	08-23-71	0.
03-26-58	0.81	09-13-60	0.02	10-29-63	0.	03-14-68	0.98	09-23-74	0.00
10-28-58	0.	10-09-61	2.89	10-13-64	4.18	07-29-70	0.	08-13-75	0.12

Qa = 34

Q(84) = *

7Q2 = 0

7Q10 = 0

5-4871.00 SQUAW CR NR INDIANOLA, IOWA

LAT 4118XX, LONG 9336XX, IN NE 1/4 SEC.
15, T.75 N., R.24 W., WARREN CO. (91),
AT BRIDGE, 4 MILES SW OF INDIANOLA.DRAINAGE AREA 134 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.13	09-14-60	2.18	10-30-63	0.34	03-13-68	2.68	09-23-74	1.1
03-27-58	2.95	10-09-61	7.24	10-13-64	9.49	08-24-71	0.40	08-13-75	2.1
10-28-58	0.41	10-17-61	24.8	08-29-66	1.36				

Qa = 73

Q(84) = 1.1

7Q2 = 0.6

7Q10 = 0.2

5-4872.00 SOUTH R NR INDIANOLA, IOWA

LAT 4120XX, LONG 9335XX, IN NE 1/4 SEC.
2, T.75 N., R.24 W., WARREN CO. (91),
AT BRIDGE, 2 MILES SW OF INDIANOLA.DRAINAGE AREA 278 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.32	09-14-60	5.47	10-30-63	1.27	03-14-68	6.28	09-23-74	3.2
03-27-58	3.92	10-09-61	24.5	10-13-64	14.6	08-24-71	2.4	08-13-75	5.6
10-28-58	1.08	10-17-61	75.0	08-29-66	3.41				

Qa = 149

Q(84) = 4.0

7Q2 = 1.6

7Q10 = 0.5

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

431

DES MOINES RIVER BASIN--Continued

5-4874.00 OTTER CR NR NORWOOD, IOWA

LAT 4109XX, LONG 9332XX, IN SW 1/4 SEC.
5, T.73 N., R.23 W., LUCAS CO. (59),
AT BRIDGE, 3 MILES NW OF NORWOOD.

DRAINAGE AREA 102 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	0.	10-22-59	10.2	10-17-61	20.6	08-29-66	0.01	08-23-71	0.
03-26-58	4.07	09-12-60	0.88	10-30-63	0.	03-13-68	6.35	09-23-74	0.
10-29-58	0.	10-09-61	6.61	10-13-64	4.77	07-29-70	0.01	08-13-75	0.00

Qa = 57

Q(84) = *

7Q2 = 0

7Q10 = 0

5-4874.50 OTTER CR NR MILO, IOWA

LAT 411702, LONG 932909, IN NE 1/4 SEC.
22, T.75 N., R.23 W., WARREN CO. (91),
AT BRIDGE ON STATE HIGHWAY 205, 2 MILES
WEST OF MILO.

DRAINAGE AREA 155 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.03	09-14-60	2.48	10-30-63	0.26	03-14-68	8.25	09-23-74	0.74
03-27-58	5.52	10-09-61	7.87	10-13-64	3.44	08-24-71	2.9	08-13-75	1.4
10-29-58	0.	10-17-61	31.4	08-29-66	0.98				

Qa = 86

Q(84) = 0.7

7Q2 = 0.3

7Q10 = *

5-4877.00 WHITE BREAST CR NR WOODBURN, IOWA

LAT 405836, LONG 933514, IN SE 1/4 SEC.
2, T.71 N., R.24 W., CLARKE CO. (20),
AT BRIDGE, 2 MILES SOUTH OF WOODBURN.

DRAINAGE AREA 82.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
03-26-58	2.96	09-12-60	0.51	10-14-64	4.96	07-28-70	0.05	09-24-74	0.05
10-29-58	0.	10-18-61	17.7	08-30-66	0.29	08-24-71	0.	08-12-75	1.3
10-22-59	7.84	10-29-63	0.01	03-13-68	12.1				

Qa = 46

Q(84) = 0.1

7Q2 = *

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4878.00 WHITE BREAST CR AT LUCAS, IOWA

LAT 4101XX, LONG 9328XX, IN NE 1/4 SEC.
23, T.72 N., R.23 W., LUCAS CO. (59),
AT BRIDGE ON U.S. HIGHWAY 65, NEAR SOUTH CITY
LIMITS OF LUCAS.

DRAINAGE AREA 128 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	0.02	10-22-59	12.4	10-18-61	35.2	08-30-66	0.43	08-24-71	0.01
03-26-58	5.29	09-12-60	1.25	10-30-63	0.	03-14-68	12.9	09-24-74	0.07
10-29-58	0.24	10-10-61	14.2	10-14-64	7.66	07-28-70	0.12	08-12-75	0.13
Qa = 71		Q(84) = 0.3		7Q2 = 0.1		7Q10 = 0			

5-4879.00 WHITE BREAST CR NR NEWBERN, IOWA

LAT 4110XX, LONG 9321XX, IN SE 1/4 SEC.
35, T.74 N., R.22 W., WARREN CO. (91),
AT BRIDGE, 2 MILES WEST OF NEWBERN.

DRAINAGE AREA 243 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-19-57	0.15	10-22-59	23.5	10-18-61	76.2	08-30-66	1.03	08-23-71	0.13
03-27-58	13.3	09-12-60	2.41	10-30-63	0.20	03-13-68	23.2	09-23-74	0.80
10-29-58	0.	10-10-61	37.3	10-15-64	11.2	07-28-70	1.69	08-13-75	0.47
Qa = 134		Q(84) = 1.4		7Q2 = 0.4		7Q10 = *			

5-4882.00 ENGLISH CR NR KNOXVILLE, IOWA

LAT 411615, LONG 930526, NEAR CENTER OF
SEC.30, T.75 N., R.19 W., MARION CO. (63),
AT BRIDGE, 3 MILES SOUTH OF KNOXVILLE.

DRAINAGE AREA 73.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	0.37	10-20-59	0.03	10-09-61	8.27	10-15-64	0.01	08-23-71	0.
03-24-58	1.47	09-14-60	0.01	10-17-61	24.1	08-29-66	0.01	09-23-74	0.05
10-30-58	0.	09-11-61	0.	10-30-63	0.	03-13-68	5.20	08-12-75	0.40
Qa = 42		Q(84) = *		7Q2 = 0		7Q10 = 0			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

433

DES MOINES RIVER BASIN--Continued

5-4883.00 ENGLISH CR NR HARVEY, IOWA

LAT 4120XX, LONG 9257XX, NEAR E 1/4
CORNER SEC.5, T.75 N., R.18 W., MARION CO.
(63), AT BRIDGE, 1.5 MILES NW OF HARVEY.

DRAINAGE AREA 108 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-17-57	2.84	10-20-59	0.82	10-09-61	14.7	10-15-64	0.53	08-23-71	0.03
03-24-58	2.86	09-14-60	0.27	10-17-61	35.9	08-29-66	0.16	09-23-74	2.3
10-30-58	0.63	09-11-61	0.19	10-30-63	0.	03-13-68	4.57	08-12-75	2.5

Qa = 62

Q(84) = 0.4

7Q2 = 0.1

7Q10 = 0

5-4885.50 CEDAR CR AT MELROSE, IOWA

LAT 4058XX, LONG 9303XX, IN SW 1/4 SEC.
4, T.71 N., R.19 W., MONROE CO. (68),
AT BRIDGE NEAR SOUTH CITY LIMITS OF MELROSE.

DRAINAGE AREA 23.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.01	10-20-59	2.20	10-19-61	3.97	08-29-66	0.02	08-23-71	0.02
03-28-58	3.75	09-12-60	0.	10-29-63	0.01	03-12-68	4.42	09-24-74	0.02
10-29-58	2.27	09-11-61	0.01	10-15-64	0.06	07-29-70	0.01	08-12-75	0.00

Qa = 14

Q(84) = *

7Q2 = 0

7Q10 = 0

5-4886.00 CEDAR CR NR ALBIA, IOWA

LAT 4101XX, LONG 9253XX, IN NE 1/4 SEC.
26, T.72 N., R.18 W., MONROE CO. (68),
AT BRIDGE ON U.S. HIGHWAY 34, 4 MILES
WEST OF ALBIA.

DRAINAGE AREA 102 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
03-28-58	11.5	09-12-60	0.27	10-29-63	0.12	03-12-68	13.4	09-24-74	0.26
10-29-58	8.13	09-11-61	0.14	10-15-64	0.	07-29-70	0.18	08-12-75	0.25
10-20-59	11.4	10-19-61	12.1	08-29-66	0.08	08-23-71	0.18		

Qa = 60

Q(84) = 0.4

7Q2 = *

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

435

DES MOINES RIVER BASIN--Continued

5-4893.00 N AVERY CR NR CHILLICOTHE, IOWA

LAT 4106XX, LONG 9233XX, IN SE 1/4 SEC.
26, T.73 N., R.15 W., WAPELLO CO. (90),
AT BRIDGE, 1 MILE NW OF CHILLICOTHE.

DRAINAGE AREA 60.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.08	09-09-60	0.05	10-14-64	0.01	11-03-66	0.	08-25-71	0.04
03-27-58	2.63	09-07-61	0.44	06-08-65	3.68	06-20-68	0.67	09-24-74	0.43
10-22-58	1.28	11-04-63	0.05	08-17-66	0.89	07-14-70	0.	09-30-75	2.7
08-25-59	0.32								

Qa = 37 Q(84) = 0.2 7Q2 = * 7Q10 = 0

5-4894.00 S AVERY CR AT CHILLICOTHE, IOWA

LAT 4105XX, LONG 9232XX, AT E 1/4
CORNER SEC.36, T.73 N., R.15 W., WAPELLO CO.
(90), AT BRIDGE, NEAR SOUTH CITY LIMITS OF
CHILLICOTHE.

DRAINAGE AREA 51.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-18-57	0.01	08-25-59	2.02	11-04-63	0.16	11-03-66	0.	08-25-71	0.
03-27-58	0.	09-09-60	0.07	10-14-64	0.02	06-20-68	0.	09-24-74	0.14
10-22-58	2.16	09-07-61	0.16	08-17-66	0.	07-14-70	0.18	09-30-75	4.3

Qa = 32 Q(84) = 0.2 7Q2 = 0 7Q10 = 0

5-4899.00 SOAP CR NR ASH GROVE, IOWA

LAT 4051XX, LONG 9236XX, IN SW 1/4 SEC.
21, T.70 N., R.15 W., DAVIS CO. (26),
AT BRIDGE, 3 MILES SW OF ASH GROVE.

DRAINAGE AREA 97.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	09-08-60	0.38	10-14-64	0.29	11-03-66	0.42	08-25-71	0.04
03-26-58	6.99	09-06-61	0.03	06-08-65	6.39	06-12-68	4.41	09-24-74	1.1
10-29-58	5.21	11-04-63	0.18	08-22-66	1.04	07-14-70	0.63	10-01-75	0.59
08-25-59	5.12								

Qa = 59 Q(84) = 0.3 7Q2 = 0.1 7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

DES MOINES RIVER BASIN--Continued

5-4901.00 SOAP CR NR FLORIS, IOWA

LAT 405337, LONG 921553, NEAR CENTER OF
SEC.5, T.70 N., R.12 W., DAVIS CO. (26),
AT BRIDGE, 4 MILES NE OF FLORIS.

DRAINAGE AREA 243 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	1.62	09-08-60	23.1	06-08-66	24.1	09-12-67	2.17	08-25-71	4.7
03-27-58	20.0	09-07-61	2.63	08-22-66	5.99	06-12-68	18.3	09-25-74	7.1
10-29-58	10.7	11-04-63	1.67	11-03-66	2.40	07-14-70	6.21	09-29-75	3.2
08-26-59	18.4	10-14-64	1.93	04-18-67	103.				

Qa = 147

Q(84) = 5.6

7Q2 = 2.1

7Q10 = 0.2**

5-4902.00 LICK CR AT KILBOURN, IOWA

LAT 4048XX, LONG 9158XX, IN SW 1/4 SEC.
1, T.69 N., R.10 W., VAN BUREN CO. (89),
AT BRIDGE NEAR EAST CITY LIMITS OF KILBOURN.

DRAINAGE AREA 82.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	10-22-59	7.21	11-04-63	0.	11-03-66	0.	08-25-71	0.
03-26-58	4.13	09-08-60	0.05	10-15-64	0.	06-12-68	2.94	09-25-74	0.36
10-28-58	0.81	09-07-61	0.21	08-22-66	0.	07-14-70	0.	09-29-75	0.74

Qa = 52

Q(84) = 0.2

7Q2 = 0

7Q10 = 0

5-4903.00 CHEQUEST CR NR TROY, IOWA

LAT 404717, LONG 921101, IN SE 1/4 SEC.
12, T.69 N., R.12 W., DAVIS CO. (26),
AT BRIDGE, 3 MILES NE OF TROY.

DRAINAGE AREA 85.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	09-08-60	0.09	10-14-64	0.	11-03-66	0.	08-25-71	0.84
03-26-58	6.31	09-07-61	0.36	06-07-66	8.96	06-12-68	0.80	09-25-74	0.06
10-28-58	1.16	11-04-63	0.	08-22-66	0.	07-14-70	0.09	09-29-75	0.52
08-26-59	1.28								

Qa = 53

Q(84) = 0.2

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

437

DES MOINES RIVER BASIN--Continued

5-4904.00 CHEQUEST CR NR PITTSBURG, IOWA

LAT 404541, LONG 920057, NEAR CENTER OF
SEC.21, T.69 N., R.10 W., DAVIS CO. (26),
AT BRIDGE, 1.5 MILES NW OF PITTSBURG.

DRAINAGE AREA 123 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	09-08-60	0.44	10-14-64	0.01	11-03-66	0.24	08-24-71	0.03
03-26-58	8.35	09-07-61	1.32	06-07-66	31.6	06-12-68	2.46	09-25-74	1.2
10-28-58	2.16	11-04-63	0.01	08-22-66	1.02	07-14-70	0.55	09-29-75	1.2
10-22-59	13.5								

Qa = 77 Q(84) = 0.4 7Q2 = 0 7Q10 = 0

5-4907.00 SUGAR CR NR CHARLESTON, IOWA

LAT 403353, LONG 913343, IN NW 1/4 SEC.
33, T.67 N., R.6 W., LEE CO. (56),
AT BRIDGE, 2 MILES SW OF CHARLESTON.

DRAINAGE AREA 62.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	09-06-60	0.08	10-15-64	0.01	11-02-66	1.02	08-25-71	0.02
03-26-58	3.92	09-06-61	0.02	06-07-66	17.9	06-13-68	0.64	09-20-74	0.06
10-28-58	0.49	11-05-63	0.01	08-22-66	0.	07-14-70	0.02	09-30-75	0.06

Qa = 40 Q(84) = 0.2 7Q2 = 0 7Q10 = 0

FOX RIVER BASIN

5-4945.00 FOX R AT CANTRIL, IOWA

LAT 4039XX, LONG 9203XX, IN SW 1/4 SEC.
30, T.68 N., R.10 W., VAN BUREN CO. (89),
AT BRIDGE ON STATE HIGHWAY 2, 1 MILE NE OF CANTRIL.

DRAINAGE AREA 161 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.12	09-08-60	2.85	06-07-66	16.9	09-12-67	0.67	08-25-71	6.2
03-26-58	11.2	09-06-61	2.65	08-22-66	4.27	06-12-68	5.90	09-25-74	4.2
10-28-58	7.14	11-04-63	1.35	11-02-66	2.01	07-14-70	3.05	09-29-75	4.6
10-22-59	21.2	10-15-64	1.67						

Qa = 100 Q(84) = 2.0 7Q2 = 0.8 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BIG SIOUX RIVER BASIN

6-4831.00 ROCK R NR ROCK RAPIDS, IOWA

LAT 433001, LONG 961103, IN NE 1/4 SEC.
8, T.100 N., R.45 W., LYON CO. (60),
AT BRIDGE, 5 MILES NORTH OF ROCK RAPIDS.DRAINAGE AREA 558 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	25.4	10-11-60	16.1	06-11-68	8.92	09-01-70	12.7	09-25-74	7.6
05-15-58	26.3	09-25-61	10.0	09-11-68	9.53	09-01-71	11.0	10-21-75	12.
10-14-58	2.29	08-15-66	9.10	10-09-69	28.6	09-11-73	9.4	08-24-76	0.93
08-13-59	3.95	09-11-67	5.78						

Qa = 139

Q(84) = 10

7Q2 = 3.6

7Q10 = 0.7

6-4832.60 KANARANZI CR NR ROCK RAPIDS, IOWA

LAT 4328XX, LONG 9609XX, IN SW 1/4 SEC.
22, T.100 N., R.45 W., LYON CO. (60),
AT BRIDGE, 2 MILES NORTH OF ROCK RAPIDS.DRAINAGE AREA 203 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-21-57	4.62	10-10-60	13.2	06-11-68	1.83	09-01-70	2.46	09-25-74	1.6
05-14-58	6.83	09-26-61	5.28	09-11-68	5.48	09-01-71	3.5	10-21-75	3.2
10-14-58	0.14	08-15-66	2.88	10-09-69	3.95	09-11-73	1.9	08-24-76	0.40
08-13-59	1.58	09-11-67	1.09						

Qa = 47

Q(84) = 3.5

7Q2 = 1.3

7Q10 = 0.4

6-4832.80 TOM CR AT ROCK RAPIDS, ICWA

LAT 4326XX, LONG 9609XX, IN SW 1/4 SEC.
34, T.100 N., R.45 W., LYON CO. (60),
AT BRIDGE IN NE CORNER OF ROCK RAPIDS.DRAINAGE AREA 61.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.48	10-10-60	0.29	06-11-68	0.01	09-01-71	0.06	09-25-74	0.02
05-14-58	0.46	09-26-61	0.06	09-11-68	0.	10-16-72	0.88	10-21-75	0.29
10-14-58	0.	08-15-66	0.	10-09-69	0.24	09-11-73	0.24	08-24-76	0.
08-13-59	0.03	09-11-67	0.02	09-01-70	0.				

