

Water Resources Data Wisconsin Water Year 1982



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-82-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

CALENDAR FOR WATER YEAR 1982

1981

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1982

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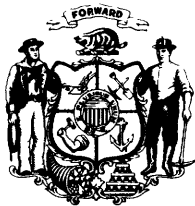
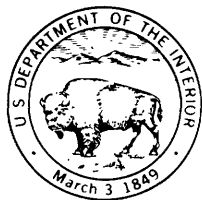
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Water Resources Data Wisconsin Water Year 1982

by B.K. Holmstrom, C.A. Harr, and R.M. Erickson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-82-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, SECRETARY

GEOLOGICAL SURVEY

Dallas L. Peck, Director

Prepared in cooperation with

**Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
The University of Wisconsin-Extension, Geological and
Natural History Survey
Dane County Department of Public Works
Dane County Regional Planning Commission
Southeastern Wisconsin Regional Planning Commission
City of Middleton
City of Madison
Madison Metropolitan Sewerage District
Madison Water Utility
Town of Schleswig
Sokaogon Chippewa Community
Menominee Indian Tribe of Wisconsin
Lac Courte Oreilles Governing Board**

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**District Chief, Water Resources Division
U.S. Geological Survey
1815 University Avenue
Madison, Wisconsin 53705-4096**

1983

PREFACE

This volume of the annual hydrologic data report of Wisconsin is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. Most of the data were collected, computed and processed from area field offices. Technicians-in-charge of the field offices are:

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James W. George, Merrill, northeast
Josef Habale, Madison, southwest
Fredren E. Warner, Wales, subdistrict office

The data were collected, computed, and processed by the following personnel:

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This report was prepared in cooperation with the state of Wisconsin and with other agencies under the general supervision of Warren A. Gebert, Hydrologic Systems and Data Section Chief; Thomas G. Ross, Subdistrict Office Chief; and Vernon W. Norman, District Chief, Wisconsin.

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GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

[Letters after station name designate type of data
(d) discharge, (c) chemical, (m) microbiological,
(t) water temperature, (s) sediment, (r) radiochemical]

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WATER RESOURCES DATA FOR WISCONSIN, 1982

INTRODUCTION

Wisconsin water-resources data for the 1982 water year include records of streamflow at gaging stations, partial-record stations, and miscellaneous sites; chemical, physical, and biological characteristics of surface and ground water; and water levels in observation wells. Records from several stations in bordering states also are included. Data collection is part of the National Water Data System operated in Wisconsin by the U.S. Geological Survey and cooperating State and Federal agencies.

Records of stream discharges and of water levels in lakes and reservoirs were published annually through 1960 and then for the 5-year periods 1961-65 and 1966-70 in the series "Surface-Water Supply of the United States". Chemical-quality, water-temperature, and suspended-sediment data were published annually, from 1941 to 1970, in the series "Quality of Surface Waters of the United States". Records of ground-water levels were published annually from 1935 to 1974, in the series "Ground-Water Levels in the United States".

With the 1961 water year, the Survey began releasing preliminary streamflow data on a State-by-State basis, preliminary water-quality data from the 1964 water year on, and preliminary ground-water data since the 1971 water year. Final data then were published in the series mentioned above. Beginning with the 1975 water year, streamflow, water-quality, and ground-water data for each State were published in a single yearly report and are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

COOPERATION

The U.S. Geological Survey and the State of Wisconsin have worked under cooperative agreements since 1913 collecting streamflow data, since 1955 collecting water-quality data, and since 1964 recording ground-water levels. Agencies that worked cooperatively with the Survey during this year collecting data are:

Wisconsin Department of Natural Resources, C. D. Besadny, secretary.

Wisconsin Department of Transportation, Owen Ayres, secretary,
and S. W. Woods, chief bridge engineer.

The University of Wisconsin-Extension, Geological and Natural
History Survey, M. E. Ostrom, state geologist and director.

Dane County Department of Public Works, Kenneth J. Koscik,
director.

Dane County Regional Planning Commission, Charles Montemayor,
executive director.

Southeastern Wisconsin Regional Planning Commission, K. W. Bauer, executive director.

City of Middleton, Dan Ramsey, mayor.

City of Madison, A. E. Milke, city engineer.

Madison Metropolitan Sewerage District, James L. Nemke, chief engineer and director.

Madison Water Utility, Gary Graham, manager.

Town of Schleswig, Dennis Robichaud, chairman.

Sokaogon Chippewa Community, Arlyn Ackley, chairman.

Menominee Indian Tribe of Wisconsin, Lucille B. Chapman, chairperson.

Lac Courte Oreilles Governing Board, Gordon Thayer, president.

Funding for the collection of streamflow and/or water-quality data was provided by the Corps of Engineers, U.S. Army, the National Park Service, and the Bureau of Indian Affairs.

The following organizations aided in collecting streamflow records:

Wisconsin Valley Improvement Co., Lake Superior District Power Co., Wisconsin-Michigan Power Co., Wisconsin Public Service Corp., Northern States Power Co., Dairyland Power Cooperative, Wisconsin Power and Light Co., Nekoosa Papers Inc., Wisconsin Electric Power Co., Wisconsin River Power Co., and Milwaukee County Park Commission.

Organizations that supplied data are acknowledged in station descriptions.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Program provides data for river basins where hydrologic conditions are relatively unaffected by man's activities and will remain unaffected within the foreseeable future.

National Stream-Quality Accounting Network was designed by the U.S. Geological Survey to meet information needs of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad monitoring aspects have been incorporated in the network design. The network is divided according to the river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are: (1) to assess the areal variability of water-quality conditions nationwide on an annual basis; and (2) to assess long-term changes in stream quality.

Radiochemical surveillance network of water-quality stations, representing major drainage basins in the conterminous United States, where samples are collected regularly for radioisotope analysis.

DOWNSTREAM ORDER AND STATION NUMBER

Hydrologic-station records are listed in Survey reports in downstream direction along streams. Each gaging, partial-record, and surface-water quality station is identified by an 8-digit number. Records in this report are in Part 4 (St. Lawrence River basin) and Part 5 (Upper Mississippi River basin).

NUMBERING SYSTEM FOR GROUND-WATER DATA SITES

The unique ground-water data-site number, based on latitude and longitude, indicates the geographic location of a well. Each site also is identified by a local number based on the cadastral-survey system of the U.S. Government. The number consists of an abbreviation of the county name, the township, range, and section, and a four-digit number assigned to the well.

EXPLANATION OF SURFACE-WATER RECORDS

COLLECTION AND COMPUTATION OF DATA

The basic data collected at gaging stations include stage and discharge measurements of streams, surface-area and stage, measurements of lakes. In addition, factors affecting stage-discharge relationships, weather records, and other information supplement the basic data used to determine daily flow. Records of stage are obtained by reading a non-recording gage, from a continuous graph, or from a tape punched at selected intervals on a water-stage recorder. Measurements of discharge are made with a current meter using methods described in standard textbooks, in Water-Supply Papers 888 and 2175, and in Techniques of Water Resources Investigations of the United States Geological Survey, book 3, chapter A6.

Rating tables of the discharge for any stage are prepared from stage-discharge relationship curves. Extended rating curves, based on step-backwater techniques, velocity-area studies, logarithmic plotting, and indirect measurements of peak discharge are used to estimate discharges greater than those measured. Daily mean discharges are computed from gage heights and rating tables, and the monthly and yearly means are computed using the daily figures. If the stage-discharge relationship varies due to changes in the control, such as aquatic growth, debris, or scour and fill, daily mean discharge is computed by a shifting-control method in which correction factors, based on individual discharge measurements and notes by observers, are used when the gage heights are applied to the rating tables.

At stream-gaging stations where backwater from lakes or reservoirs, tributary streams, or other sources affects the stage-discharge relationship, the slope method is used to compute discharge. At stations where the stage-discharge relationship is affected by rapid changes in stage, the rate of change is used in computing discharge. When ice conditions at stream-gaging stations affect the stage-discharge relationship, gage-height records, winter discharge measurements, temperature and precipitation data, and comparable records of discharge for nearby stations are used to compute discharge. At gaging stations where gage-height records are faulty or non-existent for some periods, the daily discharges are estimated based on the recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for nearby stations.

Included in this report are descriptions of the stations and tabulations of data. A table showing daily, monthly, and yearly discharges is given for each gaging station on a stream or canal. A table showing the monthly summary table of stage is given for gaging stations on lakes. Records are for a water year, which begins October 1 and ends September 30.

The description of the gaging station includes the location, drainage area, period of record, revisions in previously published records, the type and history of gages, general remarks, average discharge, and extremes of discharge or contents. River mileage is determined by the Corps of Engineers or other agencies. Previously published records for current stations are noted under "PERIOD OF RECORD". Previously published revisions of stream-flow records found in error on the basis of subsequent data are noted under "REVISED RECORDS". Listed therein are all the reports in which revisions have been published, together with the water years for which figures are revised. Revisions involving only the instantaneous maximum and minimum, and supplementary peak discharges are indicated by "(M)", "(m)", or "(P)", respectively. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum of 1929; and a history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE."

Information pertaining to the accuracy of discharge records and to conditions that affect the natural flow at the gaging station is given under "REMARKS".

The average discharge for the period of record is given under "AVERAGE DISCHARGE". For stations having fewer than 5 complete years of record or where water development during the period of record has altered the significance of the figure, average discharge is not given. Under "EXTREMES" are listed the extremes of discharge for the period of record, discharge information available outside the period of record, and discharge data for the current year. Unless otherwise qualified, maximum discharge is the instantaneous maximum corresponding to the stage recorded by a water-stage recorder, a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the

maximum discharge, it is listed separately. Similarly, the minimum discharge is the instantaneous minimum corresponding to the minimum recorded stage. Independent peak discharges above a selected base, including the annual maximum, together with the time of occurrence and corresponding gage heights are listed with "EXTREMES FOR THE CURRENT YEAR" for some stations. The base discharge is selected so as to present about three peaks a year. Peak discharges are not published for canals, ditches, drains, or for any stream subject to substantial control by man. Minimum discharges for these stations appear in a separate paragraph following the table of peaks. Skeleton rating tables are published for stations where they serve a useful purpose immediately following "EXTREMES".

The daily table for stream-gaging stations gives the daily mean discharges and monthly and yearly summaries. In the monthly summary "TOTAL" is the sum of the daily figures; "MEAN" is the average monthly flow in cubic feet per second (ft^3/s). "MAX" and "MIN" are the maximum and minimum daily discharges, respectively, for the month. The monthly discharge also is expressed in cubic feet per second per square mile ("CFSM"), in inches ("IN"), and in acre-feet ("AC-FT"). CFSM and IN are omitted if there is extensive regulation or diversion, if the drainage area encompasses large noncontributing areas, or if average annual precipitation for the drainage basin is usually less than 20 inches. The annual summary shows appropriate daily discharges for the calendar and water years.

Footnotes to the daily-discharge table indicate periods for which discharge is computed or estimated by special methods because of the absence of gage-height records, backwater from various sources, or other unusual conditions; periods of no gage-height record if the period is continuous for a month or more or if the maximum annual discharge occurs during that time. Periods of backwater from sources other than ice are indicated only if they last for a month or more, thus affecting the accuracy of the discharge records.

The data presented for most gaging stations on lakes include a description of the station and a monthly summary table of stage.

Data collected at crest-stage partial-record stations are given in a table of annual maximum stages and discharges. Occasionally, a short series of discharge measurements are made to investigate seepage gains or losses along a reach of stream or to determine the low-flow characteristics of an area. Miscellaneous measurements follow the tables for partial-record stations.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

Accurate streamflow data depend primarily on the stability of the stage-discharge relation or the frequency of discharge measurements, where the control is unstable; and the accuracy of discharge measurements, observations of stage, and interpretation of records.

The accuracy of the records is given under "REMARKS". "Excellent" means that about 95 percent of the daily discharges are accurate within 5 percent; those accurate within 10 percent are termed "good"; and "fair" indicates records accurate within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Discharge figures in this report are rounded to the nearest hundredth for discharges of less than 1 ft³/s; to the nearest tenth for discharges between 1.0 and 10 ft³/s; to the nearest whole number for discharges between 10 and 1,000 ft³/s; and to 3 significant figures for discharges above 1,000 ft³/s.

OTHER DATA AVAILABLE

For most gaging stations more detailed information is on file in the District Office. Also, most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

EXPLANATION OF WATER-QUALITY RECORDS

COLLECTION AND EXAMINATION OF DATA

Surface-water samples usually are collected at or near gaging stations. The water-quality records appear after the discharge records for these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of record for characteristics and properties that are measured daily, general remarks, extremes for the period of daily record, and extremes for the current year.

For ground-water-quality records, the well number, depth of well, aquifer, date of sampling and other pertinent data are given in the table containing the chemical analyses.

WATER ANALYSIS

Methods for collecting and analyzing water samples are described in Techniques of Water-Resources Investigations of the United States Geological Survey.

One sample can define adequately the water quality at a given time if the mixture of materials throughout the stream cross section is homogeneous. However, their concentration at different locations in the cross section usually differ widely depending on the source of the material, the turbulence and mixing of the stream, and rate of water discharge. Most streams must be sampled at several verticals in a cross section to obtain a representative sample.

The water-quality data published in this report represent conditions at the time of sampling. The concentrations of some constituents are given as less than some value; that value is the detection limit for the analytical method used. Occasionally these values differ or an actual concentration given which is less than a higher detection limit for a constituent. These differences or apparent discrepancies are due to different methods being used for the constituents.

For water-quality stations equipped with monitors, the records include daily maximum, minimum, and mean values for each characteristic and property measured hourly. Hourly values may be obtained from the District Office. At stations where once-daily measurements are taken manually the measurements usually are taken at about the same time each day.

SEDIMENT

Suspended-sediment concentrations are determined from samples collected with depth-integrating samplers at several verticals in the cross section, or a single sample taken at a fixed point manually, or with pumping samplers (a coefficient is applied to it to determine the mean concentration throughout the cross section).

During periods of rapidly changing flow or concentration, sediment samples may be collected more frequently. The published suspended-sediment discharges for these periods were computed by the subdivided-day method (time-discharge weighted average). For periods when no samples were collected, daily suspended-sediment discharges were estimated on the basis of water discharge, suspended-sediment concentrations observed immediately before and after the periods, and suspended-sediment discharge for other periods of similar discharge. The accuracy of sediment records, discussed under "REMARKS", is based on completeness of the record, the number of samples collected, and the range in stage over which samples are collected. Suspended-sediment discharges of less than 0.005 tons/day are reported as 0.

Samples collected periodically may represent conditions only at the time of observation. However, they are useful in determining seasonal relationships between water quality and streamflow, and in predicting long-term suspended-sediment discharge characteristics of a stream.

In addition to the records of suspended-sediment concentrations, periodic measurements of particle-size distribution of the suspended sediment and bed material also are published.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

COLLECTION OF THE DATA

Ground-water-level data for 70 observation wells are published in this report. These wells are part of a network of 199 observation wells measured in Wisconsin. Of the 70 wells, 21 are measured by U.S. Geological Survey personnel, 39 by State or County personnel, and 10 by interested area residents.

These data represent water-table and artesian conditions in the principal aquifers of the State. Precipitation is the major climatic factor affecting ground-water levels. Spring and fall are the seasons when the water table is the highest.

An exception to these conditions is in the sandstone aquifer in southeastern Wisconsin where heavy municipal and industrial pumping is causing a continual decline in the water level. Water in this aquifer is under artesian pressure where confined by the overlying Maquoketa Shale.

Water levels in artesian wells in the State are sensitive to major earthquakes. Response to earthquakes worldwide is observed on graphs from water-stage recorders as an instantaneous rise and fall in water level and generally occur within an hour of the initial shock.

Water-level records for 58 wells are obtained from direct measurements with a steel tape; records for 13 are from the graph on a water-stage recorder. Water-level measurements in this report are referenced to the land-surface datum (lsd)--a datum plane approximately at land surface at each well. The altitude of the lsd above the National Geodetic Vertical Datum of 1929 and the height of the measuring point (MP) above or below the lsd is given in each well description. All taped measurements are listed. For wells with recorders, lows are listed for every fifth day and at the end of the month (eom). Normally, water levels are reported to a hundredth of a foot. The absolute value of the depth to water may be in error by a few tenths of a foot, but the error in determining the net change in water level between successive measurements is normally only a hundredth or a few hundredths of a foot.

NOTEWORTHY HYDROLOGIC EVENTS OF 1982

STREAMFLOW

Runoff was generally above normal for the 1982 water year. There were a number of recorded flood peaks that exceeded the 2-year frequency. Peaks in the Chippewa River and Upper Rock River basins in the spring of 1982 were generally between the 5- and 10-year frequency. High base flow was maintained for most streams during the 1982 water year. Recorded low flows were generally greater than the 2-year low-flow discharge.

Streamflow was in the normal to below normal range in the north and northeastern part of the State and above normal for the remainder of the State in the fall. Flows were below normal during the winter. Spring runoff was above normal due to a combination of snowmelt and spring rains, with dry conditions developing in June. Periodic storms during the summer maintained higher than normal flow for most of the summer.

Runoff for the year ranged from 80 to 180 percent of a long-term average (fig. 1). The area of highest runoff was the upper Rock River basin, which was 140-180 percent above normal. The area of lowest runoff was the upper Wisconsin, Wolf and Peshtigo River basins, which were 80 to 100 percent of normal. Monthly and annual flow for the 1982 water year is compared to median discharges for a 65-year base period (fig. 2).



Figure 1. 1982 runoff as percent of long-term average runoff.

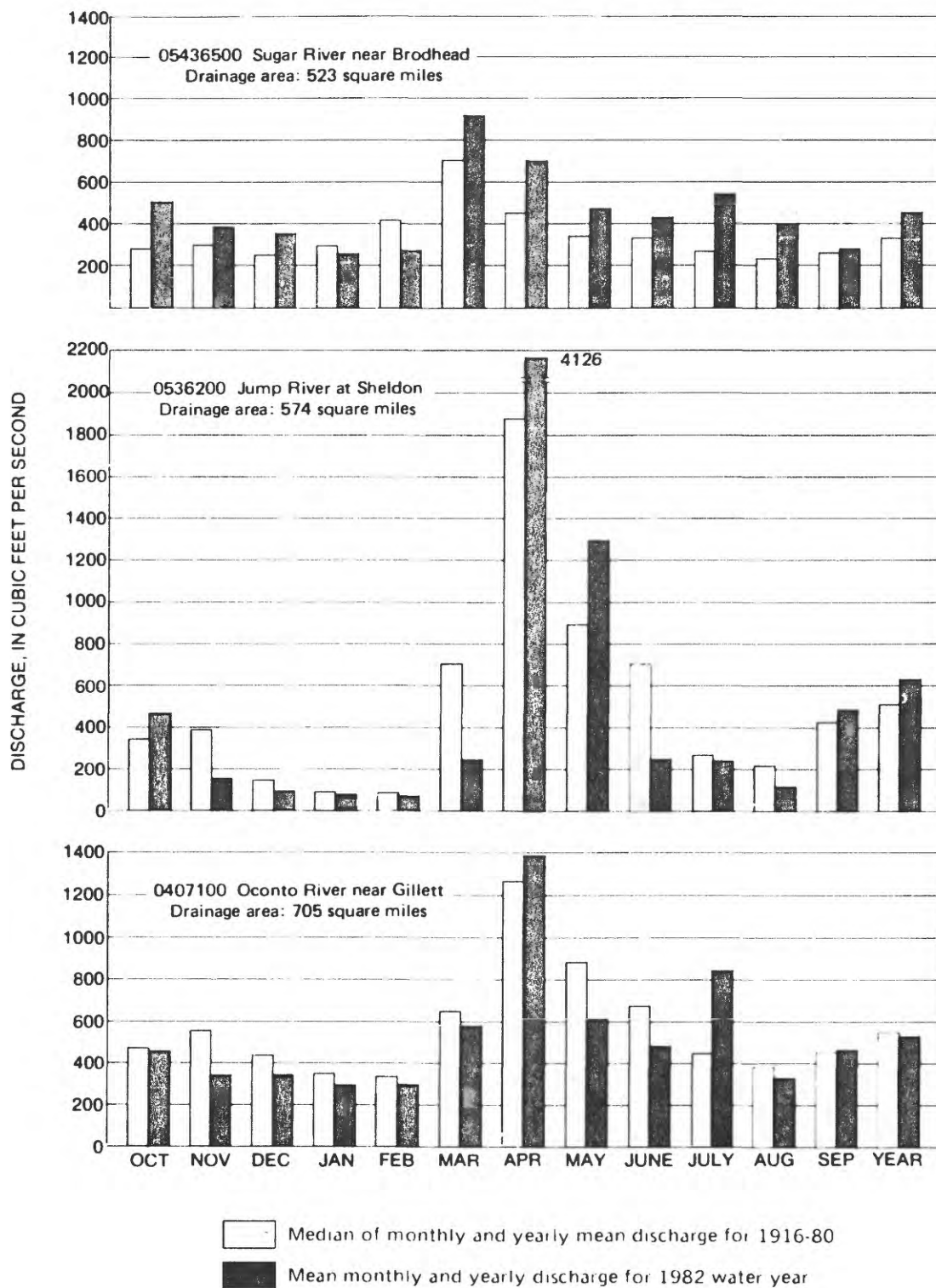


Figure 2. Comparison of discharge at representative gaging stations during 1982 water year with median discharge for 1916-80.

WATER QUALITY

Significant concentrations of the herbicides - atrazine, simazine, prometon, and trifluralin were found in water from the Fox, Manitowoc, Milwaukee, Onion, and Sheboygan Rivers. The organochlorine insecticides - DDD, DDT, DDE, chlordane, endrin, and heptachlor epoxide and the industrial chemical - PCB were found in bed material from the Fox, Manitowoc, Milwaukee, and Sheboygan Rivers.

GROUND-WATER LEVELS

The seasonal level of the water table reflects natural recharge and discharge, and indirectly reflects long-term precipitation trends.

Figure 3 shows how 1982 seasonal water levels relate to normal. Normal is defined as being within one-half of one standard deviation above or below the seasonal mean for the period of record. The months in each season are adjusted so that the spring recharge period includes March, April, and May. Records for 29 wells were used to show areal trends. All measurements during each three-month season were averaged and compared to long-term seasonal means.

We entered the winter (December-February) with the water table at normal levels throughout most of the State. Water levels were above normal in a narrow east-west band across north-central Wisconsin and in south-central Wisconsin. They were below normal at points in the east. In the spring (March-May), levels remained above normal and normal over the same general areas, with only one segment of northeast Wisconsin being below normal. Summer (June-August) levels again displayed a similar pattern. A larger area had above normal water levels, and there were isolated areas (wells) with below normal levels. In the fall (September-November), south-central and north-central Wisconsin remained above normal and two areas on the east coast showed below normal levels.

In summary, during most of the year, water levels were above normal across the north-central part of the State and in the southwest - south-central part. They were in the normal range throughout most of the remainder of Wisconsin. Water levels in Milwaukee, Kewaunee, and Door Counties were below normal much of the year. This is probably caused by pumping from the deep confined aquifer in the Milwaukee area, and is possibly caused by pumping in the Green Bay area in northeast Wisconsin.

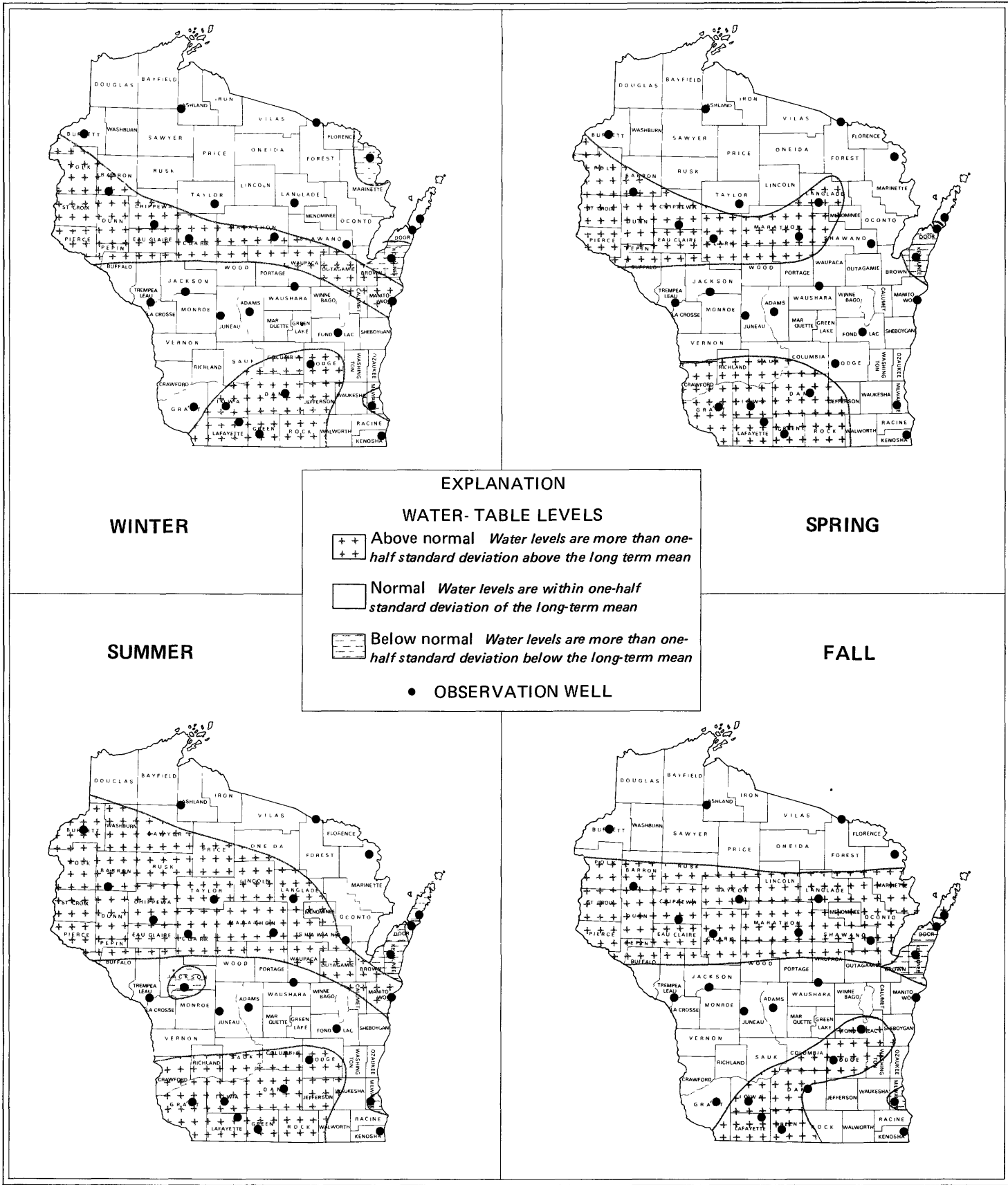


Figure 3. Relation of seasonal water-table levels to long-term means.

ST. LAWRENCE RIVER BASIN RECORDS

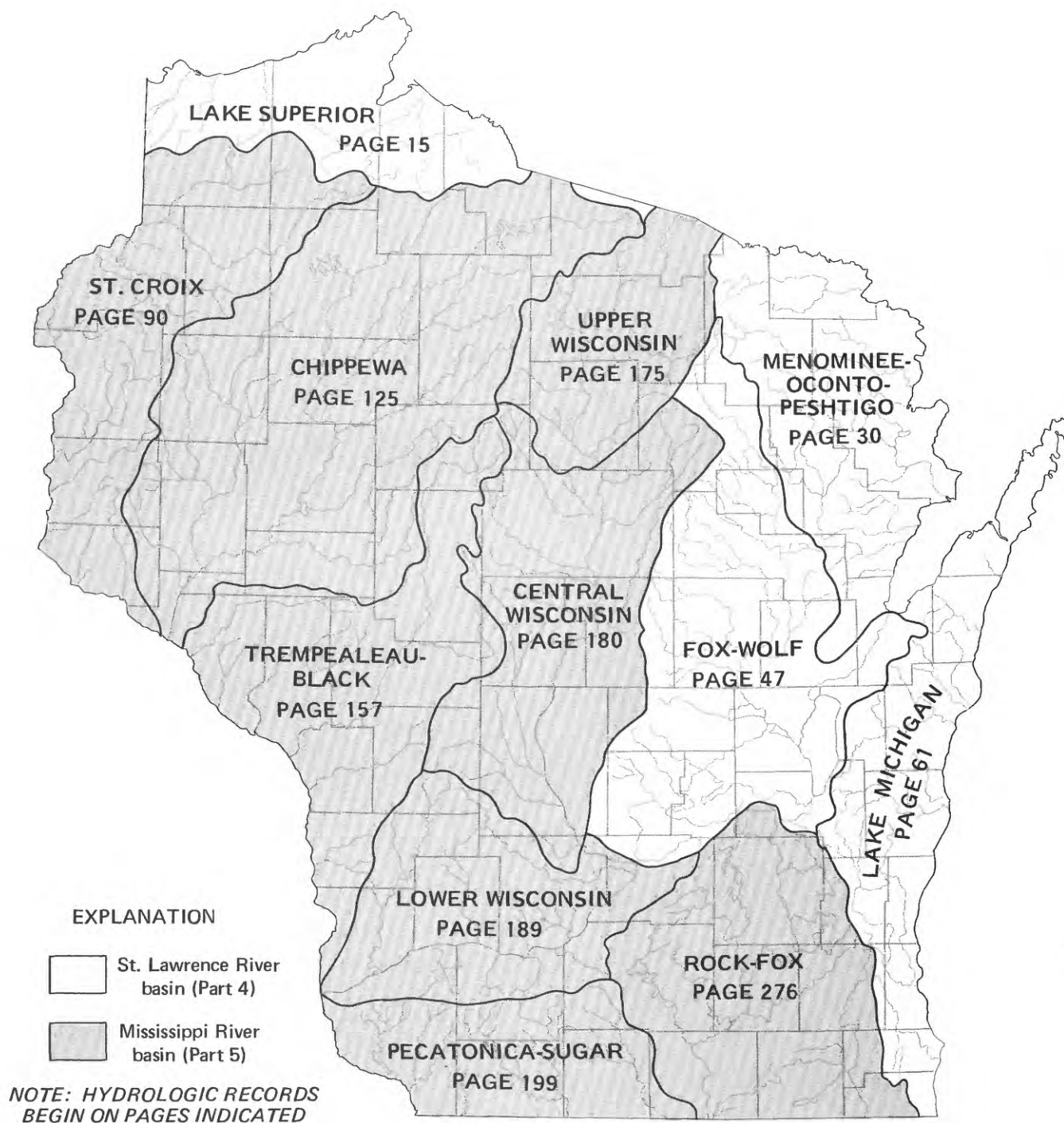
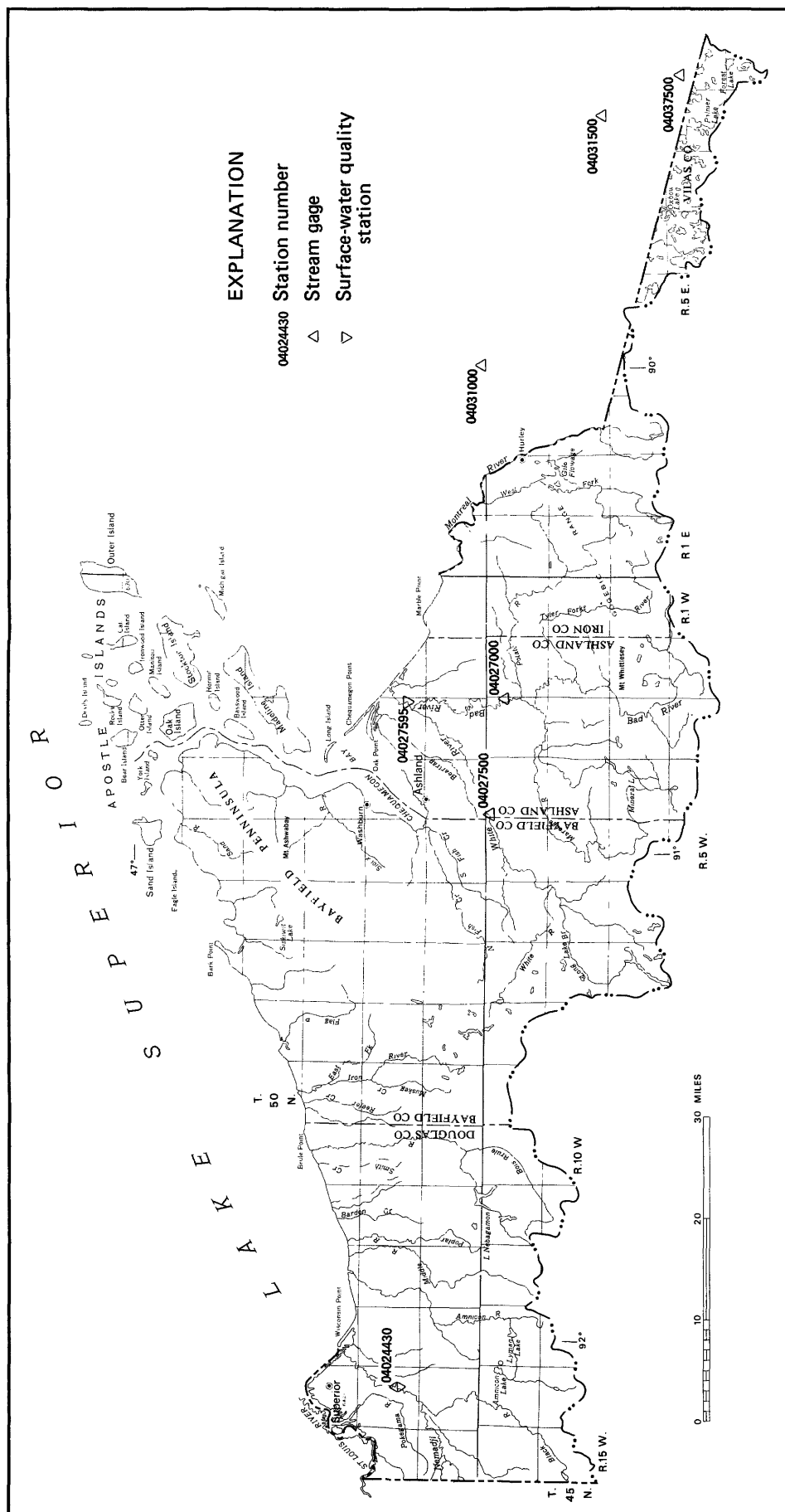


Figure 4. Major surface-water drainage basins and index of hydrologic records.



Base from U S Geological Survey
State base map, 1968

STREAMS TRIBUTARY TO LAKE SUPERIOR

04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 46°38'00", long 92°05'38", in SW 1/4 sec.14, T.48 N., R.14 W., Douglas County, Hydrologic Unit 04010301, on right bank at downstream side of bridge on County Trunk Highway C, 2.0 mi (3.2 km) south of South Superior and 7.8 mi (12.6 km) downstream from Black River.

DRAINAGE AREA.--420 mi² (1,088 km²), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1973 to current year.

REVISED RECORDS.--WDR WI-75-1: 1974(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 601.13 ft (183.224 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period and those for the period of no gage-height record, Mar. 6 to Apr. 15, which are fair.

AVERAGE DISCHARGE.--8 years, 357 ft³/s (10.1 m³/s), 11.54 in/yr (293 mm/yr),

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s (303 m³/s) May 10, 1979, gage height, 22.83 ft (6.959 m); minimum daily, 16 ft³/s (0.45 m³/s) Dec. 8, 1976.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--A flood of Aug. 17, 1972, may have exceeded floods at this location since then.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Oct. 18	1100	2,380 67.4	14.40 4.389	May 5	1900	2,470 70.0	14.69 4.478
Mar. 31	--	ice jam	*20.11 6.130	May 13	2300	2,080 58.9	13.41 4.087
Apr. 17	0400	*4,740 134	19.41 5.916	May 18	2000	2,620 74.2	15.14 4.615
				July 7	1800	4,080 116	18.43 5.617

minimum daily discharge, 57 ft³/s (1.61 m³/s) Aug. 29, 30, gage height, 3.72 ft (1.134 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Apr. 14.)

Oct. 1 to Apr. 23, 1981

3.6	64	13.0	1,780
4.0	109	16.0	2,580
6.0	361	19.0	3,800
9.0	882	21.0	5,800

Apr. 24, 1981 to Sept. 30, 1982

3.7	56	15.0	2,570
4.0	84	17.0	3,330
5.0	198	19.0	4,430
7.0	514	20.0	5,200
11.0	1,400		

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

DAY	MEAN VALUES												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	389	269	100	68	64	74	1600	362	179	67	158	67	
2	637	249	100	66	64	72	1400	360	166	62	142	75	
3	462	232	100	66	65	72	1700	331	149	63	135	75	
4	746	220	96	66	66	72	1300	308	132	73	133	68	
5	1130	211	92	66	66	72	1200	1570	128	81	122	99	
6	820	204	90	66	64	72	1000	1850	118	124	111	225	
7	693	193	90	66	64	74	900	1270	113	3020	104	135	
8	534	185	90	66	64	74	860	946	107	2660	107	103	
9	436	176	84	64	66	76	800	738	110	1470	100	88	
10	452	170	80	64	64	80	800	712	294	1340	91	84	
11	549	161	78	64	66	82	1000	818	268	1570	82	159	
12	451	156	78	64	66	82	1400	803	205	915	75	165	
13	383	152	78	64	68	84	2000	1480	176	628	72	633	
14	1270	149	80	62	70	86	3000	1840	149	492	71	407	
15	1350	146	76	62	70	90	3700	1400	132	415	70	337	
16	802	145	74	60	70	96	4430	1500	121	681	68	690	
17	774	141	72	60	70	100	4610	1510	109	685	64	438	
18	2140	137	70	60	72	110	3630	2230	99	682	59	383	
19	1390	134	70	60	72	120	2860	2100	92	527	247	292	
20	951	131	70	60	72	130	2230	1350	89	392	175	232	
21	753	130	70	62	72	150	1650	994	91	341	106	197	
22	614	120	70	62	74	160	1340	789	88	323	86	166	
23	537	120	70	62	74	170	1150	635	86	304	80	148	
24	463	110	70	62	76	200	1030	514	82	258	74	149	
25	407	110	70	62	78	250	912	430	79	236	67	167	
26	368	100	70	62	76	230	777	375	75	217	62	151	
27	343	100	68	62	76	200	651	326	72	199	61	134	
28	332	100	68	64	74	190	558	285	68	177	60	126	
29	315	100	68	64	---	250	491	251	73	186	58	120	
30	301	100	68	64	---	600	431	225	71	216	58	130	
31	286	---	68	64	---	1900	---	203	---	186	59	---	
TOTAL	21078	4651	2428	1964	1943	6018	49410	28505	3721	18590	2957	6243	
MEAN	680	155	78.3	63.4	69.4	194	1647	920	124	600	95.4	208	
MAX	2140	269	100	68	78	1900	4610	2230	294	3020	247	690	
MIN	286	100	68	60	64	72	431	203	68	62	58	67	
CFSM	1.62	.37	.19	.15	.17	.46	3.92	2.19	.30	1.43	.23	.50	
IN.	1.87	.41	.22	.17	.17	.53	4.38	2.52	.33	1.65	.26	.55	

CAL YR 1981	TOTAL	158710	MEAN	435	MAX	5330	MIN	30	CFSM	1.04	IN	14.06
WTR YR 1982	TOTAL	147508	MEAN	404	MAX	4610	MIN	58	CFSM	1.96	IN	13.06

STREAMS TRIBUTARY TO LAKE SUPERIOR
04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI--CONTINUED
(NATIONAL STREAM-QUALITY ACCOUNTY NETWORK STATION)

REVISIONS.--Revised figures of discharge for the water year 1981, superceding those published in the report for 1981, are given herein.

EXTREMES FOR THE 1981 WATER YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum(*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT
Apr. 24	--	5,520 156	20.32 6.194	Aug. 27	0700	3,030 85.8	16.27 4.959
June 15	1100	*5,580 158	*20.38 6.212				

minimum daily discharge, 30 ft³/s (0.850 m³/s) Jan. 13.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	151	90	32	35	360	1300	1370	133	464	125	329
2	220	149	88	31	35	340	1100	1200	127	354	423	278
3	170	145	86	31	35	310	1100	1000	181	293	456	235
4	160	142	82	31	35	280	1100	920	255	254	519	204
5	150	140	80	31	35	260	1300	1000	235	229	378	181
6	140	138	78	31	35	240	1100	1100	190	198	280	162
7	130	136	76	32	36	220	1000	920	155	175	482	156
8	120	150	74	32	36	200	980	780	136	152	349	163
9	120	189	72	32	37	210	920	640	123	143	267	157
10	110	215	72	32	37	220	900	540	123	133	216	139
11	110	220	70	31	38	270	860	440	128	119	181	126
12	100	230	68	31	39	400	820	342	136	110	156	116
13	98	250	68	30	40	600	860	337	215	103	138	110
14	96	240	66	31	43	860	960	324	3490	107	129	100
15	95	230	66	31	45	700	740	298	5330	191	127	98
16	94	200	64	32	70	580	670	269	3560	255	117	92
17	123	180	62	32	100	460	640	243	1700	498	106	98
18	185	160	60	33	150	400	600	223	1130	457	95	88
19	167	150	58	33	200	340	580	205	823	283	86	80
20	159	140	54	33	300	300	560	191	674	231	79	74
21	172	130	50	33	410	300	560	178	672	421	74	71
22	140	130	45	34	640	310	700	166	761	432	80	71
23	160	120	42	35	600	340	2000	155	796	278	107	72
24	247	120	40	36	500	400	5300	155	1110	225	117	76
25	260	110	39	36	420	460	3900	169	1150	303	113	71
26	235	110	38	36	360	760	2600	182	904	315	605	79
27	208	100	37	37	310	1200	1700	182	737	227	2620	128
28	186	100	36	37	340	1600	1900	171	583	186	1290	172
29	154	96	35	37	---	2500	1600	164	885	159	751	155
30	168	94	34	36	---	3600	1300	161	697	135	538	147
31	155	---	33	35	---	1600	---	145	---	121	406	---
TOTAL	4842	4665	1863	1024	4961	20620	39650	14170	27139	7551	11410	4028
MEAN	156	156	60.1	33.0	177	665	1322	457	905	244	368	134
MAX	260	250	90	37	640	3600	5300	1370	5330	498	2620	329
MIN	94	94	33	30	35	200	560	145	123	103	74	71
CFSM	.37	.37	.14	.08	.42	1.58	3.15	1.09	2.16	.58	.88	.32
IN.	.43	.41	.17	.09	.44	1.83	3.51	1.26	2.40	.67	1.01	.36
CAL YR 1980	TOTAL	69734	MEAN 191	MAX 3390	MIN 33	CFSM .46	IN 6.18					
WTR YR 1981	TOTAL	141923	MEAN 389	MAX 5330	MIN 30	CFSM .93	IN 12.57					

STREAMS TRIBUTARY TO LAKE SUPERIOR
04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, (PER- CENT UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT , 1981											
16...	1340	776	134	7.1	9.5	60	10.7	97	220	K2300	--
DEC											
10...	1030	80	237	7.1	.0	6.0	13.6	96	K9	260	110
FEB , 1982											
03...	1240	66	280	7.2	.0	12	13.8	98	K11	190	120
APR											
15...	1345	3710	104	8.4	1.0	200	13.4	98	K13	K2300	43
JUN											
16...	1400	120	193	7.9	19.0	17	8.8	98	39	240	100
AUG											
19...	1515	458	240	7.8	22.0	210	7.1	84	K5900	K18000	140

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT , 1981											
16...	--	--	--	--	--	--	--	53	8.0	3.1	<.1
DEC											
10...	11	28	9.1	4.4	8	.2	.8	96	14	3.7	<.1
FEB , 1982											
03...	10	30	11	5.9	10	.3	1.0	110	18	6.6	<.1
APR											
15...	.00	12	3.2	1.3	6	.1	1.1	45	6.0	1.8	<.1
JUN											
16...	8.0	26	8.6	3.6	7	.2	.8	92	9.0	2.7	.1
AUG											
19...	11	36	12	4.3	6	.2	1.7	128	19	2.9	.3

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT , 1981											
16...	--	109	--	.15	228	.27	.110	.81	.100	.020	.010
DEC											
10...	12	151	130	.21	32.6	.17	.060	<.10	.020	<.010	.010
FEB , 1982											
03...	15	161	154	.22	28.7	.30	.070	.53	.030	.020	.020
APR											
15...	7.4	78	60	.11	781	.23	.110	.78	.380	.030	.020
JUN											
16...	7.6	137	114	.19	44.4	<.10	.060	.30	.040	.010	<.010
AUG											
19...	9.0	172	162	.23	213	<.10	.050	1.20	.590	.020	.030

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

STREAMS TRIBUTARY TO LAKE SUPERIOR

04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
FEB , 1982											
03...	1240	66	1	--	<1	100	--	<100	1	--	<1
APR											
15...	1345	3710	4	3	1	200	200	21	1	--	<1
AUG											
19...	1515	458	4	2	2	200	100	55	3	1	2

DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
FEB , 1982												
03...	10	--	<10	4	--	<1	7	3	4	1000	410	
APR												
15...	40	30	10	14	--	<1	40	31	9	17000	17000	
AUG												
19...	30	10	20	18	17	1	60	32	28	30000	30000	

DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
FEB , 1982											
03...	590	<1	--	<1	30	5	25	.1	.0	.1	
APR											
15...	350	13	11	2	600	570	35	.1	--	<.1	
AUG											
19...	130	16	15	1	1200	1200	21	<.1	--	<.1	

DATE	TIME	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB , 1982											
03...	<1	--	<1	<1	<1	<1	<1	<1	60	50	9
APR											
15...	25	23	2	<1	<1	1	<1	<1	70	70	4
AUG											
19...	26	25	1	<1	<1	<1	<1	<1	130	130	5

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981							
16...	1340	776	9.5	134	118	247	78
DEC							
10...	1030	80	.0	237	8	1.7	84
FEB , 1982							
03...	1240	66	.0	280	10	1.8	79
APR							
15...	1345	3710	1.0	104	1051	10500	82
JUN							
16...	1400	120	19.0	193	20	6.5	98
AUG							
19...	1515	458	22.0	240	1090	1350	98

STREAMS TRIBUTARY TO LAKE MICHIGAN

04026190 SAND RIVER NEAR RED CLIFF, WI

LOCATION.--Lat 46°54'00", long 90°57'20", in SW 1/4 NE 1/4 sec 14, T.51N., R5W., Bayfield County, Hydrologic Unit 04010301, at bridge on State Highway 13, 8.5 mi (13.7 km) northwest of Red Cliff.

DRAINAGE AREA.--28.2 mi² (73.1 km²).

PERIOD OF RECORD.--Water years 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
APR , 1982										
14...	1835	452	--	--	37	1.0	11	2.3	1.1	6
15...	1550	912	60	.5	34	.00	10	2.1	1.0	6
SEP										
15...	1150	7.0	162	10.0	81	.00	22	6.4	2.6	6

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINIT- Y LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR , 1982									
14...	.1	1.3	36	3.0	1.5	<.1	8.5	78	50
15...	.1	1.3	43	6.0	1.2	<.1	7.0	78	54
SEP									
15...	.1	6.4	87	5.0	1.7	.2	11	121	108

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR , 1982									
14...	.11	95.2	.16	.160	.39	.55	.71	.190	.150
15...	.11	192	.10	.060	.36	.42	.52	.190	.050
SEP									
15...	.16	2.3	<.10	.020	.48	.50	--	.070	<.010

STREAMS TRIBUTARY TO LAKE MICHIGAN

04026190 SAND RIVER NEAR RED CLIFF, WI--CONTINUED

WATER-QUALITY DATA, WATER YEARS OCTOBER 1980 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
FEB , 1981						APR , 1982					
23...	1645	55	--	26	3.8	22...	1345	84	.090	277	63
APR						25...	1323	51	.080	121	17
01...	1040	150	.180	585	237	26...	1500	31	.060	63	5.3
JUN						27...	0730	25	.060	74	5.0
17...	1120	12	--	22	.71	28...	0730	19	.070	51	2.6
MAR , 1982						29...	1450	16	.060	91	3.9
26...	1230	35	.140	44	4.2	MAY					
28...	1417	31	.090	51	4.3	05...	1115	352	.250	1060	1010
29...	1015	34	.100	47	4.3	07...	0730	94	.160	460	117
APR						08...	0900	41	.060	70	7.7
02...	1325	149	--	217	87	10...	1306	47	--	128	16
10...	1345	46	.070	65	8.1	11...	0930	127	.110	411	141
12...	1500	59	.080	105	17	12...	1306	48	.120	--	--
13...	1445	195	.090	609	321	13...	1600	144	.200	437	170
14...	1400	198	.080	404	216	16...	1015	60	.100	102	17
14...	1610	310	--	689	577	30...	1030	6.5	.020	10	.18
14...	1625	333	--	688	619	JUN					
14...	1640	352	--	774	736	10...	1300	6.0	.080	24	.39
14...	1750	431	--	950	1110	15...	1310	6.0	.010	13	.21
14...	1756	435	--	1020	1200	20...	1015	4.9	.020	4	.05
14...	1805	442	--	978	1170	30...	1045	4.3	.020	9	.10
14...	1835	452	.190	--	--	JUL					
15...	1125	749	--	1860	3760	03...	1030	397	.170	--	--
15...	1135	768	--	1860	3860	03...	1207	397	--	807	865
15...	1145	778	--	1950	4100	03...	1600	190	.170	327	168
15...	1420	894	.210	2070	5000	07...	1045	643	.340	1440	2500
15...	1440	916	--	1810	4480	08...	1000	66	.110	293	52
15...	1454	923	--	1790	4460	11...	0930	173	.180	417	195
15...	1505	927	--	1870	4680	14...	0930	36	.070	139	14
15...	1550	912	.190	--	--	28...	1540	23	.090	176	11
16...	1526	388	.110	1100	1150	AUG					
17...	1600	435	.110	747	877	28...	1300	5.1	--	9	.12
18...	1420	131	.110	931	329	29...	1300	4.9	.030	--	--
20...	1500	88	.070	2190	520	SEP					
21...	0630	76	.100	199	41	15...	1150	7.0	.070	--	--
						29...	1120	9.3	.040	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
APR , 1981							
01...	1040	150	585	237	--	--	--
APR , 1982							
14...	1625	333	688	619	35	47	56
14...	1756	435	1020	1200	36	48	56
15...	1135	768	1860	3860	36	45	52
15...	1454	923	1790	4460	36	47	54
DATE							
APR , 1981							
01...	--	--	34	39	62	98	100
APR , 1982							
14...	63	70	77	83	93	99	100
14...	63	68	75	82	91	99	100
15...	58	65	72	83	92	99	100
15...	61	67	73	81	91	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
APR , 1982												
14...	1625	333	1	8	56	86	95	98	99	100	--	--
14...	1756	435	3	16	62	85	92	95	98	98	100	--
15...	1135	768	4	20	47	62	69	73	80	87	96	100
15...	1454	923	3	21	54	66	73	80	87	94	100	--

STREAMS TRIBUTARY TO LAKE SUPERIOR

04027000 BAD RIVER NEAR ODANAH, WI

LOCATION.--Lat 46°29'15", long 90°41'45", in SE 1/4 sec.2, T.46 N., R.3 W., Ashland County, Hydrologic Unit 04010302, Bad River Indian Reservation, on left bank just downstream from Elm Hoist bridge, 5.0 mi (8.0 km) downstream from Potato River, 8.5 mi (13.7 km) south of Odanah, and 23 mi (37 km) from mouth.

DRAINAGE AREA.--597 mi² (1,546 km²), revised.

PERIOD OF RECORD.--July 1914 to December 1922 (monthly discharge only for some periods published in WSP 1307), May 1948 to current year.

REVISED RECORDS.--WSP 1207: Drainage area. WSP 1337: 1922.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 668.30 ft (203.698 m) National Geodetic Vertical Datum of 1929. May 17, 1948, to Nov. 8, 1959, and Oct. 19, 1960, to Nov. 23, 1961, water-stage recorder. Nov. 7, 1959, to Oct. 18, 1960, and Nov. 24, 1961, to July 12, 1962, nonrecording gage. Prior to Nov. 11, 1922, water-stage recorder at site 2 mi (3 km) downstream at different datum.

REMARKS.--Records good except those for winter period and those from April to June, which are fair.

AVERAGE DISCHARGE.--42 years (1915-22, 1949-82), 612 ft³/s (17.33 m³/s), 13.92 in/yr (354 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,700 ft³/s (784 m³/s) Apr. 24, 1960, gage height, 21.7 ft (6.61 m) from floodmarks and from rating curve extended above 12,000 ft³/s (340 m³/s) and a comparison with contracted-opening measurement of peak flow 45,600 ft³/s (1,290 m³/s) at Odanah, drainage area 990 mi² (2,564 km²); minimum, 34 ft³/s (0.96 m³/s) Nov. 8, 1976, result of freezeup.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of June 24, 1946, reached a stage of at least 22.2 ft (6.77 m), top of downstream bridge submerged, information from Indian Service.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 31	--	3,500	99.1	ice jam		Apr. 17	2100	*8,480	240	*12.20	3.719
Apr. 3	1500	5,360	152	9.56	2.914	May 7	0700	3,370	95.4	7.53	2.295

minimum discharge, 116 ft³/s (3.29 m³/s) Aug. 19-22, gage height, 2.33 ft (0.710 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 13-27; stage-discharge affected by ice Nov. 21 to Apr. 1.)

2.3	108	4.0	780
2.5	162	6.0	2,100
3.0	323	10.0	5,800
		12.0	8,180

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	382	200	170	160	190	2900	746	662	169	249	157
2	634	354	200	170	160	180	2820	666	551	166	252	168
3	581	331	190	170	150	180	4630	599	444	165	256	173
4	548	309	190	170	150	180	3090	552	372	208	242	165
5	600	301	180	170	150	180	2650	1290	319	209	220	193
6	576	287	180	160	150	180	2270	2340	287	230	202	350
7	586	270	190	160	150	190	1860	3230	273	231	193	335
8	515	266	180	160	150	190	1590	2470	273	235	184	280
9	433	246	170	160	150	190	1450	1770	243	666	182	242
10	391	236	150	160	150	200	1530	1410	248	1370	173	208
11	382	233	160	160	150	210	1270	2140	264	2330	168	199
12	358	223	160	160	150	220	1620	1850	247	1480	154	202
13	331	220	170	160	150	230	3130	1680	233	890	146	327
14	412	220	160	160	150	240	3040	1800	221	725	143	624
15	520	217	160	160	160	240	4410	1490	232	600	140	644
16	455	217	160	160	160	250	6410	1290	244	1060	138	755
17	442	214	160	160	160	280	7830	1220	232	1980	132	701
18	1250	211	160	160	170	330	7640	1720	215	2030	130	765
19	1620	211	160	160	170	360	6710	1450	205	1180	122	706
20	1340	217	160	160	180	400	5470	1120	199	745	116	653
21	1330	200	160	160	180	430	3880	900	200	552	116	672
22	1100	130	160	160	190	460	2800	741	202	451	116	576
23	890	180	160	160	200	480	2410	627	201	370	122	478
24	730	230	160	160	200	520	2360	538	195	312	124	529
25	624	220	160	160	200	620	2270	478	191	276	130	765
26	557	210	160	160	190	560	1930	428	185	252	132	653
27	515	220	160	160	190	540	1540	377	180	242	143	533
28	487	210	160	160	190	520	1240	344	173	223	151	455
29	455	210	170	160	---	700	1010	318	173	211	154	391
30	429	200	170	160	---	1600	857	302	173	259	154	552
31	412	---	170	160	---	3500	---	366	---	276	154	---
TOTAL	19790	7175	5230	5010	4660	14550	92617	36252	7837	20093	5038	13451
MEAN	638	239	169	162	166	469	3087	1169	261	648	163	448
MAX	1620	382	200	170	200	3500	7830	3230	662	2330	256	765
MIN	287	130	150	160	150	180	857	302	173	165	116	157
CFSM	1.07	.40	.28	.27	.28	.79	5.17	1.96	.44	1.09	.27	.75
IN.	1.23	.45	.33	.31	.29	.91	5.77	2.26	.49	1.25	.31	.84

CAL YR 1981	TOTAL	233596	MEAN	640	MAX	7160	MIN	113	CFSM	1.07	IN	14.56
WTR YR 1982	TOTAL	231703	MEAN	635	MAX	7830	MIN	116	CFSM	1.06	IN	14.44

STREAMS TRIBUTARY TO LAKE SUPERIOR

04027500 WHITE RIVER NEAR ASHLAND, WI

LOCATION.--Lat 46°29'50", long 90°54'15", in NE 1/4 sec.6, T.46 N., R.4 W., Ashland County, Hydrologic Unit 04010302, at downstream end of powerplant of Lake Superior District Power Co., 0.3 mi (0.5 km) downstream from bridge on State Highway 112 over dam, and 4.5 mi (7.2 km) south of Ashland city limits.

DRAINAGE AREA.--301 mi² (780 km²), revised.

PERIOD OF RECORD.--May 1948 to current year.

REVISED RECORDS.--WDR WI-71-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 660.15 ft (201.214 m) National Geodetic Vertical Datum of 1929 (Lake Superior District Power Co. bench mark). Prior to May 20, 1976, nonrecording gage at same site and datum.

REMARKS.--Records are good. Diurnal fluctuation caused by hydroelectric plant at gage.

AVERAGE DISCHARGE.--34 years, 280 ft³/s (7.930 m³/s), 12.63 in/yr (321 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,270 ft³/s (178 m³/s) July 1, 1953, gage height, 7.90 ft (2.408 m) from rating curve extended above 3,000 ft³/s (85.0 m³/s); minimum, 3.1 ft³/s (0.089 m³/s) Apr. 28-30, 1949, gage height, 0.09 ft (0.027 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,630 ft³/s (74.5 m³/s) Mar. 30, gage height, 4.51 ft (1.375 m); minimum daily, 95 ft³/s (2.69 m³/s) Dec. 11.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

0.9	90	2.5	769
1.0	113	3.0	1,120
1.5	263	4.0	2,050
2.0	485		

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	197	178	109	171	183	1120	202	245	168	173	182
2	205	199	181	159	168	181	1220	200	235	145	173	174
3	216	193	183	177	186	179	1550	198	230	163	172	172
4	203	195	192	177	186	152	710	194	216	170	167	169
5	212	192	182	179	189	180	724	321	213	168	163	168
6	201	193	183	179	209	174	725	443	210	157	161	207
7	202	193	182	171	189	181	725	545	207	167	165	262
8	204	183	184	158	198	160	723	479	210	174	156	191
9	189	191	176	143	213	143	602	420	208	225	163	176
10	193	191	130	179	231	156	378	352	203	681	159	176
11	198	183	95	216	206	181	356	531	210	491	154	188
12	201	182	198	184	205	192	499	551	186	380	156	198
13	188	181	234	195	207	187	680	645	187	389	164	216
14	224	181	185	195	188	204	631	589	184	385	154	224
15	239	181	162	197	183	201	719	492	192	310	172	229
16	226	190	121	201	189	203	727	468	187	262	164	232
17	231	177	99	192	178	200	795	415	182	252	160	237
18	370	181	119	183	191	207	731	692	178	290	157	235
19	348	180	128	180	159	222	731	495	176	244	156	220
20	329	182	123	186	184	209	616	493	174	218	160	212
21	315	173	203	189	216	194	553	407	180	192	155	196
22	267	171	195	171	190	218	458	326	171	178	156	192
23	247	131	192	168	188	214	375	282	170	220	156	186
24	235	194	177	160	200	266	330	250	168	175	163	209
25	220	180	164	135	183	292	303	239	167	178	169	258
26	226	184	136	146	173	271	274	234	156	175	165	240
27	209	190	172	157	187	223	249	221	164	171	164	213
28	214	182	181	189	189	244	241	221	161	168	165	195
29	216	183	176	174	---	301	214	213	165	174	159	200
30	202	174	155	168	---	1300	215	213	169	180	164	276
31	213	---	149	186	---	1340	---	222	---	189	149	---
TOTAL	7139	5507	5135	5403	5356	8558	18174	11553	5704	7439	5014	6233
MEAN	230	184	166	174	191	276	606	373	190	240	162	208
MAX	370	199	234	216	231	1340	1550	692	245	681	173	276
MIN	188	131	95	109	159	143	214	194	156	145	149	168
CFSM	.76	.61	.55	.58	.64	.92	2.01	1.24	.63	.80	.54	.69
IN.	.88	.68	.63	.67	.66	1.06	2.25	1.43	.70	.92	.62	.77
CAL YR 1981	TOTAL	97399	MEAN 267	MAX 970	MIN 95	CFSM .89	IN 12.04					
WTR YR 1982	TOTAL	91215	MEAN 250	MAX 1550	MIN 95	CFSM .83	IN 11.27					

STREAMS TRIBUTARY TO LAKE SUPERIOR

04027595 BAD RIVER AT ODANAH, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 46°36'37", Long 90°41'12", in SE 1/4 SE 1/4 NW 1/4 sec.25, T.48 N., R.3 W., Ashland County,
Hydrologic Unit 04010302, Bad River Indian Reservation, at bridge on U.S. Highway 2 at Odanah.

DRAINAGE AREA.--990 mi² (2,564 km²).

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1978 to September 1981 (discontinued).

WATER TEMPERATURES: July 1978 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	AT- TION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT , 1981												
15...	1530	636	140	6.8	11.5	14	9.5	90	21	260	--	
DEC												
09...	1250	364	178	7.1	.0	4.6	13.5	96	K8	510	77	
FEB , 1982												
04...	0940	336	200	6.7	.0	5.5	11.6	82	K10	E1000	83	
APR												
14...	1500	3810	80	6.5	3.0	80	12.5	96	K31	E2600	33	
JUN												
16...	0900	424	157	8.0	17.5	6.8	8.3	90	25	540	78	
AUG												
19...	1150	287	180	8.0	22.5	27	7.7	92	54	310	92	

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT , 1981											
15...	--	--	--	--	--	--	--	59	4.5	3.0	<.1
DEC											
09...	3.0	21	6.0	3.3	8	.2	.8	74	5.7	2.6	<.1
FEB , 1982											
04...	5.0	22	6.8	3.6	9	.2	.9	78	5.7	2.9	<.1
APR											
14...	5.0	9.1	2.5	1.9	11	.2	1.0	28	5.0	2.2	<.1
JUN											
16...	.00	21	6.1	3.5	9	.2	.8	79	3.0	2.3	.1
AUG											
19...	1.0	25	7.1	3.6	8	.2	.6	91	4.0	2.4	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT , 1981											
15...	--	106	--	.14	182	.09	.070	.47	.030	.010	.010
DEC											
09...	12	109	96	.15	107	.12	.060	<.10	.020	<.010	.020
FEB , 1982											
04...	15	114	104	.16	103	.24	.080	.87	.030	.020	.020
APR											
14...	8.6	64	48	.09	658	.12	.050	.50	.150	.020	<.010
JUN											
16...	10	105	94	.14	120	<.10	.020	.20	.040	.020	.010
AUG											
19...	11	125	109	.17	96.9	<.10	<.010	1.90	.040	.020	.070

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).
E ESTIMATED.

STREAMS TRIBUTARY TO LAKE SUPERIOR
04027595 BAD RIVER AT ODANAH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB , 1982											
04...	0940	336	1	--	<1	100	--	<100	1	<1	20
APR											
14...	1500	3810	1	0	1	100	80	21	1	<1	20
AUG											
19...	1150	287	2	1	1	<100	--	38	1	<1	10
A											
DATE		CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
FEB , 1982											
04...	--	<10	1	--	<1	8	4	4	600	300	
APR											
14...	10	10	5	3	2	12	7	5	3700	3400	
AUG											
19...	--	<10	3	2	1	9	3	6	630	460	
DATE		IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
FEB , 1982											
04...	300	<1	--	<1	30	8	22	<.1	--	.1	
APR											
14...	290	5	2	3	120	100	22	<.1	--	<.1	
AUG											
19...	170	1	--	<1	50	30	20	5.8	5.7	.1	
DATE		NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB , 1982											
04...	1	--	<1	<1	<1	<1	<1	<1	80	70	8
APR											
14...	10	9	1	<1	<1	<1	<1	<1	30	30	4
AUG											
19...	3	0	3	<1	<1	<1	<1	<1	50	--	<4

STREAMS TRIBUTARY TO LAKE SUPERIOR
04027595 BAD RIVER AT ODANAH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981							
15...	1530	636	11.5	140	9	15	95
DEC							
09...	1250	364	.0	178	5	4.9	91
FEB , 1982							
04...	0940	336	.0	200	10	9.1	86
APR							
14...	1500	3810	3.0	80	314	3230	78
JUN							
16...	0900	424	17.5	157	11	13	92
AUG							
19...	1150	287	22.5	180	13	10	85

STREAMS TRIBUTARY TO LAKE SUPERIOR

04031000 BLACK RIVER NEAR BESSEMER, MI

LOCATION.--Lat 46°30'41", long 90°04'28", in NE 1/4 SE 1/4 sec.32, T.48 N., R.46 W., Gogebic County, Hydrologic Unit 04020101, on right bank 450 ft (137 m) downstream from bridge on county highway, 500 ft (152 m) downstream from Powder Mill Creek, and 2.5 mi (4.0 km) northwest of Bessemer.

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--October 1954 to September 1982 (discontinued).

REVISED RECORDS.--WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,154.3 ft (351.83 m) National Geodetic Vertical Datum of 1929 (levels by registered surveyor).

REMARKS.--Records good except those for the winter period, which are fair. Prior to 1967, flow included some ground water pumped from mines at Bessemer. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 237 ft³/s (6.712 m³/s), 16.09 in/yr (409 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s (419 m³/s) Apr. 24, 1960, gage height, 14.27 ft (4.349 m), from floodmark, from rating curve extended above 5,300 ft³/s (150 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 6.8 ft³/s (0.19 m³/s) Sept. 25, Oct. 1-3, 1976; minimum gage height, 0.36 ft (0.110 m) Sept. 9, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 17	0700	3,900 110	8.39 2.557	May 6	2300	1,540 43.6	4.96 1.512
Apr. 24	2300	*3,960 112	*8.46 2.579	July 13	2300	1,720 48.7	5.28 1.609

minimum discharge, 28 ft³/s (0.79 m³/s) Aug. 21, gage height, 0.68 ft (0.207 m).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	217	67	58	58	58	500	570	277	35	97	77
2	167	179	72	59	58	56	650	475	233	33	83	88
3	116	163	73	59	59	54	700	403	192	52	75	79
4	136	146	72	60	60	53	800	347	158	61	64	63
5	175	138	71	60	59	52	750	793	131	162	57	114
6	227	124	72	60	58	51	700	1140	109	185	54	182
7	250	113	73	59	56	50	680	1330	94	216	51	140
8	215	106	70	59	55	50	640	968	76	204	51	110
9	191	92	65	58	55	50	620	739	67	345	51	90
10	176	89	56	58	53	50	602	726	70	512	47	79
11	160	82	60	58	52	50	554	638	59	759	43	79
12	144	78	66	58	51	52	646	531	54	665	40	92
13	133	77	75	58	51	53	978	567	49	670	39	223
14	124	77	70	58	50	55	1180	558	43	962	38	345
15	119	73	65	58	51	58	2200	465	48	660	36	348
16	116	68	60	58	52	60	3040	397	48	1010	36	387
17	144	66	55	58	52	62	3650	406	44	1070	34	366
18	411	62	55	57	53	62	2910	486	42	891	32	450
19	420	62	57	57	54	62	3390	456	40	637	32	366
20	469	66	58	57	55	61	2680	389	45	450	31	372
21	493	68	60	56	56	60	2030	324	47	332	28	366
22	400	66	60	56	60	62	1970	267	44	251	53	286
23	350	65	62	56	65	64	2450	222	41	189	45	236
24	295	67	64	56	67	66	3530	187	40	151	40	372
25	256	64	65	56	67	68	3670	163	40	126	38	381
26	224	67	65	57	66	65	2690	141	38	106	40	292
27	228	71	63	57	63	62	1840	123	37	95	48	231
28	243	67	61	57	60	66	1270	107	36	80	42	189
29	257	68	60	57	---	90	955	92	40	77	40	189
30	259	65	60	57	---	200	719	83	37	128	44	324
31	255	---	58	57	---	400	---	203	---	119	48	---
TOTAL	7289	2746	1990	1789	1596	2302	48994	14296	2279	11233	1457	6916
MEAN	235	91.5	64.2	57.7	57.0	74.3	1633	461	76.0	362	47.0	231
MAX	493	217	75	60	67	400	3670	1330	277	1070	97	450
MIN	116	62	55	56	50	50	500	83	36	33	28	63
CFSM	1.18	.46	.32	.29	.29	.37	8.17	2.31	.38	1.81	.24	1.16
IN.	1.36	.51	.37	.33	.30	.43	9.11	2.66	.42	2.09	.27	1.29
CAL YR 1981	TOTAL	89168	MEAN	244	MAX	3000	MIN	21	CFSM	1.22	IN	16.59
WTR YR 1982	TOTAL	102887	MEAN	282	MAX	3670	MIN	28	CFSM	1.41	IN	19.14

STREAMS TRIBUTARY TO LAKE SUPERIOR

04031500 PRESQUE ISLE RIVER AT MARENISCO, MI

LOCATION.--Lat 46°22'20", long 89°41'32", in SE 1/4 NW 1/4 sec.21, T.46 N., R.43 W., Gogebic County, Hydrologic Unit 04020101, on left bank 0.3 mi (0.5 km) upstream from highway bridge in Marenisco, and 1.5 mi (2.4 km) downstream from confluence of East and West Branches.

DRAINAGE AREA.--171 mi² (443 km²).

PERIOD OF RECORD.--February 1945 to September 1982 (discontinued).

REVISED RECORDS.--WSP 1707: 1954. WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,489.30 ft (453.939 m) National Geodetic Vertical Datum of 1929 (levels by Michigan Department of Natural Resources). Prior to May 27, 1949, nonrecording gage at site 0.3 mi (0.5 km) downstream at different datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, Feb. 1 to Mar. 4, which are fair. Occasional regulation for lake or pond level control at several locations in the headwaters. Since 1959, occasional regulation by Presque Isle Flooding Reservoir, usable capacity, about 3,000 acre-ft (3.7 km³), 2.5 mi (4.0 km) upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 177 ft³/s (5.013 m³/s), 14.06 in/yr (357 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,520 ft³/s (99.7 m³/s) Apr. 25, 1960, gage height, 11.25 ft (3.429 m); minimum observed, 13 ft³/s (0.37 m³/s) Sept. 30, 1948, gage height, 2.25 ft (0.686 m), site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,650 ft³/s (46.7 m³/s) Apr. 18; maximum gage height, 9.04 ft (2.755 m) Apr. 18, backwater from ice and log jam; minimum discharge, 36 ft³/s (1.02 m³/s) Aug. 21, gage height, 3.32 ft (1.012 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	142	82	82	84	80	240	681	263	62	117	59
2	77	129	84	82	85	80	270	617	228	56	112	59
3	77	122	83	82	85	78	300	468	198	66	109	58
4	78	113	82	82	84	75	400	415	172	98	100	54
5	80	110	87	82	83	75	550	447	151	154	95	73
6	81	107	89	82	82	72	550	587	134	209	90	136
7	81	104	93	82	80	72	550	743	131	203	86	139
8	81	98	94	83	80	70	540	768	110	184	86	131
9	81	95	90	83	78	70	500	693	101	182	70	107
10	82	94	75	84	75	70	480	644	105	258	64	88
11	82	85	80	84	73	70	450	591	94	443	64	86
12	78	87	85	84	72	72	420	537	88	497	62	79
13	77	84	94	84	70	75	480	519	83	428	60	80
14	87	83	88	84	70	78	530	526	83	394	58	87
15	91	80	82	84	72	80	520	492	94	367	55	97
16	91	79	75	83	72	82	650	454	94	398	52	119
17	91	80	70	82	73	82	1000	434	84	455	48	122
18	91	76	70	80	74	82	1650	453	79	480	45	143
19	123	74	73	80	74	81	1600	419	76	420	43	141
20	221	78	75	78	78	80	1500	374	79	342	38	152
21	208	78	77	79	80	80	1400	349	80	266	37	161
22	196	77	80	80	82	82	1310	315	79	220	62	171
23	186	68	82	80	83	85	1240	279	80	200	66	139
24	172	74	84	81	82	90	1330	253	84	177	60	121
25	160	76	85	82	82	92	1470	235	82	158	55	120
26	150	79	85	82	82	88	1420	217	80	145	52	115
27	152	82	85	82	82	88	1220	169	73	136	57	104
28	157	80	85	81	81	90	1050	145	65	133	50	96
29	160	78	85	80	---	110	886	157	71	135	54	114
30	160	80	84	80	---	140	770	166	69	139	64	130
31	158	---	83	82	---	170	---	198	---	130	59	---
TOTAL	3680	2692	2566	2536	2198	2639	25276	13345	3210	7535	2070	3281
MEAN	119	89.7	82.8	81.8	78.5	85.1	843	430	107	243	66.8	109
MAX	221	142	94	84	85	170	1650	768	263	497	117	171
MIN	71	68	70	78	70	70	240	145	65	56	37	54
CFSM	.70	.53	.48	.48	.46	.50	4.93	2.52	.63	1.42	.39	.64
IN.	.80	.59	.56	.55	.48	.57	5.50	2.90	.70	1.64	.45	.71
CAL YR 1981	TOTAL	61308	MEAN 168	MAX 945	MIN 26	CFSM .98	IN 13.34					
WTR YR 1982	TOTAL	71028	MEAN 195	MAX 1650	MIN 37	CFSM 1.14	IN 15.45					

STREAMS TRIBUTARY TO LAKE SUPERIOR

04037500 CISCO BRANCH ONTONAGON RIVER AT CISCO LAKE OUTLET, MI

LOCATION.--Lat 46°15'12", long 89°27'05", in NE 1/4 sec.32, T.45 N., R.41 W., Gogebic County, Hydrologic Unit 04020102, on left bank 80 ft (24 m) downstream from Cisco Lake Dam, 2.5 mi (4.0 km) upstream from Langford Creek, 5.0 mi (8.0 km) upstream from U.S. Highway 2, and 13 mi (21 km) west of Watersmeet.

DRAINAGE AREA.--50.7 mi² (131.3 km²).

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,672.69 ft (509.836 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1968, nonrecording gage at same site and at datum 4.00 ft (1.219 m) higher.

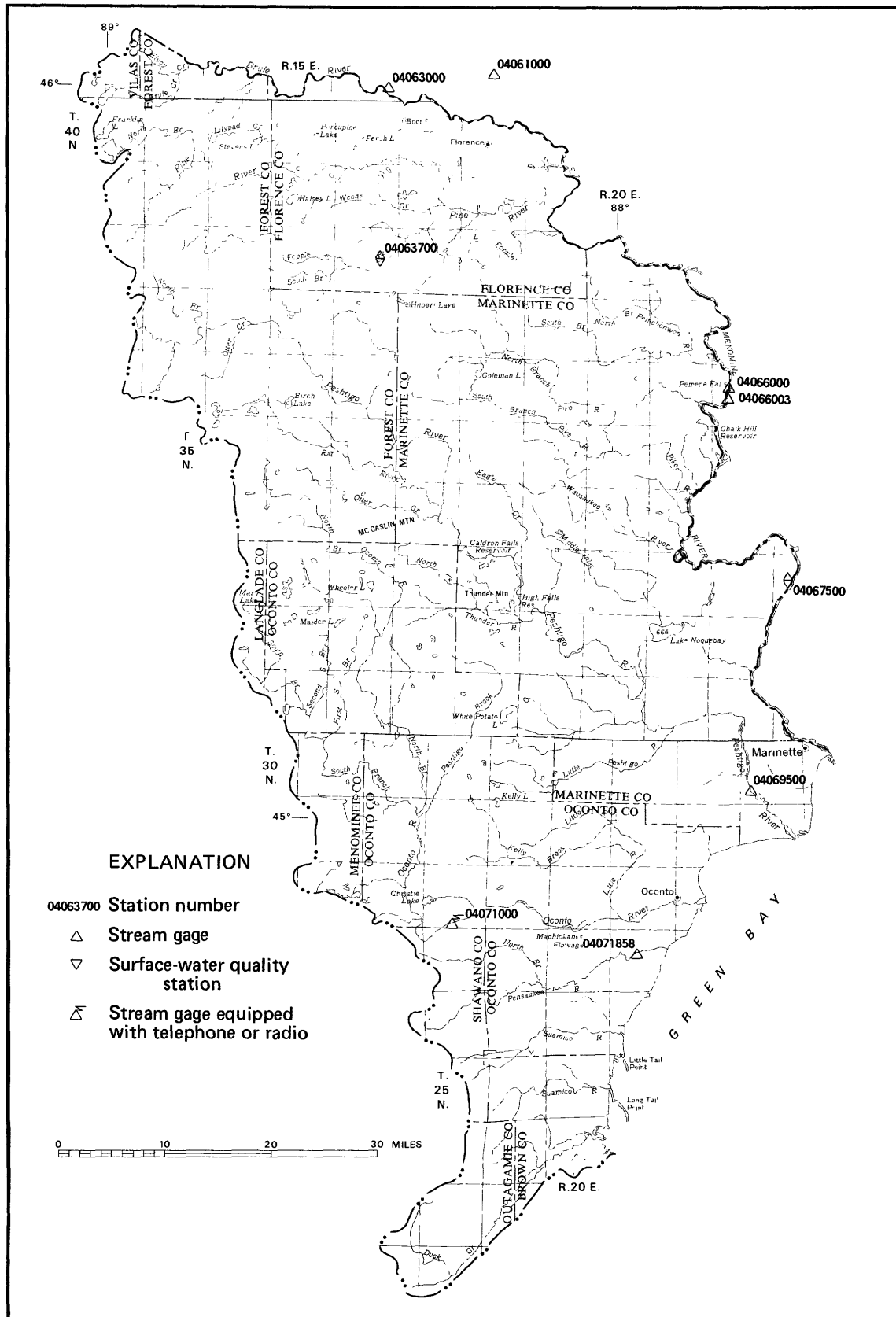
REMARKS.--Records good except those for period of no gage-height record, May 17 to June 16, which are fair and those below 10.0 ft³/s (0.28 m³/s), which are poor. Flow completely regulated by Cisco Lake, usable capacity, 15,600 acre-ft (19.2 km³). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 47.1 ft³/s (1.334 m³/s), 12.62 in/yr (321 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 288 ft³/s (8.16 m³/s) May 1-4, 1951, gage height, 6.10 ft (1.859 m), present datum; minimum daily, 0.09 ft³/s (0.003 m³/s) June 4-23, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 206 ft³/s (5.83 m³/s) July 17, gage height, 5.66 ft (1.725 m), but may have been more during period of no gage-height record, May 17 to June 16; minimum daily, 0.29 ft³/s (0.008 m³/s) Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	92	31	34	32	29	78	116	77	52	1.3	91
2	173	90	32	45	32	29	78	113	72	51	1.2	60
3	142	87	32	52	32	29	84	91	70	52	1.2	51
4	117	85	32	52	32	29	86	33	65	52	1.2	40
5	113	82	32	52	31	29	86	3.0	29	119	1.2	33
6	76	63	32	51	31	28	85	4.9	27	176	1.2	37
7	44	52	32	51	31	28	84	29	29	97	1.2	88
8	67	49	32	51	31	28	83	74	14	30	.77	126
9	88	39	32	51	31	29	81	82	3.1	32	.55	97
10	85	30	33	51	30	29	81	83	2.0	92	.56	83
11	83	30	33	51	30	28	80	131	1.9	163	.62	94
12	94	31	33	51	30	29	81	135	1.0	181	.55	92
13	101	31	33	51	30	30	84	136	1.0	177	.42	94
14	100	31	33	51	30	29	84	113	1.3	150	.33	91
15	97	31	33	51	30	29	86	94	1.3	134	.32	90
16	96	30	32	51	30	29	98	113	.40	178	.31	77
17	108	30	32	50	30	29	111	164	.43	201	.31	69
18	109	30	33	50	30	29	119	128	.46	198	.30	69
19	125	30	33	36	30	29	124	124	.63	195	.31	70
20	131	30	33	29	30	30	131	144	.70	194	.30	69
21	127	31	34	29	29	30	132	126	.70	188	.31	69
22	123	31	33	30	30	30	133	101	.70	184	.33	70
23	117	31	33	32	30	30	136	82	.70	162	.33	70
24	118	31	33	32	30	30	122	41	.94	148	.31	68
25	111	31	33	32	29	30	112	1.9	.97	142	.29	61
26	109	31	33	32	30	30	113	1.9	10	70	.82	51
27	104	31	34	32	29	30	115	1.9	17	9.6	11	50
28	103	31	33	32	29	30	106	1.9	17	3.8	26	51
29	102	31	33	32	---	30	104	2.0	37	3.3	35	51
30	100	31	33	32	---	30	117	2.0	53	2.9	58	51
31	95	---	34	32	---	62	---	39	---	2.1	103	---
TOTAL	3297	1283	1014	1308	849	940	3014	2311.5	535.23	3439.7	249.54	2113
MEAN	106	42.8	32.7	42.2	30.3	30.3	100	74.6	17.8	111	8.05	70.4
MAX	173	92	34	52	32	62	136	164	77	201	103	126
MIN	44	30	31	29	29	28	78	1.9	.40	2.1	.29	33
CAL YR 1981	TOTAL	17915.45	MEAN	49.1	MAX	213	MIN	.25				
WTR YR 1982	TOTAL	20353.97	MEAN	55.8	MAX	201	MIN	.29				



STREAMS TRIBUTARY TO LAKE MICHIGAN

04061000 BRULE RIVER NEAR FLORENCE, WI

LOCATION.--Lat 45°57'31", long 88°15'57", in SE 1/4 SE 1/4 sec.11, T.41 N., R.32 W., Michigan Meridian, Iron County, Hydrologic Unit 04030106, on left bank 40 ft (12 m) upstream from highway bridge, 1.0 mi (1.6 km) upstream from Paint River, 2.5 mi (4.0 km) north of Florence, and 5.0 mi (8.0 km) upstream from confluence with Michigamme River.

DRAINAGE AREA.--389 mi² (1,008 km²).

PERIOD OF RECORD.--January 1914 to February 1916, June 1944 to current year.

REVISED RECORDS.--WSP 1387: 1914-16. WSP 1911: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,200.55 ft (365.928 m) National Geodetic Vertical Datum of 1929 (levels by Owen Ayres Associates). Prior to Aug. 29, 1944, nonrecording gage at bridge 40 ft (12 m) downstream at same datum.

REMARKS.--Records good except those for the winter period, which are fair. Discharge includes some mine pumpage prior to August, 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years (water years 1915, 1945-82), 360 ft³/s (10.20 m³/s), 12.57 in/yr (319 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s (133 m³/s) July 2, 1953, gage height, 6.57 ft (2.003 m); maximum gage height, 8.27 ft (2.521 m) Dec. 26, 1969, backwater from ice; minimum discharge, 118 ft³/s (3.34 m³/s) Dec63 (discharge measurement); minimum gage height, 1.79 ft (0.546 m) July 24, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s (38.5 m³/s) Apr. 18, 26, gage height, 3.70 ft (1.128 m); maximum gage height, 7.97 ft (2.429 m) Apr. 5, backwater from ice; minimum discharge, 216 ft³/s (6.12 m³/s) Aug. 20, 21, gage height, 1.99 ft (0.607 m).

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375	307	283	240	250	270	490	637	360	255	359	378
2	444	298	285	240	250	270	506	599	349	250	341	414
3	386	293	287	240	250	260	505	360	322	265	324	356
4	356	292	286	250	250	250	495	342	313	284	306	321
5	362	293	284	260	250	250	490	519	296	292	289	487
6	387	296	274	260	250	245	480	739	291	377	284	845
7	399	293	290	250	250	240	460	1120	285	320	276	675
8	367	291	288	240	240	240	420	1130	277	278	267	499
9	337	287	260	240	240	240	380	922	281	269	275	416
10	317	281	230	240	240	240	350	820	369	392	272	363
11	313	293	260	250	240	250	396	758	353	972	258	342
12	310	284	280	250	230	260	408	686	314	1050	248	318
13	305	282	300	260	230	270	490	665	298	922	241	340
14	319	281	280	260	230	270	545	649	295	752	240	453
15	342	288	260	260	240	270	680	595	317	623	241	487
16	333	294	240	260	240	275	871	551	310	1060	234	507
17	342	291	230	240	250	280	1170	520	301	1030	230	460
18	494	286	240	230	250	270	1310	519	284	938	229	457
19	498	284	250	260	250	260	1250	502	276	752	228	442
20	428	292	240	240	260	260	1140	484	280	574	219	487
21	378	284	260	240	270	260	965	455	287	484	223	448
22	355	274	280	240	270	270	919	421	293	435	239	396
23	339	250	280	240	250	280	913	393	276	385	258	355
24	323	290	270	240	250	290	1040	374	270	355	250	375
25	318	295	260	240	250	290	1230	362	296	330	250	415
26	317	291	260	250	260	275	1330	356	294	319	251	412
27	313	297	270	250	270	270	1190	351	267	318	327	373
28	312	292	260	250	270	270	955	351	256	311	326	346
29	311	287	240	250	---	300	778	347	280	308	333	338
30	313	288	250	250	---	360	703	349	275	454	435	383
31	314	---	240	250	---	430	---	352	---	422	375	---
TOTAL	11007	8654	8217	7670	6980	8465	22859	17628	8965	15776	8628	12888
MEAN	355	288	265	247	249	273	762	569	299	509	278	430
MAX	498	307	300	260	270	430	1330	1130	369	1060	435	845
MIN	305	250	230	230	230	240	350	347	256	250	219	318
CFSM	.91	.74	.68	.64	.64	.70	1.96	1.46	.77	1.31	.72	1.11
IN.	1.05	.83	.79	.73	.67	.81	2.19	1.69	.86	1.51	.83	1.23
CAL YR 1981	TOTAL	146915	MEAN 403	MAX 2030	MIN 230	CFSM 1.04	IN 14.05					
WTR YR 1982	TOTAL	137737	MEAN 377	MAX 1330	MIN 219	CFSM .97	IN 13.17					

STREAMS TRIBUTARY TO LAKE MICHIGAN
04063000 MENOMINEE RIVER NEAR FLORENCE, WI

LOCATION.--Lat 45°57'04", long 88°11'13", in NE 1/4 sec.16, T.41 N., R.31 W., Michigan Meridian, Iron County, Hydrologic Unit 04030108, on left bank 0.5 mi (0.8 km) downstream from confluence of Brule and Michigamme Rivers, 3.5 mi (5.6 km) northeast of Florence, and at mile 117 (188 km).

DRAINAGE AREA.--1,780 mi² (4,610 km²).

PERIOD OF RECORD.--January 1914 to current year. Published as "at Twin Falls near Iron Mountain, MI" 1914-57. Records published for both sites July 1950 to September 1957.

REVISED RECORDS.--WSP 1707: 1953(M). WSP 1911: Drainage area of former site.

GAGE.--Water-stage recorder. Datum of gage is 1,119.23 ft (341.141 m) National Geodetic Vertical Datum of 1929 (levels by Owen Ayres Associates). Prior to July 1950, headwater and tailwater gages and generation data entered hourly in daily log sheets by company employees at the Twin Falls Powerplant of Wiaconsin Electric Power Co., 10.4 mi (16.7 km) downstream.

REMARKS.--Records excellent. Prior to July 1950, discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for tailwater gage during periods of spill. Rating developed by Geological Survey. Flow regulated by powerplants, Michigamme Reservoir, capacity, 119,950 acre-ft (148 km³), and Peavy Pond, capacity, 33,860 acre-ft (41.7 km³), on Michigamme River, and by many smaller reservoirs above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--68 years, 1,806 ft³/s (51.15 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s (552 m³/s) Apr. 26, 1960, gage height, 14.15 ft (4.313 m); minimum, 38 ft³/s (1.08 m³/s) Aug. 21, 1962, Sept. 26, 1975; minimum gage height, 1.18 ft (0.360 m) Aug. 21, 1962, Nov. 4, 1965; minimum daily discharge, 57 ft³/s (1.61 m³/s) Sept. 26, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,220 ft³/s (261 m³/s) May 9, gage height, 9.21 ft (2.807 m); minimum, 130 ft³/s (3.68 m³/s) Nov. 7, gage height, 1.59 ft (0.485 m); minimum daily, 494 ft³/s (14.0 m³/s) July 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1570	1670	1850	1150	1460	1570	1750	3920	1530	1430	1440	1510
2	1600	1560	1870	1010	1710	1820	541	3650	1650	1430	1550	1530
3	1170	1730	1810	1350	1940	1700	855	3160	1550	494	1650	1420
4	1270	1740	1810	1920	1780	1550	1430	3020	1670	658	1440	1320
5	1400	2010	1720	1850	1860	1580	1960	2930	1130	728	1550	1970
6	1680	1030	1540	1890	1880	919	1850	3660	1010	858	1350	3160
7	1660	821	1650	1550	1490	889	1740	5550	1380	846	758	2340
8	1750	1200	1700	1750	1800	1360	1690	8850	1340	842	998	1690
9	1910	1590	1710	1330	1820	1420	1910	8850	1350	1110	1400	1830
10	1980	1530	1790	1450	2070	1450	1810	8490	1520	845	1390	1690
11	1960	1450	1670	1550	1990	1390	1890	7070	1650	3720	1250	1600
12	1600	1760	1460	1770	2010	1280	1970	5170	1420	3110	1250	1910
13	1800	1890	1440	1780	2100	880	2250	3990	1530	1870	1150	1660
14	1700	1810	1530	2010	2180	857	2120	3660	1610	2610	1050	1870
15	1590	1850	1870	1920	2030	1430	2550	3910	1850	2210	1490	1900
16	1790	2070	1870	1490	1880	1700	3030	3910	1400	3140	1650	2370
17	1820	1930	2010	1290	2050	1850	3800	3650	1350	3700	1740	2290
18	1760	1970	1890	1560	2200	1850	4050	3450	1350	3650	1710	2310
19	2190	1850	1550	1390	1910	1570	4130	3400	1050	3700	1800	2520
20	2290	1830	1400	1590	2010	674	4230	3410	1140	3290	789	2360
21	1890	1760	1540	1630	1980	671	3990	3480	1540	2670	951	2440
22	2220	1750	1790	1540	2090	1390	3890	3180	1590	2470	1540	2350
23	1890	1980	1660	1370	2050	1200	3950	2780	1460	2220	1520	1990
24	2060	2090	1320	1400	1850	1640	4110	2460	1290	1200	1720	1870
25	1860	1850	1430	1430	1980	1470	5270	2140	1350	967	808	1810
26	1330	1740	1230	1560	1730	1330	6570	1890	794	1540	1490	2080
27	1580	1720	1250	1090	917	672	6720	2010	749	1400	1520	1820
28	1750	1790	1550	1570	989	770	5750	2100	1340	1380	1180	1990
29	1480	1740	2050	1520	---	1350	4890	1510	1310	1500	1900	1850
30	1740	1950	2140	1080	---	1580	4370	1500	1270	1850	1500	2010
31	1370	---	1970	1080	---	1730	---	1420	---	1500	1650	---
TOTAL	53660	51661	52070	46870	51756	41542	95066	118170	41173	58938	43184	59460
MEAN	1731	1722	1680	1512	1848	1340	3169	3812	1372	1901	1393	1982
MAX	2290	2090	2140	2010	2200	1850	6720	8850	1850	3720	1900	3160
MIN	1170	821	1230	1010	917	671	541	1420	749	494	758	1320
CAL YR 1981	TOTAL	786302	MEAN	2154	MAX	10300	MIN	668				
WTR YR 1982	TOTAL	713550	MEAN	1955	MAX	8850	MIN	494				

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063700 POPPLE RIVER NEAR FENCE, WI
(HYDROLOGIC BENCHMARK STATION)

LOCATION.--Lat 45°45'49", long 88°27'47", in NW 1/4 sec.23, T.38 N., R.16 E., Florence County, Hydrologic Unit 04030108, on left bank 20 ft (6 m) upstream from bridge on U. S. Forest Service Road 2159, 1.8 mi (2.9 km) downstream from Mud Creek, 2.6 mi (4.2 km) northwest of Fence, and 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--139 mi² (360 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORDS.--WDR WI-76-1: 1972(M). WDR WI-80-1: Drainage area. WDR WI-81-1: 1965 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,406.16 ft (428.598 m) National Geodetic Vertical Datum of 1929. Prior to June 18, 1964, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--19 years, 124 ft³/s (3.51 m³/s) 12.11 in/yr (308 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft³/s (46.4 m³/s) Apr. 25, 1979, gage height, 4.52 ft (1.378 m); minimum, 5.9 ft³/s (0.167 m³/s) Oct. 28, 1976, gage height, 0.75 ft (0.229 m), result of temporary storage from beaver dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.5 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 18	1800	ice jam	*2.95 0.899	May 8	0600	428 12.1	2.74 0.835
Apr. 26	1800	*515 14.6	2.93 0.893	July 13	0700	370 10.5	2.60 0.792

minimum daily discharge, 21 ft³/s (0.595 m³/s) Feb. 12-13, occurred during a period of ice effect.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22, 30, Dec. 1, Dec. 5 to Mar. 13, Apr. 15, 17-18.)

1.0	17	2.0	170
1.2	30	2.5	330
1.4	50	3.0	550
1.7	100		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	81	54	35	25	32	156	390	67	39	63	152
2	119	78	58	35	25	32	168	342	62	35	61	167
3	115	76	59	34	25	31	186	296	59	40	64	175
4	106	73	60	34	24	30	184	257	51	74	68	163
5	111	71	56	34	24	31	202	229	46	80	66	163
6	122	73	56	34	24	33	196	312	43	72	64	196
7	130	71	56	33	23	33	176	409	41	54	62	208
8	122	69	58	32	23	32	161	423	39	48	58	197
9	113	66	56	31	23	33	155	397	40	48	55	178
10	105	64	50	30	22	41	155	370	60	60	52	157
11	99	62	48	30	22	60	148	343	66	252	48	140
12	96	61	46	30	21	56	156	306	54	338	44	122
13	83	60	46	30	21	58	180	296	47	362	41	124
14	88	59	48	29	22	60	213	276	44	330	40	202
15	103	60	46	29	23	60	260	261	64	309	40	246
16	100	60	44	27	25	58	334	245	75	323	39	255
17	103	62	41	27	26	59	390	208	68	324	38	244
18	140	62	40	28	28	58	470	205	61	319	35	229
19	159	62	38	28	30	56	495	207	56	282	33	217
20	158	62	36	28	31	55	495	193	56	241	36	216
21	147	59	37	28	32	54	478	171	60	202	36	209
22	134	56	38	28	32	54	465	145	67	164	34	193
23	122	57	39	28	31	57	456	125	58	131	34	178
24	110	55	39	28	30	61	469	108	49	107	40	176
25	104	54	38	28	29	62	487	96	50	94	52	179
26	98	58	38	26	28	60	509	86	50	85	61	174
27	94	62	37	27	28	59	514	77	46	81	83	164
28	90	60	37	28	30	59	496	74	43	75	93	152
29	86	58	37	26	---	62	468	71	46	69	106	141
30	90	58	36	26	---	84	433	68	44	69	135	150
31	87	---	36	26	---	131	---	67	---	66	144	---
TOTAL	3426	1909	1408	917	727	1651	9655	7053	1612	4773	1825	5467
MEAN	111	63.6	45.4	29.6	26.0	53.3	322	228	53.7	154	58.9	182
MAX	159	81	60	35	32	131	514	423	75	362	144	255
MIN	83	54	36	26	21	30	148	67	39	35	33	122
CFSM	.80	.46	.33	.21	.19	.38	2.32	1.64	.39	1.11	.42	1.31
IN.	.92	.51	.38	.25	.19	.44	2.58	1.89	.43	1.28	.49	1.46
CAL YR 1981	TOTAL	46201	MEAN 127	MAX 896	MIN 27	CFSM .91	IN 12.36					
WTR YR 1982	TOTAL	40423	MEAN 111	MAX 514	MIN 21	CFSM .80	IN 10.82					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063700 POPPLE RIVER NEAR FENCE, WI--CONTINUED
(HYDROLOGIC BENCH-MARK STATION)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1964 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV , 1981										
03...	1100	76	145	7.4	4.0	11.8	93	20	30	81
12...	0815	62	170	7.9	1.5	12.6	93	K16	K13	83
DEC										
11...	1130	48	210	7.6	.0	13.6	96	K7	K18	100
JAN , 1982										
21...	0915	28	220	7.4	.0	--	--	K8	E63	130
FEB										
25...	1130	28	210	7.5	.0	12.4	88	K6	60	120
MAR										
19...	0930	56	230	7.9	.0	--	--	K9	89	120
MAY										
20...	1405	191	93	--	15.0	9.3	95	21	75	58
JUN										
30...	1025	46	185	8.2	19.0	8.7	97	E48	78	100
JUL										
21...	0845	206	100	7.1	21.0	7.3	85	E48	78	62
AUG										
18...	1430	36	195	8.3	21.5	9.4	111	130	270	100

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV , 1981										
03...	10	17	9.4	1.7	4	.1	.7	71	6.9	1.6
12...	3.0	18	9.2	1.4	4	.1	.5	80	7.3	1.6
DEC										
11...	4.0	22	12	2.0	4	.1	1.1	100	8.5	1.6
JAN , 1982										
21...	5.0	27	14	1.8	3	.1	1.0	120	8.5	1.7
FEB										
25...	10	25	14	1.9	3	.1	.9	110	6.6	1.6
MAR										
19...	8.0	26	13	1.7	3	.1	.9	110	9.8	1.4
MAY										
20...	9.0	13	6.1	1.8	6	.1	.5	49	5.0	1.5
JUN										
30...	8.0	23	11	1.5	3	.1	.6	95	6.0	1.1
JUL										
21...	11	14	6.5	1.6	5	.1	.4	51	6.0	2.6
AUG										
18...	4.0	23	11	1.8	4	.1	.9	99	6.0	1.3

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).
E ESTIMATED.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063700 POPPLE RIVER NEAR FENCE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
NOV , 1981										
03...	<.1	9.7	114	90	.16	23.4	--	--	--	--
12...	<.1	8.9	119	95	.16	19.9	.05	.02	<.010	<.010
DEC										
11...	<.1	10	136	117	.18	17.6	.13	.14	.040	.020
JAN , 1982										
21...	<.1	14	165	140	.22	12.5	.17	.20	.100	.110
FEB										
25...	<.1	14	141	130	.19	10.7	.20	.20	.100	.080
MAR										
19...	<.1	14	129	133	.18	19.5	.22	.22	.120	.080
MAY										
20...	<.1	4.9	79	62	.11	40.7	.11	.25	.070	.030
JUN										
30...	.1	5.2	127	106	.17	15.8	<.10	<.10	.050	.030
JUL										
21...	.1	8.9	150	71	.20	83.4	.11	<.10	.160	.080
AUG										
18...	.1	7.0	162	110	.22	15.7	.11	.10	.020	.060

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV , 1981										
03...	--	--	--	--	--	--	--	--	--	--
12...	--	--	.25	.01	.24	.26	.30	.020	.010	12
DEC										
11...	.62	.13	.66	.51	.15	.29	.79	.010	<.010	6.3
JAN , 1982										
21...	.40	.27	.50	.12	.38	.58	.67	.020	.010	3.9
FEB										
25...	.19	.26	.29	--	.34	.54	.49	.070	<.010	3.7
MAR										
19...	.30	.26	.42	.08	.34	.56	.64	.050	.030	3.4
MAY										
20...	.66	.77	.73	--	.80	1.1	.84	.030	.020	18
JUN										
30...	.25	.27	.30	.00	.30	--	--	.020	.010	--
JUL										
21...	1.0	1.0	1.20	.10	1.1	--	1.3	.050	.040	--
AUG										
18...	.68	.54	.70	.10	.60	.70	.81	.020	.010	11

STREAMS TRIBUTARY TO LAKE MICHIGAN
04063700 POPPLE RIVER NEAR FENCE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
AUG , 1982 18...	1430	36	<.10	<1	<1.0	<.10	<.01	<.1	<.10	<1.0	<.01	<.1	
DATE	TIME	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
AUG , 1982 18...	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.1	<.01	<.1	<.01	
DATE	TIME	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOT. IN MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
AUG , 1982 18...	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01	<.01	<.01
DATE	TIME	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	PER- THANE IN BOT. IN MATL. (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
AUG , 1982 18...	<.1	<.01	<.10	<1.00	<1	<10	<.01	<.01	<.01	<.01	<.01	<.01	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM						
NOV , 1981	03...	1100	76	4.0	145	3	.62	73					
12...	0815	62	1.5	170	2	.33	83						
JAN , 1982	21...	0915	28	.0	220	3	.23	20					
MAY	20...	1405	191	15.0	93	5	2.6	45					
JUN	30...	1025	46	19.0	185	5	.62	77					
JUL	21...	0845	206	21.0	100	8	4.4	77					
AUG 18...	1430	36	21.5	195	2	.19	100						

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063700 POPPLE RIVER NEAR FENCE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC SUS- PENDE D		ARSENIC DIS- SOLVED		BARIUM, TOTAL RECOV- ERABLE		BARIUM, DIS- SOLVED		BERYL- LIUM, DIS- SOLVED		CADMIUM TOTAL RECOV- ERABLE		CADMIUM DIS- SOLVED		CHRO- MIUM, TOTAL RECOV- ERABLE		CHRO- MIUM, DIS- SOLVED	
			AS	AS	AS	AS	AS	AS	AS	BA	AS	BA	AS	BE	AS	CD	AS	CD	AS	CR
JUN , 1982																				
30...	1025	46	2	1	1		<100	17		<1	1		<1	10		<1				
DATE	TIME	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)							
JUN , 1982																				
30...	<3	20	<10	400	260	140	<1	<10	<4	110	20	88								
DATE	TIME	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CYANIDE TOTAL (UG/L AS CN)							
JUN , 1982																				
30...	.1	<.1	<10	<1	<1	<1	<1	<1	27	<6.0	90	<4	<.01							

RADIOCHEMICAL ANALYSES

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED (PCI/L AS METHOD (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)
AUG , 1982											
18...	1430	36	<2.9	<.4	2.4	<.4	2.3	<.4	.04	1.0	

STREAMS TRIBUTARY TO LAKE MICHIGAN
04066000 MENOMINEE RIVER NEAR PEMBINE, WI

LOCATION.--Lat 45°35'56", long 87°46'32", in SW 1/4, sec.16, T. 37 N., R.28 W., Michigan Meridian, Menominee County, MI, Hydrologic Unit 04030108, on left bank 0.6 mi (1.0 km) upstream from Pemene Creek, 4.0 mi (6.4 km) west of Nathan, MI, 10.9 mi (17.5 km) southeast of Pembine, and at mile 65.8 (105.9 km).

DRAINAGE AREA.--3,110 mi² (8,050 km²).

PERIOD OF RECORD.--October 1949 to July 1982 (discontinued at this location). Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 1277: 1952. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft (235 m), from river-profile map. Prior to Oct. 28, 1972, at site 0.5 mi (0.8 km) downstream at datum 15 ft (4.6 m) lower. Gage moved downstream 1.0 mi (1.6 km) August 1982.

REMARKS.--Records are fair. Flow regulated by powerplants and by Michigamme Reservoir, capacity, 119,950 acre-ft (148 km³), and Peavy Pond, capacity, 33,860 acre-ft (41.7 km³), on the Michigamme River, and by many smaller reservoirs above station.

AVERAGE DISCHARGE.--33 years, 2,986 ft³/s (84.56 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s (762 m³/s) May 8, 1960, gage height, 13.90 ft (4.237 m); minimum, 694 ft³/s (19.7 m³/s) Sept. 3, 1969, gage height, 1.66 ft (0.506 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,500 ft³/s (354 m³/s) May 9, gage height, 13.56 ft (4.133 m); minimum daily, 1,300 ft³/s (36.8 m³/s) July 4-6.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Apr. 6.)

7.0	1,050	10.0	5,080
8.0	2,110	12.0	9,000
9.0	3,470	14.0	13,600

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2500	2270	2540	2100	1800	2000	4500	6590	2310	1600		
2	2600	2330	2500	1500	1900	2200	3500	5830	2000	1600		
3	2600	2480	2410	1600	2100	2400	3000	5110	1900	1400		
4	1800	2330	2590	1700	2200	2300	3500	4980	2000	1300		
5	1900	2380	2560	2200	2200	2000	4000	4990	1800	1300		
6	2000	2480	2470	2400	2200	1700	4300	4840	1500	1300		
7	2300	1910	2210	2400	2100	1500	4260	7190	1700	1400		
8	2850	1510	2240	2100	2000	1800	3870	10800	1800	1500		
9	2890	1860	2240	1900	2000	1900	3960	12300	1800	1400		
10	2830	2230	2330	1800	2300	1800	3740	11700	1900	2200		
11	2910	2290	2280	1900	2500	1600	3700	10900	2000	5390		
12	2620	2120	2180	2100	2200	1600	3860	8530	1900	7340		
13	2490	2350	2000	2300	2300	1600	4290	7070	2000	5720		
14	2430	2570	1760	2300	2400	1400	4720	5900	2000	5590		
15	2610	2470	2000	2200	2400	1500	4840	6070	2200	5050		
16	2500	2480	2200	2100	2500	1800	6010	6220	2770	5390		
17	2500	2540	2200	1900	2400	2300	7990	5900	2400	6950		
18	2960	2560	2100	1900	2500	2300	8720	5130	1900	6580		
19	3710	2510	2000	1900	2400	2200	8340	5260	1600	6000		
20	3300	2550	1900	1900	2400	1600	8720	5290	1400	5000		
21	3300	2620	1900	1900	2400	1500	8490	5120	1800	4000		
22	3130	2480	2000	2000	2500	1700	7570	4900	2100	3800		
23	3140	2520	2100	2000	2600	1900	7120	4550	2000	3000		
24	2900	2550	2000	1900	2600	1800	7850	3710	1800	2000		
25	2990	2750	1800	1900	2400	2200	8350	3410	1700	1500		
26	2840	2560	1800	2000	2300	2100	9840	2960	1500	1600		
27	2390	2530	1900	1800	2000	1700	10800	3090	1400	1800		
28	2250	2600	2000	1700	1700	1500	9620	2980	1400	1800		
29	2350	2620	2100	1800	---	1600	8240	2760	1700	2000		
30	2370	2570	2200	1500	---	2400	7350	2620	1800	1900		
31	2480	---	2400	1600	---	4000	---	2280	---	1900		
TOTAL	82440	72020	66910	60300	63300	59900	185050	178980	56080	99310		
MEAN	2659	2401	2158	1945	2261	1932	6168	5774	1869	3204		
MAX	3710	2750	2590	2400	2600	4000	10800	12300	2770	7340		
MIN	1800	1510	1760	1500	1700	1400	3000	2280	1400	1300		
CAL YR 1981	TOTAL	1187350	MEAN	3253	MAX	17600	MIN	1200				

STREAMS TRIBUTARY TO LAKE MICHIGAN

04067500 MENOMINEE RIVER NEAR MC ALLISTER, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 45°19'33", long 87°39'48", in SW 1/4 SE 1/4 sec.17, T.33 N., R.23 E., Marinette County, Hydrologic Unit 04030108, on right bank 85 ft (26 m) downstream from bridge on County Highway JJ, 2.9 mi (4.7 km) downstream from Grand Rapids Dam, 2.6 mi (4.2 km) east of McAllister, 1.9 mi (3.1 km) downstream from Little Cedar River, and at mile 22.6 (36.4 km).

DRAINAGE AREA.--3,930 mi² (10,200 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1945 to September 1961; October 1961 to September 1979, miscellaneous measurements and peaks only; October 1979 to current year.

REVISED RECORDS.--WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 622.20 ft (189.647 m) National Geodetic Vertical Datum of 1929 (Michigan Department of Transportation reference mark). Prior to May 15, 1945, nonrecording gage 1,400 ft (427 m) downstream at same datum; May 16, 1945, to September 1961, water-stage recorder 1,000 ft (305 m) downstream at same datum; October 1961 to September 1979, crest-stage gage 1,100 ft (335 m) downstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by powerplants, by Michigamme Reservoir, capacity, 119,950 acre-ft (148 km³), and Peavy Pond, capacity, 33,860 acre-ft (41.7 km³) on the Michigamme River, and by many smaller reservoirs above station.

AVERAGE DISCHARGE.--19 years (water years 1946-61, 1980-82), 3,437 ft³/s (97.34 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s (920 m³/s) May 9, 1960, gage height, 20.0 ft (6.096 m), from graph based on gage readings; minimum observed, 538 ft³/s (15.2 m³/s) Oct. 6, 1946, gage height, 7.29 ft (2.222 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,700 ft³/s (360 m³/s) May 10, gage height, 14.89 ft (4.538 m); minimum daily 1,540 ft³/s (43.6 m³/s) Aug. 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11 to Apr. 25.)

8.8	1,510	11.0	4,600
9.0	1,740	12.0	6,400
9.5	2,360	13.0	8,300
10.0	3,040	14.0	10,500
		15.0	13,000

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2060	2900	3030	2600	1600	1900	4000	8640	2510	2300	2830	2710
2	2940	2660	3080	2300	1900	2100	5000	7560	2610	2320	2830	3140
3	2880	2660	2780	1900	2000	2300	5400	6640	2640	1970	2950	3190
4	2870	2770	2720	1700	2200	2500	5200	6030	2610	1730	3170	3020
5	2970	2710	2830	2000	2300	2300	4600	5900	2370	1570	3030	2980
6	2530	2670	2970	2400	2300	2100	5800	6110	2290	1660	2850	4140
7	3130	2740	2830	2500	2300	1800	5800	6480	2120	1680	2820	5040
8	2850	2410	2440	2500	2200	1700	5400	8510	2010	1770	2790	5110
9	3370	1760	2600	2200	2100	1900	5200	11200	2040	1940	2120	3340
10	3200	2210	2330	2000	2100	2000	5200	12500	2210	1760	1840	3100
11	3110	2650	2300	1900	2400	1900	5200	12300	2470	3660	2280	3620
12	3190	2670	2300	2100	2500	2200	5600	11400	2190	7790	2440	3210
13	3320	2440	2400	2300	2500	1900	6400	8990	2450	9510	2430	3200
14	3060	2560	2400	2400	2400	1900	6400	7640	2680	8350	2270	3130
15	2750	2650	2200	2400	2500	1800	6800	6380	2890	7700	2050	4040
16	3060	2770	2100	2400	2500	1900	7400	6980	3080	7410	1540	5220
17	3050	2960	2300	2300	2600	2100	8600	6660	3350	8630	1930	5060
18	3220	2770	2400	2000	2500	2600	10000	6460	3050	9180	2110	5490
19	3760	2840	2400	2000	2600	2700	10000	5940	2540	8760	2710	5250
20	4530	2710	2300	1900	2500	2400	10000	5770	2170	7830	2430	5280
21	4030	2820	2000	2000	2500	1900	10000	5790	2230	6470	2050	5300
22	3460	2660	2200	2000	2500	2000	9400	5580	2740	5430	1820	4840
23	3240	2810	2300	2100	2700	2100	8800	5510	2960	4860	1670	4780
24	3360	2670	2300	2100	2700	2200	8200	4510	2600	4370	2080	4040
25	3410	2800	2100	2000	2700	2200	8800	3950	2830	3340	2110	4100
26	3260	3110	2000	2000	2600	2400	9540	3740	2140	2110	2410	4230
27	3190	2820	2000	2100	2400	2500	11100	2950	2050	2610	2500	4280
28	2890	3090	2200	1900	2100	2200	12100	3190	1900	2800	2750	4270
29	2530	2820	2200	1800	---	2100	11200	3210	1960	2930	2780	3860
30	2740	2920	2200	1800	---	2400	9370	3000	2300	2720	2940	3790
31	2810	---	2400	1700	---	3000	---	3020	---	2970	3010	---
TOTAL	96770	81030	74610	65300	66200	67000	226510	202540	73990	138130	75540	122760
MEAN	3122	2701	2407	2106	2364	2161	7550	6534	2466	4456	2437	4092
MAX	4530	3110	3080	2600	2700	3000	12100	12500	3350	9510	3170	5490
MIN	2060	1760	2000	1700	1600	1700	4000	2950	1900	1570	1540	2710

CAL YR 1981 TOTAL 1393280 MEAN 3817 MAX 19400 MIN 1420
WTR YR 1982 TOTAL 1290380 MEAN 3535 MAX 12500 MIN 1540

STREAMS TRIBUTARY TO LAKE MICHIGAN

04067500 MENOMINEE RIVER NEAR MCALLISTER, WI--CONTINUED
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	
DATE	TIME			(UNITS)								
NOV , 1981												
11...	1330	2590	210	7.6	4.0	1.5	12.0	95	K5	K10	110	
JAN , 1982												
20...	1330	2200	240	7.7	.0	1.4	--	--	K10	K9	110	
MAY												
20...	1040	5810	135	--	17.0	1.9	8.7	93	K4	150	70	
JUL												
20...	1430	7780	180	7.7	22.0	2.6	8.3	98	33	50	95	
AUG												
18...	0945	2180	200	8.0	23.5	1.8	8.5	104	K16	29	96	
		HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV , 1981												
11...	8.0	24	11	2.1	4	.1	.8	97	12	2.9	<.1	
JAN , 1982												
20...	14	25	12	2.4	4	.1	1.2	98	14	3.0	<.1	
MAY												
20...	6.0	16	7.2	2.0	6	.1	.7	64	8.0	2.0	<.1	
JUL												
20...	8.0	22	9.7	2.5	5	.1	.6	87	7.0	2.6	.1	
AUG												
18...	5.0	22	10	2.7	6	.1	.7	91	11	2.7	.1	
		SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1981												
11...	7.8	140	119	.19	979	.11	<.010	.46	.020	.010	<.010	
JAN , 1982												
20...	10	158	127	.21	939	.23	.030	.23	.010	.020	.010	
MAY												
20...	5.7	76	80	.10	1190	.16	.050	.71	.030	.020	<.010	
JUL												
20...	8.4	160	105	.22	3360	<.10	.080	.80	.040	.020	<.010	
AUG												
18...	7.6	118	112	.16	695	<.10	.050	1.80	.020	.010	.040	

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

STREAMS TRIBUTARY TO LAKE MICHIGAN
04067500 MENOMINEE RIVER NEAR MCALLISTER, WI--CONTINUED
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV , 1981											
11...	1330	2590	1	1	0	<100	--	12	<1	--	1
MAY , 1982											
20...	1040	5810	1	0	1	<100	--	28	1	0	--
JUL											
20...	1430	7780	2	1	1	100	70	30	2	0	--
AUG											
18...	0945	2180	2	0	2	<100	--	15	2	--	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV , 1981											
11...	20	--	<10	<1	--	<1	6	--	<1	320	220
MAY , 1982											
20...	10	--	<10	3	1	2	5	1	4	410	280
JUL											
20...	<10	--	<10	1	0	1	7	2	5	530	370
AUG											
18...	10	0	10	2	0	2	14	4	10	210	160

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV , 1981										
11...	100	3	2	1	40	30	11	.1	--	<.1
MAY , 1982										
20...	130	16	10	6	80	60	16	<.1	--	<.1
JUL										
20...	160	5	--	<1	100	80	16	.2	.1	.1
AUG										
18...	48	2	--	<1	60	50	10	<.1	--	<.1

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981										
11...	<1	--	<1	<1	<1	<1	<1	40	30	8
MAY , 1982										
20...	2	0	2	<1	<1	<1	<1	10	--	29
JUL										
20...	2	0	2	<1	<1	<1	<1	30	10	18
AUG										
18...	4	3	1	<1	<1	<1	<1	60	50	11

STREAMS TRIBUTARY TO LAKE MICHIGAN

04067500 MENOMINEE RIVER NEAR MCALLISTER, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY , 1982										
20...	1040	5810	9	<1.0	<.1	<.10	<1.0	<.1	<.1	<.1
AUG 18...	0945	2180	<1	<1.0	<.1	<.10	<1.0	<.1	<.1	<.1

DATE	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY , 1982									
20...	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1
AUG 18...	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1

DATE	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE IN BOTTOM MATERIL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)
MAY , 1982									
20...	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1	--
AUG 18...	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1	<.50

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1981							
11...	1330	2590	4.0	210	3	21	78
JAN , 1982							
20...	1330	2200	.0	240	1	5.9	100
MAY 20...	1040	5810	17.0	135	8	125	72
JUL 20...	1430	7780	22.0	180	10	210	65
AUG 18...	0945	2180	23.5	200	3	18	78

STREAMS TRIBUTARY TO LAKE MICHIGAN

04069500 PESHTIGO RIVER AT PESHTIGO, WI

LOCATION.--Lat 45°02'49", long 87°44'40", in NE 1/4 sec.30, T.30 N., R.23 E., Marinette County, Hydrologic Unit 04030105, on left bank 75 ft (23 m) downstream from Chicago and Northwestern Railway bridge, 0.5 mi (0.8 km) downstream from Wisconsin Public Service Corp. Powerplant at Peshtigo, and 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--1,080 mi² (2,797 km²).

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

REVISED RECORDS.--WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.64 ft (178.198 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period and discharges less than 450 ft³/s (12.74 m³/s), which are fair. Diurnal fluctuation caused by two powerplants upstream.

AVERAGE DISCHARGE.--29 years, 927 ft³/s (26.25 m³/s), 11.66 in/yr (296 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,790 ft³/s (277 m³/s) May 9, 1960, gage height, 11.59 ft (3.533 m), from rating curve extended above 5,000 ft³/s (142 m³/s) on basis of computation of peak flow through dam gates; minimum, 17 ft³/s (0.48 m³/s) Nov. 29, 1966, gage height, 1.00 ft (0.305 m); minimum daily, 84 ft³/s (2.38 m³/s) Aug. 5, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,030 ft³/s (114 m³/s) Apr. 2, gage height, 7.63 ft (2.326 m); minimum daily, 215 ft³/s (6.09 m³/s) Aug. 15.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 7-16; stage-discharge relation affected by ice Dec. 17 to Mar. 7 and Mar. 9-27.)

1.4	174	6.0	2,880
2.0	439	8.0	4,330
4.0	1,570		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	575	790	622	620	540	720	3400	1170	404	433	456	702
2	707	717	650	600	580	720	3670	1280	458	458	497	780
3	686	821	653	580	580	700	3510	1190	483	425	585	862
4	646	660	568	620	560	700	3650	1070	440	342	466	697
5	821	540	655	640	560	700	3460	943	402	344	509	609
6	880	528	571	660	560	680	3000	1060	451	269	469	862
7	814	773	618	620	600	700	2760	1200	323	654	643	934
8	719	704	667	600	580	459	2660	1360	360	483	505	843
9	596	625	661	560	560	700	2560	1700	334	403	348	792
10	657	663	398	520	560	780	1780	1720	380	458	405	676
11	570	516	328	500	580	840	1600	1770	441	738	453	702
12	508	551	458	540	580	880	1700	1200	457	1730	382	643
13	526	536	412	520	600	920	1980	1510	448	2610	361	535
14	647	511	383	500	620	960	2010	1060	372	2820	383	689
15	683	431	404	490	640	940	1950	1020	624	2230	215	805
16	797	450	359	480	660	920	2060	1110	921	1830	316	986
17	899	499	340	450	660	900	2340	703	792	2180	473	983
18	987	614	310	470	720	880	2420	1060	576	2390	371	1290
19	1080	625	310	490	760	920	2520	1150	499	2560	338	1230
20	1210	581	290	520	760	940	2510	1030	705	1920	375	1170
21	1190	562	280	520	780	940	2470	855	622	1440	320	1120
22	1040	491	300	520	660	920	2380	798	827	1210	233	1030
23	757	389	420	500	680	960	2380	717	784	982	233	1010
24	631	433	460	490	660	1000	2140	645	715	677	357	867
25	675	407	440	470	640	1100	1670	512	627	591	445	875
26	531	577	390	480	660	1200	1410	506	586	625	350	802
27	740	528	370	490	680	1300	1570	423	598	542	358	767
28	804	658	410	540	700	1420	1160	371	549	517	457	655
29	1000	680	450	580	---	1480	756	528	611	487	510	643
30	843	666	500	560	---	1830	898	556	485	534	664	768
31	807	---	580	520	---	2550	---	485	---	534	804	---
TOTAL	24026	17526	14257	16650	17720	30659	68374	30702	16274	33416	13281	25327
MEAN	775	584	460	537	633	989	2279	990	542	1078	428	844
MAX	1210	821	667	660	780	2550	3670	1770	921	2820	804	1290
MIN	508	389	280	450	540	459	756	371	323	269	215	535
CFSM	.72	.54	.43	.50	.59	.92	2.11	.92	.50	1.00	.40	.78
IN.	.83	.60	.49	.57	.61	1.06	2.36	1.06	.56	1.15	.46	.87

CAL YR 1981	TOTAL	314663	MEAN	862	MAX	4180	MIN	185	CFSM	.80	IN	10.84
WTR YR 1982	TOTAL	308212	MEAN	844	MAX	3670	MIN	215	CFSM	.78	IN	10.62

STREAMS TRIBUTARY TO LAKE MICHIGAN

04071000 OCONTO RIVER NEAR GILLETT, WI

LOCATION.--Lat 44°51'53", long 88°18'00", in NW 1/4 sec.34, T.28 N., R.18 E., Oconto County, Hydrologic Unit 04030104, on left bank 300 ft (91 m) upstream from County Trunk Highway BB bridge, 2.0 mi (3.2 km) upstream from Christy Brook, 2.0 mi (3.2 km) south of Gillett, and at mile 29 (47 m).

DRAINAGE AREA.--705 mi² (1,826 km²).

PERIOD OF RECORD.--June 1906 to March 1909, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 1207: 1922. WSP 1307: 1907-8(M), 1914-16(M), 1918-21(M), 1923-33(M), 1937-38(M), 1943(M). WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 732.87 ft (223.379 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Transportation). See WSP 1727 for history of changes prior to Aug. 25, 1938.

REMARKS.--Records good except those for winter periods, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--71 years (water years 1907-08, 1913-82), 580 ft³/s (16.43 m³/s), 11.17 in/yr (284 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft³/s (238 m³/s) Apr. 10, 1922, gage height, 11.2 ft (3.41 m) from floodmarks, caused by a failure of dam at Pulcifer 4 mi (6.4 km) above station; minimum, 93 ft³/s (2.63 m³/s) Nov. 26, 1941, gage height, 0.13 ft (0.040 m), flow retarded by anchor ice above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Apr. 1	0900	*2,400	68.0	A*6.24	1.902	July 14	1900	1,540	43.6	3.22	0.981
Apr. 20	1500	1,600	45.3	3.30	1.006	July 20	0500	1,740	49.3	3.51	1.070

minimum discharge, 261 ft³/s (7.39 m³/s) Aug. 22-24.

A Ice jam.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Apr. 1, Apr. 4-5.)

0.6	210	2.0	780
0.9	300	3.0	1,400
1.4	480	4.0	2,100
		5.0	2,870

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361	404	380	330	280	350	2400	845	369	440	466	379
2	458	399	380	320	280	350	2360	779	365	394	425	374
3	474	394	370	320	280	360	1930	737	357	364	418	377
4	459	384	370	320	280	360	1800	683	349	352	429	377
5	452	384	370	320	280	360	1700	626	335	356	412	373
6	480	379	370	320	280	350	1680	616	326	352	404	442
7	443	373	360	310	280	350	1570	671	322	377	391	567
8	427	370	360	310	280	340	1420	755	317	387	375	520
9	406	360	360	310	280	330	1280	807	307	359	358	427
10	389	357	360	310	280	330	1190	814	322	377	343	408
11	377	353	360	300	280	330	1140	815	335	859	334	410
12	371	350	380	300	270	340	1110	760	335	1040	326	412
13	362	348	400	300	270	350	1090	688	318	1230	314	396
14	374	346	410	300	260	360	1090	645	313	1510	306	444
15	408	346	390	300	260	380	1120	594	419	1480	299	454
16	445	346	380	300	280	400	1180	573	652	1250	289	506
17	483	346	370	300	290	420	1260	553	735	1150	286	611
18	575	345	360	290	310	450	1380	574	628	1540	281	593
19	639	349	360	290	330	480	1520	629	542	1650	281	571
20	665	354	350	290	340	520	1600	664	516	1730	275	541
21	632	330	350	290	350	560	1570	624	534	1560	266	502
22	576	320	340	290	360	620	1490	563	636	1330	262	477
23	529	300	340	290	370	700	1370	507	655	1090	262	452
24	489	290	340	290	360	760	1260	480	606	873	275	451
25	449	320	340	290	350	700	1170	458	566	742	300	477
26	445	350	340	290	350	720	1120	435	506	669	342	471
27	440	370	330	290	350	860	1080	413	465	639	351	452
28	436	400	330	290	350	1000	1050	403	431	577	426	431
29	423	390	330	290	---	1200	1010	376	425	541	384	414
30	417	380	330	290	---	1400	937	378	444	511	369	399
31	410	---	330	290	---	1700	---	376	---	525	403	---
TOTAL	14294	10737	11140	9330	8530	17730	41877	18841	13430	26254	10652	13708
MEAN	461	358	359	301	305	572	1396	608	448	847	344	457
MAX	665	404	410	330	370	1700	2400	845	735	1730	466	611
MIN	361	290	330	290	260	330	937	376	307	352	262	373
CFSM	.65	.51	.51	.43	.43	.81	1.98	.86	.64	1.20	.49	.65
IN.	.75	.57	.59	.49	.45	.94	2.21	.99	.71	1.39	.56	.72
CAL YR 1981	TOTAL	181219	MEAN 496	MAX 1850	MIN 228	CFSM .70	IN 9.56					
WTR YR 1982	TOTAL	196523	MEAN 538	MAX 2400	MIN 260	CFSM .76	IN 10.37					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04071858 PENSBAUKEE RIVER NEAR PENSBAUKEE, WI

LOCATION.--Lat 44°49'08", long 87°57'12", in NW 1/4 NE 1/4 sec.16, T.27 N., R.21 E., Oconto County, Hydrologic Unit 04030103, on right bank 300 ft (90 m) downstream from bridge on town road, 2.8 mi (4.5 km) downstream from Brookside Creek, 2.6 mi (4.2 km) west of Pensaukee, 3.5 mi (5.6 km) upstream from mouth.

DRAINAGE AREA.--134 mi² (347 km²).

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

REVISED RECORD.--WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 583.69 ft (177.909 m) National Geodetic Vertical Datum of 1929 (Wisconsin Department of Transportation bench mark).

REMARKS.--Records fair except those for periods of backwater from beaver dam, Oct. 1-12, and Aug. 11 to Sept. 30, which are poor.

AVERAGE DISCHARGE.--10 years, 88.1 ft³/s (2.495 m³/s), 8.93 in/yr (227 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,310 ft³/s (122 m³/s) May 31, 1979, gage height, 13.58 ft (4.139 m); minimum daily discharge, 1.0 ft³/s (0.028 m³/s) Aug. 31, 1977.

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 25	1900	Unknown	a*10.83 3.301	Apr. 4	0300	1,460 41.3	8.53 2.600
Mar. 31	1800	Unknown	a 7.85 2.393	July 19	1100	*1,800 51.0	9.38 2.859

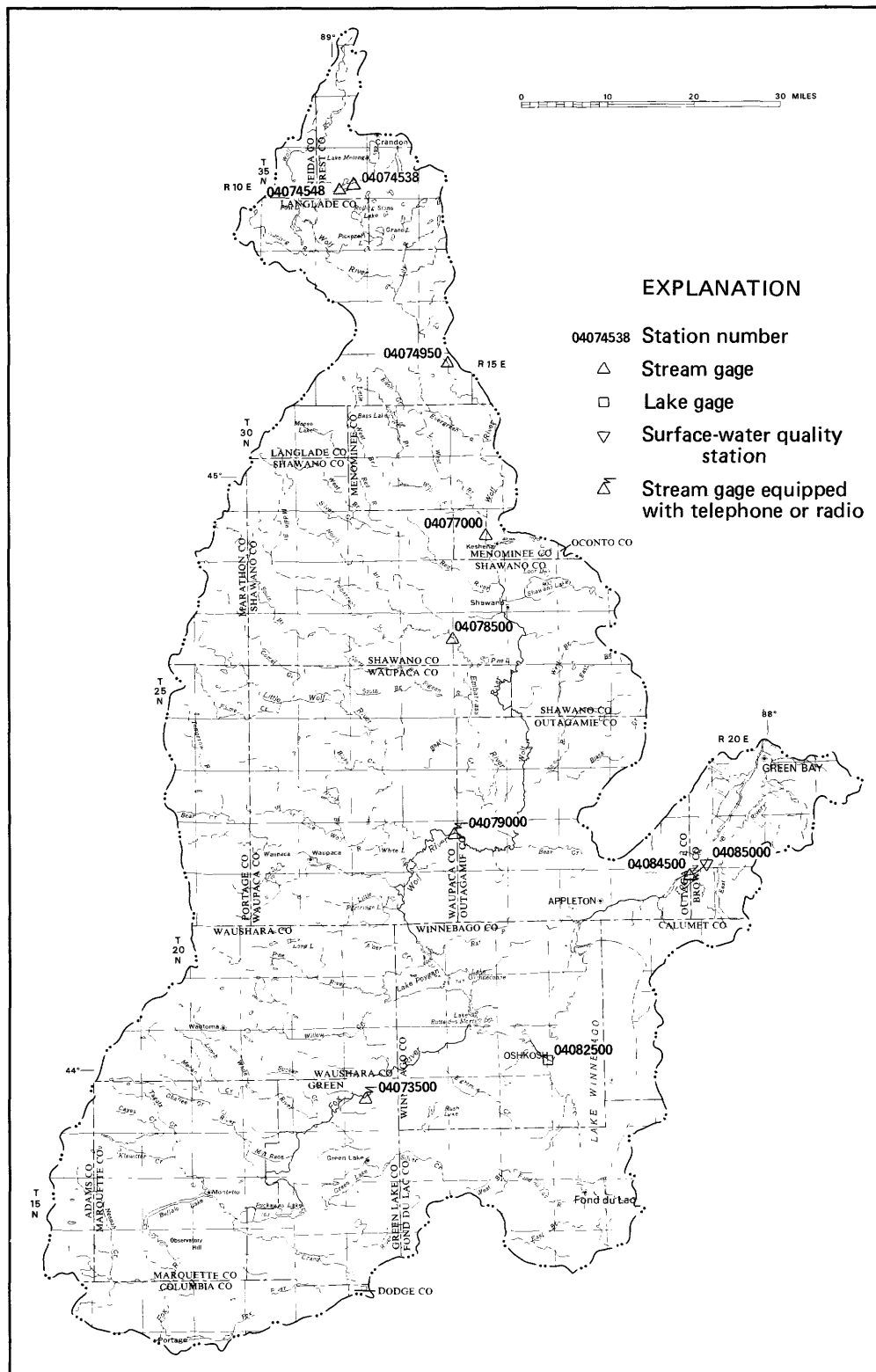
minimum recorded, 6.8 ft³/s (0.19 m³/s) part of each day June 30, July 9, 10, but may have been less during period of no gage-height record and backwater from beaver dam, Aug. 14-25.

a Ice jam

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Apr. 1, and by backwater from beaver dam, Oct. 1-12 and Aug. 11 to Sept. 30.)

2.2	3.5	5.0	390
2.3	9.0	6.0	610
2.5	29	7.0	910
3.0	84	8.0	1,250
4.0	210	10.0	2,100

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	41	29	13	9.6	20	760	63	16	23	33	18
2	70	38	28	13	9.6	20	582	58	14	20	29	21
3	43	34	26	13	9.6	20	991	52	12	16	28	20
4	30	32	25	13	9.4	20	1270	49	12	12	54	18
5	26	31	24	12	9.4	19	744	47	11	9.0	50	13
6	68	30	23	12	9.4	18	425	46	11	9.0	37	15
7	56	30	22	11	9.4	17	321	50	8.8	10	28	14
8	36	30	21	10	9.4	16	258	49	7.8	7.9	24	13
9	19	28	20	10	9.4	16	220	45	8.2	7.4	19	11
10	16	26	19	10	9.4	15	192	42	8.4	6.9	20	13
11	14	24	18	10	9.4	15	166	41	7.7	110	18	12
12	15	24	17	10	9.4	20	146	39	10	392	15	7.0
13	15	24	17	10	9.4	27	144	36	12	272	12	7.0
14	32	23	16	10	9.4	45	143	34	12	170	11	10
15	74	23	16	9.8	10	60	129	31	11	115	9.4	21
16	93	23	15	9.8	13	84	129	30	23	85	8.0	28
17	136	23	15	9.6	12	130	151	31	36	66	7.0	31
18	412	24	15	9.4	11	180	188	43	55	661	7.0	26
19	422	32	14	9.4	13	280	168	46	63	1690	7.4	23
20	287	38	14	9.4	14	380	206	40	46	1020	7.8	32
21	177	36	14	9.6	16	360	295	33	43	402	7.2	27
22	127	31	14	9.8	18	380	286	29	65	196	7.0	15
23	99	31	14	9.8	19	460	229	27	77	125	7.0	10
24	78	29	14	9.6	20	560	166	26	51	91	9.0	9.0
25	75	28	14	9.6	21	860	126	22	41	68	14	10
26	66	29	14	9.6	22	780	109	20	37	53	23	15
27	63	31	14	9.6	21	700	100	19	32	50	30	15
28	56	40	13	9.6	21	660	89	18	27	55	30	21
29	52	35	13	9.6	---	660	78	18	26	51	23	17
30	47	31	13	9.6	---	680	68	19	25	46	20	26
31	44	---	13	9.6	---	800	---	18	---	39	18	---
TOTAL	2839	899	544	320.4	363.2	8302	8879	1121	808.9	5878.2	612.8	518.0
MEAN	91.6	30.0	17.5	10.3	13.0	268	296	36.2	27.0	190	19.8	17.3
MAX	422	41	29	13	22	860	1270	63	77	1690	54	32
MIN	14	23	13	9.4	9.4	15	68	18	7.7	6.9	7.0	7.0
CFSM	.68	.22	.13	.08	.10	2.00	2.21	.27	.20	1.42	.15	.13
IN.	.79	.25	.15	.09	.10	2.30	2.46	.31	.22	1.63	.17	.14
CAL YR 1981	TOTAL	23466.5	MEAN	64.3	MAX	1310	MIN	2.6	CFSM	.48	IN	6.51
WTR YR 1982	TOTAL	31085.5	MEAN	85.2	MAX	1690	MIN	6.9	CFSM	.64	IN	8.63



Base from U. S. Geological Survey
State base map, 1968

FOX-WOLF RIVER BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073500 FOX RIVER AT BERLIN, WI

LOCATION.--Lat 43°57'14", long 88°57'08", in NE 1/4 sec.16, T.17 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, on left bank, 0.4 mi (0.6 km) downstream from government dam, 1.0 mi (1.6 km) south of Huron Street bridge in Berlin, 2.5 mi (4.0 km) upstream from Barnes Creek, and at mile 89.0 (km 143).

DRAINAGE AREA.--1,340 mi² (3,471 km²).

PERIOD OF RECORD.--January 1898 to current year.

REVISED RECORDS.--WSP 1337: 1910. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 744.52 ft (226.930 m) above mean tide at New York City (by Corps of Engineers). Prior to Oct. 27, 1954, nonrecording gage at site 0.3 mi (0.5 km) upstream at same datum.

REMARKS.--Records good except these for periods of ice effect, which are fair. Usually less than about 5 ft³/s (0.14 m³/s) was diverted into the basin from the Wisconsin River at Portage Canal throughout the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--84 years, 1,101 ft³/s (31.2 m³/s), 11.16 in/yr (283 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s (195 m³/s) Mar. 17, 18, 1946, gage height, 15.5 ft (4.724 m); minimum observed, 248 ft³/s (7.02 m³/s) Sept. 16, 1948, gage height, 6.1 ft (1.859 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,800 ft³/s (108 m³/s) Mar. 23, gage height, 13.65 ft (4.16 m); minimum daily discharge, 580 ft³/s (16.4 m³/s) Jan. 17 to Feb. 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar. 20.)

8.2	570	10.0	1,370
9.0	910	12.0	2,560
		14.0	4,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	SEP	
1	1260	1830	1220	700	580	640	2810	2260	2010	855	1280	
2	1310	1790	1250	700	580	640	2770	2210	1970	841	1280	
3	1350	1750	1280	700	580	620	2980	2150	1940	836	1180	
4	1400	1710	1300	680	580	620	3010	2090	1890	811	1090	
5	1420	1670	1310	680	580	620	3080	2030	1840	785	1030	
6	1460	1630	1300	660	580	620	3070	2000	1780	786	1030	
7	1450	1580	1310	660	580	620	3140	1930	1730	816	1070	
8	1450	1550	1300	660	580	620	3210	1870	1670	815	1140	
9	1440	1500	1260	660	580	620	3250	1810	1610	799	1160	
10	1440	1460	1200	640	580	620	3280	1770	1530	804	1150	
11	1420	1430	1100	640	580	640	3240	1720	1450	1100	1130	
12	1410	1390	1000	640	580	660	3210	1680	1380	1190	1140	
13	1380	1360	960	620	580	700	3190	1630	1300	1210	1130	
14	1420	1330	920	620	580	760	3110	1580	1200	1210	1090	
15	1460	1300	880	620	580	820	3090	1550	1030	1200	1030	
16	1480	1270	860	600	580	1000	3060	1560	896	1190	980	
17	1540	1240	840	580	600	1400	3050	1600	865	1200	941	
18	1680	1210	840	580	620	1800	2990	1640	860	1200	908	
19	1740	1190	820	580	620	2400	2940	1670	843	1160	821	
20	1800	1140	800	580	640	3000	2930	1690	855	1090	753	
21	1850	1120	800	580	640	3460	2890	1700	863	1070	697	
22	1900	1130	800	580	660	3670	2820	1750	853	1180	706	
23	1930	1100	800	580	680	3780	2750	1810	845	1210	711	
24	1950	1110	800	580	680	3700	2680	1860	851	1220	698	
25	1970	1120	780	580	680	3470	2610	1910	887	1210	750	
26	1970	1160	780	580	660	3250	2560	1940	895	1210	797	
27	1960	1200	780	580	660	3100	2510	1970	900	1270	802	
28	1940	1220	760	580	640	3010	2450	2020	903	1340	761	
29	1920	1220	740	580	---	2930	2390	2040	907	1350	776	
30	1890	1190	720	580	---	2900	2330	2040	868	1340	823	
31	1860	---	700	580	---	2890	---	2030	---	1310	829	
TOTAL	50450	40900	30210	19180	17060	55580	87400	57510	37421	33608	29683	
MEAN	1627	1363	975	619	609	1793	2913	1855	1247	1084	958	
MAX	1970	1830	1310	700	680	3780	3280	2260	2010	1350	1280	
MIN	1260	1100	700	580	580	620	2330	1550	843	785	697	
CFSM	1.21	1.02	.73	.46	.45	1.34	2.17	1.38	.93	.81	.72	
IN.	1.40	1.14	.84	.53	.47	1.54	2.43	1.60	1.04	.93	.82	
CAL YR 1981	TOTAL	456811	MEAN	1252	MAX	3060	MIN	637	CFSM	.93	IN	12.68
WTR YR 1982	TOTAL	483900	MEAN	1326	MAX	3780	MIN	580	CFSM	.99	IN	13.43

STREAMS TRIBUTARY TO LAKE MICHIGAN

04074538 SWAMP CREEK ABOVE RICE LAKE AT MOLE LAKE, WI

LOCATION.--Lat 45°29'18", long 88°57'49", in SW 1/4 NW 1/4 sec.26, T.35 N., R.12 E., Forest County, Hydrologic Unit 04030202, on right bank, approximately 200 ft (61 m) upstream from bridge on State Highway 55, on Mole Lake Indian Reservation.

DRAINAGE AREA.--46.3 mi² (119.9 km²), revised.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,532.28 ft (467.039 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Transportation).

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

AVERAGE DISCHARGE.--5 years, 30.5 ft³/s (0.864 m³/s), 8.95 in/yr (227 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 228 ft³/s (6.46 m³/s) June 15, 1981, gage height, 3.82 ft (1.164 m); minimum, 6.8 ft³/s (0.19 m³/s) Aug. 25, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft³/s (3.26 m³/s) Apr. 4, gage height, 3.16 ft (0.963 m); minimum, 8.4 ft³/s (0.24 m³/s) Aug. 19, gage height, 1.92 ft (0.585 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 22-25; stage-discharge relation affected by ice Dec. 29 to Mar. 12.)