Qa = 13

Q(84) = *

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

439

BIG SIOUX RIVER BASIN--Continued

6-4833.00 ROCK R BELOW ROCK RAPIDS, IOWA

LAT 4324XX, LONG 9609XX, NEAR N 1/4
CORNER SEC.15, T.99 N., R.45 W., LYON CO. (60),
AT BRIDGE, 2 MILES SOUTH OF ROCK RAPIDS.

DRAINAGE AREA 859 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	33.6	10-10-60	36.3	06-11-68	10.5	09-01-71	16.0	09-25-74	8.2
05-14-58	38.2	09-26-61	14.8	09-11-68	14.8	10-16-72	41.	10-21-75	14.
10-14-58	0.46	08-15-66	13.5	10-09-69	33.5	09-11-73	13.	08-24-76	0.70
08-12-59	7.92	09-11-67	6.60	09-01-70	17.0				

Qa = 219

Q(84) = 14

7Q2 = 2.9

7Q10 = 0.2

6-4833.20 MUD CR AT LESTER, IOWA

LAT 4327XX, LONG 9620XX, IN NW 1/4 SEC.
36, T.100 N., R.47 W., LYON CO. (60),
AT BRIDGE NEAR NW CITY LIMITS OF LESTER.

DRAINAGE AREA 63.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.94	10-11-60	0.69	06-11-68	0.34	09-01-71	0.	09-25-74	0.01
05-15-58	0.77	09-26-61	0.46	09-11-68	0.03	10-16-72	0.20	10-21-75	0.08
10-14-58	0.	08-15-66	0.29	10-09-69	0.45	09-11-73	0.12	08-24-76	0.00
08-12-59	0.42	09-11-67	0.04	08-31-70	0.01				

Qa = 14

Q(84) = 0

7Q2 = 0

7Q10 = 0

6-4833.30 MUD CR NR DOON, IOWA

LAT 4317XX, LONG 9615XX, IN NE 1/4 SEC.
27, T.98 N., R.46 W., LYON CO. (60),
AT BRIDGE, 1.5 MILES NW OF DOON.

DRAINAGE AREA 138 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	4.21	10-11-60	3.41	06-11-68	0.91	09-01-71	0.77	09-25-74	0.37
05-15-58	3.36	09-26-61	2.56	09-11-68	0.07	10-16-72	2.0	10-20-75	1.2
10-13-58	0.21	08-15-66	0.87	10-09-69	2.09	09-11-73	0.79	08-24-76	0.08
08-12-59	3.29	09-11-67	0.94	08-31-70	0.66				

Qa = 32

Q(84) = 1.0

7Q2 = 0.3

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BIG SIOUX RIVER BASIN--Continued

6-4833.40 ROCK R NR DOON, IOWA

LAT 4316XX, LONG 9615XX, IN NW 1/4 SEC.
35, T.98 N., R.46 W., LYON CO. (60),
AT BRIDGE, 1 MILE SW OF DOON.DRAINAGE AREA 1050 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	41.4	10-11-60	46.5	06-11-68	13.4	09-01-71	22.0	09-25-74	9.7
05-15-58	48.2	09-26-61	21.8	09-11-68	14.5	10-16-72	52.	10-20-75	20.
10-13-58	1.05	08-15-66	15.6	10-09-69	44.2	09-11-73	19.	08-24-76	2.1
08-12-59	15.2	09-11-67	11.6	08-31-70	18.9				

Qa = 271

Q(84) = 19

7Q2 = 6.1

7Q10 = 1.0

6-4833.60 L ROCK R NR LITTLE ROCK, IOWA

LAT 433000, LONG 955057, IN N 1/2 SEC.
7, T.100 N., R.42 W., OSCEOLA CO. (72),
AT BRIDGE, 4 MILES NE OF LITTLE ROCK.DRAINAGE AREA 92.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.42	08-13-59	0.	09-11-67	0.01	09-01-70	0.71	09-25-74	0.18
05-14-58	0.79	10-10-60	7.90	06-11-68	0.01	09-01-71	0.11	10-20-75	0.13
10-14-58	0.	09-25-61	0.42	09-11-68	0.	10-16-72	0.94	08-25-76	0.
05-19-59	0.28	08-15-66	0.11	10-09-69	0.57	09-11-73	0.05		

Qa = 21

Q(84) = *

7Q2 = 0

7Q10 = 0

6-4833.80 L ROCK R AT LITTLE ROCK, IOWA

LAT 4326XX, LONG 9554XX, IN NE 1/4 SEC.
3, T.99 N., R.43 W., LYON CO. (60),
AT BRIDGE, 1 MILE SW OF LITTLE ROCK.DRAINAGE AREA 134 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	1.67	08-13-59	0.10	09-11-67	0.53	09-01-70	1.13	09-25-74	1.6
05-14-58	2.83	10-10-60	10.4	06-11-68	0.87	09-01-71	1.1	10-20-75	2.6
10-14-58	0.26	09-25-61	2.37	09-11-68	0.23	10-16-72	2.9	08-25-76	0.02
05-19-59	1.44	08-15-66	1.25	10-09-69	1.66	09-11-73	0.86		

Qa = 31

Q(84) = 1.1

7Q2 = 0.1

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

441

BIG SIOUX RIVER BASIN--Continued

6-4834.00 L ROCK R. NR GEORGE, IOWA

LAT 4319XX, LONG 9602XX, IN NE 1/4 SEC.
15, T.98 N., R.44 W., LYON CO. (60),
AT BRIDGE, 2 MILES SW OF GEORGE.

DRAINAGE AREA 199 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	6.34	08-12-59	3.43	09-11-67	2.17	09-01-71	3.1	09-25-74	3.0
05-15-58	7.81	10-11-60	19.7	06-11-68	2.82	10-16-72	6.1	10-21-75	6.9
10-14-58	1.13	09-25-61	7.37	10-09-69	4.94	09-11-73	3.1	08-25-76	0.13
05-19-59	4.89	08-15-66	7.21	09-01-70	2.39				

Qa = 46

Q(84) = 3.3

7Q2 = 0.6

7Q10 = *

6-4834.60 OTTER CR NR ASHTON, IOWA

LAT 4320XX, LONG 9546XX, IN SE 1/4 SEC.
2, T.98 N., R.42 W., OSCEOLA CO. (72),
AT BRIDGE, 2 MILES NE OF ASHTON.

DRAINAGE AREA 88.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	2.12	08-12-59	0.98	09-11-67	2.14	09-01-70	0.30	09-25-74	2.6
05-14-58	6.90	10-11-60	12.8	06-11-68	1.16	09-01-71	1.3	10-21-75	6.2
10-14-58	0.60	09-25-61	1.48	09-11-68	0.62	10-16-72	2.2	08-25-76	1.1
05-19-59	2.77	08-15-66	6.75	10-09-69	1.39	09-11-73	1.4		

Qa = 20

Q(84) = 1.8

7Q2 = 0.3

7Q10 = *

6-4834.70 OTTER CR NR MATLOCK, IOWA

LAT 4316XX, LONG 9555XX, NEAR W 1/4
CORNER SEC.34, T.98 N., R.43 W., LYON CO.
(60), AT BRIDGE, 2 MILES NE OF MATLOCK.

DRAINAGE AREA 129 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	5.20	08-12-59	1.85	09-11-67	1.20	09-01-70	0.84	09-25-74	3.8
05-14-58	9.90	10-11-60	21.6	06-11-68	1.94	09-01-71	2.0	10-21-75	11.
10-14-58	0.23	09-25-61	2.82	09-11-68	0.	10-16-72	4.0	08-25-76	1.2
05-19-59	4.81	08-15-66	4.76	10-09-69	2.81	09-11-73	2.3		

Qa = 29

Q(84) = 2.6

7Q2 = 0.4

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BIG SIOUX RIVER BASIN--Continued

6-4834.80 OTTER CR NR GEORGE, IOWA

LAT 4317XX, LONG 9603XX, IN NW 1/4 SEC.
28, T.98 N., R.44 W., LYON CO. (60),
AT BRIDGE, 5 MILES SW OF GEORGE.DRAINAGE AREA 208 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	5.53	08-12-59	4.36	09-11-67	2.57	09-01-70	0.21	09-25-74	4.9
05-15-58	10.9	10-11-60	30.5	06-11-68	0.56	09-01-71	3.6	10-21-75	16.
10-14-58	0.	09-25-61	4.38	09-11-68	2.28	10-16-72	6.4	08-25-76	1.6
05-19-59	7.16	08-15-66	7.79	10-09-69	6.69	09-11-73	11.		

Qa = 49

Q(84) = 3.7

7Q2 = 0.6

7Q10 = *

6-4834.90 L ROCK R NR DOON, IOWA

LAT 4316XX, LONG 9614XX, NEAR W 1/4
CORNER SEC.36, T.98 N., R.46 W., LYON CO.
(60), AT BRIDGE, 1 MILE SOUTH OF DOON.DRAINAGE AREA 474 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	14.4	10-11-60	62.6	06-11-68	4.84	09-01-71	9.3	09-25-74	8.2
05-15-58	22.5	09-26-61	11.6	09-11-68	2.47	10-16-72	16.	10-20-75	27.
10-13-58	0.48	08-15-66	12.0	10-09-69	12.6	09-11-73	17.	08-24-76	3.0
08-12-59	13.7	09-11-67	5.69	08-31-70	4.13				

Qa = 117

Q(84) = 10

7Q2 = 2.3

7Q10 = 0.2

6-4841.00 SIXMILE CR NR HAWARDEN, IOWA

LAT 4302XX, LONG 9624XX, IN NW 1/4 SEC.
28, T.95 N., R.47 W., SIOUX CO. (84),
AT BRIDGE, 5 MILES NE OF HAWARDEN.DRAINAGE AREA 68.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.63	08-11-59	0.35	09-11-67	0.69	09-01-70	1.62	09-25-74	1.1
05-13-58	0.63	10-11-60	1.04	06-11-68	0.26	09-01-71	2.2	10-20-75	2.1
10-13-58	0.29	09-26-61	1.55	09-11-68	0.39	10-16-72	1.8	08-24-76	0.39
05-18-59	0.52	08-15-66	1.56	10-09-69	1.59	09-11-73	1.9		

Qa = 15

Q(84) = 0.6

7Q2 = 0.1

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

443

BIG SIOUX RIVER BASIN--Continued

6-4841.50 SIXMILE CR NR CHATSWORTH, IOWA

LAT 4256XX, LONG 9629XX, IN SW 1/4 SEC.
26, T.94 N., R.48 W., SIOUX CO. (84),
AT BRIDGE, 1.5 MILES NE OF CHATSWORTH.

DRAINAGE AREA 104 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	1.72	08-11-59	1.10	09-11-67	2.04	09-01-70	4.03	09-25-74	3.1
05-13-58	1.87	10-11-60	2.97	06-11-68	1.26	09-01-71	5.0	10-20-75	4.3
10-13-58	0.25	09-26-61	2.32	09-11-68	1.16	10-16-72	6.6	08-24-76	1.1
05-18-59	2.77	08-15-66	3.98	10-09-69	3.66	09-11-73	4.0		

Qa = 23

Q(84) = 1.6

7Q2 = 0.4

7Q10 = *

6-4842.00 INDIAN CR NR CHATSWORTH, IOWA

LAT 4253XX, LONG 9630XX, IN NW 1/4 SEC.
10, T.93 N., R.48 W., PLYMOUTH CO. (75),
AT BRIDGE, 1.5 MILES SOUTH OF CHATSWORTH.

DRAINAGE AREA 62.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	0.53	08-11-59	0.06	09-11-67	0.93	09-01-70	2.31	09-25-74	1.1
05-13-58	0.62	10-11-60	0.58	06-11-68	0.30	09-01-71	3.6	10-20-75	1.4
10-13-58	0.08	09-26-61	0.55	09-11-68	0.25	10-16-72	4.8	08-24-76	0.46
05-18-59	0.61	08-15-66	1.38	10-09-69	3.63	09-11-73	3.0		

Qa = 14

Q(84) = 0.6

7Q2 = *

7Q10 = 0

6-4858.00 BROKEN KETTLE CR NR ADAVILLE, IOWA

LAT 424320, LONG 962808, IN SE 1/4 SEC.
2, T.91 N., R.48 W., PLYMOUTH CO. (75),
AT BRIDGE, 4 MILES SW OF ADAVILLE.

DRAINAGE AREA 60.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	2.03	08-11-59	1.38	09-12-67	2.92	09-02-70	3.03	09-25-74	2.4
05-12-58	1.43	10-11-60	2.09	06-12-68	1.93	09-02-71	3.2	10-21-76	2.9
10-13-58	1.54	09-26-61	1.87	09-12-68	1.63	10-17-72	4.7	08-26-76	2.1
05-18-59	1.99	08-16-66	3.84	10-10-69	4.23	09-12-73	3.3		

Qa = 13

Q(84) = 2.2

7Q2 = 1.6

7Q10 = 0.4**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BIG SIOUX RIVER BASIN--Continued

6-4859.00 BROKEN KETTLE CR NR SIOUX CITY, IOWA

LAT 423816, LONG 963028, IN SW 1/4 SEC.
3, T.90 N., R.48 W., PLYMOUTH CO. (75),
AT BRIDGE, 9 MILES NW OF SIOUX CITY.DRAINAGE AREA 97.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	2.73	08-11-59	1.72	09-12-67	4.46	09-02-70	4.10	09-26-74	2.9
05-12-57	3.31	10-11-60	2.74	05-12-68	2.62	09-02-71	4.7	10-21-75	3.6
10-13-58	1.73	09-26-61	2.97	09-12-68	1.91	10-17-72	6.3	08-26-76	1.1
05-18-59	2.78	08-16-66	5.58	10-10-69	6.36	09-12-73	4.9		

Qa = 22

Q(84) = 3.0

7Q2 = 1.8

7Q10 = 0.7**

FLOYD RIVER BASIN

6-6000.20 FLOYD R NR SHELDON, IOWA

LAT 431219, LONG 954922, IN SW 1/4 SEC.
21, T.97 N., R.42 W., O'BRIEN CO. (71),
AT BRIDGE, 2 MILES NE OF SHELDON.DRAINAGE AREA 64.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.79	10-10-60	5.53	08-15-66	1.52	10-09-69	1.39	09-11-73	2.3
05-14-58	1.89	10-10-60	5.31	09-11-67	0.65	09-01-70	0.33	09-26-74	2.8
10-14-58	0.46	09-26-61	1.45	06-11-68	0.88	09-02-71	1.2	10-21-75	4.8
05-19-59	2.34	10-01-63	1.12	09-11-68	0.32	10-16-72	1.2	08-25-76	0.25
08-12-59	0.97	10-12-64	2.58						

Qa = 14

Q(84) = 0.9

7Q2 = 0.3

7Q10 = 0

6-6000.40 L FLOYD R NR SHELDON, IOWA

LAT 430925, LONG 955202, IN SE 1/4 SEC.
1, T.96 N., R.43 W., SIOUX CO. (84),
AT BRIDGE, 2 MILES SW OF SHELDON.DRAINAGE AREA 59.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.13	10-10-60	2.64	08-15-66	0.44	10-09-69	0.80	09-11-73	3.1
05-14-58	1.06	09-26-61	0.75	09-11-67	0.01	09-01-70	0.	09-26-74	4.2
10-15-58	0.	10-01-63	0.35	06-11-68	0.04	09-02-71	0.48	10-21-75	3.7
05-19-59	1.92	10-12-64	1.78	09-11-68	0.25	10-16-72	2.0	08-25-76	0.04
08-12-59	0.39								

Qa = 13

Q(84) = 0.3

7Q2 = *

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

FLOYD RIVER BASIN--Continued

6-6001.60 DEEP CR AT LE MARS, IOWA

LAT 424815, LONG 960928, IN NE 1/4 SEC.
9, T.92 N., R.45 W., PLYMOUTH CO. (75),
AT BRIDGE NEAR NORTH CITY LIMITS OF LE MARS.

DRAINAGE AREA 156 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	1.15	10-10-60	4.83	08-16-66	2.62	10-10-69	9.79	09-12-73	4.7
05-13-58	2.22	09-27-61	13.5	09-12-67	1.35	09-02-70	2.06	09-26-74	3.2
10-15-58	0.	10-01-63	0.65	06-12-68	0.31	09-02-71	4.5	10-20-75	3.7
05-18-59	0.01	10-14-64	2.95	09-12-68	2.01	10-17-72	8.8	08-25-76	0.21
08-11-59	3.57								

Qa = 36 Q(84) = 1.6 7Q2 = 0.3 7Q10 = *

6-6001.80 FLOYD R AT LE MARS, IOWA

LAT 424802, LONG 961026, IN NW 1/4 SEC.
9, T.92 N., R.45 W., PLYMOUTH CO. (75),
AT BRIDGE NEAR NORTH CITY LIMITS OF LE MARS.