1.9	8.0	2.8	62
2.1	13	3.2	122
2.4	28		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	16	15	16	13	28	52	42	25	19	16	19
2	37	13	16	17	13	24	44	43	25	17	16	21
3	26	12	15	17	12	20	59	41	23	15	17	22
4	24	12	15	17	12	18	82	39	20	17	17	18
5	24	12	14	17	12	17	58	39	18	16	18	18
6	22	17	14	17	12	17	47	65	18	15	17	30
7	22	21	15	16	12	16	41	84	16	16	15	24
8	18	19	18	16	12	16	40	70	15	15	15	18
9	15	17	13	16	11	18	41	55	16	13	14	16
10	14	15	13	16	11	23	44	54	25	18	14	15
11	12	14	12	16	11	28	46	49	21	46	12	17
12	12	13	13	15	11	26	48	44	16	53	10	15
13	11	12	14	15	11	25	51	43	15	40	9.3	26
14	13	11	15	15	12	24	56	42	18	31	9.5	52
15	17	12	15	15	12	24	66	40	34	32	9.3	71
16	16	13	14	14	13	25	80	40	27	52	9.3	60
17	16	16	14	14	14	25	101	39	21	50	9.2	50
18	28	17	13	14	15	25	106	45	21	50	8.9	48
19	29	16	13	14	16	26	90	45	26	39	9.0	45
20	25	17	13	14	19	26	70	40	27	33	9.5	43
21	26	19	14	14	20	25	57	36	30	29	10	39
22	24	16	15	14	20	24	56	31	34	28	9.5	31
23	22	13	16	14	20	24	57	29	30	25	12	26
24	17	13	16	14	20	25	62	28	27	23	13	28
25	15	12	14	14	21	25	64	27	25	21	14	32
26	16	12	13	14	22	22	67	24	23	20	25	26
27	17	14	13	14	26	21	60	23	20	21	30	22
28	20	14	14	14	29	23	50	25	18	20	25	19
29	18	14	14	14	---	28	44	24	22	22	22	21
30	18	12	15	13	---	34	40	23	22	21	28	25
31	18	---	16	13	---	48	---	23	---	18	22	---
TOTAL	631	434	444	463	432	750	1779	1252	678	835	465.5	897
MEAN	20.4	14.5	14.3	14.9	15.4	24.2	59.3	40.4	22.6	26.9	15.0	29.9
MAX	39	21	18	17	29	48	106	84	34	53	30	71
MIN	11	11	12	13	11	16	40	23	15	13	8.9	15
CFSM	.44	.31	.31	.32	.33	.52	1.28	.87	.49	.58	.32	.65
IN.	.51	.35	.36	.37	.35	.60	1.43	1.01	.54	.67	.37	.72

CAL YR 1981	TOTAL	10024.7	MEAN 27.5	MAX 212	MIN 9.4	CFSM .59	IN 8.05
WTR YR 1982	TOTAL	9060.5	MEAN 24.8	MAX 106	MIN 8.9	CFSM .54	IN 7.28

STREAMS TRIBUTARY TO LAKE MICHIGAN

04074548 SWAMP CREEK BELOW RICE LAKE AT MOLE LAKE, WI

LOCATION.--Lat 45°28'46", long 88°59'52", in NE 1/4 NW 1/4 sec.33, T.35 N., R.12 E., Forest County, Hydrologic Unit 04030202, on left bank, approximately 100 ft (30 m) downstream from bridge on County Trunk Highway M, 0.9 mi (1.4 km) west of Mole Lake.

DRAINAGE AREA.--56.7 mi² (146.9 km²).

PERIOD OF RECORD.--August 1977 to September 1979, April to September 1982.

GAGE.--Water-stage recorder and crest stage gage. Altitude of gage is 1,540 ft (469 m), from topographic map.

REMARKS.--Records are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210 ft³/s (5.95 m³/s) Apr. 21, 1979, gage height, 3.20 ft (0.975 m); minimum discharge, 15 ft³/s (0.42 m³/s) Oct. 27, 1978, Aug. 18-23, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 120 ft³/s (3.40 m³/s) Apr. 18, gage height, 2.58 ft (0.786 m), backwater from ice and beaver dam; minimum daily discharge, 15 ft³/s (0.42 m³/s) Aug. 18-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	SEP
1							64	63	28	23	29
2							68	62	29	22	31
3							66	61	30	22	31
4							78	60	30	22	31
5							80	61	30	22	32
6							72	66	31	22	34
7							59	75	32	23	35
8							54	79	32	23	35
9							54	74	33	24	34
10							56	71	34	25	34
11							60	68	35	28	34
12							62	64	34	31	34
13							66	61	34	37	35
14							71	58	35	34	44
15							78	54	38	32	63
16							90	51	38	38	74
17							100	50	38	45	79
18							110	52	36	46	79
19							120	56	35	42	72
20							110	56	35	36	72
21							92	50	35	33	66
22							84	44	34	33	59
23							80	37	33	32	51
24							79	36	32	32	48
25							80	35	30	32	45
26							84	33	29	32	40
27							82	36	27	32	36
28							73	35	26	31	36
29							67	35	26	30	36
30							65	33	24	30	36
31							---	31	---	29	---
TOTAL							2304	1647	963	943	1365
MEAN							76.8	53.1	32.1	30.4	45.5
MAX							120	79	38	46	79
MIN							54	31	24	22	29
CFSM							1.35	.94	.57	.54	.80
IN.							1.51	1.08	.63	.62	.89

STREAMS TRIBUTARY TO LAKE MICHIGAN

04074950 Wolf River at Langlade, WI

LOCATION.--Lat 45°11'24", long 88°44'00", between secs. 3 and 10, T.31 N., R.14 E., Langlade County, Hydrologic Unit 04030202, on left bank, upstream of bridge on State Highway 64 at Langlade, 1.5 mi (2.4 km) east of White Lake, 3.0 mi (4.8 km) upstream from White Lake Creek, and at about mile 170 (274 km) above mouth.

DRAINAGE AREA.--463 mi² (1,199 km²).

PERIOD OF RECORD.--March 1966 to September 1979, October 1980 to current year.

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,240 ft (378 m), from topographic map. Prior to Oct. 1, 1976, nonrecording gage 50 ft (15.24 m) downstream at same altitude.

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

AVERAGE DISCHARGE.--15 years (water years 1967-79, 1981-82), 458 ft³/s (12.97 m³/s), 13.43 in/yr (341 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,200 ft³/s (62.3 m³/s) Mar. 15, 1973, gage height, 9.48 ft (2.890 m); maximum gage height observed, 9.98 ft (3.042 m) Dec. 5, 1968, backwater from ice; minimum discharge, 119 ft³/s (3.37 m³/s) Nov. 8, 1976, gage height, 7.24 ft (2.207 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) Apr. 19, gage height, 9.23 ft (2.813 m); maximum gage height, 9.42 ft (2.871 m) Apr. 1, backwater from ice; minimum discharge, 161 ft³/s (4.56 m³/s) Dec. 9, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22-25, Nov. 30 to Dec. 8, Dec. 11 to Apr. 9.)

7.4	174	8.5	640
7.6	241	9.0	1,000
8.0	390	10.0	2,000

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	367	301	270	210	200	220	600	761	330	228	290	262
2	365	295	270	210	200	220	560	648	329	215	280	338
3	342	292	270	210	200	220	600	573	304	212	290	339
4	343	286	270	210	200	220	560	537	242	230	280	308
5	357	283	270	210	200	220	700	539	233	231	271	319
6	385	285	260	210	200	220	800	815	222	222	269	365
7	381	281	260	210	200	220	800	924	214	225	265	344
8	364	278	250	210	200	220	780	862	217	219	261	322
9	347	275	250	210	200	220	740	800	216	214	253	309
10	333	271	250	210	210	230	654	780	233	237	253	304
11	329	269	240	210	210	240	598	758	233	363	253	305
12	320	267	240	200	210	250	597	724	230	396	241	300
13	311	266	240	200	210	260	642	703	220	397	235	312
14	332	268	240	200	210	330	689	681	220	368	233	407
15	365	266	240	200	210	310	764	647	288	416	230	486
16	353	264	240	190	210	300	889	614	285	715	222	527
17	359	263	240	190	210	300	1070	598	270	632	218	599
18	443	261	240	190	220	290	1170	606	269	734	211	644
19	455	264	230	200	230	290	1190	545	261	624	205	640
20	414	271	230	200	240	290	1170	504	262	540	198	605
21	391	260	240	200	240	280	1110	474	265	491	196	548
22	377	260	240	210	240	310	1070	453	292	458	187	503
23	420	260	240	210	220	330	1050	436	276	430	184	476
24	417	260	230	220	220	330	1030	424	260	409	197	469
25	406	270	230	210	220	310	1000	403	269	391	221	451
26	395	282	230	200	220	290	1010	378	266	372	237	434
27	329	304	230	200	220	280	977	348	247	371	245	423
28	308	285	230	210	220	280	919	343	235	341	238	412
29	305	282	220	210	---	300	867	336	241	308	241	398
30	303	270	220	210	---	350	817	330	245	313	258	436
31	306	---	220	210	---	500	---	325	---	303	254	---
TOTAL	11222	8239	7530	6370	5970	8630	25423	17869	7674	11605	7416	12585
MEAN	362	275	243	205	213	278	847	576	256	374	239	420
MAX	455	304	270	220	240	500	1190	924	330	734	290	644
MIN	303	260	220	190	200	220	560	325	214	212	184	262
CFSM	.78	.59	.53	.44	.46	.60	1.83	1.24	.55	.81	.52	.91
IN.	.90	.66	.61	.51	.48	.69	2.04	1.44	.62	.93	.60	1.01
CAL YR 1981	TOTAL	145016	MEAN	397	MAX	1260	MIN	201	CFSM	.86	IN	11.65
WTR YR 1982	TOTAL	130533	MEAN	358	MAX	1190	MIN	184	CFSM	.77	IN	10.49

STREAMS TRIBUTARY TO LAKE MICHIGAN

04077000 WOLF RIVER AT KESHENA FALLS NEAR KESHENA, WI
(FORMERLY PUBLISHED AS WOLF RIVER AT KESHENA FALLS)

LOCATION.--Lat 44°53'28", long 88°39'18", in E 1/2 sec.22, T.28 N., R.15 E., Menominee County, Hydrologic Unit 04030202, on right bank 500 ft (152 m) downstream from Keshena Falls, 1.7 mi (2.7 km) upstream from Keshena, 3.1 mi (5.0 km) downstream from West Branch Wolf River, and at mile 136.4 (219.5 km).

DRAINAGE AREA.--788 mi² (2.041 km²).

PERIOD OF RECORD.--May 1907 to March 1909, October 1910 to current year. Monthly discharge only for some periods, published in WSP 1307. Published as "at Keshena" prior to April 1928. Published as "at Keshena Falls" April 1928 to September 1981.

REVISED RECORDS.--WSP 664: Drainage area (site at Keshena). WSP 1337: 1914-15(M), 1918-19(M), 1921, 1923(M), 1926(M), 1928(M), 1933. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 820.0 ft (249.936 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Power and Light Co.). Prior to Mar. 23, 1928, nonrecording gage at bridge in Keshena 1.7 mi (2.7 km) downstream at datum 4.03 ft (1.23 m) lower.

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

AVERAGE DISCHARGE.--73 years (1907-8, 1910-82), 759 ft³/s (21.49 m³/s), 13.08 in/yr (332 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge 5,200 ft³/s (147 m³/s) Mar. 15, 1973; maximum gage height, 13.86 ft (4.225 m) Mar. 15, 1973, backwater from ice; minimum discharge, 91 ft³/s (2.58 m³/s) Dec. 22, 1939, gage height, 4.67 ft (1.423 m), result of ice storage.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 31	1600	1,860	52.7	7.12	2.170	May 7	2200	1,570	44.5	6.81	2.076
Apr. 3	1800	1,800	51.0	7.06	2.152	July 16	2000	1,700	48.1	6.95	2.118
Apr. 18	2000	*2,000	56.6	*7.26	2.213						

minimum discharge, 335 ft³/s (9.49 m³/s) Nov. 23, gage height, 5.22 ft (1.591 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 19 to Mar. 29.)

5.0	229	6.5	1,290
5.2	351	7.0	1,740
5.5	488	8.0	2,800
6.0	842		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	621	509	470	420	390	410	1430	1270	608	512	549	506
2	669	497	480	420	380	410	1420	1180	593	477	531	518
3	613	486	480	420	380	410	1700	1040	572	460	531	582
4	585	479	470	420	380	420	1680	956	558	518	531	568
5	587	477	460	420	380	430	1590	919	507	512	525	556
6	615	474	460	420	380	430	1520	1070	488	494	512	691
7	630	472	460	420	380	440	1540	1490	472	506	512	691
8	610	467	440	420	380	450	1520	1530	458	482	506	649
9	577	483	420	420	380	460	1420	1400	461	454	488	601
10	549	499	440	410	370	470	1340	1310	494	477	477	562
11	529	495	500	410	370	480	1190	1250	482	1090	471	556
12	520	491	600	410	370	480	1200	1200	477	1160	465	543
13	504	488	580	410	370	490	1240	1130	460	1160	454	531
14	549	489	540	410	370	500	1260	1120	465	1050	448	568
15	643	492	520	410	370	500	1350	1190	642	1050	448	707
16	658	488	500	410	380	520	1550	1030	670	1450	442	809
17	642	488	480	410	380	520	1810	968	628	1480	431	868
18	802	488	470	410	380	540	1980	1110	588	1560	420	956
19	865	480	460	400	380	580	1980	1100	568	1460	415	974
20	810	460	450	400	390	620	1950	978	562	1220	409	965
21	712	420	450	400	400	680	1810	882	588	1020	404	902
22	654	409	450	400	410	800	1710	821	621	894	399	826
23	624	424	450	400	420	920	1660	790	614	809	393	768
24	657	440	440	400	430	1000	1650	767	575	737	404	793
25	652	460	440	390	420	1100	1640	742	568	699	454	745
26	636	470	440	390	410	1200	1650	711	562	656	460	691
27	615	480	430	390	400	1300	1630	683	537	656	537	684
28	542	480	430	390	400	1500	1530	662	506	642	512	663
29	518	480	430	390	---	1500	1420	655	549	594	488	642
30	510	480	420	390	---	1500	1340	643	543	582	500	642
31	507	---	420	390	---	1550	---	626	---	575	494	---
TOTAL	19205	14245	14480	12600	10850	22610	46710	31223	16416	25436	14610	20757
MEAN	620	475	467	406	388	729	1557	1007	547	821	471	692
MAX	865	509	600	420	430	1550	1980	1530	670	1560	549	974
MIN	504	409	420	390	370	410	1190	626	458	454	393	506
CFSM	.79	.60	.59	.52	.49	.93	1.98	1.28	.69	1.04	.60	.88
IN.	.91	.67	.68	.59	.51	1.07	2.21	1.47	.77	1.20	.69	.98
CAL YR 1981	TOTAL	238328	MEAN	653	MAX	2240	MIN	355	CFSM	.83	IN	11.25
WTR YR 1982	TOTAL	249142	MEAN	683	MAX	1980	MIN	370	CFSM	.87	IN	11.76

STREAMS TRIBUTARY TO LAKE MICHIGAN

04078500 EMBARRASS RIVER NEAR EMBARRASS, WI

LOCATION.--Lat 44°43'29", long 88°44'10", in SW 1/4 sec.18, T.26 N., R.15 E., Shawano County, Hydrologic Unit 04030202, on left bank 10 ft (3 m) downstream from bridge on county road, 1.3 mi (2.1 km) downstream from Mill Creek, and 4.0 mi (6.4 km) northwest of Embarrass.

DRAINAGE AREA.--384 mi² (995 km²).

PERIOD OF RECORD.--June 1919 to current year.

REVISED RECORDS.--WSP 1337: 1920-26(M), 1928, 1929-30(M), 1933-34, 1936-37, 1938(M), 1940. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 803.95 ft (245.044 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 23, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Slight diurnal fluctuation caused by powerplants above station.

AVERAGE DISCHARGE.--63 years, 292 ft³/s (8.269 m³/s), 10.33 in/yr (262 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,080 ft³/s (200 m³/s) Apr. 12, 1965, gage height, 12.13 ft (3.697 m), affected by failure of dam near Pella, 9.2 mi (14.8 km) above station; minimum observed, 23 ft³/s (0.65 m³/s) Aug. 3, 6, 7, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft³/s (57.8 m³/s) Apr. 3, gage height, 6.51 ft (1.984 m); minimum daily discharge, 100 ft³/s (2.83 m³/s) Jan. 11-13, 17-19, 26-31, Feb. 1-2, 5-14, and Mar. 8-9.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 2 to Mar. 29.)

2.6	75	5.0	1,130
3.0	180	6.0	1,730
3.5	365	7.0	2,330
4.0	590		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	243	201	187	120	100	110	1620	422	199	261	172	368
2	293	195	180	120	100	110	1660	391	193	227	195	348
3	257	186	180	120	110	110	1830	360	158	187	144	319
4	212	185	170	110	110	110	1760	335	162	168	135	272
5	211	181	160	110	100	110	1670	319	161	160	178	223
6	229	176	150	110	100	110	1360	369	152	156	125	205
7	234	174	150	110	100	110	1110	644	149	178	133	220
8	231	170	150	110	100	100	925	819	145	172	155	223
9	205	166	150	110	100	100	781	733	144	154	146	203
10	171	162	150	110	100	110	747	549	155	156	141	182
11	167	159	150	100	100	120	708	453	155	944	133	158
12	159	155	140	100	100	120	694	396	158	1560	126	158
13	152	155	140	100	100	130	740	347	144	1300	122	152
14	179	156	140	110	100	140	835	321	139	735	120	154
15	243	156	130	110	110	140	938	295	161	393	120	192
16	288	156	130	110	110	150	1080	279	192	404	122	221
17	305	157	130	100	110	160	1270	288	223	703	118	226
18	444	160	130	100	110	170	1470	434	241	693	117	224
19	587	169	130	100	110	170	1440	657	290	651	117	221
20	584	173	130	110	120	180	1330	559	269	576	121	205
21	492	172	140	110	120	180	1150	403	280	361	118	189
22	380	161	140	110	120	190	968	318	330	259	120	175
23	282	135	130	110	120	200	822	282	303	224	118	166
24	266	151	130	110	110	220	691	266	246	198	138	165
25	254	160	120	110	100	240	623	247	244	180	245	176
26	234	170	120	100	110	300	622	229	279	163	317	189
27	228	203	130	100	110	350	676	228	290	170	263	192
28	226	235	130	100	110	340	672	223	248	256	238	183
29	222	233	130	100	---	327	603	225	222	257	228	171
30	215	204	120	100	---	498	462	219	262	211	348	164
31	205	---	120	100	---	1150	---	206	---	182	430	---
TOTAL	8398	5216	4387	3320	2990	6555	31257	11816	6294	12239	5303	6244
MEAN	271	174	142	107	107	211	1042	381	210	395	171	208
MAX	587	235	187	120	120	1150	1830	819	330	1560	430	368
MIN	152	135	120	100	100	100	462	206	139	154	117	152
CFSM	.71	.45	.37	.28	.28	.55	2.71	.99	.55	1.03	.45	.54
IN.	.81	.51	.42	.32	.29	.64	3.03	1.14	.61	1.19	.51	.60
CAL YR 1981	TOTAL	94796	MEAN 260	MAX 2180	MIN 90	CFSM .68	IN 9.18					
WTR YR 1982	TOTAL	104019	MEAN 285	MAX 1830	MIN 100	CFSM .74	IN 10.08					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04079000 WOLF RIVER AT NEW LONDON, WI

LOCATION.--Lat 44°23'32", long 88°44'25", in NE 1/4 SE 1/4 sec.12, T.22 N., R.14 E., Waupaca County, Hydrologic Unit 04030202, on right bank 100 ft (30 m) downstream from Pearl Street bridge in New London, 0.2 mi (0.3 km) downstream from Embarrass River, and at mile 56.3 (90.6 km).

DRAINAGE AREA.--2,260 mi² (5,850 km²).

PERIOD OF RECORD.--March 1896 to current year. Prior to October 1913 monthly discharges only, published in WSP 1307.

REVISED RECORDS.--WSP 1114: 1943(M). WSP 1337: 1931. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 747.94 ft (227.972 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 4, 1951, nonrecording gage.

REMARKS.--Records good except those for winter period, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--86 years, 1,738 ft³/s (49.22 m³/s), 10.44 in/yr (265 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 15,500 ft³/s (439 m³/s) Apr. 13, 1922, gage height, 11.4 ft (3.47 m); maximum gage height, 11.83 ft (3.606 m) Apr. 3, 1979, backwater from ice; minimum daily, 150 ft³/s (4.25 m³/s) Mar. 1, 1900.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of Apr. 16, 1888, reached a stage of 11.6 ft (3.54 m), from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,340 ft³/s (208 m³/s) Apr. 5, gage height, 9.07 ft (2.765 m); minimum daily discharge, 680 ft³/s (19.3 m³/s) Jan. 10-19, and Jan. 26 to Feb. 10.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Mar. 24.)

1.0	656	6.0	2,800
1.2	720	7.0	3,460
2.0	980	8.0	4,900
3.0	1,380	9.0	7,160
4.0	1,780	10.0	9,800
5.0	2,280		

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

DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	1100	1480	1310	720	680	760	4580	3590	1510	1060	1650	
2	1270	1390	1320	720	680	760	4830	3440	1420	1150	1540	
3	1460	1330	1270	720	680	760	5700	3310	1320	1110	1480	
4	1490	1280	1240	720	680	760	6590	3180	1250	1020	1430	
5	1470	1240	1250	720	680	760	7120	3070	1180	984	1330	
6	1470	1210	1230	700	680	760	7270	2970	1120	951	1240	
7	1480	1220	1220	700	680	760	7240	2880	1070	955	1190	
8	1510	1220	1210	700	680	760	7080	2810	1040	958	1150	
9	1530	1190	1180	700	680	760	6760	2780	969	984	1120	
10	1500	1160	1040	680	680	760	6400	2720	944	992	1070	
11	1400	1120	934	680	700	760	5970	2670	901	1460	1070	
12	1310	1120	937	680	700	840	5540	2640	892	1880	1010	
13	1250	1120	960	680	720	960	5170	2610	883	2170	950	
14	1230	1110	980	680	740	1100	4830	2550	869	2400	916	
15	1350	1100	1000	680	760	1200	4510	2460	899	2450	887	
16	1470	1110	1000	680	780	1400	4290	2420	941	2450	855	
17	1610	1110	980	680	800	1600	4140	2430	1050	2480	825	
18	1890	1100	940	680	800	1700	4000	2430	1210	2520	818	
19	2170	1100	900	680	800	1900	3960	2450	1260	2500	824	
20	2360	1130	880	700	820	2100	4100	2470	1300	2450	811	
21	2460	1130	860	700	820	2300	4260	2440	1300	2450	796	
22	2520	1120	840	700	800	2500	4470	2390	1250	2580	799	
23	2510	1080	820	700	800	2800	4620	2330	1250	2570	793	
24	2430	1040	800	700	780	3100	4680	2200	1310	2460	807	
25	2320	1030	780	700	760	3590	4610	2050	1300	2370	865	
26	2190	1020	760	680	760	3930	4510	1860	1220	2280	960	
27	2030	1090	740	680	760	4230	4350	1710	1190	2200	1070	
28	1900	1140	720	680	760	4340	4120	1670	1200	2080	1140	
29	1790	1230	720	680	---	4340	3910	1680	1200	1910	1130	
30	1710	1260	720	680	---	4260	3750	1660	1130	1870	1240	
31	1590	---	720	680	---	4390	---	1590	---	1770	1360	
TOTAL	53770	34980	30261	21480	20660	60940	153360	77460	34378	57464	33126	
MEAN	1735	1166	976	693	738	1966	5112	2499	1146	1854	1069	
MAX	2520	1480	1320	720	820	4390	7270	3590	1510	2580	1650	
MIN	1100	1020	720	680	680	760	3750	1590	869	951	793	
CFSM	.77	.52	.43	.31	.33	.87	2.26	1.11	.51	.82	.47	
IN.	.89	.58	.50	.35	.34	1.00	2.52	1.28	.57	.95	.55	
CAL YR 1981	TOTAL	573609	MEAN	1572	MAX	5860	MIN	720	CFSM	.70	IN	9.44
WTR YR 1982	TOTAL	619439	MEAN	1697	MAX	7270	MIN	680	CFSM	.75	IN	10.20

STREAMS TRIBUTARY TO LAKE MICHIGAN

04084500 FOX RIVER AT RAPIDE CROCHE DAM, NEAR WRIGHTSTOWN, WI

LOCATION.--Lat 44°19'03", long 88°11'50", in SE 1/4 sec.4, T.21 N., R.19 E., Outagamie County, Hydrologic Unit 04030204, at Rapide Croche Dam, 2.0 mi (3.2 km) upstream from Wrightstown, and 18 mi (29 km) upstream from mouth.

DRAINAGE AREA.--6,010 mi² (15,570 km²).

PERIOD OF RECORD.--March 1896 to September 1917 (monthly discharge only), October 1917 to current year.

REVISED RECORD.--WDR WI-80-1: Drainage area. WDR WI-81-1: 1980.

GAGE.--Recording headwater and tailwater gages and electric generation are read three times a day and used to compute the discharge records.

REMARKS.--Flow regulated by storage in Lake Winnebago (see sta. 04082500). Daily discharge determined from records of flow through turbines, head, gate openings, and lockages through navigation canal. Usually less than about 5 ft³/s (0.14 m³/s) is diverted into basin from Wisconsin River at Portage Canal throughout the year.

COOPERATION.--Figures of daily discharge furnished by Corps of Engineers. Records reviewed by Geological Survey.

AVERAGE DISCHARGE.--86 years, 4,175 ft³/s (118.2 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 24,000 ft³/s (680 m³/s) Apr. 18, 1952; minimum daily, 138 ft³/s (3.91 m³/s) Aug. 2, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge during year, 12,900 ft³/s (365 m³/s) Apr. 18, 19; minimum daily, 1,400 ft³/s (39.6 m³/s) June 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4760	7080	3410	3940	4600	3020	5560	7280	6090	2670	4150	1810
2	4050	6960	3460	4030	4560	3130	5120	7720	6910	2590	5000	2210
3	4480	6480	4410	3630	4510	3060	6610	6220	7020	1880	5060	2600
4	4960	5870	4270	3970	4520	3140	5960	7530	6890	2050	8560	2940
5	4740	5540	4870	4400	4720	2980	8100	6690	6710	1870	9700	3020
6	4880	4550	4820	4890	4540	3150	8200	6500	6540	2180	9740	2990
7	5660	4400	4700	6340	4590	3010	8960	6680	5890	2450	11200	1980
8	6280	5140	4370	8150	4550	3100	10100	4460	4550	2250	11200	1870
9	6550	4310	4360	6550	4380	2640	12000	4870	4930	3300	9110	1770
10	6410	3860	4040	7170	4350	2340	12100	4050	4560	3530	6860	2120
11	5890	3570	3750	6630	4400	2300	11900	4780	2940	3650	5160	2150
12	5730	2710	3950	6690	4210	2460	12200	5010	2800	4520	4790	2030
13	6410	1960	3760	6630	4290	1950	12300	4890	2920	3370	2440	2150
14	6050	2090	3780	6250	4170	2090	12600	5040	3290	3540	2170	1830
15	5420	1790	3000	6280	4160	2460	12400	4780	2780	3650	2330	1710
16	5140	1520	3270	5940	4080	3880	12800	4800	1880	3890	2170	1900
17	5160	2040	3120	4450	4100	3400	12500	5240	2540	3710	2600	2220
18	10200	1950	3120	5110	4110	3210	12900	5230	2480	3690	2020	1980
19	8560	1960	2870	5960	3950	3760	12900	5150	2190	3580	2420	2110
20	7900	1770	3200	5200	4020	4700	12700	3730	2320	3620	1750	1880
21	7170	2110	3170	5100	4040	4700	10700	3260	2160	3660	1680	1590
22	7310	2100	3110	5340	4090	5290	10300	3400	2140	3730	1790	2060
23	7750	2200	3080	4840	3660	5320	9920	4020	1400	4010	1480	2210
24	7860	2160	3060	4790	3230	5170	9770	4220	1540	4240	1710	2120
25	8520	2270	2910	4800	3400	4830	9740	4840	1600	3880	1640	1490
26	7950	2430	3280	5040	3230	4540	9220	6040	1660	3760	1940	2020
27	7390	1980	3030	4750	3340	4620	9120	6060	1760	3950	1560	2090
28	7230	1880	3320	4780	3330	4600	7890	6150	1740	3830	1620	2090
29	7470	2080	4040	4670	---	4700	7960	6180	2300	4140	2230	2130
30	7380	2630	4080	4670	---	5500	7800	5950	2620	4290	1730	2020
31	7220	---	3800	4650	---	5440	---	6000	---	3930	1640	---
TOTAL	202480	97390	113410	165640	115130	114490	300330	166770	105150	105410	127450	63090
MEAN	6532	3246	3658	5343	4112	3693	10010	5380	3505	3400	4111	2103
MAX	10200	7080	4870	8150	4720	5500	12900	7720	7020	4520	11200	3020
MIN	4050	1520	2870	3630	3230	1950	5120	3260	1400	1870	1480	1490
CAL YR 1981	TOTAL	1459380	MEAN	3998	MAX	11400	MIN	1520				
WTR YR 1982	TOTAL	1676740	MEAN	4594	MAX	12900	MIN	1400				

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085000 FOX RIVER AT WRIGHTSTOWN, WI
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)
(NATIONAL PESTICIDE MONITORING NETWORK STATION)

LOCATION.--Lat 44°19'36", long 88°09'54", in NE 1/4 NW 1/4 Sec.2, T.21 N., R.19 E., Brown County, Hydrologic Unit 04030204, at bridge on State Highway 96 at Wrightstown.

DRAINAGE AREA.--6,050 mi² (15,670 km²).

PERIOD OF RECORD.--Water years 1970, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1975 to September 1981 (discontinued).

WATER TEMPERATURES: March 1975 to September 1981 (discontinued).

REMARKS.--Records of discharge used are for 04084500 Fox River at Rapide Croche Dam near Wrightstown.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	
DATE	TIME			(UNITS)								
NOV , 1981												
11...	0815	3570	380	8.2	5.0	4.2	11.0	89	1900	180	180	
JAN , 1982												
20...	0800	5200	420	8.4	.0	11	--	--	150	530	190	
MAR												
18...	1535	3210	420	8.1	3.5	20	--	--	1500	8800	180	
MAY												
19...	1400	5150	390	--	21.0	12	8.1	95	80	240	170	
JUL												
20...	1000	3620	370	8.4	25.0	7.8	7.7	97	E67	33	170	
AUG												
17...	1730	2600	335	9.3	25.5	9.1	9.5	121	<100	24	150	
		HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE												
NOV , 1981												
11...	20	39	20	10	11		.4	2.4	160	27	16	.2
JAN , 1982												
20...	24	43	21	8.4	8		.3	2.6	170	29	14	.2
MAR												
18...	28	40	19	13	13		.5	3.6	150	33	21	.2
MAY												
19...	23	38	19	9.9	11		.4	2.5	150	25	12	.2
JUL												
20...	20	37	19	10	11		.4	2.5	151	22	11	.2
AUG												
17...	18	30	19	12	14		.5	2.2	135	23	13	.2
		SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
DATE												
NOV , 1981												
11...	13	240	224	.33	2310	.07	.070	.74	.070	.020	<.010	
JAN , 1982												
20...	11	251	231	.34	3530	.12	.180	.73	.040	.020	<.010	
MAR												
18...	10	261	230	.35	2260	--	--	1.60	.210	--	--	
MAY												
19...	3.0	200	201	.27	2780	.21	.130	1.30	.070	.040	.010	
JUL												
20...	8.2	253	201	.34	2470	<.10	.050	1.30	.150	.040	<.010	
AUG												
17...	2.9	227	184	.31	1600	<.10	.030	2.10	.150	.020	<.010	
E. ESTIMATED.												

E ESTIMATED.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085000 FOX RIVER AT WRIGHTSTOWN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV , 1981											
11...	0815	3570	1	0	1	<100	--	26	<1	--	2
MAR , 1982											
18...	1535	3210	1	0	1	100	70	28	<1	--	<1
MAY											
19...	1400	5150	1	0	1	<100	--	30	1	0	2
AUG											
17...	1730	2600	3	1	2	100	80	25	<1	--	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV , 1981											
11...	20	--	<10	<1	--	<1	6	--	<1	210	180
MAR , 1982											
18...	10	--	<10	<1	--	<1	9	7	2	500	460
MAY											
19...	10	--	<10	3	0	3	5	2	3	370	360
AUG											
17...	10	0	10	1	--	2	7	5	2	390	380

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV , 1981										
11...	26	4	3	1	30	30	3	.2	.1	.1
MAR , 1982										
18...	40	16	9	7	90	40	46	.1	.0	.1
MAY										
19...	14	13	9	4	150	140	6	<.1	--	<.1
AUG										
17...	6	9	6	3	60	60	2	.1	--	<.1

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981										
11...	<1	--	<1	<1	<1	<1	<1	40	30	7
MAR , 1982										
18...	8	7	1	<1	<1	2	<1	20	1	19
MAY										
19...	3	0	3	<1	<1	<1	<1	20	10	7
AUG										
17...	4	1	3	<1	<1	<1	<1	20	--	<4

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085000 FOX RIVER AT WRIGHTSTOWN, WI--CONTINUED

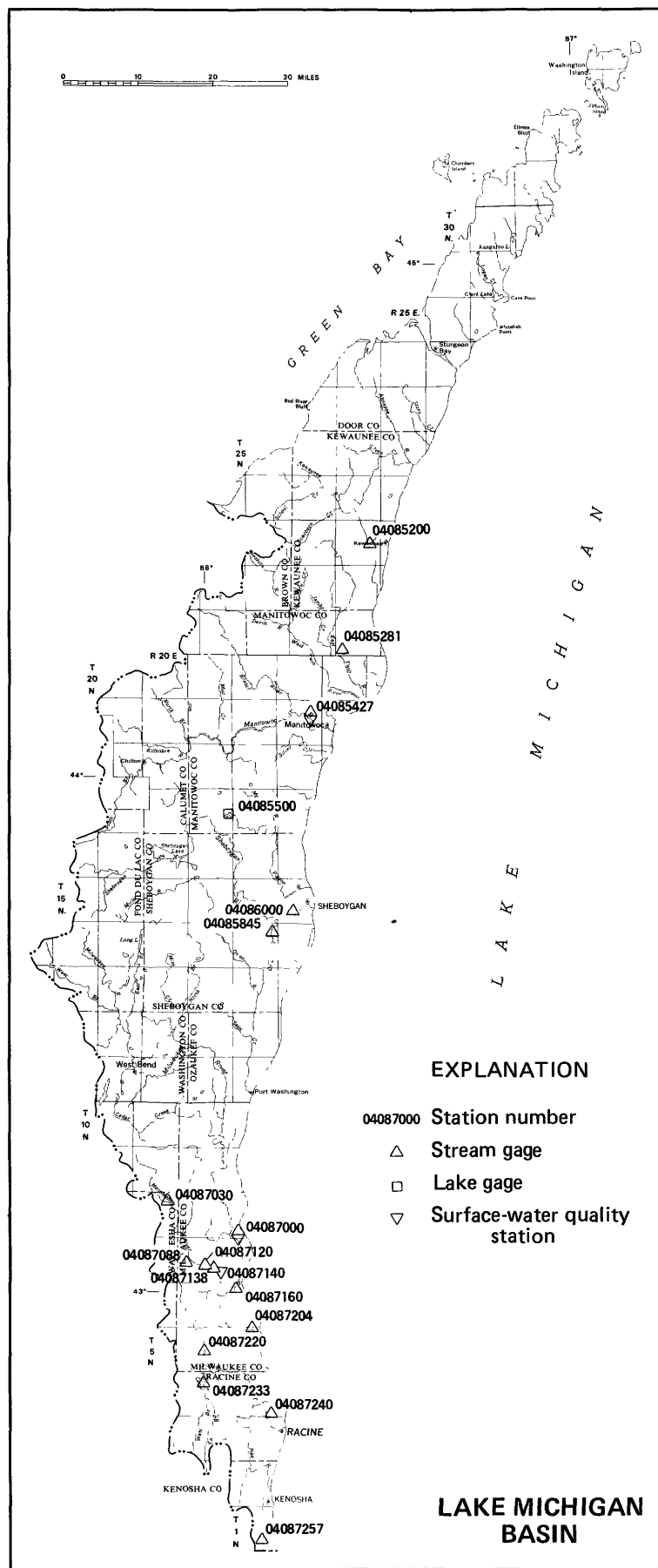
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		DIS- CHARGE, IN CUBIC FEET PER SECOND	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)			
DATE	TIME													
NOV , 1981														
11...	0815	3570	--	180	<1.0	--	--	<.1	--	--	<1.0			
MAR , 1982														
18...	1535	3210	<.10	--	--	<.10	<.01	--	.40	<.10	--			
MAY														
19...	1400	5150	<.10	100	<1.0	<.10	<.01	<.1	.40	<.10	<1.0			
		DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)		
DATE														
NOV , 1981														
11...	--	<.1	--	<.1	--	<.1	--	--	--	--	<.1	--		
MAR , 1982														
18...	<.01	--	<.01	--	<.01	--	<.01	--	<.01	--	<.01	<.01		
MAY														
19...	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.01		
		ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/L)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)		
DATE														
NOV , 1981														
11...	<.1	--	<.1	--	--	--	<.1	--	<.1	--	<.1	<.1		
MAR , 1982														
18...	--	<.01	--	<.01	--	<.01	--	<.01	--	<.01	--	--		
MAY														
19...	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.1		
		MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	
DATE														
NOV , 1981														
11...	--	--	--	<.1	--	--	--	--	--	--	<.1	--	--	
MAR , 1982														
18...	<.01	--	<.01	--	<.01	--	<.01	--	<.01	--	<.01	--	<.01	
MAY														
19...	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	
		PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	PER- THANE TOTAL (UG/L)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL (UG/L)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-DP, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DATE														
NOV , 1981														
11...	--	--	<.10	--	<1.0	--	--	--	--	--	--	--	--	--
MAR , 1982														
18...	--	<.01	--	<1	--	<.01	--	<.01	<.01	<.01	<.01	<.01	<.01	<.01
MAY														
19...	<.1	<.10	<1.00	<1	<10	<.01	<.1	.03	<.01	<.01	<.01	<.01	<.01	<.01

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085000 FOX RIVER AT WRIGHTSTOWN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1981							
11...	0815	3570	5.0	380	10	96	84
JAN , 1982							
20...	0800	5200	.0	420	6	84	50
MAR							
18...	1535	3210	3.5	420	32	278	89
MAY							
19...	1400	5150	21.0	390	35	487	48
JUL							
20...	1000	3620	25.0	370	30	293	90
AUG							
17...	1730	2600	25.5	335	30	211	81



Base from U.S. Geological Survey
State base map, 1968

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085200 KEWAUNEE RIVER NEAR KEWAUNEE, WI

LOCATION.--Lat 44°27'30", long 87°33'23", in SW 1/4 sec.14, T.23 N., R.24 E., Kewaunee County, Hydrologic Unit 04030102, on left bank just downstream from bridge on County Trunk Highway F, 2.3 mi (3.7 km) west of Kewaunee, and about 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--127 mi² (329 km²).

PERIOD OF RECORD.--Annual maximum, water years 1958-65, and occasional low-flow measurements, water years 1963-64. September 1964 to current year. No winter records for years 1965 and 1966.

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 579.64 ft (176.674 m) National Geodetic Vertical Datum of 1929 (Wisconsin State Highway Commission benchmark). Apr. 3, 1957, to Sept. 2, 1964, crest-stage gage only at same site and datum.

REMARKS.--Records good except those for winter periods and period of no gage-height record, Dec. 9, 10, and Dec. 15 to Apr. 14, which are fair.

AVERAGE DISCHARGE.--16 years, 80.2 ft³/s (2.27 m³/s), 8.58 in/yr (218 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Mar. 30, 1960, gage height, 16.03 ft (4.886 m); minimum recorded, 4.0 ft³/s (0.113 m³/s) Nov. 22, 1977, gage height, 8.06 ft (2.457 m), result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (23.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 25	0930	*2,090	59.2	*12.77	3.892	Apr. 3	a1200	1,185	33.6	11.75	3.581
Mar. 31	a1200	1,185	33.6	11.75	3.581						

minimum daily discharge, 12 ft³/s (0.340 m³/s) July 10.

a Observer reading.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 9, 10, Dec. 20 to Mar. 24.)

8.3	4.6	9.5	170
8.5	22	10.0	308
8.7	42	11.0	715
9.1	94	12.0	1,390
		13.0	2,330

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	34	56	20	14	16	940	61	30	37	33	29
2	43	33	63	18	14	16	800	58	27	25	29	33
3	35	31	71	17	14	16	1150	55	24	21	46	34
4	29	30	65	17	14	16	820	53	23	20	506	27
5	26	30	55	16	14	16	560	50	21	18	651	24
6	36	30	48	16	14	16	380	49	20	16	317	23
7	34	29	45	16	14	16	270	51	19	18	164	23
8	32	29	43	15	14	16	190	48	18	17	105	21
9	28	27	39	15	14	17	170	46	17	14	74	20
10	25	26	37	15	14	19	160	44	23	12	56	19
11	23	26	34	15	14	23	150	47	22	32	46	18
12	20	25	30	15	14	30	140	60	20	58	39	17
13	18	25	27	15	14	43	130	57	18	44	34	17
14	22	24	24	15	14	60	130	48	17	32	31	18
15	29	24	24	15	15	86	129	44	16	25	29	19
16	35	24	23	15	15	120	125	45	16	24	26	22
17	39	24	21	15	15	190	129	46	18	19	24	25
18	141	23	20	15	16	290	129	45	23	131	23	27
19	287	27	19	15	16	320	133	42	24	231	21	26
20	187	32	18	15	16	300	336	37	24	173	20	23
21	119	32	18	15	16	330	317	35	27	112	19	22
22	85	31	18	15	16	400	199	37	29	72	19	21
23	65	27	17	15	16	540	141	38	28	49	21	22
24	53	26	17	15	16	900	112	39	23	38	25	23
25	45	26	17	14	16	1600	94	35	21	31	55	23
26	42	39	17	14	16	1000	87	32	22	33	50	23
27	38	85	16	14	16	600	82	33	22	50	40	23
28	37	99	16	14	16	370	74	46	19	75	33	22
29	39	79	17	14	---	330	68	44	33	62	29	21
30	38	58	17	14	---	590	65	37	54	50	28	20
31	36	---	18	14	---	1180	---	33	---	40	27	---
TOTAL	1735	1055	950	473	417	9466	8210	1395	698	1579	2620	685
MEAN	56.0	35.2	30.6	15.3	14.9	305	274	45.0	23.3	50.9	84.5	22.8
MAX	287	99	71	20	16	1600	1150	61	54	231	651	34
MIN	18	23	16	14	14	16	65	32	16	12	19	17
CFSM	.44	.28	.24	.12	.12	2.40	2.16	.35	.18	.40	.67	.18
IN.	.51	.31	.28	.14	.12	2.77	2.40	.41	.20	.46	.77	.20

CAL YR 1981 TOTAL 19297.7 MEAN 52.9 MAX 1340 MIN 7.4 CFSM .42 IN 5.65
WTR YR 1982 TOTAL 29283.0 MEAN 80.2 MAX 1600 MIN 12 CFSM .63 IN 8.58

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085281 EAST TWIN RIVER AT MISHICOT, WI

LOCATION.--Lat 44°14'16", long 87°38'11", in NW 1/4 NW 1/4 sec.4, T.20 N., R.24 E., Manitowoc County, Hydrologic Unit 04030101, on right bank 500 ft (152 m) downstream from bridge on State Highway 147, at Mishicot, 0.8 mi (1.3 km) upstream from Johnson Creek, and 9.8 mi (15.8 km) upstream from mouth.

DRAINAGE AREA.--110 mi² (285 km²).

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

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.72 ft (178.223 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation caused by recreation dam 0.3 mi (0.5 km) upstream.

AVERAGE DISCHARGE.--10 years, 70.9 ft³/s (2.008 m³/s), 8.75 in/yr (222 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,210 ft³/s (90.9 m³/s) Mar. 31, 1979, gage height, 13.75 ft (4.191 m); minimum, 1.7 ft³/s (0.048 m³/s) July 20, 1979, gage height, 3.69 ft (1.125 m).

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 25	1515	873 24.7	9.70 2.957	Apr. 4	0900	*951 26.9	*9.95 3.033
Apr. 1	0715	637 18.0	8.82 2.688				

minimum discharge, 12 ft³/s (0.340 m³/s) Aug. 21, 22, 23, gage height, 4.03 ft (1.228 m), but may have been less during period of ice effect.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 18-30; stage-discharge relation affected by ice Dec. 21 to Mar. 19.)

3.9	10	6.0	195
4.0	15	8.0	480
4.2	26	9.0	679
4.5	45	10.0	967
5.0	86		

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	36	54	16	13	16	624	61	53	38	24	39
2	51	35	73	16	13	16	510	57	45	30	21	39
3	40	34	75	16	13	16	582	55	39	26	22	32
4	33	34	67	16	14	16	624	52	34	23	98	27
5	36	33	58	15	14	16	509	49	32	22	141	23
6	43	33	52	15	14	16	314	47	29	20	154	21
7	49	31	48	14	14	16	247	46	28	23	97	19
8	42	30	46	14	14	15	200	44	26	22	60	18
9	35	29	40	14	14	15	180	41	24	19	44	17
10	31	28	36	14	14	15	167	38	24	18	36	16
11	28	28	35	14	14	16	151	38	24	21	31	16
12	27	27	28	14	14	18	139	37	22	26	27	15
13	25	27	27	13	14	24	150	37	21	26	23	15
14	29	27	27	13	14	30	153	36	21	22	21	15
15	44	27	26	13	15	40	123	35	21	19	19	16
16	47	27	26	13	16	62	132	41	21	18	19	18
17	43	27	23	13	16	110	159	52	22	17	17	19
18	112	27	20	13	16	130	163	51	29	49	16	20
19	179	28	18	13	17	160	148	47	35	127	14	20
20	143	32	17	13	17	189	219	44	35	141	13	23
21	110	34	17	13	17	201	223	39	52	91	12	21
22	79	32	17	13	17	245	174	67	65	50	12	19
23	62	28	17	13	17	342	131	96	62	36	15	16
24	53	30	17	13	17	570	106	81	49	29	17	16
25	48	28	16	13	17	830	91	65	40	24	21	16
26	45	36	16	13	17	741	83	54	38	21	23	17
27	43	78	16	13	17	554	80	67	37	22	21	17
28	40	80	16	13	16	406	74	120	32	35	17	17
29	39	70	16	13	---	329	68	102	33	38	18	16
30	37	56	16	13	---	363	64	82	38	32	24	15
31	36	---	16	13	---	542	---	65	---	27	24	---
TOTAL	1701	1072	976	425	425	6059	6588	1746	1031	1112	1101	598
MEAN	54.9	35.7	31.5	13.7	15.2	195	220	56.3	34.4	35.9	35.5	19.9
MAX	179	80	75	16	17	830	624	120	65	141	154	39
MIN	25	27	16	13	13	15	64	35	21	17	12	15
CFSM	.50	.33	.29	.13	.14	1.77	2.00	.51	.31	.33	.32	.18
IN.	.58	.36	.33	.14	.14	2.05	2.23	.59	.35	.38	.37	.20

CAL YR 1981 TOTAL 18784.2 MEAN 51.5 MAX 642 MIN 7.7 CFSM .47 IN 6.35
WTR YR 1982 TOTAL 22834.0 MEAN 62.6 MAX 830 MIN 12 CFSM .57 IN 7.72

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085427 MANITOWOC RIVER AT MANITOWOC, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 44°06'26", long 87°42'55", in NE 1/4 NW 1/4 sec.23, T.19 N., R.23 E., Manitowoc County, Hydrologic Unit 04030101, on right bank 300 ft (91 m) upstream from bridge on County Trunk Highway JJ, just west of the Manitowoc city limits and 6.6 mi (10.6 km) upstream from mouth.

DRAINAGE AREA.--526 mi² (1,362 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.12 ft (185.965 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--10 years, 309 ft³/s (8.751 m³/s), 7.98 in/yr (203 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft³/s (234 m³/s) Mar. 31, 1979, gage height, 13.24 ft (4.036 m) from FloodMarks; minimum discharge, 10 ft³/s (0.283 m³/s) Nov. 7, 1976, gage height, 3.69 ft (1.125 m), result of freezeup.

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 25	1130	ice jam	*11.12 3.389	Apr. 3	1530	*3,220 91.2	9.72 2.963

minimum daily discharge, 44 ft³/s (1.246 m³/s) Jan. 12-24.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar. 28.)

4.1	58	7.0	1,050
4.5	125	8.0	1,700
5.0	240	9.0	2,530
5.5	380	10.0	3,500
6.0	565		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375	525	327	76	49	58	2580	695	251	116	105	147
2	379	511	362	72	49	60	2260	656	236	120	110	153
3	381	496	379	68	47	64	2760	618	209	121	116	155
4	385	478	380	66	46	66	2540	564	186	122	154	149
5	401	464	378	62	46	68	1730	521	168	123	138	145
6	466	448	369	58	46	72	1970	490	151	134	137	141
7	479	435	359	56	46	74	2100	454	138	150	140	139
8	484	415	354	52	47	78	2050	400	125	167	162	137
9	477	393	322	50	47	82	1970	345	114	160	178	134
10	465	377	280	48	48	84	1930	292	105	128	175	129
11	456	355	240	45	49	86	1850	261	100	94	171	122
12	444	334	210	44	50	94	1720	234	94	102	169	113
13	432	312	200	44	52	120	1630	198	86	118	167	107
14	467	292	190	44	52	200	1530	176	81	126	162	102
15	509	273	180	44	54	300	1400	155	82	124	164	98
16	492	255	170	44	54	410	1260	164	76	121	168	97
17	498	240	160	44	54	520	1310	189	77	134	175	95
18	637	229	150	44	54	560	1370	193	77	130	180	92
19	679	214	140	44	54	600	1410	188	77	123	170	89
20	650	206	140	44	54	680	1450	177	82	112	158	85
21	624	207	130	44	56	780	1350	159	89	100	147	82
22	624	192	130	44	56	1000	1290	495	91	400	140	79
23	625	180	120	44	56	1200	1190	355	93	360	135	74
24	633	173	110	44	56	1400	1100	340	90	230	136	73
25	634	171	110	45	56	1600	1050	330	93	170	143	70
26	622	205	100	46	56	1700	960	270	96	133	131	70
27	607	283	100	47	58	1850	896	263	94	122	127	70
28	591	314	96	48	58	1980	848	291	95	119	122	70
29	575	310	92	48	---	1950	785	293	114	115	131	67
30	555	299	86	49	---	2110	735	280	115	110	135	63
31	536	---	80	49	---	2490	---	267	---	108	128	---
TOTAL	16182	9586	6444	1557	1450	22336	47024	10313	3485	4492	4574	3147
MEAN	522	320	208	50.2	51.8	721	1567	333	116	145	148	105
MAX	679	525	380	76	58	2490	2760	695	251	400	180	155
MIN	375	171	80	44	46	58	735	155	76	94	105	63
CFSM	.99	.61	.40	.10	.10	1.37	2.98	.63	.22	.28	.28	.20
IN.	1.14	.68	.46	.11	.10	1.58	3.33	.73	.25	.32	.32	.22

CAL YR 1981 TOTAL 94903 MEAN 260 MAX 1340 MIN 23 CFSM .49 IN 6.71
WTR YR 1982 TOTAL 130590 MEAN 358 MAX 2760 MIN 44 CFSM .68 IN 9.24

NOTE.--No gage-height record Dec. 12 to Jan. 19, July 1 to Aug. 2.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085427 MANITOWOC RIVER AT MANITOWOC, WI--CONTINUED
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV , 1981											
10...	1330	371	650	8.2	5.0	2.2	13.0	106	K20	33	310
JAN , 1982											
19...	1400	44	920	8.0	.0	2.5	10.4	74	K4	20	450
MAR											
18...	1210	1050	630	7.9	.0	5.4	--	--	480	E1000	270
MAY											
19...	0900	210	695	--	19.0	2.4	8.2	92	30	69	340
JUL											
19...	1600	129	585	8.5	26.0	7.7	9.5	121	29	76	320
AUG											
17...	1230	192	520	8.5	24.0	5.0	7.5	93	93	<1000	240

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV , 1981											
10...	37	67	34	13	8	.4	6.6	270	41	36	.1
JAN , 1982											
19...	67	95	51	17	8	.4	4.6	380	67	44	.2
MAR											
18...	56	57	30	18	13	.5	5.9	210	37	34	.1
MAY											
19...	36	72	38	14	8	.4	4.4	300	38	29	.2
JUL											
19...	43	66	37	16	10	.4	3.4	274	25	29	.2
AUG											
17...	10	54	26	15	12	.5	5.3	232	16	23	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1981											
10...	7.1	440	367	.60	441	.73	<.010	1.10	.240	.210	.180
JAN , 1982											
19...	13	573	520	.78	68.1	3.2	.400	1.40	.120	.100	.080
MAR											
18...	8.7	365	317	.50	1040	2.3	.600	1.90	.280	.190	.170
MAY											
19...	1.7	429	378	.58	243	.38	.030	1.60	.170	.110	.100
JUL											
19...	11	438	352	.60	153	.39	.090	1.90	.290	.320	.250
AUG											
17...	13	338	292	.46	175	.17	.090	1.70	.690	.580	.520

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).
E ESTIMATED.

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085427 MANITOWOC RIVER AT MANITOWOC, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM		CADMIUM	
			TOTAL (UG/L AS AS)	SUS- PENDE TOTAL (UG/L AS AS)	DIS- SOLVED (UG/L AS AS)	TOTAL RECOV- ERABLE (UG/L AS BA)	SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	TOTAL RECOV- ERABLE (UG/L AS CD)	SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)			
NOV , 1981														
10...	1330	371	1	1	0	100	70	27	<1	--				1
MAR , 1982														
18...	1210	1050	1	--	<1	100	70	29	<1	--	<1			<1
MAY														
19...	0900	210	3	1	2	<100	--	39	1	0				3
AUG														
17...	1230	192	2	0	2	<100	--	31	2	--	<1			<1

DATE		CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV , 1981												
10...	20	--	<10	<1	--	<1	5	--	<1	340	190	
MAR , 1982												
18...	10	--	<10	<1	--	<1	8	5	3	520	420	
MAY												
19...	20	10	10	<1	--	3	5	0	7	370	330	
AUG												
17...	10	0	10	2	1	1	4	1	3	890	760	

DATE		IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV , 1981											
10...	150	7	6	1	20	10	10	.2	.1	.1	
MAR , 1982											
18...	100	13	8	5	90	30	64	.1	--	.3	
MAY											
19...	45	21	14	7	90	60	27	<.1	--	<.1	
AUG											
17...	130	3	--	<1	90	70	22	<.1	--	<.1	

DATE		NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981											
10...	10	0	11	<1	<1	<1	<1	40	40	5	
MAR , 1982											
18...	14	10	4	<1	<1	<1	<1	10	0	--	
MAY											
19...	14	0	15	<1	<1	<1	<1	20	6	14	
AUG											
17...	2	0	7	<1	<1	<1	<1	50	40	6	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085427 MANITOWOC RIVER AT MANITOWOC, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
DATE	TIME									
MAY , 1982										
19...	0900	210	<1	<1.0	<.1	.60	<1.0	<.1	<.1	
AUG 17...	1230	192	4	<1.0	<.1	1.7	<1.0	.1	<.1	
		DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
DATE										
MAY , 1982										
19...	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	
AUG 17...	.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	
		MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE IN BOTTOM MATERIL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
DATE										
MAY , 1982										
19...	<.1	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1	
AUG 17...	<.1	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1	
			STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM		
DATE	TIME									
NOV , 1981										
10...	1330		371	5.0	650	4	4.0	92		
JAN , 1982										
19...	1400		44	.0	920	34	4.0	62		
MAY										
19...	0900		210	19.0	695	18	10	83		
JUL										
19...	1600		129	26.0	585	23	8.0	89		
AUG										
17...	1230		192	24.0	520	31	16	83		

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085500 CEDAR LAKE NEAR KIEL, WI

LOCATION.--Lat 43°55'35", long 87°56'23", in SW 1/4 sec.5, T.17 N., R.21 E., Manitowoc County, Hydrologic Unit 04030101, on north shore of Cedar Lake at public beach, 0.8 mi (1.3 km) southeast of Louis Corners, and 5.1 mi (8.2 km) northeast of Kiel.

DRAINAGE AREA.--1.43 mi² (3.70 km²).

PERIOD OF RECORD.--August 1936 to September 1942; April 1945 to April 1974 (fragmentary); May 1974 to September 1982 (discontinued).

REVISED RECORDS.--WDR WI-76-1: 1976.

GAGE.--Water-stage recorder. Altitude of gage is 895 ft (273 m), from topographic map. Prior to May 8, 1974, nonrecording gage at site 500 ft (152 m) southwest and at altitude 5 ft (1.5 m) lower.

REMARKS.--Add 90 ft (27 m) to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources. The record is fair.

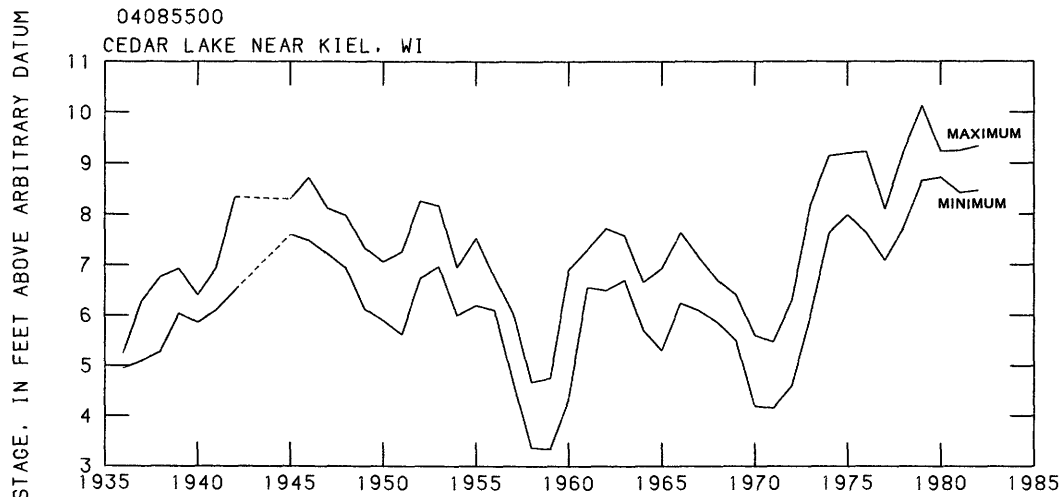
EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 100.13 ft (30.520 m) May 19, 1979; minimum observed, 93.34 ft (28.450 m) Oct. 4, Nov. 1, 1958, Jan. 17, 1959.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--An elevation of 100.37 ft (30.592 m) was observed May 20, 1929, by Wisconsin Department of Natural Resources.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 99.36 ft (30.285 m) May 30; minimum observed, 98.47 ft (30.014 m) Nov. 23-26.

DAY	GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.57	8.59	8.60	8.54	8.70	8.60	8.84	9.29	9.33	9.14	8.88	8.75
2	8.56	8.58	8.60	8.54	8.70	8.60	8.86	9.28	9.31	9.13	8.89	8.76
3	8.55	8.58	8.58	8.56	8.69	8.60	9.06	9.27	9.29	9.12	8.86	8.75
4	8.57	8.57	8.58	8.69	8.69	8.60	9.14	9.26	9.27	9.11	8.89	8.74
5	8.55	8.58	8.57	8.70	8.68	8.59	9.14	9.26	9.26	9.09	8.87	8.74
6	8.58	8.57	8.57	8.69	8.68	8.59	9.17	9.25	9.25	9.09	8.86	8.72
7	8.55	8.56	8.56	8.68	8.68	8.58	9.18	9.24	9.24	9.12	8.85	8.71
8	8.53	8.56	8.56	8.67	8.67	8.58	9.18	9.22	9.24	9.12	8.85	8.70
9	8.51	8.54	8.55	8.66	8.67	8.61	9.19	9.21	9.22	9.10	8.82	8.69
10	8.51	8.53	8.55	8.66	8.67	8.59	9.19	9.20	9.21	9.09	8.80	8.69
11	8.50	8.53	8.54	8.65	8.66	8.58	9.19	9.20	9.19	9.09	8.78	8.68
12	8.49	8.52	8.54	8.64	8.66	8.56	9.20	9.22	9.18	9.07	8.77	8.67
13	8.48	8.51	8.53	8.65	8.66	8.60	9.22	9.21	9.17	9.07	8.75	8.67
14	8.53	8.51	8.53	8.71	8.65	8.60	9.23	9.21	9.14	9.07	8.75	8.66
15	8.57	8.50	8.52	8.70	8.65	8.58	9.23	9.20	9.17	9.03	8.74	8.64
16	8.56	8.50	8.52	8.69	8.65	8.60	9.26	9.26	9.17	9.03	8.73	8.63
17	8.57	8.49	8.52	8.68	8.64	8.64	9.28	9.27	9.17	9.03	8.72	8.62
18	8.66	8.48	8.51	8.69	8.64	8.65	9.30	9.26	9.16	9.02	8.70	8.63
19	8.66	8.49	8.51	8.69	8.64	8.65	9.30	9.26	9.16	9.00	8.73	8.61
20	8.66	8.51	8.51	8.67	8.63	8.65	9.32	9.24	9.15	8.97	8.72	8.59
21	8.65	8.52	8.51	8.68	8.63	8.67	9.33	9.21	9.16	8.96	8.69	8.58
22	8.64	8.51	8.50	8.71	8.63	8.67	9.33	9.27	9.15	8.98	8.67	8.56
23	8.63	8.49	8.50	8.72	8.62	8.68	9.33	9.31	9.15	8.99	8.65	8.55
24	8.61	8.47	8.49	8.72	8.62	8.70	9.32	9.31	9.13	8.96	8.66	8.54
25	8.62	8.47	8.49	8.72	8.62	8.72	9.31	9.31	9.15	8.95	8.71	8.53
26	8.62	8.52	8.49	8.72	8.61	8.74	9.31	9.31	9.17	8.95	8.69	8.52
27	8.61	8.61	8.49	8.72	8.61	8.74	9.31	9.31	9.16	8.95	8.68	8.52
28	8.61	8.60	8.49	8.71	8.61	8.74	9.31	9.33	9.16	8.92	8.65	8.51
29	8.60	8.56	8.51	8.71	---	8.74	9.30	9.34	9.16	8.91	8.67	8.50
30	8.59	8.57	8.51	8.70	---	8.77	9.29	9.34	9.16	8.90	8.70	8.50
31	8.59	---	8.51	8.70	---	8.82	---	9.34	---	8.92	8.69	---
MEAN	8.58	8.53	8.53	8.68	8.65	8.65	9.22	9.26	9.19	9.03	8.76	8.63
MAX	8.66	8.61	8.60	8.72	8.70	8.82	9.33	9.34	9.33	9.14	8.89	8.76
MIN	8.48	8.47	8.49	8.54	8.61	8.56	8.84	9.20	9.13	8.90	8.65	8.50

WTR YR 1982 MEAN 8.81 MAX 9.34 MIN 8.47



STREAMS TRIBUTARY TO LAKE MICHIGAN

04085845 ONION RIVER NEAR SHEBOYGAN FALLS, WI

LOCATION.--Lat 43°41'48", long 87°49'15", in SE 1/4 NE 1/4 sec.11, T.14 N., R.22 E., Sheboygan County, Hydrologic Unit 04040003, on left bank, at the village of Ourltown, 2.3 mi (3.7 km) south of Sheboygan Falls.

DRAINAGE AREA.--94.1 mi² (244 km²).

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

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 660 ft (201 m), from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,350 ft³/s (66.6 m³/s) Mar. 24, 1979, gage height, 8.60 ft (2.621 m); minimum daily, 10 ft³/s (0.28 m³/s) July 11, 1981.

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 16	1130	ice jam	*8.08 2.463	Mar. 24	1430	*1,150 32.6	7.01 2.137
Mar. 17	2200	785 22.2	6.39 1.948	Apr. 3	1215	*1,150 32.6	7.01 2.137

minimum daily discharge, 13 ft³/s (0.368 m³/s) Aug. 21-23.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar. 17.)

3.3	11	4.5	138
3.4	15	5.0	249
3.6	26	5.5	401
4.0	63	6.0	598
		7.0	1,140

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	330	54	97	26	19	24	266	49	100	32	20	24
2	280	52	164	25	19	25	238	36	78	28	19	21
3	210	47	139	25	19	26	852	24	64	26	18	21
4	180	45	106	24	19	27	905	30	56	25	25	18
5	160	45	87	24	19	28	808	38	50	26	38	16
6	150	49	76	23	19	30	405	39	44	27	31	16
7	160	46	70	22	19	31	293	38	40	31	26	15
8	94	43	68	22	19	32	239	36	37	47	23	15
9	76	40	55	21	19	34	220	34	34	38	21	15
10	67	37	52	21	19	35	285	33	31	32	20	15
11	62	36	48	20	20	35	315	33	27	31	19	15
12	56	35	45	20	21	36	329	34	24	37	18	15
13	53	35	43	20	21	52	296	34	23	34	17	15
14	80	34	40	19	22	100	239	34	22	30	17	15
15	269	34	39	19	23	200	176	33	44	28	17	16
16	214	34	38	19	23	390	182	33	40	31	17	16
17	155	34	37	19	24	660	223	37	37	33	16	16
18	416	35	35	19	24	685	171	41	34	28	15	16
19	460	34	34	19	23	560	132	37	34	25	15	16
20	349	41	32	19	23	459	114	50	34	24	14	15
21	203	45	31	19	23	413	102	43	32	22	13	15
22	137	39	31	19	23	407	88	126	32	84	13	15
23	110	37	31	19	24	534	77	289	31	105	13	15
24	92	39	31	19	25	898	69	261	29	72	14	15
25	83	37	30	19	25	757	63	156	31	44	17	16
26	77	65	30	19	24	484	58	105	78	34	21	18
27	70	287	28	19	24	270	60	173	69	30	22	18
28	66	238	27	19	24	186	59	435	49	28	17	18
29	62	146	28	19	---	169	54	343	40	25	16	17
30	59	97	26	19	---	204	50	202	36	22	20	17
31	56	---	26	19	---	283	---	129	---	21	26	---
TOTAL	4836	1840	1624	635	606	8074	7368	2985	1280	1100	598	495
MEAN	156	61.3	52.4	20.5	21.6	260	246	96.3	42.7	35.5	19.3	16.5
MAX	460	287	164	26	25	898	905	435	100	105	38	24
MIN	53	34	26	19	19	24	50	24	22	21	13	15
CFSM	1.66	.65	.56	.22	.23	2.76	2.61	1.02	.45	.38	.21	.18
IN.	1.91	.73	.64	.25	.24	3.19	2.91	1.18	.51	.43	.24	.20
CAL YR 1981	TOTAL	22211	MEAN	60.9	MAX	581	MIN	10	CFSM	.65	IN	8.78
WTR YR 1982	TOTAL	31441	MEAN	86.1	MAX	905	MIN	13	CFSM	.92	IN	12.43

NOTE.--No gage-height record Dec. 19 to Jan. 27.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086000 SHEBOYGAN RIVER AT SHEBOYGAN, WI

LOCATION.--Lat 43°44'25", long 87°45'35", in SE 1/4 NE 1/4 sec.29, T.15 N., R.23 E., Sheboygan County, Hydrologic Unit 04030101, on left bank 400 ft (122 m) upstream from bridge on State Highway 141, near west city limits of Sheboygan, and 4.2 mi (5.8 km) upstream from mouth.

DRAINAGE AREA.--418 mi² (1,083 km²).

PERIOD OF RECORD.--June 1916 to September 1924 (published as "near Sheboygan"), October 1950 to September 1981 (discontinued). Monthly discharge only for some periods, published in WSP 1307, 1727.

REVISED RECORDS.--WSP 1307: 1917(M), 1919(M), 1921(M), 1923(M). WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.00 ft (178.00 m) National Geodetic Vertical Datum of 1929. June 1916 to June 1924, nonrecording gage at site 0.7 mi (1.1 km) downstream at different datum. November 1950 to June 1951, nonrecording gage at site 0.3 mi (0.5 km) downstream at datum 3.15 ft (0.960 m) lower.

REMARKS.--Records good except those for winter, which are fair. Diurnal fluctuation caused by numerous powerplants above station.

AVERAGE DISCHARGE.--40 years (1916-24, 1950-82), 243 ft³/s (6.882 m³/s), 7.89 in/yr (200 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,680 ft³/s (217 m³/s) Mar. 22, 1975, gage height, 11.64 ft (3.548 m); minimum observed, about 1 ft³/s (0.028 m³/s) Aug. 27, 1922, gage height, 1.48 ft (0.451 m) datum then in use, caused by shutdown of powerplants.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 24	1315	3,120 88.4	7.92 2.414	Apr. 3	1815	*4,660 132	*9.38 2.859

minimum discharge, 63 ft³/s (1.784 m³/s) July 21, gage height, 1.89 ft (0.576 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-24, Jan. 4 to Mar. 18.)

1.9	60	4.0	620
2.0	74	5.0	1,080
2.5	163	7.0	2,360
3.0	280	9.0	4,200

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	968	303	414	145	97	120	1590	486	405	133	74	129
2	755	296	590	144	97	123	1460	419	385	127	71	139
3	613	289	528	149	97	126	3590	349	338	119	74	139
4	503	284	456	147	98	131	2680	284	269	110	95	119
5	453	283	436	140	98	136	2200	203	220	100	125	107
6	440	309	420	130	98	138	1630	170	168	103	114	103
7	467	309	391	120	99	140	1430	162	158	139	101	101
8	392	293	321	115	100	142	1480	147	156	141	95	97
9	339	261	203	110	103	145	1420	147	133	105	91	95
10	311	230	138	108	105	142	1510	118	125	101	89	95
11	295	212	135	105	107	146	1460	113	121	105	85	92
12	276	143	130	103	108	150	1390	112	107	123	83	88
13	260	124	130	102	110	250	1250	161	105	123	80	86
14	351	145	130	101	111	530	1100	166	101	112	77	91
15	701	144	130	100	113	705	919	166	118	127	77	91
16	575	143	130	100	114	1250	1010	176	157	110	77	86
17	497	144	130	99	115	1450	1070	251	188	83	74	89
18	1210	146	130	98	117	1120	935	232	205	98	70	89
19	1120	147	130	98	117	1200	815	210	192	105	67	92
20	878	168	130	98	115	1280	680	204	185	83	68	88
21	661	173	135	98	116	1350	623	190	179	77	73	81
22	589	162	145	98	118	1480	586	287	173	316	68	79
23	592	151	155	98	119	1920	515	744	159	274	66	79
24	517	166	155	97	120	2640	415	626	143	175	85	85
25	464	165	152	97	121	2570	406	455	149	125	129	83
26	410	276	150	97	120	1850	390	341	208	107	129	83
27	358	838	143	97	119	1410	397	419	215	101	108	80
28	307	717	137	97	119	1270	381	1170	175	98	91	80
29	307	528	140	97	---	1250	360	833	159	91	94	79
30	307	394	130	97	---	1360	430	614	147	83	118	74
31	307	---	137	97	---	1660	---	475	---	79	131	---
TOTAL	16223	7943	6781	3382	3071	28184	34122	10430	5543	3773	2779	2819
MEAN	523	265	219	109	110	909	1137	336	185	122	89.6	94.0
MAX	1210	838	590	149	121	2640	3590	1170	405	316	131	139
MIN	260	124	130	97	97	120	360	112	101	77	66	74
CFSM	1.25	.63	.52	.26	.26	2.18	2.72	.80	.44	.29	.21	.23
IN.	1.44	.71	.60	.30	.27	2.51	3.04	.93	.49	.34	.25	.25

CAL YR 1981	TOTAL	88357	MEAN	242	MAX	1960	MIN	40	CFSM	.58	IN	7.86
WTR YR 1982	TOTAL	125050	MEAN	343	MAX	3590	MIN	66	CFSM	.82	IN	11.13

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 43°06'00", long 87°54'32", in NE 1/4 sec.5, T.7 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, on left bank near northeast limits of Milwaukee in Estabrook Park, 2,000 ft (600 m) downstream from Port Washington Road bridge and 6.6 mi (10.6 km) upstream from mouth.

DRAINAGE AREA.--696 mi² (1,803 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1914 to current year. Published as "near Milwaukee" prior to 1936.

REVISED RECORDS.--WSP 564: 1918(M). WSP 924: 1940. WSP 1207: 1936(M). WSP 1337: 1915-17(M), 1918, 1919-21(M), 1922, 1923(M), 1924, 1925-33(M). WDR WI-79-1: Drainage area.

GAGE.--Datum of gage is 607.23 ft (185.084 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Apr. 6, 1929, nonrecording gage near present site at different datum. Apr. 6, 1929, to Jan. 8, 1934, nonrecording gage at bridge 0.5 mi (0.8 km) upstream at different datum.

REMARKS.--Records good except those for winter periods, which are poor. Occasional regulation caused by recreation dam approximately 1,200 ft (366 m) upstream.

AVERAGE DISCHARGE.--68 years, 408 ft³/s (11.55 m³/s), 7.96 in/yr (202 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s (428 m³/s) Mar. 20, 1918, Aug. 6, 1924, gage height, 9.00 ft (2.743 m) datum then in use, from floodmark for 1918, from graph based on gage reading for 1924, no flow Sept. 8, 1943.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Oct. 1	0100	3,110 88.1	4.98 1.518	Mar. 24	2330	3,060 86.7	4.95 1.509
Oct. 17	2130	2,470 70.0	4.54 1.384	Apr. 3	0845	*4,630 131	*5.90 1.798
Mar. 18	1500	3,090 87.5	4.97 1.515	Apr. 16	0800	2,640 74.8	4.66 1.420

minimum discharge, 6.0 ft³/s (0.170 m³/s) May 18, gage height, 1.50 ft (0.457 m), result of regulation.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11 to Mar. 11.)

1.9	101	4.0	1,780
2.0	138	5.0	3,140
2.5	398	6.0	4,810
3.0	764		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2150	628	1200	260	200	250	1700	568	781	456	223	249
2	1760	739	1200	260	200	250	2050	547	723	302	361	228
3	1380	644	1170	250	200	250	4240	532	606	254	238	214
4	1170	547	1110	240	200	240	4260	504	504	204	463	204
5	1010	554	929	240	200	240	3920	423	423	159	314	190
6	1010	554	832	230	190	230	3390	476	398	233	361	185
7	938	539	789	230	190	230	2860	450	404	463	319	176
8	832	525	739	230	190	220	2530	430	373	398	223	176
9	731	511	628	220	190	220	2220	410	337	361	249	176
10	644	490	443	220	180	240	2080	385	343	325	275	151
11	606	490	410	210	190	340	2120	443	308	233	249	119
12	576	476	390	210	200	456	2170	476	291	343	249	119
13	547	463	370	210	200	798	2150	423	264	286	176	130
14	938	410	340	200	200	1030	2040	417	249	238	127	134
15	1300	391	330	200	210	1420	1890	404	443	238	168	155
16	1270	404	320	200	220	1900	2010	373	367	280	168	146
17	1480	430	310	200	220	2230	1790	430	398	302	155	176
18	2190	423	300	200	230	2580	1780	134	391	286	134	155
19	2130	456	300	200	230	2700	1610	423	361	291	138	142
20	1850	532	290	200	240	2750	1380	456	367	259	319	151
21	1670	483	290	200	240	2520	1190	547	337	244	134	146
22	1490	490	290	200	240	2310	1120	636	331	373	119	142
23	1330	470	310	200	250	2270	1040	1000	308	297	104	138
24	1140	410	290	210	260	2680	947	1090	297	325	138	142
25	975	430	270	190	270	2990	832	966	343	259	146	138
26	902	764	260	190	240	2700	764	947	291	244	172	138
27	823	1220	250	200	230	2270	707	993	302	302	190	142
28	764	1350	250	210	240	1960	691	1050	337	264	108	151
29	731	1290	250	210	---	1760	667	947	355	233	159	155
30	731	1170	250	210	---	1670	636	920	349	223	204	151
31	547	---	260	210	---	1720	---	832	---	223	249	---
TOTAL	35615	18283	15370	6640	6050	43424	56784	18632	11581	8898	6632	4819
MEAN	1149	609	496	214	216	1401	1893	601	386	287	214	161
MAX	2190	1350	1200	260	270	2990	4260	1090	781	463	463	249
MIN	547	391	250	190	180	220	636	134	249	159	104	119
CFSM	1.65	.88	.71	.31	.31	2.01	2.72	.86	.56	.41	.31	.23
IN.	1.90	.98	.82	.35	.32	2.32	3.04	1.00	.62	.48	.35	.26
CAL YR 1981	TOTAL	194219	MEAN 532	MAX 2190	MIN 57	CFSM .76	IN 10.38					
WTR YR 1982	TOTAL	232728	MEAN 638	MAX 4260	MIN 104	CFSM .92	IN 12.44					

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1967-69, 1971, 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1973 to September 1981 (discontinued).
WATER TEMPERATURES: July 1973 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV , 1981											
10... 1981	0915	497	695	8.3	4.0	5.9	11.3	89	230	120	350
JAN , 1982											
19... 1982	0845	197	700	8.1	.0	2.1	11.4	81	250	180	360
MAR											
18...	0800	2540	420	7.9	1.0	24	--	--	1200	25000	190
MAY											
18...	1050	199	650	--	20.0	4.9	9.2	105	33	160	310
JUL											
19...	1230	291	595	8.5	27.0	8.6	8.5	111	K850	110	290
AUG											
16...	1145	168	605	8.5	24.0	8.8	8.5	105	420	260	290

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV , 1981											
10... 1981	43	77	39	20	11	.5	2.4	310	34	41	.2
JAN , 1982											
19... 1982	31	77	41	49	23	1.2	3.7	330	35	92	.2
MAR											
18...	27	42	20	17	16	.6	4.5	160	22	32	.1
MAY											
18...	27	63	36	23	14	.6	2.6	279	30	44	.2
JUL											
19...	36	56	36	27	17	.8	2.0	252	23	43	.2
AUG											
16...	33	57	36	26	16	.7	2.2	258	22	42	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1981											
10... 1981	3.7	433	404	.59	581	1.1	.010	.84	.080	.040	.030
JAN , 1982											
19... 1982	12	545	508	.74	290	2.7	.440	1.40	.120	.100	.090
MAR											
18...	6.7	269	241	.37	1850	1.5	.420	2.00	.300	.140	.120
MAY											
18...	.4	392	367	.53	211	<.10	.040	1.80	.110	.110	.030
JUL											
19...	6.7	405	345	.55	318	<.10	.030	1.50	.270	.120	.050
AUG											
16...	12	421	353	.57	191	<.10	.030	1.20	.190	.050	.040

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)		ARSENIC SUS- PENED TOTAL (UG/L AS AS)		ARSENIC DIS- SOLVED (UG/L AS AS)		BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)		BARIUM, SUS- PENED RECOV- ERABLE (UG/L AS BA)		BARIUM, DIS- SOLVED (UG/L AS BA)		CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)		CADMIUM DIS- SOLVED (UG/L AS CD)		
NOV , 1981																			
10...	0915	497	1	0	1	100	70	32	<1	1									
MAR , 1982																			
18...	0800	2540	1	--	<1	100	70	26	<1	2									
MAY																			
18...	1050	199	3	1	2	<100	--	45	1	3									
AUG																			
16...	1145	168	4	1	3	200	200	41	1	3									

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, SUSPENDED RECOVERED (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
NOV , 1981										
10...	10	--	<10	<1	1	7	--	<1	550	490
MAR , 1982										
18...	10	--	<10	2	<1	25	21	4	1500	1400
MAY										
18...	20	10	10	1	3	7	--	9	440	210
AUG										
16...	20	10	10	2	<1	9	4	5	380	360

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV ., 1981	58	5	3	2	40	30	13	.5	.4	.1
MAR ., 1982	120	20	16	4	90	70	21	.1	--	.8
MAY 18...	230	7	--	10	100	30	72	<.1	--	<.1
AUG 16...	17	7	--	<1	80	70	6	.1	--	<.1

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOVER- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVER- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOVER- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOVER- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981										
MAR , 1982	4	2	2	<1	<1	<1	<1	50	40	14
MAY 18...	6	--	<1	<1	<1	<1	<1	30	20	14
MAY 18...	8	--	9	<1	<1	<1	<1	20	3	17
AUG 16...	4	2	2	<1	<1	<1	<1	30	20	11

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
DATE	TIME								
MAY , 1982									
18...	1050	199	350	<1.0	<.1	.20	2.0	2.3	1.5
AUG									
16...	1145	168	230	<1.0	<.1	.70	7.0	3.7	<.1
DATE	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY , 1982									
18...	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1
AUG									
16...	<.1	<.1	<.1	<.1	.4	<.1	<.1	.2	<.1
DATE	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE IN BOTTOM MATERIL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY , 1982									
18...	<.1	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1
AUG									
16...	<.1	<.1	<.1	<.1	<.1	<.1	<1.00	<10	<.1
	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV , 1981									
	10...	0915	497	4.0	695	59	79	73	
JAN , 1982									
	19...	0845	197	.0	700	38	20	97	
MAR									
	18...	0800	2540	1.0	420	79	542	76	
MAY									
	18...	1050	199	20.0	650	20	11	93	
JUL									
	19...	1230	291	27.0	595	29	23	95	
AUG									
	16...	1145	168	24.0	605	23	10	93	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087030 MENOMONEE RIVER AT MENOMONEE FALLS, WI

LOCATION.--Lat 43°10'22", long 88°06'14" in SE 1/4 NE 1/4 sec.10, T.8 N., R.20 E., Waukesha County, Hydrologic Unit 04040003, on right bank, 150 ft (46 m) upstream from Pilgrim Road (County Trunk Highway YY) bridge in Menomonee Falls, at mile 21.1 (33.9 km).

DRAINAGE AREA.--34.7 mi² (89.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1974 to September 1977, July 1979 to current year.

REVISED RECORDS.--WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 753.50 ft (229.67 m) National Geodetic Vertical Datum of 1929 (University of Wisconsin bench mark).

REMARKS.--Records good except those for ice periods, which are fair. Occasional regulation caused by dam in Menomonee Falls, about 1.0 mi (1.6 km) upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,010 ft³/s (28.6 m³/s) July 13, 1981, gage height, 6.57 ft (2.003 m); minimum discharge, 0.85 ft³/s (0.024 m³/s) July 29, 30, and Aug. 13, 1982, gage height, 2.55 ft (0.777 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 430 ft³/s (12.2 m³/s) Apr. 4, gage height, 5.20 ft (1.585 m); minimum, 0.85 ft³/s (0.024 m³/s) July 29, 30, and Aug. 13, gage height, 2.55 ft (0.777 m).

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar. 12.)

Oct. 1 to Mar. 12

Mar. 13 to Sept. 30

3.1	16	4.5	204
3.3	30	5.0	333
3.6	60	5.5	501
4.0	111		

2.7	2.4	3.5	50
2.8	4.2	4.0	124
2.9	6.9	4.5	234
3.0	11	5.0	370
3.2	22	5.5	520

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	27	53	11	10	22	93	22	20	12	11	6.6
2	299	28	60	10	10	23	140	21	17	11	24	6.6
3	229	27	52	12	11	23	395	20	15	10	15	5.7
4	158	27	44	12	11	22	397	19	14	10	17	4.7
5	104	29	38	11	11	22	360	19	12	9.2	11	4.0
6	73	30	32	10	10	21	192	19	11	11	10	3.8
7	59	27	31	10	9.8	17	136	18	17	25	10	3.9
8	47	26	30	9.8	9.6	15	97	17	14	15	20	4.2
9	39	24	27	9.6	9.8	16	86	15	13	12	11	4.6
10	33	23	22	9.4	9.8	24	97	15	12	18	7.5	4.5
11	30	23	22	8.6	9.8	30	133	17	9.9	28	6.7	4.5
12	28	22	20	8.8	11	82	180	20	9.6	16	5.5	4.1
13	27	21	18	8.8	11	211	209	18	8.8	11	4.4	3.9
14	65	21	18	9.0	10	185	165	18	8.4	10	6.7	4.5
15	115	20	14	9.0	12	203	111	21	30	9.6	5.4	5.4
16	113	20	15	8.6	16	211	97	24	28	9.4	5.0	4.7
17	117	20	15	8.6	15	216	99	21	18	8.4	6.5	7.3
18	182	19	13	9.0	15	195	74	19	14	8.1	4.3	5.9
19	184	21	12	9.8	14	180	59	17	13	8.0	9.0	4.7
20	148	27	11	10	18	168	55	15	13	7.7	14	4.1
21	107	25	11	11	27	153	48	16	14	8.9	5.2	3.8
22	76	23	11	11	35	144	41	50	13	10	4.6	4.1
23	59	21	12	11	35	169	37	74	13	7.9	4.2	4.7
24	48	21	11	11	29	227	35	56	12	6.8	9.4	4.4
25	43	22	11	10	27	233	31	41	12	6.1	7.6	4.0
26	39	54	12	10	26	181	29	34	13	5.5	5.5	4.0
27	38	103	11	11	24	118	29	37	11	6.9	4.7	3.7
28	34	92	11	11	23	81	26	38	11	5.8	4.4	3.8
29	32	65	9.6	11	---	66	25	33	15	3.9	7.4	4.0
30	31	48	9.6	11	---	93	23	27	14	5.9	7.0	4.2
31	27	---	12	10	---	112	---	22	---	4.3	6.3	---
TOTAL	2924	956	668.2	313.0	459.8	3463	3499	803	425.7	321.4	270.3	138.4
MEAN	94.3	31.9	21.6	10.1	16.4	112	117	25.9	14.2	10.4	8.72	4.61
MAX	340	103	60	12	35	397	74	30	28	24	24	7.3
MIN	27	19	9.6	8.6	9.6	15	23	15	8.4	3.9	4.2	3.7
CFSM	2.72	.92	.62	.29	.47	3.23	3.37	.75	.41	.30	.25	.13
IN.	3.13	1.02	.72	.34	.49	3.71	3.75	.86	.46	.34	.29	.15
CAL YR 1981	TOTAL	11310.8	MEAN	31.0	MAX	340	MIN	3.9	CFSM	.89	IN	12.13
WTR YR 1982	TOTAL	14241.8	MEAN	39.0	MAX	397	MIN	3.7	CFSM	1.12	IN	15.27

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087030 MENOMONEE RIVER AT MENOMONEE FALLS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to September 1977, June to September 1982.

PERIOD OF DAILY RECORD. --

SUSPENDED-SEDIMENT DISCHARGE: March 1975 to September 1977, June to September 1982.

INSTRUMENTATION.--Sediment pumping sampler since June 1982.

REMARKS.--Sediment records are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 436 mg/l July 24, 1975; minimum daily mean, 1 mg/l Oct. 4, 1975, Oct. 3, 1976 and Sept. 26, 1982. Maximum observed, 856 mg/l Aug. 13, 1977; minimum observed, 1 mg/l on many days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 139 tons (126 tonnes) Mar. 22, 1975; minimum daily, 0 ton (0 tonne) Oct. 1-3, 1976.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 47 mg/l June 15; minimum daily mean, 1 mg/l Sept. 26.; Maximum observed, 735 mg/l Aug. 1; minimum observed, 1 mg/l Sept. 26.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 9.1 tons (8.3 tonnes) Aug. 1; minimum daily .01 ton (.01 tonne) Sept. 26.

SUSPENDED-SEDIMENT, JUNE TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)
	(MG/L)		(MG/L)		(MG/L)		(MG/L)	
JUNE								
1	36	1.9	19	.61	23	9.1	5	.09
2	30	1.4	18	.53	34	2.5	4	.07
3	24	.97	18	.48	16	1.1	3	.05
4	20	.76	17	.45	18	.93	3	.04
5	15	.49	17	.42	7	.23	2	.02
JULY								
6	15	.45	16	.46	6	.17	2	.02
7	34	2.1	35	3.1	15	.73	2	.02
8	25	.94	14	.56	20	1.1	3	.03
9	20	.70	14	.45	8	.25	3	.04
10	16	.52	34	2.5	5	.09	3	.04
AUGUST								
11	12	.32	25	1.9	3	.06	4	.05
12	10	.26	10	.46	6	.09	4	.04
13	8	.19	7	.22	11	.12	4	.04
14	8	.18	7	.19	9	.16	6	.07
15	47	3.8	7	.18	6	.09	10	.15
SEPTEMBER								
16	34	2.7	6	.16	5	.06	18	.22
17	22	1.1	6	.14	8	.12	21	.45
18	20	.78	7	.15	8	.09	14	.22
19	17	.58	6	.13	20	5.5	8	.10
20	32	1.4	6	.13	38	2.0	2	.02
OCTOBER								
21	28	1.0	16	.62	11	.15	2	.02
22	29	1.1	16	.47	10	.12	2	.02
23	13	.48	9	.20	10	.11	2	.03
24	9	.30	8	.14	16	1.1	2	.02
25	8	.28	7	.11	14	.29	2	.02
NOVEMBER								
26	12	.44	6	.08	7	.10	1	.01
27	12	.40	5	.09	6	.08	2	.02
28	12	.40	4	.06	6	.07	6	.06
29	17	.70	4	.04	12	.38	8	.09
30	21	.85	15	.52	9	.17	8	.09
31	---	---	8	.10	6	.10	---	---
TOTAL	---	27.49	---	15.65	---	27.16	---	2.16
LOAD:		72.46	TONS.					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087088 Underwood Creek at Wauwatosa, WI

LOCATION.--Lat 43°03'17", long 88°02'46", in SW 1/4 NW 1/4 sec.20, T.7 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, at U.S. Highway 45, on right bank, just downstream of the Chicago, Milwaukee, St. Paul and Pacific Railroad bridge, on Milwaukee County Park Commission property, at Wauwatosa, and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--18.2 mi² (47.1 km²).

PERIOD OF RECORD.--December 1974 to November 1979, July 1980 to current year.

REVISED RECORDS.--WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder and steel plate weir. Altitude of gage is 690 ft (210 m), from topographic map.

REMARKS.--Records are good, except those for the periods of ice effect, which are fair.

AVERAGE DISCHARGE.--6 years (1976-79, 1981-82), 11.1 ft³/s (0.314 m³/s) 8.28 in/yr (210 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s (59.5 m³/s) July 13, 1981, gage height, 5.55 ft (1.692 m); no flow on all or part of many days during 1977 winter period.

EXTREMES FOR CURRENT PERIOD.--Maximum recorded discharge, 579 ft³/s (16.4 m³/s) Apr. 3, gage height, 4.46 ft (1.359 m) but was higher during the period of no gage-height record, Aug. 1-2; approximate gage-height of 5.5 ft was attained from very poor floodmarks; minimum, 0.60 ft³/s (0.017 m³/s) Jan. 4, gage height, 2.53 ft (0.771 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Feb. 14.)

2.6	1.4	3.1	28
2.7	3.7	3.4	64
2.8	7.3	3.7	142
2.9	12	4.0	268
		4.4	530

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	4.6	22	3.0	2.6	8.0	22	9.2	7.9	3.7	10	4.9
2	6.5	4.6	12	2.8	2.8	9.1	99	9.2	7.0	3.4	86	6.1
3	5.7	4.6	9.4	3.2	2.8	8.0	282	9.2	6.5	3.1	16	3.9
4	6.9	5.0	11	3.1	2.8	8.7	92	8.7	6.6	3.0	22	3.7
5	5.7	5.7	8.3	2.9	2.7	9.0	50	11	6.5	2.8	8.2	3.3
6	23	5.3	7.5	3.4	2.6	8.4	41	10	6.0	3.1	6.9	2.9
7	7.8	4.6	7.5	3.1	2.2	6.8	35	8.7	7.3	5.0	7.5	2.5
8	5.9	5.0	6.5	2.9	2.5	6.3	31	8.6	6.4	7.8	8.0	2.6
9	5.5	4.6	6.4	2.6	2.5	7.0	32	7.8	6.1	6.1	5.7	3.0
10	5.3	4.3	6.7	2.5	2.5	11	39	7.8	6.3	21	4.4	2.8
11	4.6	4.3	7.0	2.3	2.6	10	55	20	6.7	14	4.2	2.8
12	4.7	4.2	6.6	2.3	2.9	30	71	17	8.1	6.9	3.9	2.7
13	4.6	4.2	5.0	2.4	2.9	78	68	9.7	6.6	5.3	4.3	3.9
14	46	4.1	4.8	2.5	3.3	58	41	9.2	6.8	17	3.9	3.2
15	19	4.1	3.8	2.5	6.7	50	31	17	40	12	3.7	2.5
16	8.5	4.0	3.9	2.5	6.5	110	70	14	7.9	7.3	4.1	2.5
17	56	3.6	3.9	2.3	7.1	66	41	9.8	5.7	6.1	3.6	6.3
18	47	3.8	3.6	2.9	6.9	52	27	9.1	7.1	5.7	3.3	3.4
19	21	9.0	3.1	2.9	6.5	46	23	9.8	5.4	5.0	3.2	2.7
20	13	15	3.0	2.8	13	69	19	9.1	9.0	4.6	6.8	2.6
21	12	5.9	2.9	2.9	10	46	15	17	6.4	5.3	3.0	2.4
22	9.2	5.1	3.0	2.9	12	47	13	30	4.8	46	6.2	2.6
23	8.7	4.7	3.1	2.9	13	52	11	52	4.2	15	4.3	2.7
24	7.3	6.6	2.9	2.9	9.0	62	11	14	3.7	6.9	10	2.6
25	7.3	4.8	2.9	2.8	6.9	45	10	11	3.7	5.7	5.9	2.6
26	6.1	49	3.1	2.7	6.5	31	10	15	3.9	5.3	4.2	2.0
27	6.7	23	3.0	2.8	6.9	22	8.8	18	3.4	7.3	4.0	2.0
28	6.5	10	2.9	2.8	7.4	20	9.2	12	3.7	6.1	3.2	1.9
29	6.5	8.6	2.5	2.8	---	19	9.2	11	4.6	5.6	9.6	2.2
30	5.7	7.8	2.5	2.8	---	50	9.2	8.7	4.6	5.4	5.7	2.5
31	5.3	---	3.2	2.7	---	28	---	7.9	---	5.3	4.3	---
TOTAL	391.0	230.1	174.0	85.9	156.1	1073.3	1275.4	411.5	212.9	256.8	276.1	91.8
MEAN	12.6	7.67	5.61	2.77	5.58	34.6	42.5	13.3	7.10	8.28	8.91	3.06
MAX	56	49	22	3.4	13	110	282	52	40	46	86	6.3
MIN	4.6	3.6	2.5	2.3	2.2	6.3	8.8	7.8	3.4	2.8	3.0	1.9
CFSM	.69	.42	.31	.15	.31	1.90	2.34	.73	.39	.46	.49	.17
IN.	.80	.47	.36	.18	.32	2.19	2.61	.84	.44	.52	.56	.19

CAL YR 1981 TOTAL 4261.2 MEAN 11.7 MAX 230 MIN 2.2 CFSM .64 IN 8.71
WTR YR 1982 TOTAL 4634.9 MEAN 12.7 MAX 282 MIN 1.9 CFSM .70 IN 9.47

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087120 MENOMONEE RIVER AT WAUWATOSA, WI

LOCATION.--Lat 43°02'44", long 87°59'59", in NE 1/4 NW 1/4 sec.27, T.7 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on left bank near upstream side of 70th Street bridge in Wauwatosa, 800 ft (244 m) downstream from Honey Creek, and at mile 6.2 (10.0 km).

DRAINAGE AREA.--123 mi² (319 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 630.86 ft (192.286 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1974, nonrecording gage at present site and datum.

REMARKS.--Records good except for winter periods, which are fair. Low flow affected by three sewage treatment plants upstream.

AVERAGE DISCHARGE.--21 years, 90.3 ft³/s (2.557 m³/s) 9.97 in/yr (253 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s (382 m³/s) Apr. 21, 1973, gage height, 13.92 ft (4.24 m) from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 2.8 ft³/s (0.079 m³/s) Jan. 18, 1964.

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

DATE	TIME	DISCHARGE (ft ³ /s)	(m ³ /s)	GAGE HEIGHT (ft)	(m)	DATE	TIME	DISCHARGE (ft ³ /s)	(m ³ /s)	GAGE HEIGHT (ft)	(m)
Oct. 17	2125	1,670	47.3	4.98	1.518	Apr. 16	0805	1,070	30.3	4.01	1.222
Nov. 26	1555	1,000	28.3	3.90	1.189	July 22	0620	1,040	29.5	3.97	1.210
Apr. 3	0515	2,600	73.6	6.26	1.908	Aug. 2	0030	*4,740	134	*8.46	2.579

minimum daily discharge, 12 ft³/s (0.340 m³/s) Sept. 12, 21, 22, 26-29.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11, 18-20, 29, 30, and Jan. 7 to Feb. 20.)

0.7	10	2.5	330
0.8	13	3.0	525
1.0	22	4.0	1,060
1.2	36	5.0	1,680
1.5	73	6.0	2,390
2.0	176		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	668	61	184	28	25	72	212	64	55	28	62	21
2	584	61	158	25	26	71	425	62	50	25	535	26
3	442	59	133	28	26	66	2050	59	45	30	76	18
4	334	60	141	24	26	56	974	59	40	40	195	15
5	239	67	108	25	25	82	745	63	36	23	56	14
6	264	63	89	29	24	74	499	62	33	104	36	13
7	138	58	86	29	24	53	349	57	52	250	32	13
8	107	53	85	27	24	72	263	53	45	54	41	13
9	89	51	74	24	24	71	249	49	36	36	35	14
10	77	49	56	23	24	67	308	46	44	101	25	15
11	67	48	54	21	25	76	436	119	33	106	21	14
12	61	46	51	22	28	195	561	125	34	49	20	12
13	58	45	50	22	27	547	597	59	28	33	19	14
14	330	45	45	23	25	546	440	52	26	74	16	14
15	303	44	38	23	32	529	295	77	240	42	17	20
16	237	44	40	22	39	831	478	69	73	26	17	15
17	438	44	37	21	38	789	315	56	53	26	17	40
18	700	42	32	25	38	636	224	63	51	23	17	23
19	450	80	29	27	35	548	174	61	38	22	16	15
20	332	119	28	26	80	632	155	45	52	20	105	13
21	252	64	29	27	95	505	135	82	49	83	28	12
22	188	52	36	27	121	422	117	147	36	227	27	12
23	145	50	34	27	120	478	101	338	29	41	20	14
24	115	53	30	27	88	602	93	151	27	26	40	16
25	100	51	28	25	78	547	84	98	132	22	56	14
26	92	337	29	25	85	400	80	108	56	21	23	12
27	86	291	29	26	76	277	77	121	33	27	18	12
28	80	205	28	26	68	198	72	95	28	43	16	12
29	75	152	24	27	---	161	69	90	60	22	49	12
30	72	115	23	27	---	287	67	68	37	20	50	13
31	65	---	28	25	---	270	---	59	---	18	21	---
TOTAL	7188	2509	1836	783	1346	10160	10644	2657	1551	1662	1706	471
MEAN	232	83.6	59.2	25.3	48.1	328	355	85.7	51.7	53.6	55.0	15.7
MAX	700	337	184	29	121	831	2050	338	240	250	535	40
MIN	58	42	23	21	24	53	67	45	26	18	16	12
CFSM	1.89	.68	.48	.21	.39	2.67	2.89	.70	.42	.44	.45	.13
IN.	2.17	.76	.56	.24	.41	3.07	3.22	.80	.47	.50	.52	.14
CAL YR 1981	TOTAL	38486	MEAN 105	MAX 1500	MIN 16	CFSM .85	IN 11.64					
WTR YR 1982	TOTAL	42513	MEAN 116	MAX 2050	MIN 12	CFSM .94	IN 12.86					

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087120 MENOMONEE RIVER AT WAUWATOSA, WI--CONTINUED
WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1966 to September 1977, June to September 1982.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: January 1975 to September 1977, June to September 1982.

INSTRUMENTATION.--Sediment pumping sampler since June 1982.

REMARKS.--Sediment records are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 580 mg/l June 11, 1977; minimum daily mean, 3 mg/l June 9, 10, 1982. Maximum observed, 1,230 mg/l Aug. 2, 1982; minimum observed, 1 mg/l May 14, 1975.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,500 tons (2,270 tonnes) Mar. 22, 1975; minimum daily, 0.16 ton (0.15 tonne) Jan. 19-21, 1977.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 312 mg/l Aug. 2; minimum daily mean, 3 mg/l June 9, 10. Maximum observed, 1,230 mg/l Aug. 2; minimum observed, 1 mg/l June 13.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,190 tons (1,080 tonnes) Aug. 2; minimum daily 0.31 ton (0.28 tonne) Sept. 12.

SUSPENDED-SEDIMENT, JUNE TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	JUNE		JULY		AUGUST		SEPTEMBER	
1	26	3.9	12	.90	41	126	22	1.3
2	18	2.4	11	.76	312	1190	45	4.0
3	16	1.9	19	3.7	68	22	20	.98
4	10	1.1	37	6.7	199	133	22	.86
5	9	.87	15	.91	57	8.9	23	.84
6	9	.80	84	71	32	3.1	24	.84
7	24	3.8	187	104	34	3.7	23	.83
8	5	.59	65	10	42	5.0	13	.46
9	3	.33	29	2.8	48	4.6	11	.40
10	3	.40	92	64	33	2.2	10	.39
11	7	.59	116	36	42	2.3	10	.37
12	24	3.7	54	7.5	42	2.2	9	.31
13	24	3.9	27	2.4	40	2.0	9	.36
14	30	4.9	68	39	38	1.7	12	.45
15	143	115	18	2.3	36	1.7	24	1.4
16	48	9.6	11	.80	32	1.5	17	.68
17	36	5.3	12	.84	17	.80	53	6.8
18	25	3.5	12	.75	17	.79	20	1.3
19	19	1.9	13	.75	22	1.2	19	.75
20	63	16	13	.71	234	74	18	.61
21	78	11	46	47	64	5.3	17	.56
22	41	4.3	131	178	56	6.4	16	.53
23	36	2.8	26	3.1	24	1.9	18	.72
24	27	1.9	15	1.0	54	9.6	19	.80
25	110	79	15	.86	32	5.9	17	.65
26	35	5.7	15	.84	15	.91	16	.50
27	15	1.3	32	3.4	15	.72	14	.46
28	14	1.1	42	4.5	15	.63	13	.41
29	54	16	22	1.3	36	12	12	.37
30	16	1.6	15	.78	25	3.7	10	.36
31	---	---	15	.73	18	.99	---	---
TOTAL	---	305.18	---	597.33	---	1634.74	---	29.29
TOTAL LOAD:		2566.54	TONS.					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087138 MENOMONEE RIVER AT MILWAUKEE, WI

LOCATION.--Lat 43°01'28", long 87°57'36", in SE 1/4 NW 1/4 sec.36, T.7 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on left bank 10 ft (3.0 m) downstream from pedestrian walkway over the Menomonee River, 0.4 mi (0.6 km) south of the main entrance to Milwaukee Road Train Yard located at 32nd Street, and 0.1 mi (0.2 km) upstream from bridge at 35th Street, at Milwaukee.

DRAINAGE AREA.--134 mi² (347 km²).

PERIOD OF RECORD.--December 1981 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 576.23 ft (175.635 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good. Stage-discharge relation may be affected by seiche from Lake Michigan.

EXTREMES OUTSIDE PERIOD OF RECORD.--High water of July 13, 1981, reached a stage of 13.16 ft (4.011 m), present datum, from high-water marks; discharge, 5,910 ft³/s (167 m³/s), from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of four step-backwater determinations, Q10, Q50, Q100, Q500 obtained from City of Milwaukee Flood Insurance Study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period December 1981 to September 1982, 4,960 ft³/s (140 m³/s) Aug. 2, 1982, gage height 12.02 ft (3.664 m), from rating curve extended as explained above; minimum discharge, 21 ft³/s (0.59 m³/s) Sept. 6, 8, 12, 13, 22, 23, 26-29, gage height, 2.21 ft (0.674 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15, 16, 18, and Mar. 4.)

2.2	20	4.0	354
2.5	46	5.0	671
2.9	100	7.0	1,540
3.4	201	9.0	2,700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			200	33	30	84	233	79	65	40	110	36
2			170	30	31	78	635	75	58	35	600	42
3			150	36	31	67	2150	74	53	36	110	31
4			150	33	31	66	998	74	49	56	224	27
5			120	32	30	63	752	77	46	33	74	24
6			98	38	29	61	532	74	43	156	54	22
7			96	34	29	51	358	69	63	274	47	22
8			94	32	28	44	271	64	56	71	51	23
9			81	28	29	46	259	58	47	49	49	24
10			65	27	29	71	309	57	53	150	39	24
11			65	25	29	84	432	135	44	133	35	23
12			55	26	33	272	581	160	47	63	34	22
13			55	26	32	614	620	75	38	46	33	24
14			52	28	29	556	470	65	36	98	30	24
15			42	28	38	533	276	103	297	61	31	31
16			43	27	46	884	538	96	91	41	31	27
17			43	25	45	752	329	69	66	42	31	54
18			37	30	45	610	246	89	64	37	31	37
19			34	32	41	536	202	81	49	35	30	26
20			33	30	90	618	182	59	69	32	134	24
21			37	32	105	491	162	123	63	121	45	22
22			43	32	137	432	145	184	49	269	43	22
23			41	32	137	483	125	453	41	55	35	23
24			35	32	98	595	115	173	39	39	56	26
25			33	30	79	541	104	123	185	34	76	24
26			34	30	73	408	98	137	71	34	37	22
27			33	31	73	287	96	154	44	39	32	22
28			33	31	76	209	91	115	40	51	28	22
29			28	31	---	178	87	110	84	34	68	22
30			28	32	---	314	81	83	48	30	69	23
31			35	29	---	287	---	70	---	29	36	---
TOTAL			2063	942	1503	10315	11477	3358	1998	2223	2303	795
MEAN			66.5	30.4	53.7	333	383	108	66.6	71.7	74.3	26.5
MAX			200	38	137	884	2150	453	297	274	600	54
MIN			28	25	28	44	81	57	36	29	28	22
CFSM			.50	.23	.40	2.49	2.86	.81	.50	.54	.55	.20
IN.			.57	.26	.42	2.86	3.19	.93	.55	.62	.64	.22

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087160 KINNICKINNIC RIVER AT MILWAUKEE, WI

LOCATION.--Lat 42°59'88", long 87°55'13", in SE 1/4 NW 1/4 sec.8, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, on left bank 50 ft (15 m) upstream from bridge on 7th Street, 0.3 mi (0.5 km) west of intersection of Chicago and Northwestern Railroad and Interstate Highway 94.

DRAINAGE AREA.--20.4 mi² (52.8 km²).

PERIOD OF RECORD.--September 1976 to January 1983 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 576.08 ft (175.589 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair to poor.

AVERAGE DISCHARGE.--6 years, 24.9 ft³/s (0.705 m³/s), 16.58 in/yr (421 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft³/s (125 m³/s) Dec. 2, 1982, gage height, 21.93 ft (6.684 m) from floodmarks, from rating curve extended above 530 ft³/s (15.0 m³/s) on basis of four step-backwater determinations, Q10, Q50, Q100, Q500 obtained from city of Milwaukee Flood Insurance Study; minimum, 1.5 ft³/s (0.04 m³/s) Sept. 8, 1982, gage height, 9.57 ft (2.917 m).

EXTREMES FOR CURRENT PERIOD.--Water year 1982: Maximum discharge, 2,360 ft³/s (66.8 m³/s) Aug. 2, gage height, 16.91 ft (5.154 m) from rating curve extended as explained above; minimum, 1.5 ft³/s (0.04 m³/s) Sept. 8, gage height, 9.56 ft (2.917 m).

October to January 1983: Maximum discharge during period, 4,400 ft³/s (125 m³/s) Dec. 2, gage height, 21.93 ft (6.684 m) from floodmarks, from rating curve extended as explained above; maximum recorded gage height, 18.80 ft (5.730 m) Dec. 2; minimum, 4.6 ft³/s (0.13 m³/s) Jan. 15, gage height, 9.73 ft (2.966 m).

REVISIONS.--The maximum discharges for 1977-81 water years have been revised, as shown in the following table. They supersede figures published in the 1977-81 WDR reports.

Water Year	Date	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage Height (ft)	Gage Height (m)
1977	July 18, 1977	3,670	104	19.97	6.087 from flood marks
1978	May 13, 1978	1,960	55.5	16.01	4.880
1979	Apr. 26, 1979	2,220	62.9	16.59	5.057
1980	June 5, 1980	2,310	65.4	16.78	5.115
1981	July 13, 1981	2,580	73.1	17.38	5.297

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4-26 and Feb. 1 to Mar. 3.)

9.7	4.0	11.0	69
9.9	8.3	11.5	130
10.2	20	12.0	235
10.5	35	13.0	605
		16.0	1,960

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

DAY	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	8.5	44	9.9	7.4	25	17	9.4	12	7.4	35	11
2	16	9.2	18	7.2	7.6	23	171	8.6	11	7.1	272	15
3	12	10	14	8.2	7.6	16	321	9.4	10	8.9	18	8.2
4	18	15	25	8.6	7.2	43	67	10	11	12	60	8.3
5	63	19	12	8.2	7.2	16	30	13	11	6.0	13	8.2
6	77	11	11	8.2	6.4	14	45	12	9.9	39	11	7.9
7	15	9.2	10	8.2	7.0	12	26	10	11	77	11	7.5
8	12	8.5	10	7.6	7.0	12	22	10	13	11	11	5.7
9	11	8.6	9.9	7.2	7.0	13	32	8.1	12	9.9	9.5	8.1
10	11	9.1	11	6.8	7.2	26	49	8.7	13	39	8.3	9.0
11	9.6	9.3	11	6.4	7.8	27	63	42	13	28	8.4	9.3
12	9.6	9.3	9.0	6.6	8.2	141	54	34	14	10	8.7	9.4
13	10	9.2	8.6	6.8	9.0	241	42	11	12	11	9.1	9.2
14	118	8.5	9.2	7.0	19	69	24	11	13	20	9.0	7.6
15	26	7.9	10	7.0	18	49	20	22	135	21	8.2	8.0
16	16	8.7	7.9	6.6	21	170	213	13	12	12	9.5	6.6
17	311	9.7	8.6	7.4	20	56	40	9.8	9.7	9.8	9.9	22
18	94	9.6	8.6	8.0	19	49	24	25	11	8.5	9.1	9.7
19	24	31	8.6	8.0	34	39	21	13	8.0	8.7	9.6	6.6
20	19	45	9.5	8.2	28	82	19	11	36	9.0	40	6.9
21	20	13	9.7	7.8	33	41	16	35	29	50	8.8	7.0
22	17	9.8	11	8.4	33	39	15	56	11	153	19	6.9
23	14	10	11	7.4	28	38	14	149	7.5	14	13	11
24	12	13	8.4	7.4	22	47	13	16	7.9	10	24	7.0
25	11	9.7	8.0	7.4	18	25	12	13	143	9.6	21	6.5
26	12	277	7.9	7.2	19	19	13	33	17	11	8.1	6.7
27	12	30	7.6	8.1	20	15	11	37	7.8	17	8.2	7.0
28	11	15	7.3	7.9	22	14	11	16	8.8	11	7.4	6.9
29	11	11	7.9	7.6	---	15	11	15	13	8.7	19	7.3
30	11	11	8.1	7.9	---	65	11	11	7.0	10	15	7.4
31	9.6	---	8.7	8.1	---	24	---	11	---	9.8	9.3	---
TOTAL	1053.8	655.8	351.5	237.3	450.6	1465	1427	683.0	629.6	659.4	723.1	257.9
MEAN	34.0	21.9	11.3	16.1	47.3	47.6	22.0	21.0	21.3	23.3	8.60	
MAX	311	277	44	44	34	241	321	149	143	153	272	22
MIN	9.6	7.9	7.3	7.3	6.4	12	11	8.1	7.0	6.0	7.4	5.7
CFSM	1.67	1.07	.55	.55	.79	2.32	2.33	1.08	1.03	1.04	1.14	.42
IN.	1.92	1.20	.64	.64	.82	2.67	2.60	1.25	1.15	1.20	1.32	.47
CAL YR 1981	TOTAL	9441.4	MEAN	25.9	MAX	425	MIN	5.0	CFSM	1.27	IN	17.22
WTR YR 1982	TOTAL	8594.0	MEAN	23.5	MAX	321	MIN	5.7	CFSM	1.15	IN	15.67

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087160 KINNICKINNIC RIVER AT MILWAUKEE, WI--CONTINUED

[illegible]

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087204 OAK CREEK AT SOUTH MILWAUKEE, WI

LOCATION.--Lat 42°55'30", long 87°52'12", in NW 1/4 sec.2, T.5 N., R.22 E., Milwaukee County, Hydrologic Unit 04040002, on left bank 25 ft (8.0 m) downstream from 15th Avenue bridge in South Milwaukee and 2.8 mi (4.5 km) upstream from mouth.

DRAINAGE AREA.--25.0 mi² (64.8 km²).

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORDS.--WDR WI-80-1: 1979 (average discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 631.40 ft (192.451 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are fair. Low flows may occasionally be affected by construction and activity at gravel pit upstream.

AVERAGE DISCHARGE.--19 years, 21.2 ft³/s (0.600 m³/s) 11.52 in/yr (293 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s (28.9 m³/s) Sept. 13, 1978, gage height, 8.19 ft (2.496 m); maximum gage height, 8.23 ft (2.508 m) Sept. 18, 1972; no flow Jan. 8-13, 15-18, 27-31, Feb. 6-8, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Oct. 18	0445	292	8.27	6.05	1.844	Apr. 3	0715	*492	13.9	*7.21	2.198
Mar. 13	1800	398	11.3	6.74	2.054	Apr. 16	1825	278	7.87	5.95	1.814
Mar. 14	1530	350	9.91	6.43	1.960	Aug. 1	1905	297	8.41	6.08	1.853
Mar. 16	1845	386	10.9	6.67	2.033						

minimum, 1.2 ft³/s (0.034 m³/s) Sept. 13, 14, and 30, gage height, 2.28 ft (0.695 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 9-14, 16, 23-26, Feb. 1-12.)

2.2	0.75	3.0	36
2.3	1.5	4.0	90
2.4	3.4	5.0	162
2.5	6.3	6.0	285
2.6	10	7.0	450

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195	8.7	46	3.7	2.7	18	32	9.2	10	3.0	25	2.6
2	66	8.7	42	3.5	2.7	18	82	8.6	7.8	2.8	45	2.0
3	41	8.5	26	3.8	2.7	18	416	8.2	7.1	4.1	25	1.9
4	32	10	27	3.9	2.7	16	159	8.0	6.4	4.6	16	1.7
5	27	14	22	3.9	2.6	13	82	8.6	6.1	4.1	8.1	1.7
6	30	11	17	3.9	2.6	11	50	8.1	5.5	4.7	5.2	1.6
7	22	8.7	16	3.7	2.5	9.8	49	7.3	6.2	30	4.3	1.6
8	15	7.9	15	3.4	2.5	11	45	6.8	5.2	8.1	4.1	1.5
9	13	7.5	13	3.3	2.4	8.1	49	6.7	4.6	3.5	3.3	1.6
10	11	7.0	11	3.1	2.3	9.2	85	6.1	4.0	23	3.1	1.6
11	9.4	6.7	9.4	3.0	2.1	10	114	10	3.6	7.2	2.9	1.6
12	9.0	6.4	8.1	3.0	1.9	27	99	51	3.2	4.3	2.9	1.4
13	8.3	6.2	7.8	3.0	1.8	212	76	17	3.2	4.5	3.0	1.4
14	39	6.1	8.0	3.0	1.9	285	48	12	3.0	8.4	3.1	1.4
15	56	5.9	7.5	3.0	2.9	212	36	9.7	33	9.0	3.0	1.6
16	26	5.9	6.5	2.9	3.4	303	154	18	31	4.6	3.0	1.6
17	66	6.0	5.6	2.9	3.7	261	114	11	9.3	4.0	3.2	2.9
18	207	5.7	5.2	2.9	3.6	149	54	9.4	6.2	3.6	3.1	3.4
19	67	11	4.6	2.8	3.6	138	38	10	5.3	3.6	4.5	2.6
20	41	29	4.4	2.8	6.4	176	32	7.4	8.2	3.7	3.2	1.9
21	31	19	4.4	3.2	6.4	121	24	9.7	10	14	2.4	1.6
22	25	11	4.8	3.0	9.6	92	20	36	8.3	37	3.0	1.7
23	20	9.4	4.9	2.9	14	91	17	116	4.9	7.0	2.2	1.7
24	16	13	4.3	2.9	27	99	15	49	3.8	4.5	26	1.6
25	14	12	4.1	2.9	26	70	14	27	29	3.9	6.9	1.7
26	13	69	4.2	2.9	22	46	14	23	31	3.8	3.2	1.6
27	13	112	4.3	2.9	18	32	13	37	8.9	4.7	2.6	1.6
28	12	42	4.0	2.8	16	25	12	33	5.3	6.4	3.2	1.5
29	11	26	3.6	2.8	---	23	11	22	5.0	4.4	4.1	1.4
30	10	20	3.4	2.7	---	48	10	17	4.3	3.8	3.5	1.5
31	9.4	---	3.8	2.7	---	53	---	15	---	3.4	3.0	---
TOTAL	1155.1	514.3	347.9	97.2	196.0	2605.1	1964	617.8	279.4	233.7	231.1	53.5
MEAN	37.3	17.1	11.2	3.14	7.00	84.0	65.5	19.9	9.31	7.54	7.45	1.78
MAX	207	112	46	3.9	27	303	416	116	33	37	45	3.4
MIN	8.3	5.7	3.4	2.7	1.8	8.1	10	6.1	3.0	2.8	2.2	1.4
CFSM	1.49	.68	.45	.13	.28	3.36	2.62	.80	.37	.30	.30	.07
IN.	1.72	.77	.52	.14	.29	3.88	2.92	.92	.42	.35	.34	.08
CAL YR 1981	TOTAL	7124.08	MEAN	19.5	MAX	329	MIN	.78	CFSM	.78	IN	10.60
WTR YR 1982	TOTAL	8295.10	MEAN	22.7	MAX	416	MIN	1.4	CFSM	.91	IN	12.34

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087220 ROOT RIVER NEAR FRANKLIN, WI

LOCATION.--Lat 42°52'25", long 87°59'45", in SE 1/4 sec.22, T.5 N., R.21 E., Milwaukee County, Hydrologic Unit 04040002, on right bank 400 ft (120 m) upstream from State Highway 100, 2.1 mi (3.4 km) upstream from Root River Canal, 2.4 mi (3.9 km) southeast of Franklin, 5.5 mi (8.8 km) southeast of Hales Corners, and about 24 mi (39 km) upstream from mouth.

DRAINAGE AREA.--49.2 mi² (127.4 km²).

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORD.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 674.5 ft (205.6 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow affected by urbanization in the drainage basin.

AVERAGE DISCHARGE.--19 years, 43.8 ft³/s (1.240 m³/s), 12.09 in/yr (307 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft³/s (105 m³/s) Apr. 21, 1973, gage height, 9.31 ft (2.838 m); minimum, 0.38 ft³/s (0.011 m³/s) Aug. 10, 1971, gage height, 1.45 ft (0.442 m).

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of Mar. 30, 1960, reached a stage of 9.57 ft (2.917 m), discharge, 5,130 ft³/s (145 m³/s), from rating curve extended above 2,000 ft³/s (56.6 m³/s) on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (9.91 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)				
Oct. 1	0130	463	13.1	7.25	2.210	Mar. 14	0430	*556	15.7	*7.89	2.405
Oct. 18	1600	464	13.1	7.26	2.213	Apr. 3	1730	528	15.0	7.71	2.350
Nov. 27	0915	395	11.2	6.71	2.045	Apr. 16	2100	436	12.3	7.05	2.149

minimum discharge, 6.0 ft³/s (0.170 m³/s) Jan. 18-27, Jan. 31 to Feb. 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10-12, 15-20, Dec. 27 to Mar. 12.)

1.8	6.5	4.0	146
1.9	9.5	4.5	181
2.0	14	5.0	220
2.2	26	6.0	315
2.5	52	7.0	430
3.0	86	8.0	572
3.5	116		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	341	16	64	8.0	6.0	23	66	25	15	12	11	14
2	107	15	70	8.6	6.0	25	130	23	14	11	184	15
3	51	14	43	8.6	6.0	35	496	22	14	11	58	15
4	41	14	41	9.0	6.0	30	422	21	13	26	52	13
5	36	15	37	8.6	6.0	27	230	21	12	13	28	13
6	115	15	30	8.4	6.0	25	188	22	12	11	18	12
7	58	13	29	8.4	6.0	23	110	20	16	112	17	12
8	36	13	28	8.4	6.0	36	87	19	14	35	17	13
9	29	11	23	8.2	6.0	26	86	18	12	15	14	13
10	24	11	22	8.0	6.0	22	139	20	11	13	13	12
11	22	10	19	7.2	6.0	18	229	22	10	53	13	12
12	20	10	17	6.8	6.0	21	273	69	9.6	17	13	12
13	18	10	15	6.6	6.0	359	245	29	12	12	13	12
14	51	10	15	6.6	6.0	520	132	21	27	12	13	13
15	135	9.5	14	6.6	6.0	442	85	22	66	25	13	13
16	47	9.5	13	6.4	6.0	460	257	31	49	13	13	13
17	71	9.5	12	6.4	6.4	468	312	18	16	12	12	14
18	419	9.3	12	6.0	9.0	308	145	17	15	10	12	16
19	221	11	11	6.0	17	267	93	29	14	9.4	12	15
20	91	25	10	6.0	15	297	72	16	13	8.8	10	13
21	54	21	10	6.0	17	264	56	18	42	8.7	14	13
22	46	14	11	6.0	20	213	47	73	20	174	13	14
23	36	12	11	6.0	28	243	41	178	15	126	13	14
24	30	14	10	6.0	39	286	36	58	12	27	14	15
25	26	14	9.6	6.0	32	217	33	34	27	17	32	15
26	24	85	9.5	6.0	28	124	31	35	99	14	19	15
27	23	325	9.2	6.0	25	77	30	36	20	14	16	15
28	20	99	9.0	6.2	22	59	27	28	15	16	15	15
29	19	52	9.0	6.4	---	53	26	23	14	13	14	14
30	18	40	8.8	6.4	---	98	26	18	14	12	18	15
31	17	---	8.4	6.0	---	127	---	16	---	11	14	---
TOTAL	2246	926.8	630.5	215.8	354.4	5193	4150	1002	642.6	863.9	718	410
MEAN	72.5	30.9	20.3	6.96	12.7	168	138	32.3	21.4	27.9	23.2	13.7
MAX	419	325	70	9.0	39	520	496	178	99	174	184	16
MIN	17	9.3	8.4	6.0	6.0	18	26	16	9.6	8.7	10	12
CFSM	1.47	.63	.41	.14	.26	3.42	2.81	.66	.44	.57	.47	.28
IN.	1.70	.70	.48	.16	.27	3.93	3.14	.76	.49	.65	.54	.31

CAL YR 1981 TOTAL 15325.7 MEAN 42.0 MAX 937 MIN 2.0 CFSM .85 IN 11.59
WTR YR 1982 TOTAL 17353.0 MEAN 47.5 MAX 520 MIN 6.0 CFSM .97 IN 13.12

NOTE.--No gage-height record Jan. 11 to Feb. 17.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087233 ROOT RIVER CANAL NEAR FRANKLIN, WI

LOCATION.--Lat 42°48'55", long 87°59'40", in SE 1/4 sec.10, T.4 N., R.21 E., Racine County, Hydrologic Unit 04040002, on right bank 10 ft (3 m) downstream from highway bridge 3.5 mi (5.6 km) upstream from mouth, 5.5 mi (8.8 km) southeast of intersection U.S. 45 and State Highway 100 in Franklin, and 8.7 mi (14.0 km) southeast of Hales Corners.

DRAINAGE AREA.--57.0 mi² (147.6 km²).

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORD.--WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 670 ft (204 m), from topographic map.

REMARKS.--Records fair except for periods of ice effect and missing record, which are poor.

AVERAGE DISCHARGE.--19 years, 45.1 ft³/s (1.277 m³/s), 10.74 in/yr (273 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) Mar. 4, 1974, gage height, 9.88 ft (3.011 m); minimum daily, 0.40 ft³/s (0.011 m³/s) Dec. 19, 1963, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 500 ft³/s (14.2 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 16	1545	*765	21.7	July 23	0445	552	15.6
Apr. 3	2315	638	18.1				8.33 2.539
			8.67				
			2.774				
			2.643				

minimum daily discharge, 2.2 ft³/s (0.062 m³/s) Sept. 4, 6, 8, 10.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-24, Apr. 12-27, and July 16-22; stage-discharge relation affected by ice Dec. 27, 28, Dec. 31 to Jan. 9, Feb. 17 to Mar. 12.)

1.93	1.6	5.0	179
2.0	2.6	6.0	245
2.1	4.7	7.0	337
2.4	17	8.0	485
3.0	53	9.0	730
4.0	119	10.0	1,140

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	19	75	8.0	5.8	19	120	27	17	11	21	3.0
2	75	18	83	8.2	5.8	21	134	26	15	10	74	2.9
3	48	17	61	8.4	5.6	25	570	24	13	9.8	49	2.7
4	37	17	54	8.6	5.6	22	630	24	12	20	79	2.2
5	31	18	48	8.4	5.6	20	340	24	11	13	72	2.3
6	26	17	42	8.0	5.6	19	200	27	11	11	46	2.2
7	21	15	41	8.0	5.6	18	140	25	13	76	34	2.3
8	18	14	37	7.8	5.6	27	120	23	11	43	27	2.2
9	16	13	32	7.8	5.6	22	180	22	10	21	21	2.3
10	15	12	29	7.6	5.6	19	300	25	9.2	14	17	2.2
11	13	12	26	7.4	5.6	16	220	31	8.6	36	14	2.5
12	12	12	23	6.8	5.6	44	198	48	8.2	15	13	2.3
13	11	11	21	6.4	5.6	313	141	30	10	11	11	2.5
14	25	11	21	6.2	5.6	571	113	26	19	9.6	9.8	2.8
15	61	11	19	6.2	5.6	702	222	27	44	18	8.8	3.5
16	41	11	18	6.0	5.6	734	219	34	38	70	7.6	3.0
17	68	11	16	6.0	6.4	715	141	25	24	96	6.8	2.8
18	272	10	15	5.8	9.6	552	108	23	17	42	6.0	3.7
19	176	11	13	5.8	11	365	90	30	14	27	5.5	3.0
20	108	21	13	5.6	10	416	70	20	13	20	4.8	2.8
21	74	19	15	5.6	11	441	62	23	26	16	4.2	2.8
22	62	15	15	5.6	14	300	58	76	19	350	3.9	2.6
23	49	14	14	5.6	21	255	50	130	13	543	3.7	2.8
24	39	23	12	5.6	28	274	42	66	10	393	3.8	2.9
25	34	23	12	5.6	24	228	37	40	18	172	11	3.0
26	31	59	11	5.6	21	165	33	39	66	101	5.9	2.9
27	27	184	10	5.6	19	129	31	42	23	73	4.2	2.8
28	24	110	9.0	5.8	18	110	29	13	14	57	3.6	2.8
29	23	72	8.7	6.0	---	102	28	18	13	41	3.1	2.8
30	22	54	8.6	6.2	---	141	28	37	12	32	3.2	3.3
31	20	---	8.4	6.0	---	171	---	20	---	25	3.1	---
TOTAL	1601	854	810.7	206.2	283.0	6956	4654	1045	532.0	2376.4	577.0	81.9
MEAN	51.6	28.5	26.2	6.65	10.1	224	155	33.7	17.7	76.7	18.6	2.73
MAX	272	184	83	8.6	28	734	630	130	66	543	79	3.7
MIN	11	10	8.4	5.6	5.6	16	28	13	8.2	9.6	3.1	2.2
CFSM	.91	.50	.46	.12	.18	3.93	2.72	.59	.31	1.35	.33	.05
IN.	1.04	.56	.53	.13	.18	4.54	3.04	.68	.35	1.55	.38	.05
CAL YR 1981 TOTAL	14497.3			MEAN 39.7	MAX 645	MIN 2.5	CFSM .70	IN 9.46				
WTR YR 1982 TOTAL	19977.2			MEAN 54.7	MAX 734	MIN 2.2	CFSM .96	IN 13.04				

NOTE.--No gage-height record Jan. 10 to Feb. 16, Apr. 5-11, 21, 22, Apr. 27 to May 27, June 1 to July 16.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087240 ROOT RIVER AT RACINE, WI

LOCATION.--Lat 42°45'05", long 87°49'25", in NE 1/4 sec.6, T.3 N., R.23 E., Racine County, Hydrologic Unit 04040002, on left bank 30 ft (9 m) downstream from State Highway 38 bridge in Racine, 350 ft (110 m) downstream from Horlick Dam, and 5.2 mi (8.4 km) upstream from mouth.

DRAINAGE AREA.--190 mi² (492 km²).

PERIOD OF RECORD.--August 1963 to current year.

REVISED RECORD.--WDR WI-80-1: Drainage area.

GAGE.--Water stage recorder. Altitude of gage is 610 ft (187 m), from topographic map. Prior to Feb. 5, 1964, nonrecording gage on bridge 30 ft (9 m) upstream.

REMARKS.--Records good except for ice-affected or missing record, which are fair.

AVERAGE DISCHARGE.--19 years, 148 ft³/s (4.191 m³/s), 10.58 in/yr (269 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s (127 m³/s) Mar. 5, 1974, gage height, 8.54 ft (2.603 m); minimum, 0.90 ft³/s (0.025 m³/s) Jan. 17, 1977; minimum daily, 1.0 ft³/s (0.028 m³/s) July 17, 1977.

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Oct. 2	1330	582 16.5	4.01 1.222	Apr. 13	0200	924 26.2	4.48 1.366
Oct. 20	1615	696 19.7	4.18 1.274	Apr. 18	0830	916 25.9	4.47 1.362
Mar. 18	0245	*1,940 54.9	*5.66 1.725	July 22	1230	1,500 42.5	5.17 1.576
Apr. 4	2215	1,760 49.8	5.46 1.664				

minimum discharge, 15 ft³/s (0.425 m³/s) Feb. 12, gage height, 2.30 ft (0.701 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 16-19, Jan. 7-12, 16-19, 26, 27, and Feb. 6-12.)

2.3	15	3.5	300
2.5	33	4.0	575
2.7	60	5.0	1,350
3.0	135	6.0	2,250

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES		APR	MAY	JUN	JUL	AUG
1	563	66	180	25	16	71	502	117	130	52	99	34
2	568	62	234	25	16	77	414	114	120	56	177	34
3	435	59	215	25	16	82	1010	111	120	72	294	33
4	206	58	177	26	16	80	1510	94	110	78	206	30
5	163	59	163	23	16	74	1650	83	100	68	208	27
6	138	59	142	23	16	73	1100	83	100	100	170	25
7	183	58	126	23	16	72	747	82	90	230	135	23
8	131	54	119	23	16	80	567	77	68	210	114	21
9	99	49	106	22	16	61	504	76	72	140	97	20
10	85	47	81	21	16	52	596	70	78	150	77	22
11	75	44	75	19	16	51	727	70	62	110	65	21
12	67	43	69	18	16	60	844	230	52	84	61	20
13	60	42	70	17	16	314	882	150	58	90	54	19
14	62	41	59	17	16	681	754	110	78	140	52	17
15	155	39	44	17	16	1190	553	150	140	300	50	17
16	214	38	43	17	16	1700	515	110	130	180	44	19
17	154	38	40	17	16	1740	698	110	62	150	38	19
18	414	37	37	16	16	1870	863	180	56	120	35	21
19	554	37	35	16	16	1710	602	160	54	100	33	20
20	659	51	34	16	18	1520	386	110	52	71	32	19
21	420	71	34	16	22	1290	301	130	70	55	30	18
22	222	67	33	16	31	1190	240	240	56	886	28	17
23	183	54	34	16	47	1050	212	480	50	745	27	16
24	151	52	34	16	64	963	181	300	56	683	40	17
25	132	60	32	16	75	929	169	240	110	640	44	18
26	115	88	30	16	75	830	152	220	160	382	58	20
27	108	309	30	16	71	611	143	240	90	236	49	20
28	99	442	30	16	68	425	135	230	78	202	40	20
29	83	366	28	17	---	352	125	200	74	174	36	20
30	78	194	25	17	---	353	120	170	58	142	34	20
31	73	---	24	16	---	488	---	150	---	116	33	---
TOTAL	6649	2684	2383	584	775	20039	17202	4887	2534	6762	2460	647
MEAN	214	89.5	76.9	18.8	27.7	646	573	158	84.5	218	79.4	21.6
MAX	659	442	234	26	75	1870	1650	480	160	886	294	34
MIN	60	37	24	16	16	51	120	70	50	52	27	16
CFSM	1.13	.47	.41	.10	.15	3.40	3.02	.83	.45	1.15	.42	.11
IN.	1.30	.53	.47	.11	.15	3.92	3.37	.96	.50	1.32	.48	.13
CAL YR 1981	TOTAL	42720.7	MEAN	117	MAX	1240	MIN	6.1	CFSM	.62	IN	8.36
WTR YR 1982	TOTAL	67606.0	MEAN	185	MAX	1870	MIN	16	CFSM	.97	IN	13.24

NOTE.--No gage-height record May 24 to July 20.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087257 PIKE RIVER NEAR RACINE, WI

LOCATION.--Lat 42°38'49", long 87°51'38", in SE 1/4 NE 1/4 sec.11, T.2 N., R.22 E., Kenosha County, Hydrologic Unit 04040002, on right bank just downstream from unnamed tributary, 1.7 mi (2.7 km) downstream from Pike Creek, 6.8 mi (10.9 km) southwest of Racine Post Office and 9.0 mi (14.5 km) upstream from mouth.

DRAINAGE AREA.--38.5 mi² (99.7 km²).

PERIOD OF RECORD.--October 1971 to current year.

REVISED RECORDS.--WDR WI-76-1: 1975. WDR WI-80-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 620.09 ft (189.003 m) above mean sea level (Southeastern Wisconsin Regional Planning Commission).

REMARKS.--Records good except those for winter periods, which are fair. Low flows considerably affected by effluent discharge in upper portion of basin, and by occasional regulation of small recreation dam 1.1 mi (1.8 km) upstream.

AVERAGE DISCHARGE.--11 years, 35.7 ft³/s (1.011 m³/s), 11.10 in/yr (282 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,480 ft³/s (41.9 m³/s) Mar. 4, 1976, gage height, 8.15 ft (2.484 m); minimum daily, 0.35 ft³/s (0.010 m³/s) Sept. 28, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 674 ft³/s (19.086 m³/s) July 22, gage height, 6.32 ft (1.970 m); maximum gage height, 6.73 ft (2.098 m) Mar. 13, backwater from ice; minimum discharge, 2.1 ft³/s (0.059 m³/s), gage height, 1.72 ft (0.537 m) June 5, probable regulation.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Mar. 15.)

Oct. 1 to Mar. 13

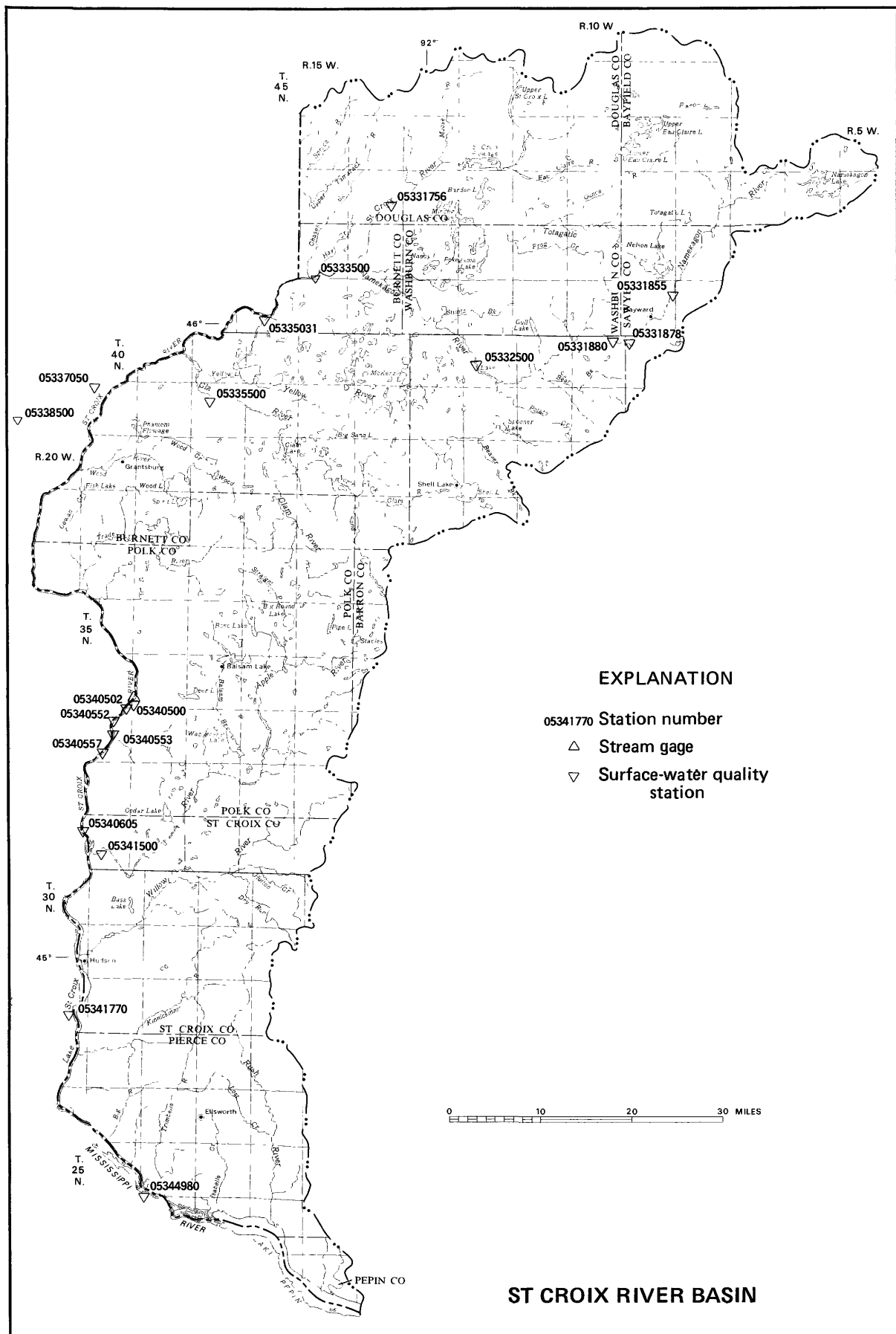
Mar. 13 to Sept. 30

1.7	2.0	2.7	57	1.7	2.0	3.5	145
1.8	4.5	3.0	85	1.8	3.5	4.0	213
1.9	7.5	3.5	150	1.9	7.0	5.0	379
2.1	17	4.0	236	2.1	15.6	6.0	595
2.4	35	6.0	638	2.4	34	7.0	842
				2.7	57	7.5	970
				3.0	86		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	17	64	5.8	4.2	4.6	61	17	21	8.3	12	3.8
2	43	18	59	5.6	4.2	4.8	72	16	21	9.1	86	4.0
3	36	25	46	5.2	4.1	4.8	339	16	20	172	25	4.6
4	31	24	47	4.9	4.0	4.7	173	16	18	136	74	5.1
5	22	24	41	4.6	4.0	4.6	127	17	8.9	56	43	5.0
6	32	24	37	4.5	4.0	4.5	81	16	18	41	27	4.6
7	16	22	36	4.5	4.0	4.5	82	14	13	98	22	4.2
8	24	15	33	4.5	3.9	4.5	77	6.7	13	57	23	4.1
9	24	11	30	4.5	3.9	4.6	95	8.5	14	29	18	4.4
10	20	16	27	4.5	3.9	4.8	144	12	14	30	15	4.4
11	18	25	26	4.4	3.9	5.0	165	12	8.9	25	14	8.8
12	17	21	22	4.4	3.9	9.0	147	41	6.7	22	13	6.1
13	18	13	21	4.4	4.0	20	117	14	7.1	15	12	3.9
14	33	15	21	4.4	4.0	50	76	9.9	7.4	17	9.8	4.3
15	51	17	19	4.4	4.1	204	60	12	28	51	8.7	5.2
16	24	19	17	4.3	4.1	331	132	11	25	23	8.8	5.6
17	46	19	16	4.3	4.1	229	153	11	10	36	9.6	5.2
18	129	18	14	4.3	4.3	158	91	14	10	16	9.1	5.4
19	54	18	12	4.2	4.3	143	67	14	15	14	8.7	5.0
20	54	52	11	4.2	4.3	241	55	8.7	12	14	8.4	4.8
21	46	30	10	4.2	4.4	187	46	17	11	13	5.5	4.5
22	33	23	10	4.1	4.4	138	41	46	10	388	3.8	4.4
23	41	21	10	4.1	4.6	121	36	119	10	178	4.7	4.7
24	29	36	9.6	4.1	4.6	124	31	60	11	69	6.7	4.8
25	23	32	9.2	4.0	4.5	99	28	42	27	45	18	4.5
26	33	58	9.0	4.0	4.4	71	27	36	43	33	7.0	4.2
27	25	85	9.0	4.0	4.4	53	25	40	21	27	7.0	4.0
28	23	50	8.4	4.0	4.4	47	23	36	18	23	5.4	3.9
29	21	40	7.6	4.0	---	46	22	20	17	15	3.7	3.8
30	20	36	6.6	4.2	---	74	21	26	10	10	3.8	3.7
31	18	---	6.0	4.2	---	88	---	21	---	11	3.8	---
TOTAL	1059	824	694.4	136.8	116.9	2484.4	2614	749.8	469.0	1681.4	516.5	141.0
MEAN	34.2	27.5	22.4	4.41	4.18	80.1	87.1	24.2	15.6	54.2	16.7	4.70
MAX	129	85	64	5.8	4.6	331	339	119	43	388	86	8.8
MIN	16	11	6.0	4.0	3.9	4.5	21	6.7	6.7	8.3	3.7	3.7
CFSM	.89	.71	.58	.12	.11	2.08	2.26	.63	.41	1.41	.43	.12
IN.	1.02	.80	.67	.13	.11	2.40	2.53	.72	.45	1.62	.50	.14
CAL YR 1981	TOTAL	10874.6	MEAN	29.8	MAX	516	MIN	3.5	CFSM	.77	IN	10.51
WTR YR 1982	TOTAL	11487.2	MEAN	31.5	MAX	388	MIN	3.7	CFSM	.82	IN	11.10

MISSISSIPPI RIVER BASIN RECORDS



ST. CROIX RIVER BASIN

05331756 ST. CROIX RIVER NEAR DAIRYLAND, WI

LOCATION.--Lat 46°11'32", long 92°04'16", in NE 1/4 SE 1/4 sec.23, T.43 N., R.14 W., Douglas County, Hydrologic Unit 07030001, St. Croix National Scenic Riverway, at bridge on County Trunk Highway T 4.3 mi (6.9 km) southeast of Dairyland.