DRAINAGE AREA 478 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
05-13-58	13.8	10-10-60	35.1	08-16-66	9.65	10-10-69	20.5	09-12-73	29.1
10-15-58	1.57	09-27-61	21.1	09-12-67	4.46	09-02-70	5.36	09-26-74	18.
05-18-59	15.6	10-01-63	2.77	06-12-68	2.03	09-02-71	13.0	10-21-75	21.
08-11-59	17.0	10-14-64	12.1	09-12-68	2.89	10-17-72	18.	08-25-76	4.1

Qa = 118 Q(84) = 7.6 7Q2 = 2.2 7Q10 = 0.4***

6-6002.00 FLOYD R NR MERRILL, IOWA

LAT 424459, LONG 961232, IN NW 1/4 SEC.
31, T.92 N., R.45 W., PLYMOUTH CO. (75),
AT BRIDGE, 3 MILES NE OF MERRILL.

DRAINAGE AREA 489 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	7.12	10-10-60	38.1	08-16-66	9.18	10-10-69	22.6	09-12-73	36.
05-18-58	14.3	09-27-61	25.9	09-12-67	6.89	09-02-70	8.81	09-26-74	22.
10-15-58	2.07	10-01-63	5.11	06-12-68	4.04	09-02-71	19.0	10-21-75	27.
05-18-59	18.5	10-14-64	14.6	09-12-68	4.49	10-17-72	22.	08-25-76	6.7
08-11-59	17.9								

Qa = 121 Q(84) = 11 7Q2 = 4.0 7Q10 = 1.0***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

447

FLOYD RIVER BASIN--Continued

6-6002.50 WB FLOYD R NR MIDDLEBURG, IOWA

LAT 430649, LONG 960452, IN NE 1/4 SEC.
30, T.96 N., R.44 W., SIOUX CO. (84),
AT BRIDGE, 1 MILE WEST OF MIDDLEBURG.

DRAINAGE AREA 59.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.	10-10-60	2.71	08-15-66	1.21	10-09-69	0.15	09-11-73	2.4
05-13-58	0.36	09-26-61	0.93	09-11-67	0.07	09-01-70	0.04	09-25-74	0.08
10-15-58	0.	10-01-63	0.09	06-11-68	0.01	09-01-71	0.14	10-20-75	0.05
05-19-59	0.08	10-13-64	0.14	09-11-68	0.	10-16-72	0.38	08-25-76	0.04
08-12-59	0.06								

Qa = 13 Q(84) = * 7Q2 = 0 7Q10 = 0

6-6004.00 WB FLOYD R NR MERRILL, IOWA

LAT 424459, LONG 961426, IN NE 1/4 SEC.
35, T.92 N., R.46 W., PLYMOUTH CO. (75),
AT BRIDGE, 2 MILES NORTH OF MERRILL.

DRAINAGE AREA 232 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	5.65	10-10-60	11.5	08-16-66	4.60	10-10-69	9.68	09-12-73	13.
05-13-58	6.26	09-27-61	9.91	09-12-67	3.09	09-02-70	5.24	09-26-74	6.9
10-15-58	0.92	10-01-63	2.85	06-12-68	1.76	09-02-71	8.1	10-21-75	7.7
05-18-59	2.65	10-14-64	3.94	09-12-68	1.40	10-17-72	10.	08-25-76	3.5
08-11-59	4.99								

Qa = 55 Q(84) = 4.3 7Q2 = 1.8 7Q10 = 0.5***

MONONA-HARRISON DITCH BASIN

6-6015.00 BIG WHISKEY SLOUGH NR KINGSLEY, IOWA

LAT 4240XX, LONG 9552XX, NEAR S 1/4
CORNER SEC.25, T.91 N., R.43 W., PLYMOUTH CO.
(75), AT BRIDGE. 7 MILES NE OF KINGSLEY.

DRAINAGE AREA 55.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	1.39	10-04-60	3.52	09-08-66	0.87	09-01-70	1.26	10-08-75	2.7
10-02-58	0.42	08-30-61	8.59	05-24-67	0.94	09-14-71	1.8	08-13-76	0.71
07-28-59	1.59	10-15-64	2.04	03-26-68	1.14	10-02-74	2.3		

Qa = 12 Q(84) = 1.4 7Q2 = 0.8 7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

MONONA-HARRISON DITCH BASIN--Continued

6-6016.00 WF L SIOUX R NR FIELDING, IOWA

LAT 4239XX, LONG 9552XX, IN NW 1/4 SEC.
1, T.90 N., R.43 W., PLYMOUTH CO. (75),
AT BRIDGE, 4 MILES SW OF FIELDING.DRAINAGE AREA 135 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	3.79	10-04-60	10.2	09-08-66	3.19	09-01-70	3.34	10-08-75	6.8
10-02-58	2.00	08-30-61	27.1	05-24-67	3.49	09-14-71	3.9	08-13-76	2.9
07-28-59	3.91	10-15-64	7.03	03-26-68	3.11	10-02-74	6.2		

Qa = 31

Q(84) = 4.4

7Q2 = 2.5

7Q10 = 0.7***

6-6017.00 WF L SIOUX R NR KINGSLEY, IOWA

LAT 4235XX, LONG 9600XX, IN NW 1/4 SEC.
25, T.90 N., R.44 W., PLYMOUTH CO. (75),
AT BRIDGE, 1 MILE WEST OF KINGSLEY.DRAINAGE AREA 219 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	7.17	10-04-60	21.2	09-08-66	5.20	09-01-70	5.62	10-09-75	14.
10-02-58	2.12	08-30-61	32.5	05-24-67	7.77	09-14-71	8.5	08-12-76	4.6
07-28-59	11.7	10-15-64	10.6	03-26-68	5.14	10-02-74	11.		

Qa = 51

Q(84) = 8.0

7Q2 = 4.8

7Q10 = 1.5

6-6018.00 MUD CR AT MOVILLE, IOWA

LAT 422928, LONG 960524, IN SW 1/4 SEC.
30, T.89 N., R.44 W., WOODBURY CO. (97),
AT BRIDGE, 1 MILE WEST OF MOVILLE.DRAINAGE AREA 68.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-58	0.	08-30-61	0.91	05-24-67	1.12	09-14-71	0.74	10-07-75	0.77
07-28-59	0.05	10-15-64	0.52	09-01-70	0.18	10-02-74	0.65	08-12-76	0.06
10-04-60	1.39	09-08-66	1.40						

Qa = 15

Q(84) = 0.1

7Q2 = *

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

449

MONONA-HARRISON DITCH BASIN--Continued

6-6019.00 WF L SIOUX R AT MOVILLE, IOWA

LAT 422830, LONG 960439, IN SE 1/4 SEC.
31, T.89 N., R.44 W., WOODBURY CO. (97),
AT BRIDGE ON U. S. HIGHWAY 20, 1/2 MILE
SW OF MOVILLE.

DRAINAGE AREA 344 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	11.1	10-04-60	32.3	09-08-66	10.2	09-01-70	10.6	10-07-75	22.
10-02-58	3.25	08-30-61	41.0	05-24-67	10.1	09-14-71	12.0	08-13-76	8.1
07-28-59	12.2	10-15-64	15.4	03-26-68	10.2	10-02-74	14.		
Qa = 83		Q(84) = 11		7Q2 = 6.2		7Q10 = 2.4**			

6-6022.00 ELLIOT CR NR BRONSON, IOWA

LAT 422353, LONG 961405, IN NE 1/4 SEC.
31, T.88 N., R.46 W., WOODBURY CO. (97),
AT BRIDGE, 1.5 MILES SW OF BRONSON.

DRAINAGE AREA 58.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	1.01	10-05-60	2.95	09-08-66	0.87	09-02-70	0.64	10-08-75	2.7
10-02-58	0.39	08-31-61	1.06	05-24-67	0.95	09-14-71	0.62	08-12-76	0.81
07-28-59	0.39	10-15-64	1.42	03-26-68	1.07	10-02-74	0.62		
Qa = 13		Q(84) = 1.1		7Q2 = 0.7		7Q10 = 0.4**			

6-6022.50 BIG WHISKEY CR NR BRONSON, IOWA

LAT 422404, LONG 961429, IN NE 1/4 SEC.
31, T.88 N., R.46 W., WOODBURY CO. (97),
AT BRIDGE, 1.5 MILES SW OF BRONSON.

DRAINAGE AREA 62.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.98	10-05-60	2.64	09-08-66	1.37	09-02-70	0.97	10-08-75	3.8
10-02-58	0.06	08-31-61	0.98	05-24-67	1.27	09-14-71	0.89	08-12-76	0.90
07-28-59	0.06	10-15-64	0.68	03-26-68	1.34	10-02-74	0.96		
Qa = 14		Q(84) = 0.7		7Q2 = 0.3		7Q10 = *			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

MONONA-HARRISON DITCH BASIN--Continued

6-6023.00 WOLF CR NR HOLLY SPRINGS, IOWA

LAT 421806, LONG 960110, IN SW 1/4 SEC.
31, T.87 N., R.44 W., WOODBURY CO. (97),
AT BRIDGE, 4 MILES NE OF HOLLY SPRINGS.DRAINAGE AREA 99.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	3.61	10-04-60	11.7	09-08-66	3.61	09-01-70	1.06	10-08-75	9.6
10-02-58	1.11	08-31-61	3.29	05-24-67	1.77	09-14-71	1.3	08-12-76	3.5
07-28-59	1.76	10-15-64	6.83	03-26-68	3.05	10-02-74	6.0		

Qa = 22

Q(84) = 4.0

7Q2 = 2.4

7Q10 = 0.4**

LITTLE SIOUX RIVER BASIN

6-6036.00 L SIOUX R NR MONTGOMERY, IOWA

LAT 4326XX, LONG 9515XX, IN NE 1/4 SEC.
6, T.99 N., R.37 W., DICKINSON CO. (30),
AT BRIDGE ON STATE HIGHWAY 9, 2.5 MILES
SW OF MONTGOMERY.DRAINAGE AREA 118 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.21	08-06-59	0.42	10-30-64	3.68	03-26-68	0.82	10-01-74	0.26
05-14-58	5.00	10-08-60	31.7	08-29-66	11.7	09-01-70	1.28	10-08-75	0.24
10-17-58	0.	09-26-61	0.54	09-12-67	0.08	08-09-71	0.79	08-12-76	0.

Qa = 27

Q(84) = 0.1

7Q2 = *

7Q10 = 0

6-6037.00 WF L SIOUX R NR LAKE PARK, IOWA

LAT 4329XX, LONG 9517XX, NEAR N 1/4
CORNER SEC.13, T.100 N., R.38 W., DICKINSON CO.
(30), AT BRIDGE, 3 MILES NE OF LAKE PARK.DRAINAGE AREA 116 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.77	08-06-59	0.	10-30-64	2.26	03-26-68	0.06	10-01-74	0.
05-15-58	4.92	10-08-60	41.8	08-29-66	1.85	09-01-70	5.93	10-08-75	0.
10-17-58	0.	09-26-61	0.11	09-12-67	0.	08-09-71	1.9	08-12-76	0.

Qa = 26

Q(84) = 0.2

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

451

LITTLE SIOUX RIVER BASIN--Continued

6-6038.00 WF L SIOUX R NR MONTGOMERY, IOWA

LAT 4325XX, LONG 9516XX, IN SW 1/4 SEC.
6, T.99 N., R.37 W., DICKINSON CO. (30),
AT BRIDGE, 4 MILES SW OF MONTGOMERY.

DRAINAGE AREA 173 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	1.32	08-06-59	0.01	10-30-64	6.11	03-26-68	0.78	10-01-74	0.39
05-14-58	7.17	10-08-60	63.1	08-29-66	2.56	09-01-70	5.88	10-08-75	0.85
10-17-58	0.	09-26-61	0.54	09-12-67	0.01	08-09-71	2.3	08-12-76	0.

Qa = 40

Q(84) = 0.7

7Q2 = 0.1

7Q10 = 0.1**

6-6039.00 L SIOUX R NR MILFORD, IOWA

LAT 4319XX, LONG 9511XX, NEAR CENTER OF
SEC.11, T.98 N., R.37 W., DICKINSON CO.
(30), AT BRIDGE, 1.5 MILES SW OF MILFORD.

DRAINAGE AREA 333 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	3.92	08-06-59	0.68	10-29-64	20.3	03-26-68	2.80	10-02-74	0.90
05-15-58	16.3	10-08-60	116.	08-29-66	14.0	09-01-70	8.97	10-08-75	3.5
10-17-58	0.	09-26-61	2.52	09-12-67	0.07	08-09-71	7.0	08-12-76	0.00

Qa = 80

Q(84) = 1.5

7Q2 = 0.2

7Q10 = 0.3**

6-6044.00 MILFORD CR AT MILFORD, IOWA

LAT 431914, LONG 950841, IN SW 1/4 SEC.
7, T.98 N., R.36 W., DICKINSON CO. (30),
AT BRIDGE AT EAST EDGE OF MILFORD.

DRAINAGE AREA 146 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	0.79	08-06-59	1.46	10-29-64	4.62	03-26-68	1.95	08-09-71	6.9
05-15-58	2.58	10-08-60	2.31	08-29-66	1.97	09-01-70	0.81	08-12-76	2.5
10-17-58	0.90	09-26-61	1.95	09-12-67	3.81				

Qa = 35

Q(84) = 2.0

7Q2 = 1.5

7Q10 = 1.0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

LITTLE SIOUX RIVER BASIN--Continued

6-6045.00 OCHEYEDAN R NR BIGELOW, MINN.

LAT 4327XX, LONG 9537XX, IN SE 1/4 SEC.
24, T.100 N., R.41 W., OSCEOLA CO. (72),
AT BRIDGE IN IOWA, 4.5 MILES SE OF BIGELOW.DRAINAGE AREA 68.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.23	10-07-60	17.3	07-12-66	0.27	03-26-68	0.01	10-01-74	0.04
05-14-58	0.69	09-26-61	0.15	08-29-66	0.60	09-01-70	10.2	10-08-75	0.
10-17-58	0.	10-30-64	0.54	09-12-67	0.03	08-09-71	0.86	08-12-76	0.
08-06-59	0.05	06-15-66	1.56						

Qa = 15

Q(84) = 0.1

7Q2 = *

7Q10 = 0**

6-6046.00 L OCHEYEDAN R NR MAY CITY, IOWA

LAT 4317XX, LONG 9528XX, IN NE 1/4 SEC.
29, T.98 N., R.39 W., OSCEOLA CO. (72),
AT BRIDGE. 3 MILES SOUTH OF MAY CITY.DRAINAGE AREA 54.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	1.16	08-06-59	0.34	10-30-64	1.86	03-26-68	0.04	10-01-74	1.5
05-14-58	4.75	10-07-60	12.8	08-30-66	1.45	09-01-70	0.02	10-08-75	4.8
10-17-58	0.	09-26-61	0.20	09-12-67	0.01	08-10-71	0.52	08-12-76	0.14

Qa = 12

Q(84) = 0.1

7Q2 = *

7Q10 = 0**

6-6047.00 OCHEYEDAN R NR MAY CITY, IOWA

LAT 4316XX, LONG 9527XX, NEAR N 1/4
CORNER SEC.34, T.98 N., R.39 W., OSCEOLA CO.
(72), AT BRIDGE, 4 MILES SE OF MAY CITY.DRAINAGE AREA 226 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	7.55	10-07-60	60.9	07-12-66	8.08	03-26-68	2.71	10-01-74	8.6
05-14-58	17.4	09-26-61	5.26	08-29-66	6.15	09-01-70	18.2	10-08-75	20.
10-17-58	2.63	10-30-64	11.0	09-12-67	3.79	08-10-71	12.0	08-12-76	2.8
08-06-59	5.47	06-15-66	28.4						

Qa = 53

Q(84) = 6.4

7Q2 = 3.7

7Q10 = 1.3

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

453

LITTLE SIOUX RIVER BASIN--Continued

6-6048.00 STONEY CR NR FOSTORIA, IOWA

LAT 4314XX, LONG 9520XX, IN NW 1/4 SEC.
10, T.97 N., R.38 W., CLAY CO. (21),
AT BRIDGE, 9 MILES WEST OF FOSTORIA.

DRAINAGE AREA 65.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	1.98	08-06-59	1.17	10-30-64	8.40	03-26-68	1.49	10-02-74	1.5
05-14-58	7.48	10-07-60	16.6	08-30-66	2.26	09-02-70	1.08	10-07-75	6.6
10-17-58	0.74	09-26-61	4.16	09-12-67	0.97	08-10-71	4.1	08-12-76	1.2

Qa = 14

Q(84) = 2.4

7Q2 = 1.1

7Q10 = 0.2

6-6049.00 STONEY CR NR EVERLY, IOWA

LAT 430922, LONG 951458, IN NE 1/4 SEC.
7, T.96 N., R.37 W., CLAY CO. (21),
AT BRIDGE, 4 MILES SE OF EVERLY.

DRAINAGE AREA 81.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	2.31	08-05-59	0.52	10-30-64	12.5	03-26-68	1.38	10-02-74	2.1
05-14-58	8.10	10-07-60	18.5	08-30-66	5.53	09-02-70	1.00	10-07-75	11.
10-17-58	0.02	09-26-61	5.20	09-12-67	1.34	08-10-71	7.4	08-12-76	1.9

Qa = 18

Q(84) = 2.6

7Q2 = 1.2

7Q10 = 0.2

6-6050.00 OCHEVEDAN R NR SPENCER, IOWA

LAT 430744, LONG 951237, IN SW 1/4 SEC.
15, T.96 N., R.37 W., CLAY CO. (21),
AT BRIDGE, 3 MILES SW OF SPENCER.

DRAINAGE AREA 426 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-01-57	13.0	08-05-59	14.9	10-30-64	37.2	03-26-68	8.70	10-02-74	12.
05-14-58	40.0	10-07-60	98.8	08-30-66	5.48	09-02-70	19.8	10-07-75	45.
10-17-58	2.95	09-26-61	16.0	09-12-67	6.94	08-10-71	31.0	08-12-76	8.3

Qa = 104

Q(84) = 12

7Q2 = 5.2

7Q10 = 0.4**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

LITTLE SIOUX RIVER BASIN--Continued

6-6051.00 L SIOUX R AT SPENCER, IOWA

LAT 430813, LONG 950839, IN N 1/2 SEC.
18, T.96 N., R.36 W., CLAY CO. (21),
AT BRIDGE ON U. S. HIGHWAY 18 AND 71, IN SPENCER.

DRAINAGE AREA 990 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	29.5	08-05-59	28.8	10-30-64	75.2	03-26-68	25.9	10-02-74	24.
05-15-58	67.3	10-07-60	246.	08-30-66	22.8	09-02-70	37.2	10-07-75	71.
10-17-58	7.44	09-26-61	32.7	09-12-67	14.4	08-10-71	60.0		

Qa = 255

Q(84) = 28

7Q2 = 14

7Q10 = 5.8

6-6052.00 BIG MUDDY CR NR LANGDON, IOWA

LAT 431149, LONG 950411, IN NW 1/4 SEC.
26, T.97 N., R.36 W., CLAY CO. (21),
AT BRIDGE, 1.5 MILES SE OF LANGDON.

DRAINAGE AREA 59.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	0.61	08-05-59	0.88	10-29-64	13.9	03-26-68	1.64	10-02-74	1.1
05-15-58	4.37	10-07-60	7.92	08-30-66	3.05	09-02-70	0.83	10-07-75	3.7
10-17-58	0.30	09-26-61	1.07	09-11-67	0.67	08-10-71	2.8	08-12-76	0.54

Qa = 13

Q(84) = 1.2

7Q2 = 0.5

7Q10 = 0**

6-6053.00 BIG MUDDY CR NR SPENCER, IOWA

LAT 430828, LONG 950514, IN NW 1/4 SEC.
15, T.96 N., R.36 W., CLAY CO. (21),
AT BRIDGE, 3 MILES EAST OF SPENCER.

DRAINAGE AREA 102 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	1.56	08-05-59	1.75	10-29-64	20.0	03-26-68	3.43	10-02-74	2.4
05-15-58	6.83	10-07-60	10.3	08-30-66	8.33	09-02-70	1.97	10-07-75	8.2
10-17-58	0.36	09-26-61	2.94	09-11-67	1.15	08-10-71	6.5	08-12-76	1.2

Qa = 23

Q(84) = 2.5

7Q2 = 1.1

7Q10 = 0.1**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

455

LITTLE SIOUX RIVER BASIN--Continued

6-6054.00 PICKEREL RUN NR SPENCER, IOWA

LAT 4312XX, LONG 9458XX, IN NW 1/4 SEC.
27, T.97 N., R.35 W., CLAY CO. (21),
AT BRIDGE, 9 MILES NE OF SPENCER.

DRAINAGE AREA 75.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	0.	08-05-59	0.10	10-29-64	18.4	03-26-68	0.66	10-02-74	0.
05-15-58	0.18	10-07-60	0.70	08-30-66	1.32	09-02-70	0.03	10-07-75	0.47
10-17-58	0.	09-26-61	0.05	09-11-67	0.04	08-10-71	8.7	08-12-76	0.

Qa = 17

Q(84) = *

7Q2 = 0

7Q10 = 0

6-6055.00 LOST ISLAND OUTLET NR DICKENS, IOWA

LAT 430707, LONG 950158, AT W 1/4
CORNER SEC.19, T.96 N., R.35 W., CLAY CO.
(21), AT BRIDGE, 1 MILE SOUTH OF DICKENS.

DRAINAGE AREA 151 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	1.32	08-05-59	3.38	10-30-64	45.1	03-26-68	2.08	10-02-74	2.7
05-15-58	3.43	10-07-60	3.92	08-30-66	4.30	09-02-70	2.54	10-07-75	6.6
10-17-58	1.09	09-26-61	3.11	09-11-67	1.56	08-10-71	28.0	08-12-76	1.3

Qa = 35

Q(84) = 2.6

7Q2 = 1.5

7Q10 = 0.1**

6-6057.00 WILLOW CR NR ROSSI, IOWA

LAT 4259XX, LONG 9510XX, IN SE 1/4 SEC.
4, T.94 N., R.37 W., CLAY CO. (21),
AT BRIDGE, 2 MILES SE OF ROSSI.

DRAINAGE AREA 62.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	0.43	08-06-59	2.31	10-30-64	2.47	03-26-68	0.	10-02-74	0.
05-15-58	5.67	10-05-60	1.23	08-31-66	0.47	09-01-70	0.	10-08-75	0.
10-17-58	0.	09-25-61	0.58	09-11-67	0.	08-10-71	0.	08-12-76	0.

Qa = 14

Q(84) = *

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

LITTLE SIOUX RIVER BASIN--Continued

6-6058.00 WILLOW CR NR GREENVILLE, IOWA

LAT 4259XX, LONG 9509XX, NEAR CENTER OF
SEC.7, T.94 N., R.36 W., CLAY CO. (21),
AT BRIDGE, 3 MILES SOUTH OF GREENVILLE.DRAINAGE AREA 90.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-30-57	0.29	08-06-59	3.89	10-30-64	4.60	03-26-68	0.24	10-02-74	1.0
05-15-58	8.69	10-06-60	2.34	08-31-66	4.24	09-01-70	0.02	10-08-75	4.4
10-17-58	0.	09-25-61	1.04	09-11-67	0.04	08-10-71	7.7	08-12-76	0.

Q_a = 20

Q(84) = 0.3

7Q2 = *

7Q10 = 0**

6-6059.00 WATERMAN CR NR HARTLEY, IOWA

LAT 4305XX, LONG 9527XX, IN NE 1/4 SEC.
4, T.95 N., R.39 W., O'BRIEN CO. (71),
AT BRIDGE, 6.5 MILES SE OF HARTLEY.DRAINAGE AREA 58.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.18	08-13-59	0.16	10-30-64	1.40	03-26-68	0.03	10-03-74	0.91
05-14-58	1.47	10-06-60	3.74	08-31-66	0.59	09-01-70	0.04	10-08-75	2.7
10-16-58	0.01	09-25-61	0.66	09-11-67	0.01	08-11-71	0.17	08-12-76	0.

Q_a = 13

Q(84) = 0.1

7Q2 = 0

7Q10 = 0

6-6060.00 WATERMAN CR NR SUTHERLAND, IOWA

LAT 4257XX, LONG 9525XX, NEAR CENTER OF
SEC.23, T.94 N., R.39 W., O'BRIEN CO. (71),
AT BRIDGE, 4.5 MILES SE OF SUTHERLAND.DRAINAGE AREA 139 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-03-57	1.10	08-13-59	1.17	10-30-64	4.18	03-26-68	0.31	10-03-74	4.4
05-14-58	8.79	10-06-60	6.87	08-31-66	9.34	09-01-70	0.18	10-07-75	15.
10-16-58	0.15	09-25-61	2.16	09-11-67	0.45	08-11-71	5.1	08-13-76	1.3

Q_a = 32

Q(84) = 1.8

7Q2 = 0.2

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

457

LITTLE SIOUX RIVER BASIN--Continued

6-6061.00 L SIOUX R NR SUTHERLAND, IOWA

LAT 4256XX, LONG 9525XX, IN NW 1/4 SEC.
26, T.94 N., R.39 W., O'BRIEN CO. (71),
AT BRIDGE, 5 MILES SE OF SUTHERLAND.

DRAINAGE AREA 1803 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-03-57	37.2	08-13-59	55.9	10-29-64	216.	03-26-68	47.5	10-03-74	44.
05-14-58	152.	10-06-60	390.	08-31-66	42.7	09-01-70	59.6	10-07-75	153.
10-16-58	1.83	09-25-61	79.6	09-11-67	26.9	08-11-71	185.0	08-13-76	24.

Qa = 481 Q(84) = 64 7Q2 = 29 7Q10 = 9.4

6-6062.00 MILL CR NR PAULINA, IOWA

LAT 430134, LONG 954237, NEAR N 1/4
CORNER SEC.29, T.95 N., R.41 W., O'BRIEN CO.
(71), AT BRIDGE, 3 MILES NW OF PAULINA.

DRAINAGE AREA 61.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-02-57	0.19	08-13-59	0.06	10-30-64	0.71	03-26-68	0.37	10-03-74	0.
05-14-58	1.74	10-06-60	6.13	08-31-66	0.15	09-01-70	0.	10-08-75	0.
10-16-58	0.	09-25-61	1.78	09-11-67	0.	08-11-71	0.25	08-12-76	0.

Qa = 13 Q(84) = 1.9 7Q2 = 0 7Q10 = 0

6-6063.00 MILL CR NR CHEROKEE, IOWA

LAT 4247XX, LONG 9533XX, NEAR CENTER OF
SEC.15, T.92 N., R.40 W., CHEROKEE CO.
(18), AT BRIDGE ON U. S. HIGHWAY 59, 2
MILES NORTH OF CHEROKEE.

DRAINAGE AREA 292 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
04-15-58	41.0	08-13-59	16.3	10-29-64	13.6	03-26-68	6.24	10-03-74	0.32
05-14-58	12.9	10-06-60	28.0	08-31-66	9.41	09-01-70	2.56	10-07-75	29.
10-16-58	0.89	09-25-61	47.6	09-11-67	2.31	08-11-71	13.0	08-13-76	2.7

Qa = 70 Q(84) = 9.0 7Q2 = 2.8 7Q10 = 0.5

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

LITTLE SIOUX RIVER BASIN--Continued

6-6064.00 L SIOUX R AT CHEROKEE, IOWA

LAT 4245XX, LONG 9532XX, IN E 1/2 SEC.
26, T.92 N., T.40 W., CHEROKEE CO. (18),
AT BRIDGE NEAR EAST CITY LIMITS OF CHEROKEE.DRAINAGE AREA 2173 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
04-15-58	411.	10-06-60	441.	10-29-64	244.	03-26-68	55.7	10-03-74	75.
05-13-58	212.	09-25-61	131.	08-31-66	83.9	09-01-70	73.6	10-07-75	202.
10-16-58	3.63	10-01-63	54.8	09-11-67	35.0	08-11-71	240.0	08-13-76	27.
08-13-59	98.9								

Qa = 586

Q(84) = 81

7Q2 = 39

7Q10 = 13

6-6065.00 PIERSON CR NR CORRECTIONVILLE, IOWA

LAT 4229XX, LONG 9548XX, IN NE 1/4 SEC.
33, T.89 N., R.42 W., WOODBURY CO. (97),
AT BRIDGE, 1 MILE NW OF CORRECTIONVILLE.DRAINAGE AREA 55.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	3.74	10-04-60	7.27	09-08-66	1.57	09-01-70	0.35	10-07-75	4.6
10-02-58	0.01	03-30-61	4.64	05-24-67	0.99	10-02-74	3.5	08-12-76	1.4
07-28-59	2.68	10-15-64	3.02	03-26-68	2.10				

Qa = 12

Q(84) = 2.0

7Q2 = 0.2

7Q10 = *

6-6068.00 MAPLE R NR AURELIA, IOWA

LAT 4243XX, LONG 9529XX, IN NW 1/4 SEC.
8, T.91 N., R.39 W., CHEROKEE CO. (18),
AT BRIDGE, 2 MILES NW OF AURELIA.DRAINAGE AREA 85.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
04-15-58	17.4	08-13-59	5.71	10-29-64	0.29	03-26-68	0.29	10-03-74	1.4
05-13-58	5.75	10-06-60	5.41	08-31-66	0.65	09-01-70	0.15	10-07-75	1.4
10-16-58	0.03	09-25-61	6.45	09-11-67	0.21	08-11-71	2.6	08-13-76	0.26

Qa = 19

Q(84) = 4.1

7Q2 = *

7Q10 = 0.6**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

459

LITTLE SIOUX RIVER BASIN--Continued

6-6069.00 MAPLE R NR IDA GROVE, IOWA

LAT 422155, LONG 952727, IN NW 1/4 SEC.
12, T.87 N., R.40 W., IDA CO. (47),
AT BRIDGE, 1 MILE NE OF IDA GROVE.

DRAINAGE AREA 364 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	12.6	08-31-61	45.1	09-08-66	22.4	03-26-68	13.6	10-01-74	30.
10-02-58	5.22	10-29-63	20.8	05-24-67	12.2	09-01-70	9.32	10-07-75	36.
07-28-59	27.9	10-15-64	14.3	09-11-67	21.0	09-14-71	14.0	08-11-76	16.
10-04-60	39.8								

Q_a = 88 Q(84) = 20 7Q2 = 8.6 7Q10 = 2.6***

6-6071.00 ODEBOLT CR AT IDA GROVE, IOWA

LAT 422049, LONG 952803, NEAR CENTER OF
SEC.14, T.87 N., R.40 W., IDA CO. (47),
AT BRIDGE IN IDA GROVE.

DRAINAGE AREA 61.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.10	10-04-60	6.34	09-08-66	7.76	03-26-68	3.91	10-01-74	7.6
10-02-58	2.18	08-31-61	7.00	05-24-67	2.57	09-01-70	2.93	10-07-75	8.0
07-28-59	6.47	10-15-64	5.16	09-11-67	6.69	09-14-71	1.5	08-11-76	3.3

Q_a = 13 Q(84) = 5.7 7Q2 = 2.7 7Q10 = 0.9***

6-6074.00 MAPLE R NR TURIN, IOWA

LAT 4201XX, LONG 9558XX, IN SW 1/4 SEC.
10, T.83 N., R.44 W., MONOMA CO. (67),
AT BRIDGE, 1 MILE SE OF TURIN.

DRAINAGE AREA 741 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	31.0	09-07-60	121.	10-15-64	51.2	03-26-68	43.4	10-01-74	90.
09-30-58	16.2	10-04-60	105.	09-08-66	65.6	09-02-70	31.9	10-08-75	91.
07-27-59	37.4	08-30-61	100.	05-24-67	34.9	09-14-71	36.0	08-12-76	46.

Q_a = 187 Q(84) = 61 7Q2 = 28 7Q10 = 7.6***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

SOLDIER RIVER BASIN

6-6083.00 SOLDIER R NR RICKETTS, IOWA

LAT 4212XX, LONG 9535XX, IN SW 1/4 SEC.
1, T.85 N., R.41 W., CRAWFORD CO. (24),
AT BRIDGE, 5 MILES NORTH OF RICKETTS.DRAINAGE AREA 90.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.04	10-04-60	9.62	09-08-66	13.0	07-22-70	8.43	10-01-74	15.
10-02-58	1.89	08-30-61	6.62	05-24-67	3.24	09-01-70	4.57	10-07-75	15.
07-28-59	7.61	10-15-64	13.4	03-26-68	7.53	08-11-71	3.8	08-11-76	6.7

Qa = 20

Q(84) = 6.3

7Q2 = 3.5

7Q10 = 0.8***

6-6083.50 SOLDIER R NR UTE, IOWA

LAT 4203XX, LONG 9543XX, IN SE 1/4 SEC.
34, T.84 N., R.42 W., MONONA CO. (67), AT
BRIDGE ON STATE HIGHWAY 183, 1 MILE SW OF UTE.DRAINAGE AREA 155 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	5.77	10-05-60	22.7	09-08-66	18.3	07-22-70	11.1	10-01-74	25.
10-03-58	3.73	08-30-61	12.9	05-24-67	8.70	09-01-70	7.30	10-08-75	22.
07-27-59	6.47	10-15-64	22.9	03-26-68	13.5	08-11-71	6.1	08-11-76	11.

Qa = 36

Q(84) = 10

7Q2 = 6.0

7Q10 = 1.4***

6-6084.00 E SOLDIER R NR UTE, IOWA

LAT 4203XX, LONG 9542XX, IN SW 1/4 SEC.
35, T.84 N., R.42 W., MONONA CO. (67),
AT BRIDGE NEAR SW CITY LIMITS OF UTE.DRAINAGE AREA 97.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	6.29	10-05-60	15.8	09-08-66	5.24	07-22-70	4.98	10-01-74	12.
10-03-58	3.05	08-30-61	8.68	05-24-67	3.06	09-01-70	2.95	10-08-75	9.9
07-27-59	4.09	10-15-64	16.4	03-26-68	7.20	08-11-71	3.1	08-11-76	3.2

Qa = 22

Q(84) = 5.8

7Q2 = 3.4

7Q10 = 0.8***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

461

ALLEN CREEK BASIN

6-6092.20 ALLEN CREEK NR LOVELAND, IOWA

LAT 4129XX, LONG 9555XX, IN NE 1/4 SEC.
17, T.77 N., R.44 W., POTTAWATAMIE CO.
(78), AT BRIDGE, 2 MILES SW OF LOVELAND.