DRAINAGE AREA.--463 mi² (2,276 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LILITY LAB (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1982											
15...	1730	1510	56	7.1	4.5	12.0	96	K5	790	20	.9
AUG											
24...	1340	189	98	8.2	20.0	9.3	106	83	K1400	47	1.1

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982											
15...	<.010	.040	.29	.33	.43	.030	--	9.8	19	77	41
AUG											
24...	<.010	.020	.48	.50	--	<.010	.010	3.8	3	1.5	76

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05331855 NAMEKAGON RIVER NEAR HAYWARD, WI

LOCATION.--Lat 46°03'06", long 91°25'53", in NE 1/4 NE 1/4 sec.12, T.41 N., R.9 W., Sawyer County, Hydrologic Unit 07030002, St. Croix National Scenic Riverway, at bridge on town road 3.7 mi (6.0 km) northeast of Hayward

DRAINAGE AREA.--169 mi² (438 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (MG/L)	CENT SATUR-ATION	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCHI, FECAL, KF AGAR (COLS./100 ML)	HARD-NESS (MG/L AS CAC03)
APR , 1982											
07...	1330	261	132	7.7	5.0	12.5		102	K2	120	58
AUG 24...	1135	134	161	8.3	16.5	9.2		97	45	210	73

DATE	CAC03	HARD-NESS NONCAR-BONATE (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)
APR , 1982										
07...	4.0	16	4.3	2.3	8		.1	.7	54	5.1
AUG 24...	.00	20	5.6	2.3	6		.1	.4	74	4.0

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1982									
07...	1.8	<.1	13	78	76	.11	55.0	<.010	.040
AUG 24...	1.8	<.1	13	127	92	.17	45.9	<.010	.010

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982									
07...	.35	.39	.55	.020	--	6.1	2	1.4	66
AUG 24...	.39	.40	--	.020	<.010	2.0	3	1.1	71

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
AUG , 1982									
24...	1135	134	1	<100	30	1	10	<1	22

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
AUG , 1982								
24...	200	3	20	1	<1	<1	<10	<.01

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05331878 NAMEKAGON RIVER BELOW RAINBOW CREEK NEAR HAYWARD, WI

LOCATION.--Lat 45°58'08", long 91°31'51", in NW 1/4 NE 1/4 sec.7, T.40 N., R.9 W., Sawyer County, Hydrologic Unit 07030002, St. Croix National Scenic Riverway, 0.3 mi (0.5 km) downstream from Rainbow Creek and 3.9 mi (6.3 km) southwest of Hayward.

DRAINAGE AREA.--227 mi² (588 km²).

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN AMMONIA TOTAL (MG/L AS N)
OCT , 1981												
15...	1150	241	157	7.4	10.0	10.6	98	K11	120	<.010	.16	.040
JUN , 1982												
15...	1550	223	145	8.2	18.5	9.9	109	K21	K450	--	--	--
DATE		NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)
OCT , 1981												
15...	.22	.26	.42	.030	2.7	<.10	<.10	<.01	<.10	<.01	<.01	
JUN , 1982												
15...	--	--	--	--	--	--	--	--	--	--	--	
DATE		DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/KG)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	ETHION, TOTAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)
OCT , 1981												
15...	<.01	<.01	--	<.01	<.01	<.01	<.01	<.01	--	<.01	<.01	<.01
JUN , 1982												
15...	--	--	<.1	--	--	--	--	--	<.1	--	--	--
DATE		MALA- THION, TOTAL (UG/L)	MALA- THION, TOTAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL THION, TOTAL (UG/L)	METHYL THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/KG)	PER- THANE TOTAL (UG/L)
OCT , 1981												
15...	<.01	--	<.01	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
JUN , 1982												
15...	--	<.1	--	--	--	<.1	--	<.1	--	--	<.1	--
DATE		TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	TRI- THION, TOTAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL (UG/KG)	2, 4-DP TOTAL (UG/L)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL (UG/KG)
OCT , 1981												
15...	<1	<.01	--	.01	--	<.01	--	<.01	--	<.01	--	--
JUN , 1982												
15...	--	--	<.1	--	--	<.1	--	<.1	--	<.1	--	<.1

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05331880 NAMEKAGON RIVER AT RAT RIVER LANDING NEAR HAYWARD, WI

LOCATION.--Lat 45°58'42", long 91°34'31", in SE 1/4 NW 1/4 sec.2, T.40 N., R.10 W., Washburn County, Hydrologic Unit 07030002, St. Croix National Scenic Riverway, at boat landing 1.1 mi (1.8 km) upstream from bridge on County Trunk Highway E and 5.1 mi (8.2 km) southwest of Hayward.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT , 1981												
15...	1010	245	161	7.0	10.0	9.9	92	K5	140	<.010	.18	.070
JUN , 1982												
15...	1240	249	148	7.9	16.5	9.1	96	39	K500	--	--	--
DATE		NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)
OCT , 1981												
15...	.33	.40	.58	.040	2.8	<.10	<.10	<.01	<.10	<.01	<.01	<.01
JUN , 1982												
15...	--	--	--	--	--	--	--	--	--	--	--	--
DATE		DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	
OCT , 1981												
15...	<.01	<.01	--	<.01	<.01	<.01	<.01	--	<.01	<.01	<.01	<.01
JUN , 1982												
15...	--	--	<.1	--	--	--	--	<.1	--	--	--	--
DATE		MALA- THION, TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL THION, TOTAL (UG/L)	METHYL THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)
OCT , 1981												
15...	<.01	--	<.01	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01
JUN , 1982												
15...	--	<.1	--	--	<.1	--	<.1	--	--	<.1	--	--
DATE		TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	TRI- THION, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP, TOTAL (UG/L)	2,4-DP, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT , 1981												
15...	<.1	<.01	--	<.01	--	<.01	--	<.01	--	<.01	--	--
JUN , 1982												
15...	--	--	<.1	--	<.1	--	<.1	--	<.1	--	<.1	<.1

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05332500 NAMEKAGON RIVER NEAR TREGO, WI

LOCATION.--Lat 45°56'53", long 91°53'17", in NW 1/4 SW 1/4 sec.17, T.40 N., R.12 W., Washburn County, Hydrologic Unit 07030002, St. Croix National Scenic Riverway, at Northern States Power Company power plant 4.4 mi (7.1 km) northwest of Trego.

DRAINAGE AREA.--488 mi² (1,264 km²)

PERIOD OF RECORD.--Water years 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

						OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATIO	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER CAC03)	HARD- NESS (MG/L AS		
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)					
APR , 1982											
07...	1000	665	128	7.6	1.5	12.2	90	K2	88		
AUG											
24...	0945	283	160	8.0	20.5	7.3	84	K2	330		
									78		
DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1982											
07...	2.0	14	4.1	2.3	9	.1	.6	50	5.0	2.0	
AUG											
24...	.00	21	6.2	2.8	7	.1	.5	79	4.0	2.4	
DATE	TIME	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	
APR , 1982											
07...	<.1	12	74	70	.10	133	.64	.010	.140		
AUG											
24...	.2	13	132	98	.18	101	--	<.010	.030		
DATE	TIME	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
APR , 1982											
07...	.64	.78	1.4	.100	--	6.6	5	9.0	60		
AUG											
24...	.27	.30	--	.030	.020	2.3	5	3.8	72		
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)		
AUG , 1982											
24...	0945	283	1	<100	40	2	10	1	17		
DATE	TIME	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	
AUG , 1982											
24...	220	3	70	.5	2	<1	<1	10	<.01		

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05333500 ST. CROIX RIVER NEAR DANBURY, WI

LOCATION.--Lat 46°04'28", long 92°14'50" in SW 1/4 sec.33, T.48 N., R.15 W., Burnett County, Hydrologic Unit 07030001, St. Croix National Scenic Waterway, on left bank at downstream side of bridge on State Highway 35, 3.5 mi (5.6 km) downstream from Namekagon River, 10 mi (16 km) northeast of Danbury, and at mile 129.2 (207.9 km).

DRAINAGE AREA.--1,588 mi² (4,113 km²).

PERIOD OF RECORD.--Water years 1954 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
APR , 1982										
17...	1200	3900	78	6.9	6.0	11.9	99	K7	230	35
AUG										
24...	1510	774	126	8.4	21.5	10.8	127	K12	320	62
DATE	TIME	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
APR , 1982										
17...	6.0	9.3	2.9	1.8	10	.1	.6	29	4.0	
AUG										
24...	.00	17	4.8	2.3	7	.1	.3	62	3.0	
DATE	TIME	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1982										
17...	1.3	<.1	9.8	62	47	.08	653	<.010	.040	
AUG										
24...	1.6	.1	11	110	77	.15	230	<.010	.020	
DATE	TIME	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982										
17...	.35	.39	.53	.040	--	9.0	31	326	19	
AUG										
24...	.48	.50	--	.010	.010	3.3	3	6.3	68	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECov- ERABLE (UG/L AS BA)	BORON, TOTAL RECov- ERABLE (UG/L AS B)	CADMIUM TOTAL RECov- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECov- ERABLE (UG/L AS CR)	COBALT, TOTAL RECov- ERABLE (UG/L AS CO)	COPPER, TOTAL RECov- ERABLE (UG/L AS CU)	
AUG , 1982										
24...	1510	774	1	<100	40	2	10	<1	24	
DATE	TIME	IRON, TOTAL RECov- ERABLE (UG/L AS FE)	LEAD, TOTAL RECov- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECov- ERABLE (UG/L AS MN)	MERCURY TOTAL RECov- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECov- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECov- ERABLE (UG/L AS SE)	SILVER, TOTAL RECov- ERABLE (UG/L AS AG)	ZINC, TOTAL RECov- ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
AUG , 1982										
24...	210	2	20	1.0	2	<1	<1	10	<.01	

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05335031 YELLOW RIVER AT DANBURY, WI

LOCATION.--Lat 46°00'44", long 92°21'27", in NW 1/4 NW 1/4 sec.27, T.41 N., R.16 W., Burnett County, Hydrologic Unit 07030001, St. Croix National Scenic Riverway, at bridge on State Highway 35 0.7 mi (1.1 km) northeast of Danbury.

DRAINAGE AREA.--374 mi² (989 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LILITY LAB (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
APR , 1982												
17...	0950	476	139	7.9	5.0	11.9	97	<1	700	75	2.4	--
AUG												
25...	0745	199	144	7.9	19.0	12.0	134	K16	K1300	72	1.8	.08

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982											
17...	<.010	.030	.11	.14	.39	.030	--	3.8	7	9.0	55
AUG											
25...	.020	.060	.64	.70	.80	.040	.030	6.0	3	1.6	68

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05335500 CLAM RIVER NEAR WEBSTER, WI

LOCATION.--Lat 45°52'50", long 92°29'15", in SW 1/4 NW 1/4 sec.9, T.39 N., R.15 W., Burnett County, Hydrologic Unit 07030001, St. Croix National Scenic Riverway, at ice-house bridge 2.5 mi (4.0 km) downstream from Black Brook, and 6.0 mi (9.7 km) west of Webster.

DRAINAGE AREA.--361 mi² (935 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LILITY LAB (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1982											
16...	0820	650	115	7.5	5.5	11.1	91	K2	160	46	1.6
AUG											
25...	0945	168	185	8.2	16.5	8.2	87	44	>1000	98	1.3
DATE		NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982											
16...	<.010	.030	.50	.53	.68	.040	--	7.3	15	26	33
AUG											
25...	<.010	<.010	--	.60	--	.040	.020	5.2	9	4.1	61

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05337050 KETTLE RIVER NEAR CLOVERDALE, MN

LOCATION.--Lat 45°54'13", long 92°43'47", in SW 1/4 SW 1/4 sec.33, T.40 N., R.19 W., Pine County, Hydrologic Unit 07030003, St. Croix National Scenic Riverway, 200 ft (61 m) west of town road, 8.0 mi (12.9 km) south of Cloverdale, Minnesota and 9.0 mi (14.5 km) northwest of Grantsburg, Wisconsin.

DRAINAGE AREA.--1,050 mi² (2,720 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	ALKA- LITY LAB (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1982											
16...	1630	8780	66	6.9	4.5	11.9	95	100	1400	21	1.7
AUG 25...	1240	214	167	8.5	20.5	9.7	112	K10	370	79	4.2

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
APR , 1982										
16...	<.010	.080	1.7	1.80	1.9	.080	--	11	46	1090
AUG 25...	<.010	<.010	--	.10	--	.030	.030	9.4	3	1.7

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05338500 SNAKE RIVER NEAR PINE CITY, MN

LOCATION.--Lat 45°50'30", long 92°56'00", in SE 1/4 NW 1/4 sec.26, T.39 N., R.21 W., Pine County, Hydrologic Unit 07030004, on left bank, at site of former powerplant and dam, 0.5 mi (0.8 km) downstream from Cross Lake, and 1.5 mi (2.4 km) northeast of Pine City.

DRAINAGE AREA.--958 mi² (2,480 km²).

PERIOD OF RECORD.--Water years 1963, 1965, 1967-68, 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
APR , 1982										
16...	1130	2670	108	7.3	6.5	10.4	88	K20	280	46
AUG										
25...	1530	117	189	9.2	26.5	9.7	125	42	>5000	98

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
APR , 1982									
16...	6.0	11	4.6	2.5	10	.2	2.2	40	5.0
AUG									
25...	.00	25	8.7	3.7	7	.2	1.1	101	3.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
APR , 1982									
16...	2.4	<.1	8.0	82	60	.11	591	.21	.020
AUG									
25...	3.3	.3	6.9	154	113	.21	48.6	--	<.010

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
APR , 1982									
16...	.110	.55	.66	.89	.060	--	11	6	43
AUG									
25...	<.010	--	1.50	--	.110	.060	20	6	1.9

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
AUG , 1982									
25...	1530	117	3	100	80	1	10	5	5

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
AUG , 1982									
25...	490	3	160	.1	2	<1	<1	40	<.01

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 45 24'25", long 92 38'49", in SW 1/4 NW 1/4 sec.30, T.34 N., R.18 W., Polk County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, on left bank, 1,500 ft (457 m) downstream from powerplant of Northern States Power Co., in St. Croix Falls, and at mile 52.2 (84.0 km).

DRAINAGE AREA.--6,240 mi² (16,160 km²), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1902 to current year. Prior to January 1910, monthly discharge only, published in WSP 1308. Prior to October 1939, published as "near St. Croix Falls."

REVISED RECORDS.--WSP 1115: 1929.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 689.94 ft (210.294 m) National Geodetic Vertical Datum of 1929. Prior to July 1905, gage heights and discharge measurements were used by Loweth and Wolff, consulting engineers of St. Paul, Minn., to determine the flow. July 1905 to February 1940, records were computed from power generation at the St. Croix Falls Powerplant. February 1940 to Sept. 30, 1979, water-stage recorder at site 300 ft (91 m) downstream at same datum.

REMARKS.--Records are good. Discharges for periods of no gage-height record, Jan. 8 to Feb. 1, Apr. 18-21, and June 15 to Aug. 18, furnished by Northern States Power Co. Diurnal fluctuation caused by St. Croix Falls Powerplant 1,500 ft (457 m) upstream.

AVERAGE DISCHARGE.--80 years, 4,206 ft³/s (119.1 m³/s), 9.15 in/yr (232 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,900 ft³/s (1,550 m³/s) May 8, 1950, gage height, 25.19 ft (7.678 m); minimum daily, 75 ft³/s (2.12 m³/s) July 17, 1910.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,600 ft³/s (867 m³/s) Apr. 19, gage height, 14.34 ft (4.371 m); minimum daily, 1,410 ft³/s (39.9 m³/s) Dec. 17.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

2.5	1,400	6.0	10,700
3.0	2,350	9.0	18,200
4.0	4,950	12.0	25,400
		15.0	32,100

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2740	4960	2940	2380	2460	2480	12100	8680	4450	2470	2960	2460
2	2940	5750	3070	2460	1910	2530	15700	8490	3470	2790	2630	2580
3	2930	4950	3220	2310	2370	2350	19000	7350	3150	2320	2740	2330
4	3510	4210	2850	2240	2320	2400	18600	7140	3350	2270	2560	2480
5	5420	4280	2470	2460	2290	2640	18800	7150	3250	2370	2770	2310
6	4560	4260	2340	2270	2270	2270	18600	6590	2950	2500	2730	2290
7	4700	4210	2920	2930	2080	2220	17600	8910	3410	2920	2350	3340
8	6200	3860	3060	2660	2560	2150	16800	9780	2650	5520	2270	3080
9	5610	3890	2880	1650	2240	2250	15900	9700	3070	6970	2330	2940
10	5440	4240	2090	2210	2550	2240	14900	9580	2730	8120	2210	3740
11	5210	3780	2280	2440	2310	2130	13400	10900	3630	8270	1990	3090
12	4980	3450	2140	1910	2330	2410	11800	12200	2840	7990	1940	3380
13	5190	3520	2340	2440	2410	2450	12400	14000	2780	6920	1970	4160
14	5440	3610	2490	2010	2190	2480	13300	15500	3030	6560	1890	4480
15	7030	3540	2040	2310	2150	2680	15800	15800	2950	5840	1930	4460
16	8600	3470	2000	1960	2380	2780	19000	16400	2510	4890	2000	4860
17	9290	3420	1410	2090	2320	2700	22100	16000	3010	4330	1900	5350
18	10000	3390	1950	2340	2300	2590	26600	15800	2750	4540	1970	4400
19	11200	3290	1800	1810	2300	2930	29400	15300	2420	4380	1750	4960
20	12200	3350	2050	2210	2400	3080	28600	14400	2470	4670	2210	4630
21	11700	3160	2340	2180	2180	2700	26000	14000	2810	4830	2400	4350
22	10900	2850	2340	2190	2220	2760	20900	13000	2950	3870	2380	3990
23	9700	2570	2490	1890	2520	3000	19900	11700	2440	3670	2380	3780
24	9020	3400	2230	1840	2400	2960	18000	10700	2780	3340	2250	3950
25	8400	3120	2430	2330	2540	3450	15700	9870	3140	3280	1870	3180
26	7800	3120	2080	1970	2500	3130	13500	8980	2600	3510	2120	3040
27	7390	2800	2250	2230	2510	3390	12000	8480	2670	2800	2470	2990
28	6430	3310	2330	2100	2360	3490	12400	7520	2730	2930	2800	3170
29	6380	3030	2300	2200	---	3660	9310	7360	2800	2760	2840	3150
30	5980	2940	2210	2160	---	5690	7770	6800	2690	3120	2400	3440
31	4320	---	2370	2040	---	8310	---	6200	---	2140	2460	---
TOTAL	211210	109730	73710	68220	65370	92300	515880	334280	88480	132890	71470	106360
MEAN	6813	3658	2378	2201	2335	2977	17200	10780	2949	4287	2305	3545
MAX	12200	5750	3220	2930	2560	8310	29400	16400	4450	8270	2960	5350
MIN	2740	2570	1410	1650	1910	2130	7770	6200	2420	2140	1750	2290
CFSM	1.09	.59	.38	.35	.37	.48	2.76	1.73	.47	.69	.37	.57
IN.	1.26	.65	.44	.41	.39	.55	3.08	1.99	.53	.79	.43	.63
CAL YR 1981	TOTAL	1699750	MEAN	4657	MAX	22500	MIN	1170	CFSM	.75	IN	10.13
WTR YR 1982	TOTAL	1869900	MEAN	5123	MAX	29400	MIN	1410	CFSM	.82	IN	11.15

ST. CROIX RIVER BASIN

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-68, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1975 to September 1981 (discontinued).

WATER TEMPERATURES: March 1975 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT , 1981											
13...	1140	5630	145	7.1	11.0	2.5	10.0	95	35	100	--
DEC											
07...	1305	3140	194	7.5	.5	2.2	13.5	97	K2	20	87
FEB , 1982											
01...	1130	4980	210	7.2	.0	2.9	--	--	K10	K1600	92
APR											
06...	1250	18100	128	7.5	.0	4.8	12.4	88	140	K600	50
JUN											
01...	1250	6280	130	7.9	20.0	2.7	8.2	94	K8	160	65
AUG											
18...	0920	1760	165	8.1	23.0	2.6	8.3	101	32	93	84

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT , 1981											
13...	--	--	--	--	--	--	--	64	3.4	3.4	<.1
DEC											
07...	4.0	23	7.2	3.3	8	.2	.9	83	5.4	3.3	<.1
FEB , 1982											
01...	.00	24	7.7	3.3	7	.2	1.1	93	6.5	3.9	.1
APR											
06...	4.0	13	4.3	2.2	8	.1	2.3	46	5.4	2.5	<.1
JUN											
01...	1.0	17	5.4	2.5	8	.1	.8	64	5.0	2.4	<.1
AUG											
18...	2.0	22	7.0	3.1	--	.2	<.1	82	4.0	2.6	.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT , 1981											
13...	--	99	--	.13	1510	.19	.060	.60	.030	.020	<.010
DEC											
07...	12	121	105	.16	1030	.27	.060	.13	.030	<.010	.020
FEB , 1982											
01...	15	127	118	.17	1710	.44	.120	.52	.160	.030	.030
APR											
06...	9.2	79	67	.11	3860	.44	.220	.99	.080	.030	.030
JUN											
01...	7.4	104	79	.14	1760	.14	.020	.90	.040	.020	.030
AUG											
18...	11	129	99	.18	613	<.10	.010	.50	.030	<.010	<.010

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC		ARSENIC		BARIUM,		BARIUM,		CADMIUM	
			TOTAL (UG/L AS AS)	SUS- PENDED TOTAL (UG/L AS AS)	DIS- SOLVED (UG/L AS AS)	TOTAL RECOV- ERABLE (UG/L AS BA)	SUS- PENDED RECOV- ERABLE (UG/L AS BA)	DIS- SOLVED (UG/L AS BA)	TOTAL RECOV- ERABLE (UG/L AS CD)	DIS- SOLVED (UG/L AS CD)		
FEB , 1982												
01...	1130	4980	1	0	1	<100	--	23	1	<1		
APR												
06...	1250	18100	1	0	1	100	80	25	<1	<1		
AUG												
18...	0920	1760	1	0	1	100	80	19	<1	<1		
DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)		
FEB , 1982												
01...	10	0	10	<1	<1	10	0	10	610	330		
APR												
06...	20	10	10	1	<1	10	9	1	1200	730		
AUG												
18...	10	0	10	<1	<1	6	4	2	410	330		
DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)		
FEB , 1982												
01...	280	<1	--	<1	40	6	34	.1	.0	.1		
APR												
06...	470	13	4	9	110	60	48	.1	.0	.1		
AUG												
18...	83	2	1	1	70	60	14	.1	--	<.1		
DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)		
FEB , 1982												
01...	<1	--	<1	<1	<1	<1	<1	50	40	14		
APR												
06...	14	--	<1	<1	<1	<1	<1	<10	--	<3		
AUG												
18...	5	3	2	<1	<1	<1	<1	30	--	<3		

ST. CROIX RIVER BASIN

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981							
13...	1140	5630	11.0	145	5	76	74
DEC							
07...	1305	3140	.5	194	3	25	90
FEB , 1982							
01...	1130	4980	.0	210	20	269	88
APR							
06...	1250	18100	.0	128	11	538	92
JUN							
01...	1250	6280	20.0	130	17	288	54
AUG							
18...	0920	1760	23.0	165	3	14	95

ST. CROIX RIVER BASIN

05340502 ST. CROIX RIVER AT TAYLORS FALLS, MN

LOCATION.--Lat 45°23'54", long 92°39'08", in SE 1/4 SE 1/4 sec.25, T.34 N., R.19 W., Chisago County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, at right bank in Interstate State Park 0.4 mi (0.6 km) downstream from bridge on U. S. Highway 8 at Taylors Falls.

DRAINAGE AREA.--6,240 mi² (16,160 km²).

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
AUG , 1982 17...	1545	1900	165	23.0	8.4	102	120	68	.060	<.10	.020	.68

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
AUG , 1982 17...	.70	.050	4.7	1	100	10	440	70	<.1	<1	<1	10

ST. CROIX RIVER BASIN

05340552 ST. CROIX RIVER AT FRANCONIA, MN

LOCATION.--Lat 45°21'40", long 92°42'04", in NW 1/4 SE 1/4 sec.10, T.33 N., R.19 W., Chisago County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, downstream from Lawrence Creek at Franconia.

DRAINAGE AREA.--6,270 mi² (16,240 km²).

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
AUG , 1982 17...	1105	1900	167	22.0	8.2	97	42

DATE	TIME	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG , 1982 17...	26	<.010	<.10	<.010	.70	.030	6.4	

ST. CROIX RIVER BASIN

05340553 CLOSE SLU (ST. CROIX RIVER) NEAR OSCEOLA, WI

LOCATION.--Lat 45°21'01", long 92°41'32", in SE 1/4 NE 1/4 sec.15, T.33 N., R.19 W., Polk County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, downstream from tributary through fish hatchery 2.2 mi (3.5 km) north of Osceola.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
AUG , 1982									
17...	1330	1900	390	17.0	12.2	130	260	470	1.6

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG , 1982								
17...	.020	1.6	.010	.69	.70	2.3	.080	3.2

ST. CROIX RIVER BASIN

05340557 ST. CROIX RIVER NEAR OSCEOLA, WI

LOCATION.--Lat 45°18'55", long 92°43'04", in NW 1/4 SE 1/4 sec.28, T.33 N., R.19 W., Polk County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, downstream from tributary on left bank and 0.6 mi (1.0 km) downstream from bridge on State Highway 243 at Osceola.

DRAINAGE AREA.--6,300 mi² (16,320 km²).

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG , 1982 17...	1135	1900	174	22.0	8.0	95	97	45	<.010	.11	<.010	.60
DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
AUG , 1982 17...	.71	.040	7.0	1	100	10	390	60	<.1	<1	<1	10

ST. CROIX RIVER BASIN

05340605 ST. CROIX RIVER AT MARINE ON ST. CROIX, MN

LOCATION.--Lat45°10'58", long 92°45'58", in SE 1/4 SW 1/4 sec.7, T.31 N., R.19 W., Washington County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, 0.1 mi (0.2 km) north of south corporate limit of and 1.1 mi (1.8 km) south of Marine on St. Croix.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--August 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
AUG , 1982							
17...	0925	2000	185	21.0	8.4	98	53

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG , 1982							
17...	240	<.010	<.10	<.010	.50	.040	6.2

ST. CROIX RIVER BASIN

05341500 APPLE RIVER NEAR SOMERSET, WI

LOCATION.--Lat 45°09'30", long 92°43'00", in NE 1/4 SE 1/4 sec.21, T.31 N., R.19 W., St. Croix County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, at Northern States Power Company power plant 3.1 mi (5.0 km) northwest of Somerset.

DRAINAGE AREA.--579 mi² (1,500 km²).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
APR , 1982										
06...	1045	1100	180	7.8	1.0	13.9	101	K6	100	72
AUG										
26...	1030	455	258	8.4	19.0	8.5	95	64	82	130

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1982										
06...	.00	18	6.6	2.7	7	.2	2.2	72	6.7	4.2
AUG										
26...	1.0	31	13	3.6	6	.2	.7	130	4.0	4.7

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1982									
.1	11	96	95	.13	285	--	<.010	.070	
AUG									
26...	.2	16	166	151	.23	204	.60	.010	.010

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1982									
06...	.40	.47	.78	.050	--	5.7	--	--	--
AUG									
26...	.19	.20	.81	.040	<.010	3.8	2	2.5	100

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
AUG , 1982									
26...	1030	455	1	100	40	1	10	6	7

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
AUG , 1982									
26...	130	3	70	<.1	2	<1	<1	30	<.01

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN

LOCATION.--Lat 44°54'00", long 92°46'45", in SW 1/4 NW 1/4 sec.23, T.28 N., R.20 W., Washington County, Hydrologic Unit 07030005, St. Croix National Scenic Riverway, in the City of Afton 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--7,530 mi² (19,500 km²).

PERIOD OF RECORD.--December 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1976 to current year.

PH: December 1976 to current year.

WATER TEMPERATURES: December 1976 to current year.

DISSOLVED OXYGEN: December 1976 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 472 micromhos Mar. 16, 1977; minimum, 28 micromhos May 2, 3, 1978.

PH: Maximum, 8.8 units Apr. 27, 1978; minimum, 7.1 units Feb. 9, Mar. 27, 1977, Apr. 29, 1978, July 13-15, 20, 21, 1979.

WATER TEMPERATURES: Maximum, 28.0°C June 29, 1978; minimum observed, 0.0°C Jan. 24, 26, 1982.

DISSOLVED OXYGEN: Maximum, 16.2 mg/l Apr. 11, 1977; minimum, 2.1 mg/l Sept. 17, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 267 micromhos Feb. 2, 4, 10, 11, 12, 14; minimum observed, 129 micromhos Sept. 16, 18-24.

PH: Maximum, 9.0 units Nov. 7; minimum observed, 7.2 units Jan. 10.

WATER TEMPERATURES: Maximum observed, 22.5°C Aug. 28; minimum observed, 0.0°C Jan. 24, 26.

DISSOLVED OXYGEN: Maximum observed, 16.9 mg/l Aug. 28; minimum observed, 3.9 mg/l Sept. 12, 13.

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	191	188	190	171	171	171	231	230	230
2	---	---	---	190	188	189	171	171	171	231	230	230
3	---	---	---	191	187	189	171	170	171	231	230	230
4	---	---	---	191	187	189	171	170	171	231	230	230
5	---	---	---	190	188	189	171	170	170	231	230	230
6	---	---	---	189	149	168	170	167	168	231	230	230
7	---	---	---	153	149	150	168	167	167	231	230	230
8	---	---	---	152	149	150	167	167	167	230	230	230
9	---	---	---	150	149	149	167	167	167	231	230	230
10	---	---	---	149	148	149	168	167	167	230	230	230
11	---	---	---	149	148	149	167	167	167	231	230	230
12	---	---	---	149	149	149	167	167	167	231	230	230
13	---	---	---	170	149	158	167	167	167	231	230	230
14	---	---	---	170	167	169	167	167	167	231	230	230
15	---	---	---	171	168	170	167	167	167	230	230	230
16	---	---	---	171	169	170	167	167	167	230	230	230
17	---	---	---	168	167	167	167	167	167	230	230	230
18	---	---	---	168	167	167	179	167	175	230	230	230
19	---	---	---	169	167	167	179	179	179	230	230	230
20	---	---	---	168	167	168	179	179	179	231	230	230
21	---	---	---	169	167	167	179	179	179	230	230	230
22	---	---	---	169	168	169	180	179	179	263	230	245
23	---	---	---	171	169	170	179	179	179	263	262	263
24	---	---	---	171	170	171	180	179	179	264	263	263
25	---	---	---	171	171	171	180	179	179	264	263	263
26	---	---	---	171	171	171	179	179	179	264	230	243
27	---	---	---	171	171	171	180	179	179	230	230	230
28	---	---	---	171	171	171	179	179	179	230	230	230
29	---	---	---	171	171	171	179	179	179	230	230	230
30	193	189	190	171	171	171	230	179	205	230	230	230
31	199	189	192	---	---	---	231	230	230	230	230	230
MONTH	199	189	191	191	148	168	231	167	175	264	230	234

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	230	230	230	222	221	221	249	249	249			
2	230	230	230	222	221	221	249	249	249			
3	230	230	230	222	221	221	---	---	---			
4	230	230	230	222	221	221	---	---	---			
5	230	230	230	222	221	221	---	---	---			
6	230	230	230	222	221	221	---	---	---			
7	230	230	230	222	221	221	---	---	---			
8	230	226	228	222	221	221	---	---	---			
9	266	230	243	222	221	221	---	---	---			
10	267	230	245	222	221	221	---	---	---			
11	267	230	243	222	221	221	---	---	---			
12	267	230	264	222	221	221	---	---	---			
13	266	264	265	221	221	221	---	---	---			
14	267	230	261	222	221	221	---	---	---			
15	264	230	262	222	221	221	---	---	---			
16	264	226	245	222	221	221	---	---	---			
17	230	230	230	222	221	221	---	---	---			
18	230	230	230	222	221	221	---	---	---			
19	230	230	230	249	221	239	---	---	---			
20	230	230	230	249	249	249	---	---	---			
21	230	230	230	249	249	249	---	---	---			
22	230	230	230	249	249	249	---	---	---			
23	230	230	230	249	249	249	---	---	---			
24	230	221	226	249	249	249	---	---	---			
25	222	221	221	249	249	249	---	---	---			
26	222	221	221	249	249	249	---	---	---			
27	222	221	221	249	249	249	---	---	---			
28	222	221	221	249	249	249	---	---	---			
29	---	---	---	249	249	249	---	---	---			
30	---	---	---	249	249	249	---	---	---			
31	---	---	---	249	249	249	---	---	---			
MONTH	267	221	235	249	221	232	249	249	249			

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1							---	---	---	180	175	178
2							---	---	---	179	176	177
3							---	---	---	179	176	177
4							---	---	---	179	176	178
5							---	---	---	179	176	177
6							---	---	---	178	176	177
7							---	---	---	178	176	177
8							---	---	---	179	176	177
9							---	---	---	179	176	178
10							---	---	---	179	176	178
11							---	---	---	179	176	177
12							---	---	---	182	177	179
13							---	---	---	178	176	177
14							---	---	---	176	130	170
15							---	---	---	176	130	155
16							---	---	---	176	129	149
17							---	---	---	175	130	162
18							---	---	---	175	129	148
19							---	---	---	131	129	130
20							---	---	---	130	129	129
21							---	---	---	130	129	129
22							---	---	---	130	129	129
23							---	---	---	133	129	130
24							---	---	---	138	129	134
25							---	---	---	138	137	137
26							---	---	---	138	137	137
27							178	176	178	138	137	138
28							179	176	178	139	137	138
29							180	131	173	147	139	141
30							180	176	178	142	138	139
31							181	177	178	---	---	---
MONTH							181	131	177	182	129	157

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

PH (STANDARD UNITS), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	6.2	4.1	4.8	8.7	8.6	8.7	7.8	7.7	7.8
2	---	---	---	8.6	3.7	5.6	8.9	8.6	8.7	7.8	7.8	7.8
3	---	---	---	8.6	4.2	5.5	8.9	8.6	8.7	7.8	7.6	7.7
4	---	---	---	8.3	4.3	5.2	8.7	7.6	8.2	7.7	7.6	7.7
5	---	---	---	5.6	4.3	4.8	8.4	7.8	8.1	7.7	7.5	7.6
6	---	---	---	8.8	3.9	5.7	8.2	7.7	8.0	7.6	7.3	7.4
7	---	---	---	9.0	8.0	8.6	7.8	7.7	7.7	7.5	6.3	7.0
8	---	---	---	8.4	8.0	8.3	7.7	6.1	6.6	7.4	7.0	7.2
9	---	---	---	8.7	8.0	8.4	6.4	6.0	6.1	7.2	4.1	6.0
10	---	---	---	8.6	7.3	7.9	7.7	6.0	6.2	4.3	2.4	3.3
11	---	---	---	8.1	6.9	7.5	7.5	6.0	6.7	5.8	4.4	5.3
12	---	---	---	8.4	7.6	8.1	6.7	6.6	6.7	6.0	5.6	5.8
13	---	---	---	8.5	7.8	8.2	6.7	6.6	6.7	6.2	5.9	6.0
14	---	---	---	8.5	8.2	8.3	6.6	6.2	6.4	6.2	5.3	5.9
15	---	---	---	8.6	8.2	8.3	7.0	6.4	6.8	7.6	5.8	6.6
16	---	---	---	8.3	8.2	8.3	7.1	6.7	6.9	5.9	4.3	4.9
17	---	---	---	8.3	8.2	8.3	7.6	6.9	7.3	6.8	4.1	5.4
18	---	---	---	8.3	6.6	7.7	8.3	7.6	8.0	7.4	6.7	7.1
19	---	---	---	8.5	6.4	7.9	8.6	8.3	8.5	7.3	6.9	7.2
20	---	---	---	8.6	8.5	8.5	8.7	8.6	8.7	7.4	6.8	7.1
21	---	---	---	8.7	8.5	8.6	8.7	8.6	8.7	7.5	7.3	7.4
22	---	---	---	9.0	8.5	8.6	8.7	8.6	8.7	7.8	7.2	7.6
23	---	---	---	8.6	5.7	8.1	8.7	7.7	8.1	7.6	7.1	7.4
24	---	---	---	8.3	7.5	7.9	7.8	7.7	7.7	7.2	5.4	6.6
25	---	---	---	8.3	7.8	8.0	7.7	7.7	7.7	7.5	7.0	7.3
26	---	---	---	7.8	7.5	7.7	7.7	7.6	7.7	7.3	5.6	6.6
27	---	---	---	7.7	7.3	7.5	7.7	7.7	7.7	7.6	6.8	7.2
28	---	---	---	7.8	7.2	7.5	7.7	7.7	7.7	7.5	7.0	7.2
29	---	---	---	8.3	7.2	7.8	7.8	7.7	7.7	7.7	7.1	7.4
30	8.8	5.8	6.7	8.8	7.1	8.2	7.7	7.7	7.7	7.5	7.0	7.2
31	8.6	5.4	7.1	---	---	---	7.7	7.7	7.7	7.4	5.8	6.8
MONTH	8.8	5.4	6.9	9.0	3.7	7.5	8.9	6.0	7.6	7.8	2.4	6.8
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	7.7	6.0	7.0	8.8	7.6	8.2	8.0	7.2	7.6	---	---	---
2	7.7	7.3	7.6	8.9	8.6	8.8	7.8	7.6	7.7	---	---	---
3	7.2	5.5	6.6	8.9	8.7	8.8	---	---	---	---	---	---
4	7.0	5.7	6.6	8.9	8.8	8.8	---	---	---	---	---	---
5	7.8	6.7	7.3	8.8	7.9	8.3	---	---	---	---	---	---
6	7.6	5.1	6.7	8.2	8.0	8.1	---	---	---	---	---	---
7	8.0	7.6	7.8	8.2	7.9	8.1	---	---	---	---	---	---
8	7.9	7.6	7.8	8.3	8.1	8.2	---	---	---	---	---	---
9	7.6	6.8	7.3	8.3	8.1	8.2	---	---	---	---	---	---
10	7.8	6.2	7.2	8.4	8.3	8.4	---	---	---	---	---	---
11	8.0	7.4	7.7	8.4	8.2	8.3	---	---	---	---	---	---
12	8.3	7.6	7.9	8.4	8.1	8.2	---	---	---	---	---	---
13	8.3	8.0	8.1	8.1	8.1	8.1	---	---	---	---	---	---
14	8.2	8.1	8.2	8.2	8.1	8.2	---	---	---	---	---	---
15	8.2	8.0	8.1	8.2	8.1	8.2	---	---	---	---	---	---
16	8.7	8.1	8.4	8.2	8.1	8.1	---	---	---	---	---	---
17	8.5	8.2	8.4	8.2	8.1	8.1	---	---	---	---	---	---
18	8.5	8.4	8.4	8.2	8.1	8.1	---	---	---	---	---	---
19	8.6	8.4	8.5	8.2	7.5	7.9	---	---	---	---	---	---
20	8.8	8.4	8.5	7.5	7.0	7.3	---	---	---	---	---	---
21	8.7	8.3	8.5	7.0	6.6	6.8	---	---	---	---	---	---
22	8.8	8.3	8.5	6.8	6.4	6.6	---	---	---	---	---	---
23	8.5	8.1	8.3	6.8	5.9	6.4	---	---	---	---	---	---
24	8.4	7.8	8.1	6.3	5.9	6.2	---	---	---	---	---	---
25	8.2	7.5	7.8	5.9	5.6	5.7	---	---	---	---	---	---
26	8.2	7.6	7.9	7.8	5.5	6.8	---	---	---	---	---	---
27	8.3	7.8	8.0	8.1	7.1	7.5	---	---	---	---	---	---
28	8.1	7.7	7.9	8.0	7.4	7.7	---	---	---	---	---	---
29	---	---	---	7.9	7.6	7.8	---	---	---	---	---	---
30	---	---	---	7.8	7.6	7.8	---	---	---	---	---	---
31	---	---	---	8.0	7.3	7.5	---	---	---	---	---	---
MONTH	8.8	5.1	7.8	8.9	5.5	7.8	8.0	7.2	7.7	---	---	---

ST. CROIX RIVER BASIN
05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

PH (STANDARD UNITS), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1							---	---	---	7.4	7.1	7.2
2							---	---	---	7.2	7.1	7.1
3							---	---	---	7.5	7.1	7.3
4							---	---	---	8.0	7.5	7.6
5							---	---	---	7.5	7.3	7.4
6							---	---	---	7.8	7.4	7.6
7							---	---	---	8.0	7.5	7.6
8							---	---	---	8.3	7.4	7.6
9							---	---	---	8.2	7.4	7.5
10							---	---	---	7.8	---	---
11							---	---	---	7.8	7.5	7.6
12							---	---	---	7.9	7.4	7.6
13							---	---	---	7.6	7.5	7.5
14							---	---	---	7.7	7.6	7.6
15							---	---	---	7.8	7.6	7.6
16							---	---	---	8.4	7.6	7.7
17							---	---	---	7.7	7.5	7.6
18							---	---	---	7.7	7.6	7.6
19							---	---	---	7.7	7.5	7.5
20							---	---	---	7.7	7.5	7.6
21							---	---	---	7.8	7.6	7.7
22							---	---	---	8.1	7.6	7.7
23							---	---	---	8.0	7.6	7.7
24							---	---	---	7.7	7.6	7.6
25							---	---	---	8.0	7.6	7.7
26							---	---	---	8.1	7.7	7.8
27							7.6	7.4	7.5	8.3	7.6	7.8
28							7.9	7.3	7.5	8.0	7.6	7.8
29							7.6	7.1	7.4	7.8	7.5	7.6
30							7.4	7.0	7.2	7.7	7.5	7.6
31							7.8	7.2	7.4	---	---	---
MONTH							7.9	7.0	7.4	8.4	7.1	7.6

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	6.5	6.0	6.5	4.5	4.5	4.5	2.0	1.5	2.0
2	---	---	---	7.0	6.0	6.5	4.5	4.0	4.5	2.0	1.5	2.0
3	---	---	---	7.5	6.0	6.5	4.5	3.5	4.0	2.0	1.5	1.5
4	---	---	---	7.5	6.5	7.0	4.0	2.5	3.0	2.0	1.5	1.5
5	---	---	---	6.5	6.0	6.5	2.5	2.0	2.5	2.0	1.5	1.5
6	---	---	---	8.0	6.0	7.0	3.0	2.0	2.5	2.0	1.5	1.5
7	---	---	---	8.5	7.5	8.0	3.0	2.5	2.5	1.5	1.5	1.5
8	---	---	---	8.0	7.5	8.0	2.5	2.5	2.5	1.5	1.5	1.5
9	---	---	---	8.0	7.0	7.5	2.5	2.0	2.5	1.5	1.5	1.5
10	---	---	---	8.0	6.5	7.5	2.5	2.0	2.0	1.5	1.5	1.5
11	---	---	---	8.0	7.5	8.0	2.0	2.0	2.0	1.5	1.5	1.5
12	---	---	---	8.5	7.5	8.0	2.0	2.0	2.0	2.0	1.5	1.5
13	---	---	---	9.0	7.5	8.0	2.0	2.0	2.0	1.5	1.5	1.5
14	---	---	---	9.0	8.0	8.5	2.5	2.0	2.0	2.0	1.5	1.5
15	---	---	---	9.0	8.0	8.5	2.0	2.0	2.0	1.5	.5	1.0
16	---	---	---	8.5	8.0	8.5	2.0	2.0	2.0	.5	.5	.5
17	---	---	---	8.5	8.0	8.0	2.0	2.0	2.0	.5	.5	.5
18	---	---	---	8.0	8.0	8.0	2.0	2.0	2.0	.5	.5	.5
19	---	---	---	8.0	7.5	8.0	2.0	2.0	2.0	.5	.5	.5
20	---	---	---	7.5	7.5	7.5	2.0	2.0	2.0	.5	.5	.5
21	---	---	---	7.5	7.0	7.5	2.0	2.0	2.0	.5	.5	.5
22	---	---	---	7.5	6.0	7.0	2.0	2.0	2.0	.5	.5	.5
23	---	---	---	7.5	7.0	7.0	2.0	2.0	2.0	.5	.5	.5
24	---	---	---	7.5	4.5	6.0	2.0	2.0	2.0	.5	.0	.5
25	---	---	---	5.0	4.5	5.0	2.0	2.0	2.0	.5	.5	.5
26	---	---	---	5.0	5.0	5.0	2.0	2.0	2.0	.5	.0	.5
27	---	---	---	5.0	5.0	5.0	2.0	2.0	2.0	.5	.5	.5
28	---	---	---	5.0	4.5	5.0	2.0	2.0	2.0	.5	.5	.5
29	---	---	---	5.0	4.0	4.5	2.0	2.0	2.0	.5	.5	.5
30	7.5	6.5	7.0	4.5	4.0	4.5	2.0	2.0	2.0	.5	.5	.5
31	6.5	6.5	6.5	---	---	---	2.0	1.5	2.0	.5	.5	.5
MONTH	7.5	6.5	7.0	9.0	4.0	7.0	4.5	1.5	2.5	2.0	.0	1.0

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.5	.5	.5	1.5	1.5	1.5	2.5	2.0	2.0			
2	.5	.5	.5	1.5	1.5	1.5	2.0	2.0	2.0			
3	.5	.5	.5	1.5	1.5	1.5	---	---	---			
4	.5	.5	.5	2.0	1.5	1.5	---	---	---			
5	.5	.5	.5	2.0	1.5	1.5	---	---	---			
6	.5	.5	.5	2.0	1.5	1.5	---	---	---			
7	.5	.5	.5	2.0	1.5	1.5	---	---	---			
8	.5	.5	.5	1.5	1.5	1.5	---	---	---			
9	.5	.5	.5	1.5	1.5	1.5	---	---	---			
10	.5	.5	.5	1.5	1.5	1.5	---	---	---			
11	1.0	.5	.5	2.0	1.5	1.5	---	---	---			
12	1.0	.5	.5	2.5	1.5	2.0	---	---	---			
13	1.0	.5	.5	2.5	2.0	2.5	---	---	---			
14	1.0	.5	.5	2.5	2.0	2.5	---	---	---			
15	1.0	.5	.5	2.5	2.0	2.5	---	---	---			
16	1.0	.5	.5	2.5	2.5	2.5	---	---	---			
17	.5	.5	.5	2.5	2.5	2.5	---	---	---			
18	.5	.5	.5	2.5	2.5	2.5	---	---	---			
19	.5	.5	.5	2.5	1.5	2.0	---	---	---			
20	.5	.5	.5	2.0	1.5	1.5	---	---	---			
21	1.0	.5	.5	2.0	1.5	2.0	---	---	---			
22	1.0	.5	.5	2.5	1.5	2.0	---	---	---			
23	1.0	.5	.5	2.5	1.5	2.0	---	---	---			
24	1.5	.5	1.0	2.5	2.0	2.0	---	---	---			
25	1.5	1.5	1.5	2.0	2.0	2.0	---	---	---			
26	1.5	1.0	1.5	2.0	1.5	2.0	---	---	---			
27	2.0	1.5	1.5	2.5	1.5	2.0	---	---	---			
28	1.5	1.5	1.5	2.5	1.5	2.0	---	---	---			
29	---	---	---	2.0	2.0	2.0	---	---	---			
30	---	---	---	2.0	2.0	2.0	---	---	---			
31	---	---	---	2.5	2.0	2.0	---	---	---			
MONTH	2.0	.5	.5	2.5	1.5	2.0	2.5	2.0	2.0			
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1							---	---	---	22.0	21.5	21.5
2							---	---	---	21.5	21.0	21.5
3							---	---	---	21.5	21.0	21.5
4							---	---	---	22.0	21.0	21.5
5							---	---	---	21.5	21.0	21.0
6							---	---	---	21.5	21.0	21.0
7							---	---	---	21.0	20.5	21.0
8							---	---	---	21.0	20.5	21.0
9							---	---	---	21.5	20.5	21.0
10							---	---	---	21.5	21.0	21.0
11							---	---	---	21.5	21.0	21.0
12							---	---	---	21.5	21.0	21.0
13							---	---	---	21.0	20.5	21.0
14							---	---	---	20.5	20.0	20.5
15							---	---	---	20.5	20.0	20.0
16							---	---	---	20.5	20.0	20.0
17							---	---	---	20.5	20.0	20.0
18							---	---	---	20.5	20.0	20.0
19							---	---	---	20.0	19.5	20.0
20							---	---	---	19.5	19.5	19.5
21							---	---	---	20.0	19.0	19.5
22							---	---	---	20.0	19.0	19.5
23							---	---	---	19.5	19.0	19.0
24							---	---	---	19.0	19.0	19.0
25							---	---	---	19.5	18.5	19.0
26							---	---	---	19.5	17.5	18.5
27							22.0	21.5	22.0	19.0	18.5	18.5
28							22.5	21.0	22.0	19.5	18.5	19.0
29							21.5	21.0	21.5	19.5	19.0	19.0
30							22.0	21.5	21.5	19.0	18.5	19.0
31							21.5	21.0	21.5	---	---	---
MONTH							22.5	21.0	21.5	22.0	17.5	20.0

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	12.0	10.0	10.8	11.6	11.0	11.3	15.9	13.6	14.9
2	---	---	---	15.2	10.2	11.6	12.1	10.7	11.3	15.9	13.3	15.1
3	---	---	---	13.5	10.6	11.5	12.8	10.8	11.6	15.4	13.1	14.4
4	---	---	---	13.4	10.8	11.6	13.2	11.2	12.1	13.3	12.9	13.1
5	---	---	---	11.3	9.9	10.4	15.5	11.1	13.0	13.1	12.8	13.0
6	---	---	---	12.3	10.4	11.0	14.5	11.0	12.2	13.5	12.9	13.1
7	---	---	---	12.9	9.1	10.1	14.6	10.5	12.0	13.2	12.7	13.0
8	---	---	---	11.4	9.2	10.4	14.0	11.4	12.2	13.0	12.8	12.9
9	---	---	---	12.2	9.7	10.6	14.2	11.3	12.0	13.0	12.4	12.6
10	---	---	---	10.8	8.5	9.3	12.9	11.9	12.3	12.5	12.2	12.4
11	---	---	---	10.2	8.3	8.9	15.4	12.2	12.8	13.0	12.3	12.6
12	---	---	---	10.5	8.4	9.3	13.0	12.5	12.7	12.7	12.3	12.5
13	---	---	---	11.2	8.5	10.0	13.0	12.5	12.7	12.6	12.3	12.4
14	---	---	---	11.3	10.3	10.7	12.8	12.2	12.5	12.8	12.3	12.5
15	---	---	---	11.0	10.0	10.4	13.0	12.3	12.6	12.4	12.0	12.2
16	---	---	---	10.6	10.1	10.4	13.5	12.1	12.9	12.1	11.6	11.9
17	---	---	---	10.6	10.3	10.4	13.1	12.2	12.6	12.1	11.4	11.8
18	---	---	---	10.8	10.4	10.6	13.3	11.9	12.7	13.9	11.2	11.9
19	---	---	---	11.5	10.7	11.1	13.5	12.6	13.1	11.4	11.1	11.2
20	---	---	---	11.8	11.2	11.4	13.4	12.7	13.2	12.6	10.6	11.1
21	---	---	---	12.0	11.1	11.4	13.6	12.7	13.1	10.7	10.5	10.6
22	---	---	---	13.2	11.0	11.5	13.9	13.6	13.7	12.0	10.4	11.1
23	---	---	---	11.0	10.9	10.9	13.4	12.9	13.2	11.2	10.8	11.0
24	---	---	---	13.4	10.7	12.0	13.3	12.3	12.8	11.1	10.6	10.8
25	---	---	---	13.5	10.5	11.8	12.6	11.9	12.3	11.0	10.6	10.9
26	---	---	---	10.6	10.4	10.5	13.0	12.1	12.6	12.0	10.7	11.3
27	---	---	---	12.0	10.4	10.9	13.4	12.9	13.1	12.3	10.8	11.4
28	---	---	---	11.2	10.8	11.0	14.1	12.8	13.6	13.3	11.0	12.0
29	---	---	---	14.8	11.1	12.5	13.9	12.8	13.5	11.9	10.4	11.2
30	13.5	10.7	11.8	13.2	10.9	11.9	15.3	12.6	13.7	11.9	10.1	10.7
31	11.8	9.9	10.6	---	---	---	15.3	14.2	14.9	12.7	9.9	10.4
MONTH	13.5	9.9	11.2	15.2	8.3	10.8	15.5	10.5	12.7	15.9	9.9	12.1
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	11.0	9.9	10.4	12.6	8.7	9.6	12.0	10.5	10.9	---	---	---
2	10.4	10.0	10.1	13.0	9.2	9.9	11.9	10.8	11.2	---	---	---
3	12.4	10.0	10.7	9.5	8.9	9.2	---	---	---	---	---	---
4	10.4	9.9	10.2	9.8	8.8	9.3	---	---	---	---	---	---
5	12.5	9.9	10.7	11.8	8.6	10.3	---	---	---	---	---	---
6	12.3	10.1	11.2	11.7	9.6	10.5	---	---	---	---	---	---
7	11.4	9.9	10.2	11.1	9.5	10.1	---	---	---	---	---	---
8	12.6	9.9	10.8	13.9	9.9	10.9	---	---	---	---	---	---
9	12.0	9.5	10.4	10.6	9.7	10.1	---	---	---	---	---	---
10	10.3	9.2	10.0	13.3	10.4	11.8	---	---	---	---	---	---
11	13.2	9.7	10.8	13.6	10.4	12.1	---	---	---	---	---	---
12	12.1	9.6	10.5	13.6	12.0	12.7	---	---	---	---	---	---
13	10.9	9.1	9.7	12.6	10.3	11.3	---	---	---	---	---	---
14	9.8	8.9	9.4	13.9	10.6	11.8	---	---	---	---	---	---
15	9.2	8.8	9.1	12.0	10.7	11.5	---	---	---	---	---	---
16	10.7	8.7	9.3	11.8	10.4	11.0	---	---	---	---	---	---
17	9.5	8.9	9.1	13.5	10.9	11.8	---	---	---	---	---	---
18	9.2	8.9	9.1	14.6	11.3	12.5	---	---	---	---	---	---
19	9.2	8.8	9.0	14.3	11.2	11.8	---	---	---	---	---	---
20	9.3	8.8	9.0	11.6	10.8	11.2	---	---	---	---	---	---
21	9.2	8.8	9.0	11.4	10.1	10.7	---	---	---	---	---	---
22	10.4	9.1	9.7	11.9	10.7	11.1	---	---	---	---	---	---
23	10.0	9.3	9.6	13.0	11.5	12.2	---	---	---	---	---	---
24	11.0	9.3	10.1	12.9	11.1	11.7	---	---	---	---	---	---
25	10.3	8.7	9.5	14.9	11.4	13.1	---	---	---	---	---	---
26	9.8	8.8	9.2	13.7	11.4	12.9	---	---	---	---	---	---
27	10.1	8.8	9.2	15.1	11.4	12.8	---	---	---	---	---	---
28	10.2	8.7	9.3	15.1	12.2	13.4	---	---	---	---	---	---
29	---	---	---	14.4	11.5	13.0	---	---	---	---	---	---
30	---	---	---	13.1	10.8	11.4	---	---	---	---	---	---
31	---	---	---	12.3	10.5	10.8	---	---	---	---	---	---
MONTH	13.2	8.7	9.8	15.1	8.6	11.4	12.0	10.5	11.1	---	---	---

ST. CROIX RIVER BASIN

05341770 ST. CROIX RIVER AT AFTON, MN--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1							---	---	---	14.8	6.2	8.5
2							---	---	---	11.5	5.3	6.3
3							---	---	---	11.3	5.0	7.6
4							---	---	---	12.7	7.4	9.3
5							---	---	---	10.8	6.9	8.5
6							---	---	---	12.4	7.0	9.1
7							---	---	---	11.5	7.9	9.2
8							---	---	---	15.7	7.1	10.2
9							---	---	---	13.2	7.5	9.1
10							---	---	---	9.3	5.2	6.7
11							---	---	---	9.1	4.5	6.1
12							---	---	---	7.8	3.9	5.8
13							---	---	---	6.3	3.9	4.6
14							---	---	---	6.3	4.5	5.0
15							---	---	---	8.1	4.6	5.5
16							---	---	---	11.0	4.5	5.8
17							---	---	---	10.6	4.2	7.3
18							---	---	---	12.2	8.0	9.0
19							---	---	---	10.0	7.7	8.3
20							---	---	---	11.7	7.7	8.9
21							---	---	---	11.7	8.3	9.4
22							---	---	---	11.8	8.9	9.8
23							---	---	---	11.8	8.4	9.6
24							---	---	---	9.1	8.4	8.8
25							---	---	---	11.6	8.5	9.7
26							---	---	---	13.3	9.1	10.2
27							12.2	7.5	10.4	13.5	8.5	10.1
28							16.9	11.1	13.7	13.1	7.6	9.6
29							15.5	10.2	12.6	10.6	7.0	8.8
30							13.3	7.2	9.6	10.2	6.7	7.5
31							12.6	6.9	9.0	---	---	---
MONTH							16.9	6.9	11.1	15.7	3.9	8.2

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN

LOCATION.--Lat 44°36'36", long 92°36'36", in SW 1/4 NW 1/4 sec.10, T.113 N., R.15 W., Goodhue County, Hydrologic Unit 07040001, on right bank on downstream side of dam, 5 mi (8 km) northeast of Red Wing, and at mile 796.7 (1,282 km) upstream from Ohio River.

DRAINAGE AREA.--46,600 mi² (120,700 km²), approximately.

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1976 to current year.

PH: May 1976 to current year.

WATER TEMPERATURES: August 1969 to current year.

DISSOLVED OXYGEN: May 1976 to current year.

INSTRUMENTATION.--Water-temperature recorder since August 1969, water-quality monitor since May 1976.

REMARKS.--Water-quality monitor inoperative part of year.

COOPERATION.--Discharge data furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 30.5°C July 19, 1977; minimum, 0.0°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 533 micromhos June 26, 27; minimum, 300 micromhos Apr. 21.

PH: Maximum observed, 8.5 units Aug. 16; minimum, 7.3 units Aug. 24, 25.

WATER TEMPERATURES: Maximum, 29.0°C Aug. 19; minimum, 0.5°C Dec. 5.

DISSOLVED OXYGEN: Maximum, 17.2 mg/l Dec. 7; minimum, 2.6 mg/l July 12.

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	446	439	441	---	---	---	426	419	423	---	---	---
2	444	440	442	---	---	---	427	420	423	---	---	---
3	452	445	449	---	---	---	434	427	431	---	---	---
4	445	444	444	423	411	420	447	435	442	---	---	---
5	---	---	---	424	420	422	447	428	437	---	---	---
6	---	---	---	426	414	422	435	419	427	---	---	---
7	423	418	421	428	418	425	431	417	423	---	---	---
8	422	419	421	428	414	421	---	---	---	---	---	---
9	421	410	415	422	413	418	---	---	---	---	---	---
10	410	404	407	422	408	415	---	---	---	---	---	---
11	410	404	406	411	401	407	---	---	---	---	---	---
12	416	409	412	424	407	417	---	---	---	---	---	---
13	417	414	416	425	401	414	---	---	---	---	---	---
14	417	414	415	409	403	406	---	---	---	---	---	---
15	426	417	421	406	396	403	---	---	---	---	---	---
16	427	419	425	409	401	405	---	---	---	---	---	---
17	423	415	419	414	410	412	---	---	---	---	---	---
18	426	407	418	416	407	413	---	---	---	---	---	---
19	408	395	400	409	402	406	---	---	---	---	---	---
20	405	400	403	408	405	406	---	---	---	---	---	---
21	404	393	398	410	402	407	---	---	---	---	---	---
22	408	402	405	406	389	397	---	---	---	---	---	---
23	402	394	398	401	392	397	---	---	---	---	---	---
24	---	---	---	414	401	408	---	---	---	---	---	---
25	---	---	---	419	415	417	---	---	---	---	---	---
26	---	---	---	417	410	415	---	---	---	---	---	---
27	---	---	---	419	413	416	---	---	---	474	470	472
28	---	---	---	425	413	421	---	---	---	473	458	465
29	---	---	---	427	423	425	---	---	---	463	460	462
30	---	---	---	428	423	427	---	---	---	461	455	458
31	---	---	---	---	---	---	---	---	---	456	454	455
MONTH	452	393	418	428	389	413	447	417	429	474	454	462

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	460	456	457	462	446	455	496	482	486	426	425	425
2	461	459	460	454	446	451	484	472	480	425	425	425
3	460	458	459	453	451	452	471	439	453	425	424	425
4	462	460	462	461	452	457	438	432	434	425	424	424
5	461	457	459	462	459	461	438	430	434	424	424	424
6	460	458	459	464	460	462	432	426	429	424	423	424
7	459	457	459	470	462	464	430	419	425	418	417	418
8	460	458	459	494	470	480	419	405	413	411	410	410
9	460	458	424	500	490	496	410	400	406	405	403	404
10	459	456	458	497	492	495	404	394	400	398	397	398
11	454	451	453	453	447	450	404	395	399	392	391	392
12	448	447	448	454	451	452	404	397	401	389	388	388
13	444	435	440	457	444	450	411	401	405	388	388	388
14	433	431	432	465	453	458	305	304	305	389	388	389
15	429	426	427	464	461	462	305	304	305	389	388	389
16	425	423	424	463	450	455	305	304	305	389	389	389
17	425	422	424	492	458	476	305	304	305	389	389	389
18	424	423	423	514	495	504	305	304	304	390	389	389
19	430	424	428	517	509	514	304	302	303	390	389	389
20	432	427	429	507	483	493	303	301	302	394	393	394
21	434	428	431	483	467	474	302	300	301	397	397	397
22	435	434	435	474	466	470	302	301	301	401	400	401
23	439	435	438	475	466	472	323	322	322	404	403	404
24	454	439	446	477	466	471	344	343	343	408	408	408
25	469	454	461	480	473	478	365	364	364	413	412	413
26	473	467	469	476	472	474	386	385	385	421	415	418
27	473	468	470	481	474	478	406	405	406	426	425	426
28	471	460	467	488	482	485	426	426	426	432	432	432
29	---	---	---	496	488	492	426	425	426	438	437	438
30	---	---	---	500	495	498	426	425	425	443	443	443
31	---	---	---	510	487	502	---	---	---	449	448	448
MONTH	473	422	446	517	444	474	496	300	380	449	388	410
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	454	452	453	508	507	508	516	514	515	404	403	403
2	460	458	459	508	507	508	515	513	514	404	403	404
3	467	466	466	508	506	507	513	512	513	404	402	403
4	472	471	471	507	505	506	513	512	512	403	402	403
5	479	477	478	506	504	505	507	504	506	404	403	403
6	485	484	485	506	504	506	500	497	499	405	404	404
7	491	489	490	506	506	506	492	494	495	405	404	405
8	497	495	496	506	506	506	487	484	485	404	404	404
9	500	494	497	506	504	505	485	484	484	404	404	404
10	490	487	489	505	501	503	485	484	484	405	404	405
11	483	483	483	502	500	501	485	484	485	406	405	405
12	479	477	479	503	502	503	485	483	484	405	402	404
13	476	474	475	504	503	503	485	483	484	405	402	404
14	471	471	471	504	503	504	485	484	485	405	404	405
15	466	463	465	505	504	505	486	485	485	405	404	405
16	461	461	461	505	504	504	490	485	487	404	403	403
17	472	471	471	505	504	504	489	488	489	404	403	403
18	484	483	483	505	503	504	489	487	488	405	404	404
19	494	493	493	505	503	504	489	488	489	406	405	405
20	505	504	504	506	505	506	489	487	488	405	404	404
21	517	516	516	513	505	509	487	485	486	404	391	398
22	526	524	526	514	512	513	488	485	486	393	391	392
23	532	529	530	513	511	512	488	486	487	393	392	393
24	532	531	531	515	512	514	487	483	485	393	391	393
25	533	532	533	516	514	515	475	473	474	392	392	392
26	533	532	533	515	513	514	466	464	465	393	392	392
27	533	531	532	515	514	515	456	455	455	394	393	393
28	532	530	531	515	514	515	445	444	444	394	394	394
29	532	531	532	514	513	514	435	434	434	395	394	395
30	532	507	517	513	509	511	425	424	425	395	394	394
31	---	---	---	514	509	512	415	413	414	---	---	---
MONTH	533	452	495	516	500	508	516	413	481	406	391	401

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

PH (STANDARD UNITS), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	7.9	7.8	7.8	---	---	---	7.9	7.8	7.9	---	---	---
2	7.8	7.8	7.8	---	---	---	7.9	7.8	7.9	---	---	---
3	7.8	7.8	7.8	---	---	---	7.9	7.8	7.9	---	---	---
4	7.8	7.8	7.8	8.2	8.1	8.2	7.9	7.8	7.8	---	---	---
5	---	---	---	8.2	8.1	8.2	7.9	7.8	7.8	---	---	---
6	---	---	---	8.1	7.9	8.0	7.8	7.8	7.8	---	---	---
7	8.0	7.9	8.0	8.2	8.0	8.1	7.8	7.7	7.7	---	---	---
8	8.0	7.9	8.0	8.1	8.0	8.0	---	---	---	---	---	---
9	8.0	8.0	8.0	8.1	7.9	8.0	---	---	---	---	---	---
10	8.0	7.9	7.9	8.0	7.9	8.0	---	---	---	---	---	---
11	8.0	7.9	7.9	8.0	7.9	8.0	---	---	---	---	---	---
12	8.1	8.0	8.0	8.1	7.9	8.0	---	---	---	---	---	---
13	8.1	8.0	8.1	8.1	8.0	8.0	---	---	---	---	---	---
14	8.0	8.0	8.0	8.1	8.0	8.0	---	---	---	---	---	---
15	8.1	8.0	8.0	8.0	7.9	8.0	---	---	---	---	---	---
16	8.0	8.0	8.0	8.0	7.9	8.0	---	---	---	---	---	---
17	8.0	7.9	8.0	8.0	7.9	8.0	---	---	---	---	---	---
18	8.0	8.0	8.0	8.0	7.9	8.0	---	---	---	---	---	---
19	8.1	8.0	8.1	7.9	7.8	7.9	---	---	---	---	---	---
20	8.1	8.0	8.1	7.9	7.8	7.9	---	---	---	---	---	---
21	8.1	8.0	8.1	7.9	7.8	7.9	---	---	---	---	---	---
22	8.2	8.1	8.1	7.9	7.8	7.9	---	---	---	---	---	---
23	8.2	8.1	8.1	7.9	7.8	7.8	---	---	---	---	---	---
24	---	---	---	7.9	7.8	7.9	---	---	---	---	---	---
25	---	---	---	7.9	7.9	7.9	---	---	---	---	---	---
26	---	---	---	7.9	7.8	7.9	---	---	---	---	---	---
27	---	---	---	7.9	7.8	7.8	---	---	---	7.6	7.6	7.6
28	---	---	---	7.9	7.8	7.8	---	---	---	7.6	7.5	7.6
29	---	---	---	7.9	7.8	7.8	---	---	---	7.6	7.6	7.6
30	---	---	---	7.9	7.8	7.9	---	---	---	7.6	7.6	7.6
31	---	---	---	---	---	---	---	---	---	7.6	7.6	7.6
MONTH	8.2	7.8	8.0	8.2	7.8	8.0	7.9	7.7	7.8	7.6	7.5	7.6

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	7.6	7.6	7.6	7.9	7.9	7.9	8.2	8.1	8.2	8.3	8.1	8.2
2	7.6	7.6	7.6	7.9	7.9	7.9	8.3	8.2	8.2	8.4	8.1	8.2
3	7.6	7.6	7.6	8.0	7.9	7.9	8.3	8.2	8.2	8.4	8.1	8.2
4	7.6	7.6	7.6	8.0	7.9	7.9	8.2	8.1	8.2	8.3	8.1	8.2
5	7.6	7.6	7.6	8.0	7.9	7.9	8.2	8.2	8.2	8.1	7.9	8.0
6	7.6	7.6	7.6	8.0	7.9	7.9	8.2	8.2	8.2	8.0	7.8	7.9
7	7.6	7.6	7.6	8.0	7.9	7.9	8.2	8.1	8.2	8.2	7.9	8.0
8	7.6	7.6	7.6	8.0	7.9	8.0	8.2	8.1	8.1	8.3	8.0	8.1
9	7.6	7.6	7.6	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.0	8.1
10	7.6	7.6	7.6	8.0	8.0	8.0	8.1	8.0	8.1	8.1	7.9	8.0
11	7.7	7.6	7.6	8.0	7.9	8.0	8.1	8.0	8.1	8.1	7.9	7.9
12	7.7	7.6	7.6	8.0	8.0	8.0	8.1	8.0	8.1	8.0	7.9	7.9
13	7.7	7.6	7.7	8.0	8.0	8.0	8.1	8.1	8.1	7.9	7.8	7.9
14	7.7	7.6	7.6	8.1	8.0	8.0	8.2	8.1	8.2	7.9	7.8	7.8
15	7.7	7.6	7.7	8.1	8.1	8.1	8.2	8.2	8.2	8.0	7.8	7.9
16	7.7	7.6	7.7	8.1	7.9	8.0	8.2	8.2	8.2	8.0	7.8	7.9
17	7.8	7.6	7.8	8.0	7.9	8.0	8.3	8.2	8.3	8.0	7.9	7.9
18	7.8	7.8	7.8	8.1	8.0	8.0	8.3	8.2	8.2	8.0	7.9	7.9
19	7.8	7.8	7.8	8.1	8.1	8.1	8.2	8.2	8.2	8.1	7.9	8.0
20	7.8	7.8	7.8	8.1	8.1	8.1	8.3	8.1	8.2	8.1	7.9	8.0
21	7.8	7.8	7.8	8.1	8.1	8.1	8.3	8.2	8.2	8.1	7.9	8.0
22	7.8	7.8	7.8	8.1	8.1	8.1	8.3	8.1	8.2	8.0	7.8	7.9
23	7.9	7.8	7.8	8.1	8.0	8.1	8.2	8.1	8.2	7.8	7.8	7.8
24	7.9	7.8	7.8	8.2	8.0	8.1	8.2	8.1	8.2	7.8	7.8	7.8
25	7.9	7.8	7.8	8.2	8.1	8.1	8.1	8.0	8.1	7.8	7.8	7.8
26	7.9	7.9	7.9	8.1	8.1	8.1	8.1	7.9	8.0	7.8	7.8	7.8
27	7.9	7.9	7.9	8.1	8.1	8.1	8.1	7.9	8.0	7.8	7.8	7.8
28	7.9	7.9	7.9	8.2	8.1	8.1	8.1	8.1	8.1	7.8	7.7	7.8
29	---	---	---	8.2	8.2	8.2	8.3	8.2	8.3	7.8	7.7	7.8
30	---	---	---	8.2	8.2	8.2	8.3	8.2	8.2	7.8	7.8	7.8
31	---	---	---	8.3	8.2	8.2	---	---	---	8.0	7.8	7.9
MONTH	7.9	7.6	7.7	8.3	7.9	8.0	8.3	7.9	8.2	8.4	7.7	7.9

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

PH (STANDARD UNITS), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	8.0	7.9	7.9	8.4	8.2	8.3	8.2	8.1	8.1	7.9	7.5	7.7
2	8.1	7.9	8.0	8.4	8.3	8.3	8.2	8.0	8.1	7.8	7.6	7.7
3	8.0	7.9	8.0	8.4	8.3	8.3	8.3	8.1	8.2	7.8	7.7	7.8
4	7.9	7.9	7.9	8.4	8.3	8.3	8.3	8.1	8.2	7.8	7.6	7.7
5	8.0	7.9	7.9	8.4	8.2	8.2	8.2	8.2	8.2	7.9	7.7	7.8
6	8.0	7.9	8.0	8.2	8.2	8.2	8.3	8.2	8.2	7.8	7.6	7.7
7	8.0	7.9	8.0	8.2	8.2	8.2	8.4	8.2	8.3	7.8	7.7	7.7
8	8.0	7.9	7.9	8.2	8.1	8.2	8.3	8.1	8.2	7.9	7.7	7.8
9	8.0	7.9	7.9	8.2	8.0	8.1	8.2	8.1	8.2	7.9	7.8	7.8
10	8.0	7.9	8.0	8.0	7.9	8.0	8.3	8.1	8.2	7.9	7.8	7.8
11	8.0	7.9	8.0	7.9	7.9	7.9	8.3	8.1	8.2	7.8	7.7	7.8
12	8.0	7.9	8.0	7.9	7.7	7.8	8.3	8.1	8.2	7.7	7.6	7.7
13	8.0	7.9	7.9	8.0	7.6	7.8	8.2	8.1	8.1	7.8	7.6	7.7
14	7.9	7.9	7.9	8.0	7.9	8.0	8.2	8.1	8.1	7.8	7.7	7.8
15	7.9	7.8	7.8	8.0	7.9	8.0	8.2	8.0	8.1	7.8	7.7	7.8
16	8.0	7.7	7.9	8.0	7.9	7.9	8.5	8.0	8.2	7.9	7.7	7.8
17	8.0	7.9	7.9	7.9	7.8	7.9	8.2	7.9	8.1	8.0	7.8	7.9
18	8.0	7.9	8.0	7.9	7.8	7.9	8.2	7.9	8.1	8.0	7.8	7.9
19	8.1	7.9	8.0	8.0	7.9	7.9	8.1	7.9	8.0	7.9	7.8	7.9
20	8.1	8.0	8.0	8.1	8.0	8.0	8.0	7.8	7.9	8.0	7.8	7.9
21	8.1	8.0	8.0	8.1	8.0	8.1	8.0	7.7	7.9	8.1	7.8	7.9
22	8.2	8.0	8.1	8.1	8.0	8.0	7.8	7.7	7.7	8.2	7.9	8.0
23	8.2	8.0	8.1	8.1	8.1	8.1	7.7	7.5	7.6	8.3	8.1	8.2
24	8.1	8.0	8.1	8.1	8.1	8.1	7.5	7.3	7.4	8.3	8.1	8.2
25	8.1	8.0	8.1	8.1	8.0	8.1	8.0	7.3	7.7	8.2	7.9	8.1
26	8.1	8.0	8.1	8.0	7.9	8.0	7.9	7.8	7.8	8.2	8.0	8.1
27	8.1	8.0	8.1	8.1	7.9	8.0	8.0	7.7	7.9	8.2	8.1	8.1
28	8.2	8.0	8.1	8.2	8.0	8.0	7.9	7.7	7.8	8.2	8.1	8.2
29	8.2	8.1	8.2	8.2	7.9	8.1	7.9	7.7	7.8	8.2	8.2	8.2
30	8.3	8.1	8.2	8.3	8.0	8.1	7.8	7.7	7.8	8.2	8.2	8.2
31	---	---	---	8.3	8.1	8.2	7.8	7.6	7.6	---	---	---
MONTH	8.3	7.7	8.0	8.4	7.6	8.1	8.5	7.3	8.0	8.3	7.5	7.9

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	15.5	13.5	14.5	---	---	---	2.5	2.0	2.0	---	---	---
2	14.5	13.5	14.0	---	---	---	2.5	2.0	2.0	---	---	---
3	14.0	13.0	13.5	---	---	---	2.0	1.0	1.5	---	---	---
4	13.0	13.0	13.0	10.0	9.5	10.0	1.5	1.0	1.0	---	---	---
5	---	---	---	10.0	9.0	9.5	1.0	.5	1.0	---	---	---
6	---	---	---	9.0	8.0	8.5	1.5	1.0	1.0	---	---	---
7	13.5	13.5	13.5	8.5	8.0	8.5	2.0	1.5	1.5	---	---	---
8	13.5	13.0	13.5	9.0	7.5	8.5	---	---	---	---	---	---
9	13.5	13.0	13.0	7.5	7.0	7.5	---	---	---	---	---	---
10	13.5	13.0	13.0	7.5	6.5	7.0	---	---	---	---	---	---
11	13.0	13.0	13.0	7.5	7.0	7.0	---	---	---	---	---	---
12	13.0	12.5	13.0	7.5	6.5	7.0	---	---	---	---	---	---
13	13.5	12.5	13.0	7.0	6.0	6.5	---	---	---	---	---	---
14	14.0	13.5	13.5	7.0	6.0	7.0	---	---	---	---	---	---
15	14.0	13.5	13.5	7.5	7.0	7.0	---	---	---	---	---	---
16	14.0	13.0	13.5	7.5	6.5	7.0	---	---	---	---	---	---
17	14.0	13.5	13.5	7.0	6.5	7.0	---	---	---	---	---	---
18	13.0	11.5	12.0	7.0	6.5	6.5	---	---	---	---	---	---
19	11.5	10.5	11.0	6.5	5.0	5.5	---	---	---	---	---	---
20	11.5	11.0	11.5	5.0	3.5	4.5	---	---	---	---	---	---
21	11.5	11.0	11.0	3.5	3.0	3.5	---	---	---	---	---	---
22	11.0	9.5	10.0	3.5	2.5	3.0	---	---	---	---	---	---
23	9.5	9.0	9.0	3.0	2.5	2.5	---	---	---	---	---	---
24	---	---	---	3.0	2.5	2.5	---	---	---	---	---	---
25	---	---	---	3.0	3.0	3.0	---	---	---	---	---	---
26	---	---	---	3.0	2.5	3.0	---	---	---	---	---	---
27	---	---	---	3.0	2.5	2.5	---	---	---	1.5	1.0	1.5
28	---	---	---	2.5	2.0	2.5	---	---	---	1.5	1.0	1.5
29	---	---	---	2.5	2.5	2.5	---	---	---	1.5	1.5	1.5
30	---	---	---	2.5	2.0	2.0	---	---	---	1.5	1.0	1.5
31	---	---	---	---	---	---	---	---	---	1.5	1.0	1.5
MONTH	15.5	9.0	12.5	10.0	2.0	5.5	2.5	.5	1.5	1.5	1.0	1.5

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.5	1.0	1.5	1.5	1.5	1.5	5.5	4.5	5.0	14.0	12.0	12.5
2	1.5	1.0	1.5	1.5	1.5	1.5	6.0	5.0	5.5	14.5	12.5	13.5
3	1.5	1.0	1.0	1.5	1.0	1.0	6.0	2.5	4.5	15.5	13.5	14.5
4	1.0	1.0	1.0	1.5	1.0	1.0	3.5	2.0	2.5	16.5	14.5	15.5
5	1.0	1.0	1.0	1.5	1.0	1.5	3.5	2.5	3.0	16.0	14.5	15.5
6	1.0	1.0	1.0	1.5	1.0	1.5	3.5	2.0	3.0	14.0	13.5	13.5
7	1.0	1.0	1.0	1.0	1.0	1.0	3.5	2.5	3.0	14.5	13.0	13.5
8	1.0	1.0	1.0	1.0	1.0	1.0	2.5	2.0	2.5	15.5	13.5	14.5
9	1.0	1.0	1.0	1.0	1.0	1.0	3.0	2.0	2.5	15.5	14.0	15.0
10	1.0	1.0	1.0	1.0	1.0	1.0	3.0	2.5	2.5	16.5	14.5	15.5
11	1.0	1.0	1.0	2.0	1.5	1.5	4.0	2.5	3.0	17.5	15.5	16.5
12	1.0	1.0	1.0	1.5	1.5	1.5	4.5	3.5	4.0	16.5	15.5	16.0
13	1.0	1.0	1.0	2.0	1.0	1.5	4.5	4.0	4.0	16.5	16.0	16.0
14	1.0	1.0	1.0	2.0	1.5	2.0	6.0	5.5	6.0	18.0	16.0	17.0
15	1.0	1.0	1.0	2.0	1.5	1.5	7.0	5.5	6.5	18.5	16.5	17.5
16	1.0	1.0	1.0	2.0	2.0	2.0	8.0	6.5	7.0	18.5	17.0	17.5
17	1.0	1.0	1.0	2.5	2.0	2.0	8.5	7.0	7.5	18.5	17.5	18.0
18	1.5	1.0	1.0	2.5	2.0	2.5	8.5	7.5	8.0	18.5	17.0	18.0
19	1.5	1.0	1.0	2.5	1.5	2.0	8.5	6.5	7.5	19.0	17.5	18.5
20	1.5	1.0	1.5	2.0	1.5	2.0	7.5	6.0	6.5	19.0	18.0	18.5
21	1.5	1.0	1.5	2.5	1.5	2.0	8.5	6.5	7.5	18.0	16.5	17.0
22	1.5	1.0	1.5	3.0	2.0	2.5	9.5	7.5	8.5	16.5	16.0	16.5
23	1.5	1.5	1.5	3.0	2.0	2.5	9.5	8.0	9.0	17.0	16.0	16.5
24	1.5	1.0	1.5	3.5	2.5	3.0	10.5	8.5	9.5	18.0	16.5	17.0
25	1.5	1.0	1.0	2.5	2.0	2.5	11.0	10.0	10.5	18.0	17.0	17.5
26	1.5	1.0	1.5	3.0	1.5	2.5	11.0	10.0	10.5	17.5	17.0	17.0
27	1.5	1.5	1.5	3.5	2.0	2.5	11.5	10.5	11.0	18.0	17.0	17.0
28	1.5	1.5	1.5	4.5	2.5	3.0	12.5	11.5	12.0	20.0	17.5	18.5
29	---	---	---	5.0	3.5	4.0	13.0	12.0	12.5	20.0	19.0	19.5
30	---	---	---	6.0	4.5	5.0	12.5	12.0	12.0	21.0	19.5	20.0
31	---	---	---	6.5	4.5	5.5	---	---	---	20.5	19.0	19.5
MONTH	1.5	1.0	1.0	6.5	1.0	2.0	13.0	2.0	6.5	21.0	12.0	16.5
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	20.0	18.5	19.0	23.0	21.5	22.5	26.5	23.5	24.5	22.5	20.5	21.5
2	20.0	18.5	19.0	23.0	22.0	22.5	25.0	23.5	24.0	21.0	20.0	20.5
3	20.0	18.0	19.0	23.5	22.0	23.0	27.5	24.0	25.5	21.5	19.5	20.0
4	20.0	18.0	19.0	24.5	23.0	23.5	27.0	25.0	25.5	20.5	19.5	20.0
5	19.5	18.5	19.0	25.0	24.0	24.5	28.0	25.0	26.0	22.0	19.5	20.5
6	19.0	18.5	18.5	25.5	23.5	24.5	27.5	25.0	26.0	21.0	19.0	19.5
7	19.5	18.0	18.5	24.0	23.5	24.0	28.5	25.5	26.5	19.5	18.5	19.0
8	20.5	18.5	19.5	23.5	22.5	23.0	26.0	24.5	25.0	20.0	18.5	19.0
9	20.0	19.0	19.5	23.5	22.5	23.0	24.0	22.5	23.5	21.0	18.5	19.5
10	19.5	18.0	18.5	23.5	22.0	23.0	23.0	22.0	22.5	21.5	19.0	20.0
11	20.5	18.5	19.0	22.5	21.5	22.0	23.5	21.5	22.5	21.0	19.5	20.0
12	21.0	19.5	20.0	23.0	21.5	22.0	23.0	22.0	22.5	21.5	20.0	20.5
13	20.5	19.0	19.5	24.0	22.5	23.0	24.5	22.5	23.5	21.5	20.0	21.0
14	20.0	19.5	19.5	24.0	23.5	24.0	25.5	23.0	24.0	21.5	18.5	20.0
15	19.5	19.0	19.0	24.0	23.5	23.5	27.0	24.5	25.5	20.5	18.0	19.5
16	20.0	18.5	19.5	24.0	23.0	23.5	28.0	25.5	27.0	20.0	16.5	17.5
17	20.5	19.5	20.0	24.5	23.5	24.0	27.5	24.0	25.5	19.5	16.5	18.0
18	20.0	19.5	20.0	25.0	23.5	24.0	27.0	24.5	26.0	19.0	17.0	18.0
19	20.0	19.5	19.5	25.0	23.5	24.5	29.0	25.0	26.0	18.0	16.5	17.0
20	19.5	19.0	19.5	25.0	23.5	24.5	26.0	25.0	25.5	17.5	16.0	17.0
21	20.0	19.0	19.5	26.5	24.0	25.0	27.0	24.0	25.5	18.0	15.0	16.0
22	21.0	19.0	20.0	26.5	25.0	25.5	25.5	24.5	25.0	15.5	14.5	15.0
23	21.0	19.5	20.0	26.5	25.0	25.5	26.0	23.5	25.0	18.0	15.0	16.0
24	20.5	20.0	20.0	26.5	25.0	25.5	25.5	23.5	24.5	17.0	15.5	16.0
25	21.0	19.5	20.0	27.0	25.5	26.0	25.0	23.5	24.0	16.0	15.0	15.5
26	21.0	19.5	20.5	26.0	25.0	25.5	25.5	23.5	24.5	15.5	14.5	15.0
27	23.0	20.5	21.5	27.5	25.0	26.0	24.0	22.5	23.0	15.0	14.5	14.5
28	23.0	21.5	22.5	27.0	25.0	25.5	23.0	21.5	22.0	15.0	14.5	14.5
29	23.0	22.5	22.5	26.5	24.0	25.0	22.0	20.5	21.0	15.5	15.0	15.0
30	23.0	21.5	22.0	25.5	23.5	24.5	24.0	20.5	22.0	18.0	15.5	16.5
31	---	---	---	25.0	23.5	24.0	22.0	20.0	20.5	---	---	---
MONTH	23.0	18.0	20.0	27.5	21.5	24.0	29.0	20.0	24.5	22.5	14.5	18.0

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

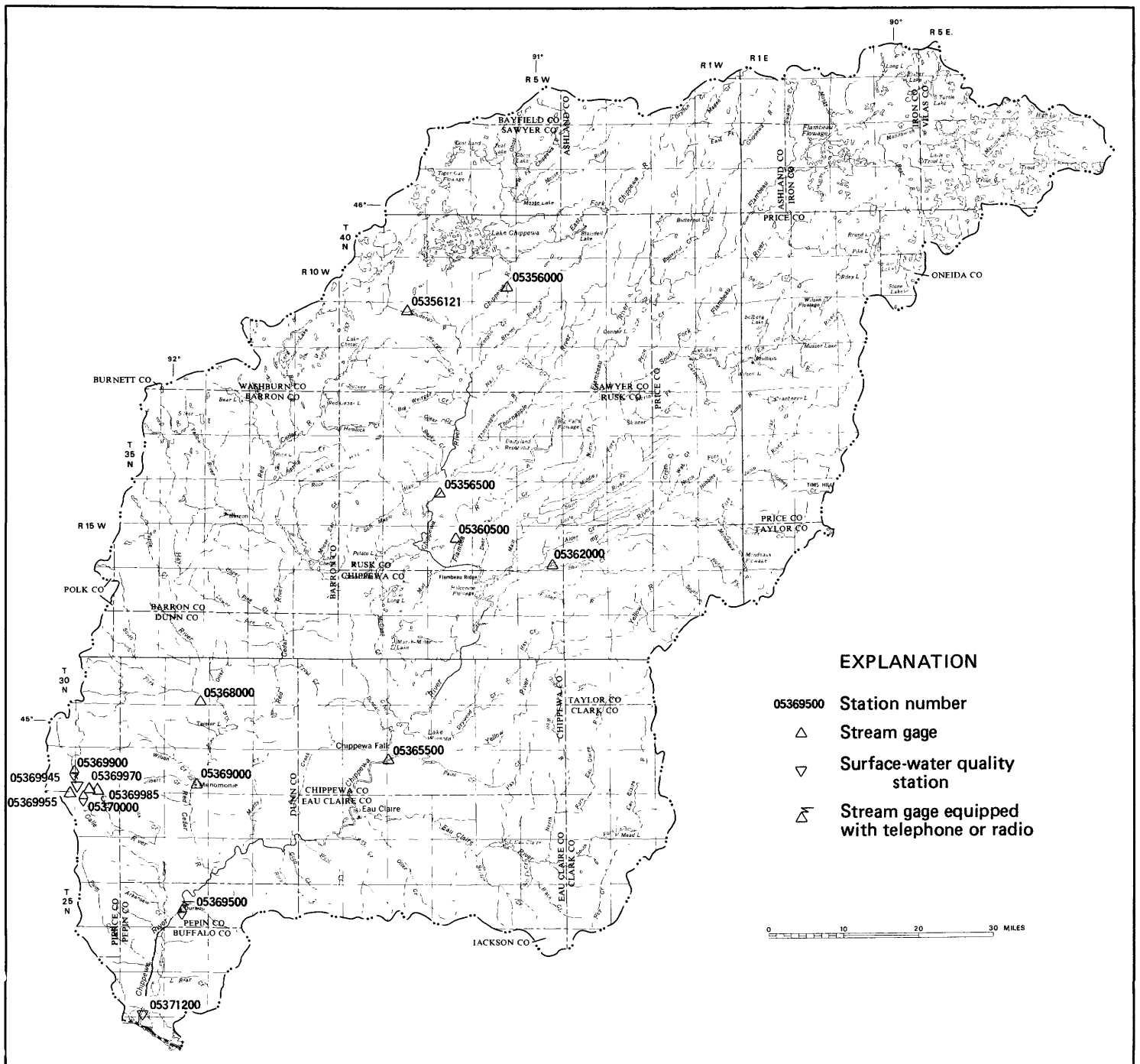
OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	8.0	7.4	7.7	---	---	---	13.0	12.3	12.5	---	---	---
2	9.2	7.3	7.9	---	---	---	12.6	12.1	12.3	---	---	---
3	8.2	7.5	7.8	---	---	---	15.0	12.1	13.0	---	---	---
4	8.0	7.9	7.9	12.2	11.5	11.9	15.0	12.7	13.2	---	---	---
5	---	---	---	11.8	11.1	11.5	14.6	12.5	13.0	---	---	---
6	---	---	---	12.3	11.1	11.6	17.1	12.9	14.5	---	---	---
7	8.9	7.1	8.1	12.6	11.0	11.5	17.2	13.1	14.4	---	---	---
8	8.6	6.8	7.5	11.7	11.0	11.4	---	---	---	---	---	---
9	7.6	7.1	7.3	12.4	11.0	11.4	---	---	---	---	---	---
10	8.5	7.3	7.7	12.2	11.1	11.4	---	---	---	---	---	---
11	8.3	7.1	7.5	12.5	11.2	11.7	---	---	---	---	---	---
12	8.4	7.4	7.8	12.4	11.4	11.8	---	---	---	---	---	---
13	8.2	7.8	8.0	12.2	10.8	11.4	---	---	---	---	---	---
14	8.2	7.8	8.0	11.7	10.9	11.1	---	---	---	---	---	---
15	9.1	7.7	8.2	12.1	10.7	11.1	---	---	---	---	---	---
16	9.5	7.5	8.2	11.4	10.8	11.1	---	---	---	---	---	---
17	8.6	8.1	8.3	12.2	10.7	11.1	---	---	---	---	---	---
18	8.1	7.7	7.9	13.0	10.9	12.1	---	---	---	---	---	---
19	10.1	6.8	8.1	13.3	11.9	12.3	---	---	---	---	---	---
20	7.0	7.0	7.0	12.3	11.7	11.9	---	---	---	---	---	---
21	9.5	7.1	8.3	14.2	11.6	12.4	---	---	---	---	---	---
22	---	---	---	15.2	12.0	13.4	---	---	---	---	---	---
23	---	---	---	15.7	12.3	14.0	---	---	---	---	---	---
24	---	---	---	13.8	12.1	12.6	---	---	---	---	---	---
25	---	---	---	16.4	15.2	16.1	---	---	---	---	---	---
26	---	---	---	16.1	14.6	15.5	---	---	---	---	---	---
27	---	---	---	15.2	14.5	14.9	---	---	---	11.3	8.6	10.7
28	---	---	---	15.8	15.0	15.4	---	---	---	11.5	10.1	10.8
29	---	---	---	17.2	12.0	14.5	---	---	---	12.4	10.3	11.3
30	---	---	---	12.9	11.9	12.3	---	---	---	11.4	10.3	10.8
31	---	---	---	---	---	---	---	---	---	11.9	9.8	10.7
MONTH	10.1	6.8	7.9	17.2	10.7	12.5	17.2	12.1	13.3	12.4	8.6	10.9

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	11.9	10.3	10.9	11.8	11.2	11.4	10.1	9.5	9.8	11.3	6.4	10.2
2	11.7	10.1	10.5	12.5	11.5	11.9	10.3	9.8	10.0	11.1	9.8	10.4
3	12.5	10.4	11.3	12.5	11.2	11.8	10.4	9.2	9.6	10.8	9.8	10.3
4	12.3	10.3	11.2	14.5	12.2	12.8	10.3	9.1	9.7	10.1	6.4	9.1
5	11.9	10.0	11.1	15.7	12.0	14.5	10.5	9.7	10.0	9.3	8.6	9.0
6	11.8	9.9	10.7	15.2	11.5	13.2	11.0	9.4	10.2	9.2	8.2	8.8
7	12.1	11.1	11.5	14.2	11.0	12.4	11.8	9.7	10.7	9.6	8.7	9.1
8	11.7	10.4	10.9	13.7	10.9	12.5	12.0	10.4	11.0	10.2	6.3	8.9
9	10.3	9.3	9.6	13.9	10.8	11.9	12.1	11.2	11.5	9.5	6.3	8.3
10	10.0	8.1	8.9	13.8	11.0	12.0	13.8	11.8	12.6	9.1	6.3	7.3
11	9.6	8.4	8.8	14.5	10.6	11.7	12.9	12.0	12.5	8.8	6.3	6.7
12	10.9	8.5	9.2	12.3	10.3	10.8	12.6	12.2	12.4	9.0	6.3	8.5
13	9.9	9.1	9.4	12.1	9.9	10.7	13.3	12.0	12.6	9.1	6.6	8.0
14	9.9	9.5	9.7	12.7	10.2	11.2	12.2	11.4	11.7	6.8	6.7	6.7
15	10.8	9.9	10.3	12.1	9.8	10.4	12.0	11.3	11.6	7.0	6.9	6.9
16	10.8	10.3	10.5	12.5	12.0	12.3	12.3	11.2	11.6	7.2	7.1	7.1
17	11.6	11.0	11.5	11.8	9.3	10.6	11.8	11.0	11.3	7.3	7.3	7.3
18	11.6	10.8	11.2	9.7	9.3	9.5	11.9	10.9	11.4	7.5	7.5	7.5
19	11.8	10.8	11.2	9.5	9.1	9.4	11.2	10.7	10.9	8.5	7.7	8.1
20	13.9	10.9	11.6	9.4	9.0	9.2	11.4	10.4	10.9	8.5	7.9	8.2
21	13.5	10.6	11.3	10.5	9.3	9.6	12.1	10.6	11.3	8.2	7.7	8.0
22	12.9	10.6	11.4	10.2	9.3	9.8	12.1	10.9	11.5	8.0	7.8	7.9
23	11.7	10.7	11.0	10.5	9.5	10.0	12.6	10.0	11.4	8.4	7.8	8.0
24	12.7	10.3	11.2	12.5	8.3	9.9	12.1	11.4	11.7	8.6	7.9	8.2
25	11.3	10.1	10.6	11.5	8.1	9.8	11.4	11.0	11.2	8.5	7.9	8.2
26	11.4	10.4	10.9	12.4	10.6	11.4	11.3	10.5	10.9	8.2	7.9	8.0
27	12.1	10.7	11.2	12.5	10.6	11.4	11.4	10.1	10.7	8.2	7.7	7.9
28	12.4	11.2	11.6	11.7	10.6	11.1	10.3	10.2	10.2	8.6	7.6	8.0
29	---	---	---	11.6	11.0	11.3	10.9	10.3	10.5	8.5	7.7	8.0
30	---	---	---	11.6	10.8	11.3	10.5	10.1	10.2	8.4	7.5	7.9
31	---	---	---	12.1	9.7	10.4	---	---	---	8.0	7.5	7.7
MONTH	13.9	8.1	10.7	15.7	8.1	11.2	13.8	9.1	11.1	11.3	6.3	8.2

MISSISSIPPI RIVER MAIN STEM

05344980 MISSISSIPPI RIVER AT LOCK AND DAM 3, NEAR RED WING, MN--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	8.0	7.1	7.5	8.0	6.8	7.4	6.0	4.9	5.5	8.8	6.6	7.7
2	8.3	7.0	7.6	7.7	7.2	7.5	---	---	---	7.6	6.3	7.0
3	8.4	7.2	7.7	7.9	7.2	7.5	---	---	---	8.1	6.2	7.0
4	8.3	7.1	7.6	8.4	7.3	7.8	7.3	5.6	6.4	8.6	6.1	7.1
5	8.1	7.1	7.5	8.8	6.7	7.7	6.9	6.0	6.4	8.1	7.0	7.5
6	7.5	7.1	7.3	7.0	5.6	6.3	6.8	5.7	6.2	7.8	6.2	6.9
7	7.6	6.9	7.3	5.7	5.3	5.5	7.0	5.8	6.2	6.7	6.3	6.5
8	7.6	6.6	7.1	5.8	5.0	5.4	5.7	5.3	5.5	8.1	6.2	7.2
9	7.8	6.6	7.3	5.3	4.9	5.1	---	---	---	8.4	6.9	7.4
10	8.2	7.2	7.6	5.1	4.5	4.7	5.4	4.4	4.9	8.2	6.8	7.4
11	8.4	7.2	7.8	4.7	4.1	4.6	5.6	4.2	4.8	8.9	6.7	7.6
12	8.5	7.5	8.0	4.3	2.6	3.3	5.2	4.3	4.7	7.5	7.0	7.2
13	8.6	7.4	8.0	8.2	2.6	4.9	5.4	4.5	4.7	7.0	6.3	6.7
14	8.2	7.6	7.8	8.1	6.8	7.4	5.5	4.5	5.0	6.8	5.7	6.3
15	8.2	7.4	7.7	7.4	6.7	6.9	---	---	---	6.3	5.5	5.9
16	8.6	7.5	8.1	7.2	6.5	6.8	---	---	---	7.1	5.8	6.5
17	8.2	7.7	8.0	7.0	6.5	6.7	5.8	4.3	5.0	8.2	6.4	7.1
18	8.2	7.4	7.7	7.0	6.2	6.6	5.4	4.3	4.8	8.3	6.4	7.1
19	7.9	7.1	7.5	7.3	6.1	6.6	5.8	4.3	4.9	7.4	6.1	6.7
20	7.8	7.1	7.4	7.5	6.5	6.9	4.9	4.1	4.5	7.3	6.3	6.7
21	7.6	6.9	7.2	8.0	6.5	7.3	5.2	3.9	4.5	9.1	5.7	7.0
22	8.8	6.6	7.5	8.7	7.1	7.9	4.5	3.3	3.9	9.1	6.3	7.5
23	8.5	7.5	8.0	8.7	7.3	8.0	---	---	---	9.8	7.3	8.1
24	8.3	7.9	8.1	8.5	7.4	7.9	---	---	---	8.5	7.5	7.9
25	8.4	7.5	7.9	8.2	7.5	7.9	8.2	5.1	6.2	9.4	6.6	7.7
26	8.4	7.4	7.9	7.7	6.9	7.3	5.7	4.8	5.3	8.9	7.0	7.7
27	9.0	7.7	8.2	7.9	6.9	7.4	5.5	4.5	5.0	8.9	7.2	7.8
28	8.6	7.6	8.1	7.5	5.7	6.6	5.7	5.0	5.6	9.0	7.8	8.2
29	8.2	7.5	7.8	6.1	5.2	5.6	5.8	5.4	6.1	9.7	8.8	9.1
30	8.1	7.2	7.6	5.8	4.9	5.3	7.1	5.7	6.4	9.9	8.6	9.2
31	---	---	---	5.8	4.9	5.3	6.6	6.2	6.3	---	---	---
MONTH	9.0	6.6	7.7	8.8	2.6	6.5	8.2	3.3	5.4	9.9	5.5	7.3



CHIPPEWA RIVER BASIN

CHIPPEWA RIVER BASIN

05356000 CHIPPEWA RIVER AT BISHOPS BRIDGE, NEAR WINTER, WI

LOCATION.--Lat 45°50'57", long 91°04'44", in SW 1/4 NE 1/4 sec.23, T.39 N., R.6 W., Sawyer County, Hydrologic Unit 07050001, on right bank 15 ft (5 m) upstream from highway bridge on County Trunk Highway G, 3.2 mi (5.1 km) downstream from Lake Chippewa Dam, and 3.7 mi (6.0 km) northwest of Winter.

DRAINAGE AREA.--790 mi² (2,046 km²).

PERIOD OF RECORD.--February 1912 to current year. December to April 1913, monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 1438: 1913(M), 1915-18(M), 1919, 1920-23(M), 1924, 1925(M), 1927(M), 1928, 1929-30(M), 1939(M). WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,256.78 ft (383.067 m) National Geodetic Vertical Datum of 1929 (levels by Wilhelm Engineering Co.). See WSP 1708 or 1728 for history of changes prior to July 23, 1930.

REMARKS.--Records good. Flow regulated by Moose Lake and Lake Chippewa.

AVERAGE DISCHARGE.--70 years, 713 ft³/s (20.19 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,520 ft³/s (213 m³/s) Sept. 4, 5, 1941, gage height, 11.05 ft (3.368 m); minimum, 14 ft³/s (0.40 m³/s) Apr. 17-20, 1925, gage height, 3.25 ft (0.991 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,590 ft³/s (73.3 m³/s) May 18, gage height, 7.17 ft (2.185 m); minimum discharge, 164 ft³/s (4.64 m³/s) Mar. 24-29, gage height 4.10 ft (1.250 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

4.1	164	5.0	660
4.3	248	6.0	1,430
4.6	399	8.0	3,600

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	675	1440	540	526	1170	257	218	821	457	726	505
2	186	675	1440	538	524	1160	244	246	814	449	726	506
3	186	674	1440	537	524	1160	310	247	811	458	724	503
4	193	673	1430	534	528	1150	303	256	812	448	723	502
5	190	674	1430	536	527	1140	314	285	811	446	724	533
6	189	673	1420	538	530	1140	293	299	811	437	723	525
7	186	673	1410	563	527	1130	265	302	680	442	724	515
8	187	673	1410	546	526	1120	244	279	531	430	724	511
9	188	670	1400	638	529	1120	230	275	520	427	724	511
10	191	669	1400	751	528	1110	217	574	521	437	723	519
11	187	1090	1400	754	515	1100	218	1280	517	425	723	587
12	187	1480	1390	557	511	1100	239	1570	515	421	722	716
13	187	1520	1390	539	511	1090	277	1580	509	414	725	801
14	243	1510	1380	537	511	1080	279	1910	511	415	721	715
15	301	1510	1380	537	507	1070	334	1890	501	418	720	704
16	301	1500	1370	572	505	1070	376	1770	484	437	711	690
17	314	1500	1370	576	595	1060	324	1880	465	436	632	762
18	323	1490	1360	539	768	1050	248	2390	464	446	587	1040
19	314	1490	1360	538	764	1050	223	2200	462	526	604	1040
20	385	1490	1360	530	755	1040	212	1750	462	605	606	1030
21	443	1480	1350	530	754	1030	206	1290	462	608	603	1030
22	447	1480	1340	530	792	1030	204	1110	461	608	601	1030
23	616	1480	1340	530	1040	787	205	1110	462	608	603	1030
24	741	1480	1340	530	1200	299	206	1110	463	611	606	1030
25	740	1470	1330	530	1190	164	205	1000	460	609	590	1030
26	740	1460	1320	530	1190	172	202	816	460	611	551	1020
27	730	1460	1320	528	1180	216	202	816	459	608	537	1020
28	711	1450	1310	524	1170	209	200	812	459	608	506	1020
29	697	1450	1100	525	---	169	202	812	459	617	505	1020
30	685	1440	642	524	---	196	200	810	458	674	503	1020
31	677	---	537	526	---	252	---	832	---	723	505	---
TOTAL	11858	35959	40909	17207	19727	26634	7439	31719	16625	15859	20102	23465
MEAN	383	1199	1320	555	705	859	248	1023	554	512	648	782
MAX	741	1520	1440	754	1200	1170	376	2390	821	723	726	1040
MIN	186	669	537	524	505	164	200	218	458	414	503	502
CAL YR 1981	TOTAL	283766	MEAN	777	MAX	5410	MIN	112				
WTR YR 1982	TOTAL	267503	MEAN	733	MAX	2390	MIN	164				

CHIPPEWA RIVER BASIN

05356121 COUDERAY RIVER NEAR COUDERAY, WI

LOCATION.--Lat 45°47'43", long 91°21'07", in NE 1/4 NW 1/4 sec.10, T.38 N., R.8 W., Sawyer County, Hydrologic Unit 07050001, on right bank 5 ft (1.5 m) downstream from bridge on CTH "C" and 2.3 mi (3.7 km) west of Couderay.

DRAINAGE AREA.--169 mi² (438 km²).

PERIOD OF RECORD.--June 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,260 ft (384 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--June to September 1981: Maximum discharge during period, 349 ft³/s (9.88 m³/s) June 15, gage height, 4.99 ft (1.521 m); minimum 46 ft³/s (1.30 m³/s) Sept. 25, 26, gage height, 3.80 ft (1.158 m).

WATER YEAR 1982: Maximum discharge, 576 ft³/s (16.3 m³/s) Apr. 17, gage height, 5.61 ft (1.710 m); minimum discharge, 38 ft³/s (1.08 m³/s) Nov. 21, 22, gage height, 3.75 ft (1.143 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22, and Nov. 27 to Mar. 28.)

3.7	29	5.0	374
4.0	93	6.0	714
4.5	224		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									112	167	173	95
2									109	137	286	91
3									105	123	218	88
4									101	136	243	85
5									97	142	185	83
6									90	127	160	81
7									87	117	164	91
8									84	118	170	93
9									82	147	156	91
10									92	139	142	86
11									85	134	139	84
12									81	133	128	82
13									94	130	120	81
14									202	130	116	81
15									330	155	112	66
16									232	147	109	63
17									148	138	103	63
18									118	129	100	61
19									107	122	99	61
20									143	124	95	61
21									158	132	93	61
22									160	125	95	57
23									151	119	94	53
24									152	120	93	54
25									143	115	95	46
26									145	110	111	48
27									135	107	121	49
28									129	107	111	50
29									255	105	107	50
30									224	105	102	61
31									---	103	97	---
TOTAL									4151	3943	4137	2116
MEAN									138	127	133	70.5
MAX									330	167	286	95
MIN									81	103	93	46
CFSM									.82	.75	.79	.42
IN.									.91	.87	.91	.47

CHIPPEWA RIVER BASIN

05356121 COUDERAY RIVER NEAR COUDERAY, WI--CONTINUED

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	77	60	64	68	66	264	139	141	93	92	76
2	80	74	58	66	68	66	253	140	135	88	85	79
3	67	74	56	68	68	66	307	136	127	86	79	77
4	84	74	56	70	68	66	306	134	123	88	76	72
5	88	75	56	70	68	66	248	225	121	86	72	96
6	88	76	56	70	70	66	187	270	117	79	69	117
7	81	78	56	70	70	66	160	287	112	90	67	96
8	72	75	56	70	70	68	142	245	115	85	67	85
9	64	70	56	70	70	68	134	216	115	83	67	80
10	64	63	56	70	70	70	132	215	112	108	64	97
11	65	63	56	70	68	70	128	209	108	100	60	107
12	65	63	54	70	68	74	148	202	105	89	57	114
13	61	61	54	70	68	76	227	204	105	85	60	151
14	102	61	54	70	68	72	267	209	103	93	64	141
15	108	61	56	70	66	70	358	203	103	103	63	142
16	91	62	56	68	66	68	491	268	103	181	61	134
17	97	63	54	68	66	68	544	281	111	141	61	128
18	158	63	54	68	66	70	384	286	109	110	59	122
19	152	64	56	68	66	72	287	266	105	94	69	110
20	124	65	58	68	68	72	245	225	108	83	70	104
21	107	61	60	70	70	74	214	199	111	79	67	97
22	97	60	62	72	72	76	195	183	110	78	66	124
23	92	58	60	72	72	78	178	171	113	75	63	110
24	85	58	58	72	70	78	167	164	112	75	63	94
25	81	59	60	70	68	78	161	156	118	74	69	91
26	81	60	62	70	66	80	159	149	107	77	85	86
27	81	60	64	70	66	80	153	148	101	79	122	82
28	81	60	64	70	66	80	146	147	95	76	100	80
29	78	58	62	70	---	78	141	144	112	109	84	81
30	75	54	62	70	---	116	137	144	101	131	78	93
31	75	---	62	70	---	196	---	144	---	109	73	---
TOTAL	2729	1950	1794	2154	1910	2394	6863	6109	3358	2927	2232	3066
MEAN	88.0	65.0	57.9	69.5	68.2	77.2	229	197	112	94.4	72.0	102
MAX	158	78	64	72	72	196	544	287	141	181	122	151
MIN	61	54	54	64	66	66	128	134	95	74	57	72
CFSM	.52	.39	.34	.41	.40	.46	1.36	1.17	.66	.56	.43	.60
IN.	.60	.43	.39	.47	.42	.53	1.51	1.34	.74	.64	.49	.67
WTR YR 1982	TOTAL	37486	MEAN	103	MAX	544	MIN	54	CFSM	.61	IN	8.25

CHIPPEWA RIVER BASIN

05356500 CHIPPEWA RIVER NEAR BRUCE, WI

LOCATION.--Lat 45°27'08", long 91°15'39", in SE 1/4 sec.5, T.34 N., R.7 W., Rusk County, Hydrologic Unit 07050001, on right bank 1.0 mi (1.6 km) east of Bruce and 1.0 mi (1.6 km) downstream from Thornapple River.

DRAINAGE AREA.--1,650 mi² (4,270 km²).

PERIOD OF RECORD.--December 1913 to current year.

REVISED RECORDS.--WSP 875: 1936-38. WSP 1308: 1922, 1937(M). WSP 1508: 1914-26(M), 1927, 1928-31(M), 1932, 1933(M), 1934-36, 1938. WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,059.62 ft (322.972 m) National Geodetic Vertical Datum of 1929. Prior to May 28, 1935, nonrecording gage at railroad bridge 0.8 mi (1.3 km) upstream at datum 2.30 ft (0.701 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa.

AVERAGE DISCHARGE.--68 years, 1,460 ft³/s (41.35 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,800 ft³/s (731 m³/s) Sept. 1, 1941, gage height, 20.46 ft (6.236 m), from floodmarks, from rating curve extended above 20,000 ft³/s (566 m³/s); minimum, 155 ft³/s (4.39 m³/s) June 10, 1932, gage height, 0.9 ft (0.274 m), site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,100 ft³/s (314 m³/s) Apr. 17, gage height, 11.28 ft (3.438 m); minimum, 642 ft³/s (18.2 m³/s) Oct. 1, 3, 13, 14, gage height, 1.86 ft (0.567 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 8 to Apr. 1.)

1.8	600	6.0	4,300
2.0	740	9.0	7,920
4.0	2,320	11.0	10,700

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	754	1040	1640	800	720	1600	6200	1110	1610	740	1200	1010
2	843	1030	1630	700	720	1600	6820	1050	1480	728	1220	1010
3	671	1030	1620	700	720	1600	7810	1020	1450	719	1140	952
4	750	1020	1610	700	720	1600	7530	981	1330	730	1080	886
5	911	1010	1610	700	720	1600	6650	1620	1290	709	1080	891
6	1010	989	1720	700	720	1500	4860	3040	1250	699	1010	1190
7	900	989	1600	700	720	1500	3760	4110	1220	727	1010	1390
8	797	970	1580	700	720	1500	2910	3750	1040	711	983	1270
9	716	949	1500	740	700	1500	2430	2820	939	696	961	1120
10	681	970	1500	800	700	1500	2230	2830	951	770	956	1160
11	681	967	1500	840	700	1500	2070	3120	923	872	940	1410
12	681	1420	1500	840	700	1600	2220	3640	874	986	931	1440
13	652	1670	1500	800	700	1600	3210	3790	844	936	933	3220
14	666	1690	1500	760	700	1600	4450	4180	835	843	961	4070
15	758	1690	1500	740	700	1600	5360	4650	820	834	936	4170
16	831	1690	1500	740	700	1600	7510	4610	841	1070	932	3960
17	879	1680	1500	720	700	1700	10600	4420	847	1580	911	3330
18	1390	1680	1500	720	920	1600	10100	4970	834	1480	851	2790
19	1860	1700	1500	700	1000	1600	7680	5540	788	1070	810	2440
20	1520	1700	1500	700	1000	1700	5320	4460	758	1000	856	2140
21	1330	1680	1500	700	1000	1800	4320	3370	810	978	858	1930
22	1220	1630	1500	700	1000	1900	3960	2490	789	947	902	1800
23	1150	1630	1400	720	1400	2000	3330	2140	775	968	835	1720
24	1250	1650	1400	720	1500	1600	2790	1980	780	953	898	1800
25	1220	1610	1400	720	1600	1400	2330	1810	794	940	874	1720
26	1200	1670	1400	720	1600	1200	2090	1630	775	945	949	1630
27	1210	1680	1400	720	1600	1100	1760	1400	747	937	1120	1580
28	1190	1650	1400	720	1600	1200	1520	1420	740	900	1340	1540
29	1130	1640	1400	720	---	1400	1320	1360	761	964	1060	1530
30	1110	1610	1400	720	---	2000	1230	1300	761	1340	1040	1620
31	1080	---	1200	720	---	4000	---	1390	---	1310	1020	---
TOTAL	31041	42334	46410	22680	26280	51200	134370	86001	28656	29082	30597	56719
MEAN	1001	1411	1497	732	939	1652	4479	2774	955	938	987	1891
MAX	1860	1700	1720	840	1600	4000	10600	5540	1610	1580	1340	4170
MIN	652	949	1200	700	700	1100	1230	981	740	696	810	886
CFSM	.61	.86	.91	.44	.57	1.00	2.72	1.68	.58	.57	.60	1.15
IN.	.70	.95	1.05	.51	.59	1.15	3.03	1.94	.65	.66	.69	1.28
CAL YR 1981	TOTAL	536736	MEAN	1471	MAX	7830	MIN	393	CFSM	.89	IN	12.10
WTR YR 1982	TOTAL	585370	MEAN	1604	MAX	10600	MIN	652	CFSM	.97	IN	13.20

CHIPPEWA RIVER BASIN

05360500 FLAMBEAU RIVER NEAR BRUCE, WI

LOCATION.--Lat 45°22'21", long 91°12'34", in Lot 7 of NW 1/4 sec.2, T.33 N., R.7 W., Rusk County, Hydrologic Unit 07050002, on right bank 2.5 mi (4.0 km) downstream from Thornapple Powerplant, 6.0 mi (9.7 km) upstream from mouth, and 7.0 mi (11.3 km) southeast of Bruce.

DRAINAGE AREA.--1,860 mi² (4,817 km²), revised.

PERIOD OF RECORD.--August 1951 to current year.

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,056.34 ft (321.972 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage Reservoirs.

AVERAGE DISCHARGE.--31 years, 1,831 ft³/s (51.85 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft³/s (493 m³/s) May 1, 1954, gage height, 10.90 ft (3.322 m); minimum, about 100 ft³/s (2.83 m³/s) Aug. 7, 9, 1957, gage height, 2.06 ft (0.628 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,800 ft³/s (447 m³/s) Apr. 18, gage height, 10.23 ft (3.118 m); minimum, 591 ft³/s (16.7 m³/s) Dec. 12, gage height, 2.68 ft (0.817 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 16 to Apr. 2.)

2.7	605	5.0	3,480
3.0	840	7.0	7,610
4.0	1,940	8.0	10,000
		11.0	17,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1230	691	980	1000	1100	3800	4630	2750	1280	2570	1730
2	1240	1220	925	1100	1000	1100	4400	4550	2650	1120	2130	1590
3	1520	1130	1090	1100	960	1000	5810	4110	2440	1100	2030	1600
4	1650	1180	1050	1100	1000	1000	5560	3960	2190	1110	2160	1590
5	1590	1010	949	1000	1000	1000	5070	4570	1930	1250	1920	1570
6	1790	857	922	1100	1000	1000	4870	5790	1880	1420	1370	2080
7	1790	1280	758	1100	980	1100	4550	6770	1790	1150	1530	3720
8	1690	1040	875	1100	980	1100	4250	7090	1580	1100	1670	2790
9	1260	1280	968	1000	980	1100	3620	6980	1450	1150	1560	2370
10	1450	887	958	1000	1000	1000	3590	6250	1710	1310	1360	2180
11	1520	985	834	1000	1000	1000	3380	5700	1590	1630	1250	2360
12	1460	850	646	980	1000	1000	2610	5470	1390	1840	1330	2420
13	1080	796	784	1000	960	1100	3760	5580	1470	1680	1720	2490
14	1100	920	823	1000	1000	1100	3750	5250	1200	1720	1560	3390
15	1410	1070	902	1100	1000	1000	4020	5440	1520	1580	1470	4600
16	1490	957	920	1100	1000	1000	7400	4770	1470	1620	1380	3670
17	1670	930	900	1100	1000	1100	13800	4440	1250	2700	1170	3970
18	1910	1060	880	1000	1000	1100	15600	4830	1450	2890	1180	3370
19	2640	975	860	960	1000	1100	14300	4430	1300	2850	1310	3400
20	2200	869	880	1000	1100	1200	11900	3930	1300	2280	1300	3070
21	2060	945	940	1100	1000	1200	9110	3710	1290	1890	1300	2550
22	1610	949	1000	1100	1000	1200	6590	3410	1220	1950	1420	2390
23	1630	1110	1100	1100	1000	1200	5290	3100	1250	2050	1170	2080
24	1720	1110	1100	1000	1000	1300	5630	2830	1260	2140	1240	2640
25	1460	1440	1000	1000	1000	1200	6470	1970	1230	1970	1100	2510
26	1340	1060	1000	1000	1000	1200	6890	2500	1170	1730	1280	2650
27	1270	970	1100	1000	1000	1200	6500	1920	1190	1740	1910	1960
28	1230	833	1100	1000	1100	1200	5730	1900	1220	1810	1900	2050
29	1030	759	1100	1000	---	1300	5440	2010	1250	1730	2020	2210
30	1280	715	1100	1000	---	1400	4940	1830	1230	1870	1640	2500
31	1280	---	1000	1000	---	2100	---	2010	---	2580	1550	---
TOTAL	47420	30417	29155	32120	28060	35700	188630	131730	46620	54240	48500	77500
MEAN	1530	1014	940	1036	1002	1152	6288	4249	1554	1750	1565	2583
MAX	2640	1440	1100	1100	1100	2100	15600	7090	2750	2890	2570	4600
MIN	1030	715	646	960	960	1000	2610	1830	1170	1100	1100	1570
CAL YR 1981	TOTAL	649098	MEAN	1778	MAX	9360	MIN	409				
WTR YR 1982	TOTAL	750092	MEAN	2055	MAX	15600	MIN	646				

CHIPPEWA RIVER BASIN

05362000 JUMP RIVER AT SHELDON, WI

LOCATION.--Lat 45°18'29", long 90°57'23", in sec.26, T.33 N., R.5 W., Rusk County, Hydrologic Unit 07050004, on right bank just downstream from highway bridge in Sheldon, 1,500 ft (460 m) upstream from Shoulder Creek and 11 mi (18 km) upstream from mouth.

DRAINAGE AREA.--576 mi² (1,492 km²).

PERIOD OF RECORD.--July 1915 to current year.

REVISED RECORDS.--WSP 975: 1938. WSP 1175: Drainage area. WSP 1438: 1916-17(M), 1919(M), 1920, 1921(M), 1922, 1923-26(M), 1927, 1928-31(M), 1932, 1933-37(M), 1945-46(M), 1948-50(M).

GAGE.--Water-stage recorder. Datum of gage is 1,092.75 ft (33.070 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 9, 1939, and Sept. 1, 1941, to Apr. 1, 1953, Feb. 18, 1954, to Sept. 27, 1964, nonrecording gage at same site and datum. Apr. 2, 1953, to Feb. 18, 1954, nonrecording gage in creamery wellhouse 400 ft (122 m) upstream at same datum. Feb. 9, 1939, to Aug. 31, 1941, and from Sept. 27, 1964, water-stage recorder at present site and datum.

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

AVERAGE DISCHARGE.--67 years, 515 ft³/s (14.58 m³/s), 12.14 in/yr (308 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 46,000 ft³/s (1,300 m³/s) Aug. 31, 1941, gage height, 18.8 ft (5.73 m) from floodmark, from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of contracted-opening measurement of peak flow; minimum observed, 11 ft³/s (0.31 m³/s) Dec. 18, 1943, gage height, 3.99 ft (1.216 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Apr. 3	1100	8,380	237	10.60	3.231	May 7	1600	4,230	120	8.48	2.585
Apr. 17	2300	*13,500	382	*12.35	3.764						

minimum discharge, 50 ft³/s (1.42 m³/s) Aug. 18, gage height 3.31 ft (1.009 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 20 to Apr. 2.)

3.2	39	6.0	1,280
3.5	91	7.0	2,210
3.8	168	9.0	5,100
4.4	391	11.0	9,300
5.0	670	13.0	16,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	265	130	84	66	80	4500	806	894	212	242	309
2	232	245	160	82	66	80	5200	655	776	171	184	344
3	257	228	150	80	66	80	7540	561	582	140	150	474
4	268	214	140	80	66	82	6670	515	421	122	128	445
5	343	206	130	80	66	86	5820	1040	334	112	118	365
6	407	196	130	78	66	88	4360	2890	270	107	104	313
7	435	187	140	78	66	90	3420	4100	227	108	104	321
8	451	179	120	76	66	92	2780	3550	198	108	102	284
9	459	169	110	76	66	94	2290	2740	173	115	93	241
10	465	158	100	74	66	94	2130	3020	164	128	80	217
11	465	151	110	76	66	94	1800	2470	159	153	74	215
12	465	145	120	76	64	96	1970	1820	150	492	68	256
13	465	143	130	78	64	98	2410	1700	130	571	63	360
14	493	141	120	76	64	98	3190	1930	129	425	63	830
15	524	141	120	76	64	100	4230	1620	145	302	62	1160
16	550	143	110	74	66	110	7330	1290	164	334	56	1270
17	557	147	110	72	66	120	12500	1110	190	404	53	1130
18	710	147	100	70	66	130	11200	1140	196	442	52	973
19	1010	153	100	70	66	140	7000	1250	199	456	53	807
20	980	150	98	70	68	150	4660	1090	180	362	54	641
21	960	140	96	68	70	170	3250	893	160	291	76	540
22	560	120	96	68	74	180	3040	724	164	268	91	448
23	473	130	94	68	78	200	3230	579	197	250	73	374
24	410	160	94	68	86	220	2790	465	197	211	64	346
25	362	150	92	68	84	240	2230	388	170	178	67	342
26	332	150	92	68	82	260	2080	333	148	153	81	329
27	326	150	90	68	80	290	2120	300	133	135	140	297
28	312	150	90	68	80	330	1720	272	123	125	283	268
29	305	150	88	66	---	450	1300	252	144	128	338	264
30	292	140	88	66	---	800	1010	242	171	162	311	486
31	283	---	86	66	---	2300	---	393	---	242	318	---
TOTAL	14290	4948	3434	2268	1948	7442	123770	40138	7288	7407	3745	14649
MEAN	461	165	111	73.2	69.6	240	4126	1295	243	239	121	488
MAX	1010	265	160	84	86	2300	12500	4100	894	571	338	1270
MIN	139	120	86	66	64	80	1010	242	123	107	52	215
CFSM	.80	.29	.19	.13	.12	.42	7.16	2.25	.42	.42	.21	.85
IN.	.92	.32	.22	.15	.13	.48	7.99	2.59	.47	.48	.24	.95
CAL YR 1981	TOTAL	183767	MEAN	503	MAX	7770	MIN	49	CFSM	.87	IN	11.87
WTR YR 1982	TOTAL	231327	MEAN	634	MAX	12500	MIN	52	CFSM	1.10	IN	14.94

CHIPPEWA RIVER BASIN

05365500 CHIPPEWA RIVER AT CHIPPEWA FALLS, WI

LOCATION.--Lat 44°55'37", long 91°24'33", in Lot 1, sec.12, T.28 N., R.9 W., Chippewa County, Hydrologic Unit 07050005, on right bank at Chippewa Falls, 1.0 mi (1.6 km) downstream from Duncan Creek.

DRAINAGE AREA.--5,650 mi² (14,600 km²).

PERIOD OF RECORD.--June 1888 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 785: 1934(M). WSP 1508: 1897, 1905, 1918(M), 1924(M). WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 798.46 ft (243.371 m) National Geodetic Vertical Datum of 1929. Prior to January 1914, nonrecording gage, and January 1914 to June 19, 1932, water-stage recorder at site 1 mi (1.6 km) upstream at different datum. June 19, 1932, to current year, water-stage recorder at present site and datum.

REMARKS.--Records good, except those for period of no gage-height record, Jan. 9-29 and Apr. 4 to May 27, which are fair. Discharges for period of no gage-height record were furnished by Northern States Power Company. Considerable regulation by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota Reservoirs. Diurnal fluctuation caused by hydroelectric plant 1.1 mi (1.8 km) upstream.

AVERAGE DISCHARGE.--94 years, 5,110 ft³/s (144.7 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s (2,890 m³/s) Sept. 1, 1941, gage height, 24.8 ft (7.56 m); minimum, 22 ft³/s (0.623 m³/s) Apr. 2, 1934, gage height, 0.63 ft (0.192 m); minimum daily, 40 ft³/s (1.13 m³/s) Feb. 4, 1917.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--A stage of 26.94 ft (8.211 m) occurred Sept. 10, 1884, site and datum in use June 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60,300 ft³/s (1,710 m³/s) Apr. 18, gage height, 19.20 ft (5.852 m), from floodmark; minimum daily, 330 ft³/s (9.35 m³/s) Dec. 13.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

1.5	325	11.0	20,700
2.0	583	12.0	24,500
3.0	1,440	15.0	37,600
5.0	4,440	19.0	59,100
8.0	11,200		

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3640	2720	3920	2310	3730	3600	10600	9310	5940	2590	4890	3640
2	2430	4340	3560	2650	2380	3840	22300	7510	6490	2960	4040	4850
3	3640	3860	3290	3060	4370	3000	37200	8110	6950	2150	4140	3490
4	3540	3370	3730	3920	2890	3040	35000	6680	5140	1530	3220	3350
5	4320	2500	2320	4170	3410	2710	31800	7430	3960	2480	3700	3650
6	4550	3070	2550	3730	2890	2820	28700	12500	3850	3920	3680	3180
7	5580	1610	4000	4050	1380	1430	20600	18600	4170	2540	2160	4410
8	4880	2470	3430	4690	3680	3320	20100	22000	4030	3130	1030	7590
9	4620	3590	3420	1360	4540	3500	17700	22100	2660	2290	3660	4680
10	1170	2720	3120	2500	4450	3750	13800	18500	3340	2930	1970	4610
11	2570	3150	3640	2560	2550	3360	13400	19000	3660	2120	3800	3900
12	4060	2950	2010	2900	3030	3690	12700	17000	2860	4520	2080	4720
13	3290	2310	330	3350	3850	2970	11900	13900	1320	5090	2710	9070
14	3890	1880	3760	3400	1020	2220	12700	16200	3940	3880	3370	10900
15	3260	2520	3530	4200	3950	4280	15400	16800	3750	3470	986	13000
16	4330	3730	3560	2250	3120	4710	18600	18500	3170	3840	4300	13300
17	2040	3850	3140	3500	3330	4950	45300	14700	2590	4250	2590	12600
18	5390	3400	1790	2850	1920	3900	53800	13700	3650	6370	2620	10600
19	7160	3990	1530	2250	2480	4530	52300	13900	1640	5470	1930	9550
20	8320	4330	2320	2350	910	4100	42100	14400	2100	4610	2760	7210
21	6070	2480	4010	2850	1530	5050	27500	12700	3290	4360	1600	8800
22	5080	2430	5120	2500	3160	4980	21200	9480	3050	3500	2250	5770
23	4270	3880	4840	2500	2840	5240	19000	6670	2190	3500	2400	4140
24	3780	4090	4600	1200	3370	6140	14200	5700	2750	3290	3090	4690
25	3610	3990	2390	2200	2810	5470	15400	5400	3110	3760	2520	6200
26	4120	3190	3200	2550	2540	5390	15700	3950	2250	4040	2810	5710
27	3730	3670	3040	2600	1450	5270	14100	6050	2850	3060	2390	5420
28	3950	3260	4210	2300	2000	1400	14000	4900	3190	2610	4160	4750
29	3930	2500	4130	1740	---	5600	9650	4330	2500	3970	3870	4820
30	3870	3750	4700	1380	---	6990	9550	4150	2980	3260	4780	5560
31	1880	---	4710	4020	---	11800	---	4310	---	4260	4460	---
TOTAL	126970	95600	103900	87890	79580	133050	676300	358480	103370	109750	93966	194160
MEAN	4096	3187	3352	2835	2842	4292	22540	11560	3446	3540	3031	6472
MAX	8320	4340	5120	4690	4540	11800	53800	22100	6950	6370	4890	13300
MIN	1170	1610	330	1200	910	1400	9550	3950	1320	1530	986	3180

CAL YR 1981 TOTAL 1815810 MEAN 4975 MAX 36900 MIN 234
WTR YR 1982 TOTAL 2163016 MEAN 5926 MAX 53800 MIN 330

CHIPPEWA RIVER BASIN

05368000 HAY RIVER AT WHEELER, WI

LOCATION.--Lat 45°02'52", long 91°54'39", in SW 1/4 sec.25, T.30 N., R.13 W., Dunn County, Hydrologic Unit 07050007, on right bank 25 ft (7.6 m) downstream from highway bridge in Wheeler, 1.8 mi (2.9 km) upstream from Otter Creek, and 2.4 mi (3.9 km) downstream from South Fork Hay River.

DRAINAGE AREA.--418 mi² (1,083 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 889.30 ft (271.059 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1951, nonrecording gage.

REMARKS.--Records good except those for period of no gage-height record, Dec. 17 to Mar. 16, and those for winter periods, which are fair.

AVERAGE DISCHARGE.--32 years, 301 ft³/s (8.524 m³/s), 9.78 in/yr (248 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s (385 m³/s) Mar. 31, 1967, gage height, 15.04 ft (4.584 m), from rating curve extended above 9,000 ft³/s (255 m³/s); minimum, 55 ft³/s (1.56 m³/s) Mar. 13, 1954, gage height, 2.32 (0.707 m), result of freezeup.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Maximum stage since 1915, 16.6 ft (5.06 m) April 1934, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAUGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAUGE HEIGHT (ft) (m)
Mar. 31	1400	*6,180 175	*12.52 3.816	Apr. 17	2300	1,920 54.4	7.99 2.435

minimum discharge, 155 ft³/s (4.39 m³/s) Dec. 15, gage height, 3.04 ft (0.927 m), result of freezeup.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 31 and Apr. 1; stage-discharge relation affected by ice Dec. 11 to Feb. 20.)

Oct. 1 to Feb. 14

Feb. 15 to Sept. 30

3.0	153
3.5	255
4.0	385
5.0	665

2.9	173	8.0	1,920
4.0	400	10.0	3,400
6.0	1,010	11.0	4,480
		12.0	6,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982													
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	382	245	228	220	200	240	5080	394	307	230	202	237	
2	292	241	228	220	200	240	3730	382	293	225	200	271	
3	273	239	226	220	200	230	2410	371	285	229	197	257	
4	324	255	223	220	200	230	1600	369	275	231	195	235	
5	375	228	221	220	200	230	1190	519	270	224	194	227	
6	345	235	217	220	200	230	831	624	268	219	193	228	
7	322	233	225	210	200	230	700	693	267	216	194	225	
8	287	231	222	210	200	230	614	606	264	212	204	221	
9	269	228	217	210	200	240	554	570	262	209	199	217	
10	263	226	198	210	200	240	514	722	260	212	193	229	
11	262	225	210	210	200	240	486	550	257	219	190	236	
12	254	224	210	210	200	250	478	470	253	214	187	248	
13	250	223	210	210	200	250	504	629	249	207	187	441	
14	260	223	190	210	200	260	544	765	247	205	193	385	
15	336	223	170	210	200	260	564	611	265	204	193	323	
16	330	224	220	210	210	275	766	501	260	229	191	317	
17	321	222	220	210	210	274	1610	473	254	231	192	287	
18	424	222	220	210	220	270	1590	638	249	218	191	271	
19	443	232	220	210	230	277	946	604	243	209	187	259	
20	391	237	220	210	240	283	745	475	251	203	183	247	
21	341	225	220	210	250	279	726	419	255	202	180	239	
22	306	222	220	210	260	275	728	391	243	216	184	234	
23	285	243	220	210	260	286	699	370	237	205	184	231	
24	275	232	220	210	260	342	615	353	241	200	189	230	
25	269	226	220	210	260	424	543	343	251	204	203	227	
26	267	229	220	210	250	437	524	336	245	210	201	225	
27	262	236	220	210	240	417	492	333	236	211	238	223	
28	257	233	220	210	240	402	455	328	235	203	234	222	
29	254	228	220	210	---	485	430	325	250	207	225	224	
30	253	226	220	210	---	1340	407	317	245	217	247	245	
31	251	---	220	210	---	4990	---	320	---	208	226	---	
TOTAL	9423	6916	6715	6570	6130	14656	31075	14801	7717	6629	6176	7661	
MEAN	304	231	217	212	219	473	1036	477	257	214	199	255	
MAX	443	255	228	220	260	4990	5080	765	307	231	247	441	
MIN	250	222	170	210	200	230	407	317	235	200	180	217	
CFSM	.73	.55	.52	.51	.52	1.13	2.48	1.14	.62	.51	.48	.61	
IN.	.84	.62	.60	.58	.55	1.30	2.77	1.32	.69	.59	.55	.68	
CAL YR 1981	TOTAL	129829	MEAN	356	MAX	2300	MIN	170	CFSM	.85	IN	11.55	
WTR YR 1982	TOTAL	124469	MEAN	341	MAX	5080	MIN	170	CFSM	.82	IN	11.08	

CHIPPEWA RIVER BASIN

05369000 RED CEDAR RIVER AT MENOMONIE, WI

LOCATION.--Lat 44°53'02", long 91°55'57", in NW 1/4 sec.26, T.28 N., R.13 W., Dunn County, Hydrologic Unit 07050007, on right bank at Menomonie, 900 ft (274 m) downstream from powerplant of Northern States Power Co., and 1,000 ft (305 m) downstream from Wilson Creek.

DRAINAGE AREA.--1,770 mi² (4,580 km²).

PERIOD OF RECORD.--June 1907 to September 1908, May 1913 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 780 ft (237.7 m) National Geodetic Vertical Datum of 1929 (Northern States Power Co. bench mark). Prior to Sept. 3, 1908, nonrecording gage at site 1 mi (1.6 km) downstream at different datum. May 9, 1913, to Sept. 30, 1923, water-stage recorder at same site at datum 0.42 ft (0.128 m) lower than present datum.

REMARKS.--Records good. Flow regulated by powerplants at Menomonie and Cedar Falls.