DRAINAGE AREA 92.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	0.70	10-04-60	6.03	09-08-66	4.59	08-26-70	0.	10-07-75	7.1
10-01-58	0.	08-30-61	2.07	05-25-67	1.62	08-18-71	0.	08-12-76	0.45
07-28-59	5.76	10-14-64	8.70	03-27-68	3.57	10-03-74	2.5		

Q_a = 21 Q(84) = 1.1 7Q2 = 0.3 7Q10 = *

BOYER RIVER BASIN

6-6092.60 BOYER R NR EARLY, IOWA

LAT 4228XX, LONG 9511XX, IN NE 1/4 SEC.
6, T.88 N., R.37 W., SAC CO. (81), AT
BRIDGE ON U.S. HIGHWAY 20, 2 MILES NW OF EARLY.

DRAINAGE AREA 67.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.48	10-04-60	4.96	10-12-64	6.72	03-26-68	2.52	10-01-74	4.2
10-01-58	0.37	08-31-61	2.42	09-08-66	1.90	08-26-70	1.05	10-07-75	3.1
07-28-59	2.49	10-15-63	3.56	05-24-67	3.35	08-17-71	3.1	08-11-76	0.76

Q_a = 15 Q(84) = 4.0 7Q2 = 0.9 7Q10 = *

6-6093.00 E BOYER R AT VAIL, IOWA

LAT 4204XX, LONG 9512XX, IN E 1/2 SEC.
30, T.94 N., R.37 W., CRAWFORD CO. (24),
AT BRIDGE NEAR EAST CITY LIMITS OF VAIL.

DRAINAGE AREA 65.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.47	10-04-60	6.02	10-13-64	7.41	03-26-68	3.11	10-01-74	11.
10-01-58	2.16	08-30-61	9.23	09-08-66	4.92	08-26-70	3.77	10-07-75	5.9
07-27-59	8.33	10-15-63	9.15	05-24-67	1.07	08-17-71	2.9	08-11-76	3.2

Q_a = 14 Q(84) = 5.1 7Q2 = 3.1 7Q10 = 1.0***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BOYER RIVER BASIN--Continued

6-6093.50 E BOYER R AT DENISON, IOWA

LAT 4201XX, LONG 9522XX, IN SE 1/4 SEC.
10, T.83 N., R.39 W., CRAWFORD CO. (24),
AT BRIDGE ON U.S. HIGHWAY 30, NEAR WEST
CITY LIMITS OF DENISON.

DRAINAGE AREA 130 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	8.04	10-04-60	13.9	10-13-64	16.4	03-26-68	7.33	10-01-74	24.
10-01-58	4.54	08-30-61	22.0	09-08-66	10.9	08-26-70	6.47	10-07-75	13.
07-27-59	13.0	10-15-63	16.4	05-24-67	3.05	08-17-71	6.2	08-11-76	6.7

Q_a = 30 Q(84) = 11 7Q2 = 6.2 7Q10 = 1.8***

6-6094.00 BOYER R NR DENISON, IOWA

LAT 4200XX, LONG 9523XX, IN NE 1/4 SEC.
16, T.83 N., R.39 W., CRAWFORD CO. (24),
AT BRIDGE, 2 MILES SW OF DENISON.

DRAINAGE AREA 517 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	20.2	10-04-60	58.2	10-13-64	52.2	03-26-68	26.9	10-01-74	66.
10-01-58	7.79	08-30-61	71.5	09-08-66	40.8	08-26-70	17.9	10-09-75	36.
07-27-59	29.4	10-15-63	48.4	05-24-67	12.9	08-17-71	20.0	08-11-76	17.

Q_a = 128 Q(84) = 35 7Q2 = 14 7Q10 = 2.2***

6-6095.50 BOYER R NR MISSOURI VALLEY, IOWA

LAT 4131XX, LONG 9554XX, IN SE 1/4 SEC.
28, T.78 N., R.44 W., HARRISON CO. (43),
AT BRIDGE, 2 MILES SOUTH OF MISSOURI VALLEY.

DRAINAGE AREA 935 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	43.3	10-04-60	98.2	09-08-66	63.0	08-26-70	35.8	10-07-75	80.
09-30-58	27.6	08-30-61	90.8	05-25-67	26.2	08-18-71	31.0	08-12-76	36.
07-28-59	78.9	10-14-64	108.	03-27-68	67.8	10-03-74	123.		

Q_a = 240 Q(84) = 62 7Q2 = 32 7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

463

BOYER RIVER BASIN--Continued

6-6095.80 WILLOW CR NR WOODBINE, IOWA

LAT 4148XX, LONG 9545XX, IN NE 1/4 SEC.
29, T.81 N., R.42 W., HARRISON CO. (43),
AT BRIDGE, 5.5 MILES NW OF WOODBINE.

DRAINAGE AREA 67.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.26	10-04-60	9.73	09-08-66	3.59	08-26-70	1.10	10-07-75	5.1
10-01-58	2.42	08-30-61	6.28	05-25-67	3.37	08-17-71	1.4	08-11-76	2.1
07-28-59	6.21	10-14-64	10.1	03-27-68	8.29	10-02-74	7.5		

Qa = 15 Q(84) = 3.2 7Q2 = 1.4 7Q10 = 0.2***

6-6096.00 WILLOW CR NR LOGAN, IOWA

LAT 4138XX, LONG 9553XX, IN NE 1/4 SEC.
30, T.79 N., R.43 W., HARRISON CO. (43),
AT BRIDGE, 5 MILES WEST OF LOGAN.

DRAINAGE AREA 129 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.94	10-04-60	18.0	09-08-66	7.66	03-26-68	17.6	08-17-71	3.3
09-30-58	4.69	08-30-61	11.5	05-25-67	5.39	08-26-70	3.11	08-12-76	5.7
07-28-59	12.6	10-14-64	15.7						

Qa = 29 Q(84) = 8.5 7Q2 = 4.4 7Q10 = 1.0***

6-6096.20 WILLOW CR NR MISSOURI VALLEY, IOWA

LAT 4131XX, LONG 9554XX, IN SE 1/4 SEC.
28, T.78 N., R.44 W., HARRISON CO. (43),
AT BRIDGE, 2 MILES SOUTH OF MISSOURI VALLEY.

DRAINAGE AREA 146 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	4.63	10-04-60	16.9	10-14-64	17.2	05-25-67	5.55	08-26-70	2.01
09-30-58	6.18	08-30-61	11.1	09-08-66	9.59	03-27-68	15.7	08-18-71	1.9
07-28-59	13.5								

Qa = 33 Q(84) = 9.2 7Q2 = 4.6 7Q10 = 1.1***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

BOYER RIVER BASIN--Continued

6-6096.70 BOYER R NR LOVELAND, IOWA

LAT 412758, LONG 955437, IN CENTER OF
SEC.4, T.77 N., R.44 W., POTTAWATAMIE CO.
(78), AT BRIDGE, 1 MILE WEST OF LOVELAND.DRAINAGE AREA 1084 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	81.0	10-04-60	126.	09-08-66	72.3	08-26-70	42.5	10-07-75	0.
10-01-58	35.9	08-30-61	112.	05-25-67	38.2	08-17-71	0.	08-12-76	0.
07-28-59	88.0	10-14-64	120.	03-27-68	84.7	10-03-74	131.		
Qa = 280		Q(84) = 78		7Q2 = 44		7Q10 = 12***			

PIGEON CREEK BASIN

6-6099.00 PIGEON CR EAST OF LOVELAND, IOWA

LAT 412838, LONG 954213, IN SW 1/4 SEC.
8, T.77 N., R.42 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 10 MILES SE OF LOVELAND.DRAINAGE AREA 66.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.18	09-15-60	7.06	10-28-64	5.68	06-18-68	0.72	08-18-71	1.1
10-16-58	4.97	08-31-61	6.51	08-30-66	7.82	07-23-70	1.76	10-09-75	4.9
10-20-59	4.88	11-06-63	3.80	05-24-67	2.11				
Qa = 15		Q(84) = 4.4		7Q2 = 2.2		7Q10 = 0.7**			

6-6099.50 PIGEON CR NR CRESCENT, IOWA

LAT 411947, LONG 955319, IN NE 1/4 SEC.
3, T.75 N., R.44 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 3 MILES SW OF CRESCENT.DRAINAGE AREA 163 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	4.70	09-16-60	28.9	10-28-64	14.2	06-18-68	4.22	08-18-71	4.1
11-12-58	13.3	08-30-61	11.0	08-30-66	23.0	07-23-70	2.19	10-09-75	12.
10-21-59	10.2	11-06-63	8.47	05-25-67	6.58				
Qa = 38		Q(84) = 9.7		7Q2 = 5.4		7Q10 = 1.6**			

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

465

MOSQUITO CREEK BASIN

6-6105.50 MOSQUITO CR AT PORTSMOUTH, IOWA

LAT 4139XX, LONG 9531XX, IN SW 1/4 SEC.
16, T.79 N., R.40 W., SHELBY CO. (83),
AT BRIDGE ON STATE HIGHWAY 64, NEAR
EAST CITY LIMITS OF PORTSMOUTH.

DRAINAGE AREA 63.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	4.37	09-15-60	9.93	10-26-64	8.45	06-18-68	1.16	08-17-71	0.88
10-16-58	5.35	08-31-61	10.5	08-29-66	5.63	07-23-70	2.80	10-08-75	8.1
10-20-59	4.86	11-05-63	4.00	05-23-67	0.99				

Qa = 24

Q(84) = 4.5

7Q2 = 2.1

7Q10 = 0.6**

6-6106.00 MOSQUITO CR AT NEOLA, IOWA

LAT 412709, LONG 953637, IN NE 1/4 SEC.
19, T.77 N., R.42 W., POTTAWATAMIE CO.
(78), AT BRIDGE ON COUNTY ROAD S, 0.5
MILE SOUTH OF NEOLA.

DRAINAGE AREA 131 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	8.21	09-15-60	26.1	10-26-64	14.9	06-18-68	3.53	08-17-71	3.5
10-16-58	12.6	08-31-61	19.6	08-30-66	15.0	07-23-70	4.35	10-09-75	15.
10-20-59	11.1	11-06-63	8.53	05-24-67	3.64				

Qa = 49

Q(84) = 9.8

7Q2 = 5.4

7Q10 = 1.3**

6-6106.50 MOSQUITO CR NR COUNCIL BLUFFS, IOWA

LAT 411609, LONG 954822, IN E 1/2 SEC.
29, T.75 N., R.43 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 3 MILES EAST OF COUNCIL BLUFFS.

DRAINAGE AREA 211 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-04-56	2.13	09-16-60	33.2	10-27-64	27.3	06-18-68	10.1	08-17-71	10.0
11-12-58	18.4	09-01-61	26.3	03-30-66	27.8	07-23-70	8.64	10-09-75	22.
10-21-59	21.1	11-06-63	13.5	05-23-67	8.98				

Qa = 63

Q(84) = 16

7Q2 = 10

7Q10 = 2.1**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

KEG CREEK BASIN

6-8057.00 KEG CR AT MINDEN, IOWA

LAT 412757, LONG 953215, IN SE 1/4 SEC.
15, T.77 N., R.41 W., POTTAWATAMIE CO. (78),
AT BRIDGE, AT EAST CITY LIMITS OF MINDEN.DRAINAGE AREA 59.6 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-23-57	3.52	09-15-60	14.1	10-28-64	4.15	06-19-68	1.32	08-17-71	1.3
10-16-58	7.09	09-01-61	8.25	08-30-66	6.00	07-23-70	1.85	09-26-75	9.7
10-20-59	5.87	11-06-63	2.15	05-23-67	1.68				

Qa = 24

Q(84) = 4.1

7Q2 = 2.0

7Q10 = 0.9**

6-8058.00 KEG CR NR DUMFRIES, IOWA

LAT 411120, LONG 954059, IN NW 1/4 SEC.
28, T.74 N., R.42 W., POTTAWATAMIE CO.
(78), AT BRIDGE, 3 MILES NE OF DUMFRIES.DRAINAGE AREA 131 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-23-57	7.73	10-20-59	11.2	11-06-63	9.63	05-23-67	6.80	08-17-71	8.8
05-15-58	17.7	09-16-60	33.4	10-27-64	10.1	06-18-66	7.69	09-26-75	21.
10-10-56	17.5	09-01-61	17.8	08-31-66	18.0	07-23-70	5.67		

Qa = 54

Q(84) = 14

7Q2 = 8.5

7Q10 = 2.0**

6-8059.00 KEG CR NR GLENWOOD, IOWA

LAT 410056, LONG 954559, IN NE 1/4 SEC.
27, T.72 N., R.43 W., MILLS CO. (65),
AT BRIDGE, 2 MILES SW OF GLENWOOD.DRAINAGE AREA 190 MI²

DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S	DATE	FT ³ / S
09-24-57	6.96	10-20-59	19.1	11-05-63	15.8	05-23-67	9.78	08-17-71	15.
05-14-58	17.1	09-16-60	47.2	10-27-64	20.2	06-19-68	11.2	09-26-75	34.
10-15-58	20.1	08-30-61	24.2	08-30-66	30.9	07-23-70	10.9		

Qa = 80

Q(84) = 21

7Q2 = 13

7Q10 = 2.8**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

467

NISHNABOTNA RIVER BASIN

6-8072.60 W NISHNABOTNA R NR MANNING, IOWA

LAT 4153XX, LONG 9505XX, IN NW 1/4 SEC.
31, T.82 N., R.26 W., CARROLL CO. (14).
AT BRIDGE, 3 MILES SW OF MANNING.

DRAINAGE AREA 58.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	5.27	09-15-60	5.56	10-26-64	6.42	05-23-67	0.23	08-30-71	5.2
10-23-58	4.96	08-31-61	12.2	08-29-66	4.09	06-18-68	0.32	09-24-75	5.7
10-20-59	1.63	11-05-63	3.51						

Qa = 22 Q(84) = 1.7 7Q2 = 0.5 7Q10 = *

6-8072.80 WF W NISHNABOTNA R MANILLA, IOWA

LAT 4152XX, LONG 9515XX, NEAR W 1/4
CORNER SEC.35, T.82 N., R.38 W., CRAWFORD CO.
(24), AT BRIDGE, 1 MILE SOUTH OF MANILLA.

DRAINAGE AREA 64.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-15-60	6.60	11-05-63	6.25	08-29-66	5.53	06-18-68	1.52	09-24-75	10.
08-31-61	16.6	10-26-64	7.31	05-23-67	1.13	08-30-71	1.4		

Qa = 24 Q(84) = 4.2 7Q2 = 2.0 7Q10 = *

6-8073.00 WF W NISHNABOTNA R AT HARLAN, IOWA

LAT 4140XX, LONG 9518XX, IN NE 1/4 SEC.
7, T.79 N., R.38 W., SHELBY CO. (83),
AT BRIDGE NEAR NE CITY LIMITS OF HARLAN.

DRAINAGE AREA 146 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	9.97	09-15-60	25.9	10-28-64	18.0	05-23-67	4.95	08-30-71	2.6
10-09-58	9.18	08-31-61	34.3	08-29-66	14.7	06-18-68	3.61	09-24-75	23.
10-20-59	8.16	11-05-63	11.5						

Qa = 54 Q(84) = 10 7Q2 = 5.6 7Q10 = 2.2**

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NISHNABOTNA RIVER BASIN--Continued

6-8073.20 W NISHNABOTNA R AT HARLAN, IOWA

LAT 4138XX, LONG 9518XX, IN NE 1/4 SEC.
19, T.79 N., R.38 W., SHELBY CO. (83),
AT BRIDGE ON STATE HIGHWAY 64, NEAR
EAST CITY LIMITS OF HARLAN.

DRAINAGE AREA 316 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	20.1	09-15-60	52.0	10-28-64	40.3	05-23-67	11.8	08-30-71	7.1
10-09-58	27.7	08-31-61	65.5	08-29-66	31.9	06-18-68	8.67	09-24-75	49.
10-20-59	17.3	11-05-63	25.3						

Qa = 117

Q(84) = 28

7Q2 = 15

7Q10 = 4.7**

6-8073.40 W NISHNABOTNA R AT AVOCA, IOWA

LAT 412810, LONG 952114, IN NE 1/4 SEC.
17, T.77 N., R.39 W., POTTAWATAMIE CO. (78),
AT BRIDGE ON STATE HIGHWAY 83, NEAR WEST CITY
LIMITS OF AVOCA.

DRAINAGE AREA 357 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
05-09-57	8.57	10-20-59	21.3	11-06-63	28.1	05-23-67	11.7	08-31-71	9.9
09-23-57	28.0	09-15-60	70.7	10-28-64	50.4	06-19-68	9.9	09-26-75	65.
10-16-58	32.7	09-01-61	70.2	08-30-66	40.3				

Qa = 134

Q(84) = 33

7Q2 = 18

7Q10 = 4.1***

6-8073.60 EB W NISHNABOTNA R NR RED LINE, IOWA

LAT 4144XX, LONG 9506XX, IN NE 1/4 SEC.
13, T.80 N., R.37 W., SHELBY CO. (83),
AT BRIDGE 3 MILES NE OF RED LINE.

DRAINAGE AREA 70.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	2.79	09-15-60	18.3	10-26-64	10.0	05-23-67	0.80	08-30-71	1.1
10-09-58	8.80	08-31-61	8.32	08-29-66	4.25	06-18-68	1.01	09-24-75	9.7
10-20-59	2.96	11-05-63	3.44						

Qa = 28

Q(84) = 4.2

7Q2 = 1.7

7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

469

NISHNABOTNA RIVER BASIN--Continued

6-8073.80 EB W NISHNABOTNA R NR JACKSONVILLE, IOWA

LAT 4139XX, LONG 9514XX, IN NE 1/4 SEC.
23, T.79 N., R.38 W., SHELBY CO. (83),
AT BRIDGE ON STATE HIGHWAY 44, 4MILES
WEST OF JACKSONVILLE.

DRAINAGE AREA 151 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	8.30	09-15-60	44.2	10-28-64	22.8	05-23-67	3.16	08-30-71	4.0
10-09-58	20.2	08-31-61	20.2	08-29-66	11.2	06-18-68	2.05	09-24-75	22.
10-20-59	8.63	11-05-63	9.49						

Qa = 60 Q(84) = 9.0 7Q2 = 4.6 7Q10 = 0.8***

6-8074.00 EB W NISHNABOTNA R AT AVOCA, IOWA

LAT 412835, LONG 951947, IN NE 1/4 SEC.
16, T.77 N., R.39 W., POTTAWATAMIE CO. (78),
AT BRIDGE ON STATE HIGHWAY 83 IN AVOCA.

DRAINAGE AREA 223 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	13.7	10-20-59	16.7	11-06-63	11.3	05-23-67	4.62	08-31-71	5.4
05-09-57	7.91	09-15-60	58.8	10-28-64	29.0	06-19-68	2.36	09-26-75	41.
10-16-58	33.4	09-01-61	32.6	08-30-66	17.5				

Qa = 89 Q(84) = 14 7Q2 = 5.8 7Q10 = 1.0***

6-8074.20 GRAYBILL CR NR MACEDONIA, IOWA

LAT 4111XX, LONG 9523XX, IN SE 1/4 SEC.
25, T.74 N., R.40 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 2 MILES SE OF MACEDONIA.

DRAINAGE AREA 52.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	3.32	10-20-59	11.7	11-06-63	2.12	05-23-67	1.80	08-31-71	1.6
05-16-58	6.39	09-16-60	13.6	10-27-64	6.84	06-18-68	1.54	09-26-75	6.7
10-10-58	11.1	09-01-61	5.71	08-30-66	5.64				

Qa = 23 Q(84) = 4.6 7Q2 = 2.6 7Q10 = 0.7***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NISHNABOTNA RIVER BASIN--Continued

6-8074.40 FARM CR NR MACEDONIA, IOWA

LAT 4110XX, LONG 9523XX, IN SE 1/4 SEC.
36, T.74 N., R.40 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 3 MILES SE OF MACEDONIA.DRAINAGE AREA 104 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	4.11	10-20-59	6.10	11-06-63	5.66	05-23-67	4.80	08-31-71	4.4
05-15-58	12.4	09-16-60	32.8	08-30-66	13.7	06-18-68	4.84	09-26-75	16.
10-10-58	19.0	09-01-61	11.7						

Qa = 46

Q(84) = 9.5

7Q2 = 6.3

7Q10 = 2.3***

6-8074.80 INDIAN CR NR HASTINGS, IOWA

LAT 410151, LONG 953004, IN SE 1/4 SEC.
13, T.72 N., R.41 W., MILLS CO. (65),
AT BRIDGE, 0.5 MILE NORTH OF HASTINGS.DRAINAGE AREA 67.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.97	10-20-59	9.41	11-05-63	3.24	05-23-67	1.92	08-31-71	0.75
05-14-58	6.49	09-15-60	21.3	10-27-64	8.50	06-18-68	1.89	09-25-75	7.6
10-15-58	12.1	08-30-61	12.4	08-29-66	5.10				

Qa = 32

Q(84) = 4.5

7Q2 = 2.3

7Q10 = 0.4***

6-8075.00 W NISHNABOTNA R AT WHITE CLOUD, IOWA

LAT 405914, LONG 953140, IN NW 1/4 SEC.
2, T.71 N., R.41 W., MILLS CO. (65),
AT BRIDGE, 0.5 MILE NW OF WHITE CLOUD.DRAINAGE AREA 967 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	29.7	10-20-59	90.8	11-05-63	72.4	05-23-67	44.1	08-31-71	41.0
05-14-58	111.	09-15-60	258.	10-27-64	138.	06-18-68	49.3	09-26-75	204.
10-15-58	142.	08-30-61	188.	08-19-66	115.				

Qa = 400

Q(84) = 87

7Q2 = 54

7Q10 = 14***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

471

NISHNABOTNA RIVER BASIN--Continued

6-8075.50 W NISHNABOTNA R NR MALVERN, IOWA

LAT 405730, LONG 953322, IN NW 1/4 SEC.
15, T.71 N., R.41 W., MILLS CO. (65),
AT BRIDGE, 3.5 MILES SE OF MALVERN.

DRAINAGE AREA 974 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	30.4	10-20-59	94.6	11-05-63	76.9	08-29-66	120.	06-18-68	53.6
05-14-58	113.	09-15-60	264.	10-27-64	142.	05-23-67	45.1	08-31-71	42.0
10-15-58	153.	08-30-61	185.						

Qa = 403

Q(84) = 88

7Q2 = 55

7Q10 = 16***

6-8076.00 SILVER CR NR AVOCA, IOWA

LAT 412507, LONG 952653, IN NE 1/4 SEC.
4, T.76 N., R.40 W., POTTAWATAMIE CO.
(78), AT BRIDGE, 7 MILES SW OF AVOCA.

DRAINAGE AREA 59.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	5.57	09-15-60	15.9	10-28-64	5.76	05-23-67	0.82	08-31-71	0.91
10-16-58	9.41	09-01-61	8.88	08-30-66	5.56	06-19-68	1.59	09-26-75	12.
10-20-59	5.45	11-06-63	2.20						

Qa = 24

Q(84) = 3.6

7Q2 = 1.5

7Q10 = 0.2***

6-8076.50 SILVER CR NR TREYNOR, IOWA

LAT 411042, LONG 953434, IN SW 1/4 SEC.
28, T.74 N., R.41 W., POTTAWATAMIE CO.
(78), AT BRIDGE, 4 MILES SE OF TREYNOR.

DRAINAGE AREA 115 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	8.20	10-20-59	18.8	11-06-63	6.43	05-23-67	5.82	08-31-71	6.9
05-15-58	25.6	09-16-60	36.7	10-27-64	13.6	06-18-68	4.75	09-26-75	28.
10-10-58	22.4	09-01-61	16.5	08-30-66	13.6				

Qa = 47

Q(84) = 12

7Q2 = 7.0

7Q10 = 1.8***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NISHNABOTNA RIVER BASIN--Continued

6-8078.00 M SILVER CR NR TREYNOR, IOWA

LAT 411041, LONG 953600, IN SE 1/4 SEC.
30, T.74 N., R.41 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 4 MILES SOUTH OF TREYNOR.DRAINAGE AREA 74.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-23-57	2.66	10-20-59	9.31	11-06-63	8.09	05-23-67	3.32	08-31-71	5.5
05-15-58	7.79	09-16-60	27.7	10-27-64	9.18	06-18-68	6.30	09-26-75	17.
10-10-58	12.6	09-02-61	8.77	08-30-66	10.5				

Qa = 32

Q(84) = 7.9

7Q2 = 4.3

7Q10 = 0.8***

6-8079.00 SILVER CR NR MALVERN, IOWA

LAT 405656, LONG 953420, IN SW 1/4 SEC.
16, T.71 N., R.41 W., MILLS CO. (65),
AT BRIDGE, 4 MILES SOUTH OF MALVERN.DRAINAGE AREA 282 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	12.6	10-20-59	39.1	11-05-63	23.0	05-23-67	17.1	08-31-71	21.0
05-14-58	26.3	09-15-60	96.8	10-27-64	34.8	06-18-68	17.9	09-26-75	61.
10-15-58	44.6	08-30-61	42.3	08-29-66	35.9				

Qa = 117

Q(84) = 30

7Q2 = 20

7Q10 = 7.2***

6-8086.00 WALNUT CR NR GRISWOLD, IOWA

LAT 4117XX, LONG 9513XX, IN NW 1/4 SEC.
22, T.74 N., R.38 W., POTTAWATAMIE CO. (78),
AT BRIDGE, 5 MILES NW OF GRISWOLD.DRAINAGE AREA 61.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	5.91	10-20-59	5.15	11-06-63	0.68	05-23-67	1.18	08-31-71	0.65
05-15-58	12.1	09-16-60	13.2	10-28-64	6.00	06-19-68	1.20	09-26-75	7.6
10-16-58	17.3	09-01-60	4.41	08-30-66	4.76				

Qa = 28

Q(84) = 3.2

7Q2 = 1.4

7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

473

NISHNABOTNA RIVER BASIN--Continued

6-8087.00 WALNUT CR NR HAWTHORNE, IOWA

LAT 4058XX, LONG 9522XX, IN NW 1/4 SEC.
17, T.71 N., R.39 W., MONTGOMERY CO. (69),
AT BRIDGE, 3 MILES SW OF HAWTHORNE.

DRAINAGE AREA 140 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	8.10	10-20-59	14.8	11-05-63	2.92	05-23-67	2.53	08-31-71	1.7
05-14-56	20.5	09-15-60	34.2	10-26-64	16.3	06-18-68	3.15	09-25-75	15.
10-14-58	29.6	08-30-61	17.7	08-29-66	12.7				

Qa = 65 Q(84) = 7.8 7Q2 = 3.4 7Q10 = 0.4***

6-8088.00 WALNUT CR NR RANDOLPH, IOWA

LAT 404739, LONG 953325, NEAR E 1/4
CORNER SEC.9, T.69 N., R.41 W., FREMONT CO.
(36), AT BRIDGE, 5.5 MILES SOUTH OF RANDOLPH.

DRAINAGE AREA 222 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	5.23	10-20-59	42.1	11-05-63	15.1	05-23-67	5.89	08-31-71	2.8
05-14-58	24.0	09-15-60	56.0	10-27-64	29.5	06-18-68	5.17	09-25-75	18.
10-17-58	34.2	08-30-61	32.1	08-29-66	17.2				

Qa = 106 Q(84) = 12 7Q2 = 4.4 7Q10 = 1.1***

6-8088.50 E NISHNABOTNA R NR AUDUBON, IOWA

LAT 4147XX, LONG 9451XX, IN NW 1/4 SEC.
6, T.80 N., R.34 W., AUDUBON CO. (05),
AT BRIDGE, 5 MILES NE OF AUDUBON.

DRAINAGE AREA 56.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	2.27	10-20-59	2.72	11-05-63	3.25	05-23-67	0.87	08-30-71	0.72
05-12-58	10.0	09-15-60	11.3	10-26-64	7.15	06-18-68	1.23	09-24-75	6.4
10-13-59	3.75	08-31-61	10.2	08-29-66	3.99				

Qa = 27 Q(84) = 2.4 7Q2 = 0.9 7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NISHNABOTNA RIVER BASIN--Continued

6-8089.00 E NISHNABOTNA R AT EXIRA, IOWA

LAT 4135XX, LONG 9454XX, IN NW 1/4 SEC.
4, T.78 N., R.35 W., AUDUBON CO. (05),
AT BRIDGE AT WEST CITY LIMITS OF EXIRA.DRAINAGE AREA 195 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	7.46	10-20-59	7.29	11-06-63	7.35	05-23-67	2.38	08-30-71	2.9
05-12-58	19.6	09-15-60	31.5	10-27-64	15.8	06-18-68	2.99	09-24-75	22.
10-13-58	15.9	08-31-61	19.6	08-29-66	13.9				

Qa = 79

Q(84) = 6.6

7Q2 = 2.9

7Q10 = 0.8***

6-8090.50 DAVIDS CR AT EXIRA, IOWA

LAT 4135XX, LONG 9453XX, IN NE 1/4 SEC.
4, T.78 N., R.35 W., AUDUBON CO. (05),
AT BRIDGE NEAR EAST CITY LIMITS OF EXIRA.DRAINAGE AREA 56.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	2.84	10-20-59	4.43	11-05-63	2.09	05-23-67	0.99	08-30-71	1.5
05-12-58	9.55	09-15-60	17.0	10-27-64	9.12	06-18-68	0.82	09-24-75	10.
10-13-58	2.41	08-31-61	6.38	08-29-66	5.38				

Qa = 25

Q(84) = 2.7

7Q2 = 1.0

7Q10 = 0.2***

6-8091.00 TROUBLESOME CR NR WIOTA, IOWA

LAT 4130XX, LONG 9451XX, IN NW 1/4 SEC.
2, T.77 N., R.35 W., CASS CO. (15),
AT BRIDGE, 7.5 MILES NE OF WIOTA.DRAINAGE AREA 68.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.64	10-20-59	4.50	11-06-63	1.25	05-23-67	0.35	08-30-71	0.92
05-13-58	10.0	09-15-60	7.23	10-27-64	11.6	06-18-68	0.48	09-25-75	5.1
10-15-58	22.0	08-31-61	2.52	08-29-66	2.10				

Qa = 31

Q(84) = 1.7

7Q2 = 0.5

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

475

NISHNABOTNA RIVER BASIN--Continued

6-8091.50 TROUBLESOME CR NR ATLANTIC, IOWA

LAT 4125XX, LONG 9458XX. IN NE 1/4 SEC.
3, T.76 N., R.36 W., CASS CO. (15),
AT BRIDGE, 2 MILES NE OF ATLANTIC.

DRAINAGE AREA 128 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	8.07	10-21-59	9.58	11-06-63	4.61	05-23-67	3.84	08-30-71	4.4
05-13-58	17.8	09-15-60	18.5	10-27-64	25.3	06-18-68	2.56	09-25-75	12.
10-15-58	39.9	08-31-61	9.06	08-30-66	7.00				

Qa = 58 Q(84) = 6.6 7Q2 = 2.9 7Q10 = 0.8***

6-8092.00 E NISHNABOTNA R AT ATLANTIC, IOWA

LAT 4124XX, LONG 9502XX. IN SE 1/4 SEC.
6, T.76 N., R.36 W., CASS CO. (15),
AT BRIDGE ON STATE HIGHWAY 83, NEAR
WEST CITY LIMITS OF ATLANTIC.

DRAINAGE AREA 382 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	27.5	10-21-59	35.1	11-06-63	19.5	05-23-67	12.2	08-30-71	15.
05-13-58	58.1	09-15-60	77.0	10-27-64	59.5	06-18-68	10.8	09-25-75	56.
10-15-58	95.7	08-31-61	42.1	08-30-66	29.7				

Qa = 166 Q(84) = 25 7Q2 = 12 7Q10 = 4.3***

6-8092.50 TURKEY CR EAST OF ATLANTIC, IOWA

LAT 4123XX, LONG 9455XX. IN SE 1/4 SEC.
7, T.76 N., R.35 W., CASS CO. (15),
AT BRIDGE, 3 MILES SE OF ATLANTIC.

DRAINAGE AREA 69.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.48	10-21-59	2.61	11-06-63	0.86	05-23-67	0.83	08-30-71	0.48
05-13-58	5.05	09-15-60	5.68	10-27-64	7.32	06-18-68	0.67	09-25-75	2.0
10-15-58	10.3	08-31-61	1.53	08-30-66	1.24				

Qa = 33 Q(84) = 1.4 7Q2 = 0.6 7Q10 = 0.1***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NISHNABOTNA RIVER BASIN--Continued

6-8093.00 TURKEY CR NR ATLANTIC, IOWA

LAT 4119XX, LONG 9404XX, NEAR CENTER OF
SEC.2, T.75 N., R.37 W., CASS CO. (15),
AT BRIDGE, 6 MILES SW OF ATLANTIC.DRAINAGE AREA 133 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	3.69	10-20-59	6.30	11-06-63	1.56	05-23-67	2.04	08-31-71	1.2
05-13-58	6.55	09-15-60	14.0	10-27-64	12.8	06-19-68	1.37	09-25-75	5.0
10-15-58	19.8	09-01-61	3.22	08-30-66	4.92				

Qa = 62

Q(84) = 3.1

7Q2 = 1.4

7Q10 = 0.4***

6-8093.30 E NISHNABOTNA R NR LEWIS, IOWA

LAT 4119XX, LONG 9505XX, IN NE 1/4 SEC.
10, T.75 N., R.37 W., CASS CO. (15),
AT BRIDGE ON U.S. HIGHWAY 6, 1 MILE
NORTH OF LEWIS.DRAINAGE AREA 574 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	36.9	10-20-59	39.4	11-06-63	22.3	05-23-67	14.8	08-31-71	16.
05-13-58	67.1	09-15-60	109.	10-27-64	84.6	06-19-68	12.7	09-25-75	63.
10-15-58	122.	08-31-61	48.3	08-30-66	41.8				

Qa = 251

Q(84) = 30

7Q2 = 14

7Q10 = 4.7***

6-8093.50 INDIAN CR NR ELKHORN, IOWA

LAT 4133XX, LONG 9508XX, IN N 1/2 SEC.
20, T.78 N., R.37 W., SHELBY CO. (83),
AT BRIDGE, 5 MILES SW OF ELKHORN.DRAINAGE AREA 67.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	1.16	09-15-60	16.1	10-28-64	9.11	05-23-67	0.80	08-30-71	1.5
10-09-58	18.0	08-30-61	11.3	08-29-66	6.91	06-18-68	0.66	09-24-75	9.7
10-20-59	5.35	11-06-63	2.94						

Qa = 29

Q(84) = 2.5

7Q2 = 0.9

7Q10 = 0.2***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

477

NISHNABOTNA RIVER BASIN--Continued

6-8079.00 INDIAN CR NR LEWIS, IOWA

LAT 4118XX, LONG 9508XX, IN SW 1/4 SEC.
8. T.75 N., R.37 W., CASS CO. (15),
AT BRIDGE, 2 MILES WEST OF LEWIS.