AVERAGE DISCHARGE.--70 years, 1,256 ft³/s (35.57 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,133 m³/s) Apr. 4, 1934, gage height, 16.0 ft (4.88 m), from floodmarks, from rating curve extended above 27,000 ft³/s (765 m³/s) on basis of computed flow over Cedar Falls Dam 6 mi (10 km) upstream; minimum, 21 ft³/s (0.59 m³/s) Dec. 9, 1928, gage height, 0.65 ft (0.198 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft³/s (396 m³/s) Apr. 1, gage height, 7.41 ft (2.259 m); minimum, 225 ft³/s (6.37 m³/s) Dec. 31, gage height, 1.18 ft (0.360 m); minimum daily, 486 ft³/s (13.8 m³/s) Apr. 30.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

1.6	485	3.0	2,340
2.0	865	4.0	4,190
2.5	1,540	5.0	6,600
		8.0	16,000

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	1330	1180	937	974	1030	13200	1300	1460	1020	849	1300
2	1460	1260	1170	1030	979	946	11700	1960	1330	1070	1030	1100
3	1420	1300	1190	858	990	963	9420	1690	1180	799	873	1040
4	1390	1340	1180	972	852	1010	6980	1980	1220	1030	844	956
5	1590	1240	1090	986	914	991	5770	2380	1160	739	838	1030
6	1690	1230	1050	941	1020	891	4620	2590	1080	909	867	984
7	1570	1340	1160	801	934	786	3850	2890	1080	876	820	1030
8	1310	1150	1080	1020	931	1130	3170	2850	1130	871	844	1080
9	1290	1230	1120	946	968	991	2760	2840	1070	869	819	998
10	1370	1080	768	823	879	1190	2580	3050	1060	831	776	1200
11	1270	1460	946	1020	986	1100	2420	2860	1090	902	820	1130
12	1300	1200	1170	766	1030	1520	2330	2780	982	926	767	1500
13	1430	1110	1090	1100	876	1280	2310	3170	961	946	871	1820
14	1370	1210	1130	820	916	1330	2380	2890	1110	802	818	2250
15	1300	1140	680	955	920	1460	2390	2730	1120	949	758	2200
16	1490	1210	623	946	989	1180	2880	2890	1070	992	910	2020
17	1430	1080	609	843	969	1920	3510	2780	1070	1090	786	1920
18	1670	1450	841	872	1010	1500	4700	3270	1070	1030	760	1530
19	1990	1200	786	915	969	1610	4750	3110	916	1060	710	1160
20	1720	1520	804	968	1180	1530	4250	2350	1040	946	820	1210
21	1560	1250	938	891	1160	1370	3940	2320	1120	815	803	1060
22	1760	960	1060	1070	1140	1290	3710	2240	1130	895	764	1310
23	1350	1240	1020	779	1090	1560	3510	2020	962	908	866	1060
24	1410	1340	924	779	1090	1750	3300	2250	1050	785	771	985
25	1470	1230	999	853	859	1970	3120	1800	939	883	841	1090
26	1410	1220	957	946	1010	1860	2920	1750	1170	902	1050	1070
27	1510	1320	990	878	1030	1710	2760	1460	863	785	942	1030
28	1550	1200	1070	971	1060	1530	2500	1380	1020	961	983	1090
29	1360	1220	970	966	---	2070	1900	1240	1050	891	1110	1120
30	1380	1220	917	898	---	3350	486	1320	1150	858	1060	1320
31	1330	---	1010	895	---	6240	---	1370	---	908	1140	---
TOTAL	45740	37280	30522	28445	27725	49058	124116	71510	32653	28248	26910	38593
MEAN	1475	1243	985	918	990	1583	4137	2307	1088	911	868	1286
MAX	1990	1520	1190	1100	1180	6240	13200	3270	1460	1090	1140	2250
MIN	1270	960	609	766	852	786	486	1240	863	739	710	956
CAL YR 1981	TOTAL	493112	MEAN	1351	MAX	4460	MIN	410				
WTR YR 1982	TOTAL	540800	MEAN	1482	MAX	13200	MIN	486				

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 44°37'40", long 91°58'10", in SW 1/4 sec.21, T.25 N., R.13 W., Pepin County, Hydrologic Unit 07050005, on left bank in Durand, 75 ft (23 m) downstream from bridge on U.S. Highway 10, and 9.5 mi (15.3 km) downstream from Red Cedar River.

DRAINAGE AREA.--9,010 mi² (23,340 km²), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1928 to current year.

REVISED RECORDS.--WSP 785: 1930, 1934(M). WSP 875: 1930 (monthly and yearly runoff). WSP 925: 1938. WSP 1508: 1929(M), 1932.

GAGE.--Water-stage recorder. Datum of gage is 694.59 ft (211.711 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1930, nonrecording gage at bridge 400 ft (122 m) downstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by powerplants, Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota on Chippewa and Flambeau Rivers. Gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years, 7,566 ft³/s (214.3 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s (3,483 m³/s) Apr. 2, 1967, gage height, 16.93 ft (5.160 m); minimum observed, 1,020 ft³/s (28.9 m³/s) Nov. 24, 1950, gage height, 0.12 ft (0.037 m).

EXTREMES OUTSIDE OF PERIOD OF RECORD.--A stage of 18.4 ft (5.61 m), from flood marks (levels by Corps of Engineers) occurred Sept. 12, 1884, and has not been exceeded since.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70,300 ft³/s (1,990 m³/s) Apr 19, gage height, 13.62 ft (4.151 m), minimum discharge, 2,790 ft³/s (79.0 m³/s) Dec. 14, minimum gage height, 1.00 ft (0.305 m), Aug. 9.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Aug. 15-18; stage-discharge relation affected by ice Dec. 16 to Mar. 24.)

Oct. 1 to Apr. 2

Apr. 3 to Sept. 30

1.0	2,650	6.0	15,100	1.1	3,140	10.0	34,300
2.0	4,360	8.0	22,400	2.0	4,790	12.0	49,700
4.0	9,150	11.0	37,500	4.0	9,820	14.0	76,300
				7.0	19,700		

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5260	5270	5890	6200	4700	3000	27500	12000	6600	4580	6400	6740
2	5430	5450	5930	5400	4000	4700	33700	11400	8690	4770	6240	6680
3	5090	6320	5560	4700	4700	5400	44500	11400	8990	4560	6580	6600
4	6200	6180	5630	5000	5600	4300	51700	11200	8880	4200	6080	5790
5	5970	5330	5450	5400	4700	4000	51800	11100	7010	3970	5260	5730
6	7300	5200	4830	5600	4500	3800	48700	15800	6440	4240	5260	6000
7	8010	5170	4730	5400	4000	3500	35500	20900	6120	5400	5370	5620
8	7500	4190	5550	5400	3400	3200	29300	28000	6090	4520	4390	7150
9	7120	4460	5360	5800	5400	4700	25800	27700	5840	5020	3360	8440
10	6470	5470	5150	3500	6000	5200	21600	24700	5090	3710	4820	7000
11	4100	5290	5520	3700	5200	5600	19100	23700	5310	4690	4070	6390
12	4910	5070	5980	3900	4000	5400	18800	22200	5030	4260	4850	6690
13	6050	5540	3650	4300	4700	5600	17700	19100	4920	6240	3800	9310
14	6090	4710	3280	4800	5400	5000	16200	20800	4040	6880	4540	13700
15	6050	4170	5350	4800	5000	4300	19100	20900	5740	5440	4420	16700
16	5930	5340	5000	5400	5400	6000	21700	22700	5580	5730	3270	18900
17	6920	5650	4800	4700	5000	6800	34000	20500	5470	5500	5270	17600
18	5870	5640	4500	4700	4500	7600	51500	18900	4800	6610	4180	15600
19	8030	6020	3800	4300	4100	7400	67500	19100	5390	8200	4150	13000
20	10900	6280	3100	3900	3600	7000	64700	18500	3730	7390	3650	12100
21	10600	6130	3500	3800	2900	7000	49400	17600	4090	6610	4120	10400
22	8890	4860	4700	3900	2800	8000	35500	14000	5220	6360	3400	10900
23	7800	4540	6000	3900	4500	8600	27000	12200	5180	5670	4090	7950
24	6860	5780	6600	3600	4700	9400	21900	9970	4490	5110	4070	7080
25	6560	6140	6400	3000	4600	11900	22200	11000	4700	5130	4660	7530
26	6220	6020	4500	3500	4300	10900	20200	9290	4810	6090	4390	8170
27	6250	5530	4800	3900	3600	10700	19600	8100	4500	6350	4740	8160
28	6440	5610	4700	3500	2800	9540	19400	7650	4450	4710	4560	7530
29	6350	5440	5600	3400	---	7670	18400	7450	5260	4720	5650	7420
30	6390	5000	5800	3100	---	12400	13000	6500	4900	5290	6210	7490
31	5980	---	6000	2800	---	18100	---	7220	---	5090	6290	---
TOTAL	207540	161800	157660	135300	124100	216710	947000	491580	167360	167040	148140	278370
MEAN	6695	5393	5086	4365	4432	6991	31570	15860	5579	5388	4779	9279
MAX	10900	6320	6600	6200	6000	18100	67500	28000	8990	8200	6580	18900
MIN	4100	4170	3100	2800	2800	3000	13000	6500	3730	3710	3270	5620
CAL YR 1981	TOTAL	2723830	MEAN	7463	MAX	42900	MIN	2730				
WTR YR 1982	TOTAL	3202600	MEAN	8774	MAX	67500	MIN	2800				

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)
(NATIONAL PESTICIDE MONITORING NETWORK STATION)
(NATIONAL RADIOCHEMICAL SURVEILLANCE STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1967, 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1975 to September 1981 (discontinued).

WATER TEMPERATURES: March 1975 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DATE	TIME										
OCT , 1981											
14...	1240	6160	145	7.1	13.5	3.0	9.8	98	430	K1300	--
DEC											
08...	1120	5560	155	7.0	1.5	2.0	13.0	96	41	500	58
FEB , 1982											
02...	1245	4150	195	6.7	.0	2.8	10.2	72	42	280	69
APR											
05...	1330	50400	103	7.2	.5	7.4	13.5	97	135	K3100	33
JUN											
02...	1120	9450	92	7.8	18.0	11	8.7	95	140	720	43
AUG											
16...	1400	3150	164	8.6	25.2	2.5	9.7	122	K120	170	76
	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DATE											
OCT , 1981											
14...	--	--	--	--	--	--	--	47	4.1	5.0	<.1
DEC											
08...	12	15	5.0	3.1	10	.2	1.0	46	6.8	4.7	<.1
FEB , 1982											
02...	8.0	17	6.4	3.9	11	.2	1.2	61	10	6.1	.1
APR											
05...	5.0	8.4	2.9	2.0	11	.2	3.0	28	6.8	3.4	<.1
JUN											
02...	7.0	11	3.8	2.3	10	.2	1.1	36	7.0	3.1	<.1
AUG											
16...	7.0	19	7.0	3.4	9	.2	.9	69	6.0	4.5	.1
	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
DATE											
OCT , 1981											
14...	--	86	--	.12	1430	.47	.060	.53	.070	.030	.030
DEC											
08...	8.9	96	72	.13	1440	.63	.110	.33	.070	.030	.040
FEB , 1982											
02...	13	112	95	.15	1260	1.1	.290	1.00	.090	.110	.090
APR											
05...	7.5	64	51	.09	8710	.62	.200	.98	.160	.070	.060
JUN											
02...	5.4	78	55	.11	1990	.38	.050	1.00	.090	.040	.030
AUG											
16...	12	123	94	.17	1050	.29	<.010	.80	.100	.050	.040

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

CHIPPEWA RIVER BASIN
05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
FEB , 1982										
02...	1245	4150	1	1	0	<100	--	14	<1	<1
APR										
05...	1330	50400	1	0	1	<100	--	20	1	<1
AUG										
16...	1400	3150	1	0	1	100	80	16	<1	<1

DATE	TIME	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)
FEB , 1982											
02...	10	--	<10	<1	<1	<1	10	4	6	720	450
APR											
05...	20	10	10	2	<1	<1	41	40	1	2300	2000
AUG											
16...	10	0	10	1	<1	<1	13	4	9	320	280

DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
FEB , 1982											
02...	270	4	--	<1	90	50	45	<.1	--	--	<.1
APR											
05...	290	18	16	2	190	140	49	.1	.0	.0	.1
AUG											
16...	40	3	1	2	90	80	8	--	--	--	--

DATE	TIME	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDED RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB , 1982											
02...	1	--	<1	<1	<1	<1	<1	<1	60	50	13
APR											
05...	4	3	1	<1	<1	<1	<1	<1	40	--	<3
AUG											
16...	4	2	2	<1	<1	<1	<1	<1	20	--	<4

RADIOCHEMICAL ANALYSES

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED (PCI/L AS METHOD)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
APR , 1982										
05...	1330	50400	<1.4	<1.1	3.5	<.9	3.4	<.9	.04	.08
AUG										
16...	1400	3150	<1.8	<.4	1.5	<.4	1.4	<.4	.11	.18

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL (UG/L)	PCB, TOTAL	PCN, TOTAL	NAPH- THA- LENES, POLY- CHLOR.	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL	CHLOR- DANE, TOTAL	CHLOR- DANE, TOTAL	DDD, TOTAL (UG/L)	DDD, TOTAL
				IN BOT- TOM MA- TERIAL (UG/KG)	IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL (UG/L)		IN BOT- TOM MA- TERIAL (UG/KG)	IN BOT- TOM MA- TERIAL (UG/KG)	IN BOT- TOM MA- TERIAL (UG/KG)		IN BOT- TOM MA- TERIAL (UG/KG)
OCT , 1981												
14...	1240	6160	--	<1	<1.0	--	--	<.1	--	<1.0	--	<.1
FEB , 1982												
02...	1245	4150	<.10	--	--	<.10	<.01	--	<.10	--	<.01	--
APR												
05...	1330	50400	<.10	<1	<1.0	<.10	<.01	<.1	<.10	<1.0	<.01	<.1
DATE		DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL	ENDO- SULFAN, TOTAL	ENDO- SULFAN, TOTAL	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL
								IN BOT- TOM MA- TERIAL (UG/KG)	IN BOT- TOM MA- TERIAL (UG/KG)	IN BOT- TOM MA- TERIAL (UG/KG)		IN BOT- TOM MA- TERIAL (UG/KG)
OCT , 1981												
14...	--	<.1	--	<.1	--	--	<.1	--	<.1	--	<.1	--
FEB , 1982												
02...	<.01	--	<.01	--	.01	<.01	--	<.01	--	<.01	--	<.01
APR												
05...	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.1	<.01	<.1	<.01
DATE		HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL	METH- OXY- CHLOR, TOTAL	METH- OXY- CHLOR, TOTAL	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL
								(UG/L)	(UG/L)	(UG/L)		(UG/L)
OCT , 1981												
14...	--	<.1	--	<.1	--	<.1	--	--	<.1	--	--	--
FEB , 1982												
02...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01	<.01
APR												
05...	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01	<.01
DATE		MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION	2,4-D, TOTAL	2, 4-DP TOTAL	2,4,5-T TOTAL	SILVEX, TOTAL
								(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
OCT , 1981												
14...	<.1	--	--	<1.00	--	<10	--	--	--	--	--	--
FEB , 1982												
02...	--	<.01	<.01	--	<1	--	<.01	<.01	<.01	<.01	<.01	<.01
APR												
05...	<.1	<.01	<.10	<1.00	<1	<10	<.01	<.01	<.01	<.01	<.01	<.01

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, CON- SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981							
14...	1240	6160	13.5	145	19	316	33
DEC							
08...	1120	5560	1.5	155	7	105	83
FEB , 1982							
02...	1245	4150	.0	195	9	101	24
APR							
01...	1000	27400	--	126	301	22300	40
04...	1650	53000	--	100	307	43900	9
05...	1330	50400	.5	103	170	23100	13
06...	1110	49600	--	100	204	27300	11
19...	1558	69800	--	125	121	22800	17
JUN							
02...	1120	9450	18.0	92	34	868	37
JUL							
07...	1240	5940	--	125	32	513	41
AUG							
16...	1400	3150	25.2	164	7	60	83

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
APR , 1982									
01...	1000	27400	301	22300	40	61	80	96	100
04...	1650	53000	307	43900	9	13	26	69	98
05...	1330	50400	170	23100	13	18	33	92	99
06...	1110	49600	204	27300	11	15	32	84	98
19...	1558	69800	121	22800	17	22	37	84	100
JUL									
07...	1240	5940	32	513	41	49	55	80	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM
APR , 1982							
01...	1000	27400	--	--	3	36	72
04...	1650	53000	1	4	16	50	79
05...	1330	50400	1	4	15	55	80
06...	1110	49600	--	2	11	47	80
19...	1558	69800	1	3	14	49	75
JUL							
07...	1240	5940	--	--	1	32	72

DATE	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
APR , 1982						
01...	81	83	86	89	95	100
04...	86	89	92	95	100	--
05...	87	90	93	96	98	100
06...	90	94	97	100	--	--
19...	81	85	89	93	100	--
JUL						
07...	89	94	98	100	--	--

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI

LOCATION.--Lat 44°54'18", long 92°15'51", in SE 1/4 sec.13, T.28 N., R.15 W., St. Croix County, Hydrologic Unit 07050005, on left bank 20 ft (6.1 m) downstream from bridge on County Trunk Highway N, 1.3 mi (2.1 km) downstream from Carr Creek, and 2.9 mi (4.7 km) south of Woodville.

DRAINAGE AREA.--39.4 mi² (102.0 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,508.66 ft (322.680 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for the period of ice effect and periods when daily mean discharge is below 3.0 ft³/s (0.08 m³/s), which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,280 ft³/s (150 m³/s) June 7, 1980, gage height, 11.07 ft (3.374 m), from floodmarks, from rating curve extended above 1,000 ft³/s (28.3 m³/s) on basis of contracted-opening measurement of peak flow; minimum discharge, 0.55 ft³/s (0.016 m³/s) Dec. 30, 31, 1981, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s (61.7 m³/s) Mar. 30, gage height, 8.74 ft (2.664 m); minimum discharge, 0.55 ft³/s (0.016 m³/s) Dec. 30, 31, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 17 to Mar. 29.)

3.3	0.3	4.2	40
3.4	1.1	4.4	60
3.5	2.7	4.8	114
3.6	5.0	5.4	238
3.7	8.5	6.0	420
3.8	13	7.0	860
4.0	25	8.0	1,540

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.3	1.2	.66	.74	1.2	139	6.5	4.1	2.9	3.6	3.1
2	1.3	1.2	1.2	.66	.74	1.2	69	7.0	4.0	3.0	3.5	2.6
3	1.4	1.3	1.1	.68	.74	1.1	154	7.2	3.8	3.3	3.5	2.2
4	1.8	1.3	1.1	.66	.74	1.1	31	8.7	3.7	3.3	3.3	2.1
5	1.6	1.3	1.0	.64	.74	1.1	22	69	3.7	3.2	3.0	2.4
6	1.5	1.3	1.0	.62	.74	1.1	13	77	3.8	3.1	3.0	2.1
7	1.5	1.3	1.1	.62	.76	1.0	10	65	3.6	3.0	3.2	1.9
8	1.5	1.2	1.0	.62	.76	1.0	8.8	19	3.1	2.7	3.2	1.9
9	1.4	1.1	.97	.62	.76	1.0	7.7	138	3.4	2.8	3.2	1.9
10	1.5	1.2	.85	.62	.76	1.0	6.9	52	3.1	2.9	2.8	2.5
11	1.3	1.2	.85	.64	.78	1.0	6.4	17	3.0	3.0	1.4	2.2
12	1.3	1.2	.85	.68	.80	1.0	7.9	11	2.9	3.1	1.4	4.3
13	1.4	1.3	.85	.70	.80	1.0	9.9	107	2.8	3.6	1.4	7.3
14	1.5	1.3	.85	.70	.82	1.0	11	70	3.0	3.5	1.5	2.9
15	1.3	1.3	.85	.72	.82	1.0	18	56	3.2	4.2	1.5	1.7
16	1.3	1.3	.84	.72	.88	.96	212	18	2.9	3.9	1.5	1.2
17	1.6	1.3	.72	.68	.94	.96	186	14	3.0	3.5	1.7	1.3
18	20	1.3	.70	.72	1.1	1.0	33	52	2.9	3.3	1.7	1.2
19	10	1.2	.70	.72	1.1	6.0	17	18	2.9	3.4	1.8	1.2
20	3.6	1.1	.70	.74	1.2	4.5	36	10	3.1	3.4	1.8	1.2
21	2.2	1.2	.78	.76	1.3	7.0	47	8.1	2.8	3.3	1.9	1.1
22	1.8	1.2	.76	.78	1.3	16	20	7.2	2.5	3.3	2.0	1.1
23	1.8	1.2	.72	.76	1.4	25	12	6.6	2.5	3.3	2.1	1.2
24	1.8	1.4	.72	.74	1.3	110	9.5	6.3	2.8	3.4	2.4	1.1
25	1.9	1.4	.70	.72	1.2	190	8.2	6.0	2.4	4.1	2.1	1.1
26	1.7	1.4	.70	.72	1.2	120	6.5	5.6	2.3	3.9	2.3	1.1
27	1.8	1.2	.74	.72	1.2	40	5.3	5.7	2.4	3.3	2.2	1.1
28	1.7	1.0	.70	.74	1.2	42	5.3	5.3	2.7	3.3	2.0	1.1
29	1.6	.97	.62	.72	---	270	5.1	5.0	3.0	3.4	3.3	1.4
30	1.7	1.0	.60	.72	---	1540	5.2	4.7	2.9	3.3	2.8	1.1
31	1.5	---	.62	.72	---	579	---	4.7	---	3.6	2.6	---
TOTAL	77.8	36.97	26.09	21.52	26.82	2968.22	1122.7	887.6	92.3	103.3	73.7	58.6
MEAN	2.51	1.23	.84	.69	.96	95.7	37.4	28.6	3.08	3.33	2.38	1.95
MAX	20	1.4	1.2	.78	1.4	1540	212	138	4.1	4.2	3.6	7.3
MIN	1.3	.97	.60	.62	.74	.96	5.1	4.7	2.3	2.7	1.4	1.1
CFSM	.06	.03	.02	.02	.02	2.43	.95	.73	.08	.09	.06	.05
IN.	.07	.03	.02	.02	.03	2.80	1.06	.84	.09	.10	.07	.06
CAL YR 1981	TOTAL	3653.86	MEAN	10.0	MAX	315	MIN	.60	CFSM	.25	IN	3.45
WTR YR 1982	TOTAL	5495.62	MEAN	15.1	MAX	1540	MIN	.60	CFSM	.38	IN	5.19

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year.

WATER TEMPERATURES: June 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since June 20, 1978.

REMARKS.--Unpublished records of hourly specific conductance and water temperatures are available in files of District Office. Water-quality monitor inoperative part of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum observed, 720 micromhos Aug. 4, 1982; minimum observed, 161 micromhos

May 12, Aug. 10, 1980.

WATER TEMPERATURES: Maximum observed, 31.0°C Aug. 5, 1982; minimum observed, 0.5°C Feb. 2, 1981, Feb. 6, 1982.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 720 micromhos Aug. 4; minimum observed, 170 micromhos Mar. 16.

WATER TEMPERATURES: Maximum observed, 31.0°C Aug. 5; minimum observed, 0.5°C Feb. 6.

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	511	485	498	502	450	481	---	---	---	---	---	---
2	500	391	437	502	443	473	---	---	---	---	---	---
3	514	391	480	518	439	478	---	---	---	---	---	---
4	511	448	476	523	461	504	---	---	---	---	---	---
5	523	459	491	521	405	451	---	---	---	---	---	---
6	525	463	506	505	411	448	---	---	---	---	---	---
7	525	422	490	509	430	465	---	---	---	---	---	---
8	---	---	---	505	397	432	---	---	---	---	---	---
9	507	483	490	479	448	471	502	479	489	---	---	---
10	502	452	482	467	403	435	505	469	486	---	---	---
11	496	425	474	487	448	477	496	471	484	---	---	---
12	514	441	487	487	413	457	507	483	495	---	---	---
13	530	430	507	489	423	466	498	479	491	---	---	---
14	418	273	353	494	425	467	505	481	496	---	---	---
15	465	276	317	514	483	502	500	479	492	---	---	---
16	500	341	439	518	428	477	500	483	490	---	---	---
17	500	416	487	496	405	464	496	483	488	---	---	---
18	496	381	423	494	413	454	494	479	485	---	---	---
19	432	382	399	415	394	404	494	477	484	---	---	---
20	496	427	464	494	393	412	494	481	487	---	---	---
21	502	439	477	514	479	499	494	485	489	---	---	---
22	505	437	488	502	481	490	500	483	492	---	---	---
23	---	---	---	502	479	492	502	494	497	---	---	---
24	---	---	---	500	477	488	502	487	493	---	---	---
25	---	---	---	502	477	492	500	483	494	---	---	---
26	507	423	478	507	496	501	500	485	492	---	---	---
27	516	428	483	---	---	---	498	487	492	---	---	---
28	518	452	492	---	---	---	496	---	---	471	463	468
29	511	439	484	---	---	---	---	---	---	479	461	471
30	516	432	480	---	---	---	---	---	---	461	448	455
31	502	437	477	---	---	---	---	---	---	475	444	463
MONTH	530	273	465	523	393	468	507	469	490	479	444	464

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	444	427	433	485	342	438	---	---	---	532	471	508
2	427	413	417	489	463	479	---	---	---	530	496	517
3	413	407	410	483	469	479	---	---	---	532	507	523
4	413	407	410	489	467	478	271	209	232	540	516	529
5	415	410	412	491	448	469	294	212	264	437	263	352
6	411	393	401	494	456	477	427	289	342	448	246	382
7	399	388	393	489	337	386	446	347	398	489	394	458
8	400	385	392	475	350	416	485	364	412	514	477	504
9	391	384	387	441	307	336	505	368	431	514	186	300
10	391	382	387	418	289	339	507	374	415	477	204	318
11	391	384	387	315	215	264	535	456	513	514	473	494
12	393	384	389	244	202	215	523	416	477	523	362	511
13	402	385	392	236	205	218	525	388	473	308	234	249
14	410	402	405	253	215	232	530	413	497	399	246	293
15	410	399	403	250	182	208	525	244	358	494	275	407
16	402	394	397	181	170	177	284	195	219	507	491	500
17	399	391	395	---	---	---	238	203	214	511	418	503
18	396	387	391	---	---	---	352	239	288	491	306	409
19	402	390	395	---	---	---	378	331	361	516	496	509
20	403	397	401	---	---	---	355	236	281	521	505	513
21	444	397	419	---	---	---	338	234	280	518	507	512
22	458	437	445	---	---	---	525	308	440	514	514	514
23	471	456	463	---	---	---	527	483	517	---	---	---
24	467	432	451	---	---	---	530	514	524	---	---	---
25	461	427	449	---	---	---	532	514	527	---	---	---
26	425	402	418	---	---	---	537	511	526	---	---	---
27	425	396	410	---	---	---	537	507	521	---	---	---
28	422	340	376	---	---	---	532	481	517	485	376	413
29	---	---	---	---	---	---	532	479	515	555	382	455
30	---	---	---	---	---	---	532	516	527	665	397	552
31	---	---	---	---	---	---	---	---	---	661	408	502
MONTH	471	340	408	494	170	351	537	195	410	665	186	451

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	665	382	494	423	362	392	---	---	---	454	340	382
2	603	367	460	458	359	394	---	---	---	450	331	393
3	600	364	485	435	352	389	---	---	---	463	305	373
4	594	382	514	443	362	398	720	634	679	477	303	380
5	641	375	480	435	341	388	---	---	---	430	350	378
6	530	387	426	416	359	386	705	329	632	382	309	346
7	530	378	435	410	342	379	672	312	532	352	312	332
8	682	423	532	444	343	385	405	306	340	385	319	345
9	634	441	530	437	351	391	403	308	329	475	335	393
10	716	382	485	425	362	391	345	279	306	498	382	437
11	705	408	520	403	327	372	347	276	303	654	358	484
12	658	391	491	430	349	383	350	272	309	537	385	445
13	679	387	499	408	355	381	331	294	308	381	347	365
14	658	471	544	434	332	383	644	293	328	349	306	327
15	580	387	488	448	355	393	675	312	484	316	290	302
16	641	403	489	407	332	370	---	---	---	319	274	297
17	585	402	470	405	341	376	---	---	---	338	289	310
18	597	384	481	441	340	390	---	---	---	342	272	306
19	647	397	500	459	356	402	---	---	---	328	277	305
20	606	394	458	461	343	408	---	---	---	307	269	289
21	654	388	475	444	343	411	---	---	---	329	247	285
22	712	391	533	479	390	426	---	---	---	336	255	295
23	679	425	554	465	379	426	577	420	509	362	281	316
24	563	376	443	487	355	418	425	336	359	326	289	310
25	580	372	441	450	355	407	523	302	390	316	254	287
26	615	397	491	408	362	389	479	340	396	320	270	295
27	600	461	522	491	371	433	446	306	368	334	272	298
28	612	362	461	709	509	623	448	318	372	336	281	307
29	402	343	368	712	628	688	387	325	344	397	329	351
30	425	349	387	654	561	614	439	320	378	394	311	345
31	---	---	---	709	634	675	394	338	357	---	---	---
MONTH	716	343	482	712	327	428	720	272	401	654	247	343

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	10.5	10.0	10.5	10.0	7.5	9.0	---	---	---	---	---	---
2	12.5	9.5	10.5	9.5	6.5	8.0	---	---	---	---	---	---
3	12.0	8.0	10.0	10.0	7.0	8.5	---	---	---	---	---	---
4	11.5	8.0	10.0	10.5	9.0	9.5	---	---	---	---	---	---
5	11.5	8.5	10.0	10.5	8.0	9.5	---	---	---	---	---	---
6	11.5	9.5	10.0	9.0	6.0	7.5	---	---	---	---	---	---
7	11.0	9.0	10.0	9.0	6.0	8.0	---	---	---	---	---	---
8	11.0	9.5	10.0	9.0	6.0	7.5	---	---	---	---	---	---
9	12.0	10.5	11.0	7.5	6.0	7.0	6.0	5.0	5.5	---	---	---
10	13.0	12.0	12.5	7.5	3.5	6.0	6.0	4.0	5.0	---	---	---
11	13.0	10.5	11.5	7.5	6.0	7.0	5.5	5.0	5.5	---	---	---
12	13.0	9.0	10.5	8.0	4.5	7.0	6.5	5.0	5.5	---	---	---
13	11.5	10.5	11.0	8.5	5.5	7.5	6.0	5.5	5.5	---	---	---
14	11.5	8.5	9.5	9.0	7.5	8.5	6.0	5.0	5.5	---	---	---
15	13.5	6.0	8.5	9.0	8.5	9.0	5.5	4.0	5.0	---	---	---
16	10.5	7.5	9.0	9.5	7.5	8.5	5.5	4.0	4.5	---	---	---
17	10.0	8.5	9.0	8.0	6.0	7.5	5.0	3.5	4.0	---	---	---
18	9.5	5.5	7.5	8.0	5.0	7.0	5.0	3.5	4.5	---	---	---
19	8.0	3.5	5.5	5.0	3.0	4.5	5.0	4.0	4.5	---	---	---
20	7.5	3.5	6.5	6.5	1.5	3.5	4.5	3.5	4.0	---	---	---
21	8.5	4.0	6.5	7.5	5.5	6.5	4.5	3.5	3.5	---	---	---
22	8.5	6.5	7.5	7.0	5.0	6.0	5.0	3.5	4.5	---	---	---
23	---	---	---	7.0	5.5	6.0	5.0	3.5	4.0	---	---	---
24	---	---	---	7.0	5.5	6.0	4.5	3.5	4.0	---	---	---
25	---	---	---	7.5	5.5	6.5	4.5	3.5	4.0	---	---	---
26	8.5	7.5	8.0	7.5	6.0	7.0	4.5	3.0	3.5	---	---	---
27	9.0	5.5	8.0	---	---	---	4.0	3.5	3.5	---	---	---
28	9.0	7.5	8.5	---	---	---	3.5	2.5	3.0	2.5	2.0	2.5
29	9.5	7.5	8.5	---	---	---	---	---	---	3.0	2.0	2.5
30	11.5	8.5	10.0	---	---	---	---	---	---	2.5	2.0	2.0
31	12.5	9.5	11.0	---	---	---	---	---	---	2.5	1.5	2.0
MONTH	13.5	3.5	9.5	10.5	1.5	7.5	6.5	2.5	4.5	3.0	1.5	2.5

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.5	1.5	1.5	4.5	1.5	3.0	5.5	1.5	3.5	11.0	8.5	9.5
2	1.5	1.0	1.5	5.5	3.5	5.0	6.5	3.5	5.0	11.0	9.0	10.0
3	1.0	1.0	1.0	5.5	3.5	4.5	6.0	1.0	3.0	10.5	9.0	10.0
4	1.0	1.0	1.0	5.0	3.5	4.5	5.0	1.0	3.0	11.0	9.5	10.0
5	1.0	1.0	1.0	5.5	4.5	5.0	4.5	2.0	3.0	17.0	13.5	15.5
6	2.5	1.5	1.5	6.0	5.0	5.5	8.5	3.0	5.5	13.0	10.0	12.0
7	3.0	2.0	2.5	5.5	1.5	2.5	8.5	4.5	6.5	15.0	9.5	12.5
8	3.5	2.0	3.0	4.5	2.5	3.0	7.5	5.0	6.5	11.0	9.5	10.0
9	3.5	2.5	3.0	4.5	1.0	2.5	7.5	5.5	7.0	15.5	9.5	13.0
10	4.5	3.0	3.5	4.0	1.0	2.0	7.5	5.5	6.5	19.5	11.0	16.0
11	4.0	3.0	3.0	3.5	1.0	1.5	10.0	5.5	8.0	12.0	10.0	11.0
12	3.0	2.5	3.0	2.5	1.0	1.0	8.5	7.0	7.5	14.0	10.0	10.5
13	3.0	2.5	3.0	2.0	1.0	1.0	10.5	7.5	8.5	16.5	15.0	16.0
14	3.0	2.5	2.5	2.5	1.0	1.5	10.0	7.5	8.5	20.5	16.5	18.5
15	3.0	2.5	3.0	3.5	1.0	2.0	10.5	9.0	10.0	18.5	13.0	16.0
16	3.0	3.0	3.0	3.0	1.5	2.5	13.0	9.0	11.0	12.5	10.5	11.0
17	3.0	2.5	3.0	---	---	---	11.0	8.0	10.0	15.5	10.0	10.5
18	3.0	3.0	3.0	---	---	---	11.5	8.5	10.0	19.0	13.5	17.0
19	3.0	2.5	3.0	---	---	---	9.5	6.0	8.5	13.0	10.5	11.0
20	3.0	2.5	3.0	---	---	---	10.0	5.0	7.5	12.0	10.0	10.5
21	3.0	2.5	3.0	---	---	---	11.0	6.0	8.5	11.0	9.5	10.0
22	2.5	2.0	2.5	---	---	---	11.5	7.5	9.5	9.5	9.5	9.5
23	2.5	2.0	2.5	---	---	---	10.5	8.5	9.5	---	---	---
24	2.5	1.5	2.0	---	---	---	11.0	9.0	9.5	---	---	---
25	1.5	1.5	1.5	---	---	---	11.0	9.0	9.5	---	---	---
26	2.0	1.5	1.5	---	---	---	11.5	9.0	10.0	---	---	---
27	2.5	2.0	2.5	---	---	---	11.0	8.5	9.5	---	---	---
28	2.5	1.5	2.0	---	---	---	11.0	9.0	9.5	15.5	12.5	14.0
29	---	---	---	2.5	1.0	1.5	11.0	8.5	9.5	15.5	11.0	13.0
30	---	---	---	2.0	1.0	1.5	10.5	9.0	9.5	17.0	10.5	13.0
31	---	---	---	6.0	1.0	3.5	---	---	---	14.5	10.5	12.5
MONTH	4.5	.5	2.5	6.0	1.0	3.0	13.0	1.0	8.0	20.5	8.5	12.5

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	18.5	9.0	12.5	22.5	11.5	16.0	15.0	12.0	13.0	17.5	15.0	16.0
2	16.0	9.0	12.0	20.5	12.5	16.0	15.5	12.0	13.0	18.5	14.0	16.0
3	15.0	9.0	12.0	27.0	13.5	19.0	17.5	13.5	15.5	17.5	14.0	15.5
4	15.5	9.0	12.0	26.0	13.5	19.0	18.0	13.5	15.0	18.0	14.0	16.0
5	17.5	9.5	12.5	---	---	---	31.0	12.5	17.0	19.0	15.5	17.0
6	16.0	10.5	12.0	26.5	18.0	22.5	30.0	11.5	15.5	18.5	15.0	16.5
7	21.0	11.0	14.5	27.5	14.5	20.5	28.5	11.5	16.5	18.0	15.0	16.5
8	17.0	10.0	13.0	26.5	12.5	18.5	28.0	25.0	27.0	18.5	15.0	17.0
9	14.0	10.5	12.0	25.5	14.0	18.5	25.5	24.5	25.0	18.5	15.5	17.0
10	19.5	9.5	13.5	20.0	14.5	17.0	26.5	24.0	25.5	17.5	13.5	15.5
11	18.5	10.0	13.5	27.5	13.0	18.0	26.5	25.0	26.0	19.0	13.5	16.0
12	20.5	10.5	14.0	26.0	13.5	19.0	27.5	25.0	26.5	18.5	11.5	15.5
13	19.5	10.0	13.5	23.0	13.5	17.5	30.5	25.5	28.5	13.5	8.5	11.5
14	12.5	10.5	11.5	27.0	14.0	19.5	29.0	12.5	26.5	11.0	8.5	9.5
15	15.5	10.5	12.5	24.5	15.5	18.0	30.0	11.0	20.0	13.5	11.0	12.5
16	17.5	9.5	12.5	26.5	14.0	18.5	---	---	---	15.5	13.5	14.5
17	15.5	11.0	13.0	27.0	18.0	21.5	---	---	---	18.0	14.0	16.0
18	16.0	10.0	12.5	29.0	14.0	20.5	---	---	---	18.0	14.0	15.5
19	15.0	9.5	12.0	25.5	13.5	19.0	---	---	---	19.0	13.5	16.0
20	15.5	10.5	12.5	26.5	14.0	19.5	---	---	---	18.5	13.5	16.0
21	18.5	10.0	13.5	26.5	15.0	18.5	---	---	---	18.5	14.0	16.5
22	15.5	10.0	13.0	19.5	13.5	16.0	---	---	---	19.0	13.5	16.5
23	17.0	10.5	13.5	23.5	14.0	17.5	16.0	13.5	14.5	19.0	14.0	16.0
24	15.5	12.0	13.0	24.0	14.0	18.5	18.0	14.5	16.0	19.5	15.5	17.5
25	21.0	12.0	15.0	24.0	15.0	19.0	18.0	14.0	16.0	19.0	14.0	17.0
26	20.5	10.5	14.5	20.5	14.0	16.5	18.5	14.0	16.0	19.0	13.5	16.5
27	19.5	12.5	15.0	20.0	13.0	15.5	16.5	13.5	15.0	18.5	13.5	16.0
28	24.0	12.5	17.0	18.5	12.0	14.0	18.0	14.0	16.0	18.5	13.5	16.0
29	22.5	13.5	16.5	20.5	12.0	14.0	17.0	14.0	15.0	18.5	14.0	16.0
30	25.0	11.0	16.5	20.5	12.0	15.0	18.0	15.0	16.0	19.0	13.5	16.0
31	---	---	---	19.5	12.0	14.0	17.5	15.5	16.5	---	---	---
MONTH	25.0	9.0	13.5	29.0	11.5	18.0	31.0	11.0	19.0	19.5	8.5	15.5

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI

LOCATION.--LAT 44°52'02", LONG 92°15'07", in SE 1/4 NW 1/4 sec. 31, T.28 N., R.15 W., St. Croix County, Hydrologic Unit 07050005, on right bank 50 ft (15 m) downstream from low-water bridge on Coulee Road, approximately 550 ft (168 m) upstream from French Creek at Spring Valley.

DRAINAGE AREA.--47.9 mi² (124.1 km²).

PERIOD OF RECORD.--November 1981 to September 1982.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1982.

WATER TEMPERATURES: November 1981 to September 1982.

INSTRUMENTATION.--Water-quality monitor since November 11, 1981.

REMARKS.--Unpublished records of hourly specific conductance and water temperatures are available in files of District Office.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), SEPTEMBER 1982

DAY	MAX SEPTEMBER	MIN	MEAN
1	376	350	364
2	388	378	384
3	394	384	390
4	396	388	393
5	397	390	393
6	399	393	395
7	399	391	395
8	399	394	396
9	397	396	396
10	397	387	390
11	393	390	392
12	396	354	380
13	365	349	355
14	387	365	380
15	385	379	383
16	388	382	386
17	394	388	391
18	397	391	395
19	399	390	396
20	399	393	396
21	402	391	397
22	402	390	397
23	400	396	398
24	402	399	400
25	405	396	399
26	400	393	398
27	399	394	397
28	399	393	397
29	400	394	397
30	400	394	398
31	---	---	---
MONTH	405	349	391

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI--CONTINUED

DAY	TEMPERATURE, WATER (DEG. C), NOVEMBER 1981 TO SEPTEMBER 1982											
	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	17.0	12.0	14.5	19.0	15.0	17.0	19.0	17.0	18.0	19.5	14.5	17.0
2	15.5	12.0	14.0	18.0	15.5	17.0	21.0	17.5	19.0	19.0	17.5	18.5
3	16.0	12.0	14.0	20.5	16.5	18.5	22.0	19.5	20.5	18.0	15.5	16.5
4	16.5	11.5	14.0	21.5	17.5	19.5	21.5	20.0	20.5	18.0	15.0	16.5
5	16.5	12.0	14.0	23.5	19.0	21.0	20.0	19.0	19.5	18.0	17.0	17.5
6	15.5	12.5	14.5	22.5	20.0	21.0	20.0	18.0	19.0	17.5	15.5	16.5
7	18.0	13.5	15.5	20.5	18.5	19.5	19.5	18.0	19.0	16.0	15.0	15.5
8	18.0	14.0	16.0	20.0	16.5	18.5	19.0	17.5	18.0	16.5	15.0	16.0
9	16.5	14.5	15.0	19.5	17.5	19.0	18.0	15.0	16.0	18.5	16.0	17.0
10	17.0	12.5	14.5	19.5	18.0	18.5	15.5	13.5	14.5	19.0	18.5	18.5
11	17.0	12.5	15.0	20.0	16.0	18.0	16.0	13.5	14.5	20.5	18.0	19.0
12	18.0	14.0	16.0	20.0	17.0	18.5	16.0	13.5	14.5	20.0	18.5	19.0
13	17.5	13.5	15.0	20.0	17.0	19.0	15.5	15.0	15.0	18.5	16.5	17.5
14	15.5	13.5	14.0	21.5	18.0	19.5	17.0	15.0	16.0	16.5	15.0	15.5
15	15.0	13.5	14.0	20.5	18.5	19.0	18.0	16.0	17.0	14.5	14.0	14.0
16	16.5	12.0	14.5	20.0	17.0	18.5	18.5	16.5	17.5	14.0	13.0	13.5
17	16.0	14.5	15.0	20.5	19.0	19.5	18.5	16.5	17.5	15.5	14.0	14.5
18	15.5	13.0	14.5	21.0	18.0	19.5	19.0	17.0	18.5	14.5	13.5	14.0
19	14.5	12.5	13.5	20.5	17.5	19.0	19.5	18.5	19.0	14.0	13.0	13.5
20	15.5	12.5	14.0	21.0	18.5	19.5	19.0	17.5	18.5	14.0	12.5	13.0
21	16.0	13.0	14.5	20.5	18.5	19.0	18.0	16.0	17.0	12.5	11.0	12.0
22	16.5	12.5	14.5	20.0	17.0	18.5	19.0	17.0	18.0	13.0	11.0	12.0
23	17.0	13.5	15.0	21.0	17.5	19.5	18.0	16.0	17.0	15.0	12.5	13.5
24	16.0	14.5	15.5	20.0	18.5	19.0	17.0	15.0	15.5	15.0	13.5	14.5
25	18.0	14.5	16.5	20.0	18.5	19.5	17.0	14.0	15.5	13.0	11.5	12.5
26	18.0	14.0	16.0	19.0	18.0	18.5	17.0	15.5	16.0	13.5	12.0	12.5
27	20.0	16.0	18.0	20.5	17.0	18.5	16.0	14.5	15.0	14.0	12.5	13.0
28	20.0	16.5	18.5	20.0	17.5	19.0	15.5	13.5	14.5	15.0	13.5	14.0
29	18.5	16.0	18.0	19.5	17.5	18.5	15.0	14.0	14.5	16.0	15.0	15.5
30	19.0	15.0	17.0	19.0	17.0	18.0	16.5	14.0	15.0	16.0	15.5	15.5
31	---	---	---	19.0	17.0	18.0	15.5	15.0	15.0	---	---	---
MONTH	20.0	11.5	15.0	23.5	15.0	19.0	22.0	13.5	17.0	20.5	11.0	15.5

CHIPPEWA RIVER BASIN

05369955 French Creek near Spring Valley, WI

LOCATION.--Lat 44°52'05", long 92°15'37", in SE 1/4 NE 1/4 sec. 36, T.28 N., R.16 W., St. Croix County, Hydrologic Unit 07050005, on left bank 500 ft (152 m) downstream from bridge on Coulee Road, approximately 1,800 ft (550 m) upstream from mouth, and 1.9 mi (3.1 km) northwest of Spring Valley.

DRAINAGE AREA.--6.03 mi² (15.62 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 990 ft (302 m), from topographic map.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 338 ft³/s (9.57 m³/s) Mar. 30, 1982, gage height, 4.89 ft (1.490 m); minimum discharge, 0.28 ft³/s (0.008 m³/s) Sept. 5, 6, 1981, gage height, 2.50 ft (0.762 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 338 ft³/s (9.57 m³/s) Mar. 30, gage height, 4.89 ft (1.490 m); minimum, 0.30 ft³/s (0.008 m³/s) Dec. 29, 30, gage height 2.45 ft (0.747 m).

REVISIONS.--The maximum discharge for the water year 1981 has been revised to 200 ft³/s (5.66 m³/s) Feb. 21, 1981, gage height, 4.52 ft (1.378 m). Revised mean daily discharges, in cubic feet per second, for high-water periods in 1981 are listed below.

Feb. 16,	47	Feb. 22,	48
21	12	27	49

The monthly mean discharge for February 1981 has been revised to 8.06 ft³/s (0.228 m³/s). These figures supersede those published in the report for 1981.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-30, July 21 to Sept. 9.)

Oct. 1 to Mar. 19

Mar. 20 to Sept. 30

2.4	0.28	2.4	0.32	3.0	9.5
2.5	.51	2.5	.60	3.3	20
2.6	.91	2.6	1.1	3.5	31
2.7	1.9	2.7	2.2	3.8	57
2.8	3.6	2.8	3.9	4.2	121
2.9	6.2	2.9	6.3	4.5	194
3.0	9.5			5.0	390

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.34	.38	.32	.36	.38	4.1	.64	.86	.55	.51	1.1
2	.74	.35	.38	.33	.38	.38	2.4	.65	.76	.51	.49	.79
3	.85	.36	.36	.34	.38	.38	13	.68	.77	.52	.54	.65
4	1.4	.36	.34	.34	.39	.38	.84	1.6	.75	.56	.51	.60
5	1.2	.35	.36	.35	.38	.37	.71	11	.75	.58	.48	.65
6	1.1	.32	.36	.34	.39	.37	.62	8.5	.78	.60	.46	.64
7	1.1	.33	.38	.34	.40	.36	.61	2.5	.80	.57	.52	.58
8	.75	.34	.36	.34	.39	.38	.60	.81	.77	.58	.54	.55
9	.73	.32	.35	.35	.38	.36	.59	4.2	.82	.60	.51	.54
10	.77	.34	.34	.37	.39	.38	.57	1.1	.81	.60	.51	.75
11	.68	.34	.34	.43	.40	.38	.59	.77	.76	.58	.48	.72
12	.67	.35	.34	.41	.39	.44	.63	1.2	.75	.58	.50	2.1
13	.68	.36	.34	.39	.40	.44	.61	8.8	.71	.60	.51	1.2
14	.71	.36	.35	.35	.41	.44	.59	2.3	.72	.60	.48	.63
15	.69	.36	.34	.34	.40	.46	.60	1.4	.75	.65	.47	.60
16	.69	.36	.34	.34	.40	.49	24	1.1	.73	.65	.46	.60
17	.99	.35	.34	.34	.40	.54	11	1.2	.75	.64	.45	.63
18	1.1	.35	.34	.34	.40	.59	.92	1.3	.71	.60	.47	.65
19	.50	.36	.34	.34	.40	.77	.80	.87	.68	.60	.51	.71
20	.52	.34	.34	.34	.41	.74	1.3	.80	.68	.60	.46	.68
21	.46	.32	.34	.34	.41	.63	1.2	.80	.68	.57	.43	.64
22	.43	.32	.36	.41	.42	.63	.71	.80	.68	.57	.45	.61
23	.43	.32	.34	.41	.39	1.3	.64	.76	.63	.54	.47	.64
24	.43	.32	.32	.37	.38	15	.60	.78	.73	.55	.61	.67
25	.43	.32	.32	.34	.36	10	.62	.80	.69	.68	.67	.62
26	.41	.35	.32	.34	.37	1.3	.62	.80	.61	.61	.68	.64
27	.36	.36	.32	.35	.38	.74	.60	.86	.60	.58	.66	.64
28	.36	.36	.32	.34	.38	2.2	.60	.84	.55	.60	.67	.65
29	.36	.36	.30	.34	---	47	.63	.86	.57	.57	.87	.74
30	.36	.37	.30	.36	---	196	.64	.85	.57	.57	.82	.72
31	.37	---	.32	.35	---	45	---	.99	.57	.51	.73	---
TOTAL	21.01	10.34	10.58	10.99	10.94	328.83	71.94	60.56	21.42	18.12	16.92	21.94
MEAN	.68	.34	.34	.35	.39	10.6	2.40	1.95	.71	.58	.57	.73
MAX	1.4	.37	.38	.43	.42	196	24	11	.86	.68	.87	2.1
MIN	.36	.32	.30	.32	.36	.36	.57	.64	.55	.51	.43	.54
CFSM	.11	.06	.06	.06	.07	1.76	.40	.32	.12	.10	.09	.12
IN.	.13	.06	.07	.07	.07	2.03	.44	.37	.13	.11	.10	.14

CAL YR 1981 TOTAL 493.51 MEAN 1.35 MAX 49 MIN .28 CFSM .22 IN 3.04
WTR YR 1982 TOTAL 603.59 MEAN 1.65 MAX 196 MIN .30 CFSM .27 IN 3.72

CHIPPEWA RIVER BASIN

05369970 Lousy Creek near Spring Valley, WI

LOCATION.--Lat 44°52'21", long 92°14'21", in SE 1/4 SE 1/4 sec. 30, T.28 N., R.15 W., St. Croix County, Hydrologic Unit 07050005, on left bank 100 ft (30.5 m) upstream from bridge on County Trunk Highway NN, and 1.9 mi (3.1 km) north of Spring Valley.

DRAINAGE AREA.--5.97 mi² (15.46 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 980 ft (299 m), from topographic map.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 280 ft³/s (7.930 m³/s) Mar. 30, 1982, gage height, 11.80 ft (3.597 m); minimum, 1.5 ft³/s (0.042 m³/s) Sept. 2-6, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 280 ft³/s (7.930 m³/s) Mar. 30, gage height, 11.80 ft (3.597 m); minimum, 1.8 ft³/s (0.051 m³/s) for many days in January, February, March, and May.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 14 to July 2.)

9.1	1.8	9.5	12
9.2	2.6	9.7	27
9.3	4.4	10.0	53
9.4	7.3	11.0	162

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.1	2.0	1.9	1.8	1.9	3.2	3.2	2.2	2.1	2.1	2.5
2	2.2	2.1	2.0	1.9	1.8	1.9	2.2	3.2	2.1	2.1	2.1	2.3
3	2.3	2.0	2.0	1.9	1.8	1.9	3.5	3.2	2.1	2.2	2.1	2.2
4	2.4	2.1	2.0	1.9	1.8	1.9	2.1	3.7	2.1	2.3	2.1	2.2
5	2.3	2.2	2.0	1.9	1.8	1.9	2.0	4.3	2.2	2.3	2.1	2.3
6	2.3	2.1	2.0	1.8	1.8	1.9	2.0	4.1	2.3	2.3	2.1	2.2
7	2.3	2.1	2.0	1.8	1.8	1.8	2.0	4.9	2.2	2.2	2.2	2.2
8	2.3	2.1	2.0	1.8	1.8	1.9	2.1	4.0	2.2	2.0	2.2	2.2
9	2.3	2.1	2.0	1.8	1.8	1.8	2.7	5.6	2.1	2.0	2.2	2.2
10	2.3	2.1	1.9	1.8	1.8	1.9	2.9	3.4	2.1	2.0	2.1	2.3
11	2.2	2.1	2.0	1.8	1.8	1.9	3.0	2.6	2.2	2.0	2.1	2.2
12	2.2	2.1	2.0	1.8	1.8	1.9	2.8	1.8	2.2	2.0	2.1	2.7
13	2.2	2.1	2.0	1.9	1.8	2.0	2.2	1.9	2.2	2.0	2.1	2.4
14	2.2	2.2	2.0	1.9	1.8	2.0	2.2	2.0	2.2	2.0	2.2	2.2
15	2.2	2.2	1.9	1.9	1.9	2.0	2.3	1.8	2.1	2.0	2.2	2.1
16	2.1	2.2	1.9	1.8	1.9	2.0	3.2	1.8	2.1	2.0	2.2	2.1
17	2.3	2.1	1.9	1.8	1.9	2.0	3.5	1.8	2.1	2.0	2.2	2.0
18	2.3	2.1	1.9	1.8	1.9	2.0	2.5	1.9	2.0	2.0	2.2	2.0
19	2.2	2.2	1.9	1.8	1.9	2.1	2.4	1.8	2.0	2.0	2.2	2.0
20	2.2	2.1	1.9	1.9	1.9	2.1	2.4	1.8	2.2	2.0	2.2	2.0
21	2.2	2.0	2.0	1.9	1.9	2.1	2.4	2.1	2.3	2.0	2.2	2.0
22	2.1	2.0	2.0	1.9	1.9	2.1	2.4	2.1	2.3	2.1	2.2	2.0
23	2.1	2.0	2.0	1.9	1.9	2.2	2.4	2.1	2.3	2.0	2.3	2.0
24	2.1	2.0	1.9	1.8	1.9	3.1	2.3	2.2	2.4	2.0	2.5	2.0
25	2.1	2.0	1.9	1.8	1.8	2.5	2.4	2.2	2.2	2.1	2.4	2.0
26	2.1	2.1	1.9	1.8	1.8	2.1	2.7	2.3	2.4	2.1	2.4	2.0
27	2.1	2.0	1.9	1.9	1.9	2.0	2.8	2.1	2.4	2.0	2.4	2.0
28	2.1	2.0	1.9	1.9	1.9	2.3	3.1	2.1	2.3	2.0	2.4	2.0
29	2.1	2.0	1.9	1.8	---	21	3.3	2.1	2.1	2.0	2.5	2.1
30	2.2	2.0	1.9	1.8	---	147	3.2	2.1	2.1	2.0	2.3	2.1
31	2.2	---	1.9	1.8	---	31	---	2.3	---	2.0	2.2	---
TOTAL	68.5	62.5	60.5	57.2	51.6	256.2	78.2	82.5	65.7	63.8	68.8	64.5
MEAN	2.21	2.08	1.95	1.85	1.84	8.26	2.61	2.66	2.19	2.06	2.22	2.15
MAX	2.4	2.2	2.0	1.9	1.9	147	3.5	5.6	2.4	2.3	2.5	2.7
MIN	2.1	2.0	1.9	1.8	1.8	1.8	2.0	1.8	2.0	2.0	2.1	2.0
CFSM	.37	.35	.33	.31	.31	1.38	.44	.45	.37	.35	.37	.36
IN.	.43	.39	.38	.36	.32	1.60	.49	.51	.41	.40	.43	.40
CAL YR 1981	TOTAL 992.7	MEAN 2.72	MAX 56	MIN 1.5	CFSM .46	IN 6.18						
WTR YR 1982	TOTAL 980.0	MEAN 2.68	MAX 147	MIN 1.8	CFSM .45	IN 6.11						

CHIPPEWA RIVER BASIN

05369985 Lohn Creek near Spring Valley, WI

LOCATION.--Lat 44°51'42", long 92°14'01", in NW 1/4 SW 1/4 sec.32, T.28 N., R.15 W., St. Croix County, Hydrologic Unit 07050005, on right bank 0.2 mi (0.3 km) upstream from mouth, and 1.2 mi (1.9 km) north of Spring Valley.

DRAINAGE AREA.--2.53 mi² (6.55 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 960 ft (293 m), from topographic map.

REMARKS.--Records are good except those for period of no gage-height record, Nov. 1 to Dec. 21, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79 ft³/s (2.24 m³/s) Mar. 30, 1982, gage height, 4.33 ft (1.320 m); minimum discharge, 0.18 ft³/s (0.005 m³/s) Aug. 18, 19, 1982, gage height, 1.96 ft (0.597 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 79 ft³/s (2.24 m³/s), Mar. 30, gage height, 4.33 ft (1.320 m); minimum discharge, 0.18 ft³/s (0.005 m³/s), Aug. 18, 19, gage height 1.96 ft (0.597 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

Oct. 1 to July 5				July 6 to Sept. 30			
2.0	0.1	3.0	13	1.9	0.1	2.4	2.6
2.1	0.4	3.4	26	2.0	0.3	2.7	6.6
2.2	1.0	3.8	44	2.1	0.6	3.0	12
2.4	2.6	4.0	56	2.2	1.1		
2.7	6.7						

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.22	.22	.24	.21	.34	2.0	.25	.27	.20	.27	.43
2	.28	.23	.22	.26	.21	.34	.80	.21	.27	.19	.27	.31
3	.29	.23	.22	.27	.21	.34	1.3	.23	.27	.21	.27	.27
4	.43	.23	.22	.27	.21	.34	.60	.31	.27	.27	.27	.27
5	.39	.22	.22	.24	.21	.33	.31	.40	.27	.34	.27	.29
6	.36	.22	.21	.24	.21	.32	.40	.37	.28	.36	.30	.27
7	.34	.23	.21	.22	.26	.32	.36	.38	.31	.34	.32	.27
8	.32	.23	.21	.21	.24	.31	.32	.35	.31	.33	.33	.25
9	.31	.23	.21	.21	.24	.32	.58	.72	.31	.33	.33	.24
10	.31	.23	.21	.24	.24	.32	.74	.50	.28	.32	.31	.30
11	.31	.23	.21	.27	.24	.33	.66	.38	.27	.31	.31	.30
12	.31	.22	.21	.27	.24	.34	.30	.33	.27	.31	.32	.47
13	.31	.22	.21	.27	.24	.35	.27	.40	.27	.31	.31	.44
14	.31	.22	.21	.27	.24	.38	.27	.42	.27	.31	.31	.36
15	.31	.21	.21	.27	.24	.39	.27	.38	.27	.31	.31	.35
16	.28	.22	.22	.24	.25	.41	.83	.39	.27	.33	.31	.33
17	.32	.23	.23	.24	.25	.44	.81	.41	.27	.30	.31	.33
18	.34	.23	.23	.24	.25	.64	.64	.45	.27	.24	.18	.33
19	.31	.23	.24	.24	.34	1.0	.48	.38	.27	.21	.18	.33
20	.31	.22	.24	.24	.34	.64	.47	.33	.31	.22	.20	.32
21	.31	.22	.24	.24	.34	.48	.43	.31	.31	.30	.21	.30
22	.28	.22	.24	.27	.35	.40	.40	.31	.31	.27	.21	.30
23	.27	.22	.22	.26	.36	.40	.36	.31	.31	.24	.21	.30
24	.27	.22	.21	.25	.34	.45	.34	.31	.26	.24	.25	.30
25	.26	.22	.21	.24	.34	.47	.34	.29	.27	.30	.27	.31
26	.24	.22	.21	.24	.34	.44	.34	.27	.27	.35	.28	.33
27	.24	.22	.21	.24	.34	.39	.31	.27	.27	.33	.30	.34
28	.24	.22	.21	.24	.32	.44	.31	.24	.26	.33	.30	.38
29	.24	.22	.21	.24	---	15	.31	.28	.22	.33	.37	.39
30	.24	.22	.22	.24	---	48	.27	.31	.22	.29	.31	.41
31	.22	---	.24	.21	---	6.4	---	.28	---	.28	.27	---
TOTAL	9.26	6.70	6.78	7.62	7.60	81.07	15.82	10.77	8.28	9.00	8.66	9.82
MEAN	.30	.22	.22	.25	.27	2.62	.53	.35	.28	.29	.28	.33
MAX	.43	.23	.24	.27	.36	.48	2.0	.72	.31	.36	.37	.47
MIN	.22	.21	.21	.21	.21	.31	.27	.21	.22	.19	.18	.24
CFSM	.12	.09	.09	.10	.11	1.04	.21	.14	.11	.12	.11	.13
IN.	.14	.10	.10	.11	.11	1.19	.23	.16	.12	.13	.13	.14
CAL YR 1981	TOTAL	231.92	MEAN	.64	MAX	21	MIN	.21	CFSM	.25	IN	3.41
WTR YR 1982	TOTAL	181.38	MEAN	.50	MAX	48	MIN	.18	CFSM	.20	IN	2.67

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI

LOCATION.--Lat 44°51'10", long 92°14'17", in SE 1/4 NE 1/4 sec.6, T.27 N., R.15 W., Pierce County, Hydrologic Unit 07050005, on right bank 770 ft (235 m) downstream from flood control dam, 1,500 ft (460 m) upstream from Mines Creek, at Spring Valley.

DRAINAGE AREA.--64.1 mi² (167.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1944 to current year.

REVISED RECORDS.--WDR WI-67-1: 1966. WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder and v-notch sharp-crested weir. Datum of gage is 900.00 ft (274.32 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 31, 1957, nonrecording gage at site 850 ft (260 m) downstream at datum of 912.45 ft (278.115 m) National Geodetic Vertical Datum of 1929. Aug. 1, 1957, to June 6, 1966, nonrecording gage at downstream site at datum of 910.45 ft (277.505 m) National Geodetic Vertical Datum of 1929. June 7, 1966, to Oct. 31, 1968, nonrecording gage at downstream site at datum of 909.45 ft (277.200 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow slightly regulated and high flow completely regulated by flood-control dam 770 ft (235 m) upstream.

AVERAGE DISCHARGE.--14 years (1969-82), 33.1 ft³/s (0.937 m³/s), since operation of flood-control reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft³/s (198 m³/s) Apr. 15, 1954, gage height, 12.50 ft (3.810 m), datum then in use; no flow Aug. 11-15, 1971, flow shut off at flood-control dam upstream due to request by Wisconsin Department of Natural Resources for eradication of rough fish to improve sport fishing; minimum observed prior to dam construction period, 5.8 ft³/s (0.16 m³/s) Sept. 25, 27, 28, 30, 1949.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Maximum stage since at least 1894, that of Sept. 18, 1942, 19.98 ft (6.090 m), with datum at 909.45 ft (277.200 m) National Geodetic Vertical Datum of 1929, from floodmarks, discharge, 33,000 ft³/s (930 m³/s) estimated by Corps of Engineers on basis of slope-area measurement by Geological Survey of peak discharge of 39,000 ft³/s (1,100 m³/s) at Elmwood, drainage area, 91.9 mi² (238.0 km²).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft³/s (58.1 m³/s) Mar. 30, gage height, 918.46 ft (279.947 m); minimum discharge, 2.1 ft³/s (0.059 m³/s) Dec. 1, gage height, 912.43 ft (278.109 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

913.0	6.9	914.4	90
913.2	9.4	914.8	183
913.5	14	915.3	373
913.8	23	916.0	660
914.1	44	918.0	1,750

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	34	14	13	13	313	21	21	17	14	19
2	15	16	7.3	15	14	13	122	20	20	17	15	18
3	14	16	8.1	15	14	13	168	20	20	17	35	15
4	18	16	8.1	14	13	13	97	21	19	17	30	13
5	18	16	8.1	14	13	13	59	62	19	16	17	14
6	18	16	8.1	13	13	13	43	79	19	15	13	15
7	17	16	8.0	13	13	13	34	116	19	16	8.5	14
8	16	15	8.0	13	13	13	31	59	19	15	8.6	14
9	15	14	8.0	13	13	13	29	71	19	17	8.5	14
10	17	14	8.1	12	13	13	26	120	19	21	30	17
11	17	15	8.2	13	13	13	25	54	19	19	25	17
12	16	15	9.1	13	13	14	25	38	19	18	12	22
13	16	15	12	13	13	16	26	80	18	15	12	31
14	17	15	13	14	13	18	27	98	18	15	12	25
15	17	15	14	14	13	17	29	80	19	16	13	22
16	16	16	14	13	13	18	135	50	19	19	13	19
17	18	15	13	13	13	18	198	38	19	18	12	18
18	24	16	13	14	13	18	95	46	19	16	12	17
19	30	17	13	13	13	18	72	41	18	14	12	16
20	24	17	13	14	13	21	62	32	19	14	12	15
21	20	16	14	15	13	21	90	27	19	15	12	15
22	18	15	14	16	13	23	61	25	18	15	12	14
23	16	15	14	18	13	33	46	24	18	15	12	15
24	16	15	14	16	13	72	36	23	19	15	12	15
25	17	15	14	15	13	168	31	22	20	16	12	14
26	17	16	14	14	13	153	28	22	18	20	12	14
27	16	16	15	14	13	90	44	23	18	18	12	14
28	16	15	14	13	13	66	40	23	18	16	12	14
29	16	15	14	13	---	232	26	22	20	15	13	16
30	16	63	14	14	---	1540	22	21	18	14	13	17
31	16	---	14	13	---	980	---	21	---	14	13	---
TOTAL	543	511	383.1	431	366	3679	2040	1399	567	505	449.6	503
MEAN	17.5	17.0	12.4	13.9	13.1	119	68.0	45.1	18.9	16.3	14.5	16.8
MAX	30	63	34	18	14	1540	313	120	21	21	35	31
MIN	14	14	7.3	12	13	13	22	20	18	14	8.5	13
CAL YR 1981	TOTAL	9893.5	MEAN	27.1	MAX	303	MIN	7.3				
WTR YR 1982	TOTAL	11376.7	MEAN	31.2	MAX	1540	MIN	7.3				

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year.

WATER TEMPERATURES: June 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since June 20, 1978.

REMARKS.--Unpublished records of hourly specific conductance and water temperatures are available in files of District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 407 micromhos Mar. 1, 1980; minimum, 163 micromhos Mar. 3, 1979.

WATER TEMPERATURES: Maximum, 27.5°C Aug. 11, 1982; minimum, 0.0°C Mar. 30, 31, 1982.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 375 micromhos Jan. 17; minimum, 167 micromhos Apr. 16.

WATER TEMPERATURES: Maximum, 27.5°C Aug. 11; minimum, 0.0°C Mar. 30, 31.

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	307	302	304	334	298	318	---	---	---	356	336	348
2	310	296	305	331	296	318	298	274	286	354	346	351
3	314	297	306	338	298	319	293	259	277	351	341	348
4	312	306	308	336	288	319	288	267	279	352	341	348
5	311	301	307	337	315	328	334	269	303	354	342	349
6	311	304	308	334	293	320	337	293	321	352	341	349
7	310	300	305	338	298	323	340	308	329	360	342	353
8	317	302	309	334	309	324	342	318	332	358	347	353
9	316	305	310	330	292	317	345	332	339	359	347	356
10	314	306	310	337	293	321	358	318	338	364	354	360
11	317	305	311	336	283	316	354	314	333	359	350	356
12	325	308	313	336	292	318	354	332	342	358	347	355
13	322	309	315	338	280	314	351	322	338	363	354	357
14	315	310	313	341	281	319	342	308	328	364	355	361
15	317	305	312	343	306	329	349	314	333	363	356	359
16	318	306	313	337	297	323	349	325	337	369	358	363
17	317	311	315	336	290	321	350	326	338	375	359	367
18	315	310	312	340	288	321	352	326	341	363	355	361
19	319	306	312	343	306	329	355	326	344	363	355	359
20	319	309	315	332	293	320	354	328	343	362	358	359
21	326	308	315	332	278	314	351	303	335	360	356	359
22	320	308	315	334	283	317	358	312	339	360	354	358
23	321	309	316	336	300	323	359	314	340	362	352	357
24	321	314	317	336	285	317	359	312	342	364	352	360
25	326	306	316	338	299	324	358	314	342	364	352	359
26	331	305	319	338	302	325	354	338	347	365	358	362
27	331	297	320	332	295	318	354	336	346	363	354	358
28	330	300	319	336	292	320	356	336	347	362	351	358
29	330	306	321	336	289	315	356	337	350	364	360	362
30	327	309	321	340	283	319	356	345	352	367	355	362
31	330	309	323	---	---	---	352	345	350	367	356	362
MONTH	331	296	313	343	278	320	359	259	332	375	336	357

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	364	359	363	350	296	327	---	---	---	258	227	240
2	368	358	363	354	332	345	---	---	---	253	226	241
3	365	356	360	359	335	348	---	---	---	256	226	243
4	369	360	365	356	323	340	---	---	---	266	232	252
5	368	358	363	356	325	341	---	---	---	251	234	242
6	371	359	363	352	315	338	---	---	---	250	239	245
7	360	354	357	359	307	336	183	168	173	251	238	244
8	365	355	361	349	331	342	186	173	180	252	229	242
9	369	358	363	352	338	345	188	174	182	250	229	239
10	372	360	365	354	321	341	195	183	188	239	227	232
11	372	359	364	350	291	326	203	178	193	236	227	232
12	364	359	362	346	334	341	206	186	198	242	235	237
13	367	360	364	349	327	341	208	178	195	241	232	237
14	367	355	361	350	327	339	222	179	203	239	224	232
15	368	360	364	354	342	348	223	194	206	235	222	231
16	371	345	359	358	336	347	212	167	192	241	225	233
17	368	328	349	355	332	345	216	174	199	256	231	241
18	363	330	348	358	342	351	214	194	207	252	229	239
19	367	335	355	360	349	354	214	205	211	247	229	239
20	372	336	356	352	332	346	221	200	212	247	233	242
21	371	331	352	364	323	346	224	200	215	256	236	248
22	371	329	351	358	299	334	224	205	218	263	244	254
23	358	335	349	355	323	342	231	214	224	265	243	254
24	364	338	354	355	330	341	233	218	228	270	249	260
25	362	334	350	334	283	302	236	221	230	272	235	256
26	360	332	348	280	258	266	246	229	235	274	211	256
27	359	320	342	258	242	250	239	223	233	275	241	263
28	356	329	343	255	230	244	246	226	237	274	253	267
29	---	---	---	255	211	246	256	233	243	275	258	269
30	---	---	---	206	---	---	247	231	240	278	257	269
31	---	---	---	---	---	---	---	---	---	278	260	271
MONTH	372	320	357	364	211	328	256	167	210	278	211	247
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	285	270	277	300	291	296	316	293	306	315	298	305
2	303	275	283	303	291	296	325	281	307	318	274	299
3	296	273	285	303	287	297	347	294	321	319	286	303
4	289	272	280	305	288	297	351	330	342	316	306	312
5	291	270	281	307	295	301	351	343	349	321	302	311
6	299	276	286	315	296	305	356	330	346	314	303	307
7	295	282	288	311	294	305	356	325	347	317	306	313
8	297	273	286	317	294	305	359	328	351	316	302	313
9	293	268	284	316	293	306	355	337	347	317	301	312
10	290	275	283	316	295	309	352	289	322	319	299	309
11	292	277	285	322	297	310	350	247	307	311	299	306
12	293	281	288	327	298	315	354	305	328	315	270	298
13	294	280	289	327	302	315	343	319	332	292	282	286
14	299	282	289	325	299	314	345	316	330	300	290	295
15	298	273	285	318	302	310	342	315	330	302	284	295
16	303	275	294	310	286	300	340	320	332	306	294	300
17	300	284	293	311	291	304	338	326	332	317	294	304
18	299	273	286	308	283	301	338	328	332	316	304	311
19	302	273	290	308	287	300	341	329	336	316	292	305
20	306	278	295	310	283	300	341	330	335	312	297	302
21	303	270	293	308	283	299	340	328	333	317	299	307
22	305	271	293	303	269	293	341	332	337	325	306	315
23	312	271	296	306	277	295	340	330	335	329	310	321
24	309	279	297	309	285	298	342	329	334	325	305	315
25	301	281	295	312	284	300	342	334	337	329	307	316
26	301	260	284	294	265	283	341	329	334	330	316	322
27	300	260	287	302	272	290	341	319	329	328	310	320
28	308	262	288	308	264	292	332	319	327	335	312	327
29	299	290	295	308	287	300	335	308	327	331	315	322
30	299	291	295	318	268	298	334	321	329	323	312	318
31	---	---	---	316	263	297	332	322	328	---	---	---
MONTH	312	260	288	327	263	301	359	247	332	335	270	309

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	12.0	10.5	11.0	8.0	6.0	7.0	3.5	.5	2.0	2.0	1.0	1.5
2	12.5	10.5	11.0	8.0	6.0	6.5	2.5	.5	1.5	1.5	1.5	1.5
3	11.0	10.0	10.5	8.0	6.0	7.0	3.0	1.0	1.5	1.5	1.5	1.5
4	11.0	10.5	10.5	8.0	6.5	7.0	2.0	1.0	1.5	1.5	1.5	1.5
5	11.0	10.5	10.5	8.0	7.0	7.5	2.5	1.0	1.5	2.0	1.5	1.5
6	11.5	10.0	10.5	8.0	6.0	7.0	2.5	1.5	1.5	1.5	1.0	1.5
7	12.0	9.5	10.5	8.0	6.0	7.0	3.0	1.5	2.0	1.5	1.0	1.5
8	11.5	9.5	10.0	7.5	5.5	6.5	2.5	1.5	2.0	1.5	1.5	1.5
9	10.5	9.5	10.0	7.0	5.0	5.5	2.5	1.5	1.5	1.5	1.0	1.5
10	11.0	10.0	10.5	7.0	5.0	5.5	3.0	1.5	2.0	1.5	1.0	1.5
11	11.0	9.5	10.0	6.5	4.5	5.5	3.0	1.5	2.5	1.5	1.5	1.5
12	11.0	9.5	10.0	6.0	4.5	5.0	2.5	2.0	2.5	2.0	1.5	1.5
13	11.0	10.0	10.5	7.0	5.0	5.5	2.5	2.5	2.5	1.5	1.5	1.5
14	11.0	10.5	10.5	7.0	5.0	5.5	2.5	1.5	2.0	1.5	1.0	1.5
15	12.0	10.5	11.0	6.0	5.5	6.0	2.5	1.5	2.0	1.5	1.0	1.5
16	12.0	10.0	11.0	7.5	5.5	6.0	2.5	1.5	2.0	1.5	1.0	1.5
17	11.0	10.5	10.5	6.5	5.0	5.5	2.0	1.5	2.0	1.5	1.5	1.5
18	10.5	8.5	9.5	6.0	5.0	5.5	2.0	1.5	2.0	1.5	1.0	1.5
19	10.0	8.5	9.0	5.0	4.0	5.0	2.5	1.5	2.0	1.5	1.0	1.5
20	9.5	8.5	9.0	4.0	3.0	3.5	2.0	1.5	2.0	1.5	1.0	1.5
21	9.0	8.5	8.5	3.5	2.5	3.0	3.0	2.0	2.5	2.0	1.5	1.5
22	8.5	7.0	8.0	3.5	2.5	3.0	2.5	2.0	2.0	1.5	1.0	1.0
23	7.0	6.0	6.5	3.5	2.5	3.0	2.5	1.5	2.0	1.0	.5	1.0
24	6.0	5.5	5.5	3.5	2.5	3.0	2.5	1.5	2.0	1.5	.5	1.0
25	7.5	5.5	6.0	3.5	2.5	3.0	2.5	1.5	2.0	1.5	1.0	1.0
26	7.0	5.0	5.5	3.0	1.5	2.5	2.5	2.0	2.0	1.5	1.0	1.0
27	7.0	5.0	6.0	1.5	1.5	1.5	2.0	1.5	2.0	1.5	1.0	1.5
28	6.5	5.5	6.0	1.5	1.0	1.5	2.0	1.5	1.5	2.0	1.0	1.0
29	7.0	5.5	6.0	2.5	1.0	1.5	1.5	1.5	1.5	1.5	1.0	1.5
30	8.0	6.0	7.0	1.5	1.0	1.5	1.5	1.5	1.5	1.5	1.0	1.0
31	8.5	7.0	7.5	---	---	---	1.5	1.0	1.5	1.5	1.0	1.0
MONTH	12.5	5.0	9.0	8.0	1.0	5.0	3.5	.5	2.0	2.0	.5	1.5
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.5	1.0	1.0	4.0	1.0	2.0	2.0	1.5	1.5	14.5	10.5	12.5
2	1.5	1.0	1.5	3.0	1.0	1.5	2.5	1.5	2.0	14.5	11.5	13.0
3	1.5	1.0	1.0	3.0	1.0	2.0	2.5	1.5	2.0	15.0	12.0	13.0
4	1.5	1.0	1.5	3.5	1.5	2.0	2.5	1.5	2.0	14.5	12.0	13.5
5	1.5	1.0	1.5	4.0	1.0	2.0	2.5	1.5	2.0	15.0	13.5	14.5
6	1.5	1.0	1.0	3.5	1.0	2.0	3.5	1.5	2.0	14.0	13.0	13.5
7	1.5	1.0	1.5	4.5	1.0	2.0	3.5	1.5	2.0	14.0	12.5	13.0
8	1.5	1.0	1.0	2.0	1.0	1.0	3.5	1.5	2.5	15.5	12.0	13.5
9	1.5	1.0	1.0	2.0	1.0	1.5	3.0	2.0	2.5	13.5	12.0	12.5
10	1.5	1.0	1.0	3.0	1.0	2.0	3.5	2.5	3.0	14.0	13.0	13.5
11	2.0	1.0	1.0	5.0	1.0	2.5	5.5	2.0	3.5	16.5	14.0	15.0
12	1.5	1.0	1.0	2.5	1.0	1.5	4.0	3.0	3.5	15.0	14.0	14.5
13	1.5	1.0	1.5	4.5	1.0	2.0	5.0	3.0	3.5	14.5	14.0	14.0
14	1.5	1.0	1.5	4.5	1.5	2.5	5.5	3.0	4.0	15.5	14.0	14.5
15	1.5	1.0	1.5	3.0	1.5	2.0	5.0	3.5	4.5	16.5	15.0	15.5
16	2.5	1.0	2.0	3.5	2.0	2.5	5.0	3.5	4.5	17.0	16.0	16.5
17	3.0	1.0	2.0	3.5	1.5	2.5	6.5	5.0	5.5	17.0	15.5	16.5
18	2.5	1.5	2.0	3.5	2.0	2.5	7.5	6.0	6.5	18.0	15.5	16.5
19	3.0	1.5	2.0	3.0	1.5	2.0	7.0	6.0	6.5	19.0	16.5	18.0
20	5.0	1.0	2.5	3.0	1.5	2.0	8.0	5.5	6.5	18.0	16.0	17.0
21	5.0	1.0	2.5	4.5	1.5	2.5	8.0	6.0	7.0	16.0	15.0	15.5
22	5.0	1.5	2.5	5.0	1.5	2.5	9.0	7.0	8.0	15.5	14.5	15.0
23	3.0	1.0	2.0	3.5	1.5	2.0	9.5	7.5	8.5	15.5	14.0	14.5
24	4.0	1.0	2.0	3.0	1.5	2.0	10.5	8.0	9.0	16.0	14.0	15.0
25	3.5	1.0	2.0	2.0	1.0	1.5	11.0	9.0	10.0	16.0	14.5	15.5
26	3.0	1.0	2.0	1.0	.5	1.0	12.0	10.0	10.5	15.5	15.0	15.5
27	3.5	1.5	2.0	1.5	.5	1.0	11.5	9.5	10.5	16.0	15.0	15.5
28	3.0	1.5	2.0	1.5	.5	1.0	11.0	10.5	10.5	17.0	15.0	16.0
29	---	---	---	1.5	1.0	1.0	12.0	10.0	10.5	18.5	16.0	17.0
30	---	---	---	.5	.0	.5	12.0	10.0	11.0	19.0	16.5	17.5
31	---	---	---	1.0	.0	.5	---	---	---	17.5	15.5	17.0
MONTH	5.0	1.0	1.5	5.0	.0	2.0	12.0	1.5	5.5	19.0	10.5	15.0

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	17.5	14.5	16.0	23.5	19.0	21.0	25.0	22.0	23.5	21.5	18.0	19.5
2	17.0	14.0	15.5	23.0	19.0	20.5	26.5	22.0	24.0	21.0	18.5	19.5
3	17.0	14.0	15.5	24.5	20.0	22.0	24.5	20.5	22.5	22.0	17.5	19.0
4	17.5	14.5	16.0	27.0	20.0	23.0	22.0	19.5	21.0	22.0	17.5	19.0
5	16.5	14.5	15.5	26.0	21.5	23.5	22.0	19.5	20.5	19.5	18.0	18.5
6	17.0	15.0	15.5	25.0	21.5	23.0	25.5	19.0	21.5	20.0	17.5	18.5
7	17.5	14.5	16.0	24.5	20.0	22.0	24.5	19.0	21.0	18.5	17.5	18.0
8	19.0	15.0	16.5	24.5	19.5	22.0	23.5	18.5	20.0	19.0	17.5	18.0
9	17.5	15.5	16.0	25.5	20.0	22.5	19.5	17.5	18.5	21.0	17.5	18.5
10	19.0	15.0	16.5	24.0	20.5	22.0	23.0	18.0	20.0	19.5	18.0	18.5
11	19.0	15.0	16.5	24.5	20.0	22.0	27.5	18.0	22.0	22.0	18.5	19.5
12	19.0	15.5	17.0	24.5	19.5	22.0	22.5	18.0	19.5	20.0	18.5	19.5
13	18.5	15.5	17.0	25.0	20.5	22.5	19.5	18.5	19.0	20.0	18.5	19.5
14	17.5	15.5	16.5	26.5	20.5	23.0	22.0	18.5	19.5	18.5	18.0	18.5
15	17.5	16.0	16.5	23.0	21.5	22.5	23.0	18.5	19.5	18.0	17.0	17.5
16	19.0	15.5	17.0	25.5	22.5	24.0	21.5	18.5	19.5	18.5	16.0	17.0
17	18.0	16.5	17.0	26.0	23.0	24.0	21.5	18.0	19.5	18.5	16.0	17.0
18	18.5	15.5	17.0	26.5	22.5	24.0	23.5	18.5	20.0	18.5	15.5	16.5
19	18.5	15.5	16.5	26.5	21.5	23.5	23.5	18.5	20.0	17.5	15.5	16.5
20	18.0	16.0	16.5	26.5	21.5	24.0	22.0	18.0	19.5	16.5	15.0	15.5
21	18.5	15.5	17.0	24.5	22.5	23.5	23.5	18.0	20.0	17.5	14.5	15.5
22	19.0	15.5	17.0	26.5	22.5	24.5	21.0	18.5	19.5	17.5	14.0	15.5
23	19.0	16.0	17.5	27.0	22.0	24.5	22.0	18.5	19.5	18.0	14.5	15.5
24	18.5	16.5	17.5	26.0	22.0	24.0	20.0	18.5	19.0	15.5	14.5	15.0
25	19.5	17.0	18.0	26.0	23.0	24.5	23.0	18.0	20.0	17.0	14.0	15.0
26	20.0	16.0	18.0	26.0	24.0	25.0	22.0	18.0	19.0	16.0	14.0	14.5
27	22.0	17.0	19.5	26.5	23.0	24.5	21.5	17.0	18.5	16.0	14.0	14.5
28	25.0	18.5	21.5	27.0	22.5	24.5	21.0	17.5	19.0	15.5	14.0	15.0
29	23.5	20.0	21.5	26.5	22.0	24.0	19.0	17.5	18.5	16.5	15.0	15.5
30	23.5	19.0	21.0	25.5	21.0	23.0	21.0	17.5	19.0	17.0	15.0	15.5
31	---	---	---	25.5	21.0	23.0	18.5	17.5	18.0	---	---	---
MONTH	25.0	14.0	17.0	27.0	19.0	23.0	27.5	17.0	20.0	22.0	14.0	17.0

CHIPPEWA RIVER BASIN

05371200 CHIPPEWA RIVER NEAR PEPIN, WI

LOCATION.--Lat 44°26'15", long 92°04'30", in NE 1/4 NE 1/4 sec.33, T.23 N., R.14 W., Buffalo County, Hydrologic Unit 07050005, at bridge on State Highway 35 3.6 mi (5.8 km) east of Pepin.

DRAINAGE AREA.--9,410 mi² (24,370 km²).

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(MAIN CHANNEL ONLY)

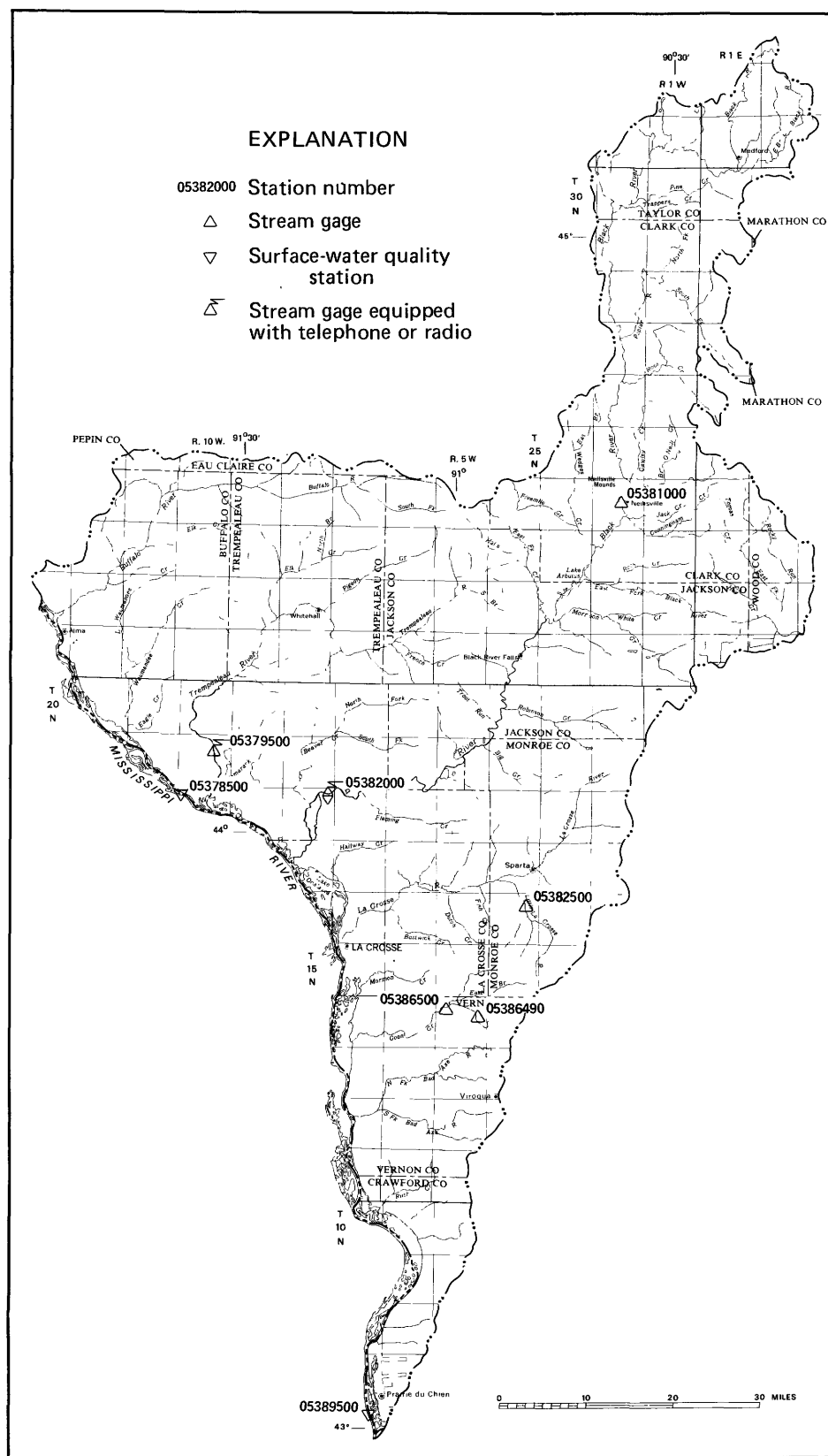
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
APR , 1982									
01...	1240	23000	303	18800	49	70	85	98	100
05...	1830	30400	213	17500	14	25	64	98	100
06...	1315	30000	172	13900	14	20	55	96	100
07...	0900	29500	189	15100	11	18	57	96	100
20...	1300	31500	86	7310	23	30	68	96	100
JUL									
08...	1050	5060	71	970	20	23	30	74	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
(MAIN CHANNEL ONLY)

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
APR , 1982												
01...	1240	23000	--	2	10	56	86	91	92	94	98	100
05...	1830	30400	--	4	20	61	89	95	98	99	100	--
06...	1315	30000	1	3	18	66	94	97	99	100	--	--
07...	0900	29500	--	--	19	70	96	98	99	99	100	--
20...	1300	31500	--	4	23	75	94	97	98	99	100	--
JUL												
08...	1050	5060	--	--	7	60	90	97	99	100	--	--

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
APR , 1982				
01...	1241	23000	292	18100
05...	1831	49800	143	19200
06...	1316	47700	114	14700
07...	0901	43500	133	15600
20...	1301	66800	49	8830
JUL				
08...	1051	5060	71	970



MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 44°03'20", long 91°38'15", in sec.23, T.107 N., R.7 W., Winona County, Hydrologic Unit 07040003, on right bank at Winona pumping station in Winona, 9.5 mi (15.3 km) upstream from Trempealeau River, and at mile 725.7 (1,167.7 km) upstream from the Ohio River.

DRAINAGE AREA.--59,200 mi² (153,300 km²), approximately.

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1980 to current year.

WATER TEMPERATURES: October 1975 to current year.

SUSPENDED-SEDIMENT DISCHARGE: September 1975 to current year.

REMARKS.--For the winter period, daily sediment loads were estimated on the basis of water records and weekly sediment samples. Water temperatures were obtained once daily for most of the open water period and weekly for winter period.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 440 micromhos, June 13-15, June 28 to July 1, July 7-9, 1980; minimum daily, 180 micromhos Sept. 24, 1980, May 9, 1981.

WATER TEMPERATURES: Maximum daily, 29.0°C July 10, 1976; minimum daily, 0.0°C many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 393 mg/l July 2, 1978; minimum daily mean, 1 mg/l on many days.

SEDIMENT LOADS: Maximum daily 65,300 tons (59,200 tonnes) July 2, 1978; minimum daily, 19 tons (17 tonnes) Dec. 12, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 480 micromhos, Feb. 23; minimum daily observed, 280 micromhos Sept. 18.

WATER TEMPERATURES: Maximum observed, 27.0°C July 4, 5; minimum, 0.0°C on many days during winter period.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 103 mg/l July 13; minimum daily mean, 1 mg/l Jan. 11-14, Jan. 24 to Feb. 17.

SEDIMENT LOADS: Maximum daily, 53,600 tons (48,600 tonnes) Apr. 4; minimum daily, 81 tons (73 tonnes) Feb. 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	DIS- CHARGE, CUBIC FEET PER SECOND	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT , 1981										
06...	1530	--	22800	435	9.1	--	13.0	--	11	--
JAN , 1982										
05...	1400	18700	--	405	8.0	-6.0	.0	--	2.1	13.7
MAR										
25...	1200	--	41100	410	8.2	1.0	1.0	748	12	12.6
APR										
28...	1030	--	104000	325	8.4	13.0	11.5	746	4.8	11.4
JUL										
28...	1300	--	24100	370	8.2	24.5	26.0	751	4.9	8.0
SEP										
14...	1600	28500	--	350	8.3	15.5	20.0	752	7.9	7.2

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT , 1981										
06...	--	66	190	190	54	48	18	9.7	10	.3
JAN , 1982										
05...	94	110	K100	180	20	44	17	11	12	.4
MAR										
25...	--	50	K1600	170	21	42	16	12	13	.4
APR										
28...	106	K12	45	140	37	35	12	5.2	7	.2
JUL										
28...	99	--	78	170	28	42	16	9.0	10	.3
SEP										
14...	81	740	1400	170	25	40	16	10	11	.4

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT , 1981									
06...	2.3	140	21	28	.2	12	230	223	.31
JAN , 1982									
05...	1.9	160	28	13	.2	10	255	222	.35
MAR									
25...	3.0	150	24	15	.2	12	236	215	.32
APR									
28...	2.8	100	31	9.3	.2	8.8	208	165	.28
JUL									
28...	2.0	143	27	12	.2	11	254	205	.35
SEP									
14...	2.1	141	28	11	.2	11	196	203	.27

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	SEDI- MENT, SUS- PENDEED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981									
06...	14200	1.7	.040	.77	.150	.100	.090	--	--
JAN , 1982									
05...	12900	1.6	.270	.98	.070	.050	.050	--	--
MAR									
25...	26200	1.2	.200	1.30	.150	.150	.110	--	--
APR									
28...	58400	1.7	.010	.67	.120	.040	.020	--	--
JUL									
28...	16500	1.1	.060	.90	.170	.100	.100	37	88
SEP									
14...	15100	.74	.040	.70	.180	.140	.100	25	95

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDEED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDEED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDEED RECOV- ERABLE (UG/L AS CD)
JAN , 1982											
05...	1400	18700	--	1	--	1	100	60	41	<1	--
MAR											
25...	1200	--	41100	1	0	1	100	50	47	<1	--
APR											
28...	1030	--	104000	2	1	1	<100	--	43	1	--
SEP											
14...	1600	28500	--	3	0	3	100	50	47	1	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDEED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDEED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDEED RECOV- ERABLE (UG/L AS FE)
JAN , 1982											
05...	<1	10	--	<10	<1	<1	23	17	6	320	230
MAR											
25...	<1	40	30	10	1	<1	6	3	3	850	760
APR											
28...	<1	20	10	10	<1	<1	6	5	1	670	530
SEP											
14...	1	10	--	<10	3	<1	11	4	7	740	--

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDEED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDEED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDEED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
JAN , 1982										
05...	94	25	--	<1	70	20	47	.2	--	<.1
MAR										
25...	86	13	--	<1	100	50	55	<.1	--	<.1
APR										
28...	140	6	5	1	70	60	6	.5	.2	.3
SEP										
14...	<3	7	6	1	130	130	2	.1	--	<.1

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDEED RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDEED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JAN , 1982										
05...	6	3	3	<1	<1	<1	<1	40	30	9
MAR										
25...	5	1	4	<1	<1	<1	<1	10	5	5
APR										
28...	5	4	1	<1	<1	<1	<1	10	--	<12
SEP										
14...	7	3	4	<1	<1,	<1	<1	40	30	8

MISSISSIPPI RIVER MAIN STEM
05378500 MISSISSIPPI RIVER AT WINONA, MN--CONTINUED

DAY	SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	350	340	---	---	---	400	330	380	455	390	380
2	420	340	350	---	430	400	360	340	380	455	380	370
3	420	350	350	---	---	---	360	350	390	455	380	360
4	420	350	350	---	---	---	360	350	390	455	370	370
5	390	340	350	400	---	---	340	350	400	460	365	380
6	380	340	350	---	---	---	350	350	400	460	370	380
7	380	340	350	---	---	---	360	350	410	455	365	380
8	390	350	350	---	---	---	380	340	420	455	370	380
9	380	360	360	---	430	400	400	340	410	445	370	370
10	370	360	360	---	---	---	390	320	420	440	380	360
11	380	360	360	---	---	---	390	310	420	440	380	360
12	400	360	360	---	---	---	390	320	430	440	390	360
13	400	360	360	440	---	---	370	320	440	440	400	340
14	400	350	360	---	---	---	380	320	440	450	400	360
15	390	350	---	---	---	---	360	320	420	440	390	350
16	380	350	---	---	430	400	360	320	445	420	395	335
17	380	360	---	---	---	400	350	315	440	410	390	300
18	380	360	---	---	---	400	340	315	430	440	395	280
19	380	360	---	440	---	400	320	325	430	420	390	290
20	380	360	---	---	---	400	320	320	430	400	400	320
21	370	340	---	---	---	400	320	320	440	400	395	330
22	340	350	---	---	---	400	340	340	460	340	390	330
23	350	350	---	---	480	400	340	340	460	390	390	340
24	350	350	---	---	---	400	340	345	450	380	380	335
25	360	350	---	---	---	400	340	345	450	380	380	340
26	380	350	---	---	---	410	310	345	450	380	390	340
27	380	340	---	450	---	410	320	360	455	380	380	340
28	360	340	---	---	---	410	320	360	455	380	380	340
29	370	340	360	---	---	420	320	370	450	380	390	340
30	360	340	---	---	---	430	320	370	460	370	390	325
31	340	---	---	---	---	420	---	380	---	380	380	---
MEAN	381	350	354	433	443	406	352	338	429	419	384	346

DAY	TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	10.0	2.0	---	---	---	3.0	11.0	17.0	21.0	24.0	19.0
2	12.0	10.0	2.0	---	.0	.0	4.0	12.0	17.0	22.0	25.0	20.0
3	11.0	9.0	2.0	---	---	---	3.0	13.0	17.0	21.0	26.0	19.0
4	10.0	10.0	2.0	---	---	---	2.0	15.0	17.0	27.0	25.5	18.0
5	11.0	10.0	1.0	.0	---	---	2.0	15.0	17.0	27.0	26.0	19.0
6	11.0	8.0	1.0	---	---	---	1.0	13.0	17.0	25.0	25.0	18.0
7	11.0	7.0	2.0	---	---	---	1.5	12.0	17.0	25.0	25.0	18.0
8	11.0	7.0	2.0	---	---	---	1.5	13.0	19.0	25.0	25.0	18.0
9	11.0	6.0	2.0	---	.0	.0	2.0	14.0	19.0	24.0	23.0	19.0
10	11.0	6.0	2.0	---	---	---	2.0	15.0	17.5	26.0	21.0	20.0
11	11.0	6.0	2.0	---	---	---	2.0	17.0	18.5	26.0	21.0	21.0
12	12.0	6.0	2.0	---	---	---	3.0	16.0	19.0	26.0	20.0	21.0
13	13.0	6.0	1.0	.0	---	---	4.0	16.0	19.0	24.0	21.0	20.0
14	14.0	7.0	1.0	---	---	---	5.0	17.5	19.0	24.0	21.0	19.0
15	12.0	7.0	---	---	---	---	6.0	17.5	19.0	25.0	22.0	17.0
16	12.0	8.0	---	---	.0	1.0	6.5	18.0	18.0	25.0	23.0	16.0
17	12.0	7.0	---	---	---	.0	5.0	18.0	19.0	25.0	23.0	16.0
18	12.0	6.0	---	---	---	2.0	6.0	18.0	18.0	26.0	25.0	15.0
19	11.0	6.0	---	.0	---	1.0	6.0	18.0	18.0	25.0	25.0	16.0
20	10.0	5.0	---	---	---	1.0	5.0	18.0	18.0	24.0	25.0	15.0
21	9.0	4.0	---	---	---	1.0	6.0	17.0	18.0	24.0	23.0	13.0
22	9.0	4.0	---	---	.0	1.0	7.0	15.0	18.0	24.0	23.0	14.0
23	7.0	4.0	---	---	.0	1.0	9.0	15.0	19.0	24.0	23.0	15.0
24	7.0	3.0	---	---	---	2.0	10.0	16.0	20.0	25.0	22.0	16.0
25	6.0	3.0	---	---	---	1.0	11.0	18.0	19.0	25.0	22.0	15.0
26	6.0	4.0	---	---	---	1.0	10.0	17.0	18.0	25.0	22.0	14.0
27	6.0	4.0	---	.0	---	1.0	9.0	17.0	18.0	24.0	20.0	15.0
28	8.0	3.0	---	---	---	1.0	10.0	18.0	24.0	25.0	20.0	15.0
29	8.0	3.0	.0	---	---	2.0	11.0	18.5	21.0	24.0	19.0	16.0
30	9.0	3.0	---	---	---	4.0	11.0	19.0	22.0	23.0	19.0	16.5
31	10.0	---	---	---	---	5.0	---	19.0	---	23.0	19.0	---
MEAN	10.0	6.0	1.5	.0	.0	1.5	5.5	16.0	18.5	24.5	22.5	17.0

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	25	810	17	1730	8	488	4	206	4	173	3	141
2	19	703	14	1350	10	626	4	206	4	171	3	143
3	25	1010	14	1270	8	505	4	206	4	170	3	139
4	17	849	13	1140	7	437	3	153	3	124	3	132
5	19	1120	12	1020	8	495	3	151	3	123	3	132
6	24	1460	14	1170	8	445	3	141	3	119	2	93
7	21	1290	12	966	11	576	3	140	3	121	2	94
8	23	1630	13	1000	11	609	3	139	2	81	2	94
9	20	1510	10	753	10	580	4	180	2	83	2	100
10	22	1710	10	705	8	469	4	181	2	83	2	99
11	20	1560	10	656	8	451	4	181	2	83	3	147
12	21	1450	10	643	7	352	4	180	2	83	3	156
13	21	1400	8	527	7	340	4	172	2	83	4	211
14	19	1320	8	531	7	365	4	163	2	83	4	214
15	20	1550	10	664	7	325	4	170	2	83	5	290
16	21	1640	8	557	7	265	4	172	2	83	5	302
17	23	1770	9	600	7	244	6	259	2	86	7	529
18	29	2440	10	637	7	265	8	354	2	88	10	780
19	23	1970	11	710	7	289	16	696	2	88	11	888
20	26	2410	14	915	7	276	8	348	3	143	13	1080
21	25	2620	13	842	7	261	4	174	3	141	14	1240
22	29	3300	12	732	7	253	4	174	3	147	11	1010
23	36	4120	9	530	7	263	4	173	4	191	11	1020
24	22	2510	10	594	7	283	4	174	4	190	11	1060
25	25	2860	10	580	7	293	4	173	4	190	26	2930
26	18	2000	8	456	7	321	4	173	4	190	42	5860
27	17	1810	12	716	8	402	4	172	3	142	37	5340
28	17	1770	12	771	10	532	4	172	3	142	33	4520
29	20	2010	11	713	12	632	4	172	---	---	35	4700
30	22	2150	10	613	8	415	4	173	---	---	55	7350
31	20	2040	---	---	6	309	4	173	---	---	72	9930
TOTAL	---	56792	---	24091	---	12366	---	6301	---	3484	---	50724

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	73	11600	19	4470	49	8480	19	1290	17	858	18	880
2	84	14400	22	4780	56	9430	20	1320	16	834	22	1410
3	220	40500	19	3830	42	7030	17	1080	17	890	18	1150
4	262	53600	20	3830	32	5130	17	1060	17	900	16	916
5	104	24900	26	4840	32	5030	15	895	16	864	20	1020
6	67	17500	24	4370	29	4340	15	826	17	858	15	688
7	67	18600	20	3510	29	4170	14	748	15	709	14	661
8	62	17900	16	2780	31	4440	16	868	14	616	14	696
9	60	17200	20	3570	24	3210	14	771	16	657	16	765
10	53	14700	23	4250	25	3020	14	866	12	447	19	939
11	45	12000	21	3990	25	2900	16	1070	16	562	15	790
12	32	8160	21	4050	21	2320	19	1330	12	411	23	1340
13	38	9380	21	4000	22	2350	19	1410	13	474	27	1700
14	30	7180	19	3600	27	2650	18	1350	14	525	26	2000
15	32	7400	23	4290	24	2230	18	1390	16	631	31	2640
16	32	7280	24	4480	22	1960	17	1350	17	661	22	1980
17	42	9790	25	4740	22	1900	15	1210	14	544	21	2000
18	47	11400	34	6670	25	2170	19	1540	12	463	23	2360
19	43	11500	30	5990	22	1900	16	1290	12	460	19	1800
20	46	14200	25	5020	24	1920	17	1310	12	441	20	1910
21	49	17100	22	4460	26	1990	17	1250	16	588	22	2110
22	46	17000	24	4920	22	1620	17	1290	14	457	16	1460
23	40	14800	23	4770	21	1530	19	1450	13	460	15	1260
24	39	13800	23	4800	20	1450	19	1360	12	399	16	1310
25	50	16700	22	4560	18	1320	19	1280	16	700	14	1100
26	24	7520	20	4070	20	1440	18	1170	18	885	19	1400
27	25	7420	23	4590	22	1530	16	1050	15	709	11	674
28	28	7860	21	4110	20	1360	19	1240	13	565	10	572
29	27	7160	19	3630	21	1410	17	1110	20	805	11	499
30	24	6020	22	4070	19	1290	16	937	14	518	15	729
31	---	---	23	4170	---	---	15	802	12	473	---	---
TOTAL	---	444570	---	135210	---	91520	---	35913	---	19364	---	38759
TOTAL LOAD FOR YEAR:			919094 TONS.									

TREMPEALEAU RIVER BASIN

05379500 TREMPEALEAU RIVER AT DODGE, WI

LOCATION.--Lat 44°07'55", long 91°33'14", in SE 1/4 sec.10, T.19 N., R.10 W., Trempealeau County, Hydrologic Unit 07040005, near left bank on downstream side of highway bridge in Dodge, 9.0 mi (14.5 km) upstream from mouth.

DRAINAGE AREA.--643 mi² (1,665 km²).

PERIOD OF RECORD.--December 1913 to September 1919, April 1934 to current year.

REVISED RECORDS.--WSP 1238: Drainage area. WSP 1388: 1919(M). WSP 1438: 1914, 1915-18(M), 1934-44(M), 1946-49(M).

GAGE.--Water-stage recorder. Datum of gage is 661.42 ft (201.601 m) National Geodetic Vertical Datum of 1929. Prior to July 14, 1977, nonrecording gage at same site and datum. Prior to Oct. 1, 1966, datum 2.00 ft (0.610 m) higher.

REMARKS.--Records are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years (1915-19, 1935-82), 415 ft³/s (11.75 m³/s), 8.76 in/yr (223 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft³/s (493 m³/s) Apr. 4, 1956, gage height, 10.35 ft (3.155 m); minimum daily, 98 ft³/s (2.78 m³/s) Jan. 10, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft³/s (36.8 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 17	1600	*2,020 57.2	*7.75 2.362	Apr. 2	0200	1,520 43.0	6.77 2.063

minimum daily, 260 ft³/s (7.36 m³/s) Mar. 8, 9.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-14; stage-discharge relation affected by ice Dec. 12 to Mar. 16.)

Oct. 1 to Mar. 16				Mar. 17 to Sept. 30			
2.5	258	4.0	595	3.0	266	6.0	1,200
3.0	355	6.0	1,240	4.0	530	8.0	2,170

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	343	463	462	330	280	280	1400	438	728	443	400	536
2	342	458	461	330	280	280	1470	430	563	355	417	689
3	348	453	455	330	280	270	1250	421	467	350	419	564
4	389	449	457	330	280	270	1220	415	419	345	393	478
5	441	448	460	330	270	270	1070	479	455	342	369	397
6	464	449	443	320	270	270	853	665	392	310	354	379
7	440	447	446	320	270	270	718	906	376	376	341	361
8	411	443	452	320	270	260	672	903	374	374	353	350
9	385	440	450	320	270	260	644	750	366	345	325	340
10	376	437	440	320	270	270	630	607	381	328	315	358
11	368	434	425	310	270	300	629	532	376	342	306	431
12	365	434	420	310	270	350	610	527	363	355	301	433
13	362	432	420	310	270	450	608	603	345	533	303	534
14	492	433	400	310	270	600	606	625	332	387	311	738
15	693	434	370	310	270	800	629	575	353	325	308	658
16	699	437	370	310	270	1100	674	559	340	379	304	656
17	632	447	360	300	280	1870	849	582	345	425	299	603
18	711	448	360	300	290	1760	854	902	518	443	293	518
19	765	448	350	300	300	1440	695	871	503	400	286	475
20	691	459	350	300	310	1130	632	680	402	434	287	438
21	602	453	340	300	320	860	637	566	381	366	277	409
22	544	443	340	300	320	722	631	521	361	350	279	389
23	517	438	340	300	310	762	580	519	355	503	281	381
24	505	459	340	290	300	1010	534	494	353	397	338	381
25	503	444	340	290	280	1210	509	469	345	503	656	375
26	502	454	340	280	280	1230	511	459	368	400	537	366
27	503	476	340	280	280	922	518	486	353	533	461	364
28	493	487	340	280	280	731	495	495	340	578	378	359
29	481	473	330	280	---	688	468	477	335	614	381	367
30	477	457	330	280	---	824	450	457	328	568	474	529
31	471	---	330	280	---	1150	---	548	---	441	457	---
TOTAL	15315	13477	12061	9470	7910	22609	22046	17961	11917	12844	11203	13856
MEAN	494	449	389	305	283	729	735	579	397	414	361	462
MAX	765	487	462	330	320	1870	1470	906	728	614	656	738
MIN	342	432	330	280	270	260	450	415	328	310	277	340
CFSM	.77	.70	.61	.47	.44	1.13	1.14	.90	.62	.64	.56	.72
IN.	.89	.78	.70	.55	.46	1.31	1.28	1.04	.69	.74	.65	.80

CAL YR 1981	TOTAL	185311	MEAN	508	MAX	3450	MIN	270	CFSM	.79	IN	10.72
WTR YR 1982	TOTAL	170669	MEAN	468	MAX	1870	MIN	260	CFSM	.73	IN	9.87

BLACK RIVER BASIN

05381000 BLACK RIVER AT NEILLSVILLE, WI

LOCATION.--Lat 44°33'34", long 90°36'52", in sec.15, T.24 N., R.2 W., Clark County, Hydrologic Unit 07040007, on right bank at downstream side of bridge on U.S. Highway 10 in Neillsville, 1.0 mi (1.6 km) downstream from O'Neill Creek, and 2.6 mi (4.2 km) upstream from Cunningham Creek.

DRAINAGE AREA.--749 mi² (1,940 km²).

PERIOD OF RECORD.--April 1905 to March 1909, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1914. WSP 1438: 1905, 1906-8(M), 1914-17(M), 1918-19, 1920-25(M), 1926-27, 1928-29(M), 1930, 1931(M), 1932, 1933(M), 1934, 1935(M), 1936. WSP 1508: 1950. WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 962.34 ft (293.321 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1934, nonrecording gage; Oct. 24, 1934, to June 16, 1977, water-stage recorder; June 17, 1977, to Nov. 19, 1977, nonrecording gage at site 150 ft (46 m) downstream at datum 1.58 ft (0.482 m) lower.

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

AVERAGE DISCHARGE.--72 years (1906-8, 1914-82), 588 ft³/s (16.65 m³/s), 10.66 in/yr (271 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,800 ft³/s (1,380 m³/s) Sept. 10, 1938, gage height, 23.8 ft (7.25 m); minimum, 0.6 ft³/s (0.017 m³/s) Aug. 15, 1936, gage height, 1.84 ft (0.561 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 3	1200	*16,600 470	*15.11 4.606	Sept. 14	0900	7,920 224	11.13 3.392
Apr. 17	1700	7,850 222	11.09 3.380				

minimum daily, 39 ft³/s (1.10 m³/s) Feb. 1-11.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25 to Apr. 2.)

2.5	30	6.0	1,470
2.7	55	7.0	2,250
3.0	104	9.0	4,510
3.5	224	11.0	7,680
4.0	392	14.0	13,900
5.0	850		

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	277	220	56	39	72	6600	546	435	240	358	1480
2	562	264	230	54	39	72	5800	459	562	210	309	735
3	655	250	210	52	39	72	13400	396	455	170	213	720
4	723	235	190	50	39	72	9860	358	360	190	172	560
5	784	226	180	49	39	72	5890	595	279	160	156	419
6	840	217	200	48	39	76	3830	1830	223	140	140	347
7	796	206	190	47	39	80	2630	3160	187	130	129	368
8	663	199	180	46	39	84	2030	2350	157	120	175	382
9	533	186	170	45	39	88	1720	1630	142	123	165	355
10	438	178	160	43	39	92	1790	1360	138	144	118	367
11	372	175	150	42	39	100	1660	1290	132	1450	104	373
12	332	165	140	41	40	110	1680	1130	124	916	98	277
13	300	159	130	41	40	120	2470	1010	116	872	91	2380
14	524	158	120	40	41	140	2560	1120	110	671	97	6600
15	770	158	110	40	43	180	2600	1270	153	642	91	5590
16	758	163	100	40	47	250	3920	1260	140	1010	85	4440
17	896	169	98	40	50	400	6740	1080	146	1680	80	2950
18	1800	166	96	41	52	600	6870	1320	178	1080	75	2100
19	1650	182	94	42	54	800	4860	1030	186	797	75	1510
20	1410	205	90	43	60	780	3510	905	191	637	73	1100
21	1050	209	86	43	66	700	2590	715	186	1060	67	788
22	748	179	82	42	72	660	2020	552	171	1040	65	594
23	571	188	78	41	74	760	1720	435	157	384	64	485
24	463	181	76	40	72	1100	1420	355	151	286	95	441
25	398	190	72	40	68	2000	1140	302	155	230	172	448
26	368	200	68	40	64	1600	1250	263	166	202	126	520
27	347	210	66	40	66	1200	1020	240	156	186	112	518
28	325	230	64	40	70	840	883	219	140	163	156	436
29	312	230	62	40	---	920	784	199	129	186	245	371
30	301	210	60	40	---	2700	668	182	202	961	546	1400
31	290	---	58	40	---	7000	---	182	---	320	700	---
TOTAL	20324	5965	3830	1346	1408	23740	103915	27743	6027	16400	5152	39054
MEAN	656	199	124	43.4	50.3	766	3464	895	201	529	166	1302
MAX	1800	277	230	56	74	7000	13400	3160	562	1680	700	6600
MIN	290	158	58	40	39	72	668	182	110	120	64	277
CFSM	.88	.27	.17	.06	.07	1.02	4.63	1.20	.27	.71	.22	1.74
IN.	1.01	.30	.19	.07	.07	1.18	5.16	1.38	.30	.81	.26	1.94
CAL YR 1981	TOTAL	189069	MEAN 518	MAX 7060	MIN 37	CFSM .69	IN 9.39					
WTR YR 1982	TOTAL	254904	MEAN 698	MAX 13400	MIN 39	CFSM .93	IN 12.66					

BLACK RIVER BASIN

05382000 BLACK RIVER NEAR GALESVILLE, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 44°04'22", long 91°17'41", in SW 1/4 sec.1, T.18 N., R.8 W., LaCrosse County, Hydrologic Unit 07040007, on left bank 1,000 ft (305 m) upstream from bridge on U.S. Highway 53, 4.5 mi (7.2 km) southeast of Galesville, and 4.8 mi (7.7 km) downstream from Fleming Creek.

DRAINAGE AREA.--2,080 mi² (5,390 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1438: 1932-34, 1935-36(M). WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 658.43 ft (200.689 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 2, 1941, nonrecording gage on bridge 1,000 ft (305 m) downstream at same datum. Apr. 3, 1941, to Oct. 1, 1971, water-stage recorder at site 1,100 ft (335 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow partly regulated by Hatfield Dam Powerplant where drainage area is 1,290 mi² (3,340 km²) and storage capacity is 272,000,000 ft³ (7.70 km³). Water diverted periodically from basin into Lemonweir River basin for cranberry culture. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 1,711 ft³/s (48.46 m³/s) 11.17 in/yr (284 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,500 ft³/s (1,850 m³/s) Apr. 1, 1967, gage height, 14.63 ft (4.459 m); maximum gage height, 15.46 ft (4.712 m) Sept. 23, 1980; minimum observed, 180 ft³/s (5.10 m³/s) Dec. 20, 1931

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,700 ft³/s (700 m³/s) Apr. 5, gage height, 13.93 ft (4.246 m), no other peaks above base of 12,500 ft³/s (354 m³/s); minimum discharge, 452 ft³/s (12.8 m³/s) July 6 and Aug. 24.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 20 to July 14; stage-discharge relation affected by ice Dec. 9 to Mar. 18.)

1.6	485	8.0	6,500
2.0	760	10.0	9,700
4.0	2,400	12.0	15,100
6.0	4,300	14.0	25,100

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	818	1540	929	660	620	660	9110	2340	1090	711	3010	1340
2	837	1250	1280	660	620	660	20900	2130	1170	718	2250	2650
3	1020	1050	1360	660	620	660	19600	2040	1170	690	2260	3680
4	1190	1380	1340	660	620	640	16100	1920	1480	788	2120	2570
5	1620	1440	1320	640	620	640	23200	1970	1090	634	1900	2300
6	1720	1440	1160	640	620	640	17100	1880	1120	498	1490	2010
7	1830	1230	904	640	620	640	12600	3250	923	613	1230	1820
8	1930	1300	852	640	620	620	9020	4950	812	781	1140	1590
9	1980	1080	860	640	620	620	6910	6400	901	711	902	1150
10	1990	908	900	620	620	620	5160	5540	862	648	978	1110
11	1910	1060	880	620	620	660	4610	4270	760	760	1060	1160
12	1740	1120	800	620	620	720	4640	3350	739	908	1020	1460
13	1660	1030	720	620	620	860	4610	3110	725	1490	871	1580
14	1350	1030	700	620	620	1000	4740	2920	592	1550	814	2400
15	1460	936	680	620	620	1200	5130	2860	669	1680	765	4450
16	2170	760	680	620	640	1500	5250	2920	704	1660	660	6460
17	2480	819	680	620	660	1900	5350	3000	711	1750	613	8130
18	2980	1030	680	620	680	2300	6280	4110	788	2550	619	7650
19	4030	1060	680	620	720	2750	8270	4530	915	3370	564	5710
20	4790	1080	660	620	740	3190	9600	4950	1090	2010	554	4260
21	5070	1460	660	620	740	3620	8170	4070	938	1700	518	3080
22	4550	1120	660	620	720	3300	7000	2940	900	1830	554	2490
23	3310	764	660	620	700	3110	5590	2580	893	3700	504	2280
24	2740	824	660	620	680	3130	4800	2330	952	3260	524	2140
25	2450	1100	660	620	660	4090	3910	2100	774	1740	674	1980
26	2280	1260	660	620	660	4870	3110	1990	725	1580	728	1790
27	2090	1140	660	620	660	5670	3080	1660	704	1580	746	1280
28	2020	897	660	620	660	5880	3110	1510	537	1890	751	1250
29	1940	1160	660	620	---	4980	2660	1480	648	1780	734	1680
30	1630	1060	660	620	---	4790	2530	1390	683	1650	615	1840
31	1600	---	660	620	---	5320	---	1150	---	2750	738	---
TOTAL	69185	33328	25325	19480	18220	71240	242140	91640	26065	47980	31906	83290
MEAN	2232	1111	817	628	651	2298	8071	2956	869	1548	1029	2776
MAX	5070	1540	1360	660	740	5880	23200	6400	1480	3700	3010	8130
MIN	818	760	660	620	620	620	2530	1150	537	498	504	1110
CFSM	1.07	.53	.39	.30	.31	1.11	3.88	1.42	.42	.74	.50	1.34
IN.	1.24	.60	.45	.35	.33	1.27	4.33	1.64	.47	.86	.57	1.49
CAL YR 1981	TOTAL	667575	MEAN	1829	MAX	16000	MIN	480	CFSM	.88	IN	11.94
WTR YR 1982	TOTAL	759799	MEAN	2082	MAX	23200	MIN	498	CFSM	1.00	IN	13.59

BLACK RIVER BASIN

05382000 BLACK RIVER NEAR GALESVILLE, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV , 1981											
17...	1100	718	125	6.8	6.0	3.5	11.0	92	190	280	56
JAN , 1982											
27...	1445	628	120	7.0	.0	4.0	--	--	E570	190	54
MAR											
31...	1445	5340	80	7.5	4.0	19	12.0	95	E2000	E2300	30
JUN											
09...	1030	823	125	7.9	19.5	4.9	8.1	92	230	510	53
JUL											
30...	1015	1670	85	7.5	21.5	12	7.5	88	E2100	K3400	36
AUG											
19...	1200	530	120	7.8	24.5	3.4	7.7	96	550	E74	56

DATE	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV , 1981											
17...	9.0	13	5.7	2.9	10	.2	1.9	47	9.4	4.2	<.1
JAN , 1982											
27...	10	13	5.3	3.2	11	.2	1.8	44	9.5	4.9	<.1
MAR											
31...	8.0	6.9	3.0	2.8	15	.2	4.0	22	8.5	5.9	<.1
JUN											
09...	9.0	13	5.1	2.9	10	.2	1.5	44	9.0	5.0	<.1
JUL											
30...	9.0	8.7	3.5	2.2	11	.2	1.9	27	9.0	3.8	.1
AUG											
19...	6.0	13	5.6	2.7	9	.2	1.7	50	7.0	4.3	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1981											
17...	11	100	77	.14	194	--	--	--	--	--	--
JAN , 1982											
27...	11	98	75	.13	166	.94	.110	.55	.120	.060	.050
MAR											
31...	8.1	83	53	.11	1200	.61	.230	1.60	.280	.100	.080
JUN											
09...	7.1	102	71	.14	227	.31	.050	.60	.160	.060	.050
JUL											
30...	8.0	84	53	.11	379	.52	.070	.80	.210	.120	.110
AUG											
19...	9.6	105	75	.14	150	.36	<.010	.40	.020	.060	.050

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).
E ESTIMATED.

BLACK RIVER BASIN
05382000 BLACK RIVER NEAR GALESVILLE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV , 1981											
17...	1100	718	1	0	1	<100	--	21	<1	--	4
MAR , 1982											
31...	1445	5340	<1	--	1	100	80	24	1	0	2
JUN											
09...	1030	823	1	0	1	<100	--	23	<1	--	<1
AUG											
19...	1200	530	1	0	1	100	80	23	3	1	2

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV , 1981											
17...	30	20	10	<1	--	<1	6	5	1	1100	740
MAR , 1982											
31...	70	60	10	6	0	6	29	25	4	1900	1500
JUN											
09...	<10	--	<10	2	--	<1	33	31	2	1400	940
AUG											
19...	10	--	<10	6	--	<1	5	1	4	870	440

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV , 1981										
17...	360	4	0	4	70	30	40	.1	--	<.1
MAR , 1982										
31...	370	19	11	8	110	80	30	.1	.0	.1
JUN										
09...	460	42	--	<1	140	120	22	.8	--	<.1
AUG										
19...	430	3	1	2	80	60	24	<.1	--	<.1

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981										
17...	2	--	<1	<1	<1	<1	<1	50	40	10
MAR , 1982										
31...	3	2	1	<1	<1	<1	1	60	30	28
JUN										
09...	8	3	5	<1	<1	<1	<1	40	40	5
AUG										
19...	3	0	3	<1	<1	<1	<1	30	20	8

BLACK RIVER BASIN

05382000 BLACK RIVER NEAR GALESVILLE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, DIS- SUS- PENDED (MG/L)	SEDI- MENT, DIS- SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1981							
17...	1100	718	6.0	125	13	25	48
JAN , 1982							
27...	1445	628	.0	120	20	34	87
MAR							
31...	1445	5340	4.0	80	108	1560	67
JUN							
09...	1030	823	19.5	125	31	69	92
JUL							
30...	1015	1670	21.5	85	42	189	90
AUG							
19...	1200	530	24.5	120	10	14	90

LA CROSSE RIVER BASIN

05382500 LITTLE LA CROSSE RIVER NEAR LEON, WI

LOCATION.--Lat 43°53'45", long 90°50'25", in NE 1/4 NW 1/4 sec.3, T.16 N., R.4 W., Monroe County, Hydrologic Unit 07040006, on left bank, 30 ft (9 m) upstream from a township road bridge, 1.1 mi (1.8 km) downstream from Sand Creek, 1.5 mi (2.4 km) northwest of Leon, and 4 mi (6 km) upstream from mouth.

DRAINAGE AREA.--77.4 mi² (200 km²).

PERIOD OF RECORD.--March 1934 to September 1961. Occasional low-flow measurements and annual maximum, water years 1962-78. October 1978 to October 1981 (discontinued as a continuous-record station; converted to a crest-stage partial-record operation).

GAGE.--Water-stage recorder. Datum of gage is 760.28 ft (231.733 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good except for winter records and periods of missing record, which are fair.

AVERAGE DISCHARGE.--30 years (1935-61, 1979-81) 48.3 ft³/s (1.367 m³/s) 8.49 in/yr (215 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,620 ft³/s (131 m³/s) Aug. 6, 1935, gage height, 14.43 ft (4.398 m); minimum, 14 ft³/s (0.396 m³/s) Feb. 25, 1935, caused by ice jam upstream from gage; minimum daily 18 ft³/s (0.510 m³/s) June 2, 3, 1934.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) July 18, gage height, 8.73 ft (2.66 m); minimum daily, 37 ft³/s (1.05 m³/s) Jan. 5.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	62	58	46	42	76	73	68	50	48	67	69
2	69	61	57	46	41	69	67	65	50	48	143	62
3	66	61	48	45	40	66	114	65	55	48	84	60
4	65	61	56	42	42	64	794	67	52	48	74	58
5	63	61	56	37	44	66	138	67	51	47	93	57
6	63	62	58	39	45	64	106	63	49	47	93	56
7	63	62	57	41	45	60	95	62	48	46	81	59
8	61	62	56	41	43	59	128	61	51	45	80	59
9	60	62	56	40	43	59	103	62	53	62	72	56
10	59	60	50	38	44	59	89	60	52	47	69	56
11	58	58	52	40	44	59	85	60	50	118	67	57
12	56	59	54	43	45	61	81	59	49	313	65	55
13	62	61	52	42	45	61	84	59	53	114	64	54
14	74	73	53	41	45	55	134	59	51	108	141	53
15	82	63	53	41	48	54	83	58	55	350	102	52
16	68	60	53	41	300	54	80	58	55	115	75	52
17	90	59	52	43	373	54	83	57	51	179	70	53
18	70	59	48	45	205	53	75	58	49	1120	67	53
19	66	58	44	46	107	53	79	57	49	158	64	53
20	65	58	46	46	86	53	76	56	49	124	62	52
21	63	59	48	44	77	52	72	55	50	110	61	54
22	61	59	48	43	350	52	75	54	58	101	60	55
23	58	59	49	42	285	52	83	56	52	94	58	53
24	83	58	48	42	168	52	80	63	62	90	58	78
25	110	55	46	45	131	52	73	57	53	84	59	65
26	80	56	46	45	96	57	71	56	51	80	63	74
27	70	56	48	44	87	59	69	54	49	77	64	66
28	64	57	48	43	129	64	68	53	49	76	69	60
29	67	58	48	42	---	77	70	53	51	74	69	59
30	64	59	48	41	---	84	73	52	50	71	67	59
31	64	---	48	43	---	74	---	51	---	70	80	---
TOTAL	2114	1798	1584	1317	3050	1874	3301	1825	1547	4112	2341	1749
MEAN	68.2	59.9	51.1	42.5	109	60.5	110	58.9	51.6	133	75.5	58.3
MAX	110	73	58	46	373	84	794	68	62	1120	143	78
MIN	56	55	44	37	40	52	67	51	48	45	58	52
CFSM	.89	.78	.66	.55	1.41	.79	1.43	.76	.67	1.73	.98	.76
IN.	1.02	.87	.76	.64	1.47	.90	1.59	.88	.75	1.98	1.13	.84
CAL YR 1980	TOTAL	27371	MEAN	74.8	MAX	1030	MIN	33	CFSM	.97	IN	13.21
WTR YR 1981	TOTAL	26612	MEAN	72.9	MAX	1120	MIN	37	CFSM	.95	IN	12.84

COON CREEK BASIN

05386500 COON CREEK AT COON VALLEY, WI

LOCATION.--Lat 43°42'17", long 91°01'06", in SE 1/4 NE 1/4 sec.7, T.14 N., R.5 W., Vernon County, Hydrologic Unit 07060001, on left bank approximately 300 ft (90 m) upstream from foot bridge across Coon Creek and 1,400 ft (43 m) upstream from U.S. Highways 14 and 61, in village park in Coon Valley.

DRAINAGE AREA.--78.3 mi² (203 km²).

PERIOD OF RECORD.--April 1934 to September 1940. December 1978 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 711.61 ft (216.899 m) National Geodetic Vertical Datum of 1929 (Carl C. Crane, Inc., bench mark). Prior to September 30, 1940, at site 700 ft (200 m) downstream and at datum 5.04 ft (1.536 m) higher.

REMARKS.--Records good except winter records, which are fair, and periods of missing record, which are poor.

AVERAGE DISCHARGE.--9 years (1935-40, 1979-81) 49.7 ft³/s (1.407 m³/s) 8.62 in/yr (219 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,110 ft³/s (230 m³/s) Aug. 6, 1935, gage height, 12.90 ft (3.932 m) site and datum then in use; minimum, 4.4 ft³/s (0.12 m³/s) Feb. 22, 1935, gage height, 0.65 ft (0.198 m) site and datum then in use, caused by ice jam upstream from gage; minimum daily discharge, 21 ft³/s (0.60 m³/s) Aug. 26, 1934.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge, 1,900 ft³/s (53.8 m³/s) Apr. 3, gage height, 10.17 ft (3.10 m); minimum daily, 40 ft³/s (1.13 m³/s) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	67	62	51	46	70	62	74	58	65	64	78
2	73	66	62	50	45	67	60	72	61	62	69	72
3	71	66	52	49	44	64	290	72	67	60	67	70
4	70	65	62	47	45	64	230	73	63	60	64	68
5	68	63	60	40	47	62	118	72	62	60	98	67
6	67	67	62	43	49	60	96	68	61	58	76	69
7	66	66	60	45	52	57	90	66	59	56	72	70
8	66	66	60	45	52	56	113	67	65	56	72	70
9	64	66	60	43	53	55	95	67	65	56	67	66
10	64	63	56	42	53	55	91	67	61	64	64	65
11	62	62	50	44	54	55	87	66	59	130	62	64
12	61	62	54	47	54	55	83	64	58	400	62	63
13	60	63	52	45	54	56	90	67	64	140	62	62
14	70	68	54	45	54	55	100	67	62	130	111	61
15	86	65	55	45	56	56	80	66	70	450	80	60
16	73	63	58	45	386	57	78	66	66	180	71	59
17	95	63	54	47	289	55	81	66	62	140	67	59
18	80	63	56	49	181	56	74	64	61	122	63	59
19	70	62	48	50	97	56	79	63	61	85	63	59
20	69	62	50	50	76	57	75	63	64	80	63	59
21	68	62	51	48	72	56	71	62	64	76	62	60
22	65	62	52	47	539	56	75	62	67	73	62	61
23	64	62	53	47	188	56	81	67	66	73	60	58
24	85	61	52	47	142	56	80	69	73	74	59	69
25	120	56	50	49	120	55	75	65	65	73	59	63
26	85	59	50	49	90	59	73	63	63	71	122	69
27	76	59	51	48	91	56	71	61	64	69	104	67
28	68	60	52	46	126	57	71	60	66	69	80	63
29	71	62	52	45	---	60	76	60	77	68	75	63
30	68	62	52	45	---	70	83	60	70	67	70	63
31	69	---	52	47	---	63	---	58	---	64	84	---
TOTAL	2248	1893	1694	1440	3155	1812	2828	2037	1924	3231	2254	1936
MEAN	72.5	63.1	54.6	46.5	113	58.5	94.3	65.7	64.1	104	72.7	64.5
MAX	120	68	62	51	539	70	290	74	77	450	122	78
MIN	60	56	48	40	44	55	60	58	58	56	59	58
CFSM	.94	.82	.71	.60	1.46	.76	1.22	.85	.83	1.35	.94	.84
IN.	1.08	.91	.82	.69	1.52	.87	1.36	.98	.93	1.56	1.09	.93
CAL YR 1980	TOTAL	26909	MEAN	73.5	MAX	620	MIN	40	CFSM	.95	IN	12.97
WTR YR 1981	TOTAL	26452	MEAN	72.5	MAX	539	MIN	40	CFSM	.94	IN	12.75

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MC GREGOR, IA

LOCATION.--Lat 43°01'29", long 91°10'21", in SE 1/4 SE 1/4 sec.22, T.95 N., R.3 W., Clayton County, Hydrologic Unit 07060001, on right bank in city park at east end of Main Street in Mc Gregor, 2.6 mi (4.2 km) upstream from Wisconsin River, 4.3 mi (6.9 km) downstream from Yellow River, and at mile 633.4 (1,019.1 km) upstream from Ohio River.

DRAINAGE AREA.--67,500 mi² (174,800 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1936 to current year.

REVISED RECORDS.--WDR IA-75-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 604.84 ft (184.355 m) National Geodetic Vertical Datum of 1929. Prior to June 1, 1937, and since June 2, 1939, auxiliary water-stage recorder; June 1, 1937, to June 1, 1939, auxiliary nonrecording gage 14.1 mi (22.7 km) upstream in tailwater of dam 9, at datum 5.30 ft (1.615 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Stage-discharge relation affected by backwater from Wisconsin River and Lock and Dam No. 10. Minor flow regulation caused by navigation dams.

COOPERATION.--Auxiliary gage-height and discharge data at Lock and Dam No. 9 furnished by Corps of Engineers.

AVERAGE DISCHARGE.--46 years, 33,920 ft³/s (960.6 m³/s), 6.82 in/yr (173 mm/yr), 24,570,000 acre-ft/yr (30,290 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 276,000 ft³/s (7,820 m³/s) Apr. 24, 1965; maximum gage height, 25.38 ft (7.736 m) Apr. 24, 1965; minimum daily discharge, 6,200 ft³/s (176 m³/s) Dec. 9, 1936; minimum gage height, -0.86 ft (-0.262 m) Aug. 18, 1936.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Maximum stage since at least 1828, that of Apr. 24, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 139,000 ft³/s (3,940 m³/s) Apr. 26; maximum gage height, 17.96 ft (5.474 m) Apr. 26; minimum daily discharge, 14,500 ft³/s (411 m³/s) Dec. 22; minimum gage height, 6.22 ft (1.896 m) Aug. 11.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20200	40600	30600	22800	17400	20800	67900	115000	83400	30600	27100	24900
2	17100	39600	31600	22600	17400	20500	68300	110000	80500	29500	26000	28800
3	16800	37800	30300	22400	17300	19600	75700	104000	77600	28500	25100	29900
4	18900	35900	29300	22000	17300	18500	80800	97800	74700	27800	26000	30600
5	23600	35400	28000	21300	17200	18500	91500	94400	70600	27600	26800	29100
6	28000	33500	25700	20500	17000	18400	98400	91000	66000	26400	26200	26500
7	31100	32600	23500	19500	16700	18400	104000	86000	65000	26000	26200	23500
8	31800	32000	22900	18500	16200	18500	110000	82900	64200	25400	24900	23400
9	31700	31800	23400	17500	15500	19000	114000	80500	59700	25000	21000	23700
10	32400	31200	24000	17500	15300	19600	118000	78400	55600	25700	16900	24600
11	32200	29600	23400	17500	15500	20000	118000	78700	52000	28400	15300	26100
12	32400	29500	22000	17600	15500	20800	119000	79200	49300	30900	15900	27400
13	31400	28100	21300	17600	15600	21200	117000	81800	46300	33500	17000	29400
14	31100	26200	20600	17600	15800	22000	114000	84200	44200	34100	19200	32500
15	32300	25900	20000	17700	16000	23600	110000	85700	43400	35100	20300	35700
16	31800	27800	18600	17600	16100	26000	107000	88900	41600	36700	20600	38800
17	31900	29100	18200	17500	17000	29500	105000	86700	38100	37300	20400	40400
18	35000	30000	16700	17500	17400	37000	102000	86700	35700	36900	20000	41900
19	36300	29500	15700	17400	17600	42000	102000	86300	35600	36900	18700	43000
20	37900	29700	15000	17300	19000	45500	105000	87400	35300	36800	17500	44100
21	40800	29100	14700	17200	19800	49000	108000	89600	35600	36400	17900	45100
22	41800	27200	14500	17200	19100	50000	116000	91000	35600	35900	17800	43500
23	43200	26100	15000	17200	19800	49500	126000	91000	35000	35000	16800	39200
24	44400	26300	15300	17200	20700	50200	134000	92000	34000	33700	17900	36100
25	45400	23100	15600	18200	21200	53000	137000	93200	33200	32700	20700	33900
26	46700	21900	16000	17500	20700	56200	139000	91800	32200	31300	22500	30700
27	46200	23000	17100	17400	20700	59900	138000	92200	31900	30800	22400	27600
28	43700	24200	18600	17400	20500	64600	132000	91200	32000	30700	23100	25800
29	40600	25800	21000	17400	---	67300	126000	90000	31300	29100	21900	25400
30	40500	28100	22100	17400	---	66800	120000	87500	30800	27800	21100	26500
31	40400	---	22600	17400	---	69200	---	85700	---	28000	22400	---
TOTAL	1057600	890600	653300	571400	495300	1115100	3303600	2780800	1450400	970500	655600	958100
MEAN	34120	29690	21070	18430	17690	35970	110100	89700	48350	31310	21150	31940
MAX	46700	40600	31600	22800	21200	69200	139000	115000	83400	37300	27100	45100
MIN	16800	21900	14500	17200	15300	18400	67900	78400	30800	25000	15300	23400
CFSM	.51	.44	.31	.27	.26	.53	1.63	1.33	.72	.46	.31	.47
IN.	.58	.49	.36	.31	.27	.61	1.82	1.53	.80	.53	.36	.53
CAL YR 1981	TOTAL	11981300	MEAN	32830	MAX	80700	MIN	13100	CFSM	.49	IN	6.60
WTR YR 1982	TOTAL	14902300	MEAN	40830	MAX	139000	MIN	14500	CFSM	.61	IN	8.21

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Samples collected from boat 1.5 mi (2.4 km) downstream from discharge station. Prior to April 1981, at Bridge on U.S. Highway 18, 1.2 mi (1.9 km) upstream from gage.

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: July 1975 to current year.