DRAINAGE AREA 183 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	15.2	10-20-59	16.5	11-06-63	7.36	05-23-67	3.71	08-31-71	4.5
05-13-58	25.9	09-16-60	31.9	10-28-64	21.0	06-19-68	2.60	09-25-75	24.
10-15-58	52.5	09-01-61	17.3	08-31-66	15.0				

Qa = 79 Q(84) = 9.1 7Q2 = 3.6 7Q10 = 0.9***

6-8094.50 E NISHNABOTNA R NR GRISWOLD, IOWA

LAT 4117XX, LONG 9508XX, IN SE 1/4 SEC.
18, T.75 N., R.37 W., CASS CO. (15),
AT BRIDGE ON STATE HIGHWAY 48, 4 MILES
NORTH OF GRISWOLD.

DRAINAGE AREA 778 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	54.5	10-20-59	64.7	11-06-63	37.6	05-23-67	20.2	08-31-71	22.0
05-13-58	103.	09-16-60	135.	10-28-64	102.	06-19-68	15.7	09-25-75	84.
10-15-58	190.	09-01-61	60.9	06-31-66	58.8				

Qa = 334 Q(84) = 43 7Q2 = 20 7Q10 = 6.2***

6-8098.00 E NISHNABOTNA R NR FARRAGUT, IOWA

LAT 4045XX, LONG 9529XX, IN SE 1/4 SEC.
30, T.69 N., R.40 W., FREMONT CO. (36),
AT BRIDGE ON STATE HIGHWAY 174, 1.5
MILES NORTH OF FARRAGUT.

DRAINAGE AREA 1082 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	85.7	10-20-59	159.	11-05-63	64.7	05-23-67	52.8	08-31-71	48.0
05-14-58	157.	09-15-60	231.	10-27-64	169.	06-18-68	51.7	09-25-75	123.
10-17-58	263.	08-30-61	151.	08-30-66	103.				

Qa = 472 Q(84) = 85 7Q2 = 48 7Q10 = 20***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

TARKIO RIVER BASIN

6-8118.60 TARKIO R NR COBURG, IOWA

LAT 4054XX, LONG 9508XX, IN NW 1/4 SEC.
5, T.70 N., R.37 W., PAGE CO. (73),
AT BRIDGE, 6 MILES SE OF COBURG.DRAINAGE AREA 66.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.50	09-12-60	18.9	10-27-64	6.34	09-23-69	4.02	09-24-74	0.51
05-13-58	5.72	09-13-60	16.8	08-10-66	6.47	07-09-70	0.82	09-24-75	1.1
10-14-58	9.58	10-25-61	19.8	12-12-67	3.54	08-24-71	0.40	09-21-76	0.9
07-27-59	6.65	10-31-63	1.08	03-12-68	1.53				

Qa = 33

Q(84) = 2.8

7Q2 = 1.1

7Q10 = *

6-8118.80 E TARKIO CR NR YORKTOWN, IOWA

LAT 4043XX, LONG 9512XX, IN SW 1/4 SEC.
10, T.68 N., R.38 W., PAGE CO. (73),
AT BRIDGE, 2.5 MILES SW OF YORKTOWN.DRAINAGE AREA 58.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.72	09-12-60	13.6	10-27-64	6.22	03-12-68	2.26	09-23-74	1.1
05-13-58	5.82	09-13-60	11.8	08-09-66	3.49	07-09-70	0.41	09-24-75	0.4
10-13-58	11.7	10-25-61	24.6	12-13-67	0.62	08-24-71	0.70	09-21-76	0.70
07-27-59	10.1	10-31-63	6.01						

Qa = 30

Q(84) = 2.1

7Q2 = 0.5

7Q10 = *

6-8119.00 TARKIO R NR YORKTOWN, IOWA

LAT 4043XX, LONG 9513XX, IN N 1/2 SEC.
16, T.68 N., R.38 W., PAGE CO. (73),
AT BRIDGE, 3 MILES SW OF YORKTOWN.DRAINAGE AREA 155 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	1.18	09-12-60	37.5	10-27-64	17.4	09-22-69	12.3	09-23-74	2.4
05-13-58	13.3	09-13-60	33.3	08-09-66	10.0	07-09-70	1.38	09-24-75	2.4
10-13-58	28.2	10-25-61	59.8	12-13-67	3.77	08-24-71	1.5	09-21-76	2.3
07-27-59	22.8	10-31-63	11.0	03-12-68	2.99				

Qa = 78

Q(84) = 6.1

7Q2 = 1.8

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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TARKIO RIVER BASIN--Continued

6-8120.00 TARKIO R AT BLANCHARD, IOWA

LAT 4036XX, LONG 9514XX, IN NE 1/4 SEC.
29, T.67 N., R.38 W., PAGE CO. (73),
AT BRIDGE, 1 MILE NORTH OF BLANCHARD.

DRAINAGE AREA 200 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.02	09-12-60	56.1	10-27-64	19.7	09-22-69	14.8	09-23-74	4.6
05-14-58	23.5	09-13-60	49.8	08-09-66	12.9	07-09-70	2.28	09-24-75	4.3
10-13-58	36.0	10-25-61	89.9	12-12-67	10.2	08-24-71	2.8	09-21-76	3.9
07-27-59	32.7	10-31-63	13.6	03-12-68	11.2				

Qa = 102 Q(84) = 10 7Q2 = 3.2 7Q10 = 0.5**

6-8123.00 W TARKIO CR NR COIN, IOWA

LAT 4041XX, LONG 9518XX, NEAR S 1/2
CORNER SEC.22, T.68 N., R.39 W., PAGE CO.
(73), AT BRIDGE, 4 MILES NW OF COIN.

DRAINAGE AREA 66.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	0.68	09-12-60	16.5	10-27-64	8.20	09-22-69	6.01	09-23-74	0.95
05-13-58	8.97	09-13-60	16.8	08-09-66	4.46	07-09-70	1.07	09-24-75	0.75
10-13-58	15.1	10-25-61	30.1	12-12-67	2.66	08-24-71	0.29	09-21-76	0.29
07-27-59	14.6	10-31-63	4.15	03-12-68	1.00				

Qa = 34 Q(84) = 2.8 7Q2 = 0.7 7Q10 = *

6-8124.00 W TARKIO CR NR NORTHBORO, IOWA

LAT 4035XX, LONG 9521XX, IN SW 1/4 SEC.
29, T.67 N., R.39 W., PAGE CO. (73),
AT BRIDGE, 3.5 MILES SW OF NORTHBORO.

DRAINAGE AREA 87.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-25-57	2.57	09-12-60	26.7	10-27-64	10.9	09-22-69	9.75	09-23-74	4.4
05-14-58	17.1	09-13-60	25.3	08-09-66	5.96	07-09-70	1.88	09-24-75	2.3
10-13-58	26.5	10-25-61	49.3	12-12-67	5.45	08-24-71	0.88	09-21-76	2.0
07-27-59	28.5	10-31-63	5.50	03-12-68	3.18				

Qa = 46 Q(84) = 6.4 7Q2 = 2.3 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NODAWAY RIVER BASIN

6-8163.00 W NODAWAY R NR CUMBERLAND, IOWA

LAT 4112XX, LONG 9452XX, IN SW 1/4 SEC.
15, T.74 N., R.35 W., CASS CO. (15),
AT BRIDGE, 4 MILES SOUTH OF CUMBERLAND.

DRAINAGE AREA 65.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	0.25	09-12-60	3.01	10-26-64	7.16	09-22-69	1.09	09-24-74	1.0
05-13-58	2.71	09-13-60	3.04	08-09-66	2.65	07-07-70	0.96	09-23-75	0.38
10-14-58	3.73	10-24-61	28.0	12-12-67	1.13	09-14-71	0.26	09-21-76	2.0
07-27-59	3.47	10-31-63	0.50	03-12-68	1.25				

Qa = 32 Q(84) = 0.6 7Q2 = 0.2 7Q10 = *

6-8163.50 SEVENMILE CR NR LYMAN, IOWA

LAT 4115XX, LONG 9459XX, IN SE 1/4 SEC.
33, T.75 N., R.36 W., CASS CO. (15),
AT BRIDGE ON U. S. HIGHWAY 71, 1.5
MILES NORTH OF LYMAN.

DRAINAGE AREA 60.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.58	09-12-60	7.99	10-26-64	11.5	09-22-69	2.60	09-24-74	4.0
05-13-58	6.18	09-13-60	7.65	08-09-66	5.49	07-07-70	0.77	09-23-75	3.0
10-14-58	8.39	10-24-61	19.1	12-12-67	1.75	08-24-71	1.7	09-22-76	2.5
07-27-59	6.88	10-31-63	1.21	03-12-68	1.41	09-14-71	0.81		

Qa = 30 Q(84) = 1.6 7Q2 = 0.7 7Q10 = 0.2***

6-8164.00 SEVENMILE CR NR MORTON MILL, IOWA

LAT 4106XX, LONG 9500XX, IN NW 1/4 SEC.
33, T.73 N., R.36 W., MONTGOMERY CO. (69),
AT BRIDGE, 1 MILE NW OF MORTON MILL.

DRAINAGE AREA 124 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	10.5	09-13-60	27.5	10-27-64	30.5	09-22-69	13.6	09-24-74	20.
05-12-58	13.6	09-13-60	31.2	08-09-66	21.9	07-08-70	8.70	09-24-75	18.5
10-14-58	20.6	10-24-61	43.4	12-12-67	13.3	09-14-71	11.0	09-21-76	16.
07-27-59	18.5	10-31-63	11.0	03-12-68	6.48				

Qa = 59 Q(84) = 13 7Q2 = 7.9 7Q10 = 3.9***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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NODAWAY RIVER BASIN--Continued

6-8165.50 W NODAWAY R NR VILLISCA, IOWA

LAT 4055XX, LONG 9500XX, NEAR CENTER OF
SEC.28, T.71 N., R.36 W., MONTGOMERY CO. (69),
AT BRIDGE NEAR WEST CITY LIMITS OF VILLISCA.

DRAINAGE AREA 344 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	17.0	09-12-60	70.1	10-27-64	54.5	09-22-69	30.2	09-24-74	26.
05-12-58	38.2	09-13-60	61.7	08-10-66	38.6	07-08-70	13.3	09-24-75	22.
10-14-58	37.0	10-24-61	150.	12-12-67	24.6	08-24-71	14.0	09-21-76	30.
07-27-59	38.7	10-31-63	16.9	03-12-68	14.2	09-14-71	14.0		

Qa = 165 Q(84) = 20 7Q2 = 12 7Q10 = 4.6***

6-8166.00 M NODAWAY R NR BRIDGEWATER, IOWA

LAT 4110XX, LONG 9439XX, IN NE 1/4 SEC.
33, T.74 N., R.33 W., ADAIR CO. (01),
AT BRIDGE, 5 MILES SE OF BRIDGEWATER.

DRAINAGE AREA 89.3 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-13-60	1.79	10-26-64	15.0	03-12-68	1.32	09-24-74	0.62
10-13-58	7.56	10-25-61	25.3	08-09-66	4.96	07-07-70	0.38	09-23-75	1.2
07-31-59	9.83	10-31-63	0.80	12-12-67	0.44	09-14-71	0.02	09-22-76	1.1
09-12-60	4.86								

Qa = 45 Q(84) = 0.3 7Q2 = * 7Q10 = 0

6-8167.00 WF M NODAWAY R NR FONTANELLE, IOWA

LAT 4119XX, LONG 9439XX, NEAR CENTER OF
SEC.4, T.75 N., R.33 W., ADAIR CO. (01),
AT BRIDGE, 5 MILES NW OF FONTANELLE.

DRAINAGE AREA 67.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.40	09-13-60	5.03	08-09-66	1.84	09-22-69	2.35	09-24-74	0.55
10-13-58	14.1	10-25-61	21.6	12-12-67	0.45	07-07-70	1.25	09-23-75	1.2
07-31-59	5.69	10-31-63	0.47	03-12-68	1.23	09-14-71	0.02	09-22-76	0.53
09-12-60	5.89	10-26-64	7.55						

Qa = 33 Q(84) = 0.7 7Q2 = 0.3 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

NODAWAY RIVER BASIN--Continued

6-8168.00 WF M NODAWAY R NR BRIDGEWATER, IOWA

LAT 4111XX, LONG 9439XX, NEAR CENTER OF
SEC.28, T.74 N., R.33 W., ADAIR CO. (01),
AT BRIDGE, 4.5 MILES SOUTH OF BRIDGEWATER.DRAINAGE AREA 128 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.94	09-13-60	10.0	10-26-64	24.5	03-12-68	2.09	09-24-74	2.7
10-13-58	18.7	10-25-61	34.6	08-09-66	3.88	07-07-70	2.38	09-28-75	4.4
07-31-59	16.6	10-31-63	3.39	12-12-67	2.46	09-14-71	0.88	09-22-76	3.3
09-12-60	9.77								

Qa = 62 Q(84) = 2.1 7Q2 = 0.9 7Q10 = *

6-8169.00 M NODAWAY R NR VILLISCA, IOWA

LAT 4055XX, LONG 9459XX, IN NW 1/4 SEC.
34, T.71 N., R.36 W., MONTGOMERY CO. (69),
AT BRIDGE ON U. S. HIGHWAY 71, 1 MILE SOUTH
OF VILLISCA.DRAINAGE AREA 341 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	2.74	09-12-60	36.2	10-27-64	53.0	09-22-69	14.8	09-24-74	10.
05-12-58	21.4	09-13-60	29.8	08-10-66	19.1	07-08-70	6.51	09-24-75	9.3
10-14-58	38.7	10-24-61	112.	12-12-67	9.24	08-24-71	11.0	09-21-76	22.
07-27-59	36.0	10-31-63	7.01	03-12-68	12.5	09-14-71	5.4		

Qa = 166 Q(84) = 10 7Q2 = 5.4 7Q10 = 1.6

6-8170.50 E NODAWAY R NR WILLIAMSON, IOWA

LAT 4106XX, LONG 9433XX, IN NW 1/4 SEC.
28, T.73 N., R.32 W., ADAMS CO. (02),
AT BRIDGE, 3 MILES SE OF WILLIAMSON.DRAINAGE AREA 54.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-13-60	1.23	10-26-64	9.30	03-12-68	0.37	09-23-74	0.
10-15-58	0.43	10-26-61	19.7	08-09-66	2.41	07-08-70	0.39	09-23-75	0.04
07-31-59	6.08	10-31-63	0.07	12-12-67	0.47	09-14-71	0.02	09-21-76	0.
09-12-60	1.83								

Qa = 28 Q(84) = * 7Q2 = * 7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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NODAWAY RIVER BASIN--Continued

6-8171.00 E NODAWAY R NR SHAMBAUGH, IOWA

LAT 4038XX, LONG 9501XX, IN NE 1/4 SEC.
6, T.67 N., R.36 W., PAGE CO. (73),
AT BRIDGE, 2 MILES SE OF SHAMBAUGH.

DRAINAGE AREA 333 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	1.75	09-12-60	32.8	10-27-64	35.6	07-08-70	6.50	09-23-74	5.8
05-14-58	19.4	09-13-60	28.7	08-09-66	14.6	08-24-71	5.9	09-24-75	8.0
10-14-58	20.2	10-25-61	116.	12-12-67	9.94	09-14-71	4.1	09-21-76	6.9
07-27-59	18.3	10-31-63	9.75	03-13-68	12.1				

Qa = 168 Q(84) = 7.6 7Q2 = 4.2 7Q10 = 0.8

6-8172.00 NODAWAY R NR BRADYVILLE, IOWA

LAT 4037XX, LONG 9501XX, NEAR CENTER OF
SEC.18, T.67 N., R.36 W., PAGE CO. (73),
AT BRIDGE, 3 MILES NORTH OF BRADYVILLE.

DRAINAGE AREA 1135 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-24-57	23.5	09-12-60	189.	10-27-64	140.	07-08-70	30.2	09-23-74	47.
05-14-58	80.9	09-13-60	145.	08-09-66	77.4	08-24-71	35.0	09-24-75	46.
10-14-58	105.	10-25-61	401.	12-12-67	46.4	09-14-71	25.0	09-21-76	74.
07-27-59	107.	10-31-63	47.2	03-13-68	41.5				

Qa = 541 Q(84) = 41 7Q2 = 24 7Q10 = 6.8***

PLATTE RIVER BASIN

6-8186.00 PLATTE R NR KENT, IOWA

LAT 4057XX, LONG 9429XX, IN SW 1/4 SEC.
13, T.71 N., R.32 W., ADAMS CO. (02),
AT BRIDGE, 2 MILES WEST OF KENT.