REMARKS.--Records of specific conductance are obtained from suspended-sediment samples at time of analysis.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 882 mg/l Mar. 21, 1982; minimum daily mean, 1 mg/l Dec. 23-25, 1976, Dec. 20, 28, 1977.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 166,000 tons (150,600 tonnes) Mar. 31, 1979; minimum daily, 31 tons (28 tonnes) Dec. 25, 1976.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 882 mg/l Mar. 21; minimum daily mean, 3 mg/l Jan. 21, 31, Feb. 12.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 150,000 tons (136,000 tonnes) Apr. 4; minimum daily, 126 tons (114 tonnes) Feb. 12.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	NUMBER OF SAM- PLING POINTS	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
APR , 1982												
27...	1700	140000	6	0	2	37	85	92	94	95	97	100

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DATE	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT , 1981				APR , 1982			
03...	16800	450	18.0	14...	114000	375	8.0
05...	23600	440	14.0	16...	107000	380	6.0
07...	31100	435	14.0	21...	108000	--	11.0
12...	32400	400	14.0	22...	116000	335	11.0
17...	31900	400	13.0	27...	138000	340	15.0
18...	35000	405	11.0	MAY			
24...	44400	420	6.0	01...	115000	345	16.0
28...	43700	400	6.0	05...	94400	340	18.0
29...	40600	380	7.0	07...	86000	360	19.0
NOV				13...	81800	335	20.0
02...	39600	380	10.0	15...	85700	330	22.0
05...	35400	380	10.0	21...	89600	340	18.0
09...	31800	360	6.0	24...	92000	345	15.0
11...	29600	370	4.0	27...	92200	360	18.0
14...	26200	385	6.0	30...	87500	380	18.0
16...	27800	395	9.5	JUNE			
17...	29100	380	--	03...	77600	385	20.0
27...	23000	440	--	05...	70600	435	20.0
DEC				09...	59700	440	20.0
05...	28000	450	--	11...	52000	460	22.0
08...	22900	440	--	17...	38100	470	18.0
12...	22000	440	--	19...	35600	480	18.0
15...	20000	450	--	22...	35600	470	18.0
19...	15700	440	--	26...	32200	475	22.0
22...	14500	450	--	JULY			
27...	17100	440	--	01...	30600	445	26.0
31...	22600	440	--	05...	27600	470	26.0
JAN , 1982				08...	25400	465	26.0
03...	22400	450	--	10...	25700	450	28.0
08...	18500	440	--	13...	33500	450	28.0
11...	17500	440	--	17...	37300	445	29.0
15...	17700	450	--	22...	35900	435	29.0
19...	17400	460	--	24...	33700	425	29.0
23...	17200	460	--	29...	29100	400	29.0
28...	17400	460	--	31...	28000	430	26.0
31...	17400	460	--	AUG			
FEB				04...	26000	410	28.0
03...	17300	465	--	06...	26200	430	28.0
07...	16700	470	--	09...	21000	--	26.0
12...	15500	475	--	14...	19200	--	28.0
17...	17000	490	--	18...	20000	430	26.0
22...	19100	460	--	21...	17900	430	26.0
28...	20500	445	--	25...	20700	--	26.5
MAR				28...	23100	450	--
05...	18500	420	--	29...	21900	--	29.0
10...	19600	415	--	SEPT			
15...	23600	410	--	02...	28800	430	24.0
18...	37000	390	--	03...	29900	--	26.0
21...	49000	415	--	07...	23500	410	25.0
25...	53000	510	--	10...	24600	415	22.0
27...	59900	520	--	13...	29400	400	17.0
31...	69200	500	--	17...	40400	340	16.0
APR				20...	44100	330	16.0
04...	80800	500	--	22...	43500	355	15.5
06...	98400	365	6.0	25...	33900	370	18.0
09...	114000	320	9.0	30...	26500	380	--

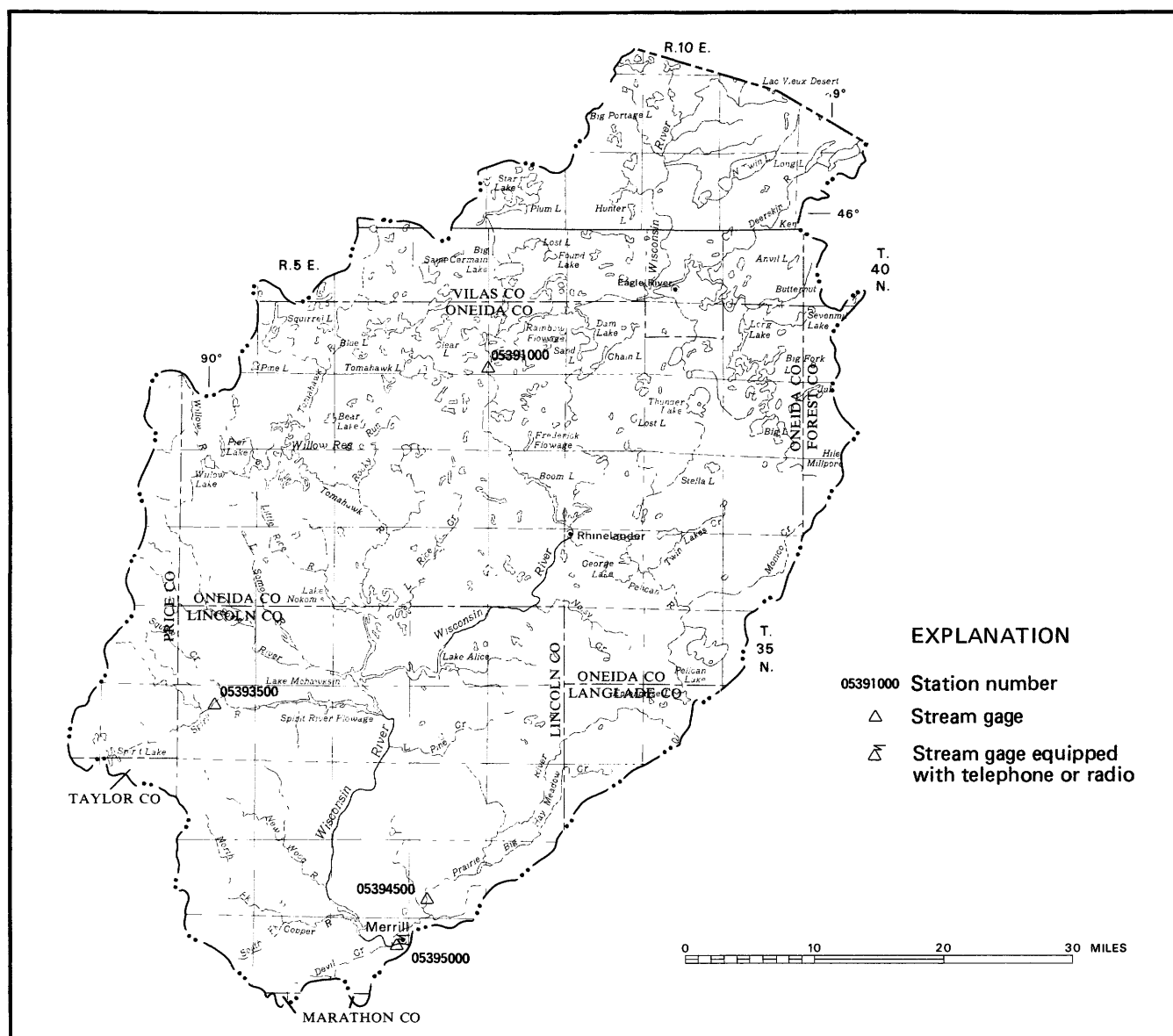
MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/DAY)	LOADS (MG/L)	MEAN CONCEN- TRATION (T/DAY)	LOADS (MG/L)	MEAN CONCEN- TRATION (T/DAY)	LOADS (MG/L)	MEAN CONCEN- TRATION (T/DAY)	LOADS (MG/L)	MEAN CONCEN- TRATION (T/DAY)	LOADS (MG/L)	MEAN CONCEN- TRATION (T/DAY)	LOADS (MG/L)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	59	3220	58	6360	68	5620	14	862	4	188	8	449
2	57	2630	50	5350	73	6230	15	915	5	235	9	498
3	57	2590	45	4590	54	4420	14	847	4	187	30	1590
4	57	2910	43	4170	24	1900	11	653	4	187	71	3550
5	66	4210	40	3820	11	832	8	460	5	232	120	5990
6	74	5590	38	3440	10	694	7	387	5	229	148	7350
7	68	5710	35	3080	7	444	7	369	6	271	151	7500
8	57	4890	42	3630	7	433	8	400	7	306	143	7140
9	48	4110	58	4980	6	379	13	614	7	293	133	6820
10	42	3670	63	5310	5	324	33	1560	5	207	121	6400
11	39	3390	61	4880	7	442	55	2600	4	167	114	6160
12	42	3670	46	3660	37	2200	60	2850	3	126	109	6120
13	39	3310	33	2500	79	4540	50	2380	4	168	107	6120
14	35	2940	23	1630	65	3620	33	1570	4	171	112	6650
15	36	3140	22	1540	27	1460	19	908	4	173	134	8540
16	41	3520	24	1800	22	1100	18	855	4	174	194	13600
17	53	4560	29	2280	21	1030	18	850	5	229	273	21700
18	85	8030	58	4700	20	902	18	850	6	282	362	36200
19	115	11300	94	7490	20	848	19	893	6	285	530	60100
20	125	12800	105	8420	20	810	15	701	7	359	797	97900
21	124	13700	99	7780	18	714	11	511	5	267	882	117000
22	108	12200	85	6240	14	548	7	325	4	206	808	109000
23	82	9560	69	4860	12	486	3	139	5	267	685	91600
24	51	6110	49	3480	11	454	4	186	5	279	550	74500
25	54	6620	36	2250	10	421	5	246	6	343	420	60100
26	62	7820	29	1710	9	389	7	331	7	391	400	60700
27	61	7610	19	1180	9	416	7	329	7	391	395	63900
28	51	6020	19	1240	10	502	6	282	8	443	375	65400
29	40	4380	26	1810	11	624	6	282	---	---	355	64500
30	42	4590	45	3410	12	716	4	188	---	---	336	60600
31	56	6110	---	---	13	793	3	141	---	---	316	59000
TOTAL	---	180910	---	117590	---	44291	---	24484	---	7056	---	1136677

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	293	53700	33	10200	56	12600	138	11400	97	7100	17	1140
2	272	50200	33	9800	68	14800	130	10400	88	6180	11	855
3	390	79700	32	8990	79	16600	119	9160	85	5760	12	969
4	688	150000	30	7920	78	15700	110	8260	106	7440	22	1820
5	372	91900	29	7390	75	14300	100	7450	213	15400	30	2360
6	71	18900	32	7860	72	12800	91	6490	293	20700	31	2220
7	61	17100	37	8590	66	11600	71	4980	285	20200	29	1840
8	52	15400	36	8060	60	10400	59	4050	263	17700	23	1450
9	42	12900	36	7820	55	8870	45	3040	240	13600	21	1340
10	38	12100	33	6990	52	7810	45	3120	204	9310	27	1790
11	34	10800	33	7010	48	6740	50	3830	190	7850	40	2820
12	30	9640	36	7700	47	6260	53	4420	219	9400	47	3480
13	27	8530	42	9280	47	5880	55	4970	258	11800	32	2540
14	23	7080	70	15900	47	5610	56	5160	288	14900	22	1930
15	45	13400	120	27800	59	6910	53	5020	308	16900	21	2020
16	115	33200	145	34800	62	6960	50	4950	316	17600	24	2510
17	111	31500	140	32800	53	5450	48	4830	312	17200	27	2950
18	69	19000	126	29500	45	4340	47	4680	296	16000	31	3510
19	48	13200	104	24200	48	4610	45	4480	250	12600	31	3600
20	39	11100	79	18600	62	5910	43	4270	187	8840	23	2740
21	47	13700	52	12600	76	7310	40	3930	123	5940	21	2560
22	93	29100	41	10100	100	9610	36	3490	84	4040	26	3050
23	171	58200	39	9580	100	9450	32	3020	58	2630	30	3180
24	209	75600	40	9940	97	8900	28	2550	42	2030	29	2830
25	185	68400	41	10300	90	8070	33	2910	30	1680	26	2380
26	120	45000	45	11200	86	7480	46	3890	28	1700	21	1740
27	51	19000	52	12900	85	7320	55	4570	28	1690	20	1490
28	34	12100	54	13300	121	10500	67	5550	28	1750	20	1390
29	33	11200	52	12600	148	12500	74	5810	26	1540	22	1510
30	33	10700	48	11300	143	11900	76	5700	24	1370	22	1570
31	---	---	48	11100	---	---	81	6120	21	1270	---	---
TOTAL	---	1002350	---	416130	---	277190	---	162500	---	282120	---	65584
TOTAL LOAD FOR YEAR:			3716882	TONS.								



Base from U. S. Geological Survey
State base map, 1968

UPPER WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05391000 WISCONSIN RIVER AT RAINBOW LAKE, NEAR LAKE TOMAHAWK, WI

LOCATION.--Lat 45°49'58", long 89°32'51", in S 1/2 SW 1/4 sec.30, T.39 N., R.8 E., Oneida County, Hydrologic Unit 07070001, on right bank 400 ft (122 m) upstream from Gilmore Creek, 0.3 mi (0.5 km) downstream from Rainbow Lake, and 2.5 mi (4.0 km) northeast of Lake Tomahawk. Records include flow of Gilmore Creek.

DRAINAGE AREA.--755 mi² (1,955 km²), includes that of Gilmore Creek.

PERIOD OF RECORD.--July 1936 to current year. Prior to October 1955, published as "at Rainbow Reservoir, near Lake Tomahawk."

REVISED RECORDS.--WSP 895: 1937(M). WSP 1508: 1944. WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,569.05 ft (478.246 m), revised, National Geodetic Vertical Datum of 1929 (levels by Wisconsin Valley Improvement Co.).

REMARKS.--Record good. Flow regulated by Rainbow Lake and 12 smaller reservoirs above station.

AVERAGE DISCHARGE.--46 years, 699 ft³/s (19.80 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft³/s (101 m³/s) Sept. 5, 1941, gage height, 7.59 ft (2.313 m); minimum, 17 ft³/s (0.48 m³/s) Oct. 10-12, 1940; minimum daily, 35 ft³/s (0.99 m³/s) Apr. 6, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) May 8, gage height, 4.48 ft (1.366 m); minimum daily, 173 ft³/s (4.90 m³/s) Apr. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 17-27, July 11-18, Sept. 6, 7, 13, 14, 15.)

0.9	155	3.0	845
1.1	195	4.0	1,320
1.3	245	5.0	1,830
2.0	455		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	592	634	738	760	682	254	882	640	472	890	606
2	455	589	639	740	754	719	195	864	614	478	820	628
3	479	592	640	740	749	742	209	715	657	471	759	621
4	527	625	641	736	749	724	219	597	676	463	670	626
5	541	653	645	741	743	710	216	571	674	474	648	552
6	552	654	649	734	743	699	226	587	673	486	665	435
7	527	656	682	732	734	683	232	733	681	487	671	403
8	616	663	711	737	728	706	232	1140	681	474	681	494
9	652	662	712	744	724	714	235	1430	681	491	684	599
10	617	645	712	749	722	700	239	1340	644	497	691	634
11	560	635	712	740	713	685	242	1470	615	402	690	587
12	540	629	713	737	738	711	246	1540	618	334	687	511
13	607	624	712	738	757	729	196	1540	614	314	688	336
14	597	624	712	746	750	708	173	1530	613	315	677	351
15	508	623	712	748	722	694	177	1420	574	416	673	457
16	451	625	712	762	718	683	195	1260	555	367	675	463
17	539	631	712	763	714	672	242	1310	556	309	673	475
18	475	632	710	754	707	699	249	1370	554	465	670	439
19	521	633	708	748	722	705	263	1210	555	764	666	528
20	575	635	712	745	744	692	290	1130	552	886	631	973
21	579	633	712	743	735	693	280	1030	552	764	635	1120
22	581	632	709	742	729	699	295	899	553	672	660	1110
23	583	623	711	740	718	678	287	781	551	674	668	973
24	591	621	710	740	716	679	275	694	551	673	665	1030
25	592	627	708	738	706	672	275	665	533	672	663	1010
26	595	627	708	737	697	678	283	664	522	678	649	951
27	595	632	712	730	693	698	304	671	551	682	511	972
28	594	632	707	710	691	667	408	669	564	681	506	1030
29	595	631	706	725	---	665	646	677	503	758	566	1200
30	596	632	721	759	---	685	807	684	464	1010	579	1230
31	596	---	736	759	---	484	---	685	---	998	576	---
TOTAL	17282	18912	21620	22995	20376	21355	8390	30758	17771	17627	20587	21344
MEAN	557	630	697	742	727	689	280	992	592	569	664	711
MAX	652	663	736	763	760	742	807	1540	681	1010	890	1230
MIN	446	589	634	710	691	484	173	571	464	309	506	336
CAL YR 1981	TOTAL	293574	MEAN	804	MAX	2470	MIN	247				
WTR YR 1982	TOTAL	239017	MEAN	655	MAX	1540	MIN	173				

WISCONSIN RIVER BASIN

05393500 SPIRIT RIVER AT SPIRIT FALLS, WI

LOCATION.--Lat 45°26'58", long 89°58'47", in NW 1/4 sec.10, T.34 N., R.4 E., Lincoln County, Hydrologic Unit 07070001, near center of span on downstream side of bridge 0.2 mi (0.3 km) south of Spirit Falls, 0.6 mi (1.0 km) upstream from Squaw Creek, and 2.0 mi (3.2 km) downstream from Richie Creek.

DRAINAGE AREA.--81.6 mi² (211.3 km²).

PERIOD OF RECORD.--April 1942 to current year.

REVISED RECORDS.--WSP 1308: 1943(M), 1948-50(M). WDR WI-77-1: Drainage area.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 1,461.63 ft (445.505 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--40 years, 85.3 ft³/s (2.416 m³/s), 14.20 in/yr (361 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,180 ft³/s (118 m³/s) Sept. 18, 1942, gage height, 10.00 ft (3.048 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s); minimum observed, 1.0 ft³/s (0.028 m³/s) Aug. 11, 1964, gage height, 0.85 ft (0.259 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) Apr. 17, gage height, 6.59 ft (2.009 m); minimum daily, 8.3 ft³/s (0.235 m³/s) Aug. 18.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Apr. 16.)

1.2	6.9	2.5	112
1.3	9.7	3.0	200
1.5	18	4.0	470
1.8	36	5.0	870
2.1	64	6.0	1,400
		7.0	2,160

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	32	21	17	16	17	130	186	73	28	32	23
2	58	32	22	17	16	17	200	149	59	21	28	98
3	55	30	21	17	16	17	440	136	43	20	26	109
4	58	29	21	17	16	17	740	105	38	22	24	73
5	68	26	21	17	16	17	940	175	32	19	20	49
6	70	25	21	17	16	17	700	401	27	17	18	74
7	69	24	21	17	16	17	560	732	25	20	17	50
8	58	25	21	17	16	17	460	485	24	18	16	46
9	50	24	20	17	16	17	380	314	22	17	14	39
10	45	22	20	17	16	18	340	380	24	58	14	31
11	41	21	20	17	16	18	320	298	23	338	13	38
12	39	20	19	17	16	18	340	249	22	214	12	42
13	33	18	19	17	16	19	380	252	17	136	11	446
14	39	18	20	17	16	20	450	338	16	126	9.7	532
15	76	18	20	17	16	21	660	256	32	104	9.1	377
16	62	18	19	17	16	22	1200	220	25	249	9.1	338
17	58	22	19	17	17	23	1680	182	30	252	8.9	247
18	101	22	19	17	17	24	1420	200	42	434	8.3	204
19	81	22	19	16	18	25	1250	184	31	212	9.4	158
20	90	23	18	16	18	26	1140	160	25	115	8.9	130
21	87	22	18	16	19	27	640	126	22	80	11	97
22	68	21	18	16	18	29	600	108	26	63	9.7	85
23	58	21	18	16	18	31	636	81	23	57	9.1	71
24	48	20	18	16	18	34	640	76	16	51	9.1	85
25	44	20	18	16	18	37	612	61	14	40	20	79
26	43	20	18	16	17	40	668	52	14	34	18	68
27	42	20	18	16	17	44	644	47	18	28	24	60
28	35	20	18	16	17	49	576	44	11	26	16	53
29	36	20	18	16	---	56	323	36	34	22	22	47
30	36	20	18	16	---	68	264	32	44	64	27	82
31	34	---	18	16	---	80	---	34	---	43	24	---
TOTAL	1728	675	599	514	468	882	19333	6099	852	2928	498.3	3831
MEAN	55.7	22.5	19.3	16.6	16.7	28.5	644	197	28.4	94.5	16.1	128
MAX	101	32	22	17	19	80	1680	732	73	434	32	532
MIN	33	18	18	16	16	17	130	32	11	17	8.3	23
CFSM	.68	.28	.24	.20	.21	.35	7.89	2.41	.35	1.16	.20	1.57
IN.	.79	.31	.27	.23	.21	.40	8.81	2.78	.39	1.33	.23	1.75
CAL YR 1981	TOTAL	30753.8	MEAN	84.3	MAX	1490	MIN	7.8	CFSM	1.03	IN	14.02
WTR YR 1982	TOTAL	38407.3	MEAN	105	MAX	1680	MIN	8.3	CFSM	1.29	IN	17.51

WISCONSIN RIVER BASIN

05394500 PRAIRIE RIVER NEAR MERRILL, WI

LOCATION.--Lat 45°14'09", long 89°38'59", on line between secs.20 and 29, T.32 N., R.7 E., Lincoln County, Hydrologic Unit 07070002, on left bank 40 ft (12 m) upstream from bridge on County Trunk Highway C, 1.5 mi (2.4 km) upstream from Meadow Creek, 4.5 mi (7.2 km) northeast of Merrill, and 8.0 mi (12.9 km) upstream from mouth.

DRAINAGE AREA.--184 mi² (477 km²).

PERIOD OF RECORD.--January 1914 to September 1931, August 1939 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1915-17(M), 1919-21(M), 1923-31(M), 1942-43(M), 1945(M), 1948-50(M). WDR WI-77-1: Drainage area. WDR WI-79-1: 1972.

GAGE.--Water-stage recorder. Datum of gage is 1,297.22 ft (395.393 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 9, 1968, nonrecording gage 40 ft (12 m) downstream at same datum.

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

AVERAGE DISCHARGE.--60 years (1914-31, 1939-82), 180 ft³/s (5.098 m³/s), 13.28 in/yr (337 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft³/s (164 m³/s) Aug. 31, 1941, gage height, 9.45 ft (2.880 m), from flood marks, based on rating curve extended above 2,200 ft³/s (62.3 m³/s); minimum observed, 34 ft³/s (0.96 m³/s) Oct. 26, 1947, gage height, 1.39 ft (0.424 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 710 ft³/s (20.1 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 3	1300	806	22.8	Apr. 17	2400	*1,370	*5.53
minimum daily, 70 ft ³ /s (1.98 m ³ /s) Feb. 6-9.							

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-19, 21-24, and Dec. 26 to Mar. 28.)

1.9	62	4.0	630
2.1	90	5.0	1,070
2.4	141	6.0	1,650

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168	119	116	88	72	78	541	252	102	101	94	105
2	183	123	108	84	72	76	536	240	94	90	92	139
3	168	117	105	88	72	74	703	212	91	86	89	162
4	166	109	100	86	72	74	657	189	87	95	90	152
5	175	106	106	84	72	74	629	204	88	86	87	150
6	178	108	98	86	70	72	526	476	85	83	85	166
7	173	108	104	90	70	72	457	643	86	84	84	152
8	155	116	103	86	70	72	397	589	86	81	84	142
9	141	106	89	84	70	72	357	498	89	81	81	126
10	132	103	87	84	72	78	355	458	103	82	81	118
11	124	99	88	82	72	90	324	386	96	115	79	119
12	144	102	90	80	72	92	363	318	91	161	77	117
13	144	112	92	78	72	94	451	341	86	143	75	198
14	138	105	86	76	72	88	536	360	94	121	74	314
15	158	100	82	76	72	90	658	307	148	117	74	391
16	160	100	84	76	72	94	846	269	149	232	75	369
17	154	100	82	76	74	100	1210	260	153	283	74	332
18	211	104	82	76	74	96	1270	265	142	426	72	306
19	241	110	78	74	74	90	1010	259	121	405	80	274
20	202	103	75	74	76	88	806	220	115	295	80	237
21	178	111	80	74	76	88	614	184	114	198	75	197
22	158	94	86	74	78	90	540	162	108	149	76	169
23	136	104	92	74	78	92	498	148	113	127	76	159
24	135	108	94	74	78	96	456	137	112	112	84	198
25	128	99	88	74	76	100	434	123	120	104	89	202
26	131	106	90	74	76	98	465	113	116	97	88	183
27	124	108	92	72	76	98	436	117	101	96	96	181
28	125	104	92	72	78	100	376	106	94	93	96	156
29	127	104	86	72	---	108	315	103	109	94	103	149
30	127	102	84	72	---	146	272	100	113	101	97	190
31	124	---	92	72	---	329	---	100	---	97	90	---
TOTAL	4808	3190	2831	2432	2058	3009	17038	8139	3206	4435	2597	5853
MEAN	155	106	91.3	78.5	73.5	97.1	568	263	107	143	83.8	195
MAX	241	123	116	90	78	329	1270	643	153	426	103	391
MIN	124	94	75	72	70	72	272	100	85	81	72	105
CFSM	.84	.58	.50	.43	.40	.53	3.09	1.43	.58	.78	.46	1.06
IN.	.97	.64	.57	.49	.42	.61	3.44	1.65	.65	.90	.53	1.18
CAL YR 1981	TOTAL	59297	MEAN 162	MAX 1040	MIN 60	CFSM .88	IN 11.99					
WTR YR 1982	TOTAL	59596	MEAN 163	MAX 1270	MIN 70	CFSM .89	IN 12.05					

WISCONSIN RIVER BASIN

05395000 WISCONSIN RIVER AT MERRILL, WI

LOCATION.--Lat 45°10'41", long 89°40'52", on line between secs.12 and 13, T.31 N., R.6 E., Lincoln County, Hydrologic Unit 07070002, on left bank 300 ft (91 m) downstream from U.S. Highway 51 bridge at east end of Merrill, and 0.5 mi (0.8 km) downstream from Prairie River.

DRAINAGE AREA.--2,760 mi² (7,148 km²).

PERIOD OF RECORD.--November 1902 to current year.

REVISED RECORDS.--WSP 1308: 1904-7, 1909-11, 1913. WSP 1508: 1908, 1915-16(M), 1917, 1920-21(M), 1925(M), 1930, 1935-36. WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,228.85 ft (374.553 m) National Geodetic Vertical Datum of 1929. Prior to June 18, 1903, nonrecording gage at different datum. June 18, 1903, to Sept. 10, 1914, nonrecording gage at present datum.

REMARKS.--Records good. Flow regulated by 20 reservoirs and 9 powerplants above station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--79 years, 2,673 ft³/s (75.70 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,400 ft³/s (1,400 m³/s) Aug. 31, 1941, gage height, 18.26 ft (5.566 m) from rating curve extended above 20,000 ft³/s (566 m³/s); minimum, about 90 ft³/s (2.55 m³/s) Sept. 26, 1908, gage height, 2.45 ft (0.747 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,700 ft³/s (473 m³/s) Apr. 18, gage height, 11.27 ft (3.435 m); minimum daily, 1,270 ft³/s (36.0 m³/s) July 4.

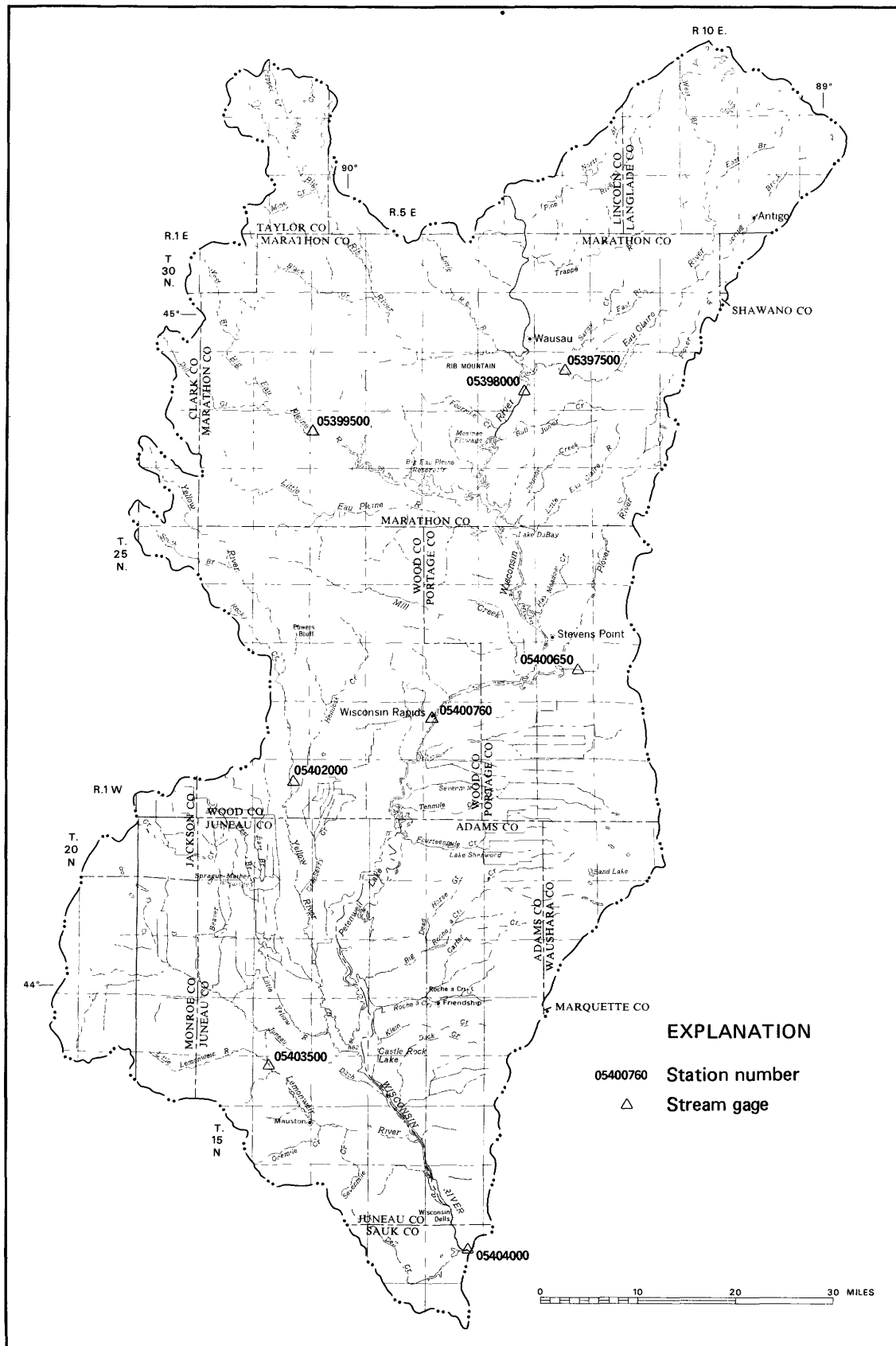
RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Mar. 27.)

4.0	1,040	8.0	7,640
5.0	2,120	10.0	12,900
6.0	3,640	12.0	19,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2310	1650	2450	1800	1600	1800	5120	3490	2230	1420	1580	1800
2	2180	1720	1890	1700	1900	1700	5060	3470	2020	1580	2350	2190
3	1570	1860	1400	1500	1800	1600	7500	3510	1940	1610	1770	2080
4	1890	1820	1900	2000	1800	1600	5940	2810	1840	1270	1820	1970
5	1930	1900	2000	1900	1700	1700	6200	2710	1950	1470	1790	1940
6	2670	1900	1800	1900	1900	1500	5260	5380	1720	1780	1840	2260
7	1700	1820	1800	1900	1600	1400	5160	8140	1880	1620	1740	1860
8	1830	1690	1900	1800	2000	1500	4730	7440	1810	1690	1470	1620
9	2250	1810	1900	1600	1800	1700	4630	5770	1740	1450	1990	1880
10	1890	1930	1800	1500	1800	1600	4540	6480	1900	1700	1620	1920
11	1780	1800	1800	1900	1800	1600	3970	5950	1810	1950	1710	1840
12	1800	1580	1800	2000	1800	1700	4440	6270	1700	2370	1660	1800
13	1820	1880	1900	1900	1800	1600	4810	5650	1720	2020	1640	3110
14	1940	1960	1900	1700	1600	1500	5860	6460	1840	1870	1780	5360
15	2190	1730	1900	1800	1800	1800	7940	5700	2240	1620	1630	4600
16	1980	1790	1900	1900	1800	1700	10100	5460	1640	2510	1950	4100
17	1960	1820	1900	1600	1700	1600	14200	4780	2030	3360	1820	4000
18	2190	1760	1800	1700	1700	1600	15500	4750	1980	4300	1810	3900
19	1980	1970	1700	1800	1800	1600	11600	4480	1790	3550	1900	3600
20	2120	1940	1700	1700	1600	1600	10300	4760	1550	2680	1840	2600
21	1980	1900	1600	1800	1700	1700	6650	3790	1720	2440	1730	2400
22	1730	1510	1600	1800	1900	1800	6100	3410	1860	2390	1540	2900
23	2010	1830	1700	2100	1800	1700	5980	3070	1730	2140	1810	3400
24	1890	1860	1800	2000	1700	1600	5580	2270	1940	1650	1760	3200
25	1730	1850	1800	1800	1700	1600	5710	2380	1810	1720	2010	2900
26	1690	1900	1800	1900	1700	1700	5890	2160	1650	1910	1840	2600
27	1950	1690	1800	1900	1600	1700	5750	1930	1420	1790	2300	2500
28	2170	1800	1800	1900	1400	1620	4620	2060	1920	1910	1600	2500
29	2070	1720	1800	1800	---	2020	3760	1880	1880	1920	1800	2400
30	1550	1920	1900	2000	---	2430	3850	1860	1750	2130	2260	2300
31	2000	---	1900	1700	---	4170	---	1820	---	1730	1840	---
TOTAL	60750	54310	56640	56300	48800	54440	196750	130090	55010	63550	56200	81530
MEAN	1960	1810	1827	1816	1743	1756	6558	4196	1834	2050	1813	2718
MAX	2670	1970	2450	2100	2000	4170	15500	8140	2240	4300	2350	5360
MIN	1550	1510	1400	1500	1400	1400	3760	1820	1420	1270	1470	1620

CAL YR 1981 TOTAL 1020740 MEAN 2797 MAX 19000 MIN 1400
WTR YR 1982 TOTAL 914370 MEAN 2505 MAX 15500 MIN 1270

NOTE.--No gage-height record Dec. 4 to Jan. 5 and Sept. 15-30.



Base from U.S. Geological Survey
 State base map, 1988

CENTRAL WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05397500 EAU CLAIRE RIVER AT KELLY, WI

LOCATION.--Lat 44°55'06", long 89°33'00", on line between secs.9 and 10, T.28 N., R.8 E., Marathon County, Hydrologic Unit 07070002, on right bank 50 ft (15 m) downstream from County Highway SS bridge, 0.7 mi (1.1 km) northeast of Kelly, 1.3 mi (2.1 km) upstream from Big Sandy Creek, 4.5 mi (7.2 km) upstream from mouth, and 5.0 mi (8.0 km) southeast of Wausau.

DRAINAGE AREA.--375 mi² (971 km²).

PERIOD OF RECORD.--January 1914 to November 1926, August 1939 to current year.

REVISED RECORDS.--WSP 1508: 1915, 1916-17(M), 1919-26(M), 1940(M), 1945(M), 1950(M). WDR WI-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,177.88 ft (359.018 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 17, 1953, nonrecording gage at same site at datum 1.00 ft (0.30 m) higher.

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

AVERAGE DISCHARGE.--55 years, 249 ft³/s (7.052 m³/s), 9.02 in/yr (229 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,300 ft³/s (235 m³/s) Aug. 21, 1926, gage height, 8.4 ft (2.56 m) from graph based on gage readings, from rating curve extended above 6,000 ft³/s (170 m³/s); maximum gage height, 9.45 ft (2.880 m) Mar. 24, 1979, ice jam; minimum observed, 8.0 ft³/s (0.23 m³/s) July 17, 1944, gage height, 0.17 ft (0.052 m), probably result of temporary regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) Apr. 16, gage height, 4.80 ft (1.463 m); maximum gage height, 5.30 ft (1.615 m) Apr. 4, ice jam; minimum daily discharge, 62 ft³/s (1.76 m³/s) Feb. 9-20.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Apr. 16.)

0.8	61	2.0	397
0.9	74	3.0	880
1.0	87	4.0	1,440
1.2	122	5.0	2,060
1.5	207		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	142	94	70	64	66	680	309	120	135	110	104
2	175	135	96	70	64	66	640	284	117	112	103	103
3	156	133	100	68	64	66	900	259	110	102	99	109
4	145	127	96	68	64	66	840	241	105	99	102	120
5	151	125	92	68	64	64	780	249	101	97	108	115
6	180	122	92	68	64	64	660	1140	99	95	94	147
7	192	120	90	68	64	64	560	978	97	98	90	166
8	175	122	86	68	64	66	500	701	96	96	90	158
9	152	116	86	68	62	68	440	544	99	92	86	132
10	139	111	84	68	62	70	400	439	101	99	85	118
11	131	108	82	68	62	72	360	403	102	192	83	111
12	125	107	80	68	62	76	410	358	107	268	81	108
13	118	106	80	68	62	78	540	327	99	244	79	116
14	134	107	80	68	62	84	740	315	104	225	79	140
15	216	105	78	66	62	90	900	293	170	160	79	262
16	211	105	78	66	62	94	1600	284	205	663	79	320
17	221	105	78	66	62	100	1860	261	179	460	77	318
18	456	103	76	66	62	110	1810	337	165	393	76	299
19	441	108	74	66	62	120	1510	335	150	448	78	278
20	350	114	72	66	62	130	1040	278	140	399	77	258
21	293	106	72	66	64	140	852	234	143	269	75	224
22	251	94	70	66	66	160	703	201	155	201	74	198
23	216	100	70	66	66	170	628	182	142	166	76	179
24	195	110	70	66	68	190	544	168	132	143	81	211
25	181	110	70	66	66	210	494	157	258	129	86	238
26	175	100	70	66	66	240	558	147	181	118	91	225
27	172	100	70	66	66	260	542	137	127	117	100	196
28	165	110	70	66	66	290	468	132	110	107	105	173
29	157	100	70	66	---	320	395	128	179	103	114	160
30	150	98	70	66	---	360	343	123	181	112	125	241
31	144	---	70	66	---	450	---	121	---	118	105	---
TOTAL	6117	3349	2466	2078	1784	4404	22697	10065	4074	6060	2787	5527
MEAN	197	112	79.5	67.0	63.7	142	757	325	136	195	89.9	184
MAX	456	142	100	70	68	450	1860	1140	258	663	125	320
MIN	118	94	70	66	62	64	343	121	96	92	74	103
CFSM	.53	.30	.21	.18	.17	.38	2.02	.87	.36	.52	.24	.49
IN.	.61	.33	.24	.21	.18	.44	2.25	1.00	.40	.60	.28	.55

CAL YR 1981 TOTAL 78805 MEAN 216 MAX 2180 MIN 62 CFSM .58 IN 7.82
WTR YR 1982 TOTAL 71408 MEAN 196 MAX 1860 MIN 62 CFSM .52 IN 7.08

Note.--No gage-height record Jan. 9 to Mar. 23.

WISCONSIN RIVER BASIN

05398000 WISCONSIN RIVER AT ROTHSCHILD, WI

LOCATION.--Lat 44°53'09", long 89°38'05", in sec.26, T.28 N., R.7 E., Marathon County, Hydrologic Unit 07070002, on left bank at Rothschild, 0.5 mi (0.8 km) downstream from Rothschild Dam, 1.7 mi (2.7 km) north of bridge on U.S. Highway 51, 2.0 mi (3.2 km) downstream from Eau Claire River, and 5.0 mi (8.0 km) upstream from Black Creek.

DRAINAGE AREA.--4,020 mi² (10,412 km²).

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,125.86 ft (343.162 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at datum 10.00 ft (3.048 m) higher. Auxiliary water-stage recorder in Mosinee Pond 8 mi (12.9 km) downstream. Prior to July 23, 1964, nonrecording auxiliary gage at same site and datum, read hourly.

REMARKS.--Records good. Flow regulated by 20 reservoirs and 12 powerplants above station.

AVERAGE DISCHARGE.--38 years, 3,476 ft³/s (98.44 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft³/s (1,390 m³/s) Apr. 12, 1965, Mar. 31, 1967, gage height, 18.46 ft (5.627 m), datum then in use; minimum daily, 670 ft³/s (19.0 m³/s) Dec. 9, 1976.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of Sept. 1, 1941, reached stage of 22.3 ft (6.80 m), datum then in use, from tailwater data at Rothschild dam, discharge, 75,000 ft³/s (2,120 m³/s) from rating curve extended above 45,000 ft³/s (1,270 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,800 ft³/s (816 m³/s) Apr. 18, gage height, 23.94 ft (7.297 m); minimum daily, 1,340 ft³/s (37.9 m³/s) Feb. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4210	2460	2930	1900	1800	1670	20100	4850	2670	2210	1490	2390
2	3940	1980	2610	1800	2100	2000	16100	4730	2500	1980	2670	2680
3	2960	2360	2090	1500	2000	1800	18200	4690	2180	2130	2200	2850
4	2160	2340	1940	1600	2100	1800	22200	4450	2420	1420	2190	2290
5	3210	2350	2230	2100	1800	1800	15100	3770	2390	1520	2020	2640
6	3950	2310	2030	2200	1700	1600	11400	8310	1840	1910	2090	2920
7	3150	2230	2190	2100	1500	1440	9160	13500	2250	2230	1800	2850
8	2790	2210	2200	2100	1900	1530	8090	10800	2070	2050	1470	2280
9	2700	2080	2320	2100	2200	1800	6570	8210	2200	1840	1800	2260
10	2820	2310	1890	1900	2100	1800	7480	8980	2480	1570	2020	2510
11	2180	2190	1940	1700	1900	1700	6650	7750	2230	3530	1620	2290
12	2240	2070	1970	2200	1900	1800	7490	7750	1770	3390	1850	2020
13	2270	1930	2000	2300	2000	1700	9640	7400	1830	3270	1750	3200
14	2540	2290	2220	2000	1780	1430	11800	8470	2220	2810	1610	8900
15	3120	2160	1900	2000	1900	1970	13600	7330	2890	2430	1360	9170
16	3310	1980	1770	2100	2000	2100	17100	7360	2770	3100	1990	7240
17	3080	2250	1990	1600	2000	1850	24200	6960	2750	5680	2270	6620
18	4430	2380	1700	1700	1900	1790	26500	6990	2640	5950	1910	6150
19	4840	2220	1820	2000	2000	1660	19700	6980	2380	4970	2280	5580
20	4220	2370	1450	2000	1800	1690	15900	6390	1900	4070	1980	4570
21	3490	2310	1710	1900	1670	1590	11600	5340	1930	3500	1860	3590
22	2980	1940	2100	2000	2100	2020	9650	4420	2670	3240	1650	3600
23	2710	1790	1980	2000	2000	2180	9000	4150	2180	2940	2040	4240
24	2780	2190	1640	2000	2000	2190	8530	3260	2540	2250	2280	4740
25	2530	2240	1580	1900	1860	2480	7780	3100	3120	1630	2330	4500
26	2440	2270	1800	2300	1730	2460	8260	3020	2670	2170	2150	3800
27	2520	2290	1720	2400	1550	2270	8370	2630	1750	2340	2820	3700
28	2850	2260	2100	2200	1340	2430	7000	2450	2120	2250	2280	3500
29	2690	2070	2050	2000	---	2560	5890	2530	2940	2320	2030	3500
30	2380	2200	2000	2000	---	4140	5660	2190	2880	2340	3300	3600
31	2310	---	2100	1800	---	13700	---	2340	---	2320	2580	---
TOTAL	93800	66030	61970	61400	52630	72950	368720	181100	71180	85360	63690	120180
MEAN	3026	2201	1999	1981	1880	2353	12290	5842	2373	2754	2055	4006
MAX	4840	2460	2930	2400	2200	13700	26500	13500	3120	5950	3300	9170
MIN	2160	1790	1450	1500	1340	1430	5660	2190	1750	1420	1360	2020
CAL YR 1981	TOTAL	1349720	MEAN	3698	MAX	21500	MIN	1450				
WTR YR 1982	TOTAL	1299010	MEAN	3559	MAX	26500	MIN	1340				

WISCONSIN RIVER BASIN

05399500 BIG EAU PLEINE RIVER NEAR STRATFORD, WI

LOCATION.--Lat 44°49'19", long 90°04'46", on line between sec.13, T.27 N., R.3 E., and sec.18, T.27 N., R.4 E., Marathon County, Hydrologic Unit 07070002, on left bank 15 ft (4.6 m) upstream from bridge on State Highway 97, 1.0 mi (1.6 km) north of Stratford, and 1.4 mi (2.3 km) downstream from small tributary.

DRAINAGE AREA.--224 mi² (580 km²).

PERIOD OF RECORD.--July 1914 to December 1925, April 1937 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1917, 1920-22, 1926, 1946, 1948, 1950. WSP 1508: 1915-25(M), 1937, 1946(M), 1948(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,154.24 ft (351.812 m) National Geodetic Vertical Datum of 1929. July 24, 1914, to Dec. 31, 1925, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum. Apr. 30, 1937, to Sept. 15, 1938, nonrecording gage at present site and datum.

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

AVERAGE DISCHARGE.--56 years (1914-25, 1937-82), 174 ft³/s (4.928 m³/s), 10.55 in/yr (268 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s (1,160 m³/s) Sept. 9, 1938, gage height, 24.5 ft (7.47 m), from floodmarks, based on rating curve extended above 24,000 ft³/s (680 m³/s); no flow Aug. 17, 1947, Jan. 22 to Feb. 5, 1961.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of June 5, 1914, reached a stage of 20.7 ft (6.31 m), from floodmarks; discharge, 40,000 ft³/s (1,130 m³/s), former site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (71 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 31	--	ice jam	a*16.60 5.060	Apr. 3	1115	*10,400 295	16.40 4.999

minimum discharge, 2.9 ft³/s (0.082 m³/s), part of each day, Aug. 15, 17.

a Approximately.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Rate of change in stage used as factor, Oct. 4, 14, 15, 17-19, Apr. 3, 12, 14, 16, 18, May 6-8, Sept. 15, 16; stage-discharge relation affected by ice Nov. 21 to Apr. 2.)

2.3	1.5	5.0	383
2.4	3.8	6.0	670
2.5	7.7	8.0	1,540
2.7	18	10.0	2,840
3.0	41	12.0	4,630
3.5	93	15.0	8,280
4.0	165		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570	55	35	13	12	15	2100	59	25	41	40	99
2	320	51	36	13	12	15	1900	53	24	30	26	113
3	187	47	32	13	12	15	7070	47	21	23	19	123
4	407	44	30	13	12	15	1940	41	18	19	16	75
5	516	43	29	13	12	15	990	64	16	15	13	53
6	412	41	30	13	12	15	550	805	15	13	10	56
7	272	38	31	13	12	15	371	1310	13	16	9.3	96
8	167	36	27	13	12	14	324	490	12	13	11	63
9	118	33	25	13	12	15	346	273	12	11	8.7	50
10	93	30	23	13	12	15	522	209	13	20	7.0	43
11	79	29	22	13	12	16	403	184	11	300	5.9	38
12	68	28	21	13	12	16	698	131	9.5	111	4.8	36
13	59	28	20	13	12	18	1520	177	8.2	70	4.4	300
14	379	27	19	13	12	21	846	367	8.6	284	4.1	1600
15	539	28	18	13	12	26	814	233	22	75	4.1	1010
16	301	30	18	13	13	37	1360	144	15	229	3.4	653
17	461	31	17	13	13	50	2090	129	50	144	3.2	432
18	1120	31	17	13	13	70	928	411	33	97	4.1	388
19	664	37	17	13	14	100	496	346	19	67	15	228
20	371	40	16	13	14	150	463	163	20	46	17	144
21	229	38	16	13	15	180	505	98	20	34	6.9	101
22	159	32	16	13	16	160	429	70	20	29	5.5	73
23	116	29	15	13	17	180	280	55	17	23	4.8	68
24	90	26	15	13	17	280	188	46	15	18	6.3	97
25	81	25	15	13	16	400	138	36	24	15	12	125
26	81	29	15	12	16	350	175	32	25	14	15	101
27	77	42	15	12	15	340	137	29	23	14	53	72
28	72	37	14	12	16	450	99	28	22	12	43	60
29	66	34	14	12	---	600	77	26	46	10	92	57
30	62	33	14	12	---	1400	67	24	72	13	292	455
31	58	---	14	12	---	2500	---	23	---	16	163	---
TOTAL	8194	1052	646	397	375	7493	27826	6103	649.3	1822	919.5	6809
MEAN	264	35.1	20.8	12.8	13.4	242	928	197	21.6	58.8	29.7	227
MAX	1120	55	36	13	17	2500	7070	1310	72	300	292	1600
MIN	58	25	14	12	12	14	67	23	8.2	10	3.2	36
CFSM	1.18	.16	.09	.06	.06	1.08	4.14	.88	.10	.26	.13	1.01
IN.	1.36	.17	.11	.07	.06	1.24	4.62	1.01	.11	.30	.15	1.13
CAL YR 1981	TOTAL	48819.1	MEAN 134	MAX 4420	MIN 6.0	CFSM .60	IN 8.11					
WTR YR 1982	TOTAL	62285.8	MEAN 171	MAX 7070	MIN 3.2	CFSM .76	IN 10.34					

WISCONSIN RIVER BASIN

05400650 LITTLE PLOVER RIVER AT PLOVER, WI

LOCATION.--Lat 44°28'26", long 89°31'44", in SW 1/4 sec.14, T.23 N., R.8 E., Portage County, Hydrologic Unit 07070003, on right bank at bridge on town road, 1.0 mi (1.6 km) northeast of Plover and 1.2 mi (1.9 km) upstream from mouth.

DRAINAGE AREA.--19.0 mi² (49.2 km²), of which 7.33 mi² (19.0 km²) probably is noncontributing.

PERIOD OF RECORD.--July 1959 to current year.

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

GAGE.--Water-stage recorder and parshell flume. Datum of gage is 1,068.34 ft (325.630 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Natural Resources). Prior to May 1960, nonrecording gage at same site and datum 0.88 ft (0.268 m) lower.

REMARKS.--Records good.

AVERAGE DISCHARGE.--23 years, 10.1 ft³/s (0.286 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 99 ft³/s (2.80 m³/s) Mar. 7, 1973; minimum, 1.4 ft³/s (0.040 m³/s) Nov. 16, 1974, gage height, 0.28 ft (0.085 m), result of temporary dam at flume entrance.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 22 ft³/s (0.62 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 3	1645	*32 0.91	*2.00 0.610	July 10	2245	26 0.736	1.78 0.543

minimum discharge, 4.0 ft³/s (0.11 m³/s) Jan. 10-11, gage height, 0.56 ft (0.171 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 26-28, 30-31, Jan. 1-3, 5-7, 9, 16, and Feb. 4, 6, 10.)

0.6	4.6	1.5	20
1.0	10	2.0	32

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	9.3	8.8	7.2	5.9	6.6	13	12	11	7.7	8.4	9.8
2	8.4	9.3	8.5	7.2	6.0	6.5	13	12	11	7.5	8.6	8.6
3	8.0	9.1	8.3	7.2	6.0	6.3	24	12	11	7.6	8.2	8.0
4	9.2	9.1	8.3	7.2	6.0	6.5	19	12	11	7.5	7.8	7.7
5	8.8	9.2	8.4	7.2	5.9	6.3	16	13	10	7.2	7.7	8.2
6	9.3	9.0	8.7	7.2	6.0	6.2	14	15	10	7.8	7.7	8.1
7	8.7	8.9	8.7	7.0	5.9	6.1	13	14	10	9.1	7.5	8.0
8	8.3	8.9	8.4	6.9	5.9	5.7	13	13	10	7.8	7.4	8.1
9	8.6	8.6	8.2	6.8	5.8	6.2	13	12	10	7.7	7.2	8.1
10	8.5	8.7	8.0	4.8	5.8	6.4	14	12	9.9	13	7.2	8.0
11	8.2	8.7	7.9	6.0	5.7	6.3	14	12	9.4	17	7.0	7.9
12	8.0	8.6	8.2	6.0	5.6	6.7	14	12	9.0	12	6.9	7.9
13	7.9	8.7	8.2	6.1	5.6	7.2	14	12	8.7	11	6.8	7.9
14	9.3	8.7	8.2	6.3	5.6	6.9	13	11	9.1	10	6.9	8.4
15	9.5	8.7	7.8	6.4	5.6	7.0	13	12	9.4	9.8	6.7	8.4
16	8.9	8.7	7.7	6.2	5.7	8.4	15	13	8.9	10	6.7	8.1
17	10	8.5	7.6	6.1	5.8	8.0	17	15	9.3	9.9	6.6	8.4
18	14	8.5	7.5	6.0	6.0	7.9	15	16	9.4	9.5	6.5	8.3
19	11	8.7	7.3	6.0	6.3	8.1	15	14	9.1	9.1	6.5	8.2
20	11	8.6	7.3	6.1	6.9	8.0	17	13	9.6	8.8	6.2	8.1
21	10	8.4	7.5	6.0	7.4	7.7	15	13	9.4	8.8	6.0	7.8
22	9.9	8.3	7.8	6.2	7.4	7.7	14	13	9.1	9.0	6.4	7.7
23	9.7	8.4	7.7	6.1	7.6	8.6	14	12	9.0	8.5	6.3	8.0
24	9.7	8.3	7.5	6.0	7.0	12	14	12	8.9	8.4	7.0	8.3
25	9.8	8.4	7.4	5.9	6.7	12	14	12	9.0	8.2	7.3	7.9
26	9.8	9.1	7.6	5.9	6.5	9.6	14	12	8.6	8.0	6.6	7.9
27	9.6	9.0	7.6	6.0	6.6	9.1	13	12	8.4	8.3	6.4	7.9
28	9.5	8.5	7.4	6.0	6.7	9.3	12	12	8.2	7.8	6.2	7.7
29	9.5	8.4	7.2	5.9	---	10	13	12	8.2	8.3	7.5	7.6
30	9.4	8.4	7.2	5.9	---	13	12	12	7.8	10	7.6	7.8
31	9.3	---	7.2	5.9	---	16	---	11	---	8.6	7.0	---
TOTAL	291.1	261.7	244.1	195.7	173.9	252.3	434	390	282.4	283.9	218.8	242.8
MEAN	9.39	8.72	7.87	6.31	6.21	8.14	14.5	12.6	9.41	9.16	7.06	8.09
MAX	14	9.3	8.8	7.2	7.6	16	24	16	11	17	8.6	9.8
MIN	7.9	8.3	7.2	4.8	5.6	5.7	12	11	7.8	7.2	6.0	7.6
CAL YR 1981	TOTAL	3302.5	MEAN 9.05	MAX 42	MIN 5.8							
WTR YR 1982	TOTAL	3270.7	MEAN 8.96	MAX 24	MIN 4.8							

WISCONSIN RIVER BASIN

05400760 WISCONSIN RIVER AT WISCONSIN RAPIDS, WI

LOCATION.--Lat 44°23'41", long 89°49'31", in SW 1/4 sec.8, T.22 N., R.6 E., Wood County, Hydrologic Unit 07070003, at Consolidated Water Power Company, 0.2 mi (0.3 km) upstream from U.S. Highway 13 bridge in Wisconsin Rapids.

DRAINAGE AREA.--5,420 mi² (14,040 km²).

PERIOD OF RECORD.--May 1914 to March 1950 (published as "near Nekoosa"), October 1957 to current year.

REVISED RECORDS.--WSP 1308: 1915(M).

GAGE.--Water-stage recorders on headwater and tailwater. Elevation of powerplant pond is 1,010 ft (308 m) and datum of powerplant gages is 0.00 ft (0.00 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Valley Improvement Co.). May 1914 to March 1950, at site 9.6 mi (15.4 km) downstream at different datum. March 1950 to Sept. 30, 1981, at Centralia Powerplant at Nekoosa Papers, Inc., 2.6 mi (4.2 km) downstream. March 1950 to Dec. 31, 1973, datum was 887.83 ft (270.611 m) National Geodetic Vertical Datum. Jan. 1, 1974, changed to present datum.

REMARKS.--Records good. Discharge computed from powerplant records on basis of load-discharge rating of hydroelectric units as developed by manufacturer and tainter-gate ratings based on theoretical formulas. Flow regulated by 20 reservoirs and many powerplants above station. Water diverted periodically from pond of Wisconsin Rapids powerplant into Cranberry Creek, a tributary of Yellow River, for cranberry culture. These diversions, in cubic feet per second, for water year October 1981 to September 1982, were as follows:

Oct. 1	50	Dec. 12	50	Dec. 21	50	Aug. 16	50	Aug. 25	54
2	50	13	50	22	50	17	50	26	50
3	50	14	50	23	50	18	50	27	50
4	50	15	50	24	50	19	100	28	50
5	50	16	50	25	50	20	100	29	8
6	2	17	50	26	12	21	100	Sept. 27	36
Dec. 9	48	18	50	Aug. 13	47	22	100	28	50
10	50	19	50	14	50	23	100	29	50
11	50	20	50	15	50	24	100	30	2

AVERAGE DISCHARGE.--60 years (1914-50, 1957-82), 4,948 ft³/s (140.1 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,400 ft³/s (1,990 m³/s) Sept. 12, 1938, gage height, 19.10 ft (5.822 m), from rating curve extended above 58,000 ft³/s (1,640 m³/s); minimum, 26 ft³/s (0.74 m³/s) Sept. 7, 1942; minimum daily, 165 ft³/s (4.67 m³/s) Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,600 ft³/s (1,150 m³/s) Apr. 4; minimum daily, 1,860 ft³/s (52.7 m³/s) Dec. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4460	3040	3130	2270	3040	2900	26000	5480	2880	3040	2860	3640
2	5930	3070	3120	2320	2940	2860	26000	5010	3170	3000	2930	3600
3	5590	2970	3160	2270	2770	2760	29900	5260	3210	2640	2900	3980
4	3850	3180	3130	2400	3000	2730	37200	5330	3120	2680	2810	3590
5	3200	3260	3040	2410	3120	2750	34300	5360	2770	2430	2760	2920
6	5020	3250	3070	2560	3020	2650	21200	12100	2630	2630	2810	2770
7	5040	2990	3060	2700	3020	2710	14300	17000	2740	2550	2870	3440
8	3430	2920	3060	2790	2750	2690	12200	17900	2700	2650	2900	3850
9	3620	3150	3030	2410	2690	2570	11200	15100	2860	2590	2810	3340
10	3520	2960	3050	2380	2730	2470	11200	11000	3080	2540	2910	3050
11	3420	3050	2990	2440	2820	2530	10800	10400	3280	3080	2850	2860
12	3340	3100	2960	2400	2810	2730	11600	9280	3050	3470	2650	2580
13	3410	3100	2670	2450	2520	2600	14700	8700	2760	3870	2720	4160
14	3700	3010	2780	2610	2410	2650	17800	9160	2760	3880	2400	8380
15	3570	2900	2930	2640	2750	2650	18400	9150	2880	3580	2310	9690
16	3540	2860	2840	2480	2770	2760	21600	9170	3130	3340	2720	8180
17	5000	2930	2720	2170	2810	2780	29900	9160	3240	6370	2600	8200
18	6720	3070	2700	2420	2790	3230	33200	9230	3530	7760	2560	7960
19	6650	3100	2360	2510	2950	3420	31300	10200	3800	4870	2570	6480
20	6680	3090	2180	2740	2890	3440	24000	9330	3340	3970	2680	5820
21	6000	3000	2330	2800	2900	3480	18700	7210	3310	3930	2530	4460
22	5180	2890	2110	2720	2920	3300	15200	5370	3010	4200	2520	3180
23	4920	3070	2410	2520	2960	3680	11400	5030	2970	4020	2450	3230
24	3670	3160	2550	2440	3020	4490	10700	4660	2930	3060	2530	5360
25	3490	3070	1960	2490	3180	5330	10400	4420	2850	2000	2640	6030
26	3450	3060	2050	2450	3170	5130	10800	4270	2860	2690	2700	5400
27	3460	3080	1860	2470	2820	5130	11000	3490	3000	3240	2760	3800
28	3120	3040	2540	2500	2820	5100	9550	3160	3060	3180	2440	3800
29	3100	2990	2580	2620	---	5000	6900	2850	3220	3380	2720	3800
30	3160	3020	2350	2770	---	5830	5950	2950	3300	3510	2940	4310
31	3160	---	2290	2790	---	15700	---	3020	---	3060	3480	---
TOTAL	132400	91380	83010	77940	80390	118050	547400	239750	91440	107210	84330	141860
MEAN	4271	3046	2678	2514	2871	3808	18250	7734	3048	3458	2720	4729
MAX	6720	3260	3160	2800	3180	15700	37200	17900	3800	7760	3480	9690
MIN	3100	2860	1860	2170	2410	2470	5950	2850	2630	2000	2310	2580
CAL YR 1981	TOTAL	1752920	MEAN	4803	MAX	27700	MIN	1860				
WTR YR 1982	TOTAL	1795160	MEAN	4918	MAX	37200	MIN	1860				

WISCONSIN RIVER BASIN

05402000 YELLOW RIVER AT BABCOCK, WI

LOCATION.--Lat 44°18'05", long 90°07'15", in NW 1/4 sec.14, T.21 N., R.3 E., Wood County, Hydrologic Unit 07070003, on right bank at downstream side of bridge on State Highway 80 at Babcock, 1.9 mi (3.1 km) upstream from Hemlock Creek.

DRAINAGE AREA.--215 mi² (557 km²).

PERIOD OF RECORD.--March 1944 to current year.

REVISED RECORDS.--WSP 1308: 1944(M), 1946-47(M), 1949(M). WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 954.75 (291.008 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1948, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, which are fair. There is a large recreation dam about 5.0 mi (8.0 km) upstream.

AVERAGE DISCHARGE.--38 years, 151 ft³/s (4.276 m³/s), 9.54 in/yr (242 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) Apr. 2, 1952, gage height, 17.38 ft (5.297 m); minimum observed, 1.0 ft³/s (0.028 m³/s) Oct. 1, 1948, gage height, 1.22 ft (0.372 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Oct. 18	2100	1,600 45.3	9.25 2.819	Apr. 4	--	*3,900 110	Unknown
Apr. 1	0130	Ice jam	*14.04 4.279	Apr. 18	0815	1,290 36.5	8.65 2.637

minimum daily discharge, 15 ft³/s (0.42 m³/s) Feb. 1-14.

REVISIONS.--Peak discharge of June 30, 1981 (2045 hours) has been revised to 1,500 ft³/s (43.9 m³/s), gage height, 9.14 ft (2.786 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Rate of change in stage used as factor, Oct. 18, 20, 21, Apr. 17, 19, May 7, 9; stage-discharge relation affected by ice Nov. 23 to Apr. 2.)

1.9	12	4.0	280
2.0	19	6.0	678
2.3	41	8.0	1,080
2.6	71	10.0	1,850
3.0	121	12.0	3,180
		14.0	5,300

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	74	39	16	15	23	1000	116	38	19	384	300
2	86	68	41	16	15	23	800	98	35	18	307	450
3	123	62	38	16	15	23	1800	86	31	17	217	240
4	126	57	36	16	15	23	3720	74	29	19	136	140
5	161	54	35	16	15	23	1610	73	28	18	90	100
6	254	53	35	16	15	24	1110	216	27	17	69	120
7	327	48	35	16	15	24	840	915	25	18	56	80
8	307	47	32	16	15	25	520	1040	25	19	47	54
9	223	45	30	16	15	26	450	775	23	16	40	44
10	160	41	28	16	15	27	500	434	23	16	37	39
11	116	40	26	16	15	29	520	276	24	22	32	37
12	91	39	25	16	15	32	670	180	20	116	27	34
13	75	38	24	16	15	35	863	141	19	120	24	35
14	70	37	23	16	15	43	1130	153	20	79	22	442
15	154	37	22	16	16	52	879	212	23	73	24	640
16	433	39	22	16	16	68	715	213	29	57	23	652
17	419	39	21	16	17	88	881	163	46	51	22	509
18	936	40	20	16	18	120	1200	298	61	105	21	344
19	1350	43	20	16	18	220	890	781	52	251	20	295
20	877	48	19	16	19	250	750	590	43	272	19	213
21	665	46	19	16	20	230	599	345	40	180	19	143
22	402	46	19	16	22	190	708	195	43	313	18	98
23	270	40	18	16	24	180	528	128	39	573	37	74
24	189	37	18	16	23	240	286	93	34	446	70	68
25	140	35	18	16	22	400	229	75	32	256	140	61
26	114	36	18	16	21	430	201	65	31	141	90	54
27	109	39	17	16	22	370	256	60	26	88	56	50
28	105	44	17	16	24	350	246	55	24	71	50	47
29	95	40	17	16	---	430	185	48	23	56	240	383
30	86	38	17	16	---	660	142	44	22	237	290	328
31	79	---	17	16	---	1100	---	40	---	555	200	---
TOTAL	8574	1350	766	496	492	5758	24228	7982	935	4239	2827	6074
MEAN	277	45.0	24.7	16.0	17.6	186	808	257	31.2	137	91.2	202
MAX	1350	74	41	16	24	1100	3720	1040	61	573	384	652
MIN	32	35	17	16	15	23	142	40	19	16	18	34
CFSM	1.29	.21	.12	.07	.08	.87	3.76	1.20	.15	.64	.42	.94
IN.	1.48	.23	.13	.09	.09	1.00	4.19	1.38	.16	.73	.49	1.05
CAL YR 1981	TOTAL	53101.6	MEAN 145	MAX 3000	MIN 9.2	CFSM .67	IN 9.19					
WTR YR 1982	TOTAL	63721.0	MEAN 175	MAX 3720	MIN 15	CFSM .81	IN 11.03					

WISCONSIN RIVER BASIN

05403500 LEMONWEIR RIVER AT NEW LISBON, WI.

LOCATION.--Lat 43°52'47", long 90°09'40", in SE 1/4 sec.8 T.16 N., R.3 E., Juneau County, Hydrologic Unit 07070003, near center of span on downstream side of bridge on State Highway 80 in New Lisbon, 200 ft (60 m) downstream from recreation dam and 1.2 mi (1.9 km) upstream from Webster Creek.

DRAINAGE AREA.--507 mi² (1,313 km²).

PERIOD OF RECORD.--March 1944 to current year.

REVISED RECORDS.--WSP 1308: 1944(M), 1949-50(M). WDR WI-78-1: Drainage area.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 867.05 ft (264.277 m) National Geodetic Vertical Datum of 1929. Prior to May 5, 1948, nonrecording gage at site 100 ft (30 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation by dam 200 ft (60 m) upstream. Water diverted periodically into the basin from the Yellow and Black River basins for cranberry culture.

AVERAGE DISCHARGE.--38 years, 369 ft³/s (10.5 m³/s), 9.88 in/yr (251 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,880 ft³/s (195 m³/s) May 8, 1960, gage height, 12.94 ft (3.944 m) from graph based on gage readings; minimum observed, 29 ft³/s (0.821 m³/s) June 9, 1976, gage height, 0.47 ft (0.143 m) during period of dam repair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s (48.7 m³/s) Apr. 5, gage height, 8.97 ft (2.734 m); minimum daily, 78 ft³/s (2.21 m³/s) Aug. 24.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12 to Mar. 17.)

1.4	77	5.0	549
2.0	129	7.0	1,020
3.0	245	9.0	1,740

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309	439	318	150	150	200	1160	395	463	162	200	161
2	290	427	312	150	150	190	1190	354	423	151	181	176
3	290	416	311	150	150	180	1320	312	379	145	163	201
4	301	405	307	150	150	180	1560	239	340	144	163	204
5	318	392	298	150	150	170	1700	298	304	140	157	182
6	343	378	288	150	150	170	1610	701	280	131	159	164
7	388	365	284	150	150	160	1540	1160	262	143	161	149
8	448	360	290	150	150	160	1440	1380	228	135	153	139
9	477	340	298	150	150	160	1300	1430	207	128	139	124
10	481	322	248	150	150	160	1210	1350	188	125	126	116
11	451	309	234	150	150	160	1140	1160	176	129	118	113
12	413	295	230	150	150	160	1100	961	166	153	111	109
13	385	280	220	150	150	170	1090	820	156	188	106	107
14	388	253	190	150	150	230	1110	717	153	215	105	107
15	413	224	170	150	150	300	1100	641	150	212	102	118
16	445	223	160	150	160	400	1080	571	149	192	97	124
17	484	228	160	150	160	600	1070	410	143	167	94	128
18	633	246	160	150	170	705	1050	382	141	174	91	132
19	717	262	160	150	170	825	1040	419	141	179	90	131
20	790	262	160	150	180	931	1060	486	143	186	87	131
21	907	265	160	150	180	949	1040	538	147	193	83	132
22	970	270	160	150	180	961	994	538	147	186	83	123
23	904	267	160	150	190	1020	895	538	147	181	79	121
24	812	273	160	150	190	1150	800	549	151	171	78	126
25	729	273	160	150	200	1240	707	578	171	154	84	127
26	673	279	160	150	200	1250	661	597	205	145	98	119
27	619	315	160	150	210	1190	609	581	228	157	111	110
28	567	321	160	150	210	1100	556	553	220	169	106	101
29	527	333	150	150	---	1030	506	520	203	182	106	98
30	481	321	150	150	---	1000	434	520	181	211	120	97
31	456	---	150	150	---	1060	---	500	---	217	130	---
TOTAL	16409	9343	6528	4650	4650	18161	32072	20198	6392	5165	3681	3970
MEAN	529	311	211	150	166	586	1069	652	213	167	119	132
MAX	970	439	318	150	210	1250	1700	1430	463	217	200	204
MIN	290	223	150	150	150	160	434	239	141	125	78	97
CFSM	1.04	.61	.42	.30	.33	1.16	2.11	1.29	.42	.33	.24	.26
IN.	1.20	.69	.48	.34	.34	1.33	2.35	1.48	.47	.38	.27	.29
CAL YR 1981	TOTAL	134075	MEAN	367	MAX	2310	MIN	82	CFSM	.72	IN	9.84
WTR YR 1982	TOTAL	131219	MEAN	360	MAX	1700	MIN	78	CFSM	.71	IN	9.63

WISCONSIN RIVER BASIN

05404000 WISCONSIN RIVER NEAR WISCONSIN DELLS, WI

LOCATION.--Lat 43°36'22", long 89°45'25", in NW 1/4 sec.14, T.13 N., R.6 E., Sauk County, Hydrologic Unit 07070003, on right bank 0.5 mi (0.8 km) downstream from Dell Creek and 1.8 mi (2.9 km) southeast of Wisconsin Dells.

DRAINAGE AREA.--8,090 mi² (20,950 km²).

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 1728: 1936(M). WSP 1914: 1951, 1953-55. WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 801.48 ft (244.291 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1963, water-stage recorder at same site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good, except those for the winter period which are fair. Flow regulated by 24 reservoirs above station. In 1938, when the maximum of record occurred, there were 22 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock, were not in existence. Diurnal fluctuation is caused by powerplant of Wisconsin Power and Light Co. at Wisconsin Dells.

AVERAGE DISCHARGE.--48 years, 6,761 ft³/s (191.5 m³/s).

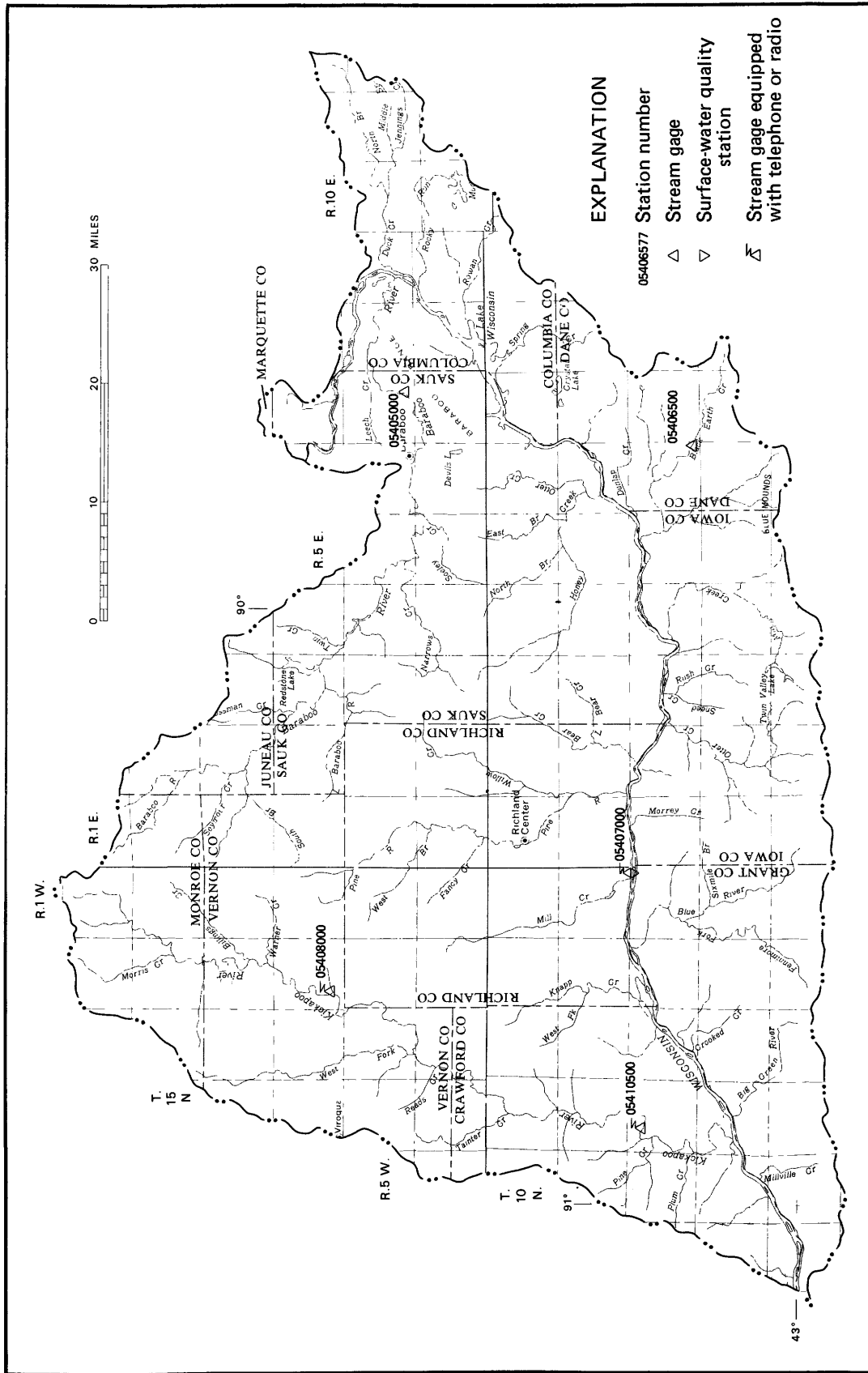
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,200 ft³/s (2,040 m³/s) Sept. 14, 1938, gage height, 23.83 ft (7.263 m), present datum; minimum daily, 1,060 ft³/s (30.0 m³/s) Aug. 19, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,500 ft³/s (1,150 m³/s) Apr. 6, gage height, 15.82 ft (4.822 m); minimum daily, 2,700 ft³/s (76.5 m³/s) Jan. 17.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 13 to June 22; stage-discharge relation affected by ice Dec. 14 to Mar. 20.)

4.4	3,480	9.0	14,500
5.0	4,710	11.0	21,000
7.0	9,270	13.0	28,500
		16.0	41,300

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4370	5350	4480	3200	4700	5000	10700	9840	5550	4600	4810	4240
2	4940	5310	4600	3000	5400	4900	11000	8800	5490	4600	4640	4810
3	6500	5140	4730	3900	5200	5000	16000	8710	5330	4500	4800	5180
4	6270	5100	4770	2900	4800	5400	31400	8720	5480	4000	4850	5160
5	5890	5530	4580	4100	4800	5600	39100	9320	4980	4000	4950	4730
6	5220	5430	4280	5000	5600	5200	40000	9080	4460	3500	4960	4450
7	5550	5270	4350	5600	5400	5200	31200	11200	4440	4000	4580	4610
8	5860	5220	5180	5800	5000	5400	24500	19100	4480	3900	4460	4760
9	6280	4980	5450	4300	5400	5000	17500	21800	4580	3600	4460	4870
10	5960	4820	5420	3400	5000	5600	13400	21400	4950	3400	4010	4610
11	4850	4980	5470	3900	5200	5400	12700	16800	4420	3800	4400	4380
12	4920	4290	5360	4100	5400	5400	12500	14800	4290	3400	4100	4080
13	5560	4670	4360	4200	4900	5200	12400	12700	4110	3500	4400	4100
14	5930	4670	4100	3900	5000	5200	15800	12400	3850	4000	4200	5400
15	6400	4720	3900	4000	4800	5000	19100	10200	4240	5000	3900	7360
16	6790	4860	3800	3200	4900	5200	20300	12500	4640	5200	3600	9450
17	6750	5040	4200	2700	5000	6000	25200	13100	5000	5000	3800	8580
18	6900	5010	4500	3200	4900	6400	32700	10700	4910	6400	4100	8070
19	8690	5090	4600	3900	4900	6800	35000	9810	5150	6800	3900	8930
20	9240	4980	3700	3800	4900	7200	34700	13700	4510	6400	3800	8460
21	9970	4900	3500	4100	4900	7510	34400	12500	4400	5440	3300	7770
22	8880	4630	3500	4200	4800	7640	25300	10500	4440	6500	3500	6640
23	7870	4360	3000	4200	5000	7710	18400	12300	5200	6650	3700	5260
24	7510	4650	3000	3600	5200	8210	13700	11700	4800	5280	3900	5320
25	6890	4610	2900	4100	5200	9140	12500	9400	5000	4560	3750	6010
26	6530	4830	3100	4500	5000	8400	12400	8690	5200	4020	3430	6860
27	6620	4350	2800	4800	5000	8110	14000	8900	4700	4550	3800	6140
28	6650	4300	3200	4800	4900	8660	13800	8250	4300	5540	3800	5270
29	5780	4320	3200	4900	---	8610	12800	7310	4200	5670	3750	5320
30	5840	4300	3700	4900	---	9330	12600	6400	4500	5160	3800	5340
31	5570	---	3700	4400	---	10200	---	5410	---	5190	3740	---
TOTAL	200980	145710	127430	126600	141200	203620	625100	356040	141600	148160	127190	176160
MEAN	6483	4857	4111	4084	5043	6568	20840	11490	4720	4779	4103	5872
MAX	9970	5530	5470	5800	5600	10200	40000	21800	5550	6800	4960	9450
MIN	4370	4290	2800	2700	4700	4900	10700	5410	3850	3400	3300	4080
CAL YR 1981	TOTAL	2337880	MEAN	6405	MAX	27900	MIN	2800				
WTR YR 1982	TOTAL	2519790	MEAN	6904	MAX	40000	MIN	2700				



LOWER WISCONSIN RIVER BASIN

Base from U.S. Geological Survey
State base map, 1968

WISCONSIN RIVER BASIN

05405000 BARABOO RIVER NEAR BARABOO, WI

LOCATION.--Lat 43°28'51" long 89°38'09", in NW 1/4 sec.35, T.12 N., R.7 E., Sauk County, Hydrologic Unit 07070004, on left bank 50 ft (15 m) downstream from highway bridge, 0.3 mi (0.5 km) downstream from Rowley Creek and 5.3 mi (8.5 km) east of Baraboo.

DRAINAGE AREA.--609 mi² (1,577 km²).

PERIOD OF RECORD.--December 1913 to March 1922. September 1942 to current year.

REVISED RECORDS.--WSP 455: 1915. WSP 505: 1917(M). WSP 1438: 1914-15(M), 1916-17, 1918-20(M), 1944(M), 1949(M). WSP 1914: 1948, 1950, 1956. WDR WI-75-1: 1968. WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 788.21 ft (240.246 m) National Geodetic Vertical Datum of 1929. Dec. 18, 1913, to Mar. 31, 1922, nonrecording gage at bridge 2.3 mi (3.7 km) upstream at datum 7.6 ft (2.32 m) higher. Sept. 24, 1942, to June 10, 1963, nonrecording gage at present site and datum.

REMARKS.--Records good except those for the winter period, which are fair. Diurnal fluctuation from several powerplants at Baraboo.

AVERAGE DISCHARGE.--47 (water years 1915-21, 1943-82), 370 ft³/s (10.48 m³/s), 8.25 in/yr (210 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,900 ft³/s (224 m³/s) Mar. 26, 1917, gage height, 17.5 ft (5.33 m), estimated, site and datum then in use, from rating curve extended above 6,000 ft³/s (170 m³/s); minimum observed, 9.0 ft³/s (0.25 m³/s) Feb. 17, 1944, gage height, 5.08 ft (1.548 m); minimum daily, 26 ft³/s (0.74 m³/s) Oct. 6, 1950.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of Aug. 6, 1935, reached a stage of 15.8 ft (4.82 m) from floodmarks, site and datum in use in 1922, discharge, 5,100 ft³/s (144 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,120 ft³/s (60.0 m³/s) Mar. 18, gage height, 14.12 ft (4.304 m); minimum, 128 ft³/s (3.62 m³/s) Dec. 11, gage height 6.58 ft (2.006 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12-21, 29-31, and Jan. 5 to Mar. 14.)

6.7	150	15.0	2,360
7.0	216		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	256	327	192	200	270	1050	332	433	213	273	343
2	241	251	333	191	200	260	1010	314	367	220	296	311
3	235	251	339	193	200	240	1610	299	311	218	238	278
4	237	252	335	193	200	220	1770	291	277	224	263	276
5	233	247	313	190	200	220	1500	323	253	215	270	255
6	253	242	293	190	190	210	1330	437	241	201	271	215
7	253	239	281	190	190	200	1260	605	266	247	242	192
8	254	237	277	190	190	200	1160	693	285	231	225	184
9	242	231	280	190	190	200	921	753	285	235	201	186
10	232	228	270	190	190	190	737	686	259	248	198	183
11	227	224	213	190	190	210	714	535	239	227	194	184
12	225	219	210	190	190	230	762	449	227	230	188	174
13	226	217	210	190	190	450	776	399	214	270	176	179
14	295	225	210	190	190	900	694	372	202	247	163	174
15	397	229	200	190	190	1280	610	351	271	215	160	176
16	453	227	190	190	190	1720	573	331	278	200	157	178
17	478	229	190	190	200	1910	584	325	271	185	158	183
18	680	244	190	190	200	2070	585	342	243	183	162	185
19	728	248	190	190	200	2040	568	322	224	196	159	188
20	648	254	190	190	200	1810	604	309	216	194	157	182
21	592	253	180	190	200	1590	598	302	205	195	156	179
22	498	246	168	200	210	1370	581	304	209	199	151	182
23	381	240	182	200	240	1170	561	283	204	189	152	173
24	320	234	191	200	280	1220	479	279	196	196	157	163
25	301	225	196	200	330	1370	414	303	200	191	177	163
26	282	255	199	200	350	1260	397	327	206	176	185	170
27	280	325	192	210	320	1160	409	320	222	173	210	166
28	276	365	190	210	300	1110	410	341	217	176	218	171
29	273	374	190	210	---	1010	397	402	210	198	212	175
30	267	346	190	210	---	966	367	519	204	218	223	174
31	263	---	190	210	---	1120	---	493	---	210	272	---
TOTAL	10534	7613	7109	6049	6120	28176	23431	12341	7435	6520	6264	5942
MEAN	340	254	229	195	219	909	781	398	248	210	202	198
MAX	728	374	339	210	350	2070	1770	753	433	270	296	343
MIN	225	217	168	190	190	190	367	279	196	173	151	163
CFSM	.56	.42	.38	.32	.36	1.49	1.28	.65	.41	.35	.33	.33
IN.	.64	.47	.43	.37	.37	1.72	1.43	.75	.45	.40	.38	.36
CAL YR 1981	TOTAL	128838	MEAN	353	MAX	2410	MIN	140	CFSM	.58	IN	7.87
WTR YR 1982	TOTAL	127534	MEAN	349	MAX	2070	MIN	151	CFSM	.57	IN	7.79

WISCONSIN RIVER BASIN

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI

LOCATION.--Lat 43°08'03", long 89°43'56", in SW 1/4 sec.25, T.8 N., R.6 E., Dane County, Hydrologic Unit 07070005, on right bank, 0.8 mi (1.3 km) east of Black Earth and 2.1 mi (3.4 km) upstream from Vermont Creek.

DRAINAGE AREA.--45.6 mi² (118.1 km²), of which 2.8 mi² (7.2 km²) probably is noncontributing.

PERIOD OF RECORD.--February 1954 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 812.95 ft (247.787 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--28 years, 31.7 ft³/s (0.898 m³/s), 9.44 in/yr (240 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s (49.6 m³/s) July 3, 1954, gage height, 6.58 ft (2.006 m); minimum, 4.8 ft³/s (0.14 m³/s) Nov. 29, 1958, gage height, 1.39 ft (0.424 m), result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 200 ft³/s (5.66 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)				
Mar. 13	1900	294	8.33	3.65	1.113	Apr. 3	1300	250	7.08	3.43	1.045
Mar. 16	1600	*380	10.8	*4.05	1.234						

minimum discharge, 13 ft³/s (0.37 m³/s) Jan. 16, gage height, 1.60 ft (0.488 m), result of freezeup.

RATING TABLE (gage-height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 12 to Sept. 25; stage-discharge relation affected by ice Jan. 4, 7-19, 24-26, Feb. 4, 6, 7, 10, 11.)

1.7	18	3.0	169
2.0	43	3.5	256
2.5	96		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	29	37	26	25	31	43	41	40	42	30	33
2	34	28	37	26	25	31	47	40	38	39	30	30
3	34	29	35	26	24	30	154	39	36	40	30	29
4	34	30	35	26	24	30	72	38	36	39	32	28
5	34	31	34	26	24	29	59	48	36	38	31	29
6	34	30	34	26	24	28	54	65	35	38	30	29
7	33	30	34	26	25	28	53	52	41	42	30	28
8	33	30	35	26	24	27	51	45	36	38	29	27
9	32	29	33	25	24	27	52	43	37	38	28	28
10	32	29	32	25	24	27	54	43	41	50	26	28
11	31	29	32	26	24	28	58	43	40	56	26	28
12	31	29	31	26	24	53	61	42	38	44	28	28
13	30	28	31	26	24	235	58	42	36	41	27	28
14	45	29	31	26	24	93	53	42	36	39	28	29
15	43	29	30	26	25	59	51	41	55	38	27	29
16	38	29	29	25	24	220	52	42	47	38	27	28
17	43	29	29	24	25	83	51	41	43	37	26	29
18	52	29	28	25	25	58	49	42	53	36	26	29
19	41	29	28	25	25	54	49	41	46	35	26	29
20	37	29	28	25	27	60	49	43	42	33	25	28
21	35	29	28	25	29	59	46	41	41	34	25	27
22	35	28	28	25	35	50	45	41	39	35	26	26
23	33	29	28	24	51	48	45	41	38	34	26	26
24	33	29	28	24	44	48	45	40	37	32	28	27
25	32	29	28	24	37	46	44	41	39	31	28	30
26	32	41	28	24	34	43	45	45	41	32	26	29
27	31	45	28	25	32	41	44	47	41	31	26	28
28	31	37	27	24	31	40	42	45	39	31	26	27
29	31	34	26	24	---	39	41	43	51	31	31	27
30	30	33	26	25	---	49	41	44	48	33	37	27
31	30	---	26	24	---	48	---	42	---	30	31	---
TOTAL	1079	918	944	780	783	1742	1608	1343	1226	1155	872	848
MEAN	34.8	30.6	30.5	25.2	28.0	56.2	53.6	43.3	40.9	37.3	28.1	28.3
MAX	52	45	37	26	51	235	154	65	55	56	37	33
MIN	30	28	26	24	24	27	41	38	35	30	25	26
CFSM	.76	.67	.67	.55	.61	1.23	1.18	.95	.90	.82	.62	.62
IN.	.88	.75	.77	.64	.64	1.42	1.31	1.10	1.00	.94	.71	.69
CAL YR 1981	TOTAL	11700	MEAN	32.1	MAX	214	MIN	21	CFSM	.70	IN	9.54
WTR YR 1982	TOTAL	13298	MEAN	36.4	MAX	235	MIN	24	CFSM	.80	IN	10.85

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 43°11'54", long 90°26'26", in NW 1/4 sec.1, T.8 N., R.1 W., Grant County, Hydrologic Unit 07070005, on left bank at bridge on State Highway 80, 0.5 mi (0.8 km) upstream from Eagle Mill Creek and 1.0 mi (1.6 km) north of Muscoda.

DRAINAGE AREA.--10,400 mi² (26,900 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1902 to December 1903, October 1913 to current year. Monthly discharge only for October and November 1913, published in WSP 1308. Gage-height records collected at same site November 1908 to December 1912 are contained in reports of U. S. Weather Bureau.

REVISED RECORDS.--WSP 785: 1921(M). WSP 875: 1921. WSP 1308: 1915(M), 1917-18(M), 1920-21(M), 1924(M).
WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 667.05 ft (230.32 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1929, nonrecording gage on bridge 200 ft (61 m) upstream at same datum. Nov. 22, 1929, to Mar. 15, 1930, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 23 reservoirs and many powerplants above station. In 1938 when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock were not yet in existence. Usually less than 5 ft³/s (0.14 m³/s) was diverted out of basin through Portage Canal to Fox River throughout the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--69 years (1913-82), 8,626 ft³/s (244.3 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,800 ft³/s (2,290 m³/s) Sept. 16, 1938, gage height, 11.48 ft (3.50 m); minimum daily, 2,000 ft³/s (56.6 m³/s) Feb. 11, 1918.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,600 ft³/s (1,230 m³/s) Apr. 8, gage height, 8.22 ft (2.505 m); minimum discharge, 3,860 ft³/s (109 m³/s) Aug. 23, gage height, 0.88 ft (0.268 m).

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 9 to July 21; stage-discharge relation affected by ice Dec. 11 to Mar. 22.)

0.9	3,910	3.0	11,100
1.0	4,180	5.0	20,200
2.0	7,260	7.0	32,800
		9.0	51,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982													
DAY	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	6610	7160	5900	5000	6200	7200	12700	14600	8970	6160	5560		
2	6140	7090	6350	5200	6400	7200	13500	14600	8200	6260	6160	5220	
3	5930	7030	6260	5000	6400	7200	14600	12200	8310	6540	6150	5690	
4	6450	7010	6530	4700	7000	6800	16000	11400	7980	6780	9020	6110	
5	8480	6800	6510	4200	7600	6800	20400	10800	6930	6550	9910	6450	
6	8280	6200	6450	5000	6800	6800	26000	12800	7820	5410	8130	6540	
7	7230	7150	6260	4700	6800	6800	34500	12800	7450	5390	6970	6440	
8	7160	6870	6010	6000	6800	6800	42200	11300	6590	6090	6470	5650	
9	6850	6290	5960	7200	6800	6800	41000	15000	7250	6240	6000	5170	
10	7540	6580	6350	7200	7400	6800	32500	19300	6680	5240	5950	6040	
11	7920	6060	6600	6600	7200	6400	23400	22000	6290	5950	6000	6190	
12	7400	6360	6000	5400	7800	6000	18000	22800	7700	5180	5690	5980	
13	6300	6190	5400	4800	7400	7000	16200	19900	6150	5700	5560	5640	
14	6630	5700	6200	5600	7000	7800	14900	16900	5670	5180	5390	5260	
15	8780	5680	6200	5800	6800	9000	15400	15000	6230	4690	5450	5080	
16	8350	5970	5400	5800	6600	8800	18000	14600	7000	5310	5220	7400	
17	8770	5990	4100	4900	6200	9200	20700	14000	6740	6540	4920	8830	
18	9540	6410	4100	4900	7200	10000	21100	14300	6910	6200	4840	10500	
19	10300	6610	4100	4200	6800	11000	23600	14800	7550	6400	4800	10100	
20	9520	6580	5000	4500	6800	12000	28000	14000	7120	8940	4570	9000	
21	11800	5790	5200	5800	6800	12000	33400	12900	6960	10400	4950	11000	
22	12200	6450	5800	5800	6800	12000	36600	14700	6560	9800	4630	9950	
23	11600	6040	5200	5200	7000	12100	36500	14800	6160	7980	4100	9370	
24	10800	6270	5600	5800	7600	13000	32900	13400	6090	7190	4690	8630	
25	9290	5820	5600	5800	7400	12300	23600	14400	6610	8100	5090	6560	
26	9100	5990	5000	5400	7200	12500	17000	14200	6780	6770	5440	6510	
27	8920	6750	4500	5400	7200	12500	15600	12800	7120	5880	4450	7360	
28	8200	6680	4300	6000	7200	11000	15300	12200	6880	5180	4180	8350	
29	8110	6400	4300	6000	---	11400	16200	11900	6530	5850	4770	7710	
30	8300	6080	4300	6600	---	12000	15500	11500	6000	6240	5540	6560	
31	7560	---	4500	6200	---	12300	---	10600	---	7910	5830	---	
TOTAL	260060	192000	169980	170700	195200	289500	695300	446500	209230	202020	177030	214850	
MEAN	8389	6400	5483	5506	6971	9339	23180	14400	6974	6517	5711	7162	
MAX	12200	7160	6600	7200	7800	13000	42200	22800	8970	10400	9910	11000	
MIN	5930	5680	4100	4200	6200	6000	12700	10600	5670	4690	4100	5080	
CAL YR 1981	TOTAL	3104240	MEAN	8505	MAX	28100	MIN	4100					
WTR YR 1982	TOTAL	3222370	MEAN	8828	MAX	42200	MIN	4100					

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)
(NATIONAL PESTICIDE MONITORING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1971, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to September 1981 (discontinued).
WATER TEMPERATURES: July 1975 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH	TEMPER- ATURE (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCICI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DATE	TIME			(UNITS)							
NOV , 1981											
16...	1030	5970	240	7.7	8.0	3.9	11.6	102	K23	68	110
JAN , 1982											
26...	1230	5470	270	7.6	.0	2.6	--	--	K8	65	120
MAR											
30...	1330	11800	210	8.1	6.5	5.5	11.9	100	E2	83	100
APR											
09...	1140	41500	210	7.8	2.0	5.6	11.6	87	E20	200	78
JUL											
07...	1045	5230	235	8.2	24.0	--	7.4	91	<600	930	--
AUG											
20...	1100	4530	255	8.7	25.0	4.7	8.6	108	1600	280	110
	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV , 1981											
16...	21	25	11	6.6	12	.3	1.5	87	13	8.9	<.1
JAN , 1982											
26...	22	27	12	8.9	14	.4	1.9	95	17	12	<.1
MAR											
30...	21	24	10	8.4	15	.4	2.6	80	15	11	<.1
APR											
09...	20	19	7.5	10	21	.5	2.2	58	16	15	.1
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
AUG											
20...	14	25	12	6.5	11	.3	1.9	98	12	9.1	.1
	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1981											
16...	1.0	141	120	.19	2270	--	--	--	--	--	--
JAN , 1982											
26...	6.9	165	143	.22	2440	.87	.120	.64	--	.030	.020
MAR											
30...	9.6	154	129	.21	4910	.82	.260	.72	.130	.060	.050
APR											
09...	10	115	115	.16	12900	.68	.230	.83	.100	.050	.030
JUL											
07...	--	--	--	--	--	.55	.160	.60	.080	.080	.030
AUG											
20...	2.9	156	128	.21	1910	.10	.020	.70	.080	.010	<.010

K RESULTS BASED ON COUNT OUTSIDE OF THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).
E ESTIMATED.

WISCONSIN RIVER BASIN
05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV , 1981											
16...	1030	5970	1	1	0	100	80	25	<1	--	<1
MAR , 1982											
30...	1330	11800	1	0	1	<100	--	27	3	1	2
APR											
09...	1140	41500	2	1	1	<100	--	29	1	--	<1
AUG											
20...	1100	4530	2	1	1	<100	--	22	1	--	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV , 1981										
16...	20	10	10	<1	<1	7	6	1	790	450
MAR , 1982										
30...	20	10	10	2	<1	6	2	4	1200	680
APR										
09...	20	10	10	<1	1	3	0	3	1700	1200
AUG										
20...	10	0	10	1	<1	4	1	3	460	450

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV , 1981										
16...	340	8	6	2	90	80	9	.1	--	<.1
MAR , 1982										
30...	520	20	19	1	60	50	15	.1	.0	.1
APR										
09...	550	5	1	4	120	90	30	<.1	--	<.1
AUG										
20...	13	4	--	<1	160	160	2	.2	--	<.1

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1981										
16...	<1	--	<1	<1	<1	<1	<1	40	--	<4
MAR , 1982										
30...	3	2	1	<1	<1	<1	<1	30	20	12
APR										
09...	5	4	1	<1	7	<1	<1	80	60	16
AUG										
20...	4	2	2	<1	<1	<1	<1	140	140	4

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
DATE	TIME											
NOV , 1981												
16...	1030	5970	--	<1	<1.0	--	--	<.1	--	<1.0	--	<.1
MAR , 1982												
30...	1330	11800	<.10	--	--	<.10	<.01	--	<.10	--	<.01	--
APR												
09...	1140	41500	<.10	<1	<1.0	<.10	<.01	<.1	<.10	<1.0	<.01	<.1
		DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
DATE	DDE, TOTAL (UG/L)											
NOV , 1981												
16...	--	<.1	--	<.1	--	--	<.1	--	<.1	--	<.1	--
MAR , 1982												
30...	<.01	--	<.01	--	<.01	<.01	--	<.01	--	<.01	--	<.01
APR												
09...	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.1	<.01	<.1	<.01
		HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
DATE	HEPTA- CHLOR, TOTAL (UG/L)											
NOV , 1981												
16...	--	<.1	--	<.1	--	<.1	--	--	<.1	--	--	--
MAR , 1982												
30...	<.01	--	<.01	--	<.01	--	<.01	<.01	--	<.01	<.01	<.01
APR												
09...	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.01	<.1	<.01	<.01	<.01
		MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	PER- THANE IN BOTTOM MATERIL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DATE												
NOV , 1981												
16...	<.1	--	--	<1.00	--	<10	--	--	--	--	--	--
MAR , 1982												
30...	--	<.01	<.10	--	<1	--	<.01	<.01	<.01	<.01	<.01	<.01
APR												
09...	<.1	<.01	<.10	<1.00	<1	<10	<.01	.03	<.01	<.01	<.01	<.01

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1981							
16...	1030	5970	8.0	240	20	322	61
MAR , 1982							
30...	1330	11800	6.5	210	96	3060	7
APR							
07...	1600	36000	--	--	166	16100	12
08...	1030	42600	--	--	210	24200	7
09...	1140	41500	2.0	210	318	35600	4
23...	1130	36400	--	--	77	7570	12
JUL							
07...	1045	5230	24.0	235	24	339	70
AUG							
20...	1100	4530	25.0	255	19	232	86

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
APR , 1982									
07...	1600	36000	166	16100	12	15	38	96	100
08...	1030	42600	210	24200	7	9	29	95	100
09...	1140	41500	318	35600	4	5	15	73	99
23...	1130	36400	77	7570	12	13	39	97	100
JUL									
07...	1045	5230	24	339	70	71	76	96	100
AUG									
20...	1100	4530	19	232	86	87	91	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
APR , 1982											
07...	1600	36000	--	--	9	72	96	98	99	100	--
08...	1030	42600	--	--	6	65	88	95	98	99	100
09...	1140	41500	--	--	7	67	93	97	99	100	--
23...	1130	36400	--	--	4	60	86	94	98	100	--
JUL											
07...	1045	5230	--	--	8	66	95	99	100	--	--
AUG											
20...	1100	4530	1	2	12	64	91	96	98	100	--

WISCONSIN RIVER BASIN

05408000 KICKAPOO RIVER AT LA FARGE, WI

LOCATION.--Lat 43°34'27", long 90°38'35", on east-west quarter section line in W 1/2 sec.29, T.13 N., R.2 W., Vernon County, Hydrologic Unit 07070006, on left bank 10 ft (3 m) upstream from bridge on State Highway 82, in La Farge, 0.3 mi (0.5 km) upstream from Otter Creek, and 1.3 mi (2.1 km) downstream from powerplant.

DRAINAGE AREA.--266 mi² (689 km²).

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1388: 1951(M), 1954(M). WSP 1438: 1944-45(M), 1946, 1948, 1950(M).

GAGE.--Water-stage recorder. Datum of gage is 781.54 ft (238.213 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1939, nonrecording gage on highway bridge at same datum.

REMARKS.--Records good except those for winter period, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--44 years, 173 ft³/s (4.899 m³/s), 8.83 in/yr (224 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s (405 m³/s) July 1, 1978, gage height, 14.92 ft (4.548 m); minimum, 1.8 ft³/s (0.051 m³/s) Mar. 24, 1951; minimum daily, 36 ft³/s (1.02 m³/s) Nov. 3, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,600 ft³/s (45.3 m³/s) Apr. 3, gage height, 8.55 ft (2.606 m), no peak above base of 1,700 ft³/s (48.1 m³/s); minimum daily discharge, 120 ft³/s (3.40 m³/s) Dec. 15.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar.14.)

2.4	114	5.0	580
3.0	192	7.0	1,100

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	163	162	140	130	140	399	186	191	152	166	219
2	144	157	170	140	130	140	309	182	180	145	161	248
3	141	153	158	140	130	140	959	179	173	149	155	169
4	153	152	154	140	130	140	670	179	167	147	208	155
5	160	153	148	130	130	140	382	320	164	140	192	151
6	153	152	147	130	130	130	301	967	162	140	161	165
7	148	148	153	130	130	130	296	636	180	215	153	153
8	143	149	159	130	130	130	276	375	168	156	168	147
9	141	145	152	130	130	130	271	304	162	141	151	146
10	144	142	150	130	130	140	292	276	163	155	144	146
11	144	144	150	130	130	160	283	251	155	426	141	148
12	141	143	150	130	130	170	266	250	153	214	138	143
13	139	144	150	130	130	320	267	249	156	166	139	161
14	184	144	140	130	130	300	247	243	156	155	140	182
15	219	146	120	130	130	285	242	224	171	155	138	169
16	177	158	130	130	140	404	263	218	167	215	136	167
17	195	155	140	130	140	521	325	224	155	164	133	156
18	489	148	140	130	150	314	286	313	156	179	129	161
19	298	149	140	130	150	393	249	244	157	172	128	153
20	219	159	140	130	160	291	303	216	153	150	130	149
21	196	152	130	130	160	277	273	205	159	147	126	144
22	182	139	140	130	170	252	238	220	153	177	131	142
23	174	166	140	130	200	327	222	248	146	153	152	141
24	169	164	140	130	180	758	213	217	145	141	152	145
25	174	146	140	130	160	615	209	203	152	138	218	145
26	176	157	140	130	140	356	220	200	174	592	168	142
27	169	192	140	130	140	260	219	228	155	234	142	140
28	164	167	140	130	140	246	196	231	149	191	137	140
29	161	154	130	130	---	250	190	210	177	163	166	139
30	159	150	140	130	---	418	186	217	191	343	295	137
31	158	---	140	130	---	719	---	204	---	192	174	---
TOTAL	5561	4591	4473	4070	3980	8996	9052	8419	4890	6027	4872	4703
MEAN	179	153	144	131	142	290	302	272	163	194	157	157
MAX	489	192	170	140	200	758	959	967	191	592	295	248
MIN	139	139	120	130	130	130	186	179	145	138	126	137
CFSM	.67	.58	.54	.49	.53	1.09	1.14	1.02	.61	.73	.59	.59
IN.	.78	.64	.63	.57	.56	1.26	1.27	1.18	.68	.84	.68	.66
CAL YR 1981	TOTAL	77741	MEAN 213	MAX 3260	MIN 115	CFSM .80	IN 10.87					
WTR YR 1982	TOTAL	69634	MEAN 191	MAX 967	MIN 120	CFSM .72	IN 9.74					

WISCONSIN RIVER BASIN

05410500 KICKAPOO RIVER AT STEUBEN, WI

LOCATION.--Lat 43°11'27", long 90°52'28", in NW 1/4 sec.8, T.8 N., R.4 W., Crawford County, Hydrologic Unit 07070006, on right bank 0.8 mi (1.3 km) upstream from Duffy Creek, 1.0 mi (1.6 km) northwest of Steuben, and 14 mi (23 km) upstream from mouth.

DRAINAGE AREA.--690 mi² (1,790 km²).

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

REVISED RECORDS.--WSP 855: Drainage area. WSP 1438: 1933-38. WDR WI-79-1: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 657.36 ft (200.363m) National Geodetic Vertical Datum of 1929. Prior to Oct. 20, 1938, nonrecording gage at site 1.0 mi (1.6 km) upstream at datum 1.3 ft (0.4 m) higher.

REMARKS.--Records good except for period of ice effect, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 472 ft³/s (13.37 m³/s), 9.29 in/yr (236 mm/yr).

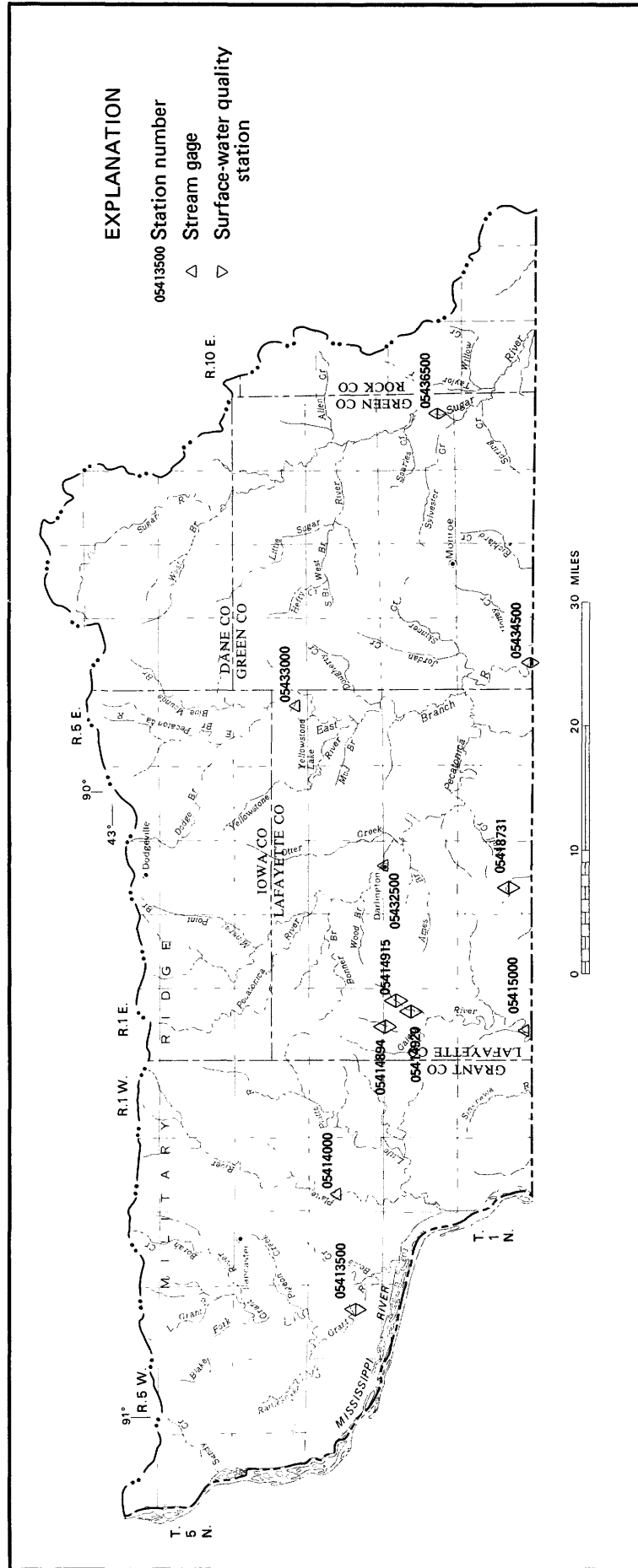
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s (467 m³/s) July 3, 1978, gage height, 14.81 ft (4.514 m); minimum observed, 161 ft³/s (4.56 m³/s) Aug. 9, 1936, gage height, 0.76 ft (0.232 m) site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,290 ft³/s (36.5 m³/s) Apr. 6, gage height, 8.12 ft (2.475 m), no peak above base of 1,900 ft³/s (53.8 m³/s); minimum discharge, 313 ft³/s (8.86 m³/s) Dec. 16, gage height, 3.42 ft (1.042 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used July 23 to Sept. 13; stage-discharge relation affected by ice Dec. 17 to Mar. 15.)

3.6	341	7.0	1,000
4.0	405	8.0	1,260
5.0	585	9.0	2,060
6.0	775		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	490	502	500	390	370	390	1020	545	580	482	573	606
2	471	503	500	390	370	380	1040	536	547	454	476	568
3	466	496	499	390	370	370	952	527	527	432	452	605
4	466	485	499	390	370	360	1130	518	510	424	1100	557
5	475	483	497	390	360	360	1230	564	497	422	1290	497
6	488	483	495	390	360	360	1280	812	494	415	912	491
7	484	479	493	390	360	360	1090	1040	500	420	654	491
8	470	474	491	390	360	350	867	1080	506	468	576	486
9	462	467	490	390	360	360	799	1080	504	482	610	470
10	460	460	484	380	360	390	773	908	481	450	543	462
11	462	455	458	380	360	400	772	762	468	698	503	462
12	461	452	421	380	360	410	770	711	461	716	482	459
13	458	452	450	380	360	520	747	688	454	693	468	463
14	485	453	474	380	360	660	729	680	451	538	458	490
15	542	455	465	380	360	760	692	661	517	488	454	523
16	581	470	354	380	370	825	681	628	509	514	450	509
17	587	481	380	380	380	938	713	607	493	556	443	494
18	644	484	430	380	400	1060	771	609	475	531	435	489
19	772	478	440	380	410	980	769	620	464	496	428	484
20	824	479	430	380	420	920	722	628	459	499	423	474
21	668	482	430	380	430	882	721	614	455	471	417	461
22	596	486	420	380	430	788	725	607	455	453	415	449
23	563	490	410	380	440	746	669	606	446	456	420	442
24	540	495	410	380	430	811	631	598	432	464	436	441
25	531	501	400	370	420	1040	612	596	434	436	497	441
26	527	502	400	370	390	1140	610	586	435	422	523	441
27	528	502	390	370	380	1040	614	589	441	474	515	438
28	521	500	390	370	380	799	607	597	445	712	455	436
29	510	500	390	370	---	703	579	605	439	544	447	435
30	501	502	390	370	---	701	556	608	457	509	566	432
31	499	---	390	370	---	801	---	599	---	499	624	---
TOTAL	16532	14451	13670	11800	10720	20604	23871	20809	14336	15618	17045	14496
MEAN	533	482	441	381	383	665	796	671	478	504	550	483
MAX	824	503	500	390	440	1140	1280	1080	580	716	1290	606
MIN	458	452	354	370	360	350	556	518	432	415	415	432
CFSM	.77	.70	.64	.55	.56	.96	1.15	.97	.69	.73	.80	.70
IN.	.89	.78	.74	.64	.58	1.11	1.29	1.12	.77	.84	.92	.78
CAL YR 1981	TOTAL	210098	MEAN	576	MAX	3140	MIN	354	CFSM	.84	IN	11.33
WTR YR 1982	TOTAL	193952	MEAN	531	MAX	1290	MIN	350	CFSM	.77	IN	10.46



Base from U.S. Geological Survey
State base map, 1968

PECATONICA-SUGAR RIVER BASIN

GRANT RIVER BASIN

05413500 GRANT RIVER AT BURTON, WI

LOCATION.--Lat 42°43'13", long 90°49'09", in NW 1/4 sec.23, T.3 N., R.4 W., Grant County, Hydrologic Unit 07060003, on right bank at downstream side of highway bridge at Burton, 5.9 mi (9.5 km) northwest of Potosi and 9.5 mi (15.3 km) upstream from mouth.

DRAINAGE AREA.--269 mi² (697 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Published as "near Burton" October 1934 to September 1947. Records published for both sites March to September 1947. October 1934, monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1935-37(M), 1941(M), 1945-46(M), 1949(M). WSP 1728: 1942(M). WDR WI-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 606.43 ft (184.840 m) National Geodetic Vertical Datum of 1929. Oct. 17, 1934, to Sept. 30, 1947, nonrecording gage at site 6 mi (10 km) upstream at datum 33.18 ft (10.113 m) higher. Mar. 18, 1947, to July 27, 1949, nonrecording gage at present site and datum.

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

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--48 years, 166 ft³/s (4.701 m³/s), 8.38 in/yr (213 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) July 16, 1950, gage height, 24.82 ft (7.565 m), from rating curve extended above 18,000 ft³/s (510 m³/s) on basis of slope-area measurement of peak flow; minimum, 21 ft³/s (0.59 m³/s) Mar. 4, 1954, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 13	0735	*3,290 93.2	*18.56 5.657	Mar. 16	1900	2,520 71.4	17.36 5.291

minimum daily discharge, 110 ft³/s (3.12 m³/s) Jan. 24 to Feb. 18, Mar. 7-10.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Aug. 6 to Sept. 30; stage-discharge relation affected by ice Dec. 11-12, Dec. 16 to Mar. 12.)

5.0	104	11.0	888
6.0	178	13.0	1,210
7.0	275	15.0	1,640
9.0	568	17.0	2,340

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	144	173	130	110	170	277	188	224	156	171	177
2	135	141	184	130	110	150	284	185	209	155	170	180
3	131	139	163	130	110	140	365	182	199	204	164	162
4	137	138	160	130	110	130	289	182	190	187	428	156
5	144	140	150	130	110	120	275	232	186	163	349	154
6	154	138	151	130	110	120	251	290	186	208	233	158
7	140	134	156	130	110	110	251	262	191	468	208	156
8	133	133	160	130	110	110	240	214	182	203	196	154
9	131	130	152	120	110	110	241	202	177	184	185	153
10	133	128	143	120	110	110	237	196	176	302	179	152
11	131	129	140	120	110	120	240	191	169	805	174	152
12	127	128	140	120	110	450	263	194	169	282	170	150
13	126	128	141	120	110	2230	277	196	166	254	168	157
14	258	128	142	120	110	1030	251	191	163	223	168	213
15	271	129	134	120	110	539	245	182	380	213	168	159
16	195	152	140	120	110	1390	275	182	289	264	165	153
17	198	141	140	120	110	827	275	176	198	223	163	157
18	369	132	140	120	110	362	246	176	191	209	160	156
19	242	131	140	120	120	441	240	176	186	209	160	153
20	217	135	140	120	130	441	253	186	182	193	158	150
21	198	130	140	120	140	626	233	197	175	187	155	148
22	185	126	140	120	200	362	221	223	172	215	157	147
23	173	133	140	120	500	402	214	200	167	187	163	147
24	165	152	140	110	520	493	212	187	162	175	160	148
25	164	145	140	110	350	400	210	163	163	172	194	147
26	160	160	140	110	230	304	209	179	185	169	167	147
27	155	209	140	110	200	265	206	252	170	170	158	147
28	151	166	140	110	180	251	197	252	165	190	153	146
29	148	158	130	110	---	248	193	245	166	168	159	145
30	146	154	130	110	---	323	189	290	167	296	260	144
31	144	---	130	110	---	363	---	242	---	190	183	---
TOTAL	5302	4231	4499	3720	4550	13137	7359	6413	5705	7224	5846	4668
MEAN	171	141	145	120	163	424	245	207	190	233	189	156
MAX	369	209	184	130	520	2230	365	290	380	805	428	213
MIN	126	126	130	110	110	110	189	163	162	155	153	144
CFSM	.64	.52	.54	.45	.61	1.58	.91	.77	.71	.87	.70	.58
IN.	.73	.59	.62	.51	.63	1.82	1.02	.89	.79	1.00	.81	.65
CAL YR 1981	TOTAL	46788	MEAN 128	MAX 1200	MIN 74	CFSM .48	IN 6.47					
WTR YR 1982	TOTAL	72654	MEAN 199	MAX 2230	MIN 110	CFSM .74	IN 10.05					

GRANT RIVER BASIN

05413500 GRANT RIVER AT BURTON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1977 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1977 to current year.

REMARKS.--Sediment records are good except those for winter periods, which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,450 mg/l June 17, 1978; minimum daily mean, 7 mg/l on many days. Maximum observed, 13,600 mg/l July 13, 1979; minimum observed 7 mg/l Mar. 2, 1978.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 95,300 tons (86,500 tonnes) June 17, 1978; minimum daily, 1.5 tons (1.4 tonnes) Mar. 1, 2, 1978.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,620 mg/l Mar. 13, minimum daily mean, 13 mg/l Dec 10, 11. Maximum observed, 3,240 mg/l Mar. 16; minimum observed, 12 mg/l Dec. 10.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 16,400 tons (14,900 tonnes) Mar. 12; minimum daily, 4.5 tons (4.1 tonnes) Jan. 24 - Feb. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR , 1982							
15...	1544	525	444	629	--	--	--
15...	1557	525	467	662	--	--	--
16...	1818	2530	3170	21700	15	22	29

DATE	TIME	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAR , 1982								
15..	--	--	--	92	--	--	--	--
15...	--	--	--	91	94	97	99	100
16...	41	59	91	97	99	100	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
MAR , 1982											
15...	1557	525	2	4	37	79	88	89	90	92	100

GRANT RIVER BASIN
05413500 GRANT RIVER AT BURTON, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	30	12	42	16	27	13	18	6.3	15	4.5	42	16
2	32	12	40	15	43	22	15	5.3	15	4.5	40	16
3	40	14	38	14	25	11	15	5.3	15	4.5	39	15
4	32	12	36	13	19	8.1	15	5.3	15	4.5	38	13
5	37	14	36	14	18	7.5	15	5.3	15	4.5	36	12
6	42	17	34	13	19	7.7	15	5.3	15	4.5	35	11
7	34	13	32	11	18	7.4	15	5.3	15	4.5	34	10
8	26	9.4	32	11	20	8.6	15	5.3	15	4.5	33	9.8
9	26	9.1	40	14	17	7.1	15	4.9	15	4.5	32	9.5
10	38	13	48	16	13	5.0	15	4.9	15	4.5	31	9.2
11	30	11	34	12	13	5.2	15	4.9	15	4.5	119	38
12	26	8.9	36	12	16	6.9	15	4.9	15	4.5	779	946
13	21	7.3	26	8.9	32	12	15	4.9	15	4.5	2620	16400
14	110	104	39	13	35	13	15	4.9	15	4.5	1430	4300
15	109	84	35	12	42	15	15	4.9	15	4.5	593	877
16	57	30	45	18	32	12	15	4.9	15	4.5	1550	7480
17	73	40	30	11	32	12	15	4.9	15	4.5	784	2070
18	177	186	31	11	30	11	15	4.9	15	4.5	320	320
19	88	58	38	14	30	11	15	4.9	15	4.9	320	391
20	85	50	37	13	30	11	15	4.9	63	22	271	378
21	82	44	34	12	28	11	15	4.9	150	57	485	940
22	74	37	31	11	28	11	15	4.9	170	92	154	155
23	63	30	29	10	24	9.1	15	4.9	200	270	244	275
24	61	27	26	11	24	9.1	15	4.5	250	351	338	475
25	58	26	28	11	22	8.3	15	4.5	100	95	196	219
26	55	24	43	19	22	8.3	15	4.5	85	53	98	82
27	53	22	66	37	20	7.6	15	4.5	80	43	70	51
28	50	20	55	25	20	7.6	15	4.5	60	29	70	48
29	48	19	26	11	20	7.0	15	4.5	---	---	68	46
30	46	18	18	7.4	20	7.0	15	4.5	---	---	151	151
31	44	17	---	---	20	7.0	15	4.5	---	---	211	217
TOTAL	---	988.7	---	416.3	---	299.5	---	152.9	---	1097.9	---	35980.5

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	107	81	42	22	154	93	116	49	193	90	57	27
2	121	95	41	20	162	91	119	50	180	83	52	25
3	209	211	39	19	153	82	181	100	168	75	47	21
4	96	79	38	19	138	71	160	81	685	1100	40	17
5	61	46	41	26	124	62	144	64	367	383	41	17
6	46	32	52	38	117	59	231	251	198	125	38	16
7	37	25	45	32	121	62	681	1010	168	95	31	13
8	31	20	45	26	118	58	258	143	158	83	47	19
9	39	26	45	25	124	59	174	86	135	67	44	18
10	60	39	47	25	119	56	423	764	120	58	30	12
11	61	40	105	54	142	65	847	2150	113	53	33	13
12	67	48	218	115	151	69	299	231	100	46	32	13
13	87	66	149	80	131	59	252	174	95	43	43	20
14	88	61	55	28	99	43	196	117	77	35	224	139
15	85	57	63	31	540	734	146	84	73	33	84	36
16	81	61	178	85	299	263	252	189	65	29	65	27
17	78	58	97	44	131	70	215	131	46	20	91	39
18	74	50	140	63	128	66	157	89	36	16	85	36
19	71	47	112	49	131	66	152	86	37	16	58	24
20	68	47	115	52	128	63	147	77	35	15	45	18
21	65	41	129	43	115	55	146	74	31	13	44	18
22	63	38	129	49	124	58	228	133	34	14	44	17
23	60	35	106	39	122	55	180	91	35	15	43	17
24	57	33	87	30	118	52	180	85	51	22	42	17
25	55	32	94	41	133	58	180	84	55	29	33	13
26	53	30	118	58	150	75	180	82	37	17	31	12
27	50	28	176	120	116	54	180	83	31	13	27	11
28	48	26	184	126	97	43	176	91	30	12	27	11
29	46	24	164	111	135	61	150	68	40	17	41	16
30	44	23	215	171	130	59	447	453	96	71	76	29
31	---	---	156	102	---	---	280	146	50	25	---	---
TOTAL	---	1499	---	1743	---	2761	---	7316	---	2713	---	711
TOTAL LOAD FOR YEAR:			55678.8		TONS.							

PLATTE RIVER BASIN

05414000 PLATTE RIVER NEAR ROCKVILLE, WI

LOCATION.--Lat 42°43'52", long 90°38'25", in SW 1/4 sec.17, T.3 N., R.2 W., Grant County, Hydrologic Unit 07060003, on right bank just downstream from bridge on County Trunk Highway B, 0.8 mi (1.3 km) upstream from Blakely Branch, 2.2 mi (3.5 km) east of Rockville, 4.5 mi (7.2 km) northeast of Potosi, and 15.2 mi (24.5 km) upstream from mouth.

DRAINAGE AREA.--142 mi² (368 km²).

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for October and November 1934, published in WSP 1308.

REVISED RECORDS.--WSP 1438: 1935-36, 1937(M), 1939(M), 1941-43, 1946(M). WDR WI-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 642.50 ft (195.834 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1941, nonrecording gage at site 1.3 mi (2.1 km) upstream at datum 12.55 ft (3.82 m) higher. Oct. 1, 1941, to June 29, 1949, nonrecording gage at present site and datum.

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

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--48 years, 98.4 ft³/s (2.787 m³/s), 9.41 in/yr (239 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,500 ft³/s (1,230 m³/s) July 16, 1950, gage height, 17.26 ft (5.261 m), from rating curve extended above 7,000 ft³/s (198 m³/s) on basis of slope-area measurement of peak flow; no flow Nov. 24, 1950.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,100 ft³/s (59.5 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 16	1315	*2,990 84.7	*10.20 3.109	Aug. 4	0945	2,440 69.1	9.68 2.950

minimum discharge, 46 ft³/s (1.303 m³/s) Mar. 9, gage height, 3.47 ft (1.058 m), result of freezeup.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14 to Mar. 12.)

Oct. 1 to July 13

July 14 to Sept. 30

3.6	64	6.0	639	3.9	99	6.0	628
4.0	130	7.0	1,000	4.0	117	7.0	1,000
5.0	354	8.0	1,500	5.0	332		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	104	119	76	74	96	202	126	200	113	141	143
2	97	102	124	76	74	94	216	123	183	119	137	139
3	93	101	112	76	74	88	273	121	169	179	132	130
4	98	100	109	76	74	86	224	123	160	139	937	125
5	109	100	103	76	74	84	214	179	154	120	277	123
6	107	98	103	76	74	82	191	218	149	159	254	123
7	95	96	107	76	74	78	181	201	153	416	203	120
8	90	95	109	76	74	74	176	169	143	182	184	117
9	89	93	103	76	74	74	172	156	140	165	167	113
10	90	92	96	76	74	78	172	152	134	404	158	112
11	87	92	99	76	74	84	176	146	127	358	150	112
12	80	90	96	76	74	160	188	147	127	239	144	112
13	82	90	95	76	74	1260	191	142	124	295	140	114
14	197	90	96	76	76	603	178	136	120	192	136	141
15	182	91	86	76	78	352	180	130	278	177	134	117
16	154	99	82	76	80	1360	214	128	178	267	130	113
17	170	94	78	74	82	442	198	127	150	183	129	119
18	227	91	78	74	84	292	181	130	145	173	125	116
19	189	90	78	74	86	329	176	148	139	165	125	111
20	169	91	78	74	90	315	175	138	135	155	123	109
21	151	87	78	74	110	332	161	139	129	154	119	107
22	147	85	78	74	130	256	156	169	127	161	124	104
23	140	92	78	74	250	277	150	147	122	145	131	103
24	134	99	78	74	220	329	148	136	120	138	131	103
25	125	94	78	74	120	276	144	133	122	134	168	103
26	135	162	78	74	100	222	145	147	146	131	130	103
27	117	138	78	74	100	191	140	212	126	144	125	103
28	114	112	78	74	98	180	134	232	122	142	122	101
29	111	106	76	74	---	175	131	266	123	132	143	100
30	108	104	76	74	---	245	128	256	118	354	183	99
31	106	---	76	74	---	243	---	222	---	153	141	---
TOTAL	3895	2978	2803	2326	2666	8757	5315	4999	4363	5988	5443	3435
MEAN	126	99.3	90.4	75.0	95.2	282	177	161	145	193	176	115
MAX	227	162	124	76	250	1360	273	266	278	416	937	143
MIN	80	85	76	74	74	74	128	121	118	113	119	99
CFSM	.89	.70	.64	.53	.67	1.99	1.25	1.13	1.02	1.36	1.24	.81
IN.	1.02	.78	.73	.61	.70	2.29	1.39	1.31	1.14	1.57	1.43	.90
CAL YR 1981	TOTAL	32024	MEAN	87.7	MAX	960	MIN	42	CFSM	.62	IN	8.39
WTR YR 1982	TOTAL	52968	MEAN	145	MAX	1360	MIN	74	CFSM	1.02	IN	13.88

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI

LOCATION.--Lat 42°40'58", long 90°22'01", in SW 1/4 SW 1/4 sec.34, T.3 N., R.1 E., Lafayette County, Hydrologic Unit 07060005, at town road, 4.0 mi (6.4 km) southwest of Belmont.

DRAINAGE AREA.--5.42 mi² (14.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 925 ft (282 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Water year 1981: Maximum discharge, 220 ft³/s (6.23 m³/s) Feb. 22, gage height, 8.06 ft (2.457 m); minimum daily discharge, 1.3 ft³/s (0.037 m³/s) June 23, 27-29, July 31, Aug. 1, 11-13.

Water year 1982: Maximum discharge, 376 ft³/s (10.6 m³/s) Mar. 12, gage height, 8.71 ft (2.655 m); minimum daily, 1.7 ft³/s (0.048 m³/s) Feb. 5-14.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.8	2.7	2.3	2.0	2.7	2.1	2.5	1.5	1.4	1.3	7.9
2	2.8	2.8	2.4	2.2	1.9	2.4	2.0	2.3	1.5	1.4	2.1	2.9
3	2.6	2.8	2.6	2.1	1.8	2.4	2.0	2.3	1.8	1.4	1.6	2.7
4	2.5	2.8	2.7	2.1	1.8	2.2	3.6	2.2	1.7	1.5	1.4	2.3
5	2.4	2.8	2.8	2.1	1.8	2.1	2.3	2.2	1.6	1.6	1.4	2.3
6	2.4	2.8	3.5	2.0	1.8	2.0	2.1	2.1	1.5	1.5	1.5	2.1
7	2.3	2.8	3.9	2.0	1.8	1.9	2.1	2.0	1.5	1.4	2.1	2.9
8	2.4	2.7	3.6	2.0	1.8	1.9	2.9	2.0	1.4	1.4	1.7	2.7
9	2.4	2.7	3.1	2.0	1.7	1.9	2.6	2.1	1.8	1.5	1.4	2.4
10	2.3	2.7	2.9	2.0	1.7	1.9	2.4	2.2	1.6	1.4	1.4	2.1
11	2.2	2.6	2.8	2.0	1.7	2.0	2.7	2.0	1.5	1.4	1.3	2.0
12	2.2	2.6	2.9	2.0	1.7	2.1	3.5	1.9	1.4	1.6	1.3	2.0
13	2.2	2.7	2.8	2.0	1.7	2.0	3.1	2.0	1.7	2.5	1.3	2.0
14	2.5	3.0	2.7	2.0	1.8	2.0	3.1	1.9	1.6	2.0	2.1	2.0
15	6.4	2.9	2.5	2.0	1.8	2.1	2.7	1.8	6.4	2.9	2.1	1.9
16	5.2	2.7	2.5	2.1	5.4	2.0	2.6	1.7	1.5	1.8	1.5	1.9
17	3.0	2.6	2.6	2.1	4.9	2.0	2.6	1.7	1.6	1.8	1.5	1.9
18	2.5	2.6	2.5	2.2	3.4	2.0	2.4	1.6	1.5	1.8	1.5	1.8
19	2.2	2.6	2.4	2.2	2.1	1.9	2.4	1.5	1.4	1.8	1.5	1.7
20	2.1	2.7	2.3	2.2	2.0	2.0	2.2	1.5	1.5	2.6	1.6	1.6
21	2.7	2.7	2.3	2.2	1.8	1.9	2.2	1.6	3.1	1.9	1.6	1.8
22	2.4	2.6	2.3	2.2	101	1.9	2.5	1.5	1.7	1.8	1.6	1.8
23	2.8	2.9	2.4	2.2	10	1.9	2.4	1.6	1.3	1.8	1.7	1.8
24	3.8	2.7	2.3	2.3	5.2	1.9	2.3	1.7	3.3	1.8	1.7	2.1
25	3.5	2.5	2.2	2.4	3.8	1.9	2.1	1.5	1.5	1.7	1.7	4.9
26	3.1	2.6	2.2	2.3	3.1	1.9	2.1	1.5	1.4	1.5	2.7	5.5
27	3.0	2.7	2.3	2.1	4.1	1.9	2.0	1.5	1.3	1.4	2.5	3.4
28	2.9	2.7	2.4	2.1	4.0	1.9	3.6	1.4	1.3	1.6	3.9	2.7
29	2.8	2.8	2.4	2.0	---	2.2	2.4	1.5	1.3	1.5	3.6	3.6
30	2.8	2.7	2.4	2.0	---	2.7	2.8	1.5	1.4	1.4	2.4	2.9
31	2.9	---	2.4	2.0	---	2.2	---	1.5	---	1.3	3.4	---
TOTAL	88.1	81.6	81.8	65.4	177.6	63.8	75.8	56.3	53.6	52.4	58.4	79.6
MEAN	2.84	2.72	2.64	2.11	6.34	2.06	2.53	1.82	1.79	1.69	1.88	2.65
MAX	6.4	3.0	3.9	2.4	101	2.7	3.6	2.5	6.4	2.9	3.9	7.9
MIN	2.1	2.5	2.2	2.0	1.7	1.9	2.0	1.4	1.3	1.3	1.3	1.6
CFSM	.52	.50	.49	.39	1.17	.38	.47	.34	.33	.31	.35	.49
IN.	.60	.56	.56	.45	1.22	.44	.52	.39	.37	.36	.40	.55
WTR YR 1981	TOTAL	934.4	MEAN	2.56	MAX	101	MIN	1.3	CFSM	.47	IN	6.41

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.8	5.3	2.1	1.9	4.2	4.2	3.4	3.6	3.1	3.9	5.4
2	2.4	2.8	3.9	2.1	1.8	4.0	4.7	3.4	3.4	3.3	4.2	4.7
3	2.3	2.8	3.4	2.1	1.8	3.7	9.4	3.3	3.2	4.6	3.8	4.7
4	2.3	2.9	3.3	2.2	1.8	3.3	6.6	3.2	3.1	2.9	4.4	5.5
5	2.2	2.9	3.2	2.8	1.7	3.1	4.8	5.4	2.9	2.8	8.5	5.0
6	2.6	2.9	3.1	2.8	1.7	3.0	4.2	4.5	2.8	5.3	8.0	4.5
7	2.2	2.9	3.0	2.9	1.7	2.9	4.0	3.7	2.9	15	7.3	4.4
8	2.3	2.8	3.0	2.7	1.7	2.9	3.9	3.5	2.8	3.2	7.0	4.1
9	2.2	2.8	2.9	2.5	1.7	3.1	3.8	3.2	2.7	2.9	6.9	4.1
10	2.2	2.7	2.9	2.4	1.7	3.0	4.0	3.2	2.7	33	6.6	4.3
11	2.2	2.8	2.7	2.3	1.7	3.8	4.5	3.2	2.6	6.8	6.5	4.2
12	2.1	2.7	2.6	2.2	1.7	55	5.6	3.3	2.6	4.2	6.2	4.0
13	2.1	2.7	2.5	2.1	1.7	116	5.1	3.3	2.5	4.3	6.2	4.2
14	4.3	2.8	2.4	2.1	1.7	23	4.5	3.1	2.3	5.0	6.1	4.2
15	3.1	2.9	2.3	2.0	1.8	8.9	5.3	3.0	5.4	16	6.2	4.5
16	2.8	3.2	2.2	2.0	1.9	81	7.3	3.1	3.0	13	6.0	4.4
17	6.8	2.9	2.2	1.9	1.9	7.0	5.6	3.0	2.8	6.4	6.0	4.8
18	4.3	2.7	2.3	1.9	1.8	6.6	4.8	3.2	3.1	6.1	5.6	4.8
19	3.7	2.8	2.5	1.9	1.9	9.3	4.9	3.9	3.1	5.5	5.0	4.7
20	3.5	2.8	2.6	1.9	2.7	45	4.5	3.0	3.1	5.1	5.1	4.7
21	3.3	2.6	2.8	1.9	7.0	8.7	4.1	3.9	3.0	5.0	4.7	4.5
22	3.2	2.4	2.7	1.9	23	6.6	4.0	3.5	2.9	5.2	5.2	4.4
23	3.1	2.6	2.6	1.9	34	6.5	3.8	3.2	2.9	4.9	6.1	4.6
24	3.0	2.7	2.5	1.9	11	6.7	3.7	3.0	2.9	5.0	5.9	4.6
25	3.0	2.7	2.4	1.9	5.9	5.1	3.6	2.9	3.1	4.7	5.7	4.4
26	2.9	5.1	2.5	1.9	4.3	4.4	3.6	4.0	3.4	4.6	4.6	4.4
27	2.9	3.7	2.4	2.0	4.4	4.1	3.5	5.1	3.3	4.8	4.5	4.2
28	2.9	3.3	2.2	2.0	4.4	4.0	3.4	4.8	3.2	4.3	4.1	3.9
29	2.8	3.3	2.1	1.9	---	4.1	3.4	4.7	3.3	4.3	6.3	3.7
30	2.8	3.3	2.1	2.0	---	7.0	3.4	4.2	3.3	4.8	7.9	3.3
31	2.9	---	2.1	1.9	---	4.7	---	3.8	---	3.9	4.9	---
TOTAL	91.0	88.3	84.7	66.1	130.3	450.7	138.2	112.0	91.9	200.0	219.0	133.2
MEAN	2.94	2.94	2.73	2.13	4.65	14.5	4.61	3.61	3.06	6.45	7.06	4.44
MAX	6.8	5.1	5.3	2.9	34	116	9.4	5.4	5.4	33	44	5.5
MIN	2.1	2.4	2.1	1.9	1.7	2.9	3.4	2.9	2.3	2.8	3.8	3.3
CFSM	.54	.54	.50	.39	.86	2.68	.85	.67	.57	1.19	1.30	.82
IN.	.62	.61	.58	.45	.89	3.09	.95	.77	.63	1.37	1.50	.91
CAL YR 1981	TOTAL	946.9	MEAN	2.59	MAX	101	MIN	1.3	CFSM	.48	IN	6.50
WTR YR 1982	TOTAL	1805.4	MEAN	4.95	MAX	116	MIN	1.7	CFSM	.91	IN	12.39

GALENA RIVER BASIN
05414894 PATS CREEK NEAR BELMONT, WI
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1982 (discontinued).

WATER TEMPERATURES: October 1980 to September 1982 (discontinued).

DISSOLVED OXYGEN: May to September 1982 (discontinued).

INSTRUMENTATION.--Water-quality monitor since October 1980. Water-quality sampler since October 1980.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey and were analyzed by the Wisconsin State Laboratory of Hygiene.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum observed, 783 micromhos Feb. 26, Oct. 20, 1981; minimum observed, 125 micromhos Aug. 4, 1982.

WATER TEMPERATURES: Maximum observed, 32.5°C July 5, 1982; minimum observed, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum observed, 13.5 mg/l Aug. 15, 1982; minimum observed, 1.2 mg/l July 7, 1982.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1980												
15...	1630	6.4	2	442	162	6.4	.020	.40	--	--	.023	.07
DEC												
11...	1201	2.8	--	--	--	7.4	.040	.20	--	.050	--	--
JAN , 1981												
*13...	1300	2.0	13	422	3	7.4	.060	.10	--	.060	.024	.07
17...	1020	2.1	10	432	3	--	--	--	--	--	--	--
24...	1045	2.2	2	404	2	--	--	--	--	--	--	--
FEB												
16...	1331	5.8	272	--	--	4.8	1.30	3.3	--	.820	.560	1.7
22...	0115	11	2850	3130	210	3.8	.530	9.3	--	2.60	.170	.52
22...	0315	169	6780	7190	640	3.5	2.50	27	--	9.00	.860	2.6
22...	0415	181	7230	7550	650	4.6	2.40	24	--	8.10	.590	1.8
22...	0515	157	5770	6000	540	6.3	2.20	20	--	6.60	.510	1.6
22...	1015	35	1200	1670	116	12	2.40	8.6	--	2.60	1.02	3.1
22...	1345	136	2780	3160	176	11	2.50	12	--	3.90	--	--
22...	1545	216	5890	6500	430	11	2.40	19	--	6.30	--	--
22...	1815	134	3200	3750	240	14	2.30	13	--	4.00	.780	2.4
22...	2145	60	1290	1750	116	16	2.30	7.1	--	2.30	.830	2.5
*23...	1159	6.7	100	574	14	15	1.70	2.3	--	.600	.360	1.1
28...	1415	3.4	26	390	7	6.0	.280	.52	.80	.110	.054	.17
MAR												
23...	1101	1.9	12	370	3	5.5	.020	.58	.60	.040	.010	.03
APR												
08...	1330	3.0	18	400	5	4.8	.140	.86	1.00	.140	.069	.21
12...	0630	6.0	142	528	24	4.4	.300	2.7	3.00	.660	--	--
12...	0700	6.0	96	500	16	4.6	.240	1.7	1.90	.430	--	--
12...	0730	5.9	90	478	10	4.7	.190	1.3	1.50	.330	--	--
*12...	1600	3.2	66	485	18	4.0	.570	3.4	4.00	.980	--	--
12...	1601	3.2	80	480	18	4.0	.510	3.3	3.80	.930	--	--
28...	0530	6.9	190	545	30	4.3	.280	1.9	2.20	.440	.111	.34
28...	0630	5.4	158	518	28	4.3	.220	1.9	2.10	.340	.078	.24
28...	0700	4.8	152	500	22	4.1	.260	2.6	2.90	.400	.104	.32
28...	1040	3.4	73	452	12	3.8	.230	1.7	1.90	.300	.110	.34
MAY												
13...	1146	2.0	--	--	--	5.9	.110	.49	.60	.080	.047	.14
JUN												
15...	0830	1.5	95	508	16	4.4	.170	1.2	1.40	.240	--	--
15...	1130	3.8	274	642	40	3.5	.300	2.0	2.30	.440	--	--
*15...	1330	11	655	1040	95	2.6	1.40	8.0	9.40	2.50	.680	2.1
15...	1331	11	800	1130	125	2.6	1.40	9.4	10.8	2.70	--	--
15...	1332	11	715	1040	115	2.7	1.30	7.7	9.00	2.40	--	--
15...	1515	32	995	1310	110	2.6	.510	5.7	6.20	1.50	--	--
15...	1615	20	780	1150	110	2.0	.920	8.7	9.60	2.50	--	--
15...	1915	6.5	390	732	60	1.5	.860	6.3	7.20	1.92	--	--
16...	0045	2.5	192	514	36	2.2	.560	3.5	4.10	1.01	--	--
16...	1200	2.0	98	518	15	4.3	.290	1.3	1.60	.370	.174	.53

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLTA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
JUN , 1981												
16...	1201	2.0	--	--	--	--	--	2.5	2.70	.370	--	--
21...	1730	5.2	266	610	38	4.3	.150	1.9	2.00	.480	--	--
21...	1830	7.7	1200	1460	140	4.2	.280	2.2	5.00	1.35	--	--
21...	1930	6.5	704	1020	128	4.1	1.00	7.5	8.50	2.10	--	--
21...	2030	11	500	820	66	4.2	.350	3.5	3.80	1.00	--	--
21...	2100	11	508	815	72	3.9	.290	4.3	4.60	1.06	--	--
21...	2230	9.0	324	685	64	3.9	.260	2.9	3.20	.880	--	--
22...	0030	3.9	360	725	64	3.0	.740	6.5	7.20	2.16	--	--
24...	0145	2.9	146	565	30	4.6	.140	1.7	1.80	.340	--	--
24...	0315	4.0	206	635	40	4.3	.300	2.6	2.90	.740	--	--
24...	0445	6.6	236	620	42	4.2	.170	2.1	2.30	.630	--	--
24...	0515	7.2	250	655	32	4.1	.160	2.2	2.40	.610	--	--
24...	0615	7.2	224	595	36	3.8	.190	2.9	3.10	.740	--	--
24...	0715	6.3	206	555	34	3.6	.200	3.0	3.20	.760	--	--
*25...	1200	1.7	65	505	14	5.3	.100	.90	--	.240	--	--
JUL												
13...	0915	3.4	138	234	24	4.5	.120	1.8	1.90	.420	--	--
13...	1115	4.9	138	550	14	4.2	.290	1.7	2.00	.480	--	--
13...	1415	3.5	84	540	18	4.3	.410	2.4	2.80	.560	--	--
13...	1915	2.2	36	520	20	4.1	.490	1.7	2.20	.260	--	--
14...	1230	2.0	40	540	4	4.8	.230	1.2	1.40	.220	--	--
15...	0415	2.4	106	580	26	4.6	.120	1.2	1.30	.300	--	--
15...	0715	4.5	204	690	40	4.3	.400	3.6	4.00	1.06	--	--
15...	0845	5.1	156	650	18	4.3	.260	2.3	2.60	.800	--	--
15...	1145	4.2	96	610	24	4.0	.120	1.8	1.90	.400	--	--
15...	1645	2.4	42	525	16	3.9	.100	1.7	1.80	.410	--	--
16...	1445	1.4	30	470	2	5.1	.080	.72	.80	.210	--	--
AUG												
07...	2015	5.1	268	652	36	--	.340	3.1	--	.980	--	--
27...	1332	2.1	36	425	9	4.5	.160	1.3	1.50	.360	.230	.71
27...	2330	5.9	144	500	38	4.2	.130	1.7	1.80	.450	.210	.64
28...	0030	6.0	172	465	48	3.6	.230	2.3	2.50	.640	.310	.95
28...	0100	7.6	198	500	46	3.5	.230	2.5	2.70	.720	.330	1.0
28...	0130	8.6	206	495	36	3.4	.170	2.6	--	.690	.290	.89
28...	0545	4.7	166	520	28	3.7	.120	1.9	--	.600	.300	.92
28...	0811	4.1	216	590	54	3.7	.400	3.0	--	1.12	.560	1.7
28...	0812	4.1	198	580	48	3.7	.370	2.9	--	1.03	.530	1.6
SEP												
01...	0100	4.4	258	615	40	3.1	--	2.8	--	.920	--	--
01...	0230	7.4	332	565	72	2.7	.510	5.1	5.60	1.77	.730	2.2
01...	0330	9.5	348	700	68	2.8	.370	4.2	4.60	1.45	--	--
01...	0430	17	344	690	60	2.7	.300	4.1	4.40	1.43	.680	2.1
01...	0600	18	416	745	80	2.8	.660	6.7	7.40	2.70	--	--
01...	0900	12	328	665	92	1.9	.510	5.5	6.00	2.60	--	--
*01...	1029	9.5	216	540	64	2.5	.400	3.6	4.00	1.74	.880	2.7
01...	1030	9.5	264	545	52	2.2	.370	3.7	4.10	1.70	.910	2.8
25...	0445	3.5	88	440	14	4.6	.070	1.2	1.30	.320	--	--
25...	0715	4.4	81	475	12	4.4	.180	1.5	1.70	.450	--	--
25...	0915	5.3	83	465	13	4.1	.300	2.3	2.60	.600	--	--
25...	1315	5.9	66	450	11	3.8	.140	1.7	1.80	.450	--	--
25...	1445	6.0	74	445	10	3.4	.280	2.2	2.50	.660	--	--
26...	0945	5.7	91	455	14	3.2	.300	2.1	2.40	.710	--	--
26...	1115	8.4	141	485	27	3.2	.450	2.8	3.20	.980	--	--
26...	1201	8.4	110	540	16	3.4	.310	2.1	2.40	.730	.460	1.4
*26...	1202	8.4	106	465	16	3.4	.340	2.1	2.40	.750	.470	1.4
26...	1630	7.1	--	--	--	2.8	.740	3.6	4.30	1.62	--	--
27...	0200	3.9	--	--	--	3.8	.340	1.7	2.00	.750	--	--
27...	1045	3.4	--	--	--	4.7	.120	.68	.80	.300	--	--
27...	2215	3.0	39	500	7	5.5	.070	.83	.90	.230	--	--
*29...	1235	4.8	59	515	7	5.2	.130	.87	1.00	.300	.173	.53
29...	1238	4.8	47	490	6	4.9	.080	1.1	1.20	.280	.150	.46
29...	1345	4.5	42	415	5	5.0	.110	1.1	1.20	.300	--	--
29...	2115	3.2	80	470	10	4.6	.190	1.4	1.60	.550	.330	1.0
30...	0245	3.1	57	445	2	4.9	.100	.90	1.00	.330	.194	.59
*30...	1155	2.8	23	435	3	5.3	.070	.63	.70	.180	.129	.40

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1981												
06...	0600	3.2	72	470	17	5.3	.090	.91	1.00	.220	--	--
06...	0700	3.2	74	460	17	5.3	.090	.91	1.00	.230	--	--
06...	0930	3.0	36	415	14	5.2	.070	.73	.80	.180	--	--
06...	1230	2.7	18	400	9	4.8	.060	.84	.90	.240	--	--
06...	1730	2.4	26	405	9	4.4	.060	1.1	1.20	.300	--	--
*07...	1145	2.3	13	420	10	5.5	.040	.46	.50	.120	.090	.28
14...	0900	6.2	114	480	12	4.7	.200	1.6	1.80	.500	.230	.71
14...	1030	6.5	80	450	9	4.5	.140	1.4	1.50	.420	.220	.67
14...	1130	6.4	73	428	9	4.3	.140	1.3	1.40	.400	--	--
*14...	1515	4.5	64	460	10	3.8	.270	2.6	2.90	.860	.520	1.6
17...	1200	18	1030	1340	136	3.7	.180	6.0	6.20	1.72	--	--
20...	1444	3.3	36	430	8	6.2	.050	.55	.60	.200	.076	.23
*20...	1445	3.3	25	450	6	6.3	.040	.56	.60	.120	.073	.22
NOV												
17...	1240	2.9	13	645	5	6.7	<.020	--	.40	.060	.033	.10
26...	1500	9.1	228	610	40	5.3	.690	--	4.60	.980	--	--
26...	1530	9.7	416	815	96	5.0	1.10	--	8.10	2.02	--	--
26...	1600	11	680	1060	148	4.8	1.60	--	11.6	3.30	.890	2.7
26...	1630	11	600	1040	150	4.6	1.70	--	11.0	3.20	--	--
26...	1730	9.5	560	950	150	4.2	2.00	--	13.0	3.70	--	--
27...	1255	3.5	15	--	5	6.0	.300	--	1.20	.260	--	--
28...	1120	3.2	17	450	4	6.8	.050	--	.40	.100	--	--
JAN , 1982												
*06...	1505	2.8	17	430	6	7.7	.310	--	.50	.080	.036	.11
*28...	0850	2.1	11	425	6	7.4	.110	--	.50	.070	--	--
FEB												
16...	1550	1.9	13	400	--	7.3	<.020	--	--	.050	.037	.11
21...	0830	7.1	96	495	40	3.0	12.0	--	30.0	4.00	--	--
21...	1130	8.6	118	555	42	3.1	9.40	--	26.0	3.30	--	--
21...	2130	9.1	102	430	32	1.8	7.00	--	19.0	2.80	--	--
22...	0130	11	104	470	32	3.0	6.90	--	18.0	2.80	--	--
22...	0530	11	68	435	25	3.4	6.10	--	15.0	2.40	--	--
*22...	1800	47	952	1220	112	2.6	5.90	--	17.0	3.40	--	--
22...	1801	52	952	1180	112	2.5	5.80	--	16.0	3.30	--	--
22...	1900	57	624	900	84	2.3	5.60	--	16.0	3.30	--	--
22...	2330	47	290	480	56	2.5	4.00	--	11.0	2.40	--	--
23...	0315	44	204	415	28	2.9	3.40	--	8.60	1.92	--	--
23...	1300	32	444	660	56	3.3	3.20	--	8.60	2.10	--	--
*23...	1429	34	--	--	--	3.3	3.20	--	9.00	1.70	--	--
23...	1430	34	548	780	40	3.3	3.20	--	9.00	2.20	--	--
*23...	1431	34	524	750	52	3.3	3.20	--	9.00	2.20	--	--
23...	1645	40	600	--	92	3.2	3.30	--	9.80	2.30	--	--
23...	2245	23	166	--	28	3.5	2.80	--	6.80	1.48	--	--
24...	1215	10	67	--	16	4.3	2.20	--	4.90	1.01	--	--
MAR												
12...	1745	11	91	390	17	4.0	1.90	--	5.40	.740	--	--
12...	2045	245	2660	3850	--	--	4.90	--	20.0	4.60	--	--
12...	2145	360	3360	4560	340	1.3	4.10	--	20.0	5.10	.830	2.5
12...	2345	207	695	840	--	--	4.20	--	12.0	2.50	--	--
13...	0645	39	115	275	24	2.0	3.10	--	7.50	1.42	--	--
13...	1540	316	2370	2460	130	1.6	2.70	--	14.0	3.50	.820	2.5
*13...	1541	316	2190	2380	240	1.6	2.70	--	12.0	3.40	.840	2.6
13...	1700	270	2060	2590	225	1.4	2.40	--	12.0	3.30	--	--
14...	0900	11	78	320	19	2.4	1.80	--	4.30	.920	--	--
14...	1600	46	760	--	--	--	2.30	--	7.60	1.90	--	--
14...	1700	50	960	1180	95	1.4	2.20	--	8.40	2.20	--	--
*15...	1430	8.0	64	330	11	3.4	1.20	--	2.80	.580	.390	1.2
16...	0345	17	284	502	36	2.4	1.60	--	5.30	1.02	--	--
16...	0645	270	3120	--	--	--	2.50	--	17.0	4.60	--	--
16...	0715	285	2720	2960	280	2.4	2.40	--	17.0	4.40	.810	2.5
16...	1415	66	560	--	--	--	2.00	--	7.20	1.78	--	--
*16...	1505	57	484	700	80	2.9	2.00	--	7.20	1.76	.930	2.9
16...	1506	57	436	704	60	2.5	1.70	--	6.40	1.58	.770	2.4
*17...	1638	5.9	12	350	0	4.8	1.10	--	2.00	.340	.250	.77
30...	0931	9.2	188	548	24	4.6	.800	--	3.70	.480	--	--
30...	1115	12	228	600	44	4.5	1.10	--	4.70	.820	--	--
30...	1345	8.7	300	708	60	3.8	2.00	--	8.20	1.76	--	--
31...	1015	4.7	11	404	1	5.5	.500	--	1.20	.240	--	--
APR												
03...	0430	14	452	840	120	4.0	1.20	--	7.30	1.38	--	--
03...	0530	22	1010	1470	180	3.5	1.90	--	12.0	2.80	--	--
03...	0700	19	840	1310	210	2.9	2.00	--	13.0	3.50	--	--
03...	0930	13	700	1220	190	2.4	2.30	--	14.0	3.60	--	--
04...	1240	4.9	10	465	5	6.6	.300	--	.70	.180	--	--

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
MAY												
05...	0530	9.9	127	480	19	4.8	.130	--	2.10	.280	--	--
05...	0630	11	130	535	18	4.5	.270	--	2.80	.370	.103	.32
05...	0800	9.0	82	450	12	4.6	.190	--	1.80	.280	--	--
*05...	1310	4.5	47	475	11	3.7	.370	--	4.20	.620	.250	.77
*06...	1430	4.4	11	490	7	5.2	.150	--	1.20	.220	--	--
*19...	1431	5.3	162	580	26	--	--	--	--	--	--	--
*19...	1433	5.3	150	575	26	--	--	--	--	--	--	--
*27...	1004	3.9	95	550	19	5.4	.370	--	2.50	.680	--	--
27...	2230	8.1	238	660	52	4.5	.430	--	4.90	1.25	--	--
29...	1045	4.4	56	550	13	6.5	.180	--	1.00	.240	--	--
JUN												
01...	1300	3.6	63	460	10	7.0	.120	--	.80	.200	.101	.31
15...	0830	8.7	136	540	22	5.3	.170	--	2.00	.420	--	--
15...	1000	11	138	510	21	4.8	.150	--	1.80	.420	.165	.51
15...	1301	9.4	106	495	36	3.3	.510	--	4.80	.980	--	--
15...	1302	9.4	90	505	24	3.5	.570	--	4.80	1.02	.580	1.8
15...	1445	6.1	87	480	22	3.3	.530	--	4.60	1.00	--	--
16...	1210	3.0	23	495	7	6.7	.200	--	1.00	.210	--	--
JUL												
02...	0930	3.1	45	535	8	6.5	.210	--	1.20	.140	--	--
02...	2359	7.1	118	560	18	5.6	.140	--	--	.310	--	--
03...	0130	10	134	590	16	5.5	.230	--	1.90	.400	--	--
03...	0400	8.0	110	520	18	4.7	.170	--	1.80	.370	--	--
06...	1930	6.5	76	575	24	5.3	.250	--	1.80	.380	--	--
07...	0030	39	1260	1580	220	2.5	1.70	--	12.0	3.40	--	--
07...	0130	76	930	1260	120	2.4	.520	--	7.50	2.00	.570	1.7
07...	0400	37	700	1040	130	1.7	.830	--	9.50	3.40	--	--
07...	0800	7.1	350	650	70	2.6	.430	--	4.30	1.25	--	--
*07...	1035	5.1	184	515	52	3.2	.300	--	3.00	.800	.370	1.1
10...	1600	9.2	248	670	32	4.5	.110	--	1.80	.510	--	--
10...	1730	254	4630	4940	440	2.6	.550	--	16.0	5.00	--	--
10...	1800	312	5300	5560	620	1.0	1.00	--	21.0	7.20	--	--
10...	1900	157	2460	2790	360	1.0	.910	--	14.0	4.60	--	--
10...	2359	18	424	700	72	2.2	.510	--	4.60	1.62	--	--
11...	1200	6.1	73	515	13	5.7	.300	--	1.60	.470	--	--
12...	1130	4.3	34	505	2	7.5	.120	--	.80	.180	--	--
15...	1330	37	93	--	19	7.6	.120	--	1.20	.250	--	--
15...	1530	46	106	605	22	6.5	.200	--	1.70	.380	--	--
15...	1700	47	308	715	56	4.9	.250	--	3.40	.860	--	--
15...	2030	11	820	1140	170	3.8	.520	--	7.80	2.30	--	--
15...	2200	45	432	800	64	3.8	.310	--	4.90	1.40	--	--
15...	2359	48	850	1170	200	2.5	.430	--	7.60	2.70	--	--
*16...	1245	8.5	90	500	18	4.4	.400	--	2.00	.920	--	--
17...	0115	6.1	53	535	10	6.5	.120	--	1.00	.340	--	--
17...	1200	6.5	42	530	7	7.1	.100	--	.80	.260	--	--
*28...	1128	4.4	10	350	3	8.0	.030	--	.40	.100	--	--
AUG												
04...	0445	103	2330	--	--	--	.300	--	10.0	2.90	--	--
04...	0645	166	2780	2940	363	1.0	.350	--	12.0	3.80	--	--
04...	0845	121	1080	--	--	--	.300	--	7.00	2.60	--	--
04...	1315	25	324	--	--	--	.220	--	3.40	1.28	--	--
*04...	1710	13	104	410	26	3.2	.230	--	2.40	.920	--	--
18...	1631	5.1	38	350	10	8.0	.050	--	.80	.120	.056	.17
29...	2200	19	186	555	26	7.0	.170	--	2.50	.510	--	--
29...	2230	19	148	550	22	6.8	.160	--	2.20	.480	--	--
29...	2300	18	152	507	26	6.1	.350	--	2.70	.560	--	--
SEP												
*08...	1200	4.3	14	450	2	8.8	.050	--	.40	.100	--	--

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1980				MAR , 1981			
15...	1630	6.4	2	*18...	1100	1.9	29
*16...	0910	5.3	93	23...	1101	1.9	12
*17...	0745	3.0	106	28...	1110	1.9	11
*24...	0950	3.9	93	APR			
NOV				08...	1330	3.0	18
*06...	0830	2.7	44	11...	1115	2.6	31
*19...	1000	2.5	61	12...	0630	6.0	142
*26...	1300	2.6	61	12...	0700	6.0	96
DEC				12...	0730	5.9	90
*06...	1155	3.1	50	*12...	1600	3.2	66
*13...	1130	4.3	54	12...	1601	3.2	80
*20...	1235	2.8	66	18...	1150	2.4	11
*27...	1230	2.8	37	25...	1130	2.1	6
JAN , 1981				28...	0530	6.9	190
*03...	1130	2.1	30	28...	0600	6.2	170
*13...	1300	2.0	13	28...	0630	5.4	158
14...	1200	2.0	7	28...	0700	4.8	152
17...	1020	2.1	10	28...	1040	3.4	73
24...	1045	2.2	2	MAY			
31...	1100	2.1	8	01...	1430	2.4	8
FEB				09...	1100	2.1	14
*04...	1430	1.7	25	*12...	1035	1.9	17
*16...	1330	5.8	115	17...	1030	1.7	16
16...	1331	5.8	272	23...	0930	1.5	18
16...	1415	7.3	416	30...	1105	1.5	51
16...	1445	8.5	432	JUN			
16...	1645	8.5	476	13...	0950	1.9	59
16...	1715	11	344	15...	0830	1.5	95
16...	1815	10	192	15...	1130	3.8	274
16...	1915	8.5	140	15...	1200	5.4	280
16...	2015	7.0	130	15...	1300	9.2	524
17...	1615	8.6	280	*15...	1330	11	655
17...	1815	8.6	144	15...	1331	11	800
17...	1915	7.1	124	15...	1332	11	715
17...	1945	7.1	114	15...	1430	29	952
22...	0115	11	2850	15...	1515	32	995
22...	0215	103	5180	15...	1545	26	868
22...	0245	148	5110	15...	1615	20	780
22...	0315	169	6780	15...	1645	14	720
22...	0345	177	5720	15...	1715	13	632
22...	0415	181	7230	15...	1745	11	565
22...	0445	174	7180	15...	1845	7.5	460
22...	0515	157	5770	15...	1915	6.5	390
22...	0545	136	5010	15...	2015	4.8	356
22...	0645	98	3350	15...	2115	3.9	312
22...	0745	71	2270	15...	2245	3.1	252
22...	0915	44	1500	15...	2345	2.9	184
22...	1015	35	1200	16...	0045	2.5	192
22...	1115	34	1000	16...	1200	2.0	98
22...	1145	40	800	20...	1350	1.5	61
22...	1215	51	1160	21...	1700	2.6	246
22...	1245	72	1470	21...	1730	5.2	266
22...	1315	103	2350	21...	1800	6.3	1340
22...	1345	136	2780	21...	1830	7.7	1200
22...	1415	169	3610	21...	1900	6.8	856
22...	1445	195	5990	21...	1930	6.5	704
22...	1515	213	1170	21...	2000	7.2	520
22...	1545	216	5890	21...	2030	11	500
22...	1621	207	5950	21...	2100	11	508
22...	1715	172	4810	21...	2130	11	484
22...	1745	151	3750	21...	2200	9.9	400
22...	1815	134	3200	21...	2230	9.0	324
22...	1845	121	2890	21...	2330	6.1	396
22...	1915	109	2380	22...	0030	3.9	360
22...	1945	100	2150	22...	0100	3.4	356
22...	2045	80	1400	22...	0230	2.4	264
22...	2145	60	1290	22...	1305	1.5	113
22...	2245	42	1000	24...	0130	2.5	150
23...	0015	32	720	24...	0145	2.9	146
23...	0145	22	428	24...	0215	3.3	148
23...	0315	18	354	24...	0245	3.7	212
23...	0545	13	204	24...	0315	4.0	206
23...	0615	12	188	24...	0345	4.7	206
23...	0645	12	180	24...	0415	5.8	222
*23...	1159	6.7	100	24...	0445	6.6	236
23...	1200	6.7	208	24...	0515	7.2	250
28...	1415	3.4	26	24...	0545	7.2	242
MAR				24...	0615	7.2	224
07...	1130	2.2	12	24...	0715	6.3	206
14...	1045	1.9	8				

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
JUN , 1981				SEP , 1981			
24...	0815	5.2	190	01...	0045	4.1	202
24...	0945	4.0	174	01...	0100	4.4	258
*24...	1030	3.4	198	01...	0130	5.7	220
24...	1145	2.9	166	01...	0200	7.1	260
24...	1215	2.8	158	01...	0230	7.4	332
24...	1345	2.5	132	01...	0300	8.2	284
24...	1615	2.2	106	01...	0330	9.5	348
*25...	1200	1.7	65	01...	0400	14	392
JUL				01...	0430	17	344
06...	1645	1.5	42	01...	0500	19	360
13...	0900	3.0	246	01...	0600	18	416
13...	0915	3.4	138	*01...	0700	15	476
13...	0945	4.2	107	01...	0800	14	452
13...	1015	4.1	147	01...	0900	12	328
13...	1045	4.5	172	01...	1000	10	272
13...	1115	4.9	138	01...	1029	9.5	216
13...	1145	4.3	101	01...	1030	9.5	264
13...	1315	3.5	97	01...	1130	7.6	212
13...	1415	3.5	84	01...	1230	6.4	180
13...	1515	3.4	75	01...	1400	5.3	164
13...	1715	3.1	70	01...	1500	4.7	146
13...	1915	2.2	36	07...	0845	2.1	32
14...	1230	2.0	40	14...	1335	2.0	13
15...	0345	2.0	98	20...	0845	1.7	20
15...	0415	2.4	106	25...	0400	3.3	90
15...	0445	2.9	107	25...	0415	3.5	86
15...	0515	3.3	139	25...	0445	3.5	88
15...	0545	4.0	171	25...	0515	3.8	95
15...	0615	4.5	168	25...	0615	4.4	90
15...	0645	4.5	154	25...	0715	4.4	81
15...	0715	4.5	204	25...	0845	4.5	83
15...	0745	4.5	220	25...	0915	5.3	83
15...	0815	4.9	190	25...	0945	5.6	92
15...	0845	5.1	156	25...	1145	5.6	59
15...	0915	5.1	154	25...	1315	5.9	66
15...	0945	5.1	132	25...	1445	6.0	74
15...	1015	4.9	128	25...	1545	6.0	71
15...	1045	4.5	90	25...	1715	6.0	62
15...	1145	4.2	96	26...	0830	4.8	110
15...	1315	3.5	77	26...	0915	3.7	103
15...	1445	2.9	62	26...	0945	5.7	91
15...	1645	2.4	42	26...	1015	6.4	103
15...	1715	2.3	51	26...	1045	7.3	133
16...	1445	1.4	30	26...	1115	8.4	141
20...	1230	3.1	26	26...	1145	8.4	128
28...	1500	1.7	32	26...	1201	8.4	110
AUG				*26...	1202	8.4	106
03...	1025	1.6	56	26...	1400	8.4	96
07...	1930	3.8	372	26...	1700	6.7	126
07...	1945	4.1	356	26...	2030	5.0	106
07...	2015	5.1	268	27...	0130	3.9	70
07...	2045	4.7	400	27...	1015	3.4	23
07...	2115	4.1	476	27...	1245	3.4	9
07...	2145	3.9	356	27...	1515	3.3	16
07...	2215	3.9	248	27...	2215	3.0	39
07...	2245	3.7	208	*29...	1235	4.8	59
07...	2315	3.7	188	29...	1238	4.8	47
07...	2345	3.7	160	29...	1315	4.7	42
08...	0015	3.4	156	29...	1345	4.5	42
09...	1645	1.4	22	29...	1415	4.5	41
16...	1310	1.5	14	29...	1545	3.8	43
23...	1405	1.7	14	29...	1845	3.4	72
27...	1332	2.1	36	29...	2115	3.2	80
27...	2300	5.3	148	30...	0015	3.2	65
27...	2330	5.9	144	30...	0215	3.1	65
27...	2359	5.9	156	30...	0245	3.1	57
28...	0030	6.0	172	*30...	1155	2.8	23
28...	0100	7.6	198				
28...	0130	8.6	206				
28...	0230	7.3	168				
28...	0330	5.7	140				
28...	0545	4.7	166				
28...	0800	4.1	190				
*28...	0811	4.1	216				
28...	0812	4.1	198				
28...	0900	3.5	152				
28...	1000	3.3	120				

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT , 1981				FEB , 1982			
03...	0840	2.4	30	22...	0400	11	76
06...	0545	3.1	83	22...	0530	11	68
06...	0600	3.2	72	*22...	1800	47	952
06...	0630	3.2	77	22...	1801	52	952
06...	0700	3.2	74	22...	1900	57	624
06...	0730	3.2	68	22...	1945	57	416
06...	0800	3.2	71	22...	2030	54	356
06...	0830	3.2	52	22...	2115	52	320
06...	0900	3.2	47	22...	2200	50	290
06...	0930	3.0	36	22...	2330	47	290
06...	1100	2.8	32	23...	0145	45	212
06...	1230	2.7	18	23...	0315	44	204
06...	1530	2.5	27	23...	0615	36	216
06...	1730	2.4	26	23...	1000	32	258
*07...	1145	2.3	13	23...	1300	32	444
14...	0845	6.0	135	23...	1430	34	548
14...	0900	6.2	114	*23...	1431	34	524
14...	0930	6.4	103	23...	1645	40	600
14...	1000	6.5	95	23...	1815	32	440
14...	1030	6.5	80	23...	1945	31	262
14...	1100	6.5	89	23...	2245	23	166
14...	1130	6.4	73	24...	0315	15	108
14...	1230	6.0	61	24...	1045	9.9	62
14...	1330	5.4	53	24...	1215	10	67
14...	1430	4.8	57	*27...	1230	3.9	10
*14...	1515	4.5	64	MAR			
17...	1130	18	460	*07...	0930	3.1	6
17...	1200	18	1030	12...	1730	9.4	79
17...	1230	16	940	12...	1745	11	91
17...	1300	16	708	12...	1815	13	160
17...	1430	12	480	12...	1845	21	358
17...	1700	9.1	272	12...	1915	48	636
17...	2000	5.9	250	12...	1945	170	1020
17...	2300	5.2	166	12...	2015	219	2970
20...	1444	3.3	36	12...	2045	245	2660
*20...	1445	3.3	25	12...	2145	360	3360
31...	1230	2.9	10	12...	2315	249	870
NOV				12...	2345	207	695
08...	1020	2.8	16	13...	0045	152	456
17...	1240	2.9	13	13...	0215	89	290
24...	1205	2.7	8	13...	0415	65	214
26...	1430	8.9	210	13...	0615	43	130
26...	1500	9.1	228	13...	0645	39	115
26...	1530	9.7	416	13...	1540	316	2370
26...	1600	11	680	*13...	1541	316	2190
26...	1630	11	600	13...	1700	270	2060
26...	1700	11	552	13...	1900	151	1340
26...	1730	9.5	560	13...	2100	62	640
27...	1255	3.5	15	13...	2115	56	1820
28...	1120	3.2	17	13...	2215	38	2340
DEC				13...	2245	33	1330
05...	0950	3.1	9	13...	2359	24	186
12...	1245	2.6	8	14...	0300	19	101
*13...	1130	2.5	54	14...	0600	16	53
21...	0950	2.6	22	14...	0900	11	78
27...	1305	2.4	4	14...	1000	11	55
JAN , 1982				14...	1200	12	62
05...	1535	2.8	22	14...	1300	18	104
*06...	1505	2.8	17	14...	1400	21	260
*18...	1225	1.9	20	14...	1500	33	430
*25...	1300	1.9	14	14...	1600	46	760
*28...	0850	2.1	11	14...	1700	50	960
*30...	1245	2.0	4	14...	1800	47	895
FEB				14...	2000	33	524
*06...	0940	1.7	5	*15...	1430	8.0	64
*13...	1050	1.9	9	16...	0315	11	102
16...	1550	1.9	13	16...	0345	17	284
21...	0700	6.4	302	16...	0415	30	620
21...	0730	6.4	128	16...	0445	55	1710
21...	0800	6.9	88	16...	0515	116	2470
21...	0830	7.1	96	16...	0545	171	3770
21...	0930	7.6	90	16...	0615	245	3800
21...	1100	8.2	106	16...	0645	270	3120
21...	1130	8.6	118	16...	0715	285	2720
21...	1200	8.6	126	16...	0745	283	2530
21...	1230	7.8	130	16...	0845	240	1750
21...	1330	7.1	130	16...	1015	148	1220
*21...	1400	6.9	180	16...	1145	100	844
21...	1600	7.3	198	16...	1245	81	688
21...	1630	6.9	198	16...	1415	66	560
21...	1700	6.9	212	*16...	1505	57	484
21...	1730	7.3	206	16...	1506	57	436
21...	1830	7.3	168	16...	1600	50	394
21...	1930	7.6	176	16...	1645	45	440
21...	2030	8.2	178	16...	1815	33	296
21...	2130	9.1	102	16...	2030	20	204
21...	2230	9.7	200	17...	0015	12	92
21...	2359	10	156	17...	1637	5.9	20
22...	0030	11	132	*17...	1638	5.9	12
22...	0100	11	142	18...	1600	8.1	28
22...	0130	11	104	18...	1630	8.7	40
22...	0200	11	98	18...	1900	9.9	72
22...	0230	11	86	18...	2100	8.5	63
22...	0300	11	84	18...	2230	7.6	53

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
MAR , 1982				JUL , 1982			
19...	1030	7.8	22	06...	2330	26	880
19...	1100	8.3	24	07...	0030	39	1260
19...	1230	8.7	56	07...	0100	70	1040
19...	1500	11	96	07...	0130	76	930
19...	1530	13	94	07...	0230	54	590
19...	1600	13	332	07...	0400	37	700
19...	1700	14	154	07...	0500	24	550
*25...	0910	4.9	7	07...	0630	9.9	560
*30...	0805	7.4	92	07...	0800	7.1	350
30...	0930	9.2	200	*07...	1035	5.1	184
30...	0931	9.2	188	07...	2130	3.2	113
30...	1015	10	236	10...	1530	5.9	228
30...	1045	11	222	10...	1600	9.2	248
30...	1115	12	228	10...	1630	13	520
30...	1145	11	372	10...	1700	48	1000
30...	1245	9.9	308	10...	1730	254	4630
30...	1345	8.7	300	10...	1800	312	5300
31...	1015	4.7	11	10...	1830	211	3480
APR				10...	1900	157	2460
03...	0330	9.2	160	10...	2000	89	1520
03...	0400	11	226	10...	2100	58	1220
03...	0430	14	452	10...	2359	18	424
03...	0500	19	652	11...	0130	12	232
03...	0530	22	1010	11...	0330	8.7	172
03...	0600	22	1210	11...	0500	7.6	116
03...	0630	21	1040	11...	1135	6.1	64
03...	0700	19	850	11...	1200	6.1	73
03...	0800	16	850	11...	1530	5.6	54
03...	0930	13	700	11...	2230	4.4	760
03...	1100	9.4	510	12...	1130	4.3	34
*03...	1408	7.2	260	15...	1230	6.7	67
*04...	1240	4.9	10	15...	1300	14	92
*10...	1100	3.6	8	15...	1330	37	93
*18...	1020	5.0	13	15...	1400	25	132
*25...	0925	3.7	6	15...	1430	22	126
MAY				15...	1500	44	126
*01...	1000	3.4	6	15...	1530	46	106
05...	0530	9.9	127	15...	1600	39	142
05...	0630	11	130	15...	1630	44	196
05...	0800	9.0	82	15...	1700	47	308
*05...	1310	4.5	47	15...	1730	38	510
*06...	1430	4.4	11	15...	1800	29	610
*09...	1015	2.8	8	15...	1900	18	407
*13...	1434	3.3	24	15...	2000	13	1620
*15...	1350	3.1	38	15...	2030	11	820
*19...	0855	3.8	147	15...	2100	13	560
*19...	1431	5.3	162	15...	2130	25	690
*19...	1433	5.3	150	15...	2200	45	432
*27...	1004	3.9	95	15...	2230	35	560
27...	2130	8.0	157	15...	2300	30	1090
27...	2200	8.1	194	15...	2330	44	1090
27...	2230	8.1	238	15...	2359	48	850
27...	2300	8.1	230	16...	0030	40	740
27...	2330	7.4	214	16...	0100	41	630
*28...	1120	4.6	83	*16...	1210	8.5	80
29...	1045	4.4	56	*16...	1245	8.5	90
JUN				16...	1415	8.3	70
01...	1300	3.6	63	16...	1745	7.6	76
03...	0900	3.2	60	16...	2245	7.1	61
*11...	1129	2.6	20	17...	0115	6.1	53
15...	0730	6.2	110	17...	0245	6.4	59
15...	0800	7.2	121	17...	1200	6.5	42
15...	0830	8.7	136	*22...	1845	5.3	19
15...	0900	10	154	*28...	1128	4.4	10
15...	0930	11	154	AUG			
15...	1000	11	138	04...	0415	19	500
15...	1030	11	138	04...	0445	103	2330
15...	1135	11	116	04...	0515	103	1650
15...	1230	9.9	127	04...	0545	192	2980
15...	1301	9.4	106	04...	0615	194	3360
*15...	1302	9.4	90	04...	0645	166	2780
15...	1445	6.1	87	04...	0715	142	2100
16...	1210	3.0	23	04...	0745	132	1660
*18...	0825	3.1	38	04...	0845	121	1080
*25...	0910	2.8	47	04...	0945	104	840
JUL				04...	1115	47	530
*02...	0855	3.1	38	04...	1315	25	324
*02...	0930	3.1	45	04...	1515	16	172
02...	2315	6.2	108	04...	1645	13	116
02...	2359	7.1	118	*04...	1710	13	104
03...	0100	9.9	126	*06...	1045	8.0	27
03...	0130	10	134	18...	1631	5.1	38
03...	0200	10	142	28...	0845	4.1	28
03...	0300	9.4	118	29...	2145	18	194
03...	0400	8.0	110	29...	2200	19	186
03...	0430	6.9	118	29...	2230	19	148
06...	1830	6.2	116	29...	2300	18	152
06...	1930	6.5	76	SEP			
06...	2030	6.9	105	07...	0925	4.5	20
06...	2230	8.0	208	*08...	1200	4.3	14
				12...	0850	4.0	32
				*16...	0920	4.4	24

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML)
OCT , 1980					
15...	1630	6.4	2.0	--	--
DEC					
11...	1201	2.8	1.6	170	140
JAN , 1981					
13...	1300	2.0	1.6	130	40
MAR					
23...	1101	1.9	3.3	<10	<10
MAY					
13...	1146	2.0	1.5	1100	150
JUN					
16...	1215	1.4	4.9	--	--
JUL					
16...	1200	2.1	--	3900	600
16...	1445	1.4	3.3	--	--
AUG					
27...	1332	2.1	4.1	100000	26000
28...	0800	4.1	10	--	--
SEP					
01...	1029	9.5	19	--	--
29...	1235	4.8	3.3	--	--
29...	1238	4.8	--	35000	7300

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML)
OCT , 1981					
07...	1145	2.3	1.6	--	--
NOV					
17...	1240	2.9	2.0	350	270
JAN , 1982					
06...	1505	2.8	1.6	200	120
FEB					
16...	1550	1.9	1.2	10	10
23...	1431	34	26	--	--
MAY					
05...	1310	4.5	15	300000	--
JUN					
15...	1302	9.4	15	--	--
JUL					
06...	2359	45	14	--	--
07...	0200	66	27	--	--
07...	0600	17	21	--	--
28...	1128	4.4	2.4	--	--
AUG					
18...	1631	5.1	2.4	--	--
SEP					
08...	1200	4.3	--	1500	--
30...	1305	--	--	2100	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM
FEB , 1981												
22...	1620	207	5110	2860	19	27	38	53	73	89	97	100

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	695	668	683	650	616	638	612	601	603
2	---	---	---	687	627	662	624	590	609	631	616	622
3	---	---	---	662	588	634	---	---	---	673	608	638
4	---	---	---	688	650	671	---	---	---	681	661	671
5	---	---	---	683	656	672	---	---	---	661	657	658
6	---	---	---	682	655	671	---	---	---	---	---	---
7	---	---	---	685	646	670	---	---	---	---	---	---
8	---	---	---	684	657	672	---	---	---	---	---	---
9	---	---	---	686	637	667	712	655	658	---	---	---
10	---	---	---	678	632	659	673	657	660	---	---	---
11	---	---	---	669	610	644	695	672	684	---	---	---
12	---	---	---	652	546	604	668	622	647	---	---	---
13	---	---	---	593	553	574	656	591	633	---	---	---
14	---	---	---	677	639	662	664	641	652	---	---	---
15	---	---	---	676	641	662	648	629	640	---	---	---
16	---	---	---	663	608	642	636	629	632	---	---	---
17	---	---	---	647	628	638	644	568	629	---	---	---
18	---	---	---	653	623	642	643	609	633	---	---	---
19	---	---	---	668	626	645	714	651	682	---	---	---
20	---	---	---	656	633	649	---	---	---	678	599	605
21	---	---	---	660	614	638	---	---	---	624	605	614
22	---	---	---	653	623	639	---	---	---	638	611	626
23	701	648	676	658	638	647	---	---	---	628	613	620
24	689	634	659	654	643	648	---	---	---	626	600	615
25	703	665	692	659	643	652	---	---	---	605	582	598
26	710	687	699	659	632	647	---	---	---	615	581	600
27	705	693	698	652	629	641	---	---	---	625	555	617
28	704	681	696	649	626	639	---	---	---	673	550	616
29	699	683	692	645	618	637	---	---	---	683	648	669
30	694	678	690	650	619	640	---	---	---	677	631	655
31	696	629	681	---	---	---	662	594	597	656	625	637
MONTH	710	629	687	695	546	648	714	568	642	683	550	627

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	623	585	603	---	---	---	728	709	718	---	---	---
2	676	583	634	---	---	---	726	696	713	---	---	---
3	679	650	667	---	---	---	721	679	707	---	---	---
4	664	641	654	---	---	---	716	645	687	---	---	---
5	654	628	644	---	---	---	714	702	710	---	---	---
6	626	591	608	---	---	---	709	686	697	---	---	---
7	605	582	595	---	---	---	703	669	688	---	---	---
8	615	595	605	---	---	---	690	633	660	---	---	---
9	609	586	598	---	---	---	689	662	674	---	---	---
10	596	588	592	---	---	---	679	641	661	---	---	---
11	605	590	599	---	---	---	678	636	656	---	---	---
12	596	577	584	---	---	---	665	619	640	---	---	---
13	582	567	575	---	---	---	665	638	654	---	---	---
14	569	554	562	---	---	---	658	635	646	---	---	---
15	556	463	532	---	---	---	658	628	646	---	---	---
16	448	254	353	---	---	---	659	624	644	---	---	---
17	413	300	354	---	---	---	656	613	639	---	---	---
18	448	327	399	---	---	---	667	618	643	---	---	---
19	544	466	509	---	---	---	672	622	647	---	---	---
20	573	544	561	---	---	---	657	619	640	---	---	---
21	582	548	572	---	---	---	657	615	637	---	---	---
22	486	257	392	---	---	---	658	654	655	---	---	---
23	663	512	638	734	257	712	---	---	---	---	---	---
24	646	623	633	748	679	719	---	---	---	---	---	---
25	705	701	702	735	671	705	---	---	---	---	---	---
26	783	779	783	718	672	695	---	---	---	---	---	---
27	781	723	757	713	654	693	---	---	---	---	---	---
28	---	---	---	723	686	704	---	---	---	---	---	---
29	---	---	---	717	690	708	---	---	---	---	---	---
30	---	---	---	750	708	727	---	---	---	---	---	---
31	---	---	---	745	706	726	---	---	---	---	---	---
MONTH	783	254	582	750	257	710	728	613	666	---	---	---

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	647	592	626	716	695	706	611	466	533
2	---	---	---	643	615	633	711	645	668	715	626	691
3	---	---	---	647	608	632	718	658	697	720	717	718
4	---	---	---	648	597	628	712	703	708	723	720	721
5	---	---	---	653	609	635	721	693	704	722	713	717
6	---	---	---	694	638	664	708	690	702	721	709	715
7	---	---	---	702	680	689	707	550	659	726	652	685
8	---	---	---	697	676	686	710	602	669	703	649	675
9	---	---	---	689	674	679	737	693	710	722	703	715
10	---	---	---	682	661	676	715	706	711	722	703	715
11	---	---	---	680	665	673	708	696	704	726	626	703
12	---	---	---	682	664	674	705	683	696	742	648	711
13	---	---	---	683	582	637	704	671	690	748	616	715
14	---	---	---	700	625	657	694	607	648	730	610	697
15	631	318	436	705	599	640	709	622	675	715	693	706
16	648	408	561	716	673	693	723	704	714	715	699	707
17	665	652	655	723	704	714	715	703	712	715	696	705
18	673	660	665	716	700	708	720	700	711	709	684	698
19	671	662	665	732	709	716	717	701	711	706	690	701
20	670	633	655	727	635	668	722	700	711	709	675	699
21	661	400	599	717	674	700	723	695	711	715	690	699
22	648	432	533	719	706	713	724	640	703	703	672	690
23	665	626	658	718	694	703	713	679	702	696	666	683
24	619	546	571	711	696	703	712	696	703	690	602	657
25	668	626	654	717	708	712	708	689	700	649	583	604
26	666	648	660	713	707	710	701	607	663	630	565	601
27	665	635	654	716	707	713	669	575	643	---	---	---
28	654	625	642	716	669	688	651	534	592	---	---	---
29	653	629	640	723	713	719	671	561	627	---	---	---
30	654	599	632	724	705	717	720	659	692	---	---	---
31	---	---	---	719	700	710	710	629	677	---	---	---
MONTH	673	318	618	732	582	681	737	534	688	748	466	687

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	737	580	731	760	739	753	687	573	634	---	---	---
2	733	729	732	754	717	736	712	622	681	---	---	---
3	735	728	732	742	698	722	722	702	714	---	---	---
4	731	720	724	743	710	724	715	698	705	---	---	---
5	736	703	725	748	741	743	721	711	714	---	---	---
6	715	692	707	746	719	734	717	710	714	---	---	---
7	738	717	724	740	720	732	720	678	707	669	605	665
8	730	723	727	738	718	729	709	668	692	675	660	667
9	729	718	724	733	716	725	716	689	710	681	666	674
10	721	711	716	731	717	726	743	702	723	690	669	682
11	723	710	717	735	706	724	711	698	705	671	656	663
12	719	706	714	733	701	720	717	666	704	662	653	657
13	735	711	722	725	699	714	710	700	705	656	653	655
14	717	656	674	723	676	706	710	665	700	662	656	659
15	743	684	716	711	665	692	761	665	727	659	653	657
16	745	738	740	718	672	694	743	725	734	659	656	657
17	744	412	598	727	678	716	---	---	---	664	658	662
18	736	568	684	729	709	722	---	---	---	661	655	658
19	752	735	742	729	712	721	---	---	---	658	649	654
20	783	747	752	715	702	709	---	---	---	655	649	653
21	752	738	743	721	708	714	---	---	---	652	649	651
22	743	736	739	727	707	717	---	---	---	655	649	652
23	741	734	738	713	672	693	---	---	---	657	655	657
24	739	735	737	713	671	689	---	---	---	663	657	660
25	740	733	737	723	709	715	---	---	---	663	657	660
26	738	727	733	719	575	657	---	---	---	663	660	663
27	736	719	727	715	601	675	---	---	---	665	657	662
28	734	713	723	724	714	718	---	---	---	662	657	659
29	724	705	717	727	717	723	---	---	---	673	671	673
30	723	693	710	723	690	714	---	---	---	685	675	681
31	759	708	733	---	---	---	---	---	---	682	670	677
MONTH	783	412	721	760	575	715	761	573	704	690	605	662

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	677	665	671	637	589	610	690	662	677	---	---	---
2	666	657	663	609	574	592	686	636	659	---	---	---
3	661	652	657	668	603	644	652	468	574	---	---	---
4	665	653	659	667	638	651	698	658	678	---	---	---
5	654	645	649	670	631	656	676	640	656	---	---	---
6	655	646	651	691	639	666	681	602	648	---	---	---
7	650	638	644	697	650	674	687	622	653	---	---	---
8	642	630	634	699	664	681	677	636	661	---	---	---
9	637	625	631	682	648	664	677	652	665	---	---	---
10	634	620	627	659	619	642	682	661	669	---	---	---
11	626	615	621	758	508	613	660	615	645	682	628	677
12	613	604	608	504	181	424	642	561	598	694	666	679
13	605	599	602	229	167	200	656	609	634	688	675	679
14	603	592	596	348	223	278	668	647	657	685	682	683
15	592	579	587	478	292	400	673	588	635	---	---	---
16	705	577	630	378	214	281	679	587	637	---	---	---
17	674	653	665	568	360	491	682	648	665	---	---	---
18	670	658	664	589	469	559	678	648	663	---	---	---
19	688	654	670	550	413	490	684	662	671	719	556	597
20	742	593	687	490	267	388	686	647	668	684	599	663
21	653	450	577	615	371	519	676	632	657	682	487	623
22	459	300	404	623	559	588	670	623	647	675	584	651
23	335	301	317	621	536	582	666	617	643	687	681	685
24	486	339	409	608	525	574	663	611	637	690	687	688
25	575	489	542	663	584	637	668	639	652	689	686	687
26	620	577	606	684	659	673	683	649	665	685	598	644
27	645	606	623	703	665	686	667	649	661	673	587	642
28	627	571	596	686	664	673	---	---	---	720	623	688
29	---	---	---	676	658	666	---	---	---	719	678	697
30	---	---	---	660	569	599	---	---	---	741	695	722
31	---	---	---	669	612	650	---	---	---	720	701	708
MONTH	742	300	603	758	167	563	698	468	651	741	487	671

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	707	696	701	698	691	694	741	725	732	708	686	698
2	706	695	700	701	602	684	736	694	719	724	700	714
3	708	694	700	675	522	599	739	719	730	720	716	719
4	715	699	706	711	677	696	730	125	391	724	720	722
5	714	706	708	713	698	708	726	657	712	727	715	721
6	709	698	702	707	369	656	741	713	730	723	708	715
7	716	704	709	694	318	497	740	728	734	716	708	713
8	722	711	715	699	680	693	739	731	734	708	704	706
9	721	696	706	709	697	703	735	723	728	708	700	705
10	706	678	694	707	135	531	726	722	723	708	696	701
11	701	693	696	705	293	591	725	713	718	704	693	699
12	695	673	689	734	707	716	724	705	714	712	696	707
13	682	675	679	732	675	706	720	693	708	712	693	705
14	680	666	675	734	420	679	723	696	710	708	696	703
15	668	546	595	675	260	472	718	685	705	696	693	695
16	699	640	680	714	346	547	718	691	707	700	689	697
17	698	670	686	744	716	730	721	694	709	693	681	688
18	693	683	687	737	710	724	716	697	709	696	693	695
19	710	694	700	739	731	734	718	702	711	704	696	699
20	704	696	700	745	729	735	721	705	712	700	693	697
21	705	698	702	739	727	733	715	700	709	696	685	692
22	707	696	703	741	729	732	713	674	697	693	689	692
23	709	694	702	742	730	734	701	571	648	693	685	690
24	707	689	699	740	724	733	710	635	695	693	685	691
25	709	668	694	742	722	733	705	531	616	689	677	684
26	693	672	680	752	732	741	711	708	710	700	677	690
27	697	690	695	750	718	735	710	706	709	700	696	698
28	704	683	697	748	727	737	709	704	707	700	640	672
29	705	676	692	751	649	733	712	504	680	650	634	643
30	687	680	685	734	655	701	700	444	601	708	634	667
31	---	---	---	737	725	733	708	700	704	---	---	---
MONTH	722	546	693	752	135	682	741	125	694	727	634	697

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	7.5	4.0	6.0	5.0	1.0	3.5	.5	.0	.5
2	---	---	---	8.5	3.5	6.0	.5	.0	.0	.0	.0	.0
3	---	---	---	11.0	7.5	9.0	---	---	---	.0	.0	.0
4	---	---	---	10.0	6.5	8.0	---	---	---	.0	.0	.0
5	---	---	---	8.5	4.5	6.5	---	---	---	.0	.0	.0
6	---	---	---	10.0	4.0	7.0	---	---	---	---	---	---
7	---	---	---	10.0	7.0	8.5	---	---	---	---	---	---
8	---	---	---	8.5	6.5	7.5	---	---	---	---	---	---
9	---	---	---	11.0	6.5	8.5	4.5	1.0	2.0	---	---	---
10	---	---	---	8.5	5.5	6.5	.5	.0	.0	---	---	---
11	---	---	---	6.5	4.5	5.5	.0	.0	.0	---	---	---
12	---	---	---	8.0	5.0	6.5	2.5	.0	1.0	---	---	---
13	---	---	---	8.5	7.0	8.0	1.0	.0	.0	---	---	---
14	---	---	---	7.0	4.5	5.5	.5	.0	.0	---	---	---
15	---	---	---	7.0	4.0	5.0	1.0	.0	.5	---	---	---
16	---	---	---	6.5	1.5	4.0	2.5	.0	1.0	---	---	---
17	---	---	---	3.5	1.5	3.0	1.5	.0	.5	---	---	---
18	---	---	---	5.0	.5	3.0	1.0	.0	.0	---	---	---
19	---	---	---	6.0	.5	3.0	.0	.0	.0	---	---	---
20	---	---	---	5.5	1.0	3.5	---	---	---	1.5	.5	.5
21	---	---	---	5.5	1.5	3.5	---	---	---	1.0	.5	.5
22	---	---	---	6.5	2.0	4.0	---	---	---	1.0	.5	.5
23	13.5	11.5	12.0	5.0	4.0	4.5	---	---	---	2.0	.5	1.0
24	11.5	7.0	9.5	3.5	.5	2.5	---	---	---	2.5	.5	1.5
25	6.5	5.0	6.0	3.0	.0	1.5	---	---	---	4.0	1.5	2.5
26	7.0	4.0	5.0	3.5	.0	1.5	---	---	---	3.5	2.0	2.5
27	5.0	4.0	4.5	3.0	2.0	2.5	---	---	---	3.0	.5	2.0
28	7.5	2.5	4.5	4.0	1.5	2.5	---	---	---	1.0	.5	.5
29	7.0	2.0	4.5	5.0	2.0	3.0	---	---	---	1.0	.5	.5
30	7.5	2.0	5.0	6.0	2.0	4.0	---	---	---	1.0	.5	.5
31	9.5	3.5	6.5	---	---	---	1.5	.5	.5	.5	.5	.5
MONTH	13.5	2.0	6.5	11.0	.0	5.0	5.0	.0	.5	4.0	.0	.5

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.5	.5	.5	---	---	---	13.0	7.5	9.5	---	---	---
2	.5	.5	.5	---	---	---	17.0	6.0	11.5	---	---	---
3	.5	.0	.5	---	---	---	15.0	10.5	13.0	---	---	---
4	.5	.0	.5	---	---	---	13.5	5.5	9.5	---	---	---
5	.5	.0	.5	---	---	---	11.5	4.0	7.5	---	---	---
6	.5	.5	.5	---	---	---	14.5	3.5	8.5	---	---	---
7	.5	.5	.5	---	---	---	17.5	6.0	12.0	---	---	---
8	.0	.0	.0	---	---	---	13.0	8.5	11.5	---	---	---
9	.5	.0	.0	---	---	---	17.0	6.5	11.5	---	---	---
10	.0	.0	.0	---	---	---	18.5	9.5	14.0	---	---	---
11	.0	.0	.0	---	---	---	15.0	11.5	13.5	---	---	---
12	.0	.0	.0	---	---	---	15.0	9.5	12.0	---	---	---
13	.0	.0	.0	---	---	---	15.0	11.0	13.0	---	---	---
14	.0	.0	.0	---	---	---	15.0	9.5	12.0	---	---	---
15	.0	.0	.0	---	---	---	15.0	7.0	10.5	---	---	---
16	.5	.0	.0	---	---	---	11.5	8.5	10.0	---	---	---
17	.5	.0	.0	---	---	---	19.0	9.5	14.0	---	---	---
18	4.0	.0	1.5	---	---	---	18.5	10.0	14.0	---	---	---
19	6.5	1.0	3.5	---	---	---	14.0	10.5	12.0	---	---	---
20	9.0	1.5	5.0	---	---	---	14.5	7.0	10.5	---	---	---
21	7.0	3.5	5.5	---	---	---	11.5	7.0	9.5	---	---	---
22	4.5	2.0	3.0	---	---	---	10.0	9.5	10.0	---	---	---
23	3.0	2.0	2.5	---	---	---	---	---	---	---	---	---
24	8.0	.0	4.0	14.0	4.0	8.5	---	---	---	---	---	---
25	8.0	2.0	4.5	12.0	4.5	8.5	---	---	---	---	---	---
26	4.5	2.0	3.0	15.5	7.0	10.5	---	---	---	---	---	---
27	2.5	2.0	2.5	14.5	5.0	9.5	---	---	---	---	---	---
28	---	---	---	16.5	7.0	11.5	---	---	---	---	---	---
29	---	---	---	15.5	11.0	12.5	---	---	---	---	---	---
30	---	---	---	13.0	9.5	11.0	---	---	---	---	---	---
31	---	---	---	17.0	7.0	11.5	---	---	---	---	---	---
MONTH	9.0	.0	1.5	17.0	4.0	10.5	19.0	3.5	11.5	---	---	---

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	25.5	18.5	22.0	26.5	19.5	23.0	21.0	18.5	19.5
2	---	---	---	23.5	19.0	21.5	23.5	21.0	22.0	21.0	16.0	18.5
3	---	---	---	24.5	18.5	22.0	27.0	19.0	22.5	21.0	16.0	18.5
4	---	---	---	26.0	19.5	22.5	28.0	21.5	24.5	20.5	15.5	17.5
5	---	---	---	26.0	20.0	23.0	24.5	22.0	23.0	19.0	15.5	17.0
6	---	---	---	28.0	20.0	23.5	27.0	20.0	23.0	21.0	14.5	17.0
7	---	---	---	27.5	20.0	24.0	24.0	20.5	22.0	17.0	15.0	16.0
8	---	---	---	28.0	22.5	25.0	26.0	19.5	22.5	19.5	13.5	16.0
9	---	---	---	28.0	22.5	25.0	26.0	19.5	22.5	21.5	14.0	17.5
10	---	---	---	27.0	19.0	23.0	24.5	19.5	22.0	24.0	16.0	20.0
11	---	---	---	23.0	21.0	22.0	24.0	18.0	21.0	24.5	17.5	21.0
12	---	---	---	29.0	21.0	25.0	26.0	18.5	22.0	24.0	18.5	21.5
13	---	---	---	29.0	23.5	26.0	25.5	19.5	23.0	24.0	17.5	20.5
14	---	---	---	25.5	21.5	23.0	23.0	20.5	22.0	23.5	18.5	20.5
15	24.5	19.0	21.5	23.0	18.0	21.0	26.5	20.0	22.5	20.5	16.5	18.5
16	20.0	17.5	18.5	27.0	19.5	23.0	22.0	18.5	20.0	17.0	14.5	15.5
17	23.5	15.5	19.0	26.5	20.0	23.5	23.0	16.0	19.0	15.5	12.0	13.5
18	24.0	17.0	20.0	27.0	20.5	24.0	23.5	16.0	19.5	15.5	11.5	13.0
19	23.5	17.0	20.0	27.0	22.5	25.0	23.5	16.5	19.5	17.5	11.5	14.0
20	21.0	16.5	18.5	27.0	21.5	24.0	24.0	17.0	20.0	17.5	11.0	14.0
21	18.0	16.0	17.0	25.0	20.0	22.5	24.0	17.5	20.5	16.0	13.0	14.0
22	22.5	15.0	18.5	24.0	18.5	21.5	23.5	18.0	21.0	16.0	11.5	13.5
23	23.5	16.0	19.5	21.0	18.0	19.0	24.5	17.5	21.0	15.0	11.0	13.0
24	22.5	17.0	20.0	25.5	17.0	21.0	22.5	18.5	20.5	16.5	12.0	14.5
25	23.5	17.0	20.0	23.5	20.0	22.0	24.0	18.5	21.0	15.5	13.5	14.5
26	24.5	16.5	20.5	21.5	19.0	20.0	23.0	19.5	21.0	17.0	14.5	15.5
27	24.0	17.0	20.5	19.0	16.0	17.5	22.5	19.0	20.5	16.5	12.0	14.0
28	25.0	18.5	21.5	18.0	14.5	16.0	22.5	19.0	20.5	16.0	12.0	14.0
29	24.5	20.0	22.0	25.0	16.0	20.5	23.5	18.5	20.5	16.0	13.0	14.5
30	26.0	19.5	22.5	26.5	19.0	22.5	23.5	18.5	21.0	20.0	13.5	16.5
31	---	---	---	27.5	19.5	23.5	22.5	18.5	20.5	---	---	---
MONTH	26.0	15.0	20.0	29.0	14.5	22.5	28.0	16.0	21.5	24.5	11.0	16.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	17.0	6.5	13.0	14.0	11.5	12.5	4.5	2.5	4.0	---	---	---
2	15.0	7.0	10.5	13.5	11.5	12.5	4.5	2.0	3.5	---	---	---
3	14.0	8.0	11.5	15.0	11.0	13.0	4.0	1.0	2.5	---	---	---
4	15.0	11.5	13.0	14.5	12.0	13.0	4.5	1.0	2.5	---	---	---
5	17.5	13.0	15.5	13.0	9.5	12.0	4.5	1.5	3.0	---	---	---
6	17.5	12.0	15.0	10.5	6.5	8.5	5.5	1.5	3.5	---	---	---
7	15.5	9.0	12.0	11.0	7.0	9.0	7.5	4.5	6.0	1.0	.0	.0
8	15.5	8.5	12.0	11.0	7.5	9.0	4.5	2.5	3.5	.0	.0	.0
9	15.0	9.5	12.5	7.5	4.5	6.0	3.0	1.0	2.0	.0	.0	.0
10	15.0	12.5	13.5	7.5	3.5	5.5	2.0	1.0	1.5	.0	.0	.0
11	16.5	10.5	13.0	8.5	4.0	6.0	4.5	1.0	2.5	.0	.0	.0
12	16.5	11.0	13.5	9.0	4.5	6.5	3.0	1.0	2.0	.0	.0	.0
13	17.0	12.5	15.0	9.0	4.5	6.5	5.0	2.5	4.0	.0	.0	.0
14	16.0	15.0	15.5	9.0	5.0	7.0	5.5	1.0	3.5	.0	.0	.0
15	18.0	13.0	15.5	10.0	6.0	8.0	1.5	1.0	1.0	.0	.0	.0
16	16.0	9.5	13.0	12.0	9.0	10.5	1.0	1.0	1.0	.0	.0	.0
17	14.0	11.5	12.5	10.0	6.0	8.0	---	---	---	.0	.0	.0
18	13.0	7.5	10.0	9.5	6.0	7.5	---	---	---	.0	.0	.0
19	11.5	5.5	8.5	8.0	4.0	6.0	---	---	---	.0	.0	.0
20	13.5	8.0	10.5	4.5	2.0	3.0	---	---	---	.0	.0	.0
21	11.5	9.0	10.0	4.5	1.5	2.5	---	---	---	.0	.0	.0
22	12.0	7.0	9.5	4.5	1.0	2.5	---	---	---	.0	.0	.0
23	14.5	4.5	7.0	2.5	1.0	2.0	---	---	---	.0	.0	.0
24	5.0	3.5	4.5	6.0	2.0	4.0	---	---	---	.0	.0	.0
25	10.0	5.0	7.5	5.0	4.5	5.0	---	---	---	.0	.0	.0
26	12.0	6.5	9.0	6.0	4.5	5.5	---	---	---	.0	.0	.0
27	12.5	6.0	9.0	5.5	3.5	4.5	---	---	---	.0	.0	.0
28	12.5	7.5	10.0	5.5	2.5	4.0	---	---	---	.0	.0	.0
29	14.0	9.0	11.5	5.5	1.5	3.0	---	---	---	.0	.0	.0
30	15.0	9.5	12.0	3.5	1.5	2.5	---	---	---	.0	.0	.0
31	13.5	11.5	12.5	---	---	---	---	---	---	.0	.0	.0
MONTH	18.0	3.5	11.5	15.0	1.0	7.0	7.5	1.0	3.0	1.0	.0	.0

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.0	.0	.0	5.5	.5	3.0	13.5	4.5	9.0	---	---	---
2	.0	.0	.0	3.5	.0	1.5	10.5	6.0	8.5	---	---	---
3	.0	.0	.0	1.5	.0	.5	10.5	.0	5.0	---	---	---
4	.0	.0	.0	.0	.0	.0	7.5	.0	3.0	---	---	---
5	.0	.0	.0	.5	.0	.0	4.0	.0	1.0	---	---	---
6	.0	.0	.0	.5	.0	.0	1.0	.0	.0	---	---	---
7	.0	.0	.0	.5	.0	.0	4.0	.0	1.0	---	---	---
8	.0	.0	.0	.0	.0	.0	6.0	.0	2.5	---	---	---
9	.0	.0	.0	.0	.0	.0	9.5	.0	4.5	---	---	---
10	.0	.0	.0	.5	.0	.0	8.5	2.0	5.0	---	---	---
11	.0	.0	.0	4.0	.0	1.0	8.5	1.0	4.5	22.0	17.5	19.0
12	.5	.0	.0	2.5	.0	1.0	9.5	3.5	7.5	24.0	15.5	19.5
13	.5	.0	.5	.5	.0	.0	15.0	5.5	10.0	21.5	17.0	19.0
14	.5	.0	.5	3.5	.0	1.0	14.5	5.0	10.0	17.0	15.5	16.5
15	1.5	.5	1.0	3.5	.5	2.5	11.5	7.0	10.0	---	---	---
16	2.0	1.0	1.5	3.0	.0	2.0	15.0	10.0	12.5	---	---	---
17	2.5	1.0	1.5	4.0	2.0	3.0	14.5	7.5	10.5	---	---	---
18	3.5	1.0	2.0	7.5	3.5	5.0	15.5	5.0	10.0	---	---	---
19	3.0	1.0	1.5	4.5	1.0	2.5	9.5	7.5	8.5	25.0	15.5	21.0
20	3.0	.5	1.0	3.0	1.0	1.5	7.5	3.5	5.5	23.5	16.0	19.0
21	1.0	.5	.5	4.5	1.0	3.0	14.0	2.0	8.0	14.0	11.5	12.0
22	1.5	.5	.5	9.0	1.0	5.0	16.0	5.0	10.0	13.0	11.5	12.5
23	.5	.5	.5	8.0	2.0	5.0	16.5	6.0	11.0	15.0	11.0	13.0
24	1.5	.5	.5	10.5	4.0	7.0	18.0	7.0	12.5	15.0	12.5	13.5
25	3.0	.5	1.0	8.5	3.0	6.0	14.5	9.5	12.0	15.5	13.0	14.0
26	5.5	.5	2.0	5.0	.5	2.5	12.5	8.5	11.0	14.5	12.5	13.5
27	6.0	.5	2.5	8.5	.0	3.5	15.5	5.5	9.0	14.5	13.5	14.0
28	5.0	.5	2.5	9.5	1.0	5.0	---	---	---	17.5	12.5	15.0
29	---	---	---	10.5	3.0	6.5	---	---	---	16.0	13.5	15.0
30	---	---	---	13.0	6.5	9.0	---	---	---	25.0	13.0	18.5
31	---	---	---	13.0	5.0	8.5	---	---	---	18.5	14.5	16.5
MONTH	6.0	.0	.5	13.0	.0	3.0	18.0	.0	7.5	25.0	11.0	16.0

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	23.0	10.5	15.5	27.0	15.5	20.5	26.5	17.0	21.5	25.0	15.5	19.5
2	23.0	12.0	16.5	20.0	16.5	18.5	29.5	19.0	24.0	23.0	15.5	18.0
3	22.0	12.0	16.0	26.5	17.5	21.0	31.5	20.0	26.0	21.0	13.0	16.5
4	23.0	11.5	16.5	31.0	17.5	24.0	26.5	21.0	23.5	21.5	12.0	16.0
5	23.0	11.5	16.5	32.5	20.5	26.5	21.5	18.0	19.0	18.5	14.5	16.5
6	16.0	12.5	13.5	26.5	19.5	23.0	24.0	17.5	20.0	16.5	14.0	15.0
7	26.5	13.5	19.0	29.0	18.0	23.0	26.0	17.5	21.5	18.0	13.0	15.0
8	24.0	14.0	18.5	28.5	17.0	22.5	26.5	17.5	21.5	20.5	13.5	16.5
9	21.0	15.5	17.5	26.0	19.0	22.5	20.0	16.0	18.0	24.0	14.0	18.0
10	23.5	12.0	17.0	22.0	18.5	20.5	20.5	13.5	17.0	24.0	16.5	19.5
11	20.5	12.0	16.0	26.5	17.0	21.0	23.0	13.0	17.5	27.0	18.0	21.5
12	24.0	14.0	18.5	26.5	16.0	21.0	23.0	13.0	17.5	22.5	18.5	20.0
13	24.5	12.5	18.0	27.0	17.0	22.0	21.0	14.5	18.0	23.0	18.0	20.0
14	20.5	13.5	17.5	27.0	17.5	22.0	21.0	17.0	18.5	19.5	16.5	18.5
15	19.5	16.0	17.5	26.5	18.5	22.0	24.0	16.0	19.5	17.0	14.5	16.0
16	24.5	11.0	18.0	26.0	19.0	22.0	26.0	17.0	21.0	18.0	11.5	15.0
17	19.0	14.5	16.5	31.0	19.0	25.0	26.0	17.5	21.0	15.5	13.5	15.0
18	16.0	14.0	15.5	26.5	19.5	23.0	26.5	17.0	21.0	18.0	11.5	14.5
19	22.0	11.0	16.0	25.0	18.0	21.5	26.5	18.5	22.5	17.0	11.0	14.0
20	23.0	14.5	18.0	28.5	17.5	22.5	27.0	19.0	22.5	15.0	11.5	13.0
21	23.0	13.5	17.5	23.0	18.0	20.0	25.5	16.0	20.0	16.5	9.5	12.5
22	24.0	13.0	18.0	27.0	17.5	21.5	19.0	17.0	18.0	17.5	9.5	13.5
23	24.5	11.5	18.5	27.5	17.0	22.0	23.5	15.5	19.5	15.5	11.0	13.0
24	26.0	15.0	20.5	27.5	17.0	22.0	19.0	16.0	17.5	14.5	12.0	13.0
25	20.0	16.5	18.5	29.0	18.0	23.5	24.0	14.0	18.0	13.0	11.5	12.5
26	24.0	14.5	18.5	28.0	19.5	23.5	22.0	15.0	18.0	15.0	12.0	13.0
27	25.5	17.0	21.0	24.0	18.0	20.0	22.0	15.5	18.0	15.5	11.0	13.0
28	28.5	18.5	23.0	27.5	16.0	21.0	17.0	12.5	14.5	18.5	11.5	15.0
29	23.5	17.5	19.5	25.5	16.5	21.0	14.0	12.5	13.5	20.0	15.0	17.5
30	25.5	14.5	19.0	26.0	17.0	20.5	18.0	14.0	15.5	22.5	15.5	18.5
31	---	---	---	27.5	16.5	21.5	17.5	15.0	16.0	---	---	---
MONTH	28.5	10.5	17.5	32.5	15.5	22.0	31.5	12.5	19.5	27.0	9.5	16.0

GALENA RIVER BASIN

05414894 PATS CREEK NEAR BELMONT, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, MAY TO SEPTEMBER 1982

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	9.1	6.2	9.6	4.7	11.3	6.3	---	---
2	---	---	8.8	6.2	9.0	4.8	10.4	4.9	---	---
3	---	---	8.2	6.4	7.5	5.6	9.1	5.2	---	---
4	---	---	10.9	7.5	8.6	4.4	6.9	5.9	---	---
5	---	---	9.8	6.4	7.2	3.6	9.0	6.9	---	---
6	---	---	9.2	6.8	6.7	4.0	8.8	7.9	---	---
7	---	---	9.2	6.1	8.2	1.2	10.0	5.3	---	---
8	---	---	9.2	6.1	10.6	6.2	10.1	7.6	11.2	8.4
9	---	---	9.2	6.7	10.5	6.5	10.9	8.1	11.1	7.6
10	---	---	10.1	6.8	10.2	4.1	11.3	8.6	10.3	7.6
11	---	---	11.0	7.1	9.0	6.4	12.1	8.2	10.1	6.8
12	---	---	9.6	6.7	10.4	7.8	12.6	8.2	9.2	7.1
13	8.4	6.2	9.9	6.5	9.0	6.0	13.3	7.7	9.0	7.0
14	9.3	5.6	10.0	6.7	9.0	5.9	13.0	7.5	8.9	6.9
15	8.7	5.8	6.8	6.0	8.4	4.1	13.5	6.8	8.5	7.9
16	8.5	4.9	9.5	6.8	6.9	5.2	13.2	6.3	---	---
17	7.8	5.1	9.5	6.9	8.8	5.9	12.5	6.3	---	---
18	7.6	5.8	8.7	6.9	9.0	6.6	9.5	6.1	---	---
19	7.6	6.0	9.3	6.2	9.7	6.7	11.6	6.7	---	---
20	9.8	6.4	8.5	6.3	9.3	5.7	10.0	6.7	---	---
21	11.8	9.1	8.7	5.7	8.9	6.1	10.3	6.6	---	---
22	11.3	10.4	8.7	5.7	9.7	6.7	9.1	6.6	---	---
23	11.2	8.7	8.8	5.3	10.2	6.6	9.9	6.4	---	---
24	9.9	8.6	8.6	4.8	10.3	6.0	10.1	6.6	---	---
25	10.1	8.7	7.6	4.8	10.8	5.2	10.4	7.1	---	---
26	9.6	6.9	9.5	5.5	11.1	4.7	9.4	7.2	---	---
27	8.5	7.2	8.7	4.7	9.8	5.0	---	---	---	---
28	8.8	6.8	7.6	3.7	10.7	7.6	---	---	---	---
29	9.4	7.4	7.1	3.7	10.7	6.9	---	---	---	---
30	12.8	5.6	9.7	5.8	10.6	6.6	---	---	---	---
31	8.2	5.8	---	---	11.3	6.9	---	---	---	---
MONTH	12.8	4.9	11.0	3.7	11.3	1.2	13.5	4.9	11.2	6.8

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI

LOCATION.--Lat 42°40'03", long 90°19'45", in NE 1/4 NE 1/4 sec.11, T.2 N., R.1 E., Lafayette County, Hydrologic Unit 07060005, at State Highway 81, 4.7 mi (7.6 km) south of Belmont.

DRAINAGE AREA.--2.83 mi² (7.33 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 905 ft (276 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Water year 1981: Maximum discharge, 127 ft³/s (3.60 m³/s) Feb. 22, gage height, 7.40 ft (2.256 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Feb. 9-11, July 30 to Aug. 1.

Water year 1982: Maximum discharge, 1,070 ft³/s (30.3 m³/s) from rating extension above 155 ft³/s (4.39 m³/s) from indirect measurement using culvert and step-backwater analysis, July 10, gage height, 11.34 ft (3.456 m); crest-gage peak, 11.12 ft (3.389 m); minimum daily, 0.88 ft³/s (0.025 m³/s) Feb. 6-9.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.8	1.4	1.1	.88	1.4	1.2	1.0	1.5	1.4	.80	5.4
2	1.4	1.7	1.3	1.1	.84	1.3	1.2	.96	1.5	1.4	1.1	1.7
3	1.4	1.8	1.3	1.1	.84	1.2	1.2	.95	1.5	1.4	.99	1.4
4	1.3	1.8	1.4	1.0	.84	1.2	1.6	.99	1.5	1.4	.99	1.3
5	1.3	1.8	1.5	1.0	.86	1.2	1.1	.99	1.5	1.4	.99	1.3
6	1.3	1.7	1.9	1.0	.86	1.1	1.1	1.2	1.5	1.3	1.0	1.2
7	1.2	1.7	2.1	1.0	.84	1.0	1.1	1.2	1.5	1.2	1.7	1.5
8	1.2	1.7	1.9	.99	.82	1.0	1.9	1.2	1.6	1.2	1.4	1.5
9	1.3	1.7	1.6	.98	.80	.99	1.5	1.2	1.9	1.2	1.1	1.2
10	1.2	1.6	1.4	.96	.80	1.0	1.4	1.2	2.2	1.1	1.0	1.1
11	1.2	1.6	1.3	.96	.80	1.0	1.4	1.2	2.2	1.1	.94	1.1
12	1.2	1.5	1.4	.94	.82	.99	2.4	1.2	1.9	1.1	.88	1.1
13	1.2	1.6	1.3	.94	.84	.99	3.0	1.3	2.3	1.6	1.1	1.1
14	1.3	1.6	1.3	.92	.88	1.0	3.5	1.3	2.0	1.3	1.5	1.1
15	2.3	1.6	1.3	.89	1.0	1.1	2.2	1.3	6.2	1.5	1.5	1.1
16	1.8	1.5	1.3	.99	3.1	1.0	1.3	1.3	1.4	1.3	1.2	1.1
17	1.5	1.5	1.2	.94	1.8	1.1	1.3	1.3	1.2	1.2	1.2	.89
18	1.3	1.4	1.2	.92	1.4	.96	1.2	1.2	1.2	1.0	1.1	.89
19	1.2	1.5	1.2	.93	1.2	.90	1.2	1.4	1.2	.99	1.0	.89
20	1.1	1.4	1.1	.91	1.2	.94	1.1	1.4	1.2	1.2	.89	.89
21	1.4	1.4	1.1	1.1	1.2	.99	.95	1.4	3.0	.93	.89	.89
22	1.3	1.4	1.1	1.1	45	.99	1.1	1.4	1.6	.89	.89	.89
23	1.9	1.5	1.1	1.1	3.9	.99	1.1	1.4	1.3	.89	.89	.89
24	2.0	1.4	1.1	1.1	1.8	.99	.92	1.5	2.6	.85	.89	.88
25	2.1	1.3	1.1	1.2	1.6	.99	.97	1.5	1.5	.89	1.2	2.2
26	1.9	1.3	1.0	1.1	1.4	.99	.95	1.5	1.4	.89	2.1	3.0
27	1.8	1.4	1.0	1.1	1.9	.99	.90	1.5	1.4	.88	1.5	1.8
28	1.7	1.4	1.1	1.1	1.9	.99	1.2	1.5	1.4	.88	1.5	1.6
29	1.6	1.4	1.1	1.0	---	1.4	1.0	1.5	1.4	.97	1.5	2.4
30	1.5	1.4	1.1	.96	---	1.7	1.2	1.5	1.4	.80	1.4	1.9
31	1.6	---	1.1	.92	---	1.3	---	1.5	---	.80	1.8	---
TOTAL	46.0	46.4	40.3	31.35	80.12	33.69	42.19	39.99	54.0	34.96	36.94	44.21
MEAN	1.48	1.55	1.30	1.01	2.86	1.09	1.41	1.29	1.80	1.13	1.19	1.47
MAX	2.3	1.8	2.1	1.2	45	1.7	3.5	1.5	6.2	1.6	2.1	5.4
MIN	1.1	1.3	1.0	.89	.80	.90	.90	.95	1.2	.80	.80	.88
CFSM	.52	.55	.46	.36	1.01	.39	.50	.46	.64	.40	.42	.52
IN.	.60	.61	.53	.41	1.05	.44	.55	.53	.71	.46	.49	.58
WTR YR 1981	TOTAL 530.15	MEAN 1.45	MAX 45	MIN .80	CFSM .51	IN 6.97						

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.3	2.5	1.0	.90	2.0	1.9	1.9	2.2	2.9	2.4	3.2
2	1.4	1.3	2.4	1.0	.90	1.9	1.8	1.9	2.1	2.9	2.5	2.9
3	1.3	1.3	1.9	1.0	.90	1.8	3.5	1.8	2.0	2.7	2.5	2.7
4	1.3	1.3	1.8	1.0	.90	1.7	2.1	1.8	1.9	2.5	2.2	2.9
5	1.7	1.4	1.7	1.1	.90	1.7	1.6	2.7	1.9	2.5	3.8	2.6
6	2.2	1.4	1.7	1.0	.88	1.6	1.5	2.3	1.9	3.0	3.7	2.6
7	1.6	1.4	1.7	1.0	.88	1.6	1.4	2.0	1.9	4.7	3.3	2.7
8	1.3	1.4	1.7	.98	.88	1.6	1.5	1.9	1.9	2.3	3.1	2.7
9	1.2	1.4	1.6	.98	.88	1.6	1.6	1.9	1.9	2.2	2.8	2.6
10	1.2	1.4	1.6	.98	.90	1.6	1.7	1.9	1.9	71	2.7	2.6
11	1.2	1.4	1.5	1.0	.90	2.0	2.0	2.0	2.0	4.6	2.6	2.4
12	1.2	1.4	1.4	.98	.90	32	2.5	1.9	2.1	3.2	2.6	2.4
13	1.3	1.4	1.4	.98	.92	52	2.6	1.9	2.1	3.4	2.6	2.4
14	2.5	1.4	1.3	.96	.96	11	2.3	1.8	2.2	3.1	2.6	2.4
15	1.7	1.4	1.3	.94	.98	3.8	2.5	1.8	3.4	8.5	2.6	2.3
16	1.6	1.8	1.3	.92	1.0	33	2.7	1.7	2.2	4.6	2.4	2.3
17	2.8	1.7	1.2	.90	1.1	2.9	2.4	1.7	2.2	3.6	2.3	2.3
18	2.3	1.8	1.2	.90	1.1	2.9	2.2	1.8	2.2	3.4	2.3	2.2
19	1.7	1.8	1.2	.90	1.3	4.1	2.2	2.0	2.2	3.3	2.3	2.2
20	1.7	1.8	1.3	.92	1.8	24	2.1	1.7	2.2	3.1	2.3	2.2
21	1.6	1.5	1.3	.94	5.4	4.2	2.1	1.8	2.2	3.0	2.5	2.2
22	1.6	1.4	1.3	.97	15	3.3	2.1	2.4	2.2	3.0	2.7	2.1
23	1.6	1.5	1.3	.96	16	3.0	2.1	1.8	2.2	2.8	2.9	2.1
24	1.3	1.9	1.3	.94	4.7	2.9	2.1	1.7	2.2	2.7	2.9	2.1
25	1.3	2.0	1.3	.92	2.3	2.5	2.1	1.7	2.4	2.5	3.0	2.1
26	1.3	3.4	1.2	.90	2.1	2.1	2.1	2.3	2.6	2.5	2.7	1.9
27	1.3	2.3	1.2	.92	1.9	1.9	2.0	2.8	2.6	2.7	2.7	1.9
28	1.3	2.2	1.1	.94	2.0	1.9	1.9	2.5	2.7	2.7	2.5	1.9
29	1.3	2.2	1.1	.94	---	1.9	1.9	3.3	2.9	2.7	3.0	1.9
30	1.3	2.2	1.1	.94	---	2.8	1.9	2.6	2.9	2.9	3.3	2.1
31	1.3	---	1.0	.92	---	2.1	---	2.4	---	2.5	2.8	---
TOTAL	47.9	50.1	44.9	29.73	69.28	213.4	62.4	63.7	67.3	167.5	104.4	70.9
MEAN	1.55	1.67	1.45	.96	2.47	6.88	2.08	2.05	2.24	5.40	3.37	2.36
MAX	2.8	3.4	2.5	1.1	16	52	3.5	3.3	3.4	71	22	3.2
MIN	1.2	1.3	1.0	.90	.88	1.6	1.4	1.7	1.9	2.2	2.3	1.9
CFSM	.55	.59	.51	.34	.87	2.43	.74	.72	.79	1.91	1.19	.83
IN.	.63	.66	.59	.39	.91	2.80	.82	.84	.88	2.20	1.37	.93
CAL YR 1981	TOTAL	540.35	MEAN	1.48	MAX	45	MIN	.80	CFSM	.52	IN	7.10
WTR YR 1982	TOTAL	991.51	MEAN	2.72	MAX	71	MIN	.88	CFSM	.96	IN	13.03

GALENA RIVER BASIN
05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1982 (discontinued).

WATER TEMPERATURES: October 1980 to September 1982 (discontinued).

DISSOLVED OXYGEN: May to July 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor since December 1980. Water-quality sampler since October 1980.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey and were analyzed by the Wisconsin State Laboratory of Hygiene.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum observed, 974 micromhos Oct. 28, 1982; minimum observed, 82 micromhos July 10, 1982.

WATER TEMPERATURES: Maximum observed, 29.5°C July 12, 1981; minimum observed, 0.0° on many days during winter periods.

DISSOLVED OXYGEN: Maximum observed, 12.4 mg/l May 11, 1981; minimum observed, 5.4 mg/l July 14, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 974 micromhos Oct. 28; minimum observed, 82 micromhos July 10.

WATER TEMPERATURES: Maximum observed, 28.5°C July 17; minimum observed, 0.0°C on many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1980												
*15...	1600	2.3	174	512	0	5.3	.030	.40	--	.060	.028	.09
DEC												
11...	1115	1.3	--	--	--	6.4	.020	.40	--	.080	--	--
JAN , 1981												
13...	1330	.93	23	470	6	6.3	.080	.30	--	.100	.026	.08
17...	1005	1.1	31	480	5	--	--	--	--	--	--	--
24...	1025	1.1	18	440	4	--	--	--	--	--	--	--
FEB												
16...	1431	6.4	868	--	--	4.2	1.70	5.1	--	1.72	.770	2.4
22...	0120	19	3980	4290	244	4.4	1.30	13	--	3.80	--	--
22...	0250	80	14700	14950	930	6.6	1.80	35	--	11.9	--	--
22...	0320	84	10000	11800	650	6.5	1.40	27	--	8.60	--	--
22...	0350	81	7110	7870	470	7.4	1.50	23	--	6.40	--	--
22...	0505	61	5310	6250	390	9.2	2.00	20	--	5.70	--	--
22...	0735	33	2420	3060	170	12	2.00	12	--	3.50	--	--
22...	1035	22	970	1630	110	14	2.00	8.6	--	2.30	--	--
22...	1250	50	3440	3980	190	13	1.80	12	--	3.40	--	--
22...	1320	65	4800	5560	270	13	1.70	14	--	4.20	--	--
22...	1435	115	7000	8270	340	13	1.60	15	--	4.50	--	--
22...	1816	47	2560	3040	180	15	1.80	12	--	3.20	--	--
23...	1345	2.6	98	562	22	12	.870	1.9	--	.360	--	--
28...	1100	1.8	18	418	4	5.8	.290	.51	.80	.090	.036	.11
MAR												
23...	1150	.99	20	--	4	5.3	.020	.78	.80	.040	.015	.05
APR												
08...	1400	1.3	42	515	8	4.8	.200	1.9	2.10	.220	.069	.21
*12...	1630	2.0	62	525	6	4.6	.060	1.0	1.10	.260	--	--
12...	1631	2.0	70	495	8	4.7	.060	1.1	--	.440	--	--
28...	1130	1.2	59	520	13	4.5	.170	1.6	1.80	.220	.058	.18
MAY												
13...	1125	1.3	--	--	--	5.3	.110	.89	1.00	.100	.051	.16
JUN												
*15...	1044	9.5	404	838	28	3.3	.180	2.3	2.50	.520	.092	.28
15...	1045	9.5	192	618	24	3.2	.140	1.9	2.00	.380	--	--
15...	1105	5.0	1250	1650	120	2.8	.470	7.1	7.60	2.10	--	--
15...	1225	13	2640	2980	240	2.7	.280	9.5	9.80	2.70	--	--
15...	1305	20	3080	3480	300	3.8	.730	13	14.0	3.90	--	--
15...	1345	14	1950	2290	220	3.7	.770	10	11.0	2.90	--	--
*15...	1444	13	2300	2790	160	3.9	.690	11	12.0	3.50	.240	.74
15...	1445	13	2530	2850	310	3.9	.700	11	12.0	3.40	--	--
15...	1525	8.4	1910	2220	260	3.6	.760	10	11.0	3.20	--	--
15...	1745	4.4	705	1050	100	3.2	.630	6.2	6.80	1.90	--	--
16...	1044	1.3	73	534	8	5.4	.250	1.8	2.00	.380	.220	.67
21...	1705	5.2	1570	1900	168	4.0	.270	6.2	6.50	1.90	--	--
21...	1745	5.2	668	1010	80	3.7	.210	3.8	4.00	1.02	--	--
21...	1845	8.2	1940	2320	236	3.7	.920	8.1	9.00	2.40	--	--

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
JUN , 1981												
21...	1905	17	2910	3180	288	3.9	.570	8.9	9.50	2.60	--	--
21...	1925	15	2640	3060	280	3.8	.730	11	12.0	3.50	--	--
21...	2145	6.1	2560	2820	340	2.8	.400	11	11.0	3.80	--	--
24...	0355	4.6	474	785	60	3.8	.120	2.5	2.60	.780	--	--
24...	0435	4.6	420	775	60	4.1	.200	3.0	3.20	.880	--	--
24...	0515	4.6	432	810	66	4.0	.230	4.4	4.60	1.36	--	--
*25...	1200	1.4	54	525	9	6.0	.060	.94	--	.180	--	--
JUL												
13...	0905	3.5	2130	2540	180	4.5	.680	9.8	--	2.80	--	--
13...	0910	4.8	2820	3280	230	4.8	.790	11	--	3.20	--	--
14...	1250	1.3	40	475	10	4.9	.050	.65	.70	.150	--	--
16...	1340	1.3	82	555	12	5.1	.180	1.8	2.00	.210	--	--
AUG												
07...	1815	4.4	180	584	30	2.8	.020	1.9	--	.590	--	--
24...	1600	3.89	21	485	6	4.4	.020	.58	--	.060	.041	.13
26...	0120	3.6	63	515	13	4.0	.080	1.3	1.40	.280	--	--
*29...	0855	1.5	66	525	15	4.2	.080	1.1	1.20	.220	.126	.39
29...	0856	1.5	60	585	16	4.2	.080	1.0	1.10	.240	.136	.42
SEP												
01...	1109	4.8	240	600	64	2.3	.700	3.5	4.20	1.30	.510	1.6
*26...	1334	3.5	102	560	12	3.2	.640	3.4	--	1.46	1.02	3.1
26...	1335	3.5	82	660	16	3.1	.600	3.6	4.20	1.48	1.01	3.1
29...	0430	5.5	220	715	32	4.2	.110	2.0	2.10	.480	--	--
29...	0440	5.9	--	--	--	4.5	.250	--	6.00	1.56	--	--
*30...	1130	1.9	33	470	3	5.2	.060	.64	.70	.170	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1981												
05...	2345	3.5	216	535	35	4.1	.120	2.1	2.20	.550	--	--
06...	0015	4.2	250	560	40	3.9	.130	2.0	2.10	.550	--	--
06...	0100	4.2	308	590	40	3.3	.140	2.4	2.50	.680	--	--
06...	0200	3.1	--	--	--	--	--	--	2.20	.590	--	--
06...	0315	2.8	142	530	22	3.7	.160	1.6	1.80	.450	--	--
*06...	1430	1.9	21	420	1	4.6	.030	.57	.60	.190	--	--
*07...	1120	1.5	9	--	5	5.6	.030	.37	.40	.100	.072	.22
14...	0755	3.1	78	475	8	4.0	.060	.94	1.00	.280	--	--
14...	0935	3.1	74	470	10	3.9	.080	1.5	1.60	.500	.270	.83
14...	1100	3.1	68	460	10	3.9	.120	1.8	1.90	.640	--	--
14...	1235	3.1	60	445	8	4.0	.150	1.7	1.80	.640	--	--
*14...	1542	2.8	45	455	5	4.0	.110	1.4	1.50	.470	--	--
14...	1645	2.8	36	445	3	4.2	.090	1.2	1.30	.400	.270	.83
17...	1115	4.4	376	780	76	4.4	.080	2.9	3.00	.710	--	--
*20...	1135	1.6	16	430	4	6.2	.040	.46	.50	.100	.059	.18
20...	1136	1.6	28	540	9	6.3	.040	.56	.60	.120	.060	.18
NOV												
17...	1420	1.8	130	585	10	6.1	.050	--	1.00	.190	.028	.09
27...	1335	2.2	22	0	4	6.2	.240	--	1.10	.250	--	--
28...	1100	2.2	29	490	5	6.5	.040	--	.40	.100	--	--
JAN , 1982												
*06...	1335	1.0	10	445	2	7.3	.170	--	.60	.070	.035	.11
*28...	1415	.94	12	445	5	6.7	.090	--	.40	.060	--	--
FEB												
16...	1445	1.0	15	340	--	6.8	.020	--	.40	.040	.033	.10
*22...	1430	7.3	508	800	52	3.0	2.70	--	8.20	1.68	--	--
22...	1431	7.3	524	790	56	2.9	2.70	--	8.20	1.82	--	--
22...	1745	24	2030	2240	188	2.2	3.50	--	16.0	3.40	--	--
22...	1945	36	984	1170	108	2.3	3.00	--	9.80	2.10	--	--
22...	2115	36	676	820	68	2.4	3.20	--	9.80	1.92	--	--
22...	2330	29	410	615	48	2.6	3.40	--	9.60	1.70	--	--
23...	1535	16	452	690	56	3.0	2.80	--	8.40	1.64	--	--
*23...	1536	16	420	655	46	3.0	2.80	--	8.20	1.56	--	--
23...	1810	16	290	--	50	2.9	2.70	--	7.40	1.54	--	--
24...	0310	6.4	152	--	34	3.8	2.30	--	5.80	1.16	--	--
MAR												
12...	1810	7.3	586	825	60	3.6	1.60	--	6.30	1.22	--	--
12...	2055	194	2080	--	--	--	2.50	--	12.0	2.70	--	--
12...	2125	225	1500	1790	40	1.6	2.70	--	12.0	2.50	--	--
12...	2210	196	972	--	--	--	2.80	--	11.0	2.10	--	--
13...	0040	74	396	--	--	--	2.80	--	8.50	1.44	--	--
*13...	1450	162	3150	3500	160	1.4	2.40	--	14.0	3.60	.600	1.8
13...	1451	162	3060	3100	225	1.4	2.40	--	14.0	3.60	.600	1.8

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
MAR , 1982												
13...	1600	167	2870	3740	195	1.3	2.20	--	12.0	3.40	--	--
14...	1500	25	1540	2340	105	1.7	1.90	--	9.00	2.30	--	--
14...	2400	6.6	98	305	10	2.7	1.70	--	4.40	.900	--	--
16...	0310	11	330	598	38	3.1	1.10	--	4.20	.840	--	--
16...	0625	110	3860	--	--	--	1.90	--	17.0	4.50	--	--
16...	0655	118	3290	3430	310	3.0	1.80	--	16.0	4.00	.530	1.6
16...	0725	113	2740	--	--	--	1.90	--	14.0	3.40	--	--
16...	0925	60	1750	1940	168	3.7	1.70	--	10.0	2.60	--	--
16...	1400	27	584	776	68	3.4	1.60	--	6.80	1.44	.660	2.0
*16...	1401	26	516	706	84	3.2	1.50	--	6.40	1.42	.670	2.1
*17...	1452	2.6	17	400	2	5.4	.600	--	1.40	.200	.128	.39
*30...	0815	3.3	114	504	12	5.6	.200	--	1.40	.240	--	--
*31...	1040	2.2	10	420	3	6.6	.300	--	.80	.130	--	--
APR												
03...	0440	5.6	304	815	64	5.4	.400	--	2.60	.620	--	--
03...	0620	7.1	500	915	84	4.5	.600	--	5.10	1.25	--	--
03...	0720	6.4	432	--	--	--	.600	--	4.80	1.12	--	--
03...	1005	4.3	236	--	--	--	.900	--	6.40	1.43	--	--
04...	1145	2.2	10	415	5	7.2	.100	--	.60	.190	--	--
MAY												
05...	0345	2.6	96	530	15	5.0	.120	--	2.20	.280	--	--
05...	0530	4.1	217	605	30	4.6	.240	--	2.80	.340	.012	.04
05...	0915	3.3	62	535	8	4.4	.680	--	4.70	.570	--	--
*05...	1231	2.5	28	515	4	4.5	.210	--	2.60	.260	.070	.21
*06...	1355	2.2	2	450	2	5.7	.070	--	1.10	.150	--	--
26...	1235	3.1	535	2640	60	6.1	.220	--	2.70	.670	--	--
26...	1335	3.9	628	1090	92	5.8	.330	--	4.60	.960	--	--
26...	1605	3.1	1350	1820	210	4.0	.420	--	7.70	2.06	.117	.36
26...	1820	2.5	312	725	68	5.3	.250	--	3.30	.720	--	--
*27...	1310	2.7	138	600	20	6.0	.210	--	1.60	.440	--	--
27...	1810	3.3	484	--	120	5.5	.670	--	6.00	1.47	--	--
27...	1925	3.1	160	655	36	5.6	.400	--	2.90	.690	--	--
27...	2025	5.4	417	875	68	5.3	.280	--	3.40	.810	--	--
27...	2140	4.3	424	900	88	4.7	.670	--	6.00	1.51	--	--
*28...	0025	3.1	444	805	84	4.6	.280	--	3.80	1.00	--	--
*29...	1020	2.7	74	565	36	6.7	.130	--	.90	.210	--	--
29...	1155	6.6	528	--	--	--	.140	--	3.00	.680	--	--
29...	1325	6.0	1020	1390	220	5.3	.540	--	7.20	1.90	--	--
29...	1710	3.8	527	890	100	3.8	.370	--	4.60	1.30	--	--
JUN												
*01...	1226	2.2	76	555	17	7.5	.090	--	1.10	.170	.061	.19
15...	0510	3.4	88	570	24	--	.110	--	--	.500	--	--
15...	0925	6.2	324	755	68	4.6	.23	--	3.60	.740	--	--
*15...	1204	4.4	150	605	30	4.0	.580	--	5.20	1.39	--	--
15...	1205	4.4	174	600	36	4.1	.520	--	5.00	.980	.520	1.6
15...	1350	3.6	114	500	18	4.1	.290	--	3.20	.660	--	--
15...	1550	3.0	91	475	19	4.7	.170	--	2.20	.460	--	--
15...	1720	2.9	26	500	7	7.4	.030	--	.60	.120	--	--
JUL												
*02...	1520	2.9	13	510	1	6.7	.030	--	.40	.050	--	--
02...	2315	3.3	38	510	7	6.0	.100	--	.80	.100	--	--
03...	0230	3.4	47	545	8	6.1	.080	--	1.00	.140	--	--
06...	2245	11	4680	5660	560	4.6	.890	--	30.0	8.6	--	--
07...	0115	14	1690	2080	230	3.2	.730	--	13.0	3.70	.890	2.7
07...	0200	13	920	1300	170	2.4	.590	--	8.50	2.40	--	--
07...	0515	6.4	284	645	64	2.6	.470	--	6.50	1.75	--	--
*07...	1230	2.7	102	--	28	4.8	.890	--	6.00	1.65	.910	2.8
10...	1515	147	13600	14600	1460	3.2	1.20	--	49.0	17.0	--	--
10...	1600	1060	6140	6420	520	1.4	.280	--	17.0	5.80	--	--
10...	1615	1070	7320	7620	700	1.8	.300	--	21.0	7.00	--	--
10...	1645	601	6220	6400	640	1.7	.220	--	20.0	7.00	--	--
10...	1815	107	3000	3240	380	1.7	.370	--	13.0	4.90	--	--
10...	2145	12	550	905	80	3.0	.160	--	4.80	1.68	--	--
*12...	1345	3.1	32	560	4	7.4	.090	--	.90	.140	--	--
15...	1240	17	140	640	20	6.9	.100	--	1.40	.230	--	--
15...	1245	29	5090	5420	660	5.7	.430	--	27.0	7.70	--	--
15...	1415	23	1960	2240	320	2.7	.660	--	12.0	3.50	--	--
15...	1430	46	3020	3270	460	3.0	.440	--	16.0	4.80	--	--
15...	1615	15	2080	2350	300	1.7	.170	--	10.0	3.10	--	--
*16...	1036	4.1	77	540	23	5.7	.380	--	3.10	.870	--	--
16...	1545	4.1	48	525	11	--	--	--	--	--	--	--
*17...	1100	3.4	34	535	8	7.4	.080	--	.70	.150	--	--
*28...	1301	2.7	32	385	8	7.7	.040	--	.90	.100	--	--
AUG												
04...	0400	4.3	254	--	--	--	.070	--	1.80	.420	--	--
04...	0550	158	4260	4580	440	1.8	.160	--	15.0	4.80	--	--
04...	0705	101	1500	1705	320	1.2	.040	--	7.20	2.60	--	--
04...	0835	44	696	--	--	--	.040	--	4.60	2.00	--	--
*04...	1710	4.8	103	460	25	4.0	.250	--	3.10	.940	--	--
04...	1711	4.8	127	--	--	--	--	--	3.10	.980	--	--
18...	1531	2.3	13	350	5	7.7	.050	--	.60	.060	.034	.10
31...	1050	2.7	3	335	1	7.7	.050	--	.60	.080	--	--
31...	1230	2.7	17	420	4	8.3	.120	--	.60	.120	--	--
SEP												
*08...	1600	2.7	16	410	3	8.1	.070	--	.80	.080	--	--
*30...	1120	2.1	--	--	--	.90	--	--	--	--	--	--

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1980				MAY , 1981			
*15...	1600	2.3	174	17...	1020	1.3	20
*16...	0925	1.9	74	23...	0950	1.4	70
*24...	1300	2.0	91	30...	1050	1.5	61
NOV				JUN , 1981			
*06...	1035	1.7	60	13...	1005	2.5	91
*19...	1400	1.5	72	15...	0915	2.0	89
*26...	1400	1.4	65	*15...	1044	9.5	404
DEC				15...	1045	9.5	192
*06...	1125	1.6	104	15...	1105	5.0	1250
*13...	1058	1.5	79	15...	1125	5.2	664
*20...	1210	1.1	53	15...	1145	7.1	840
*27...	1205	1.0	70	15...	1205	6.9	800
JAN , 1981				15...	1225	13	2640
*03...	1105	1.1	65	15...	1245	16	2680
13...	1330	.93	23	15...	1305	20	3080
14...	1200	.92	44	15...	1325	17	2700
17...	1005	1.1	31	15...	1345	14	1950
24...	1025	1.1	18	15...	1405	14	1860
*31...	1200	.92	26	15...	1425	14	2240
FEB				*15...	1444	13	2300
*07...	1200	1.2	26	15...	1445	13	2530
16...	1430	6.4	844	15...	1525	8.4	1910
16...	1431	6.4	868	15...	1625	7.4	910
22...	0100	13	2600	15...	1705	5.7	835
22...	0105	15	3140	15...	1745	4.4	705
22...	0120	19	3980	16...	1044	1.3	73
22...	0135	26	6390	20...	1410	1.2	36
22...	0150	33	7420	21...	1705	5.2	1570
22...	0205	36	6700	21...	1725	5.2	856
22...	0220	43	6770	21...	1745	5.2	668
22...	0235	58	9600	21...	1805	6.6	864
22...	0250	80	14700	21...	1825	6.6	1560
22...	0305	83	12200	21...	1845	8.2	1940
22...	0320	84	10000	21...	1905	17	2910
22...	0335	83	8580	21...	1925	15	2640
22...	0350	81	7110	21...	1945	11	1880
22...	0405	74	6560	21...	2025	6.4	2540
22...	0420	72	6150	21...	2105	7.6	2980
22...	0435	69	5990	21...	2145	6.1	2560
22...	0505	61	5310	21...	2205	5.0	2080
22...	0535	54	4710	22...	1335	1.4	98
22...	0620	45	3800	24...	0325	4.6	534
22...	0720	37	2670	24...	0355	4.6	474
22...	0735	33	2420	24...	0435	4.6	420
22...	1020	21	1620	24...	0455	4.6	398
22...	1035	22	970	24...	0515	4.6	432
22...	1050	23	1070	24...	0555	4.6	384
22...	1105	24	1190	24...	1115	2.5	184
22...	1120	26	1230	*25...	1200	1.4	54
22...	1150	31	1620	JUL			
22...	1205	35	2030	06...	1705	1.2	58
22...	1220	40	2420	13...	0905	3.5	2130
22...	1235	45	2750	13...	0910	4.8	2820
22...	1250	50	3440	14...	1250	1.3	40
22...	1305	57	4040	16...	1340	1.3	82
22...	1320	65	4800	20...	1255	.89	31
22...	1335	73	5700	28...	1430	.89	50
22...	1350	84	18000	AUG			
22...	1435	115	7000	03...	1055	.99	27
22...	1815	47	2470	07...	1815	4.4	180
22...	1816	47	2560	07...	1825	4.0	624
23...	1345	2.6	98	09...	1710	1.1	37
28...	1100	1.8	18	16...	1250	1.2	12
MAR				23...	1340	.89	38
07...	1110	1.3	14	24...	1600	.89	21
14...	1025	1.1	10	26...	0120	3.6	63
*18...	1500	.99	37	*29...	0855	1.5	66
23...	1150	.99	20	29...	0856	1.5	60
28...	1055	.99	17	SEP			
APR				01...	1109	4.8	240
08...	1400	1.3	42	01...	1145	4.4	200
11...	1050	1.4	25	01...	1205	4.4	190
*12...	1630	2.0	62	01...	1225	4.0	170
12...	1631	2.0	70	07...	0920	1.2	17
18...	1135	1.2	22	14...	1405	1.1	14
25...	1115	.89	14	20...	0915	.89	18
28...	1130	1.2	59	26...	0930	3.5	108
MAY				*26...	1334	3.5	102
01...	1500	.99	17	26...	1335	3.5	82
09...	1045	1.2	24	29...	0430	5.5	220
*12...	1430	1.2	62	*30...	1130	1.9	33

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1981				FEB , 1982			
03...	0905	1.3	16	23...	2110	14	176
04...	2300	1.3	68	24...	0010	11	154
05...	2315	3.3	172	24...	0310	6.4	152
05...	2330	3.3	213	*27...	1215	2.1	18
05...	2345	3.5	216	MAR			
05...	2359	3.5	212	*07...	1005	1.6	8
06...	0015	4.2	250	12...	1755	6.4	468
06...	0045	4.2	294	12...	1810	7.3	586
06...	0100	4.2	308	12...	1825	8.1	618
06...	0115	3.6	106	12...	1840	10	784
06...	0230	2.8	176	12...	1855	19	1050
06...	0315	2.8	142	12...	1910	32	3180
*06...	1430	1.9	21	12...	1925	44	2850
*07...	1120	1.5	9	12...	1940	51	2240
14...	0750	2.6	86	12...	1955	82	5150
14...	0755	3.1	78	12...	2025	156	2520
14...	0835	3.1	80	12...	2040	169	2320
14...	0900	3.1	85	12...	2055	194	2080
14...	0935	3.1	74	12...	2110	211	1740
14...	1000	3.1	80	12...	2125	225	1500
14...	1035	3.1	73	12...	2140	225	1480
14...	1100	3.1	68	12...	2210	196	972
14...	1135	3.1	73	12...	2310	118	636
14...	1200	3.1	67	13...	0025	79	358
14...	1235	3.1	60	13...	0040	74	396
14...	1300	3.1	55	*13...	1450	162	3150
14...	1335	3.1	58	13...	1451	162	3060
14...	1435	3.1	53	13...	1500	167	2870
*14...	1542	2.8	45	13...	1800	76	2480
14...	1620	2.8	47	13...	2000	33	1100
14...	1645	2.8	36	13...	2300	12	596
14...	1720	2.8	38	14...	0300	6.2	134
14...	1745	2.8	48	14...	1300	11	475
17...	1030	1.6	39	14...	1500	25	1540
17...	1050	4.4	86	14...	1700	27	992
17...	1100	4.4	320	14...	2000	16	364
17...	1115	4.4	376	14...	2100	12	268
17...	1130	4.4	300	14...	2300	7.8	144
17...	1215	4.4	226	14...	2400	6.6	98
17...	1315	3.8	118	16...	0300	8.3	226
17...	1415	3.8	100	16...	0310	11	330
17...	1515	3.8	106	16...	0340	23	2150
17...	1615	3.8	192	16...	0410	34	2800
17...	1715	3.8	132	16...	0440	58	4770
*20...	1135	1.6	16	16...	0510	85	4570
20...	1136	1.6	28	16...	0540	101	4030
31...	1250	1.3	11	16...	0610	108	4030
NOV				16...	0625	110	3860
08...	1035	1.4	13	16...	0640	118	3610
17...	1420	1.8	130	16...	0655	118	3290
24...	1230	1.9	12	16...	0710	118	3070
27...	1335	2.2	22	16...	0725	113	2740
28...	1100	2.2	29	16...	0755	98	2440
DEC				16...	0825	82	2080
05...	1020	1.7	14	16...	0855	73	2360
12...	1220	1.4	10	16...	0925	60	1750
21...	1025	1.3	17	16...	0940	55	1690
27...	1245	1.2	10	16...	1400	27	584
JAN , 1982				*16...	1401	26	516
05...	1515	1.1	17	16...	1445	23	532
*06...	1335	1.0	10	16...	1510	21	488
*18...	1300	.90	12	16...	1605	18	436
*25...	1330	.92	9	16...	1810	12	270
*28...	1415	.94	12	16...	2015	8.6	204
*30...	1300	.94	9	16...	2245	6.0	126
FEB				*17...	1452	2.6	17
*06...	1000	.88	14	17...	1453	2.6	29
*13...	1015	.92	14	19...	2315	7.1	96
16...	1445	1.0	15	19...	2330	7.6	46
*21...	1345	5.0	1160	20...	0015	8.9	200
*22...	1430	7.3	508	20...	0100	9.7	274
22...	1431	7.3	524	20...	0200	10	234
22...	1655	14	636	20...	0215	10	204
22...	1730	22	2000	20...	0245	10	212
22...	1745	24	2030	20...	0315	10	206
22...	1830	31	1500	20...	0345	10	182
22...	1900	33	1070	20...	0430	9.4	178
22...	1930	35	1120	20...	0515	8.9	142
22...	1945	36	984	20...	0600	8.6	132
22...	2015	36	800	20...	2345	9.7	134
22...	2045	36	780	*25...	0955	2.5	12
22...	2100	36	554	*30...	0815	3.3	114
22...	2115	36	676	*31...	1040	2.2	10
22...	2245	31	452	APR			
22...	2330	29	410	03...	0325	3.6	154
22...	2345	29	434	03...	0340	3.9	186
23...	1535	16	452	03...	0355	4.1	200
*23...	1536	16	420	03...	0425	5.0	258
23...	1710	16	390	03...	0440	5.6	304
23...	1810	16	290	03...	0525	6.4	452

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GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
APR , 1982				JUL , 1982			
03...	0550	6.6	428	*02...	2315	3.3	38
03...	0620	7.1	500	03...	0100	3.4	74
03...	0650	6.8	580	03...	0230	3.4	47
03...	0720	6.4	432	03...	0400	3.1	37
03...	0820	5.8	316	06...	2235	4.4	306
03...	0905	5.0	292	06...	2245	11	4680
03...	1005	4.3	236	06...	2315	8.9	2250
03...	1330	3.0	102	06...	2345	12	1450
*04...	1145	2.2	10	07...	0015	10	1160
*10...	1155	1.8	12	07...	0045	12	1250
*18...	1135	2.2	22	07...	0100	13	1550
*25...	0950	2.1	2	07...	0115	14	1690
MAY				07...	0130	14	1670
*01...	1015	1.9	4	07...	0145	14	1240
05...	0345	2.6	96	07...	0200	13	920
05...	0430	3.1	152	07...	0230	11	590
05...	0530	4.1	217	07...	0315	11	436
05...	0700	4.8	138	07...	0415	7.8	368
05...	0915	3.3	62	07...	0515	6.4	284
*05...	1231	2.5	28	*07...	1230	2.7	102
*06...	1355	2.2	2	10...	1500	18	584
*09...	1105	1.9	35	10...	1515	147	13600
*13...	1330	1.9	11	10...	1530	472	12900
*15...	1510	1.8	16	10...	1545	626	9180
*21...	1050	1.6	88	10...	1600	1060	6140
26...	1215	3.0	240	10...	1615	1070	7320
26...	1235	3.1	535	10...	1630	847	7420
26...	1305	3.4	426	10...	1645	601	6220
26...	1335	3.9	628	10...	1715	280	4260
26...	1420	3.9	2940	10...	1745	173	2240
26...	1520	3.4	2250	10...	1815	107	3000
26...	1605	3.1	1350	10...	1845	57	2560
26...	1720	2.7	186	10...	1930	30	1820
26...	1820	2.5	312	10...	2015	20	1260
26...	1850	2.5	268	10...	2100	16	870
*27...	1310	2.7	138	10...	2145	12	550
27...	1755	3.3	248	*11...	1200	4.4	30
27...	1810	3.3	484	11...	1215	4.3	56
27...	1840	3.1	180	11...	1515	4.1	70
27...	1925	3.1	160	11...	1700	4.1	39
27...	1955	3.3	186	11...	1900	3.9	37
27...	2010	5.0	252	*12...	1345	3.1	32
27...	2025	5.4	417	15...	1235	3.4	38
27...	2040	5.0	416	15...	1240	17	140
27...	2110	4.6	520	15...	1245	29	5090
27...	2140	4.3	424	15...	1300	26	3270
27...	2225	3.9	624	15...	1330	26	1560
27...	2310	3.4	1080	15...	1345	25	2240
27...	2355	3.3	656	15...	1415	23	1960
28...	0025	3.1	444	15...	1430	46	3020
*28...	1019	2.5	71	15...	1445	42	2520
28...	1745	2.5	244	15...	1500	32	2300
*29...	1020	2.7	74	15...	1530	21	2500
29...	1115	3.4	116	15...	1615	15	2080
29...	1125	3.6	157	15...	1715	13	1380
29...	1155	6.6	528	15...	1800	11	960
29...	1225	5.8	740	15...	1900	8.1	620
29...	1255	5.6	870	*16...	1035	4.1	78
29...	1310	5.8	830	*16...	1036	4.1	77
29...	1325	6.0	1020	16...	1545	4.1	48
29...	1340	6.0	1610	*17...	1100	3.4	34
29...	1425	6.0	1890	*22...	1800	3.0	26
29...	1525	4.8	860	*28...	1301	2.7	32
29...	1625	4.1	650	AUG			
29...	1710	3.8	527	04...	0400	4.3	254
29...	1755	3.3	540	04...	0435	26	2860
JUN				04...	0505	48	2780
*01...	1226	2.2	76	04...	0520	55	2730
*03...	0955	2.1	33	04...	0535	135	3630
*11...	1045	1.9	34	04...	0550	158	4260
15...	0455	3.1	88	04...	0605	143	2820
15...	0510	3.4	88	04...	0635	143	2120
15...	0555	3.9	152	04...	0705	101	1500
15...	0655	4.1	164	04...	0750	71	923
15...	0810	5.4	276	04...	0835	44	696
15...	0855	5.6	332	04...	0920	30	572
15...	0925	6.2	324	04...	0950	26	476
15...	1010	6.0	356	04...	1035	19	348
15...	1125	5.0	236	*04...	1710	4.8	103
*15...	1204	4.4	150	04...	1711	4.8	127
15...	1205	4.4	174	*06...	1000	3.8	13
15...	1350	3.6	114	18...	1531	2.3	13
15...	1550	3.0	91	28...	0910	2.5	9
15...	1720	2.9	26	31...	1050	2.7	3
*18...	0800	2.2	28	31...	1230	2.7	17
*25...	0840	2.2	28	SEP			
JUL				07...	0950	2.7	8
*02...	0815	2.9	20	*08...	1600	2.7	16
*02...	1520	2.9	13	12...	0915	2.4	13
02...	2131	3.3	48	*19...	0945	2.2	9

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, (COLS. PER 100 ML)
OCT , 1980					
15...	1600	2.3	2.5	--	--
DEC					
11...	1115	1.3	<1.0	130	190
JAN , 1981					
13...	1330	.93	1.4	200	80
MAR					
23...	1150	.99	4.9	10	<10
APR					
28...	1130	1.2	6.1	--	--
MAY					
13...	1125	1.3	2.8	2200	2800
JUN					
16...	1044	1.3	4.9	39000	47000
JUL					
16...	1530	1.3	5.7	40000	14000
AUG					
27...	1230	1.2	2.9	6900	4100
29...	0900	1.5	1.6	--	--
SEP					
01...	1055	4.8	33	--	--
29...	1430	2.6	--	15000	4900

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, (COLS. PER 100 ML)
OCT , 1981					
07...	1120	1.5	1.2	--	--
NOV					
17...	1420	1.8	4.5	5600	200
JAN , 1982					
06...	1335	1.0	2.0	520	50
FEB					
16...	1445	1.0	1.6	90	30
23...	1536	16	23	--	--
MAY					
05...	1231	2.5	8.2	600000	--
JUN					
15...	1204	4.4	15	--	--
JUL					
28...	1301	2.7	2.9	--	--
AUG					
18...	1531	2.3	2.0	--	--
SEP					
08...	1600	2.7	<4.0	2800	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
FEB , 1981							
22...	1440	115	6930	2150	16	23	31

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
FEB , 1981						
22...	45	66	89	98	99	100

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1							---	---	---	586	573	582
2							---	---	---	599	584	591
3							---	---	---	619	581	600
4							---	---	---	632	609	624
5							---	---	---	622	580	600
6							---	---	---	587	556	568
7							---	---	---	585	557	576
8							---	---	---	583	567	576
9							690	674	685	581	562	571
10							703	672	683	588	569	579
11							720	666	693	582	570	576
12							671	636	658	580	552	566
13							692	654	670	563	541	549
14							694	644	670	545	532	537
15							680	639	660	543	527	531
16							659	637	651	544	534	538
17							668	634	653	544	532	538
18							670	635	649	542	527	534
19							710	668	693	534	512	524
20							707	654	681	535	510	521
21							648	619	633	523	511	517
22							638	611	624	527	509	517
23							618	599	610	525	510	515
24							626	597	612	577	507	540
25							666	627	643	563	530	547
26							625	602	613	565	540	553
27							612	591	603	570	539	565
28							604	582	594	599	564	582
29							586	574	579	631	566	600
30							587	578	583	608	551	582
31							585	576	581	598	533	571
MONTH							720	574	640	632	507	560
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	562	542	551	669	661	665	708	675	693	757	715	737
2	613	567	600	678	663	670	702	673	686	762	727	748
3	649	603	629	695	657	672	703	663	686	747	724	736
4	636	613	624	674	663	666	698	652	680	752	721	740
5	629	583	611	676	661	666	703	678	693	741	718	730
6	591	561	575	685	658	667	697	677	686	726	708	717
7	576	558	567	718	664	688	691	673	683	730	703	714
8	588	577	581	708	681	693	690	634	668	745	667	703
9	585	566	579	710	683	692	702	664	684	697	670	689
10	582	563	572	692	673	684	700	669	690	686	667	677
11	578	571	574	694	667	678	771	670	722	694	686	689
12	575	555	565	696	665	680	758	681	719	684	665	675
13	568	549	558	690	663	677	762	673	735	668	641	655
14	559	534	550	715	676	688	740	692	719	665	642	653
15	554	457	520	709	663	689	732	702	720	654	631	646
16	469	306	401	703	664	684	718	693	707	651	640	646
17	534	373	432	697	655	675	715	669	696	694	640	660
18	584	489	550	702	656	679	753	685	713	676	649	664
19	688	634	666	693	652	673	766	720	740	673	650	663
20	732	709	725	691	644	667	751	709	730	678	647	664
21	783	755	773	685	640	663	740	705	724	671	644	658
22	720	516	598	679	635	655	744	710	725	672	637	657
23	870	657	759	684	650	662	737	694	715	684	654	669
24	816	801	808	694	651	673	723	695	709	674	647	658
25	762	735	743	688	647	667	746	698	713	678	652	666
26	677	669	673	682	639	662	747	687	716	683	656	669
27	663	633	641	680	650	666	747	684	715	673	653	663
28	656	563	622	712	661	678	752	660	712	673	654	664
29	---	---	---	710	641	683	749	701	728	667	632	652
30	---	---	---	742	693	715	741	695	716	683	648	663
31	---	---	---	729	676	703	---	---	---	688	653	674
MONTH	870	306	609	742	635	677	771	634	707	762	631	681

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	673	654	665	682	655	669	712	678	696	642	466	550
2	689	659	670	677	654	669	705	633	664	693	665	683
3	683	660	670	677	650	666	735	674	711	706	697	701
4	684	664	671	676	653	663	774	743	765	720	698	709
5	681	654	666	683	653	668	---	---	---	799	721	753
6	678	655	666	712	656	682	---	---	---	847	812	824
7	656	648	652	719	696	711	---	---	---	871	697	767
8	---	---	---	730	696	712	---	---	---	793	762	776
9	---	---	---	722	691	712	---	---	---	817	807	812
10	---	---	---	721	694	712	---	---	---	---	---	---
11	---	---	---	731	716	725	---	---	---	---	---	---
12	---	---	---	765	735	746	---	---	---	---	---	---
13	---	---	---	741	631	697	---	---	---	---	---	---
14	---	---	---	729	710	720	---	---	---	---	---	---
15	---	---	---	724	625	682	---	---	---	---	---	---
16	747	671	684	743	716	731	---	---	---	---	---	---
17	678	666	674	743	716	726	---	---	---	800	761	771
18	673	654	667	728	701	718	---	---	---	795	754	781
19	688	657	673	731	708	721	---	---	---	797	757	781
20	---	---	---	724	639	684	---	---	---	821	771	793
21	---	---	---	716	697	708	---	---	---	795	754	779
22	---	---	---	716	689	704	---	---	---	773	741	759
23	---	---	---	708	689	700	---	---	---	774	729	754
24	---	---	---	708	685	700	---	---	---	760	733	742
25	716	637	645	712	693	703	---	---	---	742	690	712
26	651	636	643	712	697	705	---	---	---	713	632	683
27	704	632	665	708	689	700	---	---	---	814	714	783
28	704	669	688	724	678	698	---	---	---	792	773	780
29	695	672	685	735	701	719	659	641	651	791	615	719
30	690	660	676	724	682	705	675	655	663	789	753	775
31	---	---	---	716	682	701	684	592	642	---	---	---
MONTH	747	632	668	765	625	702	774	592	685	871	466	747

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	800	754	773	880	823	850	761	713	732	---	---	---
2	804	796	799	845	810	831	788	748	777	---	---	---
3	901	804	817	832	790	818	800	771	787	---	---	---
4	808	774	789	819	805	813	795	783	789	---	---	---
5	806	668	765	821	802	810	806	798	801	---	---	---
6	781	584	722	814	796	804	814	801	809	767	762	766
7	793	779	789	806	789	800	817	792	803	775	688	767
8	796	771	784	808	751	788	812	786	795	778	757	766
9	790	767	778	792	773	785	---	---	---	776	764	769
10	785	762	773	794	771	783	---	---	---	784	755	771
11	789	758	775	792	774	783	---	---	---	758	746	752
12	784	755	774	794	769	782	---	---	---	753	741	748
13	793	756	778	791	767	783	---	---	---	744	740	743
14	777	697	729	794	770	784	---	---	---	747	743	747
15	801	761	789	797	764	780	---	---	---	754	738	747
16	802	790	796	811	762	771	---	---	---	741	729	735
17	803	665	735	771	747	760	---	---	---	748	740	745
18	791	700	765	766	731	755	---	---	---	751	735	746
19	807	795	800	770	750	759	---	---	---	742	734	739
20	808	735	800	758	738	751	---	---	---	749	729	742
21	805	781	791	769	742	758	---	---	---	748	739	743
22	793	778	786	773	737	760	---	---	---	751	738	744
23	785	772	781	765	713	738	---	---	---	749	741	745
24	782	770	777	771	725	750	---	---	---	760	748	754
25	780	764	774	789	780	783	---	---	---	759	755	757
26	778	758	769	797	569	709	---	---	---	762	758	760
27	772	752	765	788	695	767	---	---	---	765	744	758
28	974	746	786	789	779	784	---	---	---	760	747	751
29	970	863	910	792	777	784	---	---	---	762	754	760
30	876	814	844	790	737	778	---	---	---	765	752	756
31	878	826	850	---	---	---	---	---	---	751	743	747
MONTH	974	584	786	880	569	780	817	713	787	784	688	752

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	758	750	754	626	540	591	718	700	710	769	703	737
2	756	748	751	646	551	599	729	710	715	760	697	737
3	747	738	745	685	649	667	717	585	649	755	668	725
4	749	745	747	688	656	672	686	648	670	746	665	715
5	748	740	744	687	663	676	669	637	657	736	590	694
6	746	742	745	701	669	683	672	610	643	747	710	732
7	745	737	741	704	676	693	679	613	646	753	675	722
8	743	739	741	711	686	699	665	644	655	726	651	693
9	742	726	736	704	686	697	662	586	649	838	684	742
10	736	732	734	699	674	691	669	620	652	819	672	765
11	735	727	733	692	523	637	658	610	642	770	681	739
12	734	725	730	551	182	463	637	557	602	764	647	713
13	728	724	726	298	189	241	726	399	612	721	682	701
14	727	719	724	439	299	368	572	277	445	705	680	694
15	721	705	716	530	368	467	504	336	423	705	673	692
16	746	704	718	462	248	345	604	461	566	710	683	695
17	741	718	735	577	409	516	675	486	598	705	673	689
18	725	706	718	573	507	552	745	596	672	698	659	682
19	702	646	683	539	442	494	682	648	667	680	599	652
20	642	372	547	442	269	369	689	636	665	694	662	683
21	380	315	353	612	405	543	703	621	660	686	627	665
22	368	270	330	645	565	605	692	617	658	675	448	585
23	357	317	339	656	583	615	695	627	664	684	663	677
24	549	365	469	648	588	620	702	633	669	697	694	696
25	615	562	595	662	628	649	751	672	692	707	699	702
26	653	599	631	672	658	664	738	678	711	709	635	675
27	735	475	594	685	664	675	730	670	705	700	611	682
28	630	495	573	685	674	677	729	541	692	754	637	680
29	---	---	---	739	677	684	744	645	702	699	453	634
30	---	---	---	691	579	648	751	685	724	721	686	704
31	---	---	---	708	683	697	---	---	---	705	698	702
MONTH	758	270	655	739	182	587	751	277	647	838	448	697
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	726	696	709	751	680	690	713	705	711	751	717	734
2	723	701	708	716	627	673	711	692	703	740	725	734
3	711	694	703	661	584	630	714	702	710	737	707	727
4	706	690	698	663	646	655	712	152	502	723	700	714
5	701	683	696	658	637	649	749	710	740	716	697	706
6	694	691	693	650	527	622	759	736	749	712	705	710
7	713	684	699	628	430	550	761	754	757	782	713	748
8	706	687	695	637	623	628	760	756	757	778	759	767
9	706	684	695	625	614	619	758	751	755	769	752	763
10	706	687	694	478	82	391	769	749	753	770	749	758
11	694	662	683	665	425	610	755	747	752	757	742	753
12	682	665	676	692	667	678	758	742	752	790	745	753
13	675	655	668	691	648	674	760	736	752	754	732	744
14	672	655	664	693	686	688	762	742	754	749	736	743
15	658	503	589	688	265	556	761	737	752	745	737	742
16	679	654	666	662	490	606	763	739	752	749	734	742
17	689	671	680	689	657	673	761	741	752	742	734	738
18	744	682	689	677	663	673	760	732	748	742	739	741
19	695	674	686	679	672	677	742	719	732	776	736	744
20	690	665	679	682	671	675	735	713	725	746	733	740
21	688	663	678	673	669	672	726	703	718	747	735	742
22	683	665	677	731	672	688	720	675	708	752	737	743
23	684	663	677	733	711	725	710	623	686	750	738	746
24	686	657	676	724	695	712	720	612	696	755	743	749
25	691	644	667	712	678	699	710	658	680	756	745	752
26	676	652	665	699	680	691	716	701	710	758	741	751
27	677	653	667	690	668	680	717	698	708	757	739	748
28	678	653	667	726	685	702	754	711	734	761	739	751
29	700	657	670	721	664	710	755	645	731	759	743	754
30	683	654	668	708	666	687	749	662	704	767	762	764
31	---	---	---	714	707	712	754	743	749	---	---	---
MONTH	744	503	679	751	82	655	769	152	724	790	697	743

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1				---	---	---	6.5	1.0	4.5	3.0	1.0	2.5
2				---	---	---	2.5	.0	1.0	3.0	1.0	2.0
3				---	---	---	2.5	.0	1.0	1.0	.5	.5
4				---	---	---	3.5	.5	2.0	1.0	.5	.5
5				---	---	---	3.5	2.5	2.5	1.0	.5	.5
6				12.0	7.0	9.5	7.0	3.0	5.5	2.5	.5	1.0
7				10.0	7.0	8.5	7.0	6.0	6.5	1.5	.5	.5
8				9.0	6.5	7.5	6.0	2.0	4.5	2.0	.5	1.0
9				11.0	7.0	8.5	5.0	1.0	4.0	1.5	.5	1.0
10				9.0	5.0	6.5	3.0	1.0	2.0	1.0	.5	.5
11				7.0	5.0	6.0	2.5	.5	1.5	1.0	.5	.5
12				9.5	6.0	7.5	5.0	1.5	3.0	2.0	.5	1.0
13				9.5	7.0	8.5	3.0	.5	1.5	1.5	.5	1.0
14				7.0	5.5	6.5	3.5	1.0	2.0	2.5	1.0	1.5
15				8.0	4.5	6.0	3.5	1.0	2.0	2.5	.5	1.0
16				7.5	2.5	4.5	4.5	1.0	2.5	1.5	.5	.5
17				4.5	2.5	3.5	3.5	1.0	2.0	2.0	.5	1.0
18				6.0	2.0	3.5	3.0	.5	1.5	4.0	1.0	2.0
19				7.5	1.5	4.0	1.0	.0	.5	4.5	1.0	2.0
20				7.0	2.5	4.5	1.0	.0	.5	4.5	1.0	2.0
21				7.0	2.5	4.5	1.5	.5	1.0	4.0	1.0	2.5
22				7.5	3.0	5.0	1.5	1.0	1.0	5.0	1.0	2.0
23				7.0	5.0	6.0	3.5	1.0	2.0	5.0	1.0	2.5
24				5.0	2.5	4.0	1.5	.0	.5	5.5	1.5	2.5
25				5.0	1.5	3.0	1.0	.0	.0	5.5	3.0	4.0
26				5.5	1.5	3.5	1.5	.5	1.0	5.0	3.0	3.5
27				5.0	3.5	4.0	2.5	.5	1.5	4.5	1.5	3.0
28				6.0	3.5	4.5	3.5	1.0	2.0	3.5	.5	1.5
29				7.0	3.5	5.0	4.0	2.0	2.5	2.5	.5	1.0
30				8.0	3.0	5.0	3.0	2.0	2.5	3.0	.5	1.0
31				---	---	---	3.0	2.5	2.5	3.5	.5	1.5
MONTH				12.0	1.5	5.5	7.0	.0	2.0	5.5	.5	1.5

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	3.5	.5	2.0	5.0	2.5	3.5	13.0	6.5	9.0	14.5	7.5	10.0
2	1.5	.5	1.0	5.5	.5	2.5	17.0	4.5	10.5	19.0	6.5	12.0
3	1.0	.5	.5	5.5	.5	3.0	13.5	9.5	11.5	21.5	9.0	14.5
4	1.5	.5	.5	9.0	3.5	6.0	12.0	4.5	8.5	13.5	12.0	13.0
5	1.5	.5	.5	9.0	2.5	5.0	12.0	3.5	7.0	15.5	10.0	13.0
6	3.0	.5	1.5	7.0	1.0	3.5	14.5	2.5	8.0	18.0	7.0	11.5
7	2.5	.0	1.0	7.5	.5	3.5	17.5	6.0	11.0	19.5	6.5	12.0
8	2.0	.0	.5	9.0	.5	4.5	12.0	7.0	10.0	12.5	8.0	11.0
9	3.0	.0	1.0	9.5	2.5	5.5	16.5	4.5	10.0	17.5	8.5	13.0
10	.5	.0	.0	7.5	3.0	5.0	17.5	8.0	12.0	11.0	7.0	9.0
11	.0	.0	.0	9.5	.5	4.5	13.0	9.5	11.5	18.5	4.5	10.5
12	1.0	.0	.0	12.0	2.5	6.0	14.5	7.5	10.5	15.5	7.0	11.0
13	2.0	.0	1.0	9.0	2.0	5.0	14.5	9.0	11.5	19.0	9.5	13.5
14	3.0	.5	1.5	10.0	.5	5.0	15.5	6.5	10.5	13.5	10.0	11.5
15	3.5	1.0	1.5	13.0	3.0	7.0	16.0	3.5	9.5	21.5	7.5	14.0
16	3.0	.0	1.0	9.5	.5	5.0	11.0	6.0	9.0	20.5	10.0	15.0
17	5.0	.5	2.0	10.0	2.5	5.0	19.5	7.5	13.0	14.0	10.0	12.0
18	5.0	1.5	3.0	7.0	.5	3.0	19.0	7.0	12.5	16.0	7.5	11.0
19	7.0	2.0	4.0	5.5	.5	3.0	12.5	8.5	10.5	21.0	8.0	13.5
20	8.5	2.0	5.0	10.5	.5	5.0	15.5	4.0	9.0	23.0	8.5	15.0
21	7.0	3.5	5.0	10.5	1.0	5.5	12.5	3.5	8.0	24.0	10.0	16.0
22	4.0	1.5	2.5	12.0	2.5	6.5	11.5	8.5	10.0	22.5	13.0	16.5
23	3.0	2.0	2.5	13.0	2.0	7.0	10.0	6.5	8.5	20.5	15.0	17.5
24	8.5	.5	4.0	14.0	3.0	8.0	9.5	5.0	7.0	21.0	13.5	17.0
25	8.5	1.5	4.5	12.0	3.5	7.5	17.5	4.0	10.5	23.5	12.0	17.0
26	6.0	2.5	4.0	15.5	6.5	9.5	20.5	7.5	13.5	23.0	13.0	17.5
27	3.5	3.0	3.5	14.0	4.0	8.5	23.0	9.5	15.5	24.0	15.0	19.0
28	5.5	3.5	4.5	16.5	6.5	11.0	15.5	10.0	13.5	24.0	15.0	18.5
29	---	---	---	15.0	9.5	11.0	14.5	9.0	11.0	26.0	17.0	20.5
30	---	---	---	12.5	7.5	10.0	15.0	9.5	11.0	23.5	15.0	19.0
31	---	---	---	17.5	6.5	10.5	---	---	---	26.0	13.0	18.5
MONTH	8.5	.0	2.0	17.5	.5	6.0	23.0	2.5	10.5	26.0	4.5	14.5

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	26.5	14.5	20.0	26.0	15.0	20.0	26.0	15.5	20.0	20.5	17.0	19.0
2	24.0	16.0	19.5	23.5	17.0	19.5	21.0	17.5	19.0	20.0	14.0	17.0
3	23.5	16.5	19.5	24.5	16.0	20.0	26.0	16.5	20.5	21.0	14.5	17.0
4	26.5	14.0	19.5	26.0	17.0	21.0	26.5	17.5	21.0	19.5	13.0	16.0
5	27.0	16.5	21.0	26.0	17.0	21.5	---	---	---	18.5	13.5	16.0
6	26.5	15.5	20.5	27.0	16.5	21.5	---	---	---	21.0	12.5	16.0
7	17.0	15.5	16.5	27.0	17.0	22.0	---	---	---	17.5	13.5	15.0
8	---	---	---	28.0	19.0	23.0	---	---	---	20.5	12.0	15.5
9	---	---	---	27.5	19.5	22.5	---	---	---	29.0	12.0	15.5
10	---	---	---	27.0	15.5	21.0	---	---	---	---	---	---
11	---	---	---	21.0	17.5	19.5	---	---	---	---	---	---
12	---	---	---	29.5	19.0	23.5	---	---	---	---	---	---
13	---	---	---	27.0	20.5	23.0	---	---	---	---	---	---
14	---	---	---	22.5	18.5	20.0	---	---	---	---	---	---
15	---	---	---	22.5	16.5	19.0	---	---	---	---	---	---
16	20.5	15.0	17.5	24.5	17.0	20.5	---	---	---	---	---	---
17	24.5	12.0	17.5	26.5	17.0	21.0	---	---	---	19.5	11.0	13.5
18	24.5	15.0	19.0	26.0	17.5	21.5	---	---	---	15.5	8.5	11.5
19	24.5	14.0	18.5	25.5	18.5	22.0	---	---	---	18.5	9.0	13.0
20	---	---	---	25.5	18.5	21.5	---	---	---	19.0	9.5	14.0
21	---	---	---	24.0	17.0	20.0	---	---	---	17.0	12.0	14.0
22	---	---	---	23.5	16.0	19.5	---	---	---	16.5	10.5	13.0
23	---	---	---	19.0	15.5	17.0	---	---	---	16.5	9.0	12.0
24	---	---	---	25.0	15.0	19.5	---	---	---	17.5	11.0	13.5
25	26.0	17.0	21.5	22.5	17.0	19.5	---	---	---	14.0	13.0	13.5
26	24.0	13.5	18.5	20.0	16.5	18.0	---	---	---	16.5	12.5	14.5
27	24.0	14.0	18.5	16.5	13.5	15.5	---	---	---	15.5	10.0	12.5
28	26.0	17.0	20.5	17.5	13.0	15.0	---	---	---	15.5	8.0	11.5
29	25.0	18.0	21.0	23.0	12.0	17.0	22.5	14.0	19.5	15.5	10.5	13.0
30	26.0	17.5	21.0	25.0	15.5	19.5	22.5	15.0	18.5	19.5	12.0	15.5
31	---	---	---	26.0	15.5	20.0	21.5	17.0	18.5	---	---	---
MONTH	27.0	12.0	19.5	29.5	12.0	20.0	26.5	14.0	19.5	29.0	8.0	14.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	18.0	8.5	12.0	---	---	---	4.0	2.5	3.5	---	---	---
2	14.5	7.0	10.0	---	---	---	4.0	2.0	3.0	---	---	---
3	15.0	7.5	11.0	---	---	---	3.0	1.0	2.0	---	---	---
4	14.5	11.0	12.5	---	---	---	3.5	1.0	2.5	---	---	---
5	17.0	13.0	15.0	---	---	---	4.0	1.0	2.5	---	---	---
6	16.5	11.0	13.5	---	---	---	5.0	1.0	3.0	---	.0	.0
7	15.0	8.5	11.0	---	---	---	7.0	4.0	5.0	.5	.0	.0
8	15.0	7.5	10.5	---	---	---	4.0	3.0	3.5	1.0	.0	.0
9	14.5	8.5	11.0	---	---	---	---	---	---	.0	.0	.0
10	14.0	10.5	12.0	---	---	---	---	---	---	.0	.0	.0
11	15.5	8.5	11.5	---	---	---	---	---	---	.0	.0	.0
12	15.5	9.0	12.0	---	---	---	---	---	---	.0	.0	.0
13	16.0	11.0	13.0	---	---	---	---	---	---	.5	.0	.0
14	14.0	13.5	13.5	---	---	---	---	---	---	.5	.0	.0
15	16.5	11.0	13.5	---	---	---	---	---	---	.0	.0	.0
16	15.0	8.0	11.0	9.5	5.5	7.0	---	---	---	.0	.0	.0
17	13.0	9.5	11.0	8.5	4.0	6.0	---	---	---	.0	.0	.0
18	11.0	7.0	9.0	8.0	4.0	6.0	---	---	---	.0	.0	.0
19	11.0	5.0	7.5	6.0	3.0	4.5	---	---	---	.5	.0	.0
20	12.5	7.0	9.5	4.5	2.0	3.0	---	---	---	.5	.0	.0
21	10.5	7.5	9.0	4.0	1.5	2.5	---	---	---	.5	.0	.0
22	11.0	6.0	7.5	4.5	1.5	3.0	---	---	---	1.0	.0	.0
23	7.0	3.5	5.0	3.5	2.0	2.5	---	---	---	.5	.0	.0
24	5.0	2.0	3.5	7.0	2.5	4.5	---	---	---	.0	.0	.0
25	9.5	4.5	6.5	5.5	4.5	5.0	---	---	---	.0	.0	.0
26	10.5	5.0	7.5	5.5	4.0	5.0	---	---	---	1.0	.0	.0
27	11.0	4.0	7.0	5.5	3.0	4.0	---	---	---	2.0	.0	.5
28	---	---	---	5.5	3.0	4.0	---	---	---	1.5	.0	.5
29	---	---	---	5.0	1.5	3.0	---	---	---	2.0	.5	1.0
30	---	---	---	3.5	1.5	2.5	---	---	---	2.0	.0	1.5
31	---	---	---	---	---	---	---	---	---	1.0	.0	.0
MONTH	18.0	2.0	10.0	9.5	1.5	4.0	7.0	1.0	3.0	2.0	.0	.0

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI---CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	2.0		1.0	5.0	.5	2.5	13.5	3.5	8.0	17.5	8.0	12.5
2	2.5	.5	1.5	2.5	.0	1.0	10.5	5.5	8.0	20.5	8.0	13.5
3	1.5	.0	.5	3.0	.0	.5	10.0	.5	4.5	20.5	9.5	14.5
4	2.0	.0	.5	.5	.0	.0	7.5	.5	3.5	20.5	11.0	15.5
5	2.0	.0	.5	2.5	.0	.5	3.5	.0	1.0	20.0	14.0	16.5
6	1.5	.0	.0	2.5	.0	.5	3.0	.0	1.0	16.5	10.5	14.0
7	2.0	.0	.5	3.0	.0	.5	4.0	.5	2.0	20.0	8.0	13.0
8	2.0	.0	1.0	2.0	.0	.5	7.0	1.0	3.5	21.5	10.0	15.0
9	1.5	.0	.5	2.5	.0	1.0	10.5	1.0	5.0	20.0	9.5	14.5
10	1.5	.0	.5	4.5	1.5	2.5	9.5	2.5	5.5	21.5	12.0	16.0
11	2.0	.0	1.0	5.0	.5	2.5	13.0	1.5	6.5	20.5	13.0	16.5
12	2.5	1.0	1.5	3.0	.0	1.5	10.0	4.0	6.5	22.5	13.5	17.5
13	2.5	1.0	2.0	.0	.0	.0	14.5	6.0	9.0	20.5	14.5	17.0
14	3.0	1.5	2.0	3.0	.0	.5	14.0	4.0	8.5	22.5	13.0	17.5
15	4.0	2.0	2.5	3.5	.5	2.5	10.0	4.5	8.0	20.5	13.0	16.5
16	3.5	2.5	3.0	3.0	.0	1.5	14.5	8.5	11.0	24.0	13.5	18.0
17	5.5	2.5	3.5	4.5	2.5	3.5	13.5	6.5	9.5	22.5	14.5	18.0
18	5.0	2.5	3.0	8.0	4.0	5.0	16.5	4.0	9.5	22.0	11.5	18.0
19	4.0	2.0	3.0	4.5	.5	2.5	9.5	7.0	8.5	22.5	14.0	17.5
20	3.5	.0	2.0	3.0	1.0	1.0	7.5	3.5	6.0	21.5	13.5	17.0
21	.5	.0	.0	5.5	1.0	3.5	15.0	2.5	8.0	13.0	11.0	12.0
22	1.0	.0	.0	9.5	1.5	5.0	16.5	4.0	9.5	13.0	11.5	12.0
23	.5	.0	.0	9.0	2.5	5.5	17.0	5.0	10.5	14.5	10.5	12.5
24	1.5	.0	.5	10.5	4.0	6.5	18.5	6.0	11.5	15.0	12.0	13.0
25	2.5	.0	1.5	10.0	3.0	5.5	19.0	8.0	11.5	15.5	12.0	13.5
26	5.0	.5	2.0	6.0	1.5	3.5	13.0	8.5	10.5	14.5	12.0	13.0
27	5.5	.0	2.0	9.0	1.0	4.0	16.0	4.5	10.0	14.5	13.0	13.5
28	5.0	.5	2.0	10.5	1.0	5.5	15.0	5.0	10.0	17.0	12.0	14.0
29	---	---	---	11.0	3.0	6.0	15.0	7.0	10.5	15.5	12.0	14.0
30	---	---	---	12.5	6.0	8.5	16.5	6.5	11.0	22.5	12.0	16.5
31	---	---	---	13.0	4.5	8.0	---	---	---	16.5	12.5	15.0
MONTH	5.5	.0	1.5	13.0	.0	3.0	19.0	.0	7.5	24.0	8.0	15.0

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	21.0	9.0	14.5	26.5	12.5	17.0	23.5	13.5	19.5	22.0	13.0	18.0
2	20.5	10.0	14.5	18.0	13.5	16.0	25.5	18.0	21.5	20.5	15.5	17.0
3	20.0	10.0	14.5	22.0	15.0	18.0	27.0	18.0	22.5	19.5	12.5	16.0
4	20.5	9.5	14.5	25.5	15.0	19.5	23.5	20.0	21.5	20.0	12.0	15.5
5	20.5	9.0	14.5	27.5	17.5	21.5	20.0	18.0	19.0	18.0	13.0	16.0
6	14.0	10.5	12.5	22.0	18.0	20.0	23.0	18.0	20.0	16.0	13.0	15.0
7	23.5	13.0	17.0	25.0	17.0	20.5	23.5	13.5	20.0	19.0	13.5	16.0
8	21.5	12.0	16.5	24.5	13.0	19.5	23.5	16.5	20.0	20.0	14.0	16.5
9	20.0	13.5	16.0	23.0	13.0	20.0	19.5	15.0	17.0	21.5	14.0	17.5
10	21.0	10.5	15.0	22.0	17.0	19.0	20.0	13.5	16.5	22.5	13.5	18.5
11	19.5	10.0	14.5	23.5	17.0	20.0	21.0	12.5	16.5	24.0	17.5	20.0
12	22.0	12.0	16.5	24.0	15.5	20.0	21.0	6.0	16.5	22.0	18.0	19.5
13	21.5	11.0	16.0	24.5	14.0	20.5	20.0	14.0	17.0	21.5	17.0	19.5
14	20.0	11.5	16.0	24.5	17.0	21.0	19.5	15.5	17.5	19.0	16.5	18.0
15	18.5	14.5	16.5	25.5	18.0	21.5	21.0	14.5	17.5	17.5	14.5	16.0
16	21.5	4.0	16.0	24.5	17.5	21.5	22.5	15.5	18.5	18.0	12.5	15.0
17	18.5	12.0	15.0	28.5	19.5	23.5	22.5	15.5	18.5	15.5	14.0	15.0
18	15.5	12.5	14.0	24.0	20.5	22.5	23.5	15.5	19.0	17.5	12.0	14.5
19	20.0	10.0	14.5	24.0	19.0	21.5	23.5	17.5	20.0	17.5	11.5	14.5
20	20.5	12.5	16.0	25.5	18.0	21.5	23.5	16.0	20.0	15.5	11.5	13.5
21	20.5	11.5	15.5	22.0	18.5	20.0	22.0	14.5	18.0	16.5	10.5	13.0
22	21.0	11.5	16.0	24.5	18.0	21.0	18.5	13.5	17.0	17.0	10.0	13.5
23	21.5	4.5	16.5	25.0	17.0	21.0	22.5	13.0	18.0	16.0	11.0	13.5
24	22.5	13.0	17.5	25.0	16.5	21.0	18.5	15.0	16.5	15.5	12.5	14.0
25	18.0	14.5	16.5	26.0	17.5	21.5	21.5	14.0	17.0	14.0	12.0	13.0
26	20.5	12.5	16.0	25.5	18.5	21.5	20.5	14.5	17.0	16.5	13.0	14.5
27	21.5	14.5	18.0	21.5	18.0	19.5	20.0	15.0	17.0	16.5	6.5	13.5
28	23.0	15.5	19.0	25.0	16.0	20.0	17.0	12.0	14.0	18.0	12.0	14.5
29	18.5	15.0	16.5	24.0	13.5	20.0	14.5	13.0	13.5	19.0	13.0	16.0
30	21.0	12.0	16.0	23.5	16.5	20.0	17.5	14.5	15.5	15.0	13.5	14.0
31	---	---	---	24.0	16.0	20.0	18.0	14.5	16.0	---	---	---
MONTH	23.5	4.0	15.5	28.5	12.5	20.5	27.0	6.0	18.0	24.0	6.5	15.5

GALENA RIVER BASIN

05414915 MADDEN BRANCH TRIBUTARY NEAR BELMONT, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, MAY TO JULY 1981

DAY	MAX	MIN MAY	MEAN	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN
1	---	---	---	8.6	5.8	7.2	8.9	6.1	7.4
2	---	---	---	8.4	6.2	7.0	9.1	6.3	7.5
3	---	---	---	8.0	6.2	7.1	9.1	6.2	7.9
4	---	---	---	8.7	5.5	7.1	9.4	5.8	7.7
5	---	---	---	8.5	5.6	7.2	8.7	5.6	7.3
6	---	---	---	8.4	5.6	6.9	8.6	5.9	7.2
7	---	---	---	8.9	6.3	7.4	7.8	6.0	6.8
8	---	---	---	8.2	6.6	7.4	7.8	5.6	6.4
9	11.1	8.3	9.5	8.6	6.8	7.6	---	---	---
10	12.2	8.9	10.9	8.9	6.2	7.7	---	---	---
11	12.4	8.7	10.9	9.1	5.9	7.8	---	---	---
12	11.9	8.9	10.5	8.7	5.8	7.4	---	---	---
13	10.8	8.2	10.1	7.7	5.5	6.6	---	---	---
14	11.4	8.2	9.9	8.4	5.4	7.0	---	---	---
15	11.2	7.8	9.7	---	---	---	---	---	---
16	10.5	7.5	8.8	---	---	---	---	---	---
17	10.9	7.9	9.4	8.6	6.7	7.7	8.0	5.9	---
18	11.4	8.7	9.9	8.0	6.3	7.4	8.0	5.7	6.9
19	10.8	7.6	9.3	7.8	5.7	---	8.0	5.6	6.8
20	10.4	7.0	8.7	7.9	6.3	6.9	7.6	5.9	6.7
21	10.0	7.0	8.4	8.4	5.7	7.3	---	---	---
22	9.2	6.7	8.1	7.0	6.1	6.5	---	---	---
23	8.7	6.8	7.7	7.8	5.4	6.6	---	---	---
24	8.8	7.0	7.9	7.1	6.0	6.7	---	---	---
25	9.5	7.1	8.3	8.2	5.9	7.2	---	---	---
26	9.0	6.6	8.1	8.2	6.2	7.2	---	---	---
27	9.0	6.8	7.8	8.5	6.3	7.4	---	---	---
28	9.0	6.4	7.7	8.9	6.2	7.4	---	---	---
29	8.2	6.0	7.1	8.8	6.0	7.5	---	---	---
30	8.7	6.5	7.6	8.6	6.1	7.4	---	---	---
31	9.1	6.2	7.7	---	---	---	---	---	---
MONTH	12.4	6.0	8.9	9.1	5.4	7.2	9.4	5.6	7.2

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI

LOCATION.--Lat 42°38'45", long 90°20'37", in SW 1/4 NW 1/4 sec.14, T.2 N., R.1 E., Lafayette County, Hydrologic Unit 07060005, at Red School Road, 1.3 mi (2.1 km) east of Meekers Grover.