DRAINAGE AREA 77.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.60	09-13-60	4.96	08-10-66	2.16	10-16-68	1.76	09-23-74	1.1
10-15-58	2.50	10-26-61	21.3	12-13-67	1.52	07-08-70	1.33	09-23-75	0.57
07-28-59	1.90	10-31-63	1.41	03-12-68	1.96	08-24-71	0.90	09-21-76	0.88
09-13-60	2.16	10-26-64	6.13						

Qa = 41 Q(84) = 2.1 7Q2 = 0.9 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

PLATTE RIVER BASIN--Continued

6-8186.50 E PLATTE R NR KNOWLTON, IOWA

LAT 4054XX, LONG 9426XX, IN NW 1/4 SEC.
4, T.70 N., R.31 W., RINGGOLD CO. (80),
AT BRIDGE, 7 MILES NW OF KNOWLTON.DRAINAGE AREA 66.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-13-60	1.85	06-10-66	0.66	09-22-69	0.17	09-23-74	0.01
10-14-58	2.58	10-25-61	12.4	12-13-67	0.	07-08-70	0.60	09-23-75	0.04
07-28-59	0.55	10-31-63	0.02	03-12-68	1.69	08-24-71	0.02	09-21-76	0.
09-12-60	1.99	10-26-64	4.87						

Qa = 36

Q(84) = *

7Q2 = 0

7Q10 = 0

6-8187.00 PLATTE R NR KNOWLTON, IOWA

LAT 4052XX, LONG 9426XX, IN NW 1/4 SEC.
16, T.70 N., R.31 W., RINGGOLD CO. (80),
AT BRIDGE, 6 MILES NW OF KNOWLTON.DRAINAGE AREA 179 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
10-14-58	6.11	10-25-61	33.2	08-10-66	6.19	09-22-69	2.62	09-23-74	0.42
07-28-59	3.18	10-31-63	1.59	12-13-67	3.13	07-08-70	3.72	09-23-75	2.2
09-12-60	9.07	10-26-64	14.0	03-12-68	8.25	08-24-71	1.5	09-21-76	2.8
09-13-60	8.67								

Qa = 94

Q(84) = 2.4

7Q2 = 1.6

7Q10 = *

6-8191.00 WB 102 R NR GRAVITY, IOWA

LAT 4049XX, LONG 9449XX, IN SE 1/4 SEC.
31, T.70 N., R.34 W., TAYLOR CO. (87),
AT BRIDGE, 5 MILES NW OF GRAVITY.DRAINAGE AREA 52.2 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-14-60	1.08	10-27-64	3.78	03-12-68	0.12	09-23-74	0.
10-15-58	2.28	10-26-61	6.95	08-10-66	0.71	07-08-70	0.02	09-23-75	0.59
07-28-59	0.14	10-31-63	0.07	12-12-67	0.28	08-24-71	0.01	09-21-76	0.00
09-12-60	1.44								

Qa = 27

Q(84) = *

7Q2 = 0

7Q10 = 0

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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PLATTE RIVER BASIN--Continued

6-8191.20 WB 102 R BELOW MB NR GRAVITY, IOWA

LAT 4048XX, LONG 9449XX, IN NW 1/4 SEC.
7, T.69 N., R.34 W., TAYLOR CO. (87),
AT BRIDGE, 4.5 MILES NW OF GRAVITY.

DRAINAGE AREA 106 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-14-60	3.05	10-27-64	7.95	03-12-68	1.63	09-23-74	0.00
10-15-58	3.35	10-26-61	12.4	08-10-66	1.00	07-08-70	0.04	09-23-75	1.2
07-28-59	0.68	10-31-63	0.	12-12-67	1.08	08-24-71	0.18	09-21-76	0.04
09-12-60	3.55								

Qa = 55 Q(84) = 0.3 7Q2 = * 7Q10 = 0

6-8191.40 WB 102 R NR NEW MARKET, IOWA

LAT 4044XX, LONG 9451XX, IN SW 1/4 SEC.
35, T.69 N., R.35 W., TAYLOR CO. (87),
AT BRIDGE, 2.75 MILES EAST OF NEW MARKET.

DRAINAGE AREA 123 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.08	09-12-60	5.23	10-26-64	9.60	09-23-69	1.52	09-23-74	0.36
05-14-58	7.96	09-14-60	4.57	08-10-66	1.57	07-08-70	0.45	09-23-75	1.2
10-15-58	4.38	10-26-61	12.7	12-12-67	0.72	08-24-71	0.34	09-21-76	0.78
07-28-59	1.80	10-31-63	0.46	03-12-68	2.27				

Qa = 64 Q(84) = 0.9 7Q2 = 0.2 7Q10 = *

6-8191.50 WF 102 R NR NEW MARKET, IOWA

LAT 4043XX, LONG 9551XX, IN NW 1/4 SEC.
10, T.68 N., R.35 W., TAYLOR CO. (87),
AT BRIDGE, 3 MILES SE OF NEW MARKET.

DRAINAGE AREA 183 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.16	09-12-60	8.19	10-26-64	12.9	09-23-69	2.41	09-23-74	0.61
05-14-58	11.0	09-14-60	6.77	08-10-66	2.19	07-08-70	0.68	09-23-75	3.1
10-15-58	7.96	10-26-61	23.3	12-12-67	1.37	08-24-71	0.51	09-21-76	0.46
07-28-59	2.76	10-31-63	1.03	03-12-68	2.91				

Qa = 95 Q(84) = 1.3 7Q2 = 0.3 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

PLATTE RIVER BASIN--Continued

6-8191.80 EF 102 R NR BEDFORD, IOWA

LAT 4044XX, LONG 9439XX, IN NE 1/4 SEC.
4, T.68 N., R.33 W., TAYLOR CO. (87),
AT BRIDGE, 5 MILES NE OF BEDFORD.DRAINAGE AREA 60.4 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-13-60	0.80	08-10-66	0.30	09-23-69	0.03	09-23-74	0.
10-15-58	0.39	10-26-61	7.07	12-13-67	0.06	07-08-70	0.04	09-23-75	0.00
07-28-59	0.16	10-31-63	0.	03-12-68	0.60	08-24-71	0.02	09-21-76	0.
09-12-60	1.11	10-26-64	3.09						

Qa = 33

Q(84) = *

7Q2 = 0

7Q10 = 0

6-8191.95 MF 102 R NR BEDFORD, IOWA

LAT 4035XX, LONG 9449XX, IN NE 1/4 SEC.
26, T.67 N., R.35 W., TAYLOR CO. (87),
AT BRIDGE, 7 MILES SW OF BEDFORD.DRAINAGE AREA 59.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-27-57	0.	09-12-60	2.85	10-26-64	1.80	09-23-69	0.30	09-23-74	0.00
05-14-58	4.57	09-13-60	2.21	08-10-66	0.13	07-08-70	0.07	09-23-75	0.04
10-15-58	0.48	10-26-61	5.93	12-13-67	0.23	08-24-71	0.14	09-21-76	0.00
07-28-59	0.42	10-31-63	0.02	03-13-68	0.48				

Qa = 33

Q(84) = *

7Q2 = 0

7Q10 = 0

GRAND RIVER BASIN

6-8961.00 GRAND R AT KNOWLTON, IOWA

LAT 4050XX, LONG 9420XX, IN SE 1/4 SEC.
29, T.70 N., R.30 W., RINGGOLD CO. (80),
AT BRIDGE NEAR EAST CITY LIMITS OF KNOWLTON.DRAINAGE AREA 67.5 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-13-60	1.20	08-10-66	1.29	09-22-69	0.40	09-24-74	0.10
10-14-58	1.72	10-25-61	11.8	12-13-67	0.35	07-28-70	0.17	08-13-75	0.23
07-28-59	1.40	10-31-63	0.17	03-12-68	0.97	09-20-71	0.10	09-21-76	0.19
09-12-60	0.91	10-27-64	6.35	10-17-68	0.45				

Qa = 37

Q(84) = 0.4

7Q2 = 0.1

7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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GRAND RIVER BASIN--Continued

6-8961.50 GRAND R NR BLOCKTON, IOWA

LAT 4034XX, LONG 9427XX, IN SW 1/4 SEC.
29, T.67 N., R.31 W., RINGGOLD CO. (80),
AT BRIDGE, 3 MILES SE OF BLOCKTON.

DRAINAGE AREA 207 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.87	09-12-60	13.1	12-12-67	3.40	09-22-69	7.01	09-24-74	2.7
10-15-58	5.61	10-25-61	45.9	03-12-68	2.45	07-28-70	2.76	08-13-75	5.9
07-28-59	10.0	10-31-63	4.10	10-16-68	3.10	09-20-71	2.5	09-21-76	2.4
09-12-60	12.1	10-27-64	17.2						

Qa = 113 Q(84) = 5.0 7Q2 = 2.2 7Q10 = 0.2**

6-8962.00 EF GRAND R NR MT. AYR, IOWA

LAT 4043XX, LONG 9410XX, IN SE 1/4 SEC.
3, T.68 N., R.29 W., RINGGOLD CO. (80),
AT BRIDGE ON STATE HIGHWAY 2, 3 MILES
EAST OF MT. AYR.

DRAINAGE AREA 64.7 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-12-60	0.17	10-27-64	3.90	09-22-69	0.29	09-24-74	0.04
10-14-58	1.57	10-25-61	11.9	08-10-66	0.64	07-28-70	0.08	08-13-75	0.31
07-28-59	0.54	10-31-63	0.18	03-12-68	1.73	09-20-71	0.07	09-21-76	0.03
09-12-60	1.58								

Qa = 36 Q(84) = 0.2 7Q2 = * 7Q10 = 0

6-8962.50 EF GRAND R SOUTH OF MT. AYR, IOWA

LAT 4035XX, LONG 9414XX, IN SW 1/4 SEC.
19, T.67 N., R.29 W., RINGGOLD CO. (80),
AT BRIDGE, 9 MILES SOUTH OF MT. AYR.

DRAINAGE AREA 95.9 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-12-60	2.64	08-10-66	3.35	09-22-69	3.63	09-24-74	0.05
10-15-58	2.47	10-25-61	18.8	12-12-67	0.41	07-28-70	0.32	08-13-75	0.94
07-28-59	1.66	10-31-63	1.58	03-12-68	1.48	09-20-71	0.05	09-21-76	0.01
09-12-60	2.29	10-27-64	10.1	10-16-68	0.51				

Qa = 53 Q(84) = 0.5 7Q2 = 0.1 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

GRAND RIVER BASIN--Continued

6-8977.70 THOMPSON R NR HEBRON, IOWA

LAT 4114XX, LONG 9416XX, IN SW 1/4 SEC.
1, T.74 N., R.30 W., ADAIR CO. (01),
AT BRIDGE, 2 MILES SE OF HEBRON.DRAINAGE AREA 80.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.11	09-13-60	2.48	08-09-66	2.55	09-22-69	4.80	09-23-74	0.23
10-13-58	4.77	10-26-61	31.5	12-12-67	2.27	07-27-70	0.17	08-12-75	2.6
10-23-59	7.18	10-31-63	0.26	03-13-68	1.34	09-20-71	0.31	09-20-76	4.2
09-13-60	2.03	10-26-64	18.0	10-16-68	0.57				

Qa = 41

Q(84) = 1.5

7Q2 = 0.4

7Q10 = *

6-8978.00 THREEMILE CR NR AFTON, IOWA

LAT 4102XX, LONG 9408XX, NEAR CENTER OF
SEC.13, T.72 N., R.29 W., UNION CO. (88),
AT BRIDGE 3 MILES EAST OF AFTON.DRAINAGE AREA 54.8 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-13-60	0.70	08-09-66	5.55	09-22-69	10.8	09-23-74	0.04
10-13-58	0.40	10-27-61	14.1	12-12-67	1.03	07-27-70	0.13	08-12-75	0.4
10-21-59	3.44	10-31-63	0.13	03-13-68	2.60	09-21-71	0.	09-20-76	3.0
09-12-60	0.96	10-26-64	6.62	10-16-68	0.08				

Qa = 29

Q(84) = 0.4

7Q2 = 0.1

7Q10 = *

6-8978.20 THOMPSON R NR AFTON, IOWA

LAT 4102XX, LONG 9406XX, IN SW 1/4 SEC.
17, T.72 N., R.28 W., UNION CO. (88),
AT BRIDGE ON U. S. HIGHWAY 34 AND 169, 5
MILES EAST OF AFTON.DRAINAGE AREA 231 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-13-60	5.81	08-09-66	18.7	10-16-68	1.32	09-23-74	1.2
10-13-58	7.40	10-26-61	76.2	12-12-67	4.79	07-27-70	1.36	08-12-75	4.4
10-21-59	15.5	10-31-63	1.06	03-13-68	8.55	09-21-71	0.88	09-22-76	8.4
09-12-60	5.73	10-26-64	39.8						

Qa = 120

Q(84) = 3.6

7Q2 = 1.3

7Q10 = 0.1***

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

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GRAND RIVER BASIN--Continued

6-8978.80 TWELVEMILE CR NR ARISPE, IOWA

LAT 4056XX, LONG 9406XX, IN SE 1/4 SEC.
17, T.71 N., R.28 W., UNION CO. (88),
AT BRIDGE, 6 MILES EAST OF ARISPE.

DRAINAGE AREA 68.0 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	10-27-61	13.5	12-13-67	1.88	09-22-69	1.74	09-23-74	0.05
10-13-58	0.66	10-31-63	0.28	03-13-68	4.55	07-27-70	0.21	08-12-75	0.08
09-12-60	1.78	10-26-64	8.39	10-16-68	0.35	09-21-71	0.	09-21-76	0.38
09-13-60	1.32	08-09-66	4.59						

Qa = 36 Q(84) = 0.5 7Q2 = 0.1 7Q10 = *

6-8979.00 THOMPSON R NR GRAND RIVER, IOWA

LAT 4052XX, LONG 9358XX, IN NE 1/4 SEC.
16, T.70 N., R.27 W., DECATUR CO. (27),
AT BRIDGE, 3.5 MILES NORTH OF GRAND RIVER.

DRAINAGE AREA 401 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.83	09-13-60	10.1	08-09-66	43.1	09-22-69	25.5	09-24-74	2.4
10-14-58	8.40	10-24-61	140.	12-12-67	11.4	07-27-70	4.87	08-12-75	11.
10-21-59	38.8	10-31-63	2.25	03-12-68	27.2	09-20-71	2.4	09-20-76	5.9
09-12-60	11.7	10-26-64	59.8	10-16-68	4.95				

Qa = 207 Q(84) = 7.8 7Q2 = 2.9 7Q10 = 0.3***

6-8979.40 LONG CR NR VAN WERT, IOWA

LAT 4049XX, LONG 9352XX, IN NE 1/4 SEC.
32, T.70 N., R.26 W., DECATUR CO. (27),
AT BRIDGE, 5 MILES SE OF VAN WERT.

DRAINAGE AREA 117 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-13-60	1.58	08-09-66	6.24	10-16-68	0.27	09-24-74	0.04
10-14-58	0.22	10-24-61	16.0	12-12-67	3.22	07-27-70	0.21	08-12-75	0.06
10-21-59	13.6	10-31-63	0.13	03-12-68	15.9	09-20-71	0.05	09-20-76	0.02
09-12-60	1.78	10-26-64	4.99						

Qa = 65 Q(84) = 0.4 7Q2 = 0.1 7Q10 = *

DISCHARGE MEASUREMENTS AT
LOW-FLOW PARTIAL-RECORD STATIONS

CHARITON RIVER BASIN--Continued

6-9036.50 SF CHARITON R NR CORYDON, IOWA

LAT 4049XX, LONG 9319XX, IN NW 1/4 SEC.
6, T.69 N., R.21 W., WAYNE CO. (93),
AT BRIDGE ON STATE HIGHWAY 14, 4 MILES
NORTH OF CORYDON.

DRAINAGE AREA 68.1 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
09-26-57	0.	09-14-60	0.08	10-14-64	1.96	09-22-69	0.40	09-24-74	0.04
03-25-58	3.92	09-11-61	0.45	08-30-66	0.07	07-28-70	0.21	08-12-75	0.43
10-30-58	0.33	10-19-61	12.5	03-13-68	2.66	08-24-71	0.10	09-21-76	0.10
10-21-59	3.20	10-30-63	0.05						

Qa = 40

Q(84) = 0.2

7Q2 = *

7Q10 = 0

6-9041.50 SHOAL CR NR CINCINNATI, IOWA

LAT 4037XX, LONG 9252XX, IN SW 1/4 SEC.
6, T.67 N., R.17 W., APPANOOSE CO. (04),
AT BRIDGE, 3 MILES EAST OF CINCINNATI.

DRAINAGE AREA 56.6 MI²

DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S	DATE	FT ³ /S
03-25-58	4.26	09-11-61	0.	10-14-64	0.54	09-22-69	0.46	09-24-74	0.04
10-29-58	2.26	10-19-61	7.04	08-30-66	0.	07-29-70	0.04	08-12-75	0.02
10-21-59	5.95	10-30-63	0.03	03-12-68	4.29	08-24-71	0.01	09-22-76	0.
09-14-60	0.02								

Qa = 34

Q(84) = *

7Q2 = 0

7Q10 = 0

- * LESS THAN 0.1 CUBIC FOOT PER SECOND
- ** ESTIMATED FROM GENERALIZED MAP
- *** ESTIMATED FROM EXTRAPOLATED CORRELATION CURVE

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