DRAINAGE AREA.--15.1 mi² (39.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 860 ft (262 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Water year 1981: Maximum discharge, 614 ft³/s (17.4 m³/s) Feb. 22, gage height, 9.36 ft (2.853 m); minimum daily discharge, 3.7 ft³/s (0.10 m³/s) July 10.

Water year 1982: Maximum discharge, 3,000 ft³/s (85.0 m³/s) from rating extension above 483 ft³/s (13.7 m³/s) from indirect measurement using step-backwater analysis, July 10, gage height, 13.67 ft (4.17 m); minimum daily, 4.9 ft³/s (0.14 m³/s) Feb. 5-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	11	7.1	6.9	5.6	9.9	6.8	8.7	5.1	4.5	4.4	22
2	8.8	10	6.4	6.6	5.5	9.0	6.5	7.8	5.2	4.5	6.8	9.5
3	8.4	11	7.0	6.4	5.4	8.5	6.4	7.4	5.4	4.5	6.4	7.8
4	8.0	10	7.0	6.2	4.8	8.7	9.1	7.2	5.1	4.5	5.6	7.1
5	7.8	9.8	7.5	6.2	4.7	7.9	6.9	7.4	5.1	4.3	5.7	6.8
6	7.6	9.6	9.5	6.2	4.6	7.4	6.6	6.7	4.8	4.3	5.9	6.4
7	7.5	9.6	11	6.2	4.5	7.1	6.3	6.4	4.8	4.2	8.2	8.2
8	7.8	9.6	10	6.0	4.5	7.2	10	6.5	4.9	4.2	7.4	8.5
9	7.6	9.4	9.1	5.9	4.5	7.2	10	6.6	6.2	4.2	6.0	6.8
10	7.3	8.8	8.0	5.8	4.5	7.2	9.6	6.8	6.0	3.7	5.6	6.2
11	7.0	8.4	8.1	5.8	4.5	7.3	11	6.3	5.3	3.8	5.4	6.2
12	7.1	8.4	8.1	5.7	4.6	7.3	12	6.1	4.9	4.2	5.1	6.2
13	7.2	8.5	7.5	5.7	4.7	7.3	13	6.2	6.5	7.2	5.1	5.6
14	7.6	8.6	7.8	5.7	4.9	7.0	15	6.0	5.5	4.9	9.0	5.1
15	14	8.1	7.4	5.7	5.4	7.0	11	5.8	21	7.1	8.3	5.1
16	10	7.7	7.3	5.8	13	6.6	10	5.7	7.4	4.7	6.2	5.0
17	8.5	7.6	7.3	5.8	12	6.4	9.8	5.6	5.5	4.5	5.7	4.8
18	7.8	7.5	7.3	5.9	9.4	6.4	8.8	5.3	4.9	4.5	5.3	4.9
19	7.0	7.4	7.0	5.9	7.4	6.4	8.6	5.2	4.6	4.0	5.1	4.9
20	6.6	7.5	6.8	6.0	6.9	8.4	8.1	5.2	4.5	6.8	5.4	4.9
21	8.4	7.4	6.8	6.1	6.8	7.6	7.9	5.2	11	5.4	5.4	4.9
22	7.8	7.4	6.9	6.2	242	7.1	8.6	5.2	8.6	5.1	5.4	5.7
23	12	8.1	7.0	6.1	29	6.6	8.5	5.6	5.6	4.9	5.4	7.1
24	12	7.6	6.6	6.3	14	6.6	8.0	6.1	14	4.9	5.7	7.6
25	13	7.2	6.5	6.6	11	6.4	7.6	5.6	6.6	4.8	5.7	13
26	12	7.2	6.6	6.2	9.7	6.6	7.5	5.4	5.8	4.8	8.8	14
27	10	7.4	6.8	6.0	13	6.6	7.2	5.3	5.6	4.8	6.7	9.3
28	10	7.3	6.9	5.6	13	6.5	9.8	5.2	5.4	5.8	8.1	7.7
29	9.8	7.1	7.0	5.5	---	7.5	8.1	6.1	5.1	5.4	8.4	11
30	9.0	7.1	7.0	5.4	---	8.8	9.7	5.9	4.9	4.8	7.0	9.2
31	9.6	---	7.0	5.5	---	7.3	---	5.3	---	4.6	9.1	---
TOTAL	276.2	252.3	232.3	185.9	459.9	227.8	268.4	189.8	195.3	149.9	198.3	231.5
MEAN	8.91	8.41	7.49	6.00	16.4	7.35	8.95	6.12	6.51	4.84	6.40	7.72
MAX	14	11	11	6.9	242	9.9	15	8.7	21	7.2	9.1	22
MIN	6.6	7.1	6.4	5.4	4.5	6.4	6.3	5.2	4.5	3.7	4.4	4.8
CFSM	.59	.56	.50	.40	1.09	.49	.59	.41	.43	.32	.43	.51
IN.	.68	.62	.57	.46	1.14	.56	.66	.47	.48	.37	.49	.57
WTR YR 1981	TOTAL	2867.6	MEAN	7.86	MAX	242	MIN	3.7	CFSM	.52	IN	7.08

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											SEP
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
1	7.6	9.2	14	6.6	5.2	9.4	14	11	13	9.1	13	15
2	7.3	8.5	12	6.6	5.2	9.0	14	10	12	9.1	13	14
3	6.8	8.5	11	6.6	5.2	8.4	24	10	12	11	12	13
4	7.2	8.7	10	6.8	5.0	8.1	16	10	12	10	97	12
5	8.2	8.7	9.4	7.0	4.9	8.0	13	14	11	9.4	31	12
6	11	8.3	9.2	7.0	4.9	7.8	12	14	11	11	29	12
7	8.7	7.9	10	7.2	4.9	7.6	12	12	11	22	21	11
8	9.1	7.9	11	7.0	4.9	7.6	12	12	11	11	20	11
9	9.8	7.6	10	6.8	4.9	7.6	12	11	11	10	18	11
10	9.5	7.5	9.3	6.4	5.0	7.8	13	11	11	319	17	11
11	7.5	7.5	8.6	6.4	5.2	9.6	14	11	10	41	17	11
12	8.0	7.6	8.2	6.4	5.2	180	16	11	11	24	16	11
13	8.1	7.8	8.0	6.4	5.4	306	17	10	10	22	16	11
14	13	7.8	7.8	6.4	5.4	55	15	10	9.9	19	16	11
15	10	7.9	7.6	6.2	5.4	22	16	10	17	55	15	11
16	9.6	9.5	7.4	6.0	5.6	201	18	10	12	33	15	11
17	14	8.5	7.4	5.8	5.8	21	16	10	11	23	14	11
18	14	8.4	7.4	5.8	5.8	19	14	11	11	21	14	11
19	12	8.4	7.4	5.6	6.2	25	14	11	10	19	14	11
20	11	8.4	7.4	5.6	9.0	144	14	11	9.9	17	13	11
21	11	8.0	7.4	5.8	26	27	13	11	9.9	17	13	10
22	11	7.7	7.6	5.8	65	19	13	12	9.9	17	13	10
23	10	8.4	7.6	6.0	86	19	12	11	9.7	15	17	10
24	9.8	9.1	7.6	5.8	30	19	12	11	9.6	15	15	10
25	9.8	9.0	7.6	5.6	14	16	12	11	9.6	14	13	10
26	9.6	15	7.6	5.6	10	14	11	13	9.9	14	9.8	10
27	10	12	7.4	5.8	9.4	13	11	15	10	14	8.7	10
28	10	11	7.2	5.8	10	13	11	15	9.9	14	14	10
29	9.4	9.9	7.0	5.8	---	13	11	16	9.7	15	14	10
30	9.9	9.9	7.0	5.6	---	19	11	15	9.5	16	21	10
31	9.2	---	6.8	5.4	---	15	---	14	---	13	13	---
TOTAL	302.1	264.6	263.9	191.6	359.5	1250.9	413	364	324.5	859.6	572.5	332
MEAN	9.75	8.82	8.51	6.18	12.8	40.4	13.8	11.7	10.8	27.7	18.5	11.1
MAX	14	15	14	7.2	86	306	24	16	17	319	97	15
MIN	6.8	7.5	6.8	5.4	4.9	7.6	11	10	9.5	9.1	8.7	10
CFSM	.65	.59	.57	.41	.85	2.68	.92	.78	.72	1.84	1.23	.74
IN.	.75	.65	.65	.47	.89	3.09	1.02	.90	.80	2.12	1.41	.82
CAL YR 1981	TOTAL	2937.4	MEAN	8.05	MAX	242	MIN	3.7	CFSM	.54	IN	7.26
WTR YR 1982	TOTAL	5498.2	MEAN	15.1	MAX	319	MIN	4.9	CFSM	1.00	IN	13.58

GALENA RIVER BASIN
05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1982 (discontinued).

PH: May to September 1982 (discontinued).

WATER TEMPERATURES: October 1980 to September 1982 (discontinued).

DISSOLVED OXYGEN: August to September 1981, May to September 1982 (discontinued).

INSTRUMENTATION.--Water-quality monitor since October 1980. Water-quality sampler since October 1980.

REMARKS.--The maximum and minimum water temperatures for the period Oct. 30, 1980 to Feb. 27, 1981 are the readings at 1400 and 0200 hours respectively. The means for this period are computed from these readings.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey and were analyzed by the Wisconsin State Laboratory of Hygiene.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum observed, 967 micromhos Oct. 20, 1982; minimum observed, 105 micromhos July 10, 1982.

PH: Maximum observed, 8.5 units Aug. 28, Sept. 19-29, 1982; minimum observed, 7.4 units May 21, 1982.

WATER TEMPERATURES: Maximum observed, 32.5°C July 12, 1981; minimum observed, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum observed 14.1 mg/l June 4, 1982; minimum observed 3.2 mg/l Aug. 26, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 967 micromhos Oct. 20; minimum observed, 105 micromhos July 10.

PH: Maximum observed, 8.5 units Aug. 28, Sept. 19-29; minimum observed, 7.4 units May 21.

WATER TEMPERATURES: Maximum observed, 30.0°C July 25; minimum observed, 0.0°C on many days during the winter periods.

DISSOLVED OXYGEN: Maximum observed, 14.1 mg/l June 4; minimum observed, 5.0 mg/l June 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)
OCT , 1980												
*15...	1400	6.3	23	520	--	6.4	.030	.60	--	.090	.043	.13
DEC												
11...	1015	9.5	--	--	--	7.3	.080	.30	--	.100	--	--
JAN , 1981												
13...	1350	5.7	17	--	--	7.6	.060	.20	--	.080	.030	.09
*17...	0950	5.8	10	488	0	--	--	--	--	--	--	--
24...	1010	6.0	11	474	2	--	--	--	--	--	--	--
FEB												
16...	1202	11	60	--	--	5.6	1.40	2.8	--	.680	.480	1.5
22...	0145	128	5220	5790	372	4.7	1.40	18	--	5.40	--	--
22...	0315	261	6000	6460	472	5.2	1.80	21	--	7.00	--	--
22...	0445	393	8460	9320	660	6.3	2.00	26	--	8.50	--	--
22...	0700	250	3780	4270	330	9.4	1.90	16	--	4.60	--	--
22...	1045	110	1620	2120	150	12	2.00	10	--	2.70	--	--
22...	1345	295	2010	2370	144	12	2.00	10	--	2.80	--	--
22...	1600	583	7960	9050	560	12	1.80	21	--	7.40	.320	.98
22...	1730	443	6100	6460	450	13	1.70	20	--	5.60	.930	2.9
22...	2015	195	2760	3250	190	15	1.80	12	--	3.20	.920	2.8
23...	0730	30	286	804	36	15	1.60	2.8	--	.800	.390	1.2
28...	1530	11	56	400	7	6.8	.430	.90	1.30	.210	.118	.36
MAR												
23...	1320	6.6	15	465	0	5.9	.020	.60	--	.040	.012	.04
APR												
08...	1300	9.8	35	510	7	5.1	.270	1.2	1.50	.160	.063	.19
10...	2245	16	312	748	52	5.1	.230	3.4	--	1.04	--	--
11...	0100	18	488	932	64	5.0	.500	4.7	5.20	1.41	--	--
11...	0145	18	908	--	--	--	--	5.0	--	--	--	--
11...	0230	16	640	1050	92	4.8	.440	--	5.40	1.50	--	--
12...	1430	12	166	595	34	5.0	.970	3.2	4.20	.970	--	--
*12...	1431	12	152	586	32	5.0	.970	3.2	4.20	.950	--	--
28...	1100	10	72	518	14	5.3	.280	1.2	1.50	.240	.083	.25
MAY												
13...	1101	6.4	--	--	--	6.4	.140	.70	.80	.160	.067	.21
JUN												
15...	1145	9.5	102	544	14	3.6	.230	1.2	1.40	.300	.117	.36
15...	1315	39	448	878	58	3.4	.280	3.2	3.50	.880	--	--
15...	1445	70	1480	1920	160	2.9	.760	9.7	10.5	2.90	--	--
*15...	1537	72	1240	1550	200	.50	3.00	13	16.0	4.00	1.20	3.7
15...	1545	72	1180	1510	190	2.4	2.20	12	14.0	3.50	--	--
15...	1645	58	950	1290	180	2.7	2.20	9.8	12.0	2.90	--	--
15...	1915	32	610	950	100	4.1	1.20	6.3	7.50	1.80	--	--
15...	2215	16	288	710	64	4.4	1.02	6.0	7.00	1.60	--	--
16...	0215	9.5	204	650	60	4.6	1.01	5.4	6.40	1.48	--	--
16...	1715	6.2	103	590	19	5.7	.430	1.8	2.20	.500	.250	.77
21...	1815	25	402	805	52	5.1	.120	2.2	2.30	.700	--	--
21...	2030	29	815	1200	135	4.3	.590	7.2	7.80	4.90	--	--

* EQUAL WIDTH INCREMENT SAMPLES

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

			SOLIDS RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)										
JUN , 1981												
JUN .	2115	35	700	1050	128	4.4	.610	6.4	7.00	2.10	--	--
21...	2200	33	616	945	100	4.2	.390	4.8	5.20	1.60	--	--
22...	0015	23	444	775	84	4.0	1.50	5.7	7.20	1.86	--	--
22...	0315	11	496	825	96	3.6	1.30	4.9	6.20	1.66	--	--
22...	0215	11	133	550	28	4.0	.020	2.0	2.00	.520	--	--
24...	0345	19	183	595	30	5.0	.120	2.3	2.40	.560	--	--
24...	0515	24	306	740	52	4.7	.280	3.8	4.10	1.06	--	--
24...	0600	25	356	805	70	4.5	.400	4.8	5.20	1.28	--	--
24...	0645	25	320	805	52	4.3	.390	4.5	4.90	1.22	--	--
24...	0945	19	198	635	48	3.9	1.20	4.3	5.50	1.28	--	--
*25...	1152	7.0	73	555	14	5.7	.160	1.0	--	.340	--	--
JUL												
13...	1230	10	104	610	22	3.9	.330	2.3	2.60	.580	--	--
13...	1315	12	76	615	12	5.0	.250	1.5	--	.360	--	--
13...	1400	15	96	615	10	5.0	.310	1.5	--	.360	--	--
13...	1445	14	78	625	10	5.0	.260	1.8	--	.410	--	--
13...	1530	13	84	595	12	5.1	.340	2.7	--	.580	--	--
13...	1745	9.8	70	585	9	5.1	.350	2.2	--	.500	--	--
14...	1415	4.9	39	--	12	4.6	.250	1.3	1.50	.320	--	--
16...	1130	6.1	38	605	4	5.0	.190	1.3	1.50	.350	--	--
AUG												
07...	2045	15	228	656	44	4.3	.200	2.4	2.60	.740	--	--
14...	1800	12	116	545	22	3.9	.040	2.1	2.10	.580	.144	.44
14...	1930	15	80	500	22	4.0	.130	1.7	1.80	.450	--	--
14...	2015	15	212	630	46	3.9	.400	3.1	3.50	.920	.310	.95
14...	2100	14	168	600	36	3.8	.520	2.9	3.40	.860	--	--
14...	2359	13	240	685	52	3.4	.610	4.4	5.00	1.48	.520	1.6
24...	1430	5.1	47	605	8	5.1	.060	1.4	1.50	.190	.092	.28
26...	0300	12	80	570	18	3.0	.050	1.7	1.70	.510	.159	.49
26...	0345	12	132	635	32	4.7	.180	2.2	--	.580	.220	.67
26...	0430	12	116	600	30	4.7	.180	2.2	2.40	.520	.210	.64
*29...	0935	8.4	69	570	22	4.2	.200	1.4	1.60	.420	.240	.74
29...	0936	8.4	70	590	18	4.1	.200	1.6	1.80	.480	.230	.71
SEP												
01...	0115	15	59	555	12	3.9	.390	2.5	2.90	.810	--	--
01...	0330	24	396	760	72	3.3	.440	4.9	5.30	1.51	.520	1.6
01...	0500	34	704	1090	112	2.8	.810	8.4	9.20	2.78	--	--
01...	0545	36	608	970	96	2.6	1.10	7.1	8.20	2.40	.770	2.4
01...	0930	34	376	720	64	2.1	.880	5.3	6.20	1.92	--	--
*01...	1131	29	188	590	40	1.6	1.30	7.7	9.00	3.10	1.81	5.6
01...	1132	29	262	595	52	2.3	.660	3.9	4.60	1.36	.530	1.6
25...	0730	13	138	575	22	4.2	.940	3.1	4.00	.820	--	--
25...	1330	14	89	530	14	3.6	.890	3.4	4.30	.920	--	--
25...	1545	15	118	595	30	3.3	1.70	4.6	--	1.49	--	--
25...	1800	14	112	580	24	3.2	1.30	4.1	--	1.28	--	--
25...	2145	13	110	570	24	3.2	1.00	3.8	--	1.10	--	--
26...	0215	11	86	565	10	3.3	1.10	3.2	4.30	.980	--	--
*26...	1256	19	194	675	34	3.3	1.20	5.0	6.20	1.82	--	--
26...	1257	19	200	670	40	3.2	1.20	5.0	6.20	1.82	1.00	3.1
26...	1445	18	--	--	--	3.6	.870	3.3	4.20	1.32	--	--
26...	2345	11	--	--	--	3.9	.680	1.9	2.60	.820	--	--
27...	0950	9.2	40	595	5	4.3	.690	1.7	2.40	.630	--	--
29...	0745	14	131	610	19	5.6	.150	1.3	--	.440	--	--
29...	0845	15	104	600	16	5.5	.160	1.2	1.40	.390	--	--
29...	0945	17	180	660	30	5.2	.170	1.9	2.10	.550	--	--
29...	1326	13	96	--	--	4.3	.470	--	2.50	.680	.360	1.1
29...	1345	13	102	555	20	4.3	.440	2.5	2.90	.700	.360	1.1
29...	1745	11	90	545	24	4.3	1.20	3.0	4.20	1.12	--	--
30...	1055	9.2	64	525	11	5.1	.180	1.1	1.30	.360	.171	.52
*30...	1056	9.2	58	520	10	5.1	.180	1.0	1.20	.340	.171	.52

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1981												
06...	0215	12	134	540	26	5.0	.130	1.4	1.50	.410	--	--
06...	0345	14	202	610	36	4.6	1.00	3.2	4.20	1.01	--	--
06...	0515	14	230	640	50	4.2	1.40	4.1	5.50	1.37	--	--
06...	0645	13	180	570	36	4.4	.570	2.6	3.20	.860	--	--
06...	0945	11	168	545	36	3.9	1.50	3.7	5.20	1.51	--	--
*06...	1450	9.8	90	450	22	4.5	.490	1.8	2.30	.720	--	--
*07...	1101	8.7	44	475	15	5.3	.200	.90	1.10	.300	.165	.51
14...	0645	13	133	--	13	4.8	.100	1.3	1.40	.390	.120	.37
14...	0945	16	138	590	14	4.7	.330	2.5	2.80	.640	.250	.77
14...	1200	17	140	565	18	4.4	.600	2.6	3.20	.780	.360	1.1
14...	1500	16	116	575	20	4.1	.910	3.1	4.00	.940	--	--
*14...	1620	16	97	505	16	4.2	.800	2.2	3.00	.820	.440	1.3
14...	1930	14	108	505	10	4.2	.620	2.3	2.90	.800	.420	1.3
15...	0430	11	116	585	10	4.5	.240	--	2.20	.560	--	--
*15...	1014	11	120	570	13	5.0	.360	--	2.00	.540	.200	.61
15...	1015	11	89	535	13	5.1	.340	--	1.90	.480	.200	.61
17...	1330	21	242	675	48	5.4	.170	--	3.20	.800	--	--
20...	1015	11	51	455	12	6.6	.090	--	.80	.200	.086	.26
*20...	1016	11	49	520	13	6.6	.090	--	.80	.190	.086	.26
NOV												
16...	1145	9.8	54	495	0	10	<.020	--	.80	.100	.027	.08
17...	0940	7.5	49	545	9	6.8	.040	--	.80	.140	.043	.13
26...	1430	26	484	885	68	5.3	.650	--	5.30	1.25	.290	.89
26...	1500	25	588	1020	88	6.0	1.20	--	7.80	1.94	--	--
27...	1400	12	38	505	10	6.7	.700	--	--	.500	.260	.80
28...	1047	11	48	515	3	7.2	.150	--	.80	.160	--	--
JAN , 1982												
*06...	1430	7.0	29	460	7	8.2	.170	--	.60	.100	.039	.12
*28...	1021	5.8	47	500	12	7.7	.170	--	.70	.140	--	--
FEB												
16...	1315	5.6	31	455	--	7.5	.200	.60	--	.080	.045	.14
*22...	1545	64	898	1180	92	3.8	3.70	--	12.0	2.40	--	--
22...	1546	64	1060	1440	96	3.8	3.70	--	12.0	2.70	--	--
22...	2000	121	2230	2460	216	3.0	3.60	--	14.0	3.90	--	--
22...	2215	166	1620	1920	172	2.8	3.60	--	14.0	3.50	--	--
23...	0030	147	956	1220	100	2.8	3.50	--	11.0	2.90	--	--
23...	0500	102	524	785	68	3.1	3.20	--	9.40	2.30	--	--
23...	1230	66	486	730	60	3.7	2.90	--	8.20	2.10	--	--
*23...	1645	76	922	1200	94	3.6	3.00	--	9.80	2.70	--	--
23...	1646	76	1020	1260	124	3.5	3.00	--	10.0	2.70	--	--
23...	1915	87	824	--	116	3.5	3.00	--	9.40	2.60	--	--
23...	2345	61	324	--	52	3.8	2.80	--	7.40	2.00	--	--
*24...	1200	28	102	--	28	4.9	2.00	--	5.00	1.22	--	--
MAR												
12...	1900	192	1270	1430	118	3.5	2.90	--	11.0	2.10	--	--
12...	2130	1020	6210	--	--	--	3.10	--	26.0	7.60	--	--
12...	2230	1050	4050	4970	420	1.7	2.80	--	17.0	4.80	--	--
12...	2359	661	1670	--	--	--	--	--	12.0	--	--	--
13...	0730	104	366	560	52	2.3	2.40	--	7.00	1.44	.720	2.2
13...	1615	581	2380	2780	190	1.5	1.90	--	12.0	3.40	--	--
*13...	1650	522	2880	2940	310	1.6	2.30	--	13.0	3.80	.640	2.0
13...	1651	522	3370	4510	360	1.6	2.30	--	16.0	4.60	.600	1.8
14...	1415	66	1580	2010	215	3.0	1.70	--	6.80	2.20	--	--
14...	1515	97	2100	3400	215	2.5	1.80	--	9.20	3.20	--	--
16...	0330	34	266	540	52	3.7	1.50	--	5.20	1.26	--	--
16...	0715	625	4210	--	--	--	2.00	--	17.0	4.90	--	--
16...	0800	654	3520	3610	310	3.1	1.90	--	15.0	4.20	.680	2.1
16...	1230	214	1180	--	--	--	1.80	--	9.00	2.40	--	--
16...	1325	183	1010	1200	100	3.5	1.80	--	8.40	2.30	.820	2.5
*16...	1326	183	930	1150	100	3.6	1.90	--	8.60	2.20	.860	2.6
*17...	1406	18	32	380	6	5.3	.900	--	2.10	.380	.250	.77
30...	0930	22	162	578	36	6.3	.700	--	4.00	.720	--	--
30...	1130	26	264	678	38	6.0	.600	--	3.60	.660	--	--
30...	1830	19	114	524	16	5.3	1.10	--	4.20	.780	--	--
APR												
*01...	1055	14	21	464	0	7.1	.100	--	.60	.110	--	--
03...	0545	34	342	760	48	5.9	.300	--	2.80	.720	--	--
03...	0745	41	652	1120	104	5.2	.800	--	6.50	1.45	--	--
03...	0945	33	485	930	90	4.7	1.30	--	7.00	1.67	--	--
03...	1345	23	272	685	76	4.7	.800	--	4.80	1.08	--	--
04...	1130	22	43	500	6	7.6	.200	--	1.00	.190	--	--

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
MAY , 1982												
*05...	1146	16	63	535	12	5.4	.510	--	3.10	.420	.163	.50
*06...	1240	14	35	560	12	5.6	.520	--	1.80	.380	--	--
*19...	1618	14	188	2460	32	--	--	--	--	--	--	--
26...	1615	18	190	685	30	6.4	.330	--	2.50	.580	--	--
26...	2000	16	164	645	28	5.8	.310	--	2.40	.530	--	--
*27...	1040	13	99	600	18	6.1	.880	--	3.00	.770	--	--
27...	1730	17	156	660	32	6.2	.390	--	1.80	.540	--	--
27...	2245	19	210	705	40	6.0	.420	--	3.00	.740	--	--
28...	0045	18	192	700	50	5.7	.690	--	4.40	1.10	--	--
29...	0950	13	96	610	30	6.8	.200	--	1.20	.300	--	--
29...	1400	19	119	580	17	6.8	.180	--	1.50	.350	--	--
29...	1615	21	230	715	50	6.6	.590	--	3.80	.770	--	--
29...	2000	18	360	--	--	--	1.30	--	6.00	1.56	--	--
30...	0630	15	144	620	28	6.1	.560	--	3.20	.870	--	--
JUN												
*01...	1200	13	77	535	15	7.6	.140	--	1.00	.240	.102	.31
15...	0715	17	170	600	34	6.6	.090	--	1.50	.320	--	--
15...	1015	26	288	790	40	6.0	.290	--	3.80	.770	.230	.71
*15...	1105	26	224	700	36	5.8	.430	--	4.00	.840	--	--
15...	1945	15	120	590	28	5.1	.660	--	4.10	.840	--	--
16...	1120	12	46	535	9	7.2	.140	--	1.20	.260	--	--
JUL												
*02...	1430	8.9	25	585	2	6.7	.120	--	.70	.120	--	--
*07...	1015	16	272	645	52	3.7	.970	--	7.00	1.85	.720	2.2
07...	1135	15	156	520	36	3.8	.920	--	6.50	1.75	--	--
10...	1545	249	187	--	15	5.9	.080	--	1.30	.340	--	--
10...	1630	2100	--	5780	--	3.2	.410	--	17.0	5.40	--	--
10...	1715	2850	7410	7560	610	1.8	.370	--	24.0	7.70	--	--
10...	1800	2050	5740	5820	640	2.0	.340	--	18.0	6.20	--	--
11...	0045	74	524	860	72	4.0	.210	--	4.10	1.19	--	--
11...	1115	37	112	640	20	7.1	.220	--	1.70	.420	--	--
*12...	1040	25	48	570	7	8.9	.120	--	.80	.200	--	--
15...	1345	163	3430	3820	372	5.2	.480	--	20.0	6.30	--	--
15...	1430	193	3800	4040	433	4.0	.460	--	19.0	5.70	--	--
15...	2115	40	930	1200	190	3.1	.200	--	6.20	1.84	--	--
15...	2330	66	810	1160	130	3.5	.350	--	7.20	2.30	--	--
16...	0230	53	500	940	100	4.7	.310	--	5.20	1.52	--	--
*16...	0945	30	208	655	48	6.1	.280	--	3.20	.890	--	--
*17...	1000	23	62	585	14	8.4	.100	--	1.00	.230	--	--
*28...	1031	14	37	--	11	8.6	.040	--	.70	.140	--	--
AUG												
04...	0545	321	3350	3570	340	4.1	.240	--	12.0	4.80	--	--
04...	0800	391	2400	2630	320	2.0	.470	--	10.0	3.40	--	--
04...	1100	116	790	1040	160	2.1	.300	--	5.40	1.90	--	--
04...	1530	51	216	555	40	3.9	.340	--	3.10	.950	--	--
*04...	1531	51	250	--	--	--	--	--	3.20	.960	--	--
18...	1146	14	23	415	3	8.9	.120	--	.60	.100	.053	.16
31...	1015	20	26	470	6	8.3	.080	--	.80	.140	--	--
SEP												
*08...	1500	11	26	440	5	9.0	.080	--	.50	.100	--	--
*30...	1415	9.9	27	495	4	8.6	.070	--	.60	.120	.050	.15

* EQUAL WIDTH INCREMENT

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1980				APR , 1981			
*15...	1400	6.3	23	09...	0015	15	344
*16...	0940	7.7	73	10...	2200	18	344
NOV				10...	2245	16	312
*06...	0930	7.3	90	11...	0030	17	304
*19...	1115	7.3	41	11...	0100	18	488
*26...	1200	8.1	26	11...	0145	18	908
DEC				11...	0230	16	640
*06...	1055	8.4	53	12...	1430	12	166
*13...	1040	8.4	50	*12...	1431	12	152
*20...	1140	9.2	30	13...	2115	17	712
*27...	1335	6.8	45	13...	2245	23	392
JAN , 1981				13...	2330	29	492
03...	1010	6.4	31	14...	0015	37	1360
*03...	1050	6.4	29	14...	0145	26	1050
*13...	1350	5.7	17	14...	0315	20	1730
*14...	1200	5.7	13	14...	0445	18	916
*14...	1620	5.7	4	14...	0615	15	748
17...	0950	5.8	10	18...	1120	9.0	51
24...	1010	6.0	11	25...	1105	7.8	28
*27...	1430	5.8	38	28...	1100	10	72
*31...	1200	6.0	8	MAY			
FEB				01...	1515	8.7	40
*07...	1200	3.6	10	09...	1030	6.6	50
16...	1200	11	110	17...	1000	5.6	40
16...	1202	11	60	23...	1010	5.6	92
16...	1645	26	354	30...	1030	6.0	49
16...	1730	29	434	JUN			
16...	1815	33	536	13...	1040	7.3	57
16...	1900	32	408	15...	1145	9.5	102
16...	2115	24	304	15...	1230	25	359
22...	0115	42	1470	15...	1315	39	448
22...	0145	128	5220	15...	1345	54	1150
22...	0230	203	5830	15...	1415	66	1610
22...	0315	261	6000	15...	1445	70	1480
22...	0400	360	8560	15...	1515	70	1400
22...	0445	393	8460	*15...	1537	72	1240
22...	0530	358	6960	15...	1545	72	1180
22...	0615	295	4990	15...	1615	67	1230
22...	0700	250	3780	15...	1645	58	950
22...	0830	165	2590	15...	1715	50	850
22...	1000	118	2170	15...	1745	47	720
22...	1045	110	1620	15...	1815	39	630
22...	1130	117	1490	15...	1915	32	610
22...	1215	144	1540	15...	2045	21	450
22...	1300	205	1960	15...	2215	16	288
22...	1345	295	2008	16...	0015	13	216
22...	1430	415	5060	16...	0215	9.5	204
22...	1515	538	8410	16...	1715	6.2	103
22...	1600	583	7960	20...	1435	4.7	57
22...	1645	541	7730	21...	1730	10	99
22...	1730	443	6100	21...	1815	25	402
22...	1746	411	5000	21...	1900	34	1100
22...	1845	293	4860	21...	1945	29	772
22...	1930	234	3430	21...	2030	29	815
22...	2015	195	2760	21...	2115	35	700
22...	2100	159	2280	21...	2200	33	616
22...	2230	103	1710	21...	2245	30	540
22...	2359	72	1230	22...	0015	23	444
23...	0215	51	740	22...	0100	18	392
23...	0430	40	444	22...	0230	12	512
23...	0645	32	348	22...	0315	11	496
23...	0730	30	286	22...	0400	11	464
23...	1430	22	94	22...	1420	7.0	106
28...	1530	11	56	24...	0215	11	133
MAR				24...	0300	15	138
07...	1055	8.7	12	24...	0345	19	183
14...	1010	6.6	12	24...	0430	21	224
23...	1320	6.6	15	24...	0515	24	306
28...	1040	6.6	20	24...	0600	25	356
APR				24...	0645	25	320
08...	1300	9.8	35	24...	0730	25	288
08...	1915	17	344	24...	0815	24	258
08...	1945	17	328	24...	0945	19	198
08...	2030	16	232	24...	1115	14	159
08...	2115	18	272	24...	1140	13	134
08...	2200	18	476	24...	1245	12	133
08...	2245	19	816	24...	1545	10	109
08...	2330	18	620	*25...	1152	7.0	73

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
JUL , 1981				SEP , 1981			
06...	1740	4.4	16	01...	1100	30	314
13...	1230	10	104	*01...	1131	29	188
13...	1315	12	76	01...	1132	29	262
13...	1400	15	96	01...	1345	23	190
13...	1445	14	78	01...	1600	18	186
13...	1530	13	84	01...	1900	14	148
13...	1745	9.8	70	01...	2200	12	124
14...	1415	4.9	39	07...	1015	6.4	34
16...	1130	6.1	38	14...	1425	5.1	29
20...	1330	7.1	26	20...	0945	4.9	27
28...	1350	5.8	36	25...	0615	12	129
AUG				25...	0645	13	151
03...	1135	6.6	44	25...	0730	13	138
07...	1830	12	115	25...	0815	14	144
07...	1915	12	109	25...	0900	14	156
07...	2000	15	156	25...	1030	14	154
07...	2045	15	228	25...	1245	14	98
07...	2130	15	178	25...	1330	14	89
07...	2215	12	140	25...	1415	15	126
09...	1750	6.0	24	25...	1500	15	123
14...	1800	12	116	25...	1545	15	118
14...	1845	12	90	25...	1630	15	128
14...	1930	15	80	25...	1715	15	90
14...	2015	15	212	25...	1800	14	112
14...	2100	14	168	25...	1845	14	116
14...	2230	14	300	25...	2015	13	108
14...	2359	13	240	25...	2145	13	110
15...	0130	11	196	25...	2359	12	96
16...	1205	6.2	31	26...	0215	11	86
23...	1305	5.4	20	26...	1010	18	134
24...	1430	5.1	47	*26...	1256	19	194
26...	0230	12	61	26...	1257	19	200
26...	0300	12	80	26...	1345	19	190
26...	0345	12	132	26...	1645	17	126
26...	0430	12	116	26...	1945	13	106
26...	0515	11	128	26...	2245	12	92
*29...	0935	8.4	69	27...	0950	9.2	40
29...	0936	8.4	70	29...	0730	14	117
SEP				29...	0745	14	131
01...	0030	12	99	29...	0845	15	104
01...	0115	15	59	29...	0945	17	180
01...	0200	18	248	29...	1045	16	240
01...	0245	22	246	29...	1245	14	132
01...	0330	24	396	29...	1326	13	96
01...	0415	29	496	29...	1345	13	102
01...	0500	34	704	29...	1530	12	152
01...	0545	36	608	29...	1700	11	110
01...	0630	36	568	29...	1745	11	90
01...	0800	36	536	30...	1055	9.2	64
01...	0930	34	376	*30...	1056	9.2	58

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1981				FEB , 1982			
03...	0940	6.8	34	22...	1745	92	1570
06...	0200	12	126	22...	1830	96	1260
06...	0215	12	134	22...	1915	98	1550
06...	0300	14	169	22...	2000	121	2230
06...	0345	14	202	22...	2045	143	2120
06...	0430	14	248	22...	2130	154	1890
06...	0515	14	230	22...	2215	166	1620
06...	0600	14	214	22...	2300	166	1520
06...	0645	13	180	22...	2345	158	1240
06...	0815	13	166	23...	0030	147	956
06...	0945	11	168	23...	0200	124	656
*06...	1450	9.8	90	23...	0500	102	524
*07...	1101	8.7	44	23...	0800	79	460
09...	1530	11	66	23...	1230	66	486
09...	1715	11	73	23...	1315	67	624
09...	1845	11	85	*23...	1645	76	922
09...	2015	11	91	23...	1646	76	1020
09...	2145	11	103	23...	1915	87	824
14...	0600	11	159	23...	2045	76	566
14...	0645	13	133	23...	2215	71	364
14...	0815	14	154	23...	2345	61	324
14...	0900	15	143	*24...	0415	43	262
14...	0945	16	138	24...	1200	28	102
14...	1115	16	156	*27...	1145	9.5	28
14...	1200	17	140	MAR			
14...	1245	17	150	*07...	1025	7.6	40
14...	1415	16	122	12...	0430	12	580
14...	1500	16	116	12...	1815	59	742
*14...	1620	16	97	12...	1830	89	750
14...	1630	15	103	12...	1900	192	1270
14...	1715	15	117	12...	1930	367	2010
14...	1930	14	108	12...	2000	563	4070
14...	2145	13	116	12...	2030	789	5530
15...	0130	12	101	12...	2100	982	6460
15...	0430	11	116	12...	2130	1020	6210
15...	0600	11	118	12...	2200	1050	3990
15...	0730	11	115	12...	2230	1050	4050
15...	0945	11	97	12...	2300	920	2680
*15...	1014	11	120	12...	2330	815	2140
15...	1015	11	89	12...	2359	661	1670
17...	1145	13	67	13...	0100	436	1160
17...	1200	14	68	13...	0230	284	670
17...	1245	16	83	13...	0700	108	486
17...	1330	21	242	13...	0730	104	366
17...	1415	21	218	13...	1615	581	2380
17...	1500	19	212	*13...	1650	522	2880
17...	1715	19	304	13...	1651	522	3370
17...	2015	19	182	13...	1815	449	1720
17...	2315	18	176	13...	2015	154	1180
18...	0045	18	148	13...	2315	119	1930
18...	0345	15	132	14...	0215	43	1140
20...	1015	11	51	14...	0315	40	2120
*20...	1016	11	49	14...	0915	31	1610
31...	1320	9.2	26	14...	1115	30	670
NOV				14...	1215	36	800
08...	1125	7.8	32	14...	1315	51	724
16...	1145	9.8	54	14...	1415	66	1580
17...	0940	7.5	49	14...	1515	97	2100
24...	1245	9.2	22	14...	1615	108	1060
26...	1430	26	484	14...	1715	107	1320
26...	1500	25	588	14...	1915	84	835
27...	1400	12	38	16...	0245	24	300
28...	1047	11	48	16...	0330	34	266
DEC				16...	0415	68	634
05...	1040	8.1	20	16...	0500	159	1520
12...	1200	8.3	27	16...	0545	354	3290
21...	1045	7.5	12	16...	0630	525	4510
27...	1225	7.5	18	16...	0715	625	4210
JAN , 1982				16...	0800	654	3520
05...	1445	6.9	42	16...	0845	606	2790
*06...	1430	7.0	29	16...	1015	446	2090
*18...	1320	5.7	38	16...	1230	214	1180
*25...	1355	5.6	31	16...	1310	189	1030
*28...	1021	5.8	47	16...	1325	183	1010
*30...	1325	5.5	42	*16...	1326	183	930
FEB				16...	1430	165	872
*06...	1025	4.9	20	16...	1530	142	720
*13...	1035	5.3	24	16...	1730	109	448
16...	1315	5.6	31	16...	2030	63	452
*21...	1325	20	182	17...	0130	30	168
*22...	1545	64	898	*17...	1406	18	32
22...	1546	64	1060	17...	1407	18	57
22...	1700	78	1360	18...	1645	20	79

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
MAR , 1982				JUN , 1982			
18...	1715	20	88	15...	0700	16	107
18...	1800	22	87	15...	0715	17	170
18...	1845	23	95	15...	0845	21	214
18...	1930	23	100	15...	0930	24	262
18...	2100	23	89	15...	1015	26	288
18...	2359	20	78	15...	1100	26	296
19...	0130	19	62	*15...	1105	26	224
19...	1000	19	70	15...	1300	25	242
19...	1030	20	122	15...	1430	22	192
19...	1115	22	68	15...	1645	17	144
19...	1330	24	96	15...	1945	15	120
19...	1630	32	164	16...	1120	12	46
19...	1845	38	192	*18...	0730	11	83
19...	1930	38	172	*25...	0800	9.4	87
19...	2015	37	166	JUL			
*25...	1055	16	14	*02...	0747	8.9	87
30...	0845	19	117	*02...	1430	8.9	25
30...	0930	22	162	*07...	1015	16	272
30...	1030	25	212	*07...	1135	15	156
30...	1130	26	264	10...	1530	25	121
30...	1330	26	242	10...	1545	249	187
30...	1530	22	170	10...	1715	2850	7410
30...	1830	19	114	10...	1800	2050	5740
APR				10...	1845	1110	4280
*01...	1055	14	21	10...	1930	508	3140
03...	0430	24	148	10...	2015	356	2200
03...	0445	26	174	10...	2100	356	1720
03...	0545	34	342	10...	2230	124	1000
03...	0645	39	568	11...	0045	74	524
03...	0745	41	652	11...	0300	58	304
03...	0845	39	568	11...	0515	58	236
03...	0945	33	485	11...	0730	46	178
03...	1045	30	440	11...	0945	39	136
03...	1245	24	340	11...	1115	37	112
*03...	1300	23	248	*11...	1220	37	142
03...	1345	23	272	11...	1545	33	106
04...	1130	22	43	12...	0600	26	92
*10...	1235	13	8	12...	1030	25	76
*18...	1225	15	18	*12...	1040	25	48
*25...	1015	12	15	15...	1315	72	217
MAY				15...	1345	163	3430
*01...	1045	11	12	15...	1430	193	3800
*05...	1146	16	63	15...	1515	166	2760
*06...	1240	14	35	15...	1600	161	2220
*09...	1145	11	28	15...	1645	144	1890
*13...	1315	10	34	15...	1730	102	1510
*15...	1550	10	38	15...	1815	70	1500
*19...	1055	13	133	15...	1945	56	1230
*19...	1618	14	188	15...	2115	40	930
26...	1500	17	150	15...	2200	51	790
26...	1615	18	190	15...	2245	63	890
26...	1745	18	222	15...	2330	66	810
26...	2000	16	164	16...	0015	59	910
26...	2130	14	178	16...	0200	53	840
*27...	1040	13	99	16...	0230	53	500
27...	1630	16	171	16...	0445	39	436
27...	1645	16	158	16...	0915	30	254
27...	1730	17	156	*16...	0945	30	208
27...	1900	17	256	*16...	0947	30	660
27...	2030	18	270	*17...	1000	23	62
27...	2200	18	182	*22...	1715	16	25
27...	2245	19	210	*28...	1031	14	37
27...	2330	19	294	AUG			
28...	0015	18	300	04...	0515	162	864
28...	0045	18	192	04...	0545	321	3350
28...	0145	18	216	04...	0630	321	3100
28...	0400	18	188	04...	0715	365	3030
*28...	0930	15	168	04...	0800	391	2400
29...	0950	13	96	04...	0845	274	1810
29...	1300	17	108	04...	0930	201	1160
29...	1315	17	110	04...	1100	116	790
29...	1400	19	119	04...	1315	69	460
29...	1530	20	194	*04...	1530	51	216
29...	1615	21	230	04...	1531	51	250
29...	1700	20	184	04...	1715	42	214
29...	1830	19	269	04...	2100	34	177
29...	2000	18	360	*06...	1115	24	53
29...	2215	17	264	18...	1146	14	23
30...	0030	16	224	28...	0955	14	29
30...	0330	15	208	31...	1015	20	26
30...	0630	15	144	SEP			
JUN				07...	1030	11	32
*01...	1200	13	77	*08...	1500	11	26
*03...	1035	12	98	12...	0950	11	45
*11...	1255	11	48	*19...	1025	11	38
				*30...	1415	9.9	27

* EQUAL WIDTH INCREMENT SAMPLE

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA. WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR- TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)
JUN 13., 1981	1615	6.4	<.10	<.10	<.01	<.10	<.01	<.01	<.01	<.01

[illegible]

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, (COLS PER 100 ML)
OCT , 1980					
15...	1400	6.3	2.5	--	--
DEC					
11...	1015	9.5	1.6	390	270
JAN , 1981					
13...	1350	5.7	1.2	400	40
MAR					
23...	1220	6.6	--	<10	10
23...	1320	6.6	3.7	--	--
MAY					
13...	1101	6.4	2.5	4700	680
JUN					
16...	1715	6.2	4.5	30000	11000
JUL					
16...	1130	6.1	4.5	30000	2600
AUG					
27...	1130	6.4	4.9	50000	19000
29...	0936	8.4	4.1	--	--
SEP					
01...	1100	30	17	--	--
29...	1410	13	14	170000	89000
29...	1431	13	2.9	--	--

DATE	TIME	STREAM-FLOW INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML)
OCT 7... 1981					
07...	1101	8.7	2.9	15000	3600
15...	1015	11	6.1	--	21000
NOV 17...					
17...	0940	7.5	3.3	2700	550
JAN 28... 1982					
06...	1430	7.0	1.6	610	100
28...	1021	5.8	2.0	--	--
FEB 16...					
16...	1315	5.6	2.0	280	70
23...	1645	76	25	--	--
MAY 05...					
05...	1146	16	10	200000	--
JUN 15...					
15...	0800	19	6.1	--	--
15...	1105	26	11	--	--
JUL 28...					
28...	1031	14	2.9	--	--
AUG 18...					
18...	1146	14	2.4	--	--
SEP 08...					
08...	1500	11	<4.0	--	--
30...	1415	9.9	1.8	1800	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDIMENT, SUS- PENDED (MG/L)	SEDIMENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
FEB 22...	1981 1745	411	4810	5340	22	31	41	57	78	93	99	100

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	639	427	621	630	601	628	631	602	606
2	---	---	---	640	640	640	703	601	616	637	631	633
3	---	---	---	672	641	644	733	631	708	747	632	703
4	---	---	---	673	642	645	734	603	648	777	735	772
5	---	---	---	643	643	643	670	603	619	782	736	760
6	---	---	---	644	644	644	735	604	649	737	605	654
7	---	---	---	645	645	645	736	633	685	660	635	645
8	---	---	---	652	646	647	737	605	688	738	635	667
9	---	---	---	647	647	647	737	606	701	739	636	668
10	---	---	---	679	648	651	740	606	674	740	608	726
11	---	---	---	649	649	649	765	716	745	741	608	724
12	---	---	---	650	650	650	733	623	677	741	609	677
13	---	---	---	682	651	656	726	618	680	---	---	---
14	---	---	---	683	651	658	759	718	721	639	610	625
15	---	---	---	684	652	656	736	719	723	617	611	614
16	---	---	---	711	685	689	724	720	720	641	611	632
17	---	---	---	713	686	693	737	721	727	641	408	597
18	---	---	---	717	687	695	722	593	673	613	409	545
19	---	---	---	719	694	707	807	722	769	619	409	588
20	---	---	---	716	623	682	827	764	800	614	410	453
21	---	---	---	717	623	633	782	724	751	615	615	615
22	---	---	---	633	624	626	733	648	706	615	615	615
23	---	---	---	693	596	613	700	625	648	616	616	616
24	---	---	---	705	597	621	726	625	639	617	617	617
25	---	---	---	632	597	612	768	727	737	647	617	631
26	---	---	---	724	598	631	---	---	---	648	618	619
27	---	---	---	627	598	605	729	627	672	689	619	651
28	---	---	---	634	599	614	---	---	---	712	569	673
29	---	---	---	635	600	629	629	600	606	597	380	577
30	829	698	736	654	629	634	606	600	601	570	380	554
31	750	638	662	---	---	---	607	601	604	597	570	571
MONTH	829	638	699	724	427	646	827	593	683	782	380	634

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	598	381	540	795	783	789	712	680	697	---	---	---
2	598	571	580	796	784	791	701	670	687	---	---	---
3	598	571	595	801	781	791	698	680	691	---	---	---
4	599	571	585	785	757	771	720	664	684	---	---	---
5	599	387	572	782	754	771	723	673	698	---	---	---
6	599	572	588	779	763	772	701	673	687	---	---	---
7	600	572	594	791	752	775	691	651	677	---	---	---
8	600	600	600	797	752	776	691	639	668	---	---	---
9	600	600	600	789	745	766	691	661	675	---	---	---
10	601	601	601	773	742	757	691	610	674	---	---	---
11	601	601	601	758	724	742	670	613	653	---	---	---
12	601	601	601	754	717	735	---	---	---	---	---	---
13	602	574	589	751	710	734	---	---	---	---	---	---
14	580	574	574	740	721	733	---	---	---	---	---	---
15	602	575	587	760	707	736	---	---	---	---	---	---
16	603	384	486	745	708	727	---	---	---	---	---	---
17	453	390	399	741	701	720	---	---	---	---	---	---
18	411	397	405	723	698	710	---	---	---	---	---	---
19	604	403	438	723	687	704	---	---	---	---	---	---
20	643	409	608	716	667	690	---	---	---	---	---	---
21	623	416	606	694	658	676	---	---	---	---	---	---
22	633	422	433	687	651	668	---	---	---	---	---	---
23	751	429	563	687	667	676	---	---	---	---	---	---
24	684	652	669	709	670	686	---	---	---	---	---	---
25	662	---	---	701	661	680	---	---	---	---	---	---
26	704	---	---	691	651	670	---	---	---	---	---	---
27	750	455	670	687	651	668	---	---	---	---	---	---
28	783	722	750	701	664	678	---	---	---	---	---	---
29	---	---	---	698	658	683	---	---	---	---	---	---
30	---	---	---	763	684	723	---	---	---	---	---	---
31	---	---	---	746	691	718	---	---	---	---	---	---
MONTH	783	381	571	801	651	726	723	610	681	---	---	---

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	727	690	715	771	750	761	701	526	612
2	---	---	---	718	700	713	776	714	743	743	690	724
3	---	---	---	717	696	709	781	734	752	752	743	745
4	---	---	---	713	695	708	783	749	764	752	743	745
5	---	---	---	716	695	709	771	726	748	743	731	738
6	---	---	---	790	694	732	735	713	726	739	731	734
7	---	---	---	884	764	781	733	650	700	799	735	752
8	---	---	---	772	746	759	734	654	694	794	727	751
9	---	---	---	762	713	743	868	728	760	808	790	797
10	---	---	---	753	713	740	807	505	783	862	786	791
11	---	---	---	744	724	735	850	750	773	799	777	788
12	---	---	---	739	708	724	783	751	770	867	777	793
13	---	---	---	743	630	691	784	741	766	---	---	---
14	---	---	---	750	644	692	773	689	737	---	---	---
15	668	405	495	758	691	720	795	717	756	841	777	786
16	765	584	705	740	701	719	805	786	794	786	768	773
17	778	765	768	778	736	755	786	768	777	768	760	763
18	774	761	768	782	740	766	781	756	767	---	---	---
19	841	761	786	799	752	774	764	731	752	---	---	---
20	779	761	772	807	712	738	803	731	736	---	---	---
21	780	525	712	772	751	758	739	698	725	---	---	---
22	739	463	620	779	742	763	735	666	708	855	748	753
23	753	724	745	779	742	757	764	683	716	758	698	711
24	726	621	671	757	705	745	794	756	778	710	663	684
25	756	727	742	761	738	752	883	777	798	751	658	688
26	755	743	750	765	745	755	757	631	663	732	676	699
27	789	742	763	760	745	752	781	719	756	774	702	751
28	779	753	765	748	719	734	764	712	737	779	766	771
29	753	741	748	768	751	758	773	719	737	779	623	708
30	744	712	732	777	721	754	773	719	744	771	716	752
31	---	---	---	762	708	748	856	709	779	---	---	---
MONTH	841	405	721	884	630	739	883	505	748	867	526	742

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	821	763	768	788	746	778	742	675	714	---	---	---
2	822	804	815	790	761	782	774	725	759	---	---	---
3	960	808	832	793	767	786	782	739	763	---	---	---
4	815	797	802	795	757	781	767	742	759	---	---	---
5	818	757	796	788	771	780	766	741	761	---	---	---
6	776	703	735	782	754	777	760	735	749	---	---	---
7	800	758	789	788	772	782	776	734	752	809	656	684
8	822	749	796	791	781	787	762	733	740	727	660	690
9	814	750	788	789	767	775	743	731	737	722	682	709
10	802	754	786	778	753	772	759	714	738	779	724	746
11	810	762	790	785	764	780	729	705	714	764	728	741
12	814	786	805	784	771	782	731	704	718	746	712	731
13	786	751	767	787	742	781	---	---	---	725	665	699
14	786	737	765	789	725	761	---	---	---	716	656	685
15	832	782	816	792	740	773	---	---	---	714	664	691
16	832	815	825	790	769	782	---	---	---	705	653	684
17	827	721	781	793	681	764	---	---	---	710	671	691
18	807	742	786	782	761	771	---	---	---	697	647	682
19	832	775	817	786	769	782	---	---	---	692	619	667
20	967	789	816	785	759	782	---	---	---	650	609	630
21	816	794	802	797	738	759	---	---	---	671	577	623
22	803	795	800	795	765	779	---	---	---	680	603	648
23	800	787	793	811	730	768	---	---	---	664	570	630
24	796	787	792	790	739	763	---	---	---	690	654	673
25	805	779	801	812	768	787	---	---	---	668	568	632
26	810	784	798	798	639	738	---	---	---	635	559	608
27	801	773	791	781	668	747	---	---	---	649	495	608
28	778	766	773	776	738	756	---	---	---	690	575	654
29	782	743	775	800	745	781	---	---	---	684	631	659
30	787	771	777	790	739	776	---	---	---	682	633	658
31	787	752	780	---	---	---	---	---	---	691	628	671
MONTH	967	703	792	812	639	774	782	675	742	809	495	672

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	696	639	670	727	656	703	680	651	666	840	687	736
2	681	649	674	736	674	701	694	634	665	744	677	717
3	686	648	671	807	744	772	699	542	636	733	685	712
4	694	640	679	800	768	786	721	651	697	718	696	708
5	692	639	675	845	764	807	715	674	698	734	665	701
6	691	619	669	876	786	825	723	671	698	747	701	731
7	675	599	645	888	802	847	723	682	711	735	632	687
8	649	594	629	909	829	876	743	690	718	685	621	634
9	687	602	642	916	828	882	747	697	729	761	655	724
10	692	632	664	885	796	850	752	721	740	750	686	728
11	675	626	664	878	781	843	750	711	737	723	666	702
12	686	658	677	797	288	682	729	668	704	720	709	718
13	692	663	680	357	295	327	695	672	682	722	710	715
14	697	659	678	450	354	414	709	671	693	723	712	717
15	683	637	671	579	429	512	722	661	696	722	710	716
16	773	666	716	564	336	429	728	667	706	724	706	715
17	787	737	757	620	497	564	749	702	725	728	705	719
18	786	762	776	645	482	594	732	687	709	723	715	719
19	796	756	780	513	407	456	745	689	715	737	698	720
20	831	534	731	429	271	351	739	698	720	728	710	720
21	548	432	493	480	322	412	741	667	715	730	688	712
22	470	355	431	575	485	520	732	669	698	708	682	696
23	420	365	393	605	431	557	711	671	697	721	691	713
24	523	432	479	663	558	611	746	667	704	727	724	726
25	608	538	577	647	583	617	768	685	707	730	724	727
26	708	623	670	645	587	623	740	695	723	728	691	714
27	723	663	702	703	630	667	748	700	724	717	692	705
28	703	650	678	690	629	662	746	723	734	722	702	712
29	---	---	---	709	660	692	758	728	748	726	685	712
30	---	---	---	713	611	652	782	732	753	723	693	715
31	---	---	---	675	623	654	---	---	---	725	713	720
MONTH	831	355	649	916	271	642	782	542	708	840	621	713
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	719	712	716	750	735	744	788	772	785	750	711	730
2	717	708	715	745	720	737	781	761	773	749	723	734
3	712	701	709	758	288	717	780	753	768	755	527	651
4	709	698	705	771	753	764	779	394	561	757	729	743
5	709	698	704	779	758	768	698	594	662	762	744	753
6	707	701	706	770	663	747	738	694	723	768	764	766
7	714	701	709	734	489	593	755	713	737	765	764	773
8	714	703	709	761	734	754	751	724	741	780	764	777
9	711	705	708	762	750	756	753	741	748	802	770	778
10	711	697	707	743	105	540	756	744	752	805	760	778
11	844	674	706	670	429	595	756	719	743	786	754	773
12	719	704	711	749	668	735	750	717	733	798	762	782
13	746	724	738	745	720	737	742	702	722	805	739	782
14	763	744	756	751	736	745	728	693	710	804	768	789
15	773	676	716	763	337	600	718	692	704	797	775	787
16	750	703	739	738	479	657	723	694	711	805	773	788
17	761	751	756	750	741	745	729	709	723	784	771	777
18	767	756	762	749	736	741	771	749	760	811	754	789
19	775	757	768	752	746	749	765	725	757	807	773	792
20	764	745	758	752	744	748	778	753	764	825	736	808
21	759	741	753	748	736	743	773	741	759	805	769	791
22	754	739	748	739	724	735	764	736	749	796	755	779
23	755	736	748	743	725	735	747	704	728	780	747	763
24	749	731	742	762	726	741	751	692	738	772	755	763
25	747	732	741	748	732	740	706	687	686	771	753	762
26	743	731	740	747	734	740	730	713	719	766	558	755
27	747	733	741	747	719	733	740	725	733	766	735	753
28	751	735	743	736	711	730	760	711	747	783	697	762
29	751	739	746	792	657	775	743	689	734	767	724	743
30	750	738	745	769	674	742	722	688	710	767	740	758
31	---	---	---	777	765	771	753	735	755	---	---	---
MONTH	844	674	732	792	105	721	788	394	730	825	527	766

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

PH (STANDARD UNITS), MAY TO SEPTEMBER 1982

DAY	MAX	MIN MAY	MEAN									
1	---	---	---									
2	---	---	---									
3	---	---	---									
4	---	---	---									
5	---	---	---									
6	---	---	---									
7	---	---	---									
8	---	---	---									
9	---	---	---									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	8.1	7.8	8.0									
21	8.1	7.4	7.8									
22	8.0	7.9	8.0									
23	8.1	7.9	8.0									
24	8.1	8.0	8.0									
25	8.1	8.0	8.0									
26	8.1	7.8	8.0									
27	8.0	7.8	7.9									
28	8.0	7.8	7.9									
29	8.0	7.8	7.9									
30	8.0	7.8	7.9									
31	8.0	7.9	8.0									
MONTH	8.1	7.4	8.0									

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	8.1	7.8	8.0	8.4	7.8	8.0	---	---	---	8.4	8.0	8.3
2	8.1	7.9	8.0	---	---	---	---	---	---	8.4	7.9	8.1
3	8.2	8.0	8.1	---	---	---	---	---	---	8.4	8.0	8.3
4	8.2	7.8	8.0	---	---	---	---	---	---	8.4	8.0	8.3
5	8.2	7.9	8.0	---	---	---	---	---	---	8.2	8.0	8.1
6	8.1	7.9	8.0	---	---	---	---	---	---	8.2	8.0	8.1
7	8.2	8.0	8.1	---	---	---	---	---	---	8.4	8.1	8.3
8	8.2	7.9	8.0	---	---	---	---	---	---	8.4	8.1	8.2
9	8.2	7.9	8.0	---	---	---	---	---	---	8.3	8.1	8.2
10	8.3	7.9	8.0	---	---	---	---	---	---	8.4	8.1	8.2
11	8.2	7.8	7.9	---	---	---	---	---	---	8.4	8.1	8.2
12	8.3	7.8	8.0	---	---	---	8.3	8.1	8.2	8.3	8.0	8.2
13	8.3	7.7	8.0	---	---	---	8.4	8.1	8.2	8.3	8.1	8.2
14	8.3	7.8	8.0	---	---	---	8.4	8.0	8.1	8.3	8.1	8.2
15	7.9	7.6	7.8	---	---	---	8.4	8.0	8.2	8.4	8.1	8.2
16	8.3	7.7	7.9	---	---	---	8.4	7.9	8.1	8.4	8.2	8.3
17	8.2	7.8	8.0	---	---	---	8.4	7.9	8.1	8.3	8.1	8.2
18	8.2	7.9	8.0	---	---	---	8.3	8.0	8.1	8.4	8.2	8.3
19	8.3	7.8	8.0	---	---	---	8.3	8.0	8.2	8.5	8.3	8.4
20	8.4	7.9	8.2	---	---	---	8.3	8.0	8.2	8.5	8.3	8.4
21	8.3	7.9	8.2	---	---	---	8.3	8.0	8.1	8.5	8.3	8.4
22	8.4	7.9	8.2	---	---	---	8.2	8.0	8.1	8.5	8.3	8.4
23	8.4	7.8	8.0	---	---	---	8.3	8.0	8.1	8.5	8.3	8.4
24	8.4	7.8	8.2	---	---	---	8.3	8.0	8.2	8.5	8.3	8.4
25	8.3	7.8	8.0	---	---	---	8.3	8.0	8.2	8.5	8.3	8.4
26	8.4	7.7	8.0	---	---	---	8.4	8.0	8.2	8.5	8.3	8.4
27	8.3	7.9	8.0	---	---	---	8.4	8.0	8.2	8.5	8.3	8.4
28	8.4	7.8	8.0	---	---	---	8.5	8.1	8.3	8.5	8.3	8.4
29	8.2	7.8	7.9	---	---	---	8.4	8.0	8.1	8.5	8.1	8.4
30	8.4	7.7	8.0	---	---	---	8.1	7.9	8.0	8.4	8.1	8.1
31	---	---	---	---	---	---	8.4	8.0	8.1	---	---	---
MONTH	8.4	7.6	8.0	8.4	7.8	8.0	8.5	7.9	8.2	8.5	7.9	8.3

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	6.0	5.5	6.0	4.0	4.0	4.0	.5	.5	.5
2	---	---	---	6.5	4.5	5.5	1.0	.5	.5	.0	.0	.0
3	---	---	---	7.5	7.0	7.0	.5	.0	.0	.0	.0	.0
4	---	---	---	9.5	7.5	8.5	1.0	.0	.5	.0	.0	.0
5	---	---	---	7.0	6.0	6.5	.5	.0	.5	.0	.0	.0
6	---	---	---	9.0	5.0	7.0	4.0	1.5	2.5	.5	.0	.5
7	---	---	---	9.0	8.0	8.5	5.5	5.5	5.5	.5	.0	.0
8	---	---	---	7.0	7.0	7.0	5.0	5.0	5.0	.5	.0	.5
9	---	---	---	10.0	7.5	8.5	2.5	1.0	2.0	.5	.0	.0
10	---	---	---	7.5	7.0	7.5	1.0	1.0	.5	.5	.0	.0
11	---	---	---	5.5	5.0	5.5	.0	.0	.0	.5	.0	.5
12	---	---	---	7.0	5.0	6.0	1.5	.5	1.0	.5	.0	.5
13	---	---	---	8.0	6.5	7.0	1.0	1.0	1.0	.5	.5	.5
14	---	---	---	6.0	6.0	6.0	1.0	.0	.5	.5	.5	.5
15	---	---	---	6.5	5.0	5.5	1.0	.0	.5	.5	.5	.5
16	---	---	---	5.5	3.5	4.5	2.0	.5	1.0	.5	.5	.5
17	---	---	---	3.0	2.5	3.0	.5	.0	.5	---	---	---
18	---	---	---	4.0	2.0	3.0	1.0	.5	1.0	---	---	---
19	---	---	---	4.0	1.5	3.0	.5	.0	.5	---	---	---
20	---	---	---	4.5	2.0	3.5	.5	.0	.0	---	---	---
21	---	---	---	4.5	3.0	3.5	.5	.0	.0	---	---	---
22	---	---	---	5.0	2.0	3.5	.0	.0	.0	---	---	---
23	---	---	---	5.0	4.0	4.5	.0	.0	.0	---	---	---
24	---	---	---	2.5	2.0	2.0	.0	.0	.0	---	---	---
25	---	---	---	2.0	1.0	1.5	.0	.0	.0	---	---	---
26	---	---	---	2.0	.5	1.0	.0	.0	.0	---	---	---
27	---	---	---	2.0	1.5	2.0	.5	.0	.0	---	---	---
28	---	---	---	2.0	2.0	2.0	.5	.0	.0	1.0	.5	.5
29	---	---	---	4.5	2.0	3.5	.5	.5	.5	1.0	.5	.5
30	7.0	4.5	6.0	5.0	2.0	3.5	.5	.5	.5	1.0	.5	.5
31	6.0	5.0	5.5	---	---	---	.5	.5	.5	1.0	.5	1.0
MONTH	7.0	4.5	6.0	10.0	.5	5.0	5.5	.0	1.0	1.0	.0	.5
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.5	.5	.5	3.5	1.5	2.5	12.5	7.5	10.0			
2	.5	.5	.5	4.0	.0	2.0	15.5	6.0	11.0			
3	.5	.5	.5	3.5	.0	1.5	14.5	11.0	13.0			
4	.5	.5	.5	7.0	2.5	4.5	13.5	5.5	9.5			
5	.5	.5	.5	7.0	2.0	4.5	11.0	4.0	7.5			
6	.5	.5	.5	5.5	1.0	3.0	12.5	4.0	8.5			
7	.5	.5	.5	5.5	.0	2.5	15.5	6.0	11.5			
8	.5	.0	.5	7.0	.5	4.0	13.5	8.0	11.5			
9	.5	.5	.5	7.5	2.0	5.0	15.5	6.0	10.5			
10	.0	.0	.0	6.0	3.0	4.5	16.5	9.0	13.0			
11	.0	.0	.0	7.5	.5	4.5	14.5	11.0	12.5			
12	.0	.0	.0	9.5	2.0	6.0	---	---	---			
13	.5	.0	.0	7.0	2.5	5.0	---	---	---			
14	.5	.0	.0	8.0	1.0	4.5	---	---	---			
15	.5	.0	.5	11.0	3.5	7.0	---	---	---			
16	.5	.0	.0	8.0	2.0	5.0	---	---	---			
17	1.0	.0	.5	8.5	2.5	5.5	---	---	---			
18	4.0	1.0	2.5	5.5	1.0	3.5	---	---	---			
19	5.0	2.5	3.5	4.5	.5	2.5	---	---	---			
20	7.0	3.5	5.5	8.5	.5	4.5	---	---	---			
21	6.5	3.5	5.0	9.0	1.5	5.5	---	---	---			
22	3.5	2.5	3.0	10.0	3.5	7.0	---	---	---			
23	3.5	3.0	3.0	11.5	3.0	7.5	---	---	---			
24	6.5	2.0	4.0	12.0	4.5	8.5	---	---	---			
25	6.5	4.5	5.5	10.5	5.0	8.0	---	---	---			
26	4.0	3.5	4.0	14.0	7.0	10.0	---	---	---			
27	3.0	2.5	2.5	12.5	5.5	9.0	---	---	---			
28	4.5	3.0	3.5	15.0	7.0	11.0	---	---	---			
29	---	---	---	14.0	11.5	12.5	---	---	---			
30	---	---	---	12.5	9.5	11.0	---	---	---			
31	---	---	---	16.0	7.0	11.5	---	---	---			
MONTH	7.0	.0	1.5	16.0	.0	6.0	16.5	4.0	11.0			

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	29.5	17.5	23.5	28.5	18.0	23.5	21.5	18.5	20.0
2	---	---	---	26.5	19.5	22.5	24.5	19.5	21.0	21.0	15.5	18.0
3	---	---	---	28.0	18.5	23.5	28.5	18.0	23.0	22.5	15.5	18.5
4	---	---	---	29.0	19.5	24.5	30.5	20.5	25.5	20.0	15.0	17.5
5	---	---	---	30.0	19.5	25.0	26.5	21.0	22.5	19.0	15.0	17.0
6	---	---	---	31.5	19.5	26.0	29.5	18.5	23.5	21.0	14.0	17.0
7	---	---	---	31.0	19.5	26.0	25.0	19.0	21.5	17.5	15.0	16.0
8	---	---	---	32.0	23.5	27.5	27.5	18.0	22.0	19.5	13.0	16.0
9	---	---	---	32.0	24.0	27.5	28.5	18.0	23.5	21.0	13.0	17.0
10	---	---	---	30.5	18.5	25.0	26.5	18.0	22.0	25.5	19.0	23.0
11	---	---	---	25.5	20.0	22.5	25.0	16.5	22.0	25.0	16.0	20.5
12	---	---	---	32.5	20.5	27.0	28.0	17.0	22.5	20.5	17.0	18.5
13	---	---	---	30.0	25.0	27.5	27.5	19.0	24.0	---	---	---
14	---	---	---	27.0	21.0	23.5	24.5	20.0	21.5	---	---	---
15	---	---	---	24.0	17.5	20.5	29.0	19.0	24.0	20.0	14.5	16.5
16	---	---	---	29.0	18.5	23.5	23.0	17.5	19.5	15.5	12.5	14.0
17	---	---	---	28.5	19.0	24.0	24.0	14.0	18.5	12.5	9.5	11.0
18	---	---	---	29.5	20.0	25.5	25.0	14.5	19.0	---	---	---
19	27.5	19.5	24.0	29.0	23.0	26.5	25.0	15.0	19.0	---	---	---
20	21.5	16.5	19.0	29.0	21.0	25.0	24.0	20.0	21.5	---	---	---
21	18.5	16.0	17.0	26.0	19.0	22.5	25.0	16.0	20.5	---	---	---
22	25.0	14.5	19.0	25.5	17.5	21.5	24.5	17.0	20.5	16.5	13.5	15.5
23	26.5	15.5	20.5	20.0	16.5	18.0	25.5	16.0	20.5	16.0	10.0	13.5
24	25.5	16.5	21.0	27.0	16.0	21.5	22.0	17.5	19.5	17.0	12.0	15.0
25	28.0	18.5	22.5	24.0	19.0	22.0	23.5	18.0	19.5	16.0	14.0	14.5
26	28.0	16.5	22.0	21.0	17.5	19.0	22.5	18.5	20.5	17.0	14.5	15.5
27	26.5	16.5	21.5	17.5	14.5	16.0	22.0	18.0	20.0	16.5	11.5	14.0
28	28.0	18.5	23.0	17.0	13.0	15.0	23.0	18.5	20.5	15.5	9.0	12.5
29	28.5	20.0	24.0	24.0	13.0	18.0	24.0	17.5	20.5	15.0	11.5	13.5
30	30.0	19.5	25.0	27.0	17.0	21.5	25.5	17.5	21.5	19.0	12.5	15.5
31	---	---	---	28.5	18.0	23.0	22.5	20.0	21.0	---	---	---
MONTH	30.0	14.5	21.5	32.5	13.0	23.0	30.5	14.0	21.5	25.5	9.0	16.5

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	17.0	8.5	12.5	13.0	10.5	11.5	5.5	2.5	4.5	---	---	---
2	13.5	7.0	10.0	12.0	10.0	11.0	4.5	2.0	3.5	---	---	---
3	13.0	7.0	11.0	13.5	9.5	11.5	2.5	1.0	2.0	---	---	---
4	14.0	10.5	12.5	12.5	10.5	11.5	4.0	1.0	2.5	---	---	---
5	16.5	13.0	14.5	11.5	8.0	10.0	3.5	1.5	2.0	---	---	---
6	16.0	11.0	13.5	9.0	5.5	7.0	4.5	1.0	2.5	---	---	---
7	13.0	7.5	10.5	9.0	4.0	6.5	6.5	3.5	5.0	1.5	.0	1.0
8	13.0	6.0	10.0	9.0	5.0	7.0	4.5	2.5	3.0	1.0	.0	.5
9	12.5	7.5	10.5	6.0	2.0	4.5	2.0	.5	1.5	1.0	.0	.5
10	13.5	10.5	12.0	5.5	1.0	3.5	1.0	.0	.5	1.5	.5	1.0
11	14.0	9.0	11.0	6.0	1.5	4.0	2.0	.0	1.0	1.5	.5	.5
12	14.5	9.5	12.0	6.5	2.0	4.5	1.0	.0	.5	1.5	.5	1.0
13	15.0	11.0	13.0	6.5	2.5	4.5	---	---	---	1.5	.5	1.0
14	14.0	13.0	13.5	6.5	2.0	4.5	---	---	---	1.5	.0	.5
15	16.5	11.5	14.0	8.5	4.0	6.0	---	---	---	1.5	.5	1.0
16	13.5	8.5	11.5	10.5	7.0	8.5	---	---	---	1.5	.5	1.0
17	12.5	9.0	11.0	7.5	4.0	6.5	---	---	---	1.5	.5	1.0
18	11.0	6.5	8.5	7.0	4.5	6.0	---	---	---	1.5	.5	1.0
19	10.0	5.0	7.5	6.5	3.0	5.0	---	---	---	2.0	.0	1.0
20	12.0	7.0	9.5	3.5	1.5	2.5	---	---	---	1.0	.0	.5
21	9.5	8.0	9.0	2.0	.0	1.0	---	---	---	1.5	.0	.5
22	10.5	6.5	8.0	2.5	.0	1.0	---	---	---	1.5	.5	1.0
23	6.5	4.0	5.0	2.0	1.0	1.5	---	---	---	1.5	.5	1.0
24	4.5	2.0	3.5	5.5	1.5	3.0	---	---	---	2.5	1.0	2.0
25	9.0	4.5	7.0	4.5	3.5	4.0	---	---	---	1.5	.0	1.0
26	10.0	6.0	8.0	5.5	4.0	5.0	---	---	---	1.0	.5	.5
27	11.0	5.0	8.0	4.5	3.0	3.5	---	---	---	1.5	.0	.5
28	11.0	6.0	8.5	5.0	2.0	3.0	---	---	---	2.0	.5	1.5
29	12.0	7.0	10.0	5.0	1.5	3.0	---	---	---	2.0	1.5	1.5
30	13.5	8.5	11.0	3.5	1.5	2.5	---	---	---	2.0	.5	1.5
31	12.0	10.5	11.5	---	---	---	---	---	---	2.0	1.0	1.5
MONTH	17.0	2.0	10.5	13.5	.0	5.5	6.5	.0	2.5	2.5	.0	1.0

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.5	1.0	1.0	6.0	1.0	3.5	10.5	5.0	8.0	18.5	9.5	14.0
2	1.5	.5	1.5	3.5	.5	2.0	10.5	5.5	8.0	20.0	10.5	15.5
3	1.5	.5	1.0	1.5	.0	1.0	10.0	.5	5.5	20.5	12.0	16.5
4	1.5	.5	1.5	1.0	.5	.5	7.5	.0	3.5	20.5	14.0	17.5
5	1.5	.5	1.0	1.0	.5	.5	5.0	.5	2.0	20.5	16.0	18.0
6	2.0	1.0	1.5	1.5	.0	1.0	3.5	1.0	1.5	17.5	13.0	16.0
7	2.0	.5	1.0	2.0	.0	1.0	5.5	.5	2.5	18.5	10.0	14.5
8	1.0	.0	1.0	1.0	.0	.5	7.0	1.0	4.0	21.0	12.0	16.5
9	1.0	.5	.5	1.5	.5	1.0	10.0	2.0	6.0	20.0	13.0	16.5
10	1.5	.5	1.0	2.0	.0	1.0	9.5	3.0	6.0	21.5	14.0	17.5
11	1.0	.5	1.0	3.5	.5	2.0	12.0	2.5	7.5	21.0	15.0	18.0
12	1.0	.5	1.0	4.0	.5	2.0	10.5	5.0	8.0	17.5	16.0	17.0
13	1.0	.5	1.0	2.0	.5	1.0	14.0	6.5	10.0	21.0	13.0	18.0
14	1.0	.5	.5	5.5	.5	2.5	14.0	5.5	10.0	23.0	15.5	18.5
15	1.0	.0	.5	5.0	1.5	3.0	12.0	7.5	10.0	21.0	15.5	19.0
16	1.5	.5	1.0	5.0	1.0	3.0	14.5	9.5	12.5	24.0	16.0	20.0
17	1.5	1.0	1.0	5.5	3.0	4.0	14.5	9.0	11.5	23.5	17.0	20.0
18	2.0	1.0	1.5	7.0	2.5	5.0	15.5	6.0	10.5	23.0	17.0	20.0
19	2.0	1.0	1.5	5.0	.5	2.0	10.5	7.5	9.5	---	---	---
20	3.0	.0	1.5	2.0	.5	1.0	8.5	5.0	6.5	21.5	16.0	19.0
21	2.0	.5	1.0	5.0	1.0	2.5	12.5	3.0	8.0	16.0	11.0	12.5
22	2.5	.0	1.5	8.0	1.5	4.5	14.5	5.5	10.5	13.0	12.0	12.5
23	2.0	.5	1.5	8.0	1.5	5.0	15.5	7.0	11.5	15.0	11.0	13.0
24	3.0	1.5	2.0	10.0	4.0	7.0	17.5	7.0	12.5	15.0	13.0	14.0
25	3.0	1.5	2.0	8.0	3.0	5.5	15.0	9.0	12.5	15.5	13.0	14.5
26	6.0	1.5	3.0	5.0	.5	2.5	13.0	10.0	11.5	15.0	13.0	14.0
27	6.5	1.0	3.0	8.0	.0	3.5	15.5	6.0	11.0	15.5	14.0	14.5
28	6.0	1.0	3.0	8.0	1.0	4.5	14.0	7.0	10.5	18.0	13.0	15.0
29	---	---	---	10.0	2.5	6.5	14.5	8.0	11.0	16.5	14.5	15.5
30	---	---	---	12.0	6.5	9.0	16.0	8.5	12.0	23.0	14.0	18.5
31	---	---	---	12.0	5.0	8.5	---	---	---	20.0	15.0	17.0
MONTH	6.5	.0	1.5	12.0	.0	3.0	17.5	.0	8.5	24.0	9.5	16.5
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	21.5	11.5	16.0	24.5	16.0	20.0	23.5	17.0	19.5	22.5	16.0	19.0
2	21.5	13.0	17.0	20.0	17.0	19.0	26.0	19.5	22.5	21.0	16.5	18.5
3	20.5	12.5	16.5	24.5	18.0	20.5	28.0	20.0	24.0	20.0	13.5	16.5
4	21.5	12.5	17.0	28.5	18.5	23.5	25.5	20.0	22.0	20.0	12.5	16.5
5	21.5	12.5	17.0	29.5	21.0	25.5	21.0	18.5	19.0	18.5	15.0	17.0
6	18.0	13.5	14.5	25.5	19.5	22.5	22.0	17.5	19.0	18.5	14.0	15.5
7	24.5	14.5	19.0	26.0	18.0	22.0	24.0	18.0	21.0	17.5	13.0	15.0
8	23.0	15.5	19.5	26.5	17.5	22.0	26.0	19.5	22.5	19.0	13.5	16.5
9	21.0	16.5	18.5	25.0	19.5	22.5	20.5	16.0	18.0	20.5	14.0	17.5
10	22.5	13.0	17.5	22.5	19.5	20.5	19.5	14.0	17.0	23.5	18.5	20.5
11	20.5	13.0	17.5	23.0	17.0	19.5	20.5	13.0	17.0	23.5	17.5	20.0
12	23.0	15.0	19.0	---	---	---	21.0	13.5	17.0	21.0	18.0	19.5
13	23.5	14.0	18.5	24.0	16.5	20.5	20.5	15.0	18.0	21.5	18.0	19.5
14	21.0	14.5	18.5	24.0	17.5	21.0	20.5	17.0	18.5	20.0	16.5	18.0
15	19.5	16.5	18.0	24.0	18.5	21.0	22.0	16.0	19.0	17.0	14.5	15.5
16	22.5	13.5	18.0	23.0	18.5	20.5	23.0	17.0	20.0	16.5	11.5	14.5
17	19.0	15.0	18.0	27.0	19.0	23.0	23.0	17.5	21.0	15.5	13.5	14.5
18	17.5	15.0	16.0	24.0	19.5	21.5	23.5	17.5	20.5	16.0	11.0	13.5
19	21.5	12.0	16.5	23.0	18.5	20.5	24.0	18.5	19.5	16.5	10.5	13.5
20	22.0	15.0	18.5	25.0	18.0	21.5	24.5	19.5	21.5	14.0	11.0	12.5
21	20.0	14.0	18.0	22.0	18.5	20.0	22.5	16.0	19.5	15.5	9.0	12.0
22	22.5	14.0	18.0	24.0	19.0	20.5	20.0	17.0	18.5	15.5	9.0	12.5
23	22.5	14.0	18.5	24.5	17.5	21.0	22.5	15.5	19.0	14.0	10.5	12.0
24	24.5	16.0	20.0	25.0	17.5	21.0	20.5	16.5	17.5	13.5	11.0	12.5
25	21.0	17.0	19.0	30.0	18.5	22.0	22.0	14.5	18.0	12.5	11.0	11.5
26	22.5	14.5	18.0	25.5	19.5	22.5	20.5	15.5	18.0	14.0	11.0	12.5
27	23.5	17.5	20.5	23.5	18.5	20.0	20.5	16.0	18.0	14.5	9.5	12.5
28	26.5	19.0	22.5	24.0	16.0	20.0	17.0	13.0	15.0	17.0	11.5	14.0
29	24.0	18.0	20.0	23.5	17.5	20.5	15.0	13.0	14.0	19.5	14.0	16.5
30	23.0	15.0	19.0	23.0	17.0	20.0	17.5	14.0	15.5	---	---	---
31	---	---	---	24.0	16.5	20.0	18.0	15.0	16.5	---	---	---
MONTH	26.5	11.5	18.0	30.0	16.0	21.0	28.0	13.0	19.0	23.5	9.0	15.5

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, AUGUST TO SEPTEMBER 1981

DAY	MAX AUGUST	MIN	MAX SEPTEMBER	MIN
1	---	---	---	---
2	---	---	---	---
3	---	---	---	---
4	---	---	---	---
5	---	---	---	---
6	---	---	---	---
7	---	---	---	---
8	---	---	---	---
9	---	---	---	---
10	---	---	11.7	6.2
11	---	---	12.4	6.3
12	---	---	13.0	6.8
13	---	---	13.1	8.2
14	---	---	12.2	7.4
15	---	---	11.4	7.2
16	---	---	11.4	8.6
17	---	---	11.4	8.5
18	---	---	11.3	8.3
19	---	---	10.5	7.5
20	---	---	10.4	6.7
21	---	---	10.3	7.3
22	---	---	10.5	8.5
23	---	---	10.5	7.2
24	11.0	6.0	10.0	6.5
25	11.4	5.4	---	---
26	5.8	3.2	---	---
27	9.4	5.4	---	---
28	7.6	4.8	---	---
29	7.6	5.0	---	---
30	9.0	5.0	---	---
31	---	6.4	---	---
MONTH	11.4	3.2	13.1	6.2

GALENA RIVER BASIN

05414920 MADDEN BRANCH NEAR MEEKERS GROVE, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, MAY TO SEPTEMBER 1982

DAY	MAX	MIN MAY	MEAN	DAY	MAX	MIN JULY	MEAN	DAY	MAX	MIN AUGUST	MEAN	DAY	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	1	12.1	9.0	10.8	1	11.9	7.4	9.4	1	11.9	7.4	9.4
2	---	---	---	2	11.9	9.0	10.4	2	12.1	7.6	9.8	2	12.4	7.6	9.8
3	---	---	---	3	13.9	9.3	11.5	3	13.9	8.3	10.3	3	13.1	8.3	10.3
4	---	---	---	4	14.1	9.9	12.2	4	14.1	8.3	10.3	4	13.3	8.3	10.3
5	---	---	---	5	13.8	9.1	11.6	5	13.8	8.3	9.9	5	12.0	8.3	9.9
6	---	---	---	6	11.9	9.0	10.8	6	11.9	8.3	9.3	6	10.8	8.3	9.3
7	---	---	---	7	12.1	8.0	10.2	7	12.1	8.5	10.3	7	12.4	8.5	10.3
8	---	---	---	8	11.9	7.8	9.6	8	11.9	7.1	8.2	8	---	---	---
9	---	---	---	9	10.7	7.8	9.1	9	10.7	7.4	8.7	9	11.0	7.0	8.7
10	---	---	---	10	11.6	7.9	9.8	10	11.6	8.0	9.3	10	10.9	6.8	8.4
11	---	---	---	11	11.2	7.0	9.3	11	11.2	7.7	9.5	11	10.8	6.4	8.2
12	---	---	---	12	11.3	6.7	8.8	12	11.3	7.6	9.5	12	10.1	6.6	7.9
13	---	---	---	13	11.6	7.1	9.9	13	11.6	7.4	9.5	13	10.1	7.1	8.2
14	---	---	---	14	10.7	7.1	8.5	14	10.7	7.5	9.0	14	9.4	7.1	8.2
15	---	---	---	15	7.4	6.5	6.9	15	11.9	7.1	9.2	15	---	---	---
16	---	---	---	16	11.0	6.8	9.0	16	11.9	6.6	8.9	16	11.5	8.3	9.8
17	---	---	---	17	9.8	6.8	8.2	17	11.5	6.7	8.7	17	10.1	8.5	9.2
18	---	---	---	18	10.8	7.1	9.5	18	11.6	6.8	8.6	18	11.7	8.9	10.2
19	---	---	---	19	10.8	6.1	9.3	19	11.4	6.5	8.4	19	11.8	8.9	10.1
20	---	---	---	20	9.3	6.3	7.7	20	11.6	6.5	8.5	20	12.3	8.9	10.6
21	---	---	---	21	9.9	6.0	7.9	21	12.0	6.9	9.0	21	12.7	9.4	10.8
22	---	---	---	22	10.4	5.9	8.1	22	10.7	7.1	8.6	22	12.8	9.3	10.8
23	---	---	---	23	10.2	5.8	7.7	23	11.8	6.8	9.0	23	12.5	9.4	10.7
24	---	---	---	24	10.8	5.2	7.7	24	11.2	6.9	8.6	24	11.8	9.5	10.4
25	---	---	---	25	8.7	5.3	7.1	25	11.5	7.1	9.0	25	12.6	9.8	10.9
26	---	---	---	26	11.1	6.3	8.4	26	12.5	7.2	9.5	26	12.5	9.8	10.8
27	---	---	---	27	10.5	5.2	7.4	27	13.4	7.8	9.9	27	12.8	9.8	11.2
28	---	---	---	28	10.2	5.2	7.1	28	13.3	8.3	10.4	28	12.9	8.9	10.8
29	---	---	---	29	9.1	5.0	6.6	29	12.0	8.1	10.2	29	12.3	8.8	10.2
30	---	---	---	30	11.5	6.0	8.4	30	11.0	8.0	9.3	30	---	---	---
31	---	---	---	31	---	---	---	31	12.6	8.7	10.2	31	---	---	---
MONTH	14.1	5.0	9.0	MONTH	14.1	5.0	9.0	MONTH	13.4	6.5	9.1	MONTH	13.3	6.4	9.8

GALENA RIVER BASIN

05415000 GALENA RIVER AT BUNCOMBE, WI

LOCATION.--Lat 42°30'49", long 90°22'40", in SW 1/4 sec.33, T.1 N., R.1 E., Lafayette County, Hydrologic Unit 07060005, on left bank at Buncombe, 0.6 mi (1.0 km) upstream from Coon Branch, 1.5 mi (2.4 km) upstream from Scrabble Branch, 2.0 mi (3.2 km) upstream from Wisconsin-Illinois State line, and 3.5 mi (5.6 km) southeast of Hazel Green.

DRAINAGE AREA.--125 mi² (324 km²).

PERIOD OF RECORD.--September 1939 to current year.

REVISED RECORDS.--WSP 1438: 1942(P), 1943(M), 1944(P), 1945(M). WDR WI-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 682.31 ft (207.968 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years, 76.9 ft³/s (2.178 m³/s), 8.35 in/yr (212 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,700 ft³/s (841 m³/s) June 29, 1969, gage height, 19.57 ft (5.965 m) from rating curve extended above 8,100 ft³/s (229 m³/s) on basis of slope-area measurements at gage heights 15.68 ft (4.779 m) and 19.57 ft (5.965 m); minimum discharge, 0.8 ft³/s (0.023 m³/s) Mar. 3, 1954.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of February 1937 reached a stage of about 17.1 ft (5.212 m), from information by local resident, discharge, 18,000 ft³/s (510 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,880 ft³/s (81.6 m³/s), July 10, gage height, 9.96 ft (3.036 m), maximum gage height, 12.75 ft (3.886 m) Mar. 12, backwater from ice; no peaks above base of 3,000 ft³/s (85.0 m³/s); minimum, 33 ft³/s (0.935 m³/s) Mar. 4, gage height, 2.74 ft (0.835 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11 to Mar. 13.)

2.8	38	4.5	312
3.0	58	5.0	454
3.5	126	6.0	796
4.0	206	7.0	1,230

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	71	102	56	47	66	117	78	112	67	105	117
2	68	69	105	56	47	60	118	75	102	67	100	102
3	65	67	87	56	47	54	211	74	96	131	96	92
4	73	68	84	56	47	52	145	74	90	92	641	88
5	70	69	78	56	45	50	137	139	84	71	222	87
6	83	67	83	56	43	49	118	147	84	240	198	88
7	71	65	82	56	43	48	124	112	86	319	168	87
8	66	65	83	56	43	47	116	99	79	117	163	86
9	66	62	75	56	43	47	112	92	78	96	140	83
10	67	61	74	56	43	47	112	88	75	800	131	83
11	63	61	74	56	43	50	118	91	71	451	123	82
12	59	60	72	56	43	200	140	99	75	182	117	79
13	60	60	66	56	43	1200	168	88	74	238	116	80
14	94	60	66	56	43	567	139	83	70	152	112	80
15	98	61	66	56	43	299	131	79	144	267	111	82
16	81	72	64	56	43	998	160	82	107	357	106	79
17	107	66	60	54	43	305	144	76	85	171	104	84
18	168	62	58	54	43	171	123	80	82	160	100	84
19	116	62	56	52	44	317	118	82	80	141	99	80
20	106	63	56	52	60	583	117	82	77	126	98	78
21	98	59	56	52	94	391	106	82	74	129	92	75
22	94	57	58	54	160	184	100	99	72	172	96	74
23	88	63	58	54	280	174	96	87	69	116	106	75
24	84	70	58	52	130	180	93	80	68	107	102	76
25	84	66	58	50	94	158	92	78	69	102	132	75
26	81	98	58	48	82	131	91	100	73	97	100	74
27	78	118	58	50	76	116	86	168	70	102	95	74
28	77	83	58	50	72	112	82	147	74	102	91	74
29	74	77	54	50	---	110	80	142	89	92	93	71
30	74	76	56	49	---	145	79	145	74	330	131	70
31	72	---	56	48	---	147	---	123	---	118	102	---
TOTAL	2561	2058	2119	1665	1884	7058	3573	3071	2483	5712	4190	2459
MEAN	82.6	68.6	68.4	53.7	67.3	228	119	99.1	82.8	184	135	82.0
MAX	168	118	105	56	280	1200	211	168	144	800	641	117
MIN	59	57	54	48	43	47	79	74	68	67	91	70
CFSM	.66	.55	.55	.43	.54	1.82	.95	.79	.66	1.47	1.08	.66
IN.	.76	.61	.63	.50	.56	2.10	1.06	.91	.74	1.70	1.25	.73
CAL YR 1981	TOTAL	23140	MEAN	63.4	MAX	1000	MIN	31	CFSM	.51	IN	6.89
WTR YR 1982	TOTAL	38833	MEAN	106	MAX	1200	MIN	43	CFSM	.85	IN	11.56

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI

LOCATION.--Lat 42°31'22", long 90°08'02", in SE 1/4 SE 1/4 sec.28, T.1 N., R.3 E., Lafayette County, Hydrologic Unit 07060003, at County Highway W, 6.0 mi (9.7 km) southwest of Shullsburg.

DRAINAGE AREA.--9.34 mi² (24.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 950 ft (290 m), from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Water year 1981: Maximum discharge, 407 ft³/s (11.5 m³/s) June 15, 1981, gage height, 9.57 ft (2.917 m); minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Jan. 30 to Feb. 5, June 12, Aug. 13.

Water year 1982: Maximum discharge, 522 ft³/s (14.8 m³/s) Mar. 12, gage height, 9.20 ft (2.804 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Feb. 9, 10, 18.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	5.9	3.4	4.0	1.8	7.3	4.1	6.9	2.4	5.2	2.4	16
2	4.7	5.5	3.6	3.8	1.8	6.8	4.3	6.6	2.5	5.0	4.4	11
3	4.5	5.8	2.5	3.5	1.8	6.2	4.4	6.2	2.4	4.9	3.6	9.5
4	4.3	5.5	2.7	3.5	1.8	5.9	5.3	5.9	2.3	4.8	2.9	7.9
5	4.2	5.2	3.3	3.4	1.8	5.4	4.2	5.6	2.2	4.4	3.0	6.8
6	4.0	5.0	4.9	3.4	1.9	4.9	3.9	5.0	2.1	4.1	3.4	6.5
7	4.0	5.0	8.1	3.4	1.9	4.7	4.1	4.8	2.0	4.0	4.3	8.1
8	4.1	5.0	8.9	3.4	1.9	4.3	6.4	5.0	2.0	3.7	3.8	9.0
9	4.2	5.0	8.5	3.3	1.9	4.3	7.2	4.9	2.5	3.4	3.2	7.1
10	3.9	4.8	7.6	3.3	1.9	4.2	6.8	4.6	2.3	3.0	2.8	6.5
11	3.9	4.4	9.4	3.2	1.9	4.1	9.0	4.6	1.9	2.8	2.4	5.9
12	3.8	4.5	6.7	3.2	2.0	4.2	11	4.4	1.8	2.9	2.0	5.8
13	3.9	4.9	6.7	3.2	2.0	4.0	10	4.1	6.6	4.8	1.8	5.5
14	4.0	5.3	6.3	3.2	2.1	3.8	13	4.0	4.3	3.3	24	5.2
15	10	4.7	5.6	3.3	2.2	4.2	10	4.2	72	4.9	22	5.0
16	8.8	4.3	5.5	3.3	7.0	3.8	9.6	4.2	26	3.9	8.8	4.6
17	6.8	4.2	5.7	3.3	7.6	4.1	9.1	3.8	14	3.3	6.8	4.4
18	5.8	4.0	6.0	3.3	4.9	3.8	8.0	3.3	11	2.7	5.9	4.4
19	5.4	4.1	5.4	3.4	3.0	3.9	7.8	2.8	8.8	2.7	5.4	4.4
20	5.4	4.1	5.0	3.4	2.6	3.9	7.3	2.8	7.6	3.8	4.8	4.3
21	5.2	4.1	5.2	3.4	2.7	3.9	6.9	2.7	7.9	3.6	4.7	4.1
22	4.8	4.1	5.0	3.5	67	3.6	7.0	2.8	9.5	3.0	4.1	3.8
23	4.8	4.6	5.0	3.5	21	3.5	7.1	3.1	7.2	2.7	3.6	3.5
24	5.9	4.3	4.7	3.4	9.5	3.5	6.6	3.3	16	2.6	3.4	3.7
25	6.3	3.8	4.6	3.2	7.6	3.7	6.2	2.8	11	2.5	3.4	7.6
26	5.4	3.4	4.5	2.7	6.5	3.8	5.8	2.7	8.4	2.5	4.3	9.9
27	5.2	3.3	4.6	2.3	7.9	3.7	5.6	2.7	7.2	2.6	5.0	8.3
28	5.2	3.3	4.6	2.1	9.2	3.8	7.0	2.5	6.8	3.3	8.9	6.5
29	4.9	3.5	4.6	1.9	---	4.6	6.1	2.6	6.2	2.9	10	16
30	4.7	3.5	4.6	1.8	---	4.9	7.3	2.5	5.8	2.7	7.9	13
31	5.3	---	4.4	1.8	---	4.4	---	2.4	---	2.5	11	---
TOTAL	158.2	135.1	167.6	97.4	185.2	137.2	211.1	123.8	262.7	108.5	184.0	214.3
MEAN	5.10	4.50	5.41	3.14	6.61	4.43	7.04	3.99	8.76	3.50	5.94	7.14
MAX	10	5.9	9.4	4.0	67	7.3	13	6.9	72	5.2	24	16
MIN	3.8	3.3	2.5	1.8	1.8	3.5	3.9	2.4	1.8	2.5	1.8	3.5
CFSM	.55	.48	.58	.34	.71	.47	.75	.43	.94	.38	.64	.76
IN.	.63	.54	.67	.39	.74	.55	.84	.49	1.05	.43	.73	.85
WTR YR 1981	TOTAL	1985.1	MEAN	5.44	MAX	72	MIN	1.8	CFSM	.58	IN	7.91

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	11	17	5.4	3.5	7.3	13	8.4	16	6.1	6.8	7.4
2	8.9	10	15	5.4	3.3	6.8	16	8.4	14	6.5	6.2	6.4
3	8.3	9.9	12	5.6	3.2	6.4	45	8.4	13	7.6	5.8	5.8
4	9.5	9.6	11	6.0	3.1	6.0	23	8.4	12	6.6	5.9	5.4
5	9.2	9.4	11	6.4	2.9	5.6	17	17	11	6.0	26	5.4
6	13	8.9	11	6.8	2.8	5.4	14	23	11	13	30	5.4
7	10	8.6	12	6.2	2.7	5.0	13	15	11	11	32	5.2
8	9.2	8.5	11	5.6	2.6	4.9	12	12	10	7.8	41	5.2
9	8.9	8.1	10	5.4	2.5	4.9	12	11	10	7.2	19	5.0
10	8.7	8.2	9.5	5.2	2.5	5.0	12	10	9.2	8.5	15	5.0
11	8.4	8.1	9.3	5.0	2.6	5.8	14	14	8.7	8.8	13	4.9
12	8.1	7.8	9.1	5.0	2.6	101	23	12	9.1	7.0	12	4.7
13	8.1	7.9	9.1	5.0	2.7	175	30	11	8.7	7.0	11	4.6
14	19	7.8	9.1	4.9	2.8	50	20	11	8.2	6.3	11	4.4
15	17	7.9	8.8	4.8	2.8	28	18	12	19	6.3	10	4.2
16	13	8.9	8.1	4.6	2.9	115	17	11	13	6.1	9.3	4.1
17	78	7.7	7.6	4.5	2.6	25	15	10	11	6.0	8.9	4.6
18	45	7.6	7.4	4.4	2.5	17	13	9.6	10	6.8	8.4	4.4
19	27	7.2	7.2	4.3	2.7	25	12	9.2	9.8	6.2	8.3	4.1
20	22	7.0	7.2	4.2	8.0	62	11	8.7	9.4	5.7	7.8	4.0
21	19	6.7	7.4	4.2	13	28	10	8.1	8.8	10	7.3	3.8
22	17	6.5	7.2	4.3	24	19	9.9	13	8.3	9.0	7.6	3.8
23	15	6.7	7.0	4.3	40	20	9.6	12	7.8	6.2	7.6	3.8
24	14	6.8	6.8	4.1	21	23	9.5	11	7.8	5.6	8.4	3.8
25	13	6.9	6.7	4.0	15	17	9.2	10	7.7	5.3	9.1	3.6
26	13	27	6.6	3.8	11	13	8.6	9.4	7.5	5.1	7.3	3.6
27	12	20	6.4	3.7	9.3	12	8.4	18	7.5	5.2	6.7	3.7
28	11	15	5.7	3.7	7.8	11	8.4	17	7.3	5.0	6.3	3.7
29	11	13	5.8	3.6	---	11	8.4	23	7.2	6.1	6.6	3.6
30	11	12	5.2	3.6	---	23	8.4	24	6.7	23	7.7	3.6
31	11	---	5.2	3.5	---	18	---	18	---	8.2	6.5	---
TOTAL	488.3	290.8	272.4	147.5	202.4	856.1	440.4	393.6	300.7	235.2	421.6	137.2
MEAN	15.8	9.69	8.79	4.76	7.23	27.6	14.7	12.7	10.0	7.59	13.6	4.57
MAX	78	27	17	6.8	40	175	45	24	19	23	59	7.4
MIN	8.1	6.5	5.2	3.5	2.5	4.9	8.4	8.1	6.7	5.0	5.8	3.6
CFSM	1.69	1.04	.94	.51	.77	2.96	1.57	1.36	1.07	.81	1.46	.49
IN.	1.94	1.16	1.08	.59	.81	3.41	1.75	1.57	1.20	.94	1.68	.55
CAL YR 1981	TOTAL	2575.7	MEAN	7.06	MAX	78	MIN	1.8	CFSM	.76	IN	10.26
WTR YR 1982	TOTAL	4186.2	MEAN	11.5	MAX	175	MIN	2.5	CFSM	1.23	IN	16.67

APPLE RIVER BASIN
05418731 APPLE RIVER NEAR SHULLSBURG, WI
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1980 to September 1982 (discontinued).

WATER TEMPERATURES: November 1980 to September 1982 (discontinued).

DISSOLVED OXYGEN: June to October 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor since November 1980. Water-quality sampler since October 1980.

REMARKS.--Specific conductance probe was frozen in ice January 16-20, 1982.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey and were analyzed by the Wisconsin State Laboratory of Hygiene.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum observed, 880 micromhos Oct. 30, 1981; minimum observed, 21 micromhos Jan. 17, 1982 (probe frozen in ice).

WATER TEMPERATURES: Maximum observed, 31.0°C July 17, 1982; minimum observed, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum observed, 14.7 mg/l Aug. 11, 1981; minimum observed, 3.4 mg/l July 12, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLTA- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1980												
*15...	1200	10	7	504	--	9.4	.030	.40	--	.040	.021	.06
DEC												
11...	0900	12	--	--	--	10	.030	.30	--	.060	--	--
JAN , 1981												
13...	1430	3.2	2	484	2	10	.030	1.6	--	.060	.018	.06
17...	0915	3.3	7	478	3	--	--	--	--	--	--	--
24...	0937	3.4	5	458	2	--	--	--	--	--	--	--
FEB												
16...	1600	17	312	596	52	4.7	1.90	5.8	--	1.38	.690	2.1
22...	0430	29	2170	2460	212	5.1	1.50	13	--	3.50	--	--
22...	0600	34	2190	2460	224	5.1	1.30	12	--	3.30	--	--
22...	0815	32	1140	1450	116	6.1	.890	7.2	--	1.80	--	--
22...	1415	113	3280	3670	264	7.6	1.20	14	--	3.90	.330	1.0
22...	1630	151	3370	3720	256	9.1	1.00	15	--	4.00	.172	.53
22...	2015	100	1560	1850	124	11	1.00	6.0	--	2.00	.230	.71
23...	0645	22	196	598	28	11	.740	2.3	--	.500	.147	.45
*23...	1614	14	44	454	6	10	.470	1.2	--	.200	.082	.25
*28...	1630	8.6	47	430	9	8.0	.500	1.5	2.00	.310	.127	.39
MAR												
23...	1315	3.5	11	385	1	8.2	<.020	.40	.40	.030	.009	.03
APR												
08...	1100	7.1	48	520	14	6.2	.360	1.8	2.20	.320	.095	.29
10...	2245	11	872	1230	116	5.4	.250	6.1	7.40	1.87	--	--
11...	0145	9.5	464	894	88	5.2	.750	8.8	9.50	2.14	--	--
11...	1215	8.8	48	454	12	6.5	.090	.90	1.00	.150	--	--
12...	0530	12	218	640	34	6.7	.180	2.9	3.10	.620	--	--
12...	0745	12	376	752	80	6.0	.510	5.2	5.70	1.32	--	--
12...	1010	11	204	582	28	6.1	.240	2.8	3.00	.660	--	--
*12...	1015	11	176	570	44	6.0	.240	2.7	2.90	.640	--	--
MAY												
13...	0915	4.1	--	--	--	8.3	.090	.30	.40	.040	.025	.08
JUN												
15...	1115	28	1340	1660	160	4.3	.130	6.1	6.20	1.70	--	--
15...	1200	53	7080	7170	700	3.4	.510	22	22.0	7.10	--	--
15...	1245	173	4470	4730	400	3.0	.420	16	16.0	5.00	--	--
15...	1330	391	9580	9740	825	3.0	.510	25	26.0	8.70	--	--
15...	1415	245	6240	6780	420	4.8	.620	18	19.0	6.50	--	--
15...	1515	162	4110	4490	380	7.1	.460	14	14.0	4.50	--	--
15...	1646	130	1340	1580	135	8.7	.370	7.0	7.40	2.30	--	--
*15...	1647	130	1220	1470	135	8.8	.430	6.2	6.60	2.20	.380	1.2
15...	1915	125	785	1090	90	11	.650	5.4	6.00	1.52	--	--
15...	2245	56	424	762	64	12	.500	3.9	4.40	1.08	--	--
16...	0715	28	134	--	18	16	.240	1.6	1.80	.370	--	--
16...	1445	22	84	530	6	16	.150	1.0	1.20	.240	.107	.33
24...	0300	14	302	750	56	8.0	.030	3.4	3.40	.680	--	--
24...	0315	16	346	825	58	8.6	.180	3.7	3.90	.800	--	--

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOS, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOS, DIS- SOLVED (MG/L AS PO4)
JUN , 1981												
24...	0345	17	310	775	52	8.4	.210	3.4	3.60	.750	--	--
24...	0415	18	312	765	46	8.4	.160	2.7	2.90	.750	--	--
24...	0715	18	224	650	38	9.5	.200	2.6	2.80	.640	--	--
24...	1115	18	95	535	13	10	.130	1.2	1.30	.270	--	--
24...	2345	13	85	575	16	--	--	--	--	--	--	--
25...	0900	12	34	500	6	13	.030	.70	.70	.120	--	--
JUL												
13...	1030	15	281	695	31	--	--	--	--	--	--	--
13...	1100	14	604	1010	62	--	--	--	--	--	--	--
14...	1505	3.3	6	510	0	--	--	--	--	--	--	--
16...	1025	3.8	14	510	4	9.2	.080	.80	.90	.140	--	--
AUG												
14...	1730	14	126	550	26	4.2	.020	3.2	3.20	.730	--	--
14...	1800	149	40	475	12	4.6	.210	2.7	2.90	.630	--	--
14...	1830	180	3100	3360	300	2.1	.270	11	11.0	4.00	.350	1.1
14...	1900	111	2940	3200	350	1.1	.430	12	12.0	4.20	--	--
14...	2330	33	260	520	54	2.7	.200	3.0	3.20	1.04	.370	1.1
15...	0030	39	260	550	40	3.3	.100	2.4	2.50	.800	--	--
15...	0700	26	168	500	28	4.4	.100	2.2	2.30	.660	.240	.74
24...	1000	3.3	20	585	8	9.1	.020	--	.70	.070	.045	.14
26...	2015	5.8	250	690	42	6.8	.180	2.4	2.60	.560	.155	.48
26...	2030	6.2	250	715	26	6.8	.160	2.5	2.70	.550	.174	.53
26...	2100	12	296	660	42	5.9	.180	2.6	2.80	.700	.240	.74
26...	2130	13	320	670	54	5.6	.250	3.2	3.40	.920	.330	1.0
28...	1915	20	312	675	48	5.1	.090	2.3	2.40	.620	.220	.67
28...	1945	20	502	770	74	4.0	.120	3.0	3.10	.840	.220	.67
28...	2045	16	632	925	110	3.6	.280	5.3	5.60	1.82	.600	1.8
28...	2245	11	200	565	42	4.2	.190	2.9	3.10	.880	.330	1.0
29...	0330	12	126	--	22	5.2	.070	1.3	1.40	.410	.182	.56
29...	0800	11	101	475	19	5.0	.080	1.2	1.30	.360	.170	.52
*29...	1055	10	45	430	15	5.8	.070	.90	1.00	.240	.144	.44
29...	1056	10	60	420	19	5.6	.050	1.0	1.00	.250	.142	.44
31...	1915	14	112	540	18	6.4	.020	1.4	--	.320	.154	.47
31...	2015	15	128	530	26	6.1	.060	1.5	--	.400	--	--
31...	2215	14	110	515	22	5.7	.070	1.3	--	.350	--	--
SEP												
01...	0345	19	260	615	44	5.2	.160	2.4	2.60	.730	.280	.86
01...	0415	20	276	655	40	4.9	.150	2.6	2.70	.760	--	--
01...	0515	19	286	635	44	4.8	.190	3.0	3.20	.920	.350	1.1
*01...	1400	16	58	475	9	6.8	.060	.90	--	.260	.154	.47
01...	1401	16	59	475	9	6.6	.040	1.2	1.20	.280	.143	.44
29...	0445	14	324	775	46	6.1	.100	2.9	3.00	.760	--	--
29...	0515	24	560	955	80	5.7	.190	4.0	4.20	1.18	--	--
29...	0545	27	1040	1370	156	4.6	.460	7.5	8.00	2.65	--	--
29...	0745	19	276	745	56	4.1	.420	5.2	5.60	1.70	--	--
29...	0945	16	154	565	28	5.3	.190	2.7	2.90	.840	.400	1.2
*29...	0946	16	130	535	24	5.4	.200	2.5	2.70	.760	.390	1.2
29...	1145	17	126	545	16	5.7	.050	1.7	1.70	.490	--	--
29...	1445	20	--	--	--	--	--	--	1.40	--	--	--
29...	1615	21	--	--	--	--	--	--	1.20	--	--	--
29...	1845	19	--	--	--	--	--	--	1.20	--	--	--
29...	2315	15	94	470	12	6.6	.040	--	1.10	.340	.172	.53
30...	0951	12	37	510	4	8.0	.040	.60	.60	.160	.100	.31

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOS, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOS, DIS- SOLVED (MG/L AS PO4)
OCT , 1981												
06...	0030	15	374	760	64	6.5	.070	--	3.50	.880	--	--
06...	0130	13	336	715	58	6.6	.120	--	3.20	.900	--	--
06...	0545	13	118	550	18	6.8	.040	--	1.20	.350	--	--
06...	0745	14	102	530	17	6.9	.030	--	1.00	.280	--	--
06...	1345	12	42	465	12	7.1	.020	--	.80	.170	--	--
06...	1535	12	35	475	9	7.0	.030	--	.60	.160	--	--
07...	0900	10	25	455	8	8.7	.020	--	.40	.100	.055	.17
14...	0715	16	106	545	10	7.0	.200	--	2.90	.660	.300	.92
14...	0845	22	170	--	10	6.2	.140	--	2.20	.630	--	--
14...	1045	22	156	515	24	5.4	.160	--	2.40	.800	.410	1.3
14...	1345	24	135	505	12	6.0	.070	--	1.60	.480	--	--
14...	1445	24	132	495	12	6.0	.050	--	1.40	.440	.210	.64
14...	1715	24	107	450	13	5.9	.050	--	1.20	.370	--	--
14...	1720	24	104	465	13	5.7	.060	--	--	.360	.186	.57
*15...	0914	17	50	400	4	8.1	.050	.65	--	.180	.103	.32
15...	0915	17	59	465	3	8.2	.070	--	--	.260	.126	.39
*20...	0850	22	29	430	4	9.6	.030	--	.60	.120	.066	.20
20...	0851	22	41	450	7	9.8	.030	--	.60	.130	.064	.20

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, VOLATILE, TILE, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
NOV , 1981												
26...	1045	51	2760	2960	340	5.0	.530	--	16.0	5.40	--	--
26...	1130	54	2250	2420	280	3.4	.330	--	12.0	3.70	.440	1.3
26...	1215	47	1570	1850	220	3.6	.400	--	11.0	3.30	--	--
26...	1345	39	650	960	150	4.6	.540	--	7.60	2.00	--	--
26...	1730	47	588	850	68	4.9	.190	--	4.20	1.24	--	--
27...	0015	29	112	410	17	7.2	.190	--	1.60	.500	--	--
27...	1500	18	36	425	5	9.6	.070	--	.60	.180	.112	.34
28...	1000	15	26	455	5	10	.030	--	.40	.100	--	--
JAN , 1982												
*06...	1005	6.6	5	480	2	12	.050	--	.40	.040	.021	.06
FEB												
16...	1140	2.7	20	460	--	11	<.020	--	--	.080	.041	.13
*22...	1330	13	59	445	11	6.0	1.60	--	4.70	1.03	--	--
22...	1700	42	1020	1230	92	3.8	1.90	--	8.60	2.10	--	--
22...	1915	51	808	1020	96	2.8	2.10	--	8.60	2.20	--	--
22...	2215	46	404	605	40	3.1	1.70	--	5.90	1.65	--	--
23...	0330	40	264	445	34	3.5	1.30	--	4.60	1.42	--	--
23...	1015	38	184	360	26	4.0	1.10	--	3.90	1.19	--	--
*23...	1335	37	174	350	30	4.2	1.10	--	3.80	1.16	--	--
23...	1336	37	194	385	22	4.1	1.10	--	3.90	1.17	--	--
23...	1945	45	260	--	40	4.0	1.00	--	3.90	1.20	--	--
24...	1000	20	48	--	14	5.6	.600	--	2.40	.660	--	--
MAR												
12...	1800	30	390	605	42	4.4	1.10	--	5.00	.880	--	--
12...	2230	517	1680	1860	120	1.8	1.20	--	8.00	2.30	--	--
13...	0215	206	414	--	--	--	1.00	--	4.30	1.05	--	--
13...	0900	69	272	--	--	--	.870	--	3.40	.840	--	--
13...	1330	192	1760	1790	140	2.1	1.10	--	7.60	2.30	.500	1.5
*13...	1815	270	845	1000	--	1.9	.770	--	5.00	1.50	--	--
13...	1816	270	935	1130	65	1.8	.850	--	5.20	1.56	.460	1.4
13...	1945	200	556	840	60	1.9	.640	--	4.00	1.19	--	--
14...	0915	32	750	260	80	3.9	.500	--	1.70	.400	--	--
14...	0945	34	--	--	--	--	--	--	2.40	--	--	--
14...	1945	65	186	355	22	3.0	.600	--	--	.650	--	--
15...	0915	24	42	275	1	4.7	.400	--	1.50	.320	--	--
16...	0330	73	1260	1450	156	3.3	.800	--	8.50	2.20	--	--
16...	0545	215	2300	2570	270	2.7	.900	--	11.0	3.60	--	--
16...	0630	216	1750	1910	210	2.9	.800	--	9.50	3.00	.490	1.5
16...	1015	174	660	910	80	3.0	.800	--	5.70	1.48	--	--
*16...	1120	158	476	742	60	3.2	.800	--	5.20	1.32	.480	1.5
*17...	1114	22	34	325	3	6.0	.300	--	1.20	.220	.133	.41
30...	1115	28	184	528	20	6.0	.400	--	2.90	.540	--	--
30...	1315	33	178	504	24	5.8	.200	--	2.20	.420	--	--
30...	2215	25	68	375	6	6.2	.100	--	1.30	.220	--	--
*31...	1145	17	11	384	2	7.9	.100	--	.60	.100	--	--
APR												
03...	0515	60	950	1340	140	4.8	.500	--	6.70	1.88	--	--
03...	0745	79	920	1370	130	4.7	.300	--	5.70	1.64	--	--
03...	1015	67	408	750	64	5.0	.300	--	3.50	.900	--	--
03...	1545	38	102	460	22	6.6	.200	--	1.60	.400	--	--
*04...	1000	30	59	445	11	9.1	<.020	--	.80	.140	--	--
MAY												
*05...	1101	17	38	465	5	6.5	.320	--	2.40	.400	.210	.64
*06...	0945	23	52	530	20	7.9	.270	--	1.60	.280	--	--
*27...	1134	8.1	83	495	16	9.7	.130	--	1.00	.240	--	--
29...	0845	15	58	545	12	10	.100	--	.80	.140	--	--
29...	1230	28	432	850	76	8.7	.310	--	4.40	1.06	--	--
29...	1500	35	1010	--	--	--	.230	--	6.60	1.86	--	--
29...	1700	39	470	--	--	--	.130	--	--	--	--	--
29...	1800	42	480	855	76	8.4	.150	--	3.70	.920	--	--
29...	2300	34	206	570	28	8.4	.130	--	2.60	.570	--	--
30...	1200	24	120	505	21	10	.090	--	1.20	.260	--	--
JUN												
*01...	1030	16	36	455	0	11	.060	--	.60	.120	.055	.17
15...	0930	28	348	730	54	7.6	.220	--	3.40	.860	--	--
*15...	0931	28	340	780	52	7.3	.320	--	4.20	.970	.320	.98
15...	1030	34	492	895	72	6.2	.270	--	4.70	1.14	.260	.80
15...	1430	26	164	--	20	8.4	.160	--	1.90	.460	--	--
15...	2000	20	117	555	17	9.9	.110	--	1.60	.360	--	--
16...	1006	13	18	485	7	11	.030	--	.60	.100	--	--
JUL												
*02...	1320	6.3	122	625	14	11	.070	--	.80	.100	--	--
06...	1445	17	464	865	60	3.9	.260	--	3.40	.760	--	--
06...	1545	46	1320	1620	190	5.1	.350	--	7.50	2.20	.390	1.2
06...	1715	31	1190	1490	150	5.3	.490	--	7.00	1.95	--	--
*06...	1950	19	310	715	90	6.7	.480	--	5.20	1.16	--	--
07...	0900	12	79	545	11	9.5	.130	--	1.50	.280	.131	.40
11...	1310	8.4	22	490	4	9.1	.050	--	.80	.120	--	--
*28...	0935	5.2	14	464	4	9.8	.050	--	.60	.090	--	--
AUG												
*04...	1415	100	304	555	60	3.5	.090	--	2.50	.750	--	--
04...	1416	100	220	--	--	--	--	--	2.60	.690	--	--
18...	1401	8.4	10	400	4	11	.180	--	.40	.050	.032	.10
31...	0900	6.5	5	380	1	10	.070	--	.40	.080	--	--
SEP												
*08...	1000	5.2	6	385	2	11	.060	--	.40	.080	--	--
30...	0935	3.6	41	435	7	11	.800	--	.80	.120	.044	.13

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT , 1980				APR , 1981			
*15...	1200	10	7	14...	0615	14	184
*15...	1515	10	143	14...	0830	15	120
*16...	1030	8.8	90	14...	1645	12	73
NOV				14...	1945	12	63
*26...	1110	3.5	27	14...	2200	11	60
DEC				18...	1035	7.8	13
*06...	0950	4.4	65	25...	1030	6.2	10
*13...	0950	12	44	MAY			
*20...	1100	5.0	30	01...	1550	6.7	14
*27...	1045	4.6	28	09...	0935	5.0	12
JAN , 1981				17...	0925	3.8	8
*03...	1010	4.0	31	23...	1050	3.0	38
13...	1430	3.2	2	30...	0950	2.5	16
*14...	1200	3.2	8	JUN			
17...	0915	3.3	7	13...	1130	6.9	58
24...	0937	3.4	5	15...	1115	28	1340
*26...	1500	2.4	29	15...	1200	53	7080
*31...	1200	1.8	6	15...	1245	173	4470
FEB				15...	1330	391	9580
*07...	1200	1.9	2	15...	1415	245	6240
16...	1600	17	312	15...	1500	170	4000
22...	0300	18	396	15...	1515	162	4110
22...	0430	29	2170	15...	1630	134	1640
22...	0515	34	2740	15...	1646	130	1340
22...	0600	34	2190	*15...	1647	130	1220
22...	0730	33	1350	15...	1745	133	1040
22...	0815	32	1140	15...	1815	141	1170
22...	0900	32	990	15...	1845	136	1060
22...	0945	40	1070	15...	1915	125	785
22...	1030	54	2380	15...	1945	107	710
22...	1115	61	2850	15...	2045	84	536
22...	1245	71	2170	15...	2245	56	424
22...	1330	89	2730	16...	0115	41	240
22...	1415	113	3280	16...	0415	33	168
22...	1545	141	4160	16...	0715	28	134
22...	1630	151	3370	16...	1445	22	84
22...	1715	151	3170	20...	1515	7.6	20
22...	1800	144	2680	22...	1450	8.8	38
22...	1845	127	2040	24...	0300	14	302
22...	1930	114	1740	24...	0315	16	346
22...	2015	100	1560	24...	0345	17	310
22...	2145	74	1190	24...	0415	18	312
22...	2315	56	760	24...	0445	18	404
23...	0045	44	572	24...	0615	18	296
23...	0515	26	284	24...	0715	18	224
23...	0600	24	228	24...	0815	18	170
23...	0645	22	196	24...	0915	18	135
23...	0730	21	196	24...	1015	18	103
*23...	1614	14	44	24...	1115	18	95
23...	1615	14	66	24...	1215	19	81
*28...	1630	8.6	47	24...	1235	19	97
MAR				24...	1415	19	70
07...	0950	6.7	16	24...	1645	17	63
14...	0930	3.5	4	24...	1945	15	76
*19...	1300	3.8	34	24...	2345	13	85
23...	1315	3.5	11	25...	0900	12	34
28...	1010	3.8	6	JUL			
APR				06...	1820	4.1	18
08...	1100	7.1	48	13...	1030	15	281
10...	2145	9.1	166	13...	1100	14	604
10...	2200	9.9	204	14...	1505	3.3	6
10...	2245	11	872	16...	1025	3.8	14
10...	2330	11	700	20...	1415	3.8	15
11...	0015	11	496	28...	1245	2.7	10
11...	0100	9.9	384	AUG			
11...	0145	9.5	464	03...	1220	2.8	7
11...	0515	9.1	208	09...	1850	2.8	15
11...	0700	9.4	130	14...	1730	14	126
11...	0915	9.4	75	14...	1800	149	40
11...	1045	9.1	68	14...	1830	180	3100
11...	1215	8.8	48	14...	1900	111	2940
11...	1300	8.8	57	14...	1930	85	1610
12...	0430	9.4	79	14...	2000	76	1260
12...	0445	9.4	105	14...	2030	63	1120
12...	0530	12	218	14...	2130	40	536
12...	0615	12	448	14...	2230	33	368
12...	0745	12	376	14...	2330	33	260
12...	0915	11	356	15...	0030	39	260
12...	1010	11	204	15...	0130	38	294
*12...	1015	11	176	15...	0300	39	252
12...	1345	12	118	15...	0430	38	218
12...	1645	12	86	15...	0600	30	186
12...	1945	11	85	15...	0700	26	168
13...	2245	12	664	15...	1200	17	129
14...	0015	13	332	15...	1245	17	100
14...	0400	13	266	15...	1445	15	80

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
AUG , 1981			
15...	1545	15	80
15...	1945	12	54
15...	2045	12	58
16...	0045	11	73
16...	0445	9.6	76
16...	0545	9.4	88
16...	1045	8.8	20
23...	1200	3.5	9
24...	0915	3.3	20
24...	1000	3.3	20
26...	2015	5.8	250
26...	2030	6.2	250
26...	2100	12	296
26...	2130	13	320
28...	1900	19	334
28...	1915	20	312
28...	1945	20	502
28...	2015	18	680
28...	2045	16	632
28...	2145	13	280
28...	2245	11	200
28...	2345	9.6	172
29...	0300	12	136
29...	0330	12	126
29...	0430	12	112
29...	0600	12	103
29...	0800	11	101
29...	0900	11	74
*29...	1055	10	45
29...	1056	10	60
31...	1845	13	113
31...	1915	14	112
31...	1945	15	126
31...	2015	15	128
31...	2045	15	136
31...	2145	15	121
31...	2215	14	110
31...	2345	13	104
SEP			
01...	0045	13	106
01...	0145	13	151
01...	0315	17	214
01...	0345	19	260
01...	0415	20	276
01...	0445	20	316
01...	0515	19	286
01...	0615	17	240
01...	0745	16	132
*01...	1400	16	58
01...	1401	16	59
01...	1530	16	59
01...	1700	16	62
01...	1830	15	56
01...	2046	14	82
01...	2300	13	99
02...	0030	13	91
*07...	1110	6.6	14
*14...	1530	5.2	11
*20...	1050	4.2	11
*26...	1130	10	69
29...	0015	6.0	87
29...	0445	14	324
29...	0515	24	560
29...	0545	27	1036
29...	0615	27	804
29...	0645	24	492
29...	0745	19	276
29...	0845	16	288
29...	0945	16	154
*29...	0946	16	130
29...	1117	17	190
29...	1145	17	126
29...	1245	17	90
29...	1315	18	96
29...	1345	18	99
29...	1415	19	107
29...	1515	20	134
29...	1545	21	142
29...	1645	21	124
29...	1745	20	118
29...	1945	17	133
29...	2045	17	137
29...	2215	16	101
29...	2315	15	94
30...	0951	12	37

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
OCT , 1981				FEB , 1982			
03...	1105	8.3	14	16...	1140	2.7	20
05...	2359	15	166	*21...	1245	8.7	28
06...	0030	15	374	*22...	1330	13	59
06...	0100	14	518	22...	1515	22	210
06...	0130	13	336	22...	1530	26	336
06...	0200	13	240	22...	1615	33	622
06...	0300	12	146	22...	1700	42	1020
06...	0515	13	142	22...	1745	47	1070
06...	0545	13	118	22...	1830	50	1090
06...	0615	13	114	22...	1915	51	808
06...	0745	14	102	22...	2000	50	620
06...	0815	14	93	22...	2045	47	504
06...	0945	14	66	22...	2215	46	404
06...	1115	14	58	23...	0030	42	346
06...	1245	13	57	23...	0330	40	264
06...	1345	12	42	23...	0715	39	260
06...	1515	12	35	23...	1015	38	184
06...	1535	12	35	23...	1100	37	182
07...	0900	10	25	*23...	1335	37	174
14...	0700	16	124	23...	1336	37	194
14...	0715	16	106	23...	1945	45	260
14...	0815	20	125	24...	0145	30	103
14...	0845	22	170	24...	0745	23	59
14...	1045	22	156	24...	1000	20	48
14...	1145	22	130	*27...	1045	10	18
14...	1245	24	138	MAR			
14...	1345	24	135	07...	1105	6.1	10
14...	1415	24	134	12...	1730	21	233
14...	1445	24	132	12...	1800	30	390
14...	1515	24	128	12...	1845	67	1160
14...	1615	24	121	12...	1930	226	3380
14...	1715	24	107	12...	2015	423	2860
14...	1720	24	104	12...	2100	504	1900
*15...	0914	17	50	12...	2145	470	1520
15...	0915	17	59	12...	2230	517	1680
15...	0945	17	192	12...	2315	492	1220
15...	1130	17	32	12...	2359	409	760
15...	1600	16	29	13...	0045	325	604
16...	0015	14	71	13...	0215	206	414
16...	0530	14	70	13...	0345	136	308
*20...	0850	22	29	13...	0600	98	195
20...	0851	22	41	13...	0730	85	170
31...	1425	10	10	13...	0900	69	272
NOV				13...	0945	73	356
08...	1208	8.6	17	13...	1030	81	464
24...	1335	6.7	15	13...	1115	104	816
26...	1030	40	2540	13...	1200	124	1140
26...	1045	51	2760	13...	1245	153	1480
26...	1130	54	2250	13...	1330	192	1760
26...	1215	47	1570	*13...	1815	270	845
26...	1300	43	1120	13...	1816	270	935
26...	1345	39	650	13...	1945	200	556
26...	1430	39	460	13...	2245	100	296
26...	1515	44	712	14...	0145	62	161
26...	1600	43	495	14...	0615	37	93
26...	1645	45	584	14...	0915	32	750
26...	1730	47	588	14...	1045	35	66
26...	1815	46	512	14...	1345	42	109
26...	1900	43	392	14...	1515	50	162
26...	2030	38	238	14...	1645	57	174
26...	2200	33	168	14...	1815	63	210
27...	0015	29	112	14...	1945	65	186
27...	0100	28	106	14...	2115	63	176
27...	1500	18	36	15...	0015	60	184
28...	1000	15	26	15...	0315	40	104
DEC				15...	0445	32	75
05...	1125	11	17	15...	0745	26	52
12...	1130	9.1	13	15...	0915	24	42
21...	1135	7.3	12	16...	0245	35	560
27...	1130	6.7	8	16...	0330	73	1260
JAN , 1982				16...	0415	140	1980
05...	1340	6.6	15	16...	0500	190	2570
*06...	1005	6.6	5	16...	0545	215	2300
*18...	1420	4.4	12	16...	0630	216	1750
*25...	1435	4.5	9	16...	0715	212	1360
*30...	1415	3.6	7	16...	0845	201	885
FEB				16...	1015	174	660
*06...	1105	2.7	7	*16...	1120	158	476
*13...	1115	2.7	10	16...	1230	147	516

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)
MAR , 1982				MAY , 1982			
16...	1330	136	520	29...	1500	35	1010
16...	1630	105	364	29...	1530	35	700
16...	2030	64	214	29...	1630	37	508
17...	0230	35	89	29...	1700	39	470
17...	1113	22	41	29...	1730	41	517
*17...	1114	22	34	29...	1800	42	480
19...	1430	24	114	29...	1830	42	472
19...	1445	25	83	29...	2000	40	328
19...	1515	26	87	29...	2130	37	264
19...	1615	29	108	29...	2300	34	206
19...	1745	33	108	30...	0100	30	152
19...	2015	38	101	30...	1200	24	120
19...	2215	37	75	JUN			
19...	2315	38	73	*01...	1030	16	36
20...	0115	40	72	*03...	1130	13	40
20...	0215	40	70	*11...	1455	8.7	24
20...	0345	40	65	15...	0900	21	178
*25...	1155	16	20	15...	0930	28	348
30...	1015	26	216	*15...	0931	28	340
30...	1045	27	188	15...	1000	34	568
30...	1115	28	184	15...	1030	34	492
30...	1215	31	204	15...	1100	30	580
30...	1245	31	196	15...	1130	29	536
30...	1315	33	178	15...	1200	28	428
30...	1345	32	194	15...	1300	26	246
30...	1545	32	184	15...	1430	26	164
30...	1645	31	122	15...	1500	26	158
30...	1815	29	100	15...	1530	27	172
30...	2045	27	79	15...	1600	27	120
30...	2215	25	68	15...	1730	26	140
30...	2245	25	68	15...	2000	20	117
*31...	1145	17	11	16...	1006	13	18
APR				*18...	0950	10	18
03...	0215	27	156	*25...	1025	7.6	16
03...	0245	34	194	JUL			
03...	0315	45	392	*02...	1000	6.1	22
03...	0345	52	924	*02...	1320	6.3	122
03...	0445	57	1170	06...	1445	17	464
03...	0515	60	950	06...	1545	46	1320
03...	0615	72	775	06...	1615	44	1240
03...	0715	78	965	06...	1715	31	1190
03...	0745	79	920	06...	1815	22	810
03...	0815	79	840	*06...	1950	19	310
03...	0845	77	730	*07...	0900	12	79
03...	1015	67	408	11...	1310	8.4	22
03...	1115	61	272	*16...	1345	6.1	8
*03...	1200	54	210	*22...	2012	7.0	62
03...	1315	48	166	*28...	0935	5.2	14
03...	1545	38	102	29...	2315	17	856
03...	1915	31	82	30...	0015	89	2360
03...	2345	25	53	30...	0215	35	1130
*04...	1000	30	59	30...	0415	25	322
*10...	1310	12	12	30...	0645	31	320
*18...	1330	13	16	30...	0915	27	194
*25...	1050	9.2	10	30...	1215	19	120
MAY				AUG			
*01...	1135	8.4	8	*04...	1415	100	304
*05...	1101	17	38	04...	1416	100	220
*06...	0945	23	52	04...	1445	92	344
*09...	1240	11	9	04...	1545	79	246
*15...	1645	9.8	26	05...	0445	25	105
*21...	1155	8.1	19	05...	1845	25	81
*27...	1134	8.1	83	*06...	0845	34	102
*28...	1210	8.1	67	18...	1401	8.4	10
*29...	0845	15	58	28...	1035	6.1	7
29...	1145	24	184	31...	0900	6.5	5
29...	1200	26	276	SEP			
29...	1230	28	432	07...	1120	5.2	6
29...	1330	33	1020	*08...	1000	5.2	6
29...	1430	34	970	12...	1035	4.5	11
				30...	0935	3.6	41

* EQUAL WIDTH INCREMENT SAMPLE

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML)
OCT , 1980					
15...	1200	10	2.0	--	--
DEC					
11...	0900	12	1.6	350	90
JAN , 1981					
13...	1430	3.2	1.2	--	--
MAR					
23...	1315	3.5	4.1	<10	10
MAY					
13...	0915	4.1	1.2	3100	810
JUN					
16...	1445	22	2.0	20000	5300
JUL					
16...	1000	3.6	--	7600	800
16...	1025	3.8	2.2	--	--
AUG					
24...	0915	3.3	--	2800	1500
27...	1015	5.0	3.3	--	--
29...	1056	10	2.9	--	--
SEP					
01...	1400	16	3.3	--	--
29...	1117	17	10	120000	200000
29...	1815	19	5.7	--	--
29...	2345	15	4.9	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, (COLS. PER 100 ML)
OCT , 1981					
07...	0930	9.9	1.2	3000	850
15...	0902	17	2.4	--	5300
NOV					
16...	1145	9.1	2.4	--	--
17...	1200	7.6	--	180	1000
JAN , 1982					
06...	1005	6.6	1.2	--	--
06...	1335	6.6	--	80	40
FEB					
16...	1140	2.7	2.0	120	160
23...	1335	37	12	--	--
MAY					
05...	1101	17	7.4	--	--
05...	1200	17	--	2000000	--
JUL					
28...	0935	5.2	1.6	--	--
AUG					
18...	1401	8.4	2.9	--	--
SEP					
08...	1000	5.2	4.0	6300	--
30...	0935	3.6	2.1	5200	1900

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
JUN , 1981										
15...	1646	7.5	1180	24	45	58	71	84	94	100

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), NOVEMBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	715	683	706	676	661	668
2	---	---	---	724	670	687	703	675	687
3	---	---	---	759	713	733	737	677	709
4	---	---	---	731	617	697	776	737	753
5	---	---	---	683	645	675	756	713	740
6	---	---	---	677	617	664	711	668	687
7	---	---	---	696	596	651	716	683	702
8	---	---	---	694	614	671	708	685	697
9	---	---	---	656	612	644	695	673	687
10	---	---	---	674	610	665	731	509	669
11	---	---	---	709	609	655	---	---	---
12	---	---	---	669	609	666	---	---	---
13	---	---	---	788	668	693	---	---	---
14	---	---	---	787	683	697	---	---	---
15	---	---	---	786	674	716	---	---	---
16	---	---	---	780	680	699	---	---	---
17	---	---	---	705	685	689	---	---	---
18	---	---	---	709	670	683	---	---	---
19	---	---	---	771	658	747	---	---	---
20	---	---	---	770	719	746	---	---	---
21	722	680	718	726	678	701	---	---	---
22	726	717	721	703	673	686	---	---	---
23	722	694	708	683	655	669	---	---	---
24	719	704	714	725	660	689	665	620	644
25	725	714	719	754	714	733	643	612	629
26	726	716	721	713	683	697	643	611	629
27	721	711	717	704	664	683	662	643	650
28	722	710	716	680	582	663	702	664	682
29	716	706	711	658	641	649	753	682	712
30	796	708	726	663	647	658	748	670	704
31	---	---	---	670	661	664	732	664	694
MONTH	796	680	717	788	582	686	776	509	686

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	672	642	659	770	749	762	706	670	691	---	---	---
2	733	668	702	781	763	770	710	662	688	---	---	---
3	754	706	731	792	768	776	707	674	693	---	---	---
4	746	696	724	771	762	767	717	671	687	---	---	---
5	746	685	721	771	765	768	849	690	736	---	---	---
6	681	640	656	769	764	767	753	690	716	---	---	---
7	663	641	649	781	761	772	736	682	704	---	---	---
8	685	665	676	771	764	767	714	644	670	---	---	---
9	685	664	675	767	759	763	676	661	669	---	---	---
10	671	665	668	760	750	758	678	591	664	---	---	---
11	684	669	678	757	745	752	670	593	642	---	---	---
12	691	670	681	753	741	748	667	605	636	---	---	---
13	684	653	668	748	735	744	---	---	---	---	---	---
14	659	638	649	744	730	738	---	---	---	---	---	---
15	646	580	625	744	717	734	---	---	---	---	---	---
16	575	381	488	735	716	728	---	---	---	---	---	---
17	527	449	481	733	700	718	---	---	---	---	---	---
18	602	509	563	726	704	716	---	---	---	---	---	---
19	716	656	689	723	696	711	---	---	---	---	---	---
20	788	766	779	719	685	704	---	---	---	---	---	---
21	843	793	837	715	673	696	---	---	---	---	---	---
22	843	602	649	708	659	687	---	---	---	---	---	---
23	814	610	699	703	662	686	---	---	---	---	---	---
24	786	742	765	704	656	684	---	---	---	---	---	---
25	828	773	790	703	656	682	---	---	---	---	---	---
26	789	781	785	702	652	680	---	---	---	---	---	---
27	786	697	740	699	651	680	---	---	---	---	---	---
28	752	691	722	701	648	680	---	---	---	---	---	---
29	---	---	---	698	663	683	---	---	---	---	---	---
30	---	---	---	705	680	692	---	---	---	---	---	---
31	---	---	---	707	669	691	---	---	---	---	---	---
MONTH	843	381	684	792	648	726	849	591	683	---	---	---

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), NOVEMBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	702	662	685	765	715	747	721	607	675
2	---	---	---	702	672	689	758	709	734	748	725	742
3	---	---	---	707	683	695	752	719	734	748	742	745
4	---	---	---	716	691	702	767	725	749	745	735	740
5	---	---	---	721	699	709	768	685	745	740	731	736
6	---	---	---	735	663	689	753	730	744	737	715	730
7	---	---	---	704	677	692	755	705	734	741	674	715
8	---	---	---	701	684	692	725	690	711	753	691	724
9	---	---	---	706	694	698	765	710	734	766	754	758
10	---	---	---	702	695	699	767	714	747	771	746	762
11	---	---	---	702	695	698	761	713	742	766	748	758
12	---	---	---	709	683	695	756	678	730	760	740	752
13	---	---	---	708	541	663	749	593	710	757	740	749
14	---	---	---	731	674	700	735	183	546	781	740	758
15	---	---	---	717	672	692	695	374	555	779	756	773
16	---	---	---	740	723	731	740	704	724	---	---	---
17	---	---	---	755	740	746	746	739	742	---	---	---
18	---	---	---	757	743	748	749	737	742	---	---	---
19	669	585	667	764	747	753	748	733	740	---	---	---
20	670	660	666	705	355	563	745	728	736	---	---	---
21	671	607	656	743	652	719	745	726	736	---	---	---
22	651	603	631	746	737	742	743	721	733	768	738	748
23	653	631	644	746	737	743	755	731	741	761	741	754
24	647	565	598	749	735	742	760	736	752	763	731	750
25	667	652	660	748	733	743	760	732	752	739	653	693
26	667	650	656	751	736	745	760	520	718	731	657	701
27	682	656	672	751	721	739	726	574	702	763	716	744
28	697	654	678	756	719	736	731	511	675	765	755	760
29	701	658	684	764	748	758	729	623	675	759	445	604
30	706	662	686	778	728	760	745	729	737	735	675	719
31	---	---	---	769	723	752	747	649	693	---	---	---
MONTH	706	565	658	778	355	713	768	183	718	781	445	733

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	743	721	735	772	760	767	665	636	646	723	695	705
2	742	733	738	773	760	768	683	640	662	---	---	---
3	754	735	744	773	751	764	694	682	688	---	---	---
4	754	720	736	769	761	765	691	683	688	---	---	---
5	751	703	746	768	762	766	695	690	693	---	---	---
6	732	631	682	772	756	766	700	690	696	---	---	---
7	772	748	762	771	753	764	696	679	691	---	---	---
8	784	774	780	773	757	766	684	673	679	---	---	---
9	781	770	776	775	762	770	692	686	689	---	---	---
10	773	765	769	772	759	767	699	689	694	---	---	---
11	772	761	767	767	750	760	695	687	691	---	---	---
12	767	754	761	763	743	755	695	689	692	726	698	724
13	762	746	755	756	738	749	694	686	691	720	658	699
14	740	632	668	751	730	742	693	686	690	653	558	598
15	745	675	719	745	722	734	707	690	698	552	339	436
16	755	745	750	745	721	733	718	700	709	---	---	---
17	756	207	580	755	736	747	721	703	710	---	---	---
18	589	339	504	755	737	748	726	709	719	---	---	---
19	634	591	616	756	746	752	737	722	729	---	---	---
20	732	633	694	755	743	750	733	712	725	---	---	---
21	736	731	734	762	751	758	713	690	703	252	185	224
22	746	736	740	765	751	759	689	679	684	321	228	276
23	749	744	747	764	719	744	701	683	693	424	323	362
24	755	749	751	763	726	741	706	697	701	724	436	605
25	751	747	749	763	755	760	707	700	703	723	714	718
26	751	745	749	767	370	585	704	694	700	722	715	719
27	751	743	747	674	516	619	704	697	700	720	706	714
28	748	739	744	693	675	685	705	701	703	716	707	709
29	795	740	755	700	695	698	722	704	714	719	710	714
30	880	743	803	701	660	697	726	712	720	711	704	708
31	789	734	761	---	---	---	712	695	708	---	---	---
MONTH	880	207	728	775	370	739	737	636	697	726	21	467

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	---	---	---	---	---	---	614	587	598	524	497	514
2	---	---	---	---	---	---	614	585	601	526	505	515
3	---	---	---	---	---	---	572	380	465	542	510	527
4	---	---	---	---	---	---	596	538	575	538	512	528
5	728	689	726	---	---	---	613	573	591	583	496	549
6	742	729	736	---	---	---	625	559	593	638	554	594
7	738	718	730	---	---	---	622	592	606	662	583	628
8	733	719	726	---	---	---	617	603	611	668	578	638
9	740	723	732	---	---	---	620	606	614	709	616	665
10	747	729	740	---	---	---	621	596	609	724	568	654
11	739	723	732	---	---	---	602	561	589	674	523	629
12	730	713	723	---	---	---	581	439	536	655	549	608
13	727	713	721	199	156	175	559	445	500	674	649	660
14	726	709	718	345	217	288	608	567	582	677	649	666
15	716	686	703	454	260	390	617	593	608	681	655	669
16	700	690	696	448	230	287	623	591	611	674	579	641
17	---	---	---	551	362	478	630	588	612	684	665	676
18	---	---	---	584	519	560	633	554	601	681	665	673
19	---	---	---	543	430	504	613	557	588	681	671	675
20	---	---	---	466	319	400	667	574	607	684	671	678
21	---	---	---	549	372	496	687	493	589	691	674	684
22	---	---	---	591	533	563	601	477	540	684	643	665
23	---	---	---	577	498	542	571	476	523	694	655	686
24	---	---	---	541	498	519	550	474	515	698	691	696
25	---	---	---	584	513	557	562	473	521	698	687	694
26	---	---	---	614	579	597	520	499	510	698	480	606
27	---	---	---	629	601	615	524	497	510	649	571	617
28	---	---	---	629	609	616	514	496	506	674	597	645
29	---	---	---	621	601	612	519	496	505	677	506	607
30	---	---	---	602	466	527	519	496	510	661	576	631
31	---	---	---	587	510	559	---	---	---	684	661	674
MONTH	747	686	724	629	156	489	687	380	564	724	480	632
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	694	681	687	682	663	673	723	705	716	738	687	712
2	698	687	694	691	614	677	728	714	721	725	714	721
3	709	684	698	661	611	652	738	726	732	735	709	724
4	712	701	708	681	667	675	740	743	748	736	693	718
5	719	698	708	690	676	683	697	563	651	719	698	710
6	712	705	709	692	413	618	692	583	640	725	710	717
7	709	694	703	727	605	684	711	344	643	731	700	721
8	712	694	704	737	707	723	652	375	558	728	697	715
9	712	677	697	727	695	713	683	660	673	730	687	708
10	701	649	678	722	643	694	695	681	689	716	685	703
11	684	646	667	716	676	700	711	690	697	702	659	684
12	676	621	656	740	675	712	705	688	695	727	685	705
13	666	649	658	730	713	719	707	682	693	717	690	708
14	680	656	666	735	700	720	698	691	696	711	703	708
15	666	492	576	722	712	716	707	693	701	717	697	708
16	658	627	651	812	716	761	705	694	701	714	685	702
17	675	646	661	809	792	802	703	685	697	693	676	686
18	673	665	669	793	754	769	727	691	706	699	678	687
19	683	669	674	782	766	775	741	703	726	752	693	719
20	687	666	677	783	771	778	747	716	732	745	726	738
21	690	673	682	780	376	706	753	718	734	743	715	731
22	687	670	680	847	636	746	755	709	725	741	702	722
23	694	660	678	852	724	802	721	700	713	731	700	715
24	691	651	673	756	676	716	723	576	689	720	702	714
25	684	662	673	699	680	691	718	643	669	722	711	717
26	689	651	671	741	688	710	727	698	717	756	712	732
27	680	653	666	711	692	704	729	696	715	771	718	748
28	669	646	658	739	709	724	784	716	752	756	732	746
29	667	652	660	733	346	700	782	722	760	750	718	735
30	673	654	666	680	277	507	742	727	733	743	731	736
31	---	---	---	710	685	704	752	733	741	---	---	---
MONTH	719	492	675	852	277	708	784	243	693	771	659	716

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), NOVEMBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN	MAX	MIN MAY	MEAN
1	---	---	---	9.5	1.0	4.5	1.0	.0	.5	13.0	7.0	9.5
2	---	---	---	.5	.0	.0	.5	.0	.0	16.5	4.5	10.5
3	---	---	---	.5	.0	.0	.0	.0	.0	14.0	9.5	12.0
4	---	---	---	4.5	.0	1.0	.0	.0	.0	13.0	4.5	9.0
5	---	---	---	3.5	.5	1.5	.0	.0	.0	11.0	3.5	7.0
6	---	---	---	6.5	.5	4.0	.0	.0	.0	14.0	3.0	8.0
7	---	---	---	9.5	4.5	7.5	.0	.0	.0	17.0	5.0	11.0
8	---	---	---	7.5	.5	4.0	.0	.0	.0	13.0	8.0	11.0
9	---	---	---	2.5	1.0	1.5	.0	.0	.0	16.0	5.5	11.0
10	---	---	---	2.5	.5	1.5	.0	.0	.0	17.5	8.0	12.5
11	---	---	---	2.5	.5	1.0	.0	.0	.0	13.5	10.0	12.0
12	---	---	---	3.5	.5	2.0	.0	.0	.0	9.5	7.5	8.5
13	---	---	---	5.0	2.0	4.0	.0	.0	.0	---	---	---
14	---	---	---	4.5	.0	3.0	.0	.0	.0	---	---	---
15	---	---	---	4.5	.0	2.5	.0	.0	.0	---	---	---
16	---	---	---	4.5	.0	1.0	.0	.0	.0	---	---	---
17	---	---	---	5.0	.0	2.0	.0	.0	.0	---	---	---
18	---	---	---	4.5	.0	3.5	.0	.0	.0	---	---	---
19	---	---	---	4.0	.0	.0	.0	.0	.0	---	---	---
20	---	---	---	4.0	.0	1.0	.0	.0	.0	---	---	---
21	5.5	2.5	4.0	4.0	.0	.5	.0	.0	.0	---	---	---
22	6.0	1.0	3.5	4.0	.0	.0	.0	.0	.0	---	---	---
23	5.0	3.0	4.0	.0	.0	.0	.0	.0	.0	---	---	---
24	3.5	.5	2.0	.0	.0	.0	1.0	.0	.5	---	---	---
25	3.5	.0	1.5	.0	.0	.0	3.0	.5	1.5	---	---	---
26	3.5	.0	1.5	.0	.0	.0	3.0	1.0	1.5	---	---	---
27	3.0	2.0	2.0	.0	.0	.0	2.5	.0	1.0	---	---	---
28	4.0	2.0	3.0	.0	.0	.0	1.0	.0	.0	---	---	---
29	9.5	2.0	4.0	.0	.0	.0	.5	.0	.0	---	---	---
30	9.5	1.5	4.5	.0	.0	.0	1.0	.0	.0	---	---	---
31	---	---	---	1.0	.0	.5	.5	.0	.0	---	---	---
MONTH	9.5	.0	3.0	9.5	.0	1.5	3.0	.0	.0	---	---	---

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.5	.0	.0	4.0	1.5	2.5	13.0	7.0	9.5	---	---	---
2	.5	.0	.0	4.5	.5	2.0	16.5	4.5	10.5	---	---	---
3	.0	.0	.0	4.5	.5	2.0	14.0	9.5	12.0	---	---	---
4	.5	.0	.0	8.5	2.5	5.0	13.0	4.5	9.0	---	---	---
5	.5	.0	.0	7.5	1.5	4.0	11.0	3.5	7.0	---	---	---
6	.5	.0	.0	5.0	1.0	2.5	14.0	3.0	8.0	---	---	---
7	.5	.0	.0	6.0	.0	2.5	17.0	5.0	11.0	---	---	---
8	.5	.0	.0	8.5	.5	4.0	13.0	8.0	11.0	---	---	---
9	.5	.5	.5	8.5	2.0	5.0	16.0	5.5	11.0	---	---	---
10	.5	.5	.5	7.0	2.5	4.5	17.5	8.0	12.5	---	---	---
11	.5	.5	.5	9.0	.5	4.5	13.5	10.0	12.0	---	---	---
12	.5	.5	.5	11.0	2.0	6.0	9.5	7.5	8.5	---	---	---
13	.5	.5	.5	8.0	2.0	5.0	---	---	---	---	---	---
14	.5	.5	.5	10.0	1.0	5.0	---	---	---	---	---	---
15	.5	.5	.5	12.0	3.0	7.0	---	---	---	---	---	---
16	.5	.5	.5	9.0	.5	4.5	---	---	---	---	---	---
17	1.0	.5	.5	10.0	2.0	5.0	---	---	---	---	---	---
18	6.0	1.0	3.0	5.0	.5	2.5	---	---	---	---	---	---
19	7.0	1.0	4.0	4.0	.0	2.0	---	---	---	---	---	---
20	10.0	2.0	5.5	10.0	.5	4.5	---	---	---	---	---	---
21	7.0	3.0	5.0	10.0	1.0	5.5	---	---	---	---	---	---
22	4.5	2.0	3.0	11.5	2.5	6.5	---	---	---	---	---	---
23	3.0	2.0	2.5	12.5	2.0	7.0	---	---	---	---	---	---
24	7.5	.5	4.0	13.0	3.0	7.5	---	---	---	---	---	---
25	7.5	1.5	4.0	12.0	3.5	7.5	---	---	---	---	---	---
26	4.5	1.5	2.5	14.5	6.5	9.0	---	---	---	---	---	---
27	4.5	1.5	3.0	13.0	4.0	8.0	---	---	---	---	---	---
28	4.5	3.0	3.5	15.5	5.5	10.5	---	---	---	---	---	---
29	---	---	---	14.5	10.0	11.5	---	---	---	---	---	---
30	---	---	---	12.5	8.0	10.5	---	---	---	---	---	---
31	---	---	---	18.0	5.5	11.0	---	---	---	---	---	---
MONTH	10.0	.0	1.5	18.0	.0	5.5	17.5	3.0	10.0	---	---	---

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), NOVEMBER 1980 TO SEPTEMBER 1981												
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	25.5	16.0	20.5	27.0	16.5	21.5	20.0	17.0	18.5
2	---	---	---	22.0	17.0	19.5	21.0	19.0	20.0	20.0	15.0	17.5
3	---	---	---	24.5	16.0	20.0	27.0	18.0	22.0	21.0	15.0	17.5
4	---	---	---	24.5	17.0	20.5	27.5	19.5	23.5	20.0	14.0	17.0
5	---	---	---	26.0	17.0	21.5	22.0	19.5	21.0	19.5	14.0	16.5
6	---	---	---	27.0	16.5	22.0	27.5	17.5	22.0	20.0	13.0	16.0
7	---	---	---	27.0	17.0	22.0	22.5	17.5	20.0	17.0	13.5	15.0
8	---	---	---	28.0	19.5	23.0	26.0	17.5	21.0	19.0	13.0	16.0
9	---	---	---	28.0	20.0	23.0	27.5	17.0	22.0	20.5	13.0	16.5
10	---	---	---	27.5	16.0	21.5	25.0	17.5	21.0	23.0	15.0	18.5
11	---	---	---	21.5	17.5	20.0	24.5	15.5	19.5	23.5	15.5	19.5
12	---	---	---	29.0	19.5	24.0	27.0	16.5	21.5	23.5	16.5	19.5
13	---	---	---	26.0	21.0	23.0	26.0	18.5	22.5	22.0	21.5	17.5
14	---	---	---	23.0	19.0	20.5	21.5	19.0	20.5	20.0	15.5	17.5
15	---	---	---	21.5	16.5	18.5	24.0	19.0	21.0	---	---	---
16	---	---	---	---	---	---	19.0	16.0	18.0	---	---	---
17	---	---	---	---	---	---	21.5	13.0	17.0	---	---	---
18	---	---	---	26.5	18.0	22.0	22.5	13.0	17.5	---	---	---
19	---	---	---	26.5	19.5	23.0	23.0	13.5	18.0	---	---	---
20	19.5	14.0	16.5	24.5	19.0	22.0	23.5	13.5	18.5	---	---	---
21	17.0	13.5	15.5	23.5	17.0	20.0	24.0	15.0	19.0	---	---	---
22	22.0	13.5	17.0	23.0	16.5	19.5	22.5	16.5	19.5	16.5	11.5	14.0
23	23.0	14.0	18.0	19.5	15.5	17.5	24.5	16.0	19.5	16.5	9.0	12.5
24	21.5	16.0	18.5	25.0	15.0	19.5	22.5	16.5	19.0	17.5	11.5	14.0
25	23.0	14.5	18.5	22.5	16.5	19.5	24.5	17.0	20.5	15.0	13.0	14.0
26	23.0	14.0	18.5	19.0	16.5	17.5	23.5	18.5	20.0	17.0	14.0	15.0
27	23.0	14.0	18.5	16.5	13.5	15.0	22.5	18.0	19.5	16.5	11.5	13.5
28	25.0	16.5	20.0	17.5	12.5	14.5	21.5	18.0	19.5	16.0	9.0	12.5
29	24.0	18.0	21.0	23.5	12.0	17.0	22.0	17.0	19.0	14.5	10.5	12.5
30	25.5	17.0	21.0	25.0	15.0	19.5	22.5	16.0	19.5	19.0	12.5	15.5
31	---	---	---	26.5	17.5	21.0	21.5	17.5	19.5	---	---	---
MONTH	25.5	13.5	18.5	29.0	12.0	20.0	27.5	.0	20.0	23.5	9.0	16.0

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	17.5	9.0	12.5	12.5	10.5	11.5	5.0	2.5	4.0	1.0	.0	.0
2	14.0	7.5	10.0	11.5	10.0	11.0	4.5	3.0	4.0	---	---	---
3	9.5	8.5	9.0	14.0	9.5	11.5	4.0	2.0	3.0	---	---	---
4	13.5	10.0	12.0	12.5	10.5	11.5	4.5	2.0	3.5	---	---	---
5	16.0	12.0	14.0	11.5	8.0	10.0	4.5	2.5	3.0	---	---	---
6	15.0	10.5	13.0	9.5	5.5	7.5	5.5	2.0	3.5	---	---	---
7	14.0	8.5	10.5	10.0	5.0	7.5	7.0	4.5	5.5	---	---	---
8	13.5	7.5	10.5	10.5	6.5	8.0	5.0	3.0	3.5	---	---	---
9	14.0	8.5	11.0	7.5	3.5	5.5	3.0	1.5	2.5	---	---	---
10	14.0	11.0	12.0	7.5	3.0	5.0	2.5	.0	1.0	---	---	---
11	14.5	9.0	11.5	8.0	3.5	5.5	4.0	1.5	2.5	---	---	---
12	15.0	9.5	12.0	8.0	3.5	5.5	3.0	.5	1.5	.0	.0	.0
13	15.0	10.5	13.0	8.5	3.5	6.0	4.5	3.0	3.5	.0	.0	.0
14	13.5	13.0	13.5	8.5	4.5	6.5	4.5	1.5	3.5	.0	.0	.0
15	16.0	11.5	13.5	9.5	5.5	7.5	1.0	.0	.0	.0	.0	.0
16	14.0	8.5	11.0	11.5	7.5	9.0	.0	.0	.0	.0	.0	.0
17	14.0	10.0	11.5	9.0	5.5	7.0	.5	.0	.0	.0	.0	.0
18	12.0	8.0	9.5	8.5	5.5	7.0	.0	.0	.0	.0	.0	.0
19	11.0	6.5	8.5	7.0	3.5	5.5	.0	.0	.0	.0	.0	.0
20	13.0	8.0	10.5	4.0	2.0	3.0	.0	.0	.0	.0	.0	.0
21	10.5	9.0	9.5	4.0	1.0	2.5	.0	.0	.0	.0	.0	.0
22	11.0	7.5	8.5	4.0	1.0	2.0	1.5	.0	.5	.0	.0	.0
23	7.5	5.0	6.0	2.0	1.5	2.0	1.5	.0	.5	.0	.0	.0
24	5.5	4.0	5.0	5.5	2.0	3.5	1.5	.0	.5	.0	.0	.0
25	10.0	5.5	7.5	4.5	3.5	4.0	2.5	.0	1.0	.0	.0	.0
26	10.5	6.5	8.0	5.0	3.0	4.5	2.5	1.5	1.5	.0	.0	.0
27	11.5	5.5	8.5	5.0	3.5	4.0	2.5	1.5	2.0	.0	.0	.0
28	11.5	6.5	9.0	5.5	3.5	4.0	2.0	.5	1.5	.0	.0	.0
29	12.0	7.5	10.0	5.5	2.0	3.5	.5	.0	.0	.0	.0	.0
30	13.5	8.5	11.0	4.0	2.5	3.0	.5	.0	.0	.0	.0	.0
31	12.5	10.5	11.5	---	---	---	1.0	.0	.5	.0	.0	.0
MONTH	17.5	4.0	10.5	14.0	1.0	6.0	7.0	.0	1.5	1.0	.0	.0

APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	.0	.0	.0	---	---	---	12.5	4.0	8.0	18.5	8.5	13.5
2	.0	.0	.0	---	---	---	10.0	5.5	7.5	20.5	9.0	14.5
3	.0	.0	.0	---	---	---	9.5	.5	4.5	20.0	10.5	15.5
4	.0	.0	.0	---	---	---	7.0	.0	3.0	20.0	11.5	15.5
5	.0	.0	.0	---	---	---	3.5	.0	.5	20.0	14.0	16.5
6	.0	.0	.0	---	---	---	1.5	.0	.5	16.0	11.5	14.0
7	.0	.0	.0	---	---	---	5.0	.0	2.0	18.5	8.5	13.5
8	.0	.0	.0	---	---	---	6.0	.5	3.0	20.0	10.5	15.0
9	.0	.0	.0	---	---	---	9.0	.5	4.5	18.0	10.0	14.5
10	.0	.0	.0	---	---	---	8.5	1.0	4.5	20.0	11.5	15.5
11	.0	.0	.0	---	---	---	11.0	.5	5.5	19.5	13.0	15.5
12	.0	.0	.0	---	---	---	8.5	3.0	5.5	20.5	13.0	16.5
13	.0	.0	.0	.5	.0	.5	12.5	5.0	8.0	19.0	13.5	16.0
14	.0	.0	.0	5.0	.5	2.0	13.0	3.5	8.5	21.5	12.0	16.5
15	---	---	---	4.0	.5	2.5	11.0	6.0	9.0	19.0	12.0	16.0
16	---	---	---	2.5	.5	1.5	14.0	9.5	11.5	22.5	12.5	17.0
17	---	---	---	4.0	1.5	3.0	14.0	7.5	10.5	21.5	13.5	17.5
18	---	---	---	6.5	3.0	4.5	16.0	5.5	10.5	20.0	14.0	17.0
19	---	---	---	4.0	1.0	2.0	11.0	7.5	9.5	20.0	12.5	16.0
20	---	---	---	3.5	1.5	2.0	8.0	4.5	6.5	20.0	12.5	16.0
21	---	---	---	5.0	1.5	3.0	14.5	2.5	8.0	12.0	9.5	10.5
22	---	---	---	8.5	1.5	4.5	16.0	5.0	10.5	12.0	11.0	11.5
23	---	---	---	9.0	1.5	5.0	17.5	6.5	11.5	14.0	10.5	12.0
24	---	---	---	9.5	4.0	6.5	18.5	7.5	12.5	13.5	11.5	12.5
25	---	---	---	8.0	2.5	5.0	15.5	9.0	12.5	15.0	12.0	13.5
26	---	---	---	5.5	1.0	3.0	12.5	9.5	11.0	14.0	12.5	13.0
27	---	---	---	9.0	.5	4.0	16.5	6.0	11.0	14.5	13.5	14.0
28	---	---	---	9.5	1.0	5.0	15.0	6.0	10.5	17.0	13.0	14.5
29	---	---	---	10.0	2.5	6.0	16.0	7.0	11.0	16.0	12.5	14.5
30	---	---	---	11.5	6.5	8.0	17.0	7.5	12.0	20.5	13.5	17.0
31	---	---	---	12.0	4.5	8.0	---	---	---	16.0	13.5	14.5
MONTH	.0	.0	.0	12.0	.0	4.0	18.5	.0	8.0	22.5	8.5	15.0
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	20.0	10.5	15.0	23.5	13.5	18.0	25.0	17.0	21.0	22.5	16.0	18.5
2	20.0	11.5	15.5	18.0	14.0	16.0	28.0	19.0	23.0	21.5	15.0	17.5
3	19.0	11.0	14.5	22.5	15.5	18.5	30.0	19.5	24.5	21.0	13.0	16.5
4	19.5	10.5	15.0	26.5	15.0	20.5	24.5	20.0	21.5	21.5	12.0	16.5
5	20.0	10.5	15.0	28.0	17.5	22.5	20.0	18.5	19.0	19.0	14.5	17.0
6	14.0	11.5	13.0	23.0	18.0	20.5	21.5	18.5	19.5	16.5	14.5	15.5
7	23.0	13.0	17.0	25.5	16.5	20.5	23.0	18.0	20.5	19.5	13.5	16.0
8	21.5	13.0	17.0	25.0	15.5	20.0	23.5	18.5	21.0	21.5	13.0	16.5
9	19.0	14.0	16.0	24.0	17.0	20.5	20.0	15.5	17.5	23.0	13.5	18.0
10	21.0	11.5	16.0	19.5	17.5	18.5	20.0	14.0	17.0	23.5	16.0	19.0
11	20.5	11.5	16.0	24.5	16.5	20.0	21.0	13.5	17.0	25.0	17.5	21.0
12	21.5	13.0	17.0	26.0	16.0	20.5	21.0	13.0	17.0	23.0	18.0	20.0
13	22.0	12.0	17.0	26.0	17.0	21.5	20.5	14.0	17.0	23.5	18.5	20.5
14	20.5	12.5	16.5	26.0	17.5	21.5	19.5	16.0	18.0	19.5	16.5	18.5
15	18.0	15.0	16.5	26.0	18.5	22.0	21.5	15.0	18.0	18.0	14.5	16.5
16	20.5	12.0	16.0	26.0	19.5	22.0	24.0	16.0	19.5	20.0	12.5	15.5
17	17.0	12.0	15.0	31.0	20.5	25.0	23.5	16.5	19.5	16.0	14.0	15.0
18	14.5	12.5	13.5	25.0	20.0	23.0	23.0	15.5	19.0	18.5	12.0	15.0
19	19.5	10.5	15.0	24.5	19.5	21.5	24.0	17.0	20.5	19.5	12.0	15.5
20	20.5	12.5	16.0	27.5	18.5	22.5	24.0	18.0	20.5	16.0	12.0	13.5
21	20.5	12.0	16.0	23.0	18.5	21.0	23.0	14.5	18.5	18.0	10.0	13.5
22	21.0	12.0	16.5	26.5	18.5	22.0	19.0	15.5	17.0	19.5	10.0	14.0
23	22.0	12.0	17.0	27.0	17.0	21.5	22.5	14.5	18.0	17.0	11.0	13.5
24	24.0	13.5	18.5	27.0	17.0	22.0	19.0	14.5	16.5	16.5	12.5	14.5
25	19.5	15.5	17.5	29.0	18.5	23.5	21.5	14.0	17.5	14.5	12.5	13.5
26	21.0	13.5	16.5	28.0	20.0	23.5	20.0	14.0	16.5	16.5	13.0	14.5
27	22.0	15.0	18.0	22.5	18.5	20.5	20.0	14.5	16.5	18.0	11.0	14.5
28	24.0	15.5	19.5	27.0	16.5	21.5	16.0	11.5	13.5	21.0	12.5	16.0
29	18.0	15.5	17.0	26.5	17.0	21.0	14.5	11.5	13.5	22.5	15.5	18.5
30	21.5	12.5	16.5	24.0	18.5	20.5	17.5	14.0	15.0	18.0	16.5	17.0
31	---	---	---	25.5	16.5	20.5	18.0	14.5	16.0	---	---	---
MONTH	24.0	10.5	16.0	31.0	13.5	21.0	30.0	11.5	18.5	25.0	10.0	16.5

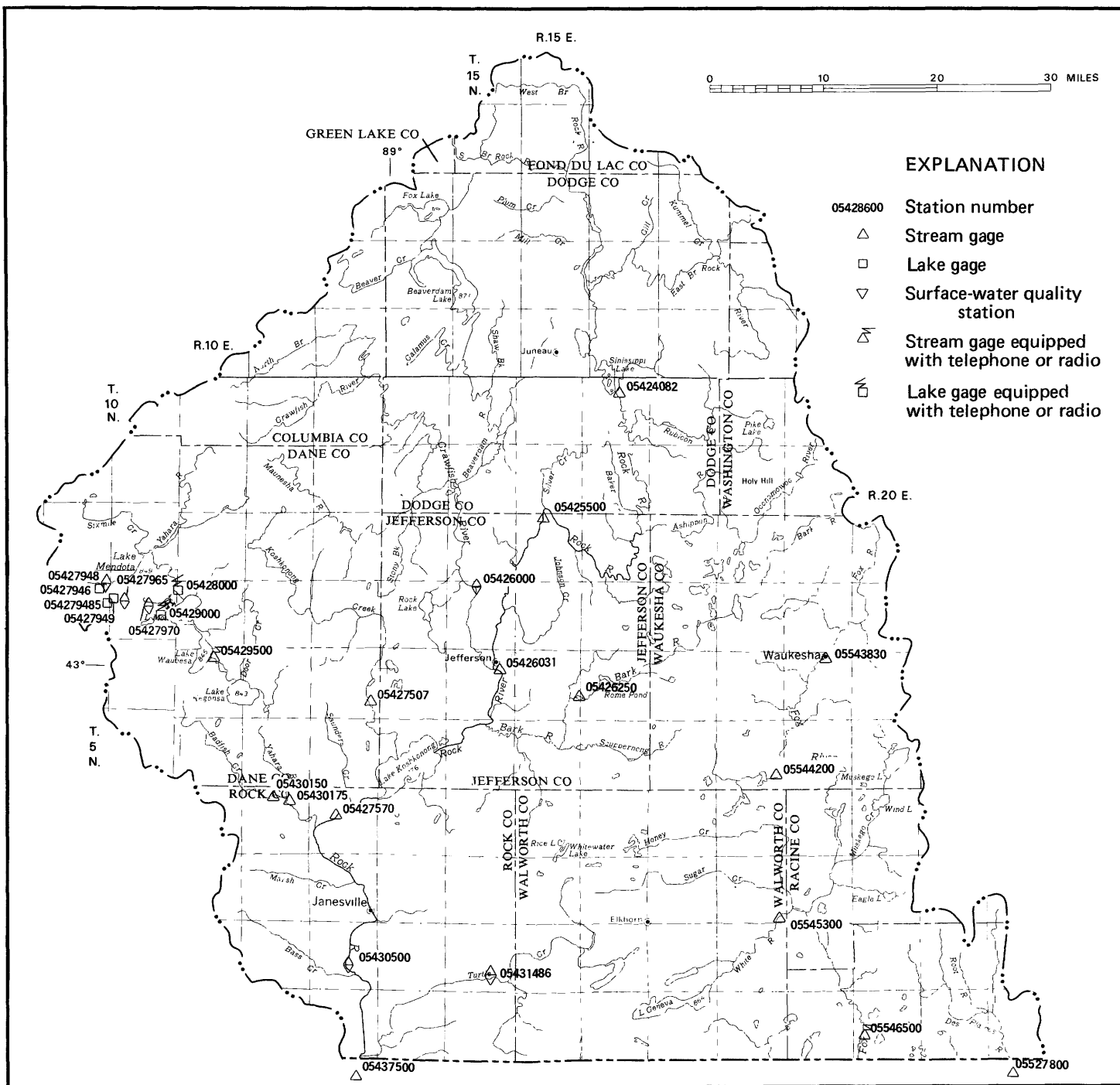
APPLE RIVER BASIN

05418731 APPLE RIVER NEAR SHULLSBURG, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, JUNE TO OCTOBER 1981

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	13.1	5.1	8.6	13.7	5.1	8.7	8.1	5.1	6.9
2	---	---	---	13.1	5.4	8.1	10.5	5.3	7.1	9.8	6.8	8.0
3	---	---	---	12.2	5.1	7.9	13.9	4.8	8.6	9.6	6.8	7.9
4	---	---	---	12.6	4.8	7.8	12.6	4.2	8.2	10.4	6.7	8.2
5	---	---	---	12.0	4.5	7.6	9.3	4.2	6.3	10.4	7.0	8.4
6	---	---	---	12.4	3.6	7.3	11.9	4.5	7.6	11.1	6.7	8.5
7	---	---	---	11.3	3.7	7.0	10.6	4.5	6.7	8.6	6.5	7.4
8	---	---	---	11.7	3.8	7.0	10.8	4.4	6.8	10.8	7.0	8.4
9	---	---	---	12.6	4.4	7.7	11.0	4.2	7.0	11.5	6.8	8.8
10	---	---	---	13.1	4.6	8.4	12.7	5.1	8.2	11.7	6.1	8.5
11	---	---	---	11.9	5.2	8.0	14.7	5.6	9.1	11.7	6.1	8.4
12	---	---	---	12.7	3.4	7.9	14.2	4.5	8.6	12.0	6.2	8.3
13	---	---	---	7.0	3.7	5.0	12.9	4.1	7.8	12.0	6.3	8.5
14	---	---	---	11.2	5.6	8.1	5.4	3.8	4.7	11.8	6.6	8.5
15	---	---	---	9.4	6.1	7.1	6.4	5.1	5.7	10.9	6.8	8.0
16	---	---	---	7.4	4.4	4.8	9.1	5.7	7.4	---	---	---
17	---	---	---	10.4	4.8	7.6	10.2	6.7	8.3	---	---	---
18	---	---	---	9.8	4.2	6.7	10.8	6.5	8.4	---	---	---
19	13.5	6.7	11.7	8.6	4.2	5.9	11.5	6.3	8.6	---	---	---
20	10.0	7.2	8.5	6.2	4.2	5.2	12.4	6.1	8.7	---	---	---
21	10.4	6.6	8.5	8.9	5.2	6.6	13.0	5.4	8.7	---	---	---
22	10.7	7.1	8.9	10.1	5.5	7.3	13.4	5.6	8.7	12.0	7.5	10.0
23	12.3	6.7	9.3	9.9	5.7	7.4	12.9	5.4	8.5	12.3	7.2	9.3
24	9.1	6.9	7.7	10.8	4.9	7.8	12.6	5.8	8.4	12.2	6.3	8.4
25	11.3	7.1	8.9	11.1	5.0	7.2	12.2	5.0	7.8	7.1	6.3	6.7
26	12.1	6.9	9.1	10.7	5.3	7.5	11.3	4.8	7.3	7.2	5.8	6.8
27	12.2	6.3	9.0	11.1	6.4	8.1	10.8	5.0	7.0	10.6	7.4	8.6
28	12.5	5.7	8.4	12.2	7.1	8.9	7.5	4.0	5.8	11.2	7.9	9.3
29	12.4	5.6	7.9	11.9	6.0	7.3	8.3	5.0	6.8	8.9	6.9	7.7
30	12.7	5.7	8.5	13.1	5.6	8.8	10.7	6.0	7.7	10.0	7.0	8.4
31	---	---	---	13.3	4.3	8.6	8.0	5.6	6.7	---	---	---
MONTH	13.5	5.6	8.9	13.3	3.4	7.4	14.7	3.8	7.6	12.3	5.1	8.3

DAY	MAX	MIN OCTOBER	MEAN
1	10.3	7.3	8.9
2	11.3	8.9	10.0
3	11.3	8.6	9.8
4	10.3	8.0	8.8
5	10.3	7.4	8.5
6	9.7	6.2	8.2
7	8.0	7.6	7.8
8	---	---	---
9	---	---	---
10	---	---	---
11	---	---	---
12	---	---	---
13	---	---	---
14	---	---	---
15	---	---	---
16	---	---	---
17	---	---	---
18	---	---	---
19	---	---	---
20	---	---	---
21	---	---	---
22	---	---	---
23	---	---	---
24	---	---	---
25	---	---	---
26	---	---	---
27	---	---	---
28	---	---	---
29	---	---	---
30	---	---	---
31	---	---	---
MONTH	11.3	6.2	8.9



Base from U.S. Geological Survey
State base map, 1968

ROCK-FOX RIVER BASIN

ROCK RIVER BASIN

05424082 ROCK RIVER AT HUSTISFORD, WI

LOCATION.--Lat 43°20'44", long 88°35'52", in NE 1/4 sec.9, T.10 N., R.16 E., Dodge County, Hydrologic Unit 07090001, on left bank 400 ft (122 m) downstream from State Highway 106 bridge, 40 ft (12 m) downstream from the Hustisford dam, at Hustisford.

DRAINAGE AREA.--511 mi² (1,323 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 845.67 ft (257.760 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for Dec. 9 to Feb. 17 and Apr. 24 to Sept. 30, which are poor. Some regulation caused by manipulation of gates at dams on Horicon Marsh and Lake Koshong.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft³/s (101 m³/s) Apr. 4, 1979, gage height, 6.80 ft (2.073 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Aug. 1, 1979, Mar. 7-18, May 12, July 14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,940 ft³/s (54.9 m³/s) Apr. 3, gage height, 5.74 ft (1.750 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Nov. 16, 17, Sept. 29, 30.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	430	559	94	78	256	1440	938	539	96	19	14
2	476	430	505	90	120	256	1320	965	507	80	41	19
3	519	436	494	90	120	256	1660	965	472	82	39	17
4	500	424	482	90	120	256	1600	879	100	82	55	9.5
5	494	429	465	88	170	256	1630	712	50	68	76	7.7
6	515	443	442	84	170	252	1620	644	50	63	86	8.5
7	488	430	354	84	160	233	1630	653	60	89	90	5.2
8	467	429	275	84	160	233	1650	657	45	91	102	4.4
9	450	423	210	84	150	233	1630	659	2.0	76	103	3.6
10	448	412	160	84	150	235	1610	647	6.0	91	92	2.3
11	444	413	160	84	150	236	1600	654	30	150	87	2.1
12	432	403	160	84	150	231	1530	649	40	139	76	1.9
13	386	340	160	84	150	222	1610	643	45	128	73	2.1
14	355	184	160	81	150	229	1550	641	45	119	70	3.5
15	355	44	160	78	180	270	1470	639	45	120	68	3.6
16	355	.10	150	78	250	357	1440	639	46	123	68	3.0
17	391	.10	150	78	287	408	1500	639	45	120	67	1.8
18	640	5.0	150	78	289	416	1400	637	53	125	53	2.5
19	719	41	140	78	308	456	1370	634	61	118	45	1.9
20	827	94	140	78	337	522	1380	631	64	107	60	3.0
21	818	91	130	78	335	593	1330	579	65	97	38	2.2
22	809	98	130	78	326	695	1300	544	64	253	24	.99
23	806	112	120	78	323	766	1250	547	56	397	25	.33
24	752	186	110	78	293	878	1220	549	58	358	27	1.5
25	734	272	110	78	260	917	1180	548	68	336	26	2.1
26	744	271	100	78	260	1040	1180	547	80	320	18	.57
27	728	334	100	78	260	1090	1110	544	81	305	21	.30
28	712	388	96	78	258	1090	931	544	79	228	9.8	.20
29	702	365	96	78	---	1240	930	547	105	97	6.6	.10
30	576	468	96	78	---	1330	926	547	112	10	13	.10
31	427	---	94	78	---	1450	---	540	---	16	10	---
TOTAL	17497	8395.20	6658	2531	5964	16902	41997	20161	3073.0	4484	1588.4	124.99
MEAN	564	280	215	81.6	213	545	1400	650	102	145	51.2	4.17
MAX	827	468	559	94	337	1450	1660	965	539	397	103	19
MIN	355	.10	94	78	78	222	926	540	2.0	10	6.6	.10
CFSM	1.10	.55	.42	.16	.42	1.07	2.74	1.27	.20	.28	.10	.008
IN.	1.27	.61	.48	.18	.43	1.23	3.06	1.47	.22	.33	.12	.01
CAL YR 1981	TOTAL	105219.10	MEAN	288	MAX	1420	MIN	.10	CFSM	.56	IN	7.66
WTR YR 1982	TOTAL	129375.59	MEAN	354	MAX	1660	MIN	.10	CFSM	.69	IN	9.42

ROCK RIVER BASIN

05425500 ROCK RIVER AT WATERTOWN, WI

LOCATION.--Lat 43°11'17", long 88°43'34", in SW 1/4 sec.4, T.8 N., R.15 E., Jefferson County, Hydrologic Unit 07090001, on left bank, 700 ft (213 m) downstream from Milwaukee Street bridge, 1.1 mi (1.77 km) downstream from Silver Creek, at Watertown.

DRAINAGE AREA.--969 mi² (2,510 km²).

PERIOD OF RECORD.--June 1931 to September 1970, October 1976 to current year.

REVISED RECORDS.--WSP 1438: 1933,1935(M), 1937(M), 1938-39, 1945(M); WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 792.58 ft (241.578 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1933, nonrecording gage at site 700 ft (213 m) upstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. Some regulation caused by manipulation of gates at dams on Horicon Marsh, Lake Sinissippi, and other dams in the basin.

AVERAGE DISCHARGE.--45 years, (water years 1931-70, 1977-82), 437 ft³/s (12.38 m³/s), 6.12 in/yr (155 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s (144 m³/s) Mar. 31, 1979, gage height, 6.19 ft (1.887 m); maximum gage height, 6.32 ft (1.926 m) Apr. 4, 1959; minimum daily discharge, 0.9 ft³/s (0.025 m³/s) Oct. 15, 1939, Sept. 9, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,100 ft³/s (31.2 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Oct. 19	0145	1,600	45.3	3.71	1.131	May 23	1215	1,410	39.9	3.47	1.058
Mar. 25	0630	2,080	58.9	4.11	1.253	July 10	1900	1,860	52.7	3.91	1.192
Apr. 3	1745	*3,150	89.2	*4.95	1.509	July 23	0900	1,170	33.1	3.20	0.975
Apr. 10	1545	2,960	83.8	4.81	1.466						

minimum daily discharge, 26 ft³/s (0.736 m³/s) Sept. 23.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 17-21, 29, Jan. 1 to Mar. 9.)

Oct. 1 to Mar. 8

Mar. 9 to Sept. 30

1.8	230	0.8	24	2.5	631
2.1	365	1.0	44	3.0	998
2.5	630	1.2	75	4.0	1,960
3.0	990	1.5	140	5.0	3,220
4.0	1,870	2.0	343		

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

DAY	MEAN VALUES											SEP
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
1	956	1290	911	270	180	390	1660	1820	1090	274	411	173
2	1010	1270	924	260	180	380	1730	1750	1040	268	368	176
3	989	1230	931	250	190	380	2790	1690	999	256	370	103
4	995	1210	933	240	220	380	2710	1600	978	240	506	104
5	1010	1180	943	230	240	370	2640	1530	907	220	527	146
6	997	1140	943	230	250	370	2490	1480	743	218	464	210
7	993	1100	942	220	260	370	2700	1430	546	252	410	111
8	988	1060	948	210	260	360	2780	1380	383	255	508	116
9	978	1030	928	200	250	360	2840	1320	377	262	517	131
10	968	990	757	190	250	360	2920	1250	327	643	505	90
11	937	961	672	180	240	370	2940	1190	281	983	455	57
12	917	929	616	180	240	390	2920	1150	234	854	387	95
13	883	906	558	180	240	450	2830	1100	199	777	336	86
14	985	888	450	180	240	580	2780	1060	183	667	298	81
15	1140	859	349	180	240	720	2690	1020	235	610	270	87
16	1130	795	348	180	260	860	2640	1080	299	588	277	159
17	1250	629	330	180	300	1000	2580	1070	327	547	240	89
18	1570	428	340	180	350	1100	2550	1060	333	498	338	27
19	1560	315	340	190	400	1200	2500	1070	318	456	214	157
20	1490	269	340	190	450	1310	2430	1140	300	419	181	81
21	1450	271	340	190	470	1360	2390	1120	294	412	171	66
22	1430	286	351	190	470	1360	2340	1230	286	663	157	61
23	1420	292	343	190	460	1420	2280	1380	275	1120	144	26
24	1400	273	349	190	450	1660	2220	1360	261	1030	137	64
25	1370	315	327	190	440	2040	2160	1280	251	964	139	69
26	1350	473	320	190	420	1940	2110	1220	261	941	169	75
27	1360	756	311	190	400	1850	2050	1200	277	922	138	75
28	1360	837	294	190	390	1780	1990	1180	278	904	138	79
29	1350	869	290	190	---	1720	1940	1160	299	858	137	82
30	1330	899	287	180	---	1700	1880	1260	285	764	152	79
31	1310	---	279	180	---	1660	---	1190	---	591	152	---
TOTAL	36876	23750	16994	6190	8740	30190	73480	39770	12866	18456	9216	2955
MEAN	1190	792	548	200	312	974	2449	1283	429	595	297	98.5
MAX	1570	1290	948	270	470	2040	2940	1820	1090	1120	527	210
MIN	883	269	279	180	180	360	1660	1020	183	218	137	26
CFSM	1.23	.82	.57	.21	.32	1.01	2.53	1.32	.44	.61	.31	.10
IN.	1.42	.91	.65	.24	.34	1.16	2.82	1.53	.49	.71	.35	.11
CAL YR 1981	TOTAL	204363	MEAN 560	MAX 1570	MIN 51	CFSM .58	IN 7.85					
WTR YR 1982	TOTAL	279483	MEAN 766	MAX 2940	MIN 26	CFSM .79	IN 10.73					

ROCK RIVER BASIN

05426000 CRAWFISH RIVER AT MILFORD, WI

LOCATION.--Lat 43°06'00", long 88°50'58", in SW 1/4 sec.4, T.7 N., R.14 E., Jefferson County, Hydrologic Unit 07090002, on left bank near upstream side of highway bridge in Milford, 1.4 mi (2.2 km) downstream from Rock Creek and 9.8 mi (15.8 km) upstream from mouth.

DRAINAGE AREA.--762 mi² (1,974 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 975: 1937-38. WSP 1438: 1932-33(M), 1935(M), 1937, 1938-41(M), 1943-44(M), 1947-48(M).
WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 779.40 ft (237.561 m) National Geodetic Vertical Datum of 1929. Prior to July 28, 1966, nonrecording gage at present site and datum.

REMARKS.--Records are good except those for the winter period, which are fair. Some diurnal fluctuation at lower flows, due to manipulation of gates on small dams upstream.

AVERAGE DISCHARGE.--51 years, 369 ft³/s (10.45 m³/s), 6.58 in/yr (167 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft³/s (174 m³/s) Apr. 6, 1959, gage height, 11.15 ft (3.398 m); minimum observed, 0.2 ft³/s (0.006 m³/s) Sept. 15, 1958, gage height, 1.11 ft (0.338 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,250 ft³/s (35.4 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)				
Oct. 23	1200	1,280	36.2	4.57	1.393	Apr. 8	0400	*2,380	64.4	7.02	2.140
Mar. 20	2300	ice jam	*7.17	2.185							

minimum daily discharge, 74 ft³/s (2.096 m³/s) Sept. 28, 29.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 29, Jan. 1 to Mar. 22.)

1.8	66	3.0	515
1.9	86	4.0	1,020
2.2	155	7.0	2,370
2.5	260		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	545	859	720	150	130	310	1610	846	655	289	400	154
2	640	799	760	150	130	310	1550	760	632	256	415	163
3	686	745	760	150	130	300	1880	667	595	251	380	162
4	710	694	740	150	130	290	2070	567	537	231	463	148
5	719	652	740	150	130	280	2250	511	497	179	492	140
6	733	636	740	150	130	270	2300	431	451	173	515	154
7	699	584	740	140	130	270	2360	458	439	210	536	142
8	666	577	720	140	130	260	2370	444	452	243	557	129
9	641	545	660	140	130	260	2350	413	438	224	546	123
10	626	486	600	140	130	260	2290	374	421	267	503	110
11	592	501	560	130	130	290	2280	369	365	410	455	110
12	551	476	520	130	130	370	2220	374	332	438	410	112
13	515	455	470	130	130	500	2220	331	298	453	380	115
14	567	436	450	130	130	600	2140	298	251	435	351	131
15	701	407	560	130	140	900	2060	298	287	441	329	126
16	753	380	509	130	150	1100	2010	409	333	448	304	118
17	821	360	450	130	150	1400	2000	425	338	414	281	111
18	1060	326	569	130	150	1700	1890	460	377	405	244	125
19	1090	290	427	130	150	2000	1830	499	384	384	216	111
20	1170	260	312	130	160	2200	1780	597	364	336	219	128
21	1240	220	243	130	180	2300	1700	571	367	274	184	121
22	1250	190	222	140	200	2300	1620	556	366	434	149	110
23	1260	170	211	140	220	2290	1520	590	337	579	162	91
24	1200	160	200	140	250	2300	1430	616	285	654	158	112
25	1180	150	185	140	270	2270	1350	616	279	700	150	122
26	1160	140	179	140	290	2190	1300	617	281	715	130	103
27	1120	140	174	140	300	2080	1210	643	270	693	145	101
28	1070	350	173	140	310	1920	1100	642	264	651	133	74
29	1020	660	170	140	---	1810	1010	645	286	582	123	74
30	954	680	167	140	---	1660	918	666	302	522	143	109
31	910	---	159	140	---	1620	---	658	---	460	144	---
TOTAL	26849	13328	14090	4290	4740	36610	54618	16351	11483	12751	9617	3629
MEAN	866	444	455	138	169	1181	1821	527	383	411	310	121
MAX	1260	859	760	150	310	2300	2370	846	655	715	557	163
MIN	515	140	159	130	130	260	918	298	251	173	123	74
CFSM	1.14	.58	.60	.18	.22	1.55	2.39	.69	.50	.54	.41	.16
IN.	1.31	.65	.69	.21	.23	1.79	2.67	.80	.56	.62	.47	.18
CAL YR 1981	TOTAL	152572	MEAN 418	MAX 1760	MIN 59	CFSM .55	IN 7.45					
WTR YR 1982	TOTAL	208356	MEAN 571	MAX 2370	MIN 74	CFSM .75	IN 10.17					

ROCK RIVER BASIN

05426000 CRAWFISH RIVER AT MILFORD, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-1968, October 1979 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to September 1982 (discontinued).

REMARKS.--Sediment records are good except those for winter period which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 343 mg/l June 15, 1981; minimum daily mean, 3 mg/l Mar. 17, 1980. Maximum observed, 729 mg/l June 15, 1981; Minimum observed, 1 mg/l Nov. 17, 1979.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 383 tons (347 tonnes) Aug 23, Sept. 24, 1980; minimum daily, 1.4 tons (1.3 tonnes) Jan. 11-16, 1982.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 172 mg/l June 19; minimum daily mean, 4 mg/l Jan. 11-16. Maximum observed, 189 mg/l June 19, minimum observed, 4 mg/l Nov. 28 and Jan. 13.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 350 tons (318 tonnes) Mar. 20; minimum daily, 1.4 tons (1.3 tonnes) Jan. 11-16.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1981							
06...	1250	763	630	12.5	--	--	--
DEC							
01...	1040	780	--	2.0	18	38	89
14...	1035	465	--	.5	10	13	11
14...	1045	446	690	.5	--	--	--
JAN , 1982							
13...	1455	130	--	.0	4	1.4	100
13...	1500	132	750	.0	--	--	--
MAR							
16...	1055	1790	--	1.0	48	232	99
16...	1056	1790	--	1.0	54	261	99
17...	1105	2020	--	1.0	27	147	95
APR							
14...	1415	2120	--	10.0	30	172	97
MAY							
05...	1315	507	630	18.5	--	--	--
JUN							
22...	1450	380	--	--	155	159	96

ROCK RIVER BASIN

05426000 CRAWFISH RIVER AT MILFORD, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	92	134	67	155	18	35	7	2.8	9	3.2	14	10
2	91	157	68	146	22	45	7	2.8	9	3.2	14	11
3	90	166	72	145	20	41	6	2.4	9	3.2	14	13
4	89	170	71	132	17	34	6	2.4	10	3.5	14	16
5	88	170	68	120	15	30	6	2.4	10	3.5	14	18
6	87	172	59	101	15	30	5	2.0	10	3.5	14	19
7	86	162	43	68	17	34	5	1.9	10	3.5	14	18
8	85	153	43	66	18	35	5	1.9	10	3.5	14	17
9	83	143	30	44	16	29	5	1.9	10	3.5	14	15
10	79	133	15	20	14	23	5	1.9	10	3.5	14	15
11	82	131	12	17	14	21	4	1.4	10	3.5	20	23
12	81	121	10	13	14	19	4	1.4	10	3.5	20	24
13	91	126	13	17	14	18	4	1.4	10	3.5	28	38
14	77	118	14	16	13	16	4	1.4	10	3.5	30	49
15	69	130	19	20	14	22	4	1.4	12	4.5	35	85
16	71	144	27	28	14	19	4	1.4	12	4.9	43	128
17	61	135	36	35	13	16	5	1.8	12	4.9	34	128
18	43	124	36	32	13	20	5	1.8	12	4.9	59	271
19	36	106	33	32	12	14	5	1.8	12	4.9	64	346
20	43	134	26	18	12	9.7	5	1.8	12	5.2	59	350
21	37	124	20	12	11	7.2	5	1.8	12	5.5	55	342
22	33	111	20	10	11	6.4	6	2.3	12	5.5	50	310
23	32	107	18	8.3	10	5.7	6	2.3	12	5.5	49	302
24	28	90	18	7.8	10	5.3	6	2.3	12	5.5	54	336
25	16	51	16	6.5	9	4.5	6	2.3	12	5.2	32	198
26	18	56	14	5.3	9	4.4	7	2.6	12	5.2	29	169
27	22	68	14	5.3	8	4.0	7	2.6	12	5.5	24	132
28	32	92	11	10	8	3.7	7	2.6	12	7.5	17	90
29	48	132	11	20	8	4.9	8	3.0	---	---	15	75
30	64	165	9	17	7	3.3	8	3.0	---	---	21	94
31	65	159	---	---	7	3.0	8	3.0	---	---	27	119
TOTAL	---	3984	---	1327.2	---	563.1	---	65.8	---	122.8	---	3761

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	31	132	93	214	117	206	94	73	80	86	88	37
2	32	133	76	155	113	193	91	63	80	90	113	50
3	32	164	77	138	117	188	85	57	76	80	118	52
4	38	212	102	155	122	177	80	50	90	112	119	48
5	40	243	110	152	113	152	80	39	94	125	125	47
6	46	286	109	126	116	141	70	33	110	153	99	41
7	44	280	124	154	135	160	70	40	120	174	92	35
8	40	256	114	136	139	170	75	49	105	158	85	30
9	34	214	95	106	124	146	75	45	100	147	85	28
10	29	178	101	102	115	131	75	54	95	129	82	24
11	27	164	97	97	111	109	85	94	90	111	85	25
12	31	187	60	61	112	100	92	109	90	100	75	23
13	27	165	49	44	132	106	98	120	85	87	86	27
14	39	224	66	52	140	95	90	106	85	81	93	33
15	42	234	79	63	103	79	88	105	80	71	86	29
16	40	219	56	62	104	93	84	102	81	67	81	26
17	43	230	68	78	100	91	84	94	81	62	103	31
18	45	231	79	98	132	134	80	88	79	52	93	31
19	48	238	93	125	172	178	80	83	68	40	93	28
20	51	246	86	139	142	140	76	69	69	41	94	33
21	54	249	65	100	151	149	70	52	91	45	81	26
22	60	264	76	114	150	149	82	96	93	37	73	22
23	73	299	86	137	120	109	94	147	74	32	74	18
24	75	290	69	114	108	83	110	194	86	37	68	21
25	72	262	75	125	118	89	130	246	92	37	71	23
26	68	239	65	108	138	105	125	261	82	29	77	21
27	82	268	59	103	104	75	115	215	87	34	91	25
28	93	274	56	96	88	63	105	185	76	27	91	19
29	90	244	43	75	99	77	90	141	55	18	85	17
30	93	231	55	100	98	80	86	121	78	30	101	30
31	---	---	100	178	---	---	84	104	82	32	---	---
TOTAL	---	6856	---	3507	---	3768	---	3235	---	2324	---	900
TOTAL LOAD FOR YEAR:			30413.9 TONS.									

ROCK RIVER BASIN

05426031 ROCK RIVER AT JEFFERSON, WI

LOCATION.--Lat 42°59'46", long 88°48'26", in sec.2, T.6 N., R.14 E., Jefferson County, Hydrologic Unit 07090001, on right bank 30 ft (9.0 m) downstream from bridge on State Highway 26, in Jefferson.

DRAINAGE AREA.--1,850 mi² (4,792 km²).

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

GAGE.--Water-stage recorder. Datum of gage 774.97 ft (236.211 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of National Resources). Auxiliary water-stage recorder 6.9 mi (11.1 km) downstream from base gage to provide slope data.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s (292 m³/s) Apr. 1, 1979, gage height, 10.79 ft (3.289 m); maximum gage height, 10.84 ft (3.304 m) Apr. 2, 1979; minimum daily discharge, 166 ft³/s (4.70 m³/s) July 13, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,370 ft³/s (152 m³) Apr. 6, gage height, 8.08 ft (2.463 m); maximum independent gage height, 8.09 ft (2.466 m) Apr. 5; minimum daily discharge, 229 ft³/s (6.49 m³/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290	2230	1670	450	340	980	3250	2750	2010	738	1180	391
2	1470	2180	1770	440	330	960	3210	2640	1920	653	1020	365
3	1560	2130	1780	430	330	1000	4440	2530	1770	596	857	348
4	1610	2090	1740	420	330	1100	5100	2400	1680	547	1200	330
5	1720	2040	1720	410	340	1000	5300	2300	1620	489	1180	370
6	1820	1980	1700	400	370	1000	5190	2210	1540	453	1270	410
7	1790	1870	1700	390	380	980	5120	2130	1190	591	1210	340
8	1760	1780	1710	370	390	980	5110	2090	953	599	1220	300
9	1720	1680	1630	360	400	960	5090	1980	897	573	1310	280
10	1690	1630	1460	350	400	1000	5060	1880	866	1350	1230	260
11	1640	1600	1530	340	400	1100	5060	1760	764	3260	1100	270
12	1610	1460	1500	340	400	1300	5050	1720	668	2840	964	280
13	1570	1360	1410	340	400	1700	4990	1640	567	2530	821	280
14	1710	1400	1230	340	400	2200	4820	1590	496	2110	712	280
15	2030	1400	1120	340	430	2500	4660	1570	549	1640	652	300
16	2110	1300	976	340	490	2800	4540	1660	633	1470	599	330
17	2250	1200	903	340	540	3200	4460	1650	687	1500	557	282
18	2840	1000	802	340	580	3500	4310	1670	725	1400	513	252
19	2990	800	800	340	640	3800	4160	1690	742	1260	521	243
20	3040	700	740	350	720	4000	4050	1930	732	1120	458	270
21	3040	600	640	350	780	4380	3920	1910	709	966	407	258
22	2950	540	620	350	840	4520	3800	1910	690	1450	388	239
23	2860	520	600	360	880	4460	3670	2020	650	1790	354	229
24	2770	500	580	360	920	4310	3550	2140	602	2060	346	231
25	2700	520	560	360	940	4250	3400	2110	561	2040	336	247
26	2650	700	540	360	960	4110	3280	2090	553	2010	331	242
27	2580	1000	540	360	1000	3870	3180	2100	549	1910	335	243
28	2520	1500	500	360	1000	3700	3050	2090	558	1820	314	240
29	2450	1520	490	360	---	3540	2950	2030	692	1670	304	235
30	2370	1570	480	350	---	3430	2840	2070	787	1570	332	242
31	2300	---	470	340	---	3320	---	2070	---	1440	343	---
TOTAL	67410	40800	33911	11340	15930	79950	126610	62330	27360	44445	22364	8587
MEAN	2175	1360	1094	366	569	2579	4220	2011	912	1434	721	286
MAX	3040	2230	1780	450	1000	4520	5300	2750	2010	3260	1310	410
MIN	1290	500	470	340	330	960	2840	1570	496	453	304	229
CFSM	1.18	.74	.59	.20	.31	1.39	2.28	1.09	.49	.78	.39	.16
IN.	1.36	.82	.68	.23	.32	1.61	2.55	1.25	.55	.89	.45	.17
CAL YR 1981	TOTAL	407252	MEAN	1116	MAX	3680	MIN	192	CFSM	.60	IN	8.19
WTR YR 1982	TOTAL	541037	MEAN	1482	MAX	5300	MIN	229	CFSM	.80	IN	10.88

ROCK RIVER BASIN

05426250 BARK RIVER NEAR ROME, WI

LOCATION.--Lat 42°57'39", long 88°40'09", in SE 1/4 SW 1/4 sec.24, T.6 N., R.15 E., Jefferson County, Hydrologic Unit 07090001, on left bank just upstream from bridge on Cushman Road, 2.8 mi (4.5 km) southwest of Rome.

DRAINAGE AREA.--122 mi² (316 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 810 ft (247 m), from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 443 ft³/s (12.5 m³/s) Apr. 6, 1982, gage height, 2.39 ft (0.728 m); minimum, 12 ft³/s (0.340 m³/s) July 7, 8, 11, 1980, July 11, 12, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 443 ft³/s (12.55 m³/s) Apr. 6, gage height, 2.39 ft (0.728 m); minimum, 23 ft³/s (0.651 m³/s), Jan. 17, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used July 12 to Sept. 27; stage-discharge relation affected by ice Jan. 5 to Feb. 20.)

0.6	23	1.4	137
0.7	33	1.9	267
1.0	69	2.4	447

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	108	111	57	49	67	182	85	121	66	43	76
2	113	107	132	55	50	69	206	86	117	62	49	70
3	131	105	115	58	49	71	289	89	110	61	49	68
4	130	104	104	58	50	73	291	91	100	42	69	68
5	128	103	97	56	50	75	407	92	92	36	93	64
6	117	98	93	54	50	79	378	92	87	49	88	60
7	119	101	88	52	50	71	395	86	85	77	86	58
8	118	99	80	50	50	84	384	93	81	70	97	52
9	113	96	81	50	50	73	365	97	80	68	84	50
10	107	91	76	50	50	69	362	91	72	74	78	45
11	106	88	76	50	50	70	347	87	66	108	68	44
12	102	87	73	49	50	75	347	90	60	123	37	43
13	99	84	72	49	50	128	333	92	61	111	38	42
14	108	81	71	49	52	151	340	91	61	97	41	41
15	121	79	64	49	52	196	321	91	77	91	42	42
16	125	76	63	49	54	247	277	98	83	87	42	41
17	136	72	61	49	60	243	239	101	82	86	45	42
18	163	71	59	49	64	237	222	98	82	83	49	45
19	175	74	59	50	62	234	220	94	79	79	59	44
20	211	62	59	50	60	253	207	104	76	72	53	44
21	202	66	58	50	62	249	195	108	70	40	29	41
22	188	69	59	52	62	233	190	125	67	73	29	39
23	168	68	58	54	64	227	175	127	66	95	34	38
24	159	66	59	52	64	223	144	129	64	89	40	38
25	152	67	59	52	67	221	147	135	64	83	59	37
26	130	76	59	50	67	213	148	127	75	75	71	36
27	104	84	58	50	66	208	143	136	72	76	85	36
28	111	90	59	49	66	197	134	137	67	66	76	36
29	114	93	56	50	---	187	125	132	72	47	70	30
30	113	92	55	50	---	185	110	131	73	45	74	29
31	108	---	55	49	---	168	---	125	---	44	82	---
TOTAL	4084	2557	2269	1591	1570	4876	7623	3260	2362	2275	1859	1399
MEAN	132	85.2	73.2	51.3	56.1	157	254	105	78.7	73.4	60.0	46.6
MAX	211	108	132	58	67	253	407	137	121	123	97	76
MIN	99	62	55	49	49	67	110	85	60	36	29	29
CFSM	1.08	.70	.60	.42	.46	1.29	2.08	.86	.65	.60	.49	.38
IN.	1.25	.78	.69	.49	.48	1.49	2.32	.99	.72	.69	.57	.43
CAL YR 1981	TOTAL	28419	MEAN 77.9	MAX 260	MIN 15	CFSM .64	IN 8.67					
WTR YR 1982	TOTAL	35725	MEAN 97.9	MAX 407	MIN 29	CFSM .80	IN 10.89					

ROCK RIVER BASIN

05427507 KOSHKONONG CREEK NEAR ROCKDALE, WI

LOCATION.--Lat 42°57'05", long 89°01'37", in SW 1/4 SE 1/4 SW 1/4 sec.25, T.6 N., R.12 E., Dane County, Hydrologic Unit 07090001, on right bank at bridge on Hoopen Road, 1.4 mi (2.3 km) south of Rockdale, and 17.0 mi (27.4 km) above the mouth.

DRAINAGE AREA.--150 mi² (388 km²).

PERIOD OF RECORD.--November 1976 to September 1982 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 794.37 ft (242.124 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair.

AVERAGE DISCHARGE.--5 years (1978-82) 99.3 ft³/s (2.812 m³/s), 8.99 in/yr (228 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 873 ft³/s (24.7 m³/s) Mar. 25, 1979, gage height, 11.15 ft (3.399 m), maximum gage height, 11.52 ft (3.511 m) July 1, 1978; minimum daily discharge, 11 ft³/s (0.31 m³/s) July 13-14, 1977.

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

DATE	TIME	DISCHARGE		GAGE HEIGHT		DATE	TIME	DISCHARGE		GAGE HEIGHT	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Oct. 18	1645	517	14.6	9.84	2.999	Apr. 3	2130	*827	23.4	11.01	3.356
Nov. 27	1700	335	9.49	8.87	2.704	May 30	0445	361	10.2	9.03	2.752
Mar. 14	0645	783	22.2	A*11.17	3.405	July 11	0845	354	10.0	8.99	2.740

Minimum discharge, 30 ft³/s (0.85 m³/s) Aug. 22, gage height, 5.21 ft (1.588 m).

A ice jam

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Mar. 16.)

5.2	29	8.0	226
5.6	60	9.0	356
6.0	84	10.0	552
7.0	151	11.0	824

DAY	OCT	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982										
		NOV	DEC	JAN	FEB	MEAN VALUES		APR	MAY	JUN	JUL	AUG
1	121	95	140	44	41	62	163	91	166	72	64	55
2	130	92	156	44	41	60	168	88	131	62	60	53
3	113	89	153	44	41	54	615	85	109	58	58	50
4	100	86	133	44	41	50	718	82	97	56	120	46
5	97	85	116	44	41	46	578	85	86	53	158	43
6	130	85	107	44	41	44	518	90	80	59	148	42
7	111	82	108	44	41	44	413	110	80	161	129	41
8	97	80	114	44	41	44	390	109	76	151	103	40
9	87	77	110	43	41	44	360	92	73	101	86	41
10	84	74	96	43	41	44	347	83	68	120	76	40
11	83	74	84	42	41	48	346	80	63	329	71	40
12	82	72	72	41	41	60	314	81	57	213	64	39
13	78	71	62	41	41	250	278	80	56	146	59	38
14	127	70	50	41	41	700	239	78	53	102	56	40
15	247	70	46	41	41	620	212	75	84	95	54	37
16	226	70	44	41	42	600	194	97	115	248	50	38
17	233	69	44	41	42	649	189	93	132	193	48	42
18	484	68	44	41	42	545	175	86	118	128	42	44
19	448	70	44	41	42	467	157	82	95	97	42	43
20	346	68	44	41	45	460	142	239	89	83	40	42
21	273	69	44	41	54	499	136	238	82	76	36	39
22	233	64	44	41	66	430	130	198	77	104	36	39
23	201	65	44	41	80	368	120	173	69	174	37	39
24	171	69	44	41	90	339	114	151	63	166	41	38
25	148	70	44	41	78	298	106	133	63	155	43	37
26	130	111	44	41	70	238	107	122	61	138	42	35
27	120	308	44	41	66	186	106	132	62	111	40	35
28	111	269	44	41	64	151	103	155	62	96	36	35
29	104	195	44	41	---	137	98	173	76	85	37	35
30	99	150	44	41	---	138	94	313	86	80	48	35
31	97	---	44	41	---	165	---	216	---	71	54	---
TOTAL	5111	2917	2251	1300	1396	7840	7630	3910	2529	3783	1978	1221
MEAN	165	97.2	72.6	41.9	49.9	253	254	126	84.3	122	63.8	40.7
MAX	484	308	156	44	90	700	718	313	166	329	158	55
MIN	78	64	44	41	41	44	94	75	53	53	36	35
CFSM	1.10	.65	.48	.28	.33	1.69	1.69	.84	.56	.81	.43	.27
IN.	1.27	.72	.56	.32	.35	1.94	1.89	.97	.63	.94	.49	.30
CAL YR 1981	TOTAL	35234	MEAN	96.5	MAX	706	MIN	24	CFSM	.64	IN	8.74
WTR YR 1982	TOTAL	41866	MEAN	115	MAX	718	MIN	35	CFSM	.77	IN	10.38

ROCK RIVER BASIN

05427570 ROCK RIVER AT INDIANFORD, WI

LOCATION.--Lat 42°48'15", long 89°05'25", in SW 1/4 SW 1/4 sec.16, T.4 N., R.12 E., Rock County, Hydrologic Unit 07090001, on right bank 50 ft (15 m) upstream from bridge on County Trunk Highways F and M, 250 ft (76 m) upstream from dam in Indianford, and 1.8 mi (2.9 km) upstream from Yahara River.

DRAINAGE AREA.--2,630 mi² (6,812 km²).

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

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 763.74 ft (232.788 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Natural flow of stream affected by dam in Indianford. Low flows (below 700 cfs) are adjusted for flow through wicket gates.

AVERAGE DISCHARGE.--7 years, 1,611 ft³/s (45.62 m³/s), 8.32 in/yr (211 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s (337 m³/s) Apr. 5, 1979, gage height, 16.23 ft (4.947 m); minimum daily, 69 ft³/s (1.95 m³/s) May 13, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,870 ft³/s (195 m³/s) Apr. 12, gage height, 14.68 ft (4.474 m); minimum daily discharge, 390 ft³/s (11.04 m³/s) Jan. 13-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	3360	1990	988	511	1220	4750	4160	2940	1220	2340	634
2	1450	3270	2010	999	517	1330	4770	4020	2950	1240	2270	596
3	1560	3200	2180	999	529	1360	4640	3850	2860	1190	2010	572
4	1690	3120	2280	956	529	1410	5650	3650	2720	1160	2130	570
5	1870	2940	2320	912	538	1370	6310	3490	2660	1060	2130	488
6	1960	2910	2350	912	543	1360	6340	3210	2540	906	2110	545
7	2130	2850	2410	875	548	1340	6500	3160	2400	865	2060	514
8	2180	2740	2480	826	560	1320	6670	3120	2320	1020	2000	456
9	2230	2700	2420	801	580	1290	6700	2980	2050	1180	1980	443
10	2270	2430	2260	733	600	1300	6620	2730	1920	1390	1980	434
11	2260	2500	2250	696	600	1280	6760	2650	1840	1870	1930	441
12	2230	2470	2250	393	614	1270	6770	2700	1700	2650	1850	459
13	2160	2380	2250	390	613	1270	6780	2530	1590	3170	1770	463
14	2190	2300	2210	390	613	1770	6740	2400	1460	3240	1670	513
15	2320	2250	2090	390	610	2130	6650	2240	1490	3160	1590	474
16	2430	2200	1940	390	623	2590	6600	2260	1500	3020	1470	471
17	2510	2130	1840	390	609	2970	6400	2220	1330	2730	1370	443
18	2710	2090	1690	390	779	3300	6300	2170	1260	2610	1180	479
19	2990	2200	1600	400	984	3640	6290	2140	1200	2610	1040	422
20	3260	1860	1480	400	950	3850	6110	2310	1110	2460	1130	487
21	3560	1720	1430	420	942	4050	6040	2430	1200	2300	1060	483
22	3610	1620	1410	459	1070	4310	5930	2510	1250	2430	865	465
23	3680	1590	1320	413	1360	4500	5670	2590	1200	2440	684	410
24	3640	1530	1210	464	1310	4700	5600	2650	1090	2480	505	443
25	3710	1430	1220	484	1270	4850	5500	2720	1160	2610	498	470
26	3720	1370	1220	484	1230	4920	5450	2800	1160	2760	471	440
27	3670	1400	1130	492	1230	4980	5340	2880	1090	2780	538	442
28	3650	1590	1110	493	1240	4990	5180	2900	1070	2780	539	415
29	3570	1700	1100	504	---	4960	4800	2970	1140	2670	507	397
30	3470	1940	1080	511	---	4780	4360	2990	1200	2600	572	427
31	3410	---	1030	511	---	4600	---	2950	---	2520	638	---
TOTAL	83260	67790	55560	18465	22102	89010	178220	88380	51400	67121	42887	14296
MEAN	2686	2260	1792	596	789	2871	5941	2851	1713	2165	1383	477
MAX	3720	3360	2480	999	1360	4990	6780	4160	2950	3240	2340	634
MIN	1170	1370	1030	390	511	1220	4360	2140	1070	865	471	397
CFSM	1.02	.86	.68	.23	.30	1.09	2.26	1.08	.65	.82	.53	.18
IN.	1.18	.96	.79	.26	.31	1.26	2.52	1.25	.73	.95	.61	.20
CAL YR 1981	TOTAL	593410	MEAN	1626	MAX	4160	MIN	111	CFSM	.62	IN	8.39
WTR YR 1982	TOTAL	778491	MEAN	2133	MAX	6780	MIN	390	CFSM	.81	IN	11.01

ROCK RIVER BASIN

05427946 ESSER'S POND AT MIDDLETON, WI

LOCATION.--Lat 43°05'34", long 89°31'22", in SE 1/4 SE 1/4 sec.10, T.7 N., R.8 E., Dane County, Hydrologic Unit 07090001, on east edge of pond in Middleton.

DRAINAGE AREA.--0.32 mi² (0.829 km²). Area of Esser's Pond, 0.04 mi² (0.104 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--October to December 1981, April to November 1982 (discontinued).

GAGE.--Nonrecording gage (staff). Datum of gage is 925.48 ft (282.086 m), city of Middleton datum.

EXTREMES.--October to December 1981: Maximum gage height observed, 5.03 ft (1.533 m) Oct. 20; minimum, 4.95 ft (1.509 m) Dec. 3.

April to November 1982: Maximum gage height observed, 5.01 ft (1.527 m) Apr. 13; minimum, 3.40 ft (1.036 m) Aug. 20.

DAY	GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MEAN VALUES MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---							4.10	---	---
2	---	---	4.96							---	---	---
3	---	4.98	4.95						4.32	---	---	3.70
4	---	---	---						---	---	---	---
5	---	---	---						---	---	---	---
6	---	---	---							---	3.82	---
7	---	---	---					4.62	4.32	---	---	---
8	---	---	---					---	---	---	---	---
9	---	---	---					---	---	---	---	---
10	---	---	---					---	4.20	---	---	3.60
11	---	---	---					---	---	---	---	---
12	---	---	---					---	---	---	3.68	---
13	---	---	---				5.01	---	---	---	3.65	---
14	---	---	---				---	4.46	---	---	---	---
15	---	---	---				---	---	---	---	---	---
16	---	---	---					---	---	---	---	---
17	---	---	---					---	---	---	---	3.62
18	---	---	---					---	---	---	---	---
19	---	---	---					---	---	---	---	---
20	5.03	---	---					---	---	---	3.40	---
21	---	---	---					---	---	---	---	---
22	---	---	---				4.78	---	---	---	---	---
23	---	---	---				---	---	---	---	---	---
24	---	---	---				---	---	4.18	---	---	3.58
25	---	---	---				---	---	---	---	---	---
26	---	---	---					---	---	---	---	---
27	---	---	---					---	---	---	3.44	---
28	---	---	---					4.40	---	---	---	---
29	---	---	---				4.60	---	---	---	---	---
30	---	---	---				---	---	---	---	---	---
31	---	---	---				---	---	---	---	---	---

ROCK RIVER BASIN

05427946 ESSER'S POND AT MIDDLETON, WI--CONTINUED

[illegible]

ROCK RIVER BASIN

05427946 ESSER'S POND AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1981 to September 1982 (discontinued).

REMARKS.--Water-quality samples were collected at S, south side of pond; E, east side of pond; and NW, northwest side of pond.

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPL- ING SITE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
SEP , 1981										
02...	1310	E	160	6.4	18.0	--	.07	3.10	3.2	1.30
02...	1335	S	60	6.5	18.0	--	.15	1.70	1.9	.810
02...	1405	NW	150	6.4	17.0	--	.45	2.70	3.2	1.70
DEC										
03...	1440	S	220	5.3	2.0	36	.11	.78	.89	.260
03...	1450	E	225	5.4	2.0	33	.02	1.20	1.2	.590
03...	1520	NW	235	5.4	2.0	37	.07	3.20	3.3	.810
APR , 1982										
13...	1125	NW	115	6.1	11.0	17	.10	1.10	1.2	.410
13...	1155	E	115	5.9	11.0	18	.10	1.20	1.3	.390
13...	1215	S	115	6.6	12.0	16	.10	.85	.95	.160
AUG										
12...	1010	NW	165	5.9	15.0	5.8	.10	4.10	4.2	1.60
12...	1100	E	170	6.9	21.5	9.5	<.10	2.30	--	.250
12...	1110	S	150	6.7	21.5	8.8	<.10	2.00	--	.330

ROCK RIVER BASIN

05427948 PHEASANT BRANCH AT MIDDLETON, WI

LOCATION.--Lat 43°06'12", long 89°30'42", in NE 1/4 NW 1/4 sec.11, T.7 N., R.8 E., Dane County, Hydrologic Unit 07090001, on left bank at bridge on U.S. Highway 12, 2.5 mi (4.0 km) upstream from Lake Mendota, at Middleton.

DRAINAGE AREA.--18.3 mi² (47.40 km²), of which 1.22 mi² (3.16 km²) is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1974 to current year.

GAGE.--Water-stage recorder, parshall flume, and concrete control. Altitude of gage is 910 ft (277 m), from topographic map.

REMARKS.--Records good.

AVERAGE DISCHARGE.--8 years, 4.16 ft³/s (0.118 m³/s), 3.09 in/yr (78.5 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 516 ft³/s (14.6 m³/s) Mar. 21, 1975, gage height, 7.54 ft (2.298 m); maximum gage height, 8.54 ft (2.603 m) Mar. 12, 1976; minimum discharge, 0.29 ft³/s (0.008 m³/s) Jan. 26, 1978, gage height, 3.56 ft (1.085 m).

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

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 13	1345	306	8.67	7.24	2.207	Apr. 3	0930	249	7.05	6.88	2.097
Mar. 16	1300	*357	10.1	*7.54	2.298						

minimum discharge, 0.59 ft³/s (0.017 m³/s) Jan. 5, Aug. 21, gage height, 3.68 ft (1.122 m).

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used, debris in flume, June 16-17.)

Oct. 1 to Dec. 31

Jan. 1 to Sept. 30

3.9	1.1	4.4	3.7
4.0	1.4	4.5	5.3
4.2	2.2	4.7	14
4.3	2.8		

3.7	0.64	4.6	9.6
3.8	.94	4.8	20
4.0	1.6	5.0	33
4.2	2.4	5.5	76
4.4	3.8	6.0	130
4.5	5.3	7.0	268

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.7	4.7	1.2	.98	2.8	2.9	1.8	2.3	1.7	1.0	4.4
2	1.9	1.6	4.2	1.2	.98	2.6	6.1	1.8	2.0	1.6	1.0	2.6
3	1.7	1.6	3.2	1.3	.97	2.1	90	1.7	1.8	1.6	1.1	2.0
4	2.0	1.6	2.7	.83	.96	2.0	9.4	1.6	1.7	1.5	1.6	1.8
5	1.8	1.6	2.4	.85	.95	1.9	4.6	6.9	1.7	1.4	1.2	1.6
6	1.8	1.6	2.3	1.5	.94	1.8	4.1	8.5	1.7	1.6	1.2	1.4
7	1.7	1.5	2.5	1.3	.96	1.7	3.6	3.7	4.6	2.2	1.2	1.3
8	1.6	1.5	2.9	1.2	.97	1.6	3.4	3.1	2.9	1.4	1.2	1.2
9	1.5	1.5	2.4	1.0	.94	1.5	4.1	2.8	3.1	1.4	1.1	1.1
10	1.6	1.5	2.1	.70	.90	1.6	5.3	2.6	3.4	2.3	1.0	1.1
11	1.5	1.5	1.9	.93	.91	1.8	6.1	2.5	3.5	2.8	1.0	1.1
12	1.5	1.4	1.7	.93	.90	16	5.9	2.3	3.6	1.8	.86	1.0
13	1.4	1.4	1.7	.81	.90	195	4.7	2.2	3.7	1.6	.78	1.1
14	7.5	1.4	1.7	.86	.89	41	3.7	2.0	4.0	1.5	.80	1.1
15	4.5	2.3	1.8	.94	1.0	15	3.4	2.0	13	1.4	.81	1.8
16	3.0	2.9	1.5	.97	1.0	152	3.4	2.6	3.4	1.4	.80	1.1
17	4.8	1.4	1.4	.97	1.0	19	3.4	2.3	2.5	1.4	.77	1.3
18	6.5	1.5	1.2	1.0	1.1	6.5	3.0	2.3	3.0	1.4	.71	1.2
19	3.4	1.6	1.1	1.0	1.2	4.8	3.0	2.1	2.3	1.2	.71	1.1
20	2.9	1.5	1.1	1.1	1.9	27	3.0	2.1	2.1	1.1	.71	1.0
21	2.6	1.3	1.2	1.1	2.6	14	2.7	2.3	1.9	2.6	.67	1.0
22	2.4	1.2	1.3	1.2	3.3	4.1	2.4	2.2	1.7	3.8	.80	.97
23	2.2	1.3	1.3	1.2	10	3.7	2.4	2.0	1.6	1.5	.85	.96
24	2.0	1.5	1.2	1.1	5.3	3.7	2.2	1.9	1.5	1.3	2.5	.92
25	2.0	1.4	1.2	1.1	4.0	3.2	2.1	1.8	2.0	1.2	1.9	.90
26	1.9	1.1	1.2	1.0	3.2	2.7	2.3	2.1	2.2	1.1	1.3	.90
27	1.8	6.1	1.3	1.0	3.0	2.4	2.1	2.3	1.6	1.2	1.2	.88
28	1.8	3.5	1.2	1.1	2.8	2.4	2.0	2.1	1.6	1.2	1.2	.86
29	1.7	2.9	1.2	1.0	---	2.4	1.9	3.3	6.0	1.1	8.5	.86
30	1.7	2.6	1.2	1.0	---	3.7	1.9	3.9	2.1	1.3	5.4	.84
31	1.7	---	1.2	1.0	---	3.2	---	2.7	---	1.1	2.4	---
TOTAL	76.8	65.4	58.0	32.39	54.55	543.2	195.1	83.5	88.5	49.7	46.27	39.39
MEAN	2.48	2.18	1.87	1.04	1.95	17.5	6.50	2.69	2.95	1.60	1.49	1.31
MAX	7.5	11	4.7	1.5	10	195	90	8.5	13	3.8	8.5	4.4
MIN	1.4	1.2	1.1	.70	.89	1.5	1.9	1.6	1.5	1.1	.67	.84
CFSM	.14	.12	.10	.06	.11	.96	.36	.15	.16	.09	.08	.07
IN.	.16	.13	.12	.07	.11	1.10	.40	.17	.18	.10	.09	.08
CAL YR 1981	TOTAL	1278.00	MEAN	3.50	MAX	206	MIN	.62	CFSM	.19	IN	2.60
WTR YR 1982	TOTAL	1332.80	MEAN	3.65	MAX	195	MIN	.67	CFSM	.20	IN	2.71

ROCK RIVER BASIN

05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1977 to September 1981 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
MAR , 1982									
16...	0500	34	3.1	1.90	10	12.0	15	1.50	--
16...	0730	185	3.2	4.10	13	17.0	20	4.30	.770
16...	1030	314	3.0	2.70	8.3	11.0	14	3.80	.930
16...	1300	357	3.3	2.50	11	13.0	16	3.20	1.10
16...	1600	218	3.4	2.40	6.0	8.40	12	2.90	1.30
APR									
03...	0230	42	5.2	1.50	2.5	4.00	9.2	1.50	.330
03...	0730	216	3.0	2.10	2.7	4.80	7.8	2.60	.690
03...	1600	50	7.0	2.20	3.4	5.60	13	2.20	.900

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
MAR , 1982				
12...	2200	42	277	31
12...	2300	155	1640	686
13...	0030	237	1445	925
13...	0130	251	1540	1040
13...	0530	154	372	155
13...	0830	88	225	53
13...	1200	242	379	248
13...	1201	242	1100	719
13...	1300	282	1100	838
13...	1430	300	3860	3130
13...	1431	300	1310	1060
13...	2030	180	1110	539
14...	0530	26	186	13
16...	0430	29	633	50
16...	0700	136	2870	1050
16...	0830	254	5540	3800
16...	1000	298	3970	3190
16...	1200	353	5280	5030
16...	1415	321	1630	1410
16...	1600	218	1460	859
16...	1601	218	1330	783
16...	1830	114	1470	452
17...	0900	20	184	9.9
20...	1445	24	142	9.2
20...	1815	81	1020	223
21...	0345	27	191	14
APR				
02...	2115	34	99	9.1
03...	0200	35	632	60
03...	0430	87	1090	256
03...	0630	167	1820	821
03...	0830	233	4200	2640
03...	1615	50	887	120
03...	2230	20	447	24

ROCK RIVER BASIN

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054279485 STRICKER'S POND AT MIDDLETON, WI

LOCATION.--Lat 43°05'14", long 89°30'35", in NW 1/4 NE 1/4 sec.14, T.7 N., R.8 E., Dane County, Hydrologic Unit 07090001, on east side of pond along Middleton Street, in Middleton.

DRAINAGE AREA.--0.87 mi² (2.253 km²). Area of Stricker's Pond, 0.03 mi² (0.078 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--October and November 1981, April to December 1982 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 908.68 ft (276.966 m), city of Middleton datum.

REMARKS.--Records good.

EXTREMES.--Water year 1982: Maximum gage height, 13.85 ft (4.221 m) Apr. 3; minimum, 10.22 ft (3.115 m) Aug. 28-29, but may have been lower during winter period.

October to December 1982: Maximum gage height, 12.18 ft (3.712 m) Dec. 6-8; minimum, 10.05 ft (3.063 m) Oct. 28 and Nov. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.93	11.19					12.94	12.32	11.86	11.47	10.83	10.79
2	11.90	11.16					12.96	12.27	11.81	11.43	10.79	10.80
3	11.88	11.12					13.66	12.22	11.75	11.40	10.76	10.77
4	11.85	11.09					13.81	12.18	11.70	11.36	10.76	10.74
5	11.83	11.06					13.76	12.20	11.65	11.31	10.77	10.71
6	11.80	11.02					13.75	12.41	11.60	11.27	10.76	10.69
7	11.77	10.99					13.68	12.40	11.58	11.32	10.73	10.65
8	11.75	10.96					13.62	12.35	11.56	11.28	10.70	10.63
9	11.72	10.92					13.58	12.29	11.53	11.24	10.66	10.61
10	11.69	10.89					13.52	12.23	11.49	11.22	10.63	10.59
11	11.67	10.87					13.47	12.18	11.43	11.28	10.60	10.57
12	11.64	10.84					13.43	12.14	11.40	11.26	10.57	10.54
13	11.61	10.82					13.38	12.09	11.35	11.23	10.54	10.52
14	11.59	10.79					13.30	12.06	11.31	11.19	10.52	10.50
15	11.55	10.77					13.24	12.03	11.53	11.15	10.50	10.57
16	11.52	10.75					13.19	12.02	11.57	11.12	10.47	10.58
17	11.54	10.73					13.13	12.00	11.53	11.09	10.45	10.57
18	11.68	10.70					13.06	12.00	11.51	11.04	10.42	10.58
19	11.64	10.68					13.00	12.01	11.47	11.01	10.39	10.55
20	11.59	10.67					12.93	12.03	11.44	10.96	10.36	10.52
21	11.57	10.64					12.86	11.99	11.40	10.94	10.33	10.50
22	11.55	10.61					12.80	11.98	11.36	11.13	10.31	10.48
23	11.49	10.59					12.74	11.95	11.31	11.13	10.30	10.46
24	11.45	10.59					12.68	11.92	11.27	11.09	10.30	10.45
25	11.42	10.60					12.62	11.88	11.24	11.05	10.30	10.43
26	11.38	10.72					12.57	11.84	11.26	11.01	10.29	10.41
27	11.35	10.85					12.54	11.84	11.26	10.97	10.27	10.40
28	11.32	10.83					12.48	11.84	11.23	10.95	10.23	10.38
29	11.29	10.81					12.42	11.83	11.44	10.91	10.45	10.36
30	11.25	10.80					12.37	11.94	11.51	10.89	10.75	10.34
31	11.22	---					---	11.91	---	10.86	10.75	---
MEAN	11.59	10.84					13.12	12.08	11.48	11.15	10.53	10.56
MAX	11.93	11.19					13.81	12.41	11.86	11.47	10.83	10.80
MIN	11.22	10.59					12.37	11.83	11.23	10.86	10.23	10.34

ROCK RIVER BASIN

054279485 STRICKER'S POND AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1981 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1981 to September 1982 (discontinued).

INSTRUMENTATION.--Water-temperature recorder since November 3, 1981.

REMARKS.--Water-quality samples were collected at SE, southeast side of pond; E, east side of pond; and W, west side of pond.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum observed, 34.5°C July 17, 1982; minimum observed, 0.0°C on several days during winter period.

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPL- ING SITE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
SEP , 1981										
02...	1430	W	200	7.0	18.0	5.5	.02	.80	.82	.180
02...	1500	E	140	7.2	23.0	7.4	.09	1.70	1.8	.280
02...	1630	SE	180	7.7	21.0	4.5	.60	1.20	1.8	.450
DEC										
03...	1250	E	145	5.7	2.0	8.5	.26	.49	.75	.090
03...	1310	SE	140	5.6	3.0	8.3	.52	.37	.89	.130
03...	1355	W	105	5.7	2.0	7.1	.35	.77	1.1	.170
APR , 1982										
13...	0940	E	140	7.0	7.5	20	.46	1.40	1.9	.170
13...	1010	SE	150	7.0	7.5	20	.10	.77	.87	.220
13...	1030	W	135	7.1	7.5	20	.47	.75	1.2	.180
AUG										
12...	1200	E	155	7.3	25.0	8.5	<.10	1.20	--	.190
12...	1225	SE	178	8.0	24.5	9.6	<.10	.50	--	.080
12...	1255	W	185	7.0	25.0	16	<.10	.90	--	.260

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

DAY	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	.5	.5	.5			
2	---	---	---	.5	.5	.5			
3	15.5	11.5	13.5	---	---	---			
4	13.0	11.0	12.0	---	---	---			
5	12.5	8.5	11.0	---	---	---			
6	10.5	5.5	7.5	---	---	---			
7	11.5	4.5	7.5	---	---	---			
8	11.0	4.5	7.0	---	---	---			
9	8.5	3.0	5.0	---	---	---			
10	7.5	2.5	4.0	---	---	---			
11	10.0	2.0	4.5	---	---	---			
12	10.5	1.5	4.5	---	---	---			
13	11.0	.5	4.5	---	---	---			
14	10.5	.5	4.5	---	---	---			
15	11.5	2.0	6.5	---	---	---			
16	17.0	2.5	8.5	---	---	---			
17	13.5	.5	4.5	---	---	---			
18	17.0	.0	5.5	---	---	---			
19	4.0	.0	2.0	---	---	---			
20	3.5	.0	.5	---	---	---			
21	1.0	.0	.0	---	---	---			
22	7.0	.0	1.0	---	---	---			
23	1.5	.0	.5	---	---	---			
24	1.5	.0	.5	---	---	---			
25	2.0	.0	.5	---	---	---			
26	2.5	.5	1.0	---	---	---			
27	1.0	.5	.5	---	---	---			
28	.5	.5	.5	---	---	---			
29	.5	.0	.0	---	---	---			
30	.5	.0	.5	---	---	---			
31	---	---	---	---	---	---			
MONTH	17.0	.0	4.0	.5	.5	.5			

ROCK RIVER BASIN

054279485 STRICKER'S POND AT MIDDLETON, WI--CONTINUED

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

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1							7.5	7.0	7.5	17.5	12.5	15.0
2							8.5	7.0	8.0	19.5	14.0	17.0
3							9.0	3.5	7.0	21.5	16.0	19.0
4							4.0	2.0	3.0	21.0	17.0	19.5
5							4.0	2.0	3.0	21.5	18.5	20.0
6							2.5	1.5	2.0	20.5	16.5	19.5
7							3.5	2.5	3.0	20.5	15.5	18.0
8							4.0	3.5	4.0	22.0	17.0	19.5
9							6.5	4.0	4.5	22.5	18.0	20.0
10							5.5	4.0	4.5	23.0	17.5	20.5
11							7.5	3.5	5.5	22.5	15.5	20.5
12							8.0	6.5	7.0	23.5	20.0	22.0
13							10.0	7.5	8.5	24.5	21.0	22.5
14							11.5	8.5	10.0	26.0	20.5	23.5
15							12.5	10.0	11.5	25.5	21.5	23.0
16							15.0	12.0	13.5	26.5	20.5	23.5
17							14.0	11.0	13.0	26.0	21.5	23.5
18							16.0	10.5	13.5	24.5	21.0	22.5
19							13.5	11.5	13.0	26.0	20.0	23.0
20							11.5	8.0	10.0	23.5	19.5	21.5
21							12.0	6.5	9.5	19.0	16.5	17.0
22							14.5	9.0	12.0	16.0	14.5	15.5
23							15.5	11.0	13.0	15.0	14.0	14.5
24							17.0	11.5	14.5	16.0	14.5	15.5
25							17.0	13.5	15.5	17.0	15.0	16.0
26							15.5	13.0	14.5	17.0	15.5	16.5
27							15.5	11.5	13.5	17.5	16.0	16.5
28							15.5	11.5	13.5	19.5	16.5	18.0
29							14.5	12.5	13.0	20.0	17.0	19.0
30							15.5	11.5	13.5	25.5	18.0	21.5
31							---	---	---	22.5	19.0	21.5
MONTH							17.0	1.5	9.5	26.5	12.5	19.5

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	22.5	15.0	19.0	29.5	20.0	24.0	29.0	20.0	23.5	23.5	19.5	21.5
2	24.0	15.5	20.0	25.5	21.0	23.0	35.0	21.0	25.5	24.0	19.5	21.5
3	23.0	15.0	19.5	28.5	19.5	24.5	---	---	---	22.5	16.0	19.5
4	24.0	16.0	20.0	33.5	23.0	27.0	---	---	---	21.0	16.0	19.0
5	25.0	16.5	21.0	32.0	24.5	28.0	---	---	---	21.0	16.0	20.0
6	21.0	18.0	19.5	28.0	23.0	26.0	---	---	---	21.0	16.0	19.0
7	27.0	18.0	22.0	30.5	21.0	25.0	---	---	---	20.5	16.0	18.0
8	27.5	20.0	24.0	31.5	20.0	26.0	---	---	---	21.0	16.0	18.5
9	23.0	19.5	21.5	29.0	24.0	26.0	---	---	---	22.5	16.0	19.5
10	23.0	14.5	18.5	27.0	24.0	25.5	---	---	---	22.0	19.0	20.5
11	25.0	16.0	20.0	29.0	20.0	24.5	---	---	---	22.5	19.5	21.0
12	26.5	18.5	22.5	31.5	20.5	26.0	---	---	---	22.0	21.0	21.5
13	25.5	17.5	21.5	31.0	23.0	26.5	---	---	---	25.0	20.5	21.5
14	24.0	18.0	21.0	32.5	23.5	27.5	---	---	---	23.5	16.0	21.0
15	21.5	19.0	20.0	28.0	24.0	26.0	---	---	---	17.5	16.5	17.0
16	26.5	16.0	20.5	30.0	23.5	26.0	31.5	19.5	24.5	---	---	---
17	23.0	18.5	20.5	34.5	24.5	29.0	30.5	22.0	25.5	---	---	---
18	20.0	17.0	18.5	29.5	24.5	27.0	29.0	19.5	24.5	---	---	---
19	25.0	15.0	19.5	---	---	---	29.5	21.0	25.0	---	---	---
20	25.0	18.5	21.5	---	---	---	30.0	21.5	25.5	---	---	---
21	26.0	16.5	21.5	28.0	19.5	23.5	29.0	16.0	22.5	---	---	---
22	28.0	18.0	23.0	29.0	20.5	24.5	23.0	18.0	21.0	---	---	---
23	29.0	20.0	24.0	30.5	21.0	25.5	30.0	15.5	22.5	---	---	---
24	29.0	21.0	24.5	31.0	21.5	25.5	23.0	16.0	19.5	---	---	---
25	25.0	20.0	22.0	32.5	23.0	27.0	30.0	15.5	21.0	---	---	---
26	27.0	15.5	21.5	31.0	25.0	27.5	28.5	16.0	21.5	---	---	---
27	28.5	21.0	24.5	26.5	22.0	24.5	28.5	15.5	21.0	---	---	---
28	32.0	23.0	26.5	30.5	19.5	24.0	27.5	12.0	18.5	---	---	---
29	27.5	21.5	23.5	30.0	19.0	23.5	16.5	12.5	15.0	---	---	---
30	27.5	18.5	22.5	28.0	19.5	23.0	19.0	14.5	16.5	---	---	---
31	---	---	---	32.0	19.0	24.0	19.0	15.5	18.0	---	---	---
MONTH	32.0	14.5	21.5	34.5	19.0	25.5	35.0	12.0	21.5	25.0	16.0	20.0

ROCK RIVER BASIN

05427949 TIEDEMAN'S POND AT MIDDLETON, WI

LOCATION.--Lat 43°05'25", long 89°30'17", in SE 1/4 SE 1/4 sec.11, T.7 N., R.8 E., Dane County, Hydrologic Unit 07090001, on south side of pond along Voss Parkway, in Middleton.

DRAINAGE AREA.--0.43 mi² (1.11 km²). Area of Tiedeman's Pond, 0.04 mi² (0.104 km²).

WATER-STAGE RECORDS

PERIOD OF RECORD.--October and November 1981, April to December 1982 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 891.38 ft (271.693 m), city of Middleton datum.

REMARKS.--Records good.

EXTREMES.--Water year 1982: Maximum gage height, 19.71 ft (6.008 m) Apr. 5-6; minimum, 18.08 ft (5.511 m) Sept. 30, but may have been lower during winter period.

October to December 1982: Maximum gage height, 18.81 ft (5.733 m) Dec. 5-8; minimum, 17.92 ft (5.462 m) Oct. 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.21	18.84					19.31	19.28	19.15	18.82	18.45	18.34
2	19.18	18.82					19.35	19.26	19.12	18.79	18.44	18.35
3	19.16	18.80					19.63	19.24	19.08	18.78	18.41	18.32
4	19.15	18.79					19.67	19.22	19.06	18.76	18.42	18.30
5	19.13	18.77					19.68	19.26	19.03	18.74	18.43	18.28
6	19.11	18.76					19.71	19.38	19.00	18.71	18.42	18.27
7	19.09	18.74					19.69	19.37	19.01	18.75	18.41	18.26
8	19.07	18.71					19.68	19.35	19.00	18.72	18.39	18.25
9	19.05	18.70					19.67	19.32	18.98	18.70	18.36	18.23
10	19.03	18.68					19.65	19.29	18.95	18.69	18.33	18.21
11	19.01	18.66					19.63	19.27	18.93	18.72	18.32	18.20
12	18.99	18.65					19.62	19.26	18.91	18.70	18.30	18.19
13	18.97	18.63					19.61	19.24	18.88	18.68	18.27	18.16
14	19.04	18.63					19.58	19.22	18.85	18.66	18.26	18.16
15	19.07	18.61					19.56	19.19	18.96	18.64	18.25	18.20
16	19.04	18.60					19.55	19.20	18.98	18.62	18.23	18.21
17	19.06	18.59					19.54	19.18	18.96	18.61	18.21	18.20
18	19.10	18.58					19.53	19.20	18.95	18.57	18.20	18.21
19	19.08	18.58					19.50	19.19	18.93	18.56	18.17	18.21
20	19.06	18.57					19.49	19.19	18.91	18.53	18.15	18.19
21	19.04	18.56					19.47	19.17	18.88	18.52	18.13	18.18
22	19.03	18.54					19.45	19.17	18.86	18.65	18.12	18.17
23	19.00	18.54					19.42	19.16	18.83	18.64	18.11	18.14
24	18.98	18.55					19.40	19.15	18.81	18.61	18.12	18.14
25	18.96	18.55					19.38	19.13	18.79	18.58	18.15	18.13
26	18.95	18.61					19.37	19.12	18.82	18.56	18.14	18.12
27	18.92	18.66					19.37	19.13	18.82	18.54	18.13	18.12
28	18.90	18.65					19.35	19.14	18.80	18.53	18.11	18.11
29	18.88	18.64					19.32	19.13	18.83	18.50	18.20	18.09
30	18.87	18.63					19.30	19.19	18.84	18.49	18.32	18.08
31	18.85	---					---	19.18	---	18.48	18.32	---
MEAN	19.03	18.65					19.52	19.22	18.93	18.64	18.27	18.20
MAX	19.21	18.84					19.71	19.38	19.15	18.82	18.45	18.35
MIN	18.85	18.54					19.30	19.12	18.79	18.48	18.11	18.08

ROCK RIVER BASIN

05427949 TIEDEMAN'S POND AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1981 to September 1982 (discontinued).

REMARKS.--Water-quality samples were collected at S, south side of pond; NE, northeast side of pond; and NW, northwest side of pond.

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1982

DATE	TIME	SAMPL- ING SITE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
SEP , 1981										
02...	0945	S	360	7.6	21.5	21	.03	1.10	1.1	.270
02...	1015	NW	340	7.7	22.5	22	.02	.95	.97	.270
02...	1100	NE	320	7.1	19.0	18	.02	.82	.84	.260
DEC										
03...	0950	S	270	6.9	1.0	29	.15	3.80	4.0	.210
03...	1200	NE	440	5.4	2.5	86	.04	.86	.90	.250
03...	1230	NW	245	5.8	2.2	--	.11	3.60	3.7	.180
APR , 1982										
13...	0845	NE	210	7.1	9.0	35	<.10	1.70	--	.270
13...	0905	S	210	8.2	9.0	36	<.10	2.60	--	.230
13...	0925	NW	210	7.8	10.0	34	<.10	3.20	--	.280
AUG										
12...	0845	NE	240	6.2	14.0	36	<.10	2.40	--	.580
12...	0915	S	305	8.0	20.5	36	<.10	3.20	--	.660
12...	0940	NW	310	7.2	21.0	22	<.10	1.30	--	.290

ROCK RIVER BASIN

05427965 SPRING HARBOR STORM SEWER AT MADISON, WI

LOCATION.--Lat 43°04'45", long 89°28'15", in NW 1/4 SE 1/4 sec.18, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city park near the junction of Spring Harbor Drive and University Avenue in Madison.

DRAINAGE AREA.--3.29 mi² (8.52 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1976 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 855.3 ft (260.70 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for winter periods and flow less than 0.3 ft³/s (0.008 m³/s), which are poor.

AVERAGE DISCHARGE.--6 years (1976-82), 1.46 ft³/s (0.041 m³/s) 6.03 in/yr (153 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 706 ft³/s (20.0 m³/s) Aug. 31, 1981, gage height, 4.04 ft (1.231 m); no flow many days during period of record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 283 ft³/s (8.01 m³/s) Oct. 17, gage height, 2.77 ft (0.844 m); no flow on many days during current year.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

0.41	0.0	0.9	12
0.5	0.55	1.0	18
0.6	1.8	1.1	26
0.7	3.8	1.2	34
0.8	6.7	1.5	62

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.00	5.0	.00	.00	.58	.07	.03	.04	.00	.00	3.7
2	.00	.00	.22	.00	.00	.26	17	.02	.00	.03	.00	.01
3	.00	.00	.00	.00	.00	.09	42	.00	.00	.67	.00	.00
4	1.3	.00	.30	.00	.00	.13	.97	.23	.00	.11	4.3	.00
5	1.4	.00	.00	.00	.00	.02	.72	15	.00	.00	.43	.00
6	1.8	.00	.06	.00	.00	.03	1.3	5.2	.11	3.5	.08	.00
7	.00	.00	.34	.00	.00	.04	.61	.08	1.2	3.4	.13	.02
8	.00	.00	.05	.00	.00	.00	.34	.02	.15	.00	.00	.00
9	.00	.00	.00	.00	.00	.02	1.4	.05	.29	.00	.00	.00
10	.66	.00	.00	.00	.00	.52	1.3	.11	.00	4.1	.00	.00
11	.00	.00	.00	.00	.00	2.2	1.4	.75	.00	1.8	.00	.00
12	.00	.00	.00	.00	.00	28	1.1	.14	.04	.00	.00	.00
13	.00	.00	.00	.00	.00	23	.51	.08	.00	.00	.00	.00
14	16	.00	.00	.00	.00	3.6	.22	.81	.26	.00	.00	.00
15	.33	.00	.00	.00	1.0	1.0	.22	.06	20	.19	.00	1.0
16	.13	.12	.00	.00	.60	32	1.1	6.5	.01	.51	.00	.01
17	29	.01	.00	.00	.20	.83	1.5	2.9	.14	.00	.00	.75
18	2.0	.03	.00	.00	.18	.92	.19	4.3	.14	.00	.00	.00
19	.06	.80	.00	.00	.45	1.0	.60	3.7	.00	.00	.00	.00
20	.20	.32	.00	.00	5.6	7.1	.31	1.4	.06	.00	.00	.00
21	1.4	.12	.00	.00	5.1	.76	.13	1.8	.11	8.8	.02	.00
22	.60	.06	.30	.00	10	.51	.12	1.2	.13	14	.32	.00
23	.18	.18	.12	.00	4.6	.47	.12	.28	.00	.06	1.2	.01
24	.43	1.2	.00	.00	.72	.58	.15	.00	.00	.00	1.7	.00
25	.49	.53	.00	.00	.22	.10	.18	.00	1.9	.00	.08	.00
26	.46	14	.00	.00	.20	.02	1.1	1.5	1.3	.00	.00	.00
27	.06	.32	.00	.00	.48	.00	.20	4.3	.00	.11	.00	.00
28	.00	.06	.00	.00	.50	.02	.13	.19	.00	.01	.00	.00
29	.00	.03	.00	.00	---	.09	.09	5.0	20	.46	19	.00
30	.00	.28	.00	.00	---	4.0	.06	1.7	.03	.06	.49	.00
31	.00	---	.00	.00	---	.19	---	.00	---	.00	.00	---
TOTAL	56.85	18.06	6.39	.00	29.85	108.08	75.14	57.35	45.91	37.81	27.75	5.50
MEAN	1.83	.60	.21	.000	1.07	3.49	2.50	1.85	1.53	1.22	.90	.18
MAX	.29	.14	5.0	.00	.10	.32	.42	.15	.20	.14	.19	3.7
MIN	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00
CFSM	.56	.18	.06	.000	.33	1.06	.76	.56	.47	.37	.27	.06
IN.	.64	.20	.07	.00	.34	1.22	.85	.65	.52	.43	.31	.06
CAL YR 1981	TOTAL	584.74	MEAN	1.60	MAX	52	MIN	.00	CFSM	.49	IN	6.61
WTR YR 1982	TOTAL	468.69	MEAN	1.28	MAX	42	MIN	.00	CFSM	.39	IN	5.30

ROCK RIVER BASIN

05427965 SPRING HARBOR STORM SEWER AT MADISON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT , 1981				
17...	1140	19	191	9.8
17...	1300	38	174	18
17...	1650	60	559	91
17...	1705	176	678	322
17...	1720	261	993	700
17...	1750	165	2160	962
17...	1850	96	850	220
NOV				
26...	1045	48	652	84
26...	1100	75	382	77
26...	1115	75	382	77
26...	1200	55	683	101
26...	1300	41	196	22
26...	1415	35	133	13
FEB , 1982				
20...	1500	22	161	9.6
20...	1515	28	170	13
20...	1615	24	108	7.0
20...	1700	20	82	4.4
22...	1425	23	114	7.1
22...	1505	28	138	10
22...	1535	33	155	14
22...	1605	31	137	11
22...	1750	26	121	8.5
22...	1905	19	86	4.4
MAR				
12...	1725	24	314	20
12...	1755	37	281	28
12...	1840	52	333	47
12...	1925	142	550	211
12...	1955	151	549	224
12...	2110	139	424	159
12...	2225	105	364	103
12...	2355	60	313	51
13...	1050	33	19	1.7
13...	1051	33	192	17
13...	1135	29	253	20
13...	1220	34	348	32
13...	1350	56	646	98
13...	1351	56	693	97
13...	1510	48	729	94
13...	1825	19	258	13
16...	0320	31	465	39
16...	0335	56	807	122
16...	0420	90	1070	260
16...	0520	95	1230	315
16...	0650	65	929	163
16...	0835	77	539	112
16...	1305	30	402	33
16...	1306	30	327	26
16...	1525	19	183	9.4
APR				
02...	0720	19	477	24
02...	1010	54	1840	268
02...	1935	23	421	26
02...	2035	89	1830	440
02...	2320	22	927	55
03...	0940	54	1210	177
MAY				
16...	0130	23	322	20
16...	0145	76	515	106
16...	0200	82	1251	277
16...	0345	21	190	11
19...	2110	30	753	61
19...	2130	23	708	44
19...	2145	41	614	68
19...	2315	19	264	14
JUN				
15...	0020	21	245	14
15...	0050	26	161	11
15...	0105	103	451	125
15...	0205	60	457	74
15...	0525	18	291	14
15...	0555	44	269	32
15...	0625	74	342	68
15...	0725	51	834	115
15...	1040	20	181	9.8
29...	0600	53	472	68
29...	0615	102	400	110
29...	0645	130	855	300
29...	0715	151	724	295
29...	0740	90	2600	632
29...	0741	90	2760	649
29...	0910	62	1640	275
29...	1110	36	1260	122
29...	1310	18	821	40
AUG				
29...	0620	16	350	15
29...	0635	82	521	115
29...	0650	116	1050	329
29...	0705	167	860	388
29...	0735	55	538	80
29...	0850	19	264	14

430343089274301 4910 MARATHON DRIVE, MADISON, WIS.
(TRITIUM STATION)

LOCATION.--Lat 43°03'43", long 89°27'43", in SW 1/4 sec.20, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001,
at precipitation gage at 4910 Marathon Drive, Madison.

PERIOD OF RECORD.--February 1963 to current year.

WATER-QUALITY DATA, JULY 1981 TO MARCH 1982

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)	PRECIP- ITATION ACCUM- ULATED (INCHES)
1981			
JUL 01 - SEP 30	35.9	1.3	12.09
OCT 01 - DEC 31	23.4	1.1	7.22
1982			
JAN 01 - MAR 31	29.0	1.4	2.95

ROCK RIVER BASIN

05427970 WILLOW CREEK AT MADISON, WI

LOCATION.--Lat 43°04'27", long 89°25'21", in NW 1/4 NW 1/4 sec.22, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, on left bank 800 ft (244 m) upstream from Observatory Drive on the University of Wisconsin Campus, 200 ft (61 m) downstream from storm sewer outlet and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--3.15 mi² (8.16 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year.

REVISED RECORDS.--WDR WI-79-1: Drainage area. WDR WI-80-1: 1974-78(M).

GAGE.--Water-stage recorder, parshall flume and concrete control. Datum of gage is 847.9 ft (258.4 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair. Stage-discharge rating based on indirect measurements.

AVERAGE DISCHARGE.--9 years (1974-82), 2.38 ft³/s (0.067 m³/s), 10.26 in/yr (261 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 754 ft³/s (21.4 m³/s) June 15, and Aug. 31, 1981, gage height, 6.42 ft (1.957 m), minimum daily, 0.01 ft /s (0.0003 m /s) Sept. 8, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 600 ft³/s (17.0 m³/s) from step-backwater measurement, gage height, 6.16 ft (1.878 m) from outside gage; minimum daily, 0.40 ft³/s (0.011 m³/s) Feb. 26.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by pumpage from city well May 3-5.)

2.5	0.2	2.9	5.5
2.6	1.2	3.1	11
2.7	2.3	3.3	20
2.8	3.7	3.5	33

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.69	5.4	.76	.64	1.3	.86	.65	.70	1.3	1.4	5.8
2	.81	.78	.91	.70	.73	.81	12	.72	.73	1.3	1.6	1.7
3	.92	.98	.78	.70	.73	.85	30	3.4	.71	4.5	1.8	1.2
4	1.8	.76	1.3	.74	.73	.65	1.1	6.7	.77	1.1	9.8	1.3
5	3.3	.80	.50	.76	.69	.69	1.1	20	.74	1.3	2.1	1.2
6	2.6	1.0	.60	.77	.60	.64	2.9	5.3	.98	6.7	1.5	1.3
7	.93	.67	.92	.66	.69	.52	1.7	.96	4.5	3.2	1.6	1.3
8	.94	.70	.77	.60	.72	.55	1.2	.78	1.3	1.4	1.3	1.2
9	.91	.79	.61	.55	.77	.61	2.5	.83	1.1	1.5	1.4	1.4
10	1.7	.60	.60	.61	.64	2.1	1.6	1.3	.99	7.9	1.2	1.6
11	.60	.70	.69	.58	.64	3.7	1.3	3.1	.94	3.2	1.2	1.6
12	.82	.70	.67	.72	.65	24	1.4	2.3	1.1	1.2	1.3	1.5
13	1.4	.50	.68	.80	.61	10	1.2	1.2	.80	1.4	1.5	1.9
14	16	.60	.72	.79	.67	2.9	.84	1.2	2.3	1.5	1.2	1.6
15	.82	.59	.68	.76	2.3	1.6	.90	1.5	22	1.7	1.2	4.6
16	.53	1.0	.65	.69	1.5	23	2.8	14	1.1	1.8	1.6	1.2
17	25	.60	.62	.60	2.3	1.2	2.7	3.9	1.4	1.4	1.7	3.6
18	1.1	.74	.58	.72	1.4	1.8	.70	7.2	1.4	1.3	1.7	1.1
19	1.9	1.7	.50	.78	2.1	3.1	1.5	4.5	.74	1.4	1.8	1.2
20	.78	1.1	.50	.80	6.3	5.7	.81	1.4	.87	1.3	1.8	1.4
21	1.0	.92	.69	.74	4.3	1.1	.70	3.2	1.6	11	1.5	1.4
22	.85	.80	.94	1.1	6.0	1.1	.67	2.0	1.2	7.8	1.9	1.2
23	.55	1.4	.70	.64	3.6	1.2	.75	1.0	.99	1.6	8.6	1.4
24	.85	2.1	.64	.60	.83	1.2	.75	.84	1.2	1.4	10	1.1
25	1.3	1.1	.61	.69	.55	.72	.76	.82	4.2	1.5	1.5	1.1
26	.94	14	.66	.76	.40	.65	2.3	3.0	2.4	1.8	1.5	1.1
27	.96	.90	.66	.79	1.5	.51	.64	5.5	.91	1.9	1.3	1.2
28	.81	.76	.72	.83	1.3	.52	.61	.97	1.3	1.5	1.0	1.3
29	.66	.70	.69	.65	---	.77	.57	7.6	20	3.1	23	1.4
30	.70	2.4	.69	.70	---	6.2	.52	2.1	1.1	1.7	1.4	1.6
31	.68	---	.98	.64	---	1.1	---	.97	---	1.4	1.5	---
TOTAL	73.26	41.08	26.66	22.23	43.89	100.79	77.38	108.94	80.07	81.1	91.9	50.5
MEAN	2.36	1.37	.86	.72	1.57	3.25	2.58	3.51	2.67	2.62	2.96	1.68
MAX	25	14	5.4	1.1	6.3	24	30	20	22	11	23	5.8
MIN	.53	.50	.50	.55	.40	.51	.52	.65	.70	1.1	1.0	1.1
CFSM	.75	.44	.27	.23	.50	1.03	.82	1.11	.85	.83	.94	.53
IN.	.86	.48	.31	.26	.52	1.19	.91	1.29	.95	.96	1.08	.60
CAL YR 1981	TOTAL 791.57	MEAN 2.17	MAX 53	MIN .20	CFSM .69	IN 9.35						
WTR YR 1982	TOTAL 797.80	MEAN 2.19	MAX 30	MIN .40	CFSM .70	IN 9.42						

ROCK RIVER BASIN

05427970 WILLOW CREEK AT MADISON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

INSTRUMENTATION.--Sediment pumping sampler since October 1, 1974.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
FEB , 1982									
20...	1245	81	1.1	.970	1.4	2.40	3.5	.510	.240
20...	1247	81	1.1	1.10	1.5	2.60	3.7	.650	.290
20...	1305	84	1.1	.860	1.9	2.80	3.9	.550	.220
20...	1350	89	1.0	.870	1.8	2.70	3.7	.900	.250
20...	1720	127	.80	.730	1.4	2.10	2.9	.660	.330
21...	1320	107	1.1	.780	1.5	2.30	3.4	.570	.370
21...	1550	182	.78	.710	1.6	2.30	3.1	.630	.440
21...	1750	222	.71	.650	1.3	1.90	2.6	.680	.450
MAR									
16...	0310	503	.92	.650	2.0	2.60	3.5	.600	<.010
16...	0340	520	.72	.590	1.4	2.00	2.7	.530	.320
16...	0510	1060	.71	.520	2.0	2.50	3.2	.560	.210
MAY									
16...	0130	111	<.10	.860	23	24.0	--	.440	.100
16...	0200	98	.37	.210	3.8	4.00	4.4	.490	.070
16...	0300	94	.74	.250	2.9	3.10	3.8	.200	.110
JUN									
14...	2350	35	1.1	.050	.75	.80	1.9	.440	.130
15...	0120	78	.20	.120	.38	.50	.70	.440	.080
15...	0320	107	.50	.230	1.6	1.80	2.3	.220	.130
29...	0540	39	1.5	.300	1.0	1.30	2.8	.210	.060
29...	0555	39	.87	.910	3.0	3.90	4.8	.650	.080
29...	0610	40	.84	1.10	3.5	4.60	5.4	.380	.090
29...	0640	40	.54	.720	1.8	2.50	3.0	.320	.080
29...	0815	39	.36	.440	.56	1.00	1.4	.190	.080
JUL									
21...	1640	32	2.3	.090	1.2	1.30	3.6	.200	.080
21...	1850	32	.74	.180	4.2	4.40	5.1	.420	.060
21...	1905	32	.57	.230	2.4	2.60	3.2	.470	.060
21...	1950	41	.57	.180	1.3	1.50	2.1	.300	.090
21...	2050	165	.64	.210	.69	.90	1.5	.220	.110

SEDIMENT LOADS, FOR SELECTED DAYS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT LOAD (TONS)	DATE	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT LOAD (TONS)
OCT , 1981							
04...	1.8	14	.17	MAY , 1982			
05...	3.3	27	1.1	05...	20	124	20
06...	2.6	21	.52	06...	5.3	38	.82
10...	1.7	10	.06	16...	14	98	32
13...	1.4	4	.07	21...	3.2	13	.32
14...	16	24	2.0	27...	5.5	44	3.0
NOV							
19...	1.7	16	.13	29...	7.6	19	1.8
23...	1.4	12	.08	30...	2.1	7	.05
24...	2.1	16	.11	JUN			
30...	2.4	5	.20	07...	4.5	35	2.9
DEC				14...	2.3	5	.46
01...	5.4	13	.21	15...	22	48	12
FEB , 1982				21...	1.6	20	.15
20...	6.3	80	3.4	25...	4.2	40	1.5
21...	4.3	36	.67	26...	2.4	18	.18
22...	6.0	56	1.9	29...	20	93	68
MAR				JUL			
12...	24	97	15	03...	4.5	21	1.2
13...	10	50	1.6	06...	6.7	24	1.3
15...	1.6	21	.09	07...	3.2	45	.59
16...	23	73	9.3	10...	7.9	39	1.9
19...	3.1	48	.80	11...	3.2	9	.11
20...	5.7	30	.78	21...	11	58	9.9
30...	6.2	53	2.0	22...	7.8	15	1.2
APR				29...	3.1	11	.50
02...	12	177	13	30...	1.7	9	.04
03...	30	62	13	AUG			
06...	2.9	28	.40	23...	8.6	33	8.4
26...	2.3	23	.32	24...	10	32	6.4
				29...	23	37	10
				SEP			
				01...	5.8	26	1.7
				15...	4.6	56	2.7

ROCK RIVER BASIN

05428000 LAKE MENDOTA AT MADISON, WI

LOCATION.--Lat 43°05'42", long 89°22'12", in SE 1/4 sec.12, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city boat house at dam at outlet, in Madison.

DRAINAGE AREA.--233 mi² (603 km²). Area of Lake Mendota, 15.2 mi² (39.4 km²).

PERIOD OF RECORD.--December 1902 to May 1903, January 1916 to current year (incomplete).

REVISED RECORDS.--WDR WI-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft (256.032 m) National Geodetic Vertical Datum of 1929, or 5.60 ft (1.707 m) below city of Madison datum. Prior to Oct. 1, 1979, at datum 7.82 ft (2.384 m) higher; prior to Nov. 15, 1971, nonrecording gage at same site and datum.

REMARKS.--Lake level regulated by concrete dam with two 12-foot gates and 20-foot lock at outlet. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.01 ft (3.661 m) Apr. 5, 1959; minimum observed, 8.02 ft (2.444 m) Feb. 24 to Mar. 10, 1920, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 10.32 ft (3.146 m) Oct. 1; minimum, 8.82 ft (2.688 m) Feb. 22.

DAY	GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.24	10.04	9.50	---	9.00	8.90	9.63	9.68	10.09	10.09	10.07	9.89
2	10.17	10.02	9.50	---	8.99	8.90	9.63	9.68	10.05	10.07	10.05	9.91
3	10.13	10.00	9.48	---	8.99	8.89	9.85	9.69	10.01	10.08	10.04	9.88
4	10.13	9.97	9.47	---	8.98	8.92	9.88	9.69	9.98	10.10	10.09	9.86
5	10.11	9.97	9.44	9.14	8.98	8.91	9.95	9.73	9.95	10.08	10.12	9.85
6	10.13	9.95	9.41	9.14	8.98	8.89	9.98	9.85	9.90	10.06	10.13	9.86
7	10.08	9.91	9.41	---	8.97	8.87	9.96	9.89	9.93	10.13	10.13	9.84
8	10.04	9.90	9.39	---	8.97	8.86	9.95	9.88	9.92	10.11	10.13	9.83
9	10.01	9.86	9.35	---	8.97	8.86	9.96	9.88	9.92	10.09	10.09	9.82
10	10.00	9.82	9.31	---	8.97	8.86	9.96	9.88	9.91	10.10	10.04	9.81
11	9.98	9.79	9.29	---	8.97	8.87	9.97	9.89	9.88	10.14	10.01	9.81
12	9.95	9.77	9.28	---	8.96	8.89	9.97	9.91	9.88	10.11	9.98	9.80
13	9.92	9.74	9.27	---	8.94	8.97	9.99	9.91	9.86	10.11	9.95	9.81
14	10.00	9.72	9.27	---	8.94	9.08	9.98	9.91	9.83	10.10	9.93	9.81
15	10.06	9.70	---	9.06	8.93	9.18	9.98	9.92	9.95	10.08	9.92	9.84
16	10.07	9.69	---	9.05	8.91	9.33	10.00	9.96	9.98	10.07	9.91	9.83
17	10.11	9.67	---	9.05	8.90	9.50	10.04	9.97	9.98	10.06	9.88	9.84
18	10.22	9.64	---	9.04	8.88	9.60	10.00	10.02	10.00	10.07	9.85	9.83
19	10.17	9.65	---	9.04	8.87	9.67	10.01	10.05	10.01	10.05	9.83	9.82
20	10.17	9.65	---	9.04	8.86	9.74	10.01	10.05	10.01	10.02	9.81	9.80
21	10.18	9.59	---	9.04	8.85	9.78	9.96	10.03	10.00	10.02	9.78	9.78
22	10.18	9.55	---	9.04	8.85	9.81	9.92	10.05	9.99	10.17	9.76	9.76
23	10.17	9.53	---	9.05	8.88	9.81	9.88	10.07	9.98	10.18	9.75	9.74
24	10.11	9.53	---	9.04	8.90	9.82	9.84	10.06	9.97	10.17	9.79	9.74
25	10.11	9.49	---	9.04	8.91	9.80	9.81	10.05	9.97	10.16	9.81	9.73
26	10.11	9.53	---	9.03	8.92	9.78	9.80	10.05	10.00	10.15	9.79	9.72
27	10.10	9.57	---	9.02	8.91	9.74	9.78	10.07	10.00	10.14	9.77	9.71
28	10.09	9.53	---	9.01	8.91	9.70	9.75	10.07	10.00	10.13	9.75	9.70
29	10.08	9.50	---	9.01	---	9.67	9.71	10.07	10.08	10.10	9.78	9.70
30	10.06	9.46	---	9.01	---	9.67	9.70	10.11	10.10	10.10	9.85	9.70
31	10.06	---	---	9.01	---	9.65	---	10.10	---	10.08	9.85	---
MEAN	10.09	9.72	---	---	8.93	9.32	9.90	9.94	9.97	10.10	9.92	9.80
MAX	10.24	10.04	---	---	9.00	9.82	10.04	10.11	10.10	10.18	10.13	9.91
MIN	9.92	9.46	---	---	8.85	8.86	9.63	9.68	9.83	10.02	9.75	9.70

ROCK RIVER BASIN

05429000 LAKE MONONA AT MADISON, WI

LOCATION.--Lat 43°03'48", long 89°23'49", in SW 1/4 sec.23, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in Brittingham Park, in Madison.

DRAINAGE AREA.--279 mi² (723 km²). Area of Lake Monona, 5.3 mi² (13.7 km²).

PERIOD OF RECORD.--September 1915 to current year (fragmentary) in reports of the Geological Survey. For 1856 to March 1917 in reports of Wisconsin Railroad Commission, volume 19.

REVISED RECORDS.--WSP 1338: Lake area. WDR WI-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft (256.032 m) National Geodetic Vertical Datum of 1929, or 5.60 ft (1.707 m) below city of Madison datum. Prior to Oct. 1, 1979, datum 3.61 ft (1.100 m) higher; prior to Nov. 15, 1971, nonrecording gage at same site and datum.

REMARKS.--Lake level regulated by concrete dam with four 12-foot stop-log sections and 12-foot lock at outlet of Lake Waubesa. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.27 ft (2.216 m) July 28, 1929; minimum observed, 3.22 ft (0.981 m) Jan. 20, 1965, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.61 ft (1.710 m) July 22; minimum, 4.16 ft (1.268 m) Feb. 14, 15.

DAY	GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.39	4.90	4.99	4.47	4.25	4.39	5.03	4.91	5.34	5.30	5.17	5.11
2	5.36	4.90	4.98	4.47	4.24	4.40	5.12	4.88	5.34	5.31	5.13	5.10
3	5.35	4.90	4.99	4.48	4.22	4.40	5.33	4.84	5.33	5.32	5.09	5.08
4	5.35	4.91	4.99	4.49	4.21	4.43	5.42	4.81	5.32	5.34	5.14	5.08
5	5.33	4.90	4.98	4.49	4.21	4.43	5.45	4.84	5.30	5.34	5.12	5.07
6	5.31	4.87	4.99	4.47	4.21	4.44	5.47	4.95	5.30	5.35	5.09	5.06
7	5.28	4.88	4.98	4.46	4.20	4.45	5.46	4.92	5.32	5.41	5.07	5.04
8	5.28	4.87	4.93	4.45	4.19	4.45	5.44	4.90	5.29	5.40	5.04	5.02
9	5.25	4.85	4.92	4.43	4.18	4.42	5.43	4.88	5.26	5.39	4.99	5.01
10	5.25	4.83	4.92	4.42	4.18	4.40	5.44	4.85	5.20	5.39	4.96	5.01
11	5.23	4.83	4.92	4.41	4.18	4.38	5.42	4.85	5.18	5.40	4.94	5.01
12	5.22	4.83	4.89	4.41	4.17	4.39	5.42	4.90	5.17	5.39	4.92	5.00
13	5.19	4.83	4.86	4.40	4.17	4.56	5.38	4.92	5.15	5.38	4.90	5.00
14	5.30	4.82	4.81	4.40	4.17	4.70	5.35	4.93	5.13	5.37	4.89	4.99
15	5.28	4.82	4.75	4.40	4.16	4.74	5.32	4.95	5.28	5.38	4.88	4.96
16	5.23	4.82	4.71	4.38	4.17	4.81	5.16	4.99	5.29	5.41	4.87	4.92
17	5.24	4.81	4.67	4.37	4.19	4.88	5.12	5.01	5.26	5.40	4.86	4.93
18	5.27	4.82	4.64	4.38	4.20	4.89	5.08	5.04	5.26	5.38	4.84	4.90
19	5.26	4.82	4.62	4.37	4.22	4.89	5.06	5.07	5.22	5.36	4.84	4.87
20	5.24	4.76	4.61	4.36	4.24	4.91	5.06	5.11	5.19	5.33	4.87	4.83
21	5.20	4.75	4.61	4.36	4.26	4.90	5.05	5.12	5.17	5.33	4.86	4.80
22	5.14	4.76	4.59	4.36	4.30	4.89	5.05	5.13	5.16	5.58	4.87	4.80
23	5.08	4.78	4.57	4.36	4.33	4.89	5.03	5.13	5.15	5.55	4.88	4.80
24	5.06	4.79	4.55	4.34	4.36	4.89	5.03	5.14	5.13	5.50	4.94	4.79
25	5.04	4.81	4.53	4.33	4.37	4.90	5.03	5.16	5.15	5.46	4.98	4.76
26	5.00	4.86	4.52	4.32	4.38	4.92	5.04	5.18	5.16	5.43	4.97	4.75
27	4.96	4.89	4.51	4.31	4.39	4.94	5.04	5.22	5.16	5.40	4.97	4.75
28	4.94	4.91	4.50	4.30	4.39	4.96	5.03	5.24	5.15	5.36	4.96	4.76
29	4.92	4.92	4.48	4.29	---	4.99	5.02	5.27	5.28	5.31	5.01	4.76
30	4.90	4.94	4.47	4.28	---	5.04	4.96	5.34	5.31	5.26	5.09	4.75
31	4.90	---	4.47	4.26	---	5.01	---	5.36	---	5.21	5.09	---
MEAN	5.19	4.85	4.74	4.39	4.24	4.70	5.21	5.03	5.23	5.38	4.98	4.92
MAX	5.39	4.94	4.99	4.49	4.39	5.04	5.47	5.36	5.34	5.58	5.17	5.11
MIN	4.90	4.75	4.47	4.26	4.16	4.38	4.96	4.81	5.13	5.21	4.84	4.75
CAL YR 1981	MEAN	4.84	MAX	5.83	MIN	4.02						
WTR YR 1982	MEAN	4.91	MAX	5.58	MIN	4.16						

ROCK RIVER BASIN

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05429500 YAHARA RIVER NEAR MCFARLAND, WI

LOCATION.--Lat 43°00'32", long 89°18'18", in SW 1/4 sec.3, T.6 N., R.10 E., Dane County, Hydrologic Unit 07090001, on left bank just upstream from bridge on U.S. Highway 51, at dam at outlet of Lake Waubesa and 1.0 mi (1.6 km) southwest of McFarland.

DRAINAGE AREA.--327 mi² (847 km²).

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

REVISED RECORDS.--WSP 805, WDR WI-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 840.40 ft (256.154 m) National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Natural Resources). Prior to Dec. 23, 1934, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 55 ft³/s (1.56 m³/s) of effluent into the Badfish Creek basin during 1982 water year. The data were furnished by the Madison Metropolitan Sewerage District. Prior to 1958 the effluent was discharged into the Yahara River above Mc Farland. Gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 152 ft³/s (4.305 m³/s), 6.31 in/yr (160 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft³/s (24.6 m³/s) Apr. 10, 1959, gage height, 5.82 ft (1.774 m); maximum gage height, 6.33 ft (1.929 m) July 23, 24, 1950, backwater from aquatic vegetation; minimum discharge, 1.0 ft³/s (0.028 m³/s) Oct. 18, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 423 ft³/s (12.0 m³/s) Apr. 6, gage height, 4.82 ft (1.469 m); maximum gage height, 4.93 ft (1.503 m) July 23, backwater from aquatic vegetation; minimum, 12 ft³/s (0.340 m³/s) May 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	202	265	182	146	168	293	250	196	149	176	125
2	220	202	276	181	143	169	296	241	199	148	173	139
3	211	204	275	182	145	167	378	191	189	153	166	157
4	210	206	280	191	143	173	407	158	186	154	181	185
5	211	211	276	186	142	173	409	155	183	148	185	178
6	224	215	273	183	141	169	418	171	175	152	183	170
7	218	210	276	180	138	167	410	167	180	176	185	168
8	213	211	280	180	135	168	400	161	182	174	187	163
9	208	210	274	175	136	165	392	148	171	166	185	166
10	211	207	276	184	136	162	385	69	170	167	181	161
11	209	205	270	176	133	156	377	15	161	178	176	155
12	205	206	262	171	131	155	364	19	158	169	174	151
13	203	206	256	166	130	209	363	17	154	161	175	167
14	225	207	249	163	131	232	351	17	143	153	177	189
15	242	207	242	161	134	233	339	18	165	158	180	185
16	237	212	231	168	136	254	340	23	172	171	176	178
17	244	215	224	165	139	272	343	24	160	164	173	169
18	288	216	218	162	142	270	327	27	156	157	93	167
19	272	218	208	157	144	265	318	38	149	151	39	159
20	256	232	200	155	146	271	318	40	141	147	49	141
21	251	225	200	156	153	275	312	40	133	149	53	133
22	244	217	198	159	158	268	308	47	130	189	52	128
23	244	215	195	162	170	261	308	52	124	206	59	110
24	227	220	193	161	176	262	303	74	121	210	75	80
25	216	219	189	157	176	262	299	92	117	208	90	62
26	215	237	187	154	173	262	303	92	120	206	96	60
27	212	263	187	152	170	262	304	109	117	205	96	56
28	208	260	186	151	169	264	293	146	118	202	91	54
29	200	259	181	150	---	265	274	159	141	194	96	54
30	194	257	177	149	---	275	255	177	151	191	133	51
31	197	---	178	148	---	289	---	178	---	185	115	---
TOTAL	6942	6574	7182	5167	4116	6943	10187	3115	4662	5341	4170	4061
MEAN	224	219	232	167	147	224	340	100	155	172	135	135
MAX	288	263	280	191	176	289	418	250	199	210	187	189
MIN	194	202	177	148	130	155	255	15	117	147	39	51
CFSM	.69	.67	.71	.51	.45	.69	1.04	.31	.47	.53	.41	.41
IN.	.79	.75	.82	.59	.47	.79	1.16	.35	.53	.61	.47	.46
CAL YR 1981	TOTAL	61585	MEAN 169	MAX 336	MIN 45	CFSM .52	IN 7.01					
WTR YR 1982	TOTAL	68460	MEAN 188	MAX 418	MIN 15	CFSM .58	IN 7.79					

ROCK RIVER BASIN

05430150 BADFISH CREEK NEAR COOKSVILLE, WI

LOCATION.--Lat 42°50'00", long 89°11'48", in SW 1/4 SE 1/4 sec.4, T.4 N., R.11 E., Rock County, Hydrologic Unit 07090001, on right bank, 20 ft (6 m) upstream from bridge on State Highway 59, 2.2 mi (3.5 km) east of Cooksville, and 2.2 mi (3.5 km) above the mouth.

DRAINAGE AREA.--82.6 mi² (214 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 810 ft (247 m), from topographic map.

REMARKS.--Records good except those for December to February, which are fair. Approximately 52 per cent of flow is effluent from Nine Springs treatment plant. (Data provided by Madison Metropolitan Sewerage District.)

AVERAGE DISCHARGE.--5 years, 96.4 ft³/s (2.730 m³/s), 15.85 in/yr (403 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 870 ft³/s (24.6 m³/s) Sept. 1, 1981, gage height, 8.11 ft (2.472 m); minimum daily, 35 ft³/s (0.99 m³/s) Aug. 1, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 839 ft³/s (23.8 m³/s) Mar. 13, gage height, 7.95 ft (2.423 m); minimum daily, 67 ft³/s (1.90 m³/s) Feb. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4-28, 30, 31, Feb. 1, 4, 6, 7, 10, and 11.)

4.7	59	6.0	308
5.0	109	7.0	538
		8.0	846

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	97	128	86	80	89	107	98	106	115	78	88
2	103	97	124	80	79	92	139	94	104	110	77	88
3	98	101	109	83	79	86	481	98	102	123	87	83
4	96	102	107	84	78	87	212	100	98	126	132	81
5	97	103	101	86	79	84	165	110	95	106	104	73
6	117	101	98	84	76	79	146	123	89	137	98	71
7	104	99	105	84	72	76	141	111	95	306	95	75
8	100	94	109	84	75	76	137	101	96	157	89	82
9	98	95	102	80	79	78	140	92	98	138	80	81
10	100	99	99	76	80	81	153	93	95	216	87	83
11	94	99	96	80	80	83	157	109	93	271	86	82
12	93	94	92	84	76	176	145	114	91	161	84	80
13	98	96	89	84	70	667	141	102	86	144	84	79
14	151	94	90	84	67	322	130	99	84	132	85	87
15	154	91	92	84	70	186	125	94	142	129	82	84
16	121	94	91	76	74	364	129	95	120	156	79	81
17	168	96	90	74	76	208	125	95	107	119	87	86
18	291	97	88	80	79	148	113	100	107	109	85	85
19	146	98	85	76	78	136	112	102	103	94	86	79
20	130	101	81	80	82	201	115	101	96	96	84	82
21	122	93	84	80	90	176	110	101	95	92	80	85
22	117	89	89	80	114	134	110	102	103	131	75	81
23	112	91	90	76	160	129	108	101	101	112	74	83
24	105	99	89	72	119	134	103	97	100	97	87	86
25	103	97	83	78	93	130	98	99	106	86	96	83
26	102	172	77	82	86	115	106	102	107	82	85	79
27	103	171	81	82	82	102	108	117	98	91	83	79
28	102	115	82	82	82	97	104	111	100	91	79	83
29	102	104	87	81	---	97	103	113	147	88	79	83
30	103	102	87	74	---	121	101	137	128	88	93	83
31	101	---	89	72	---	120	---	106	---	85	87	---
TOTAL	3642	3081	2914	2488	2355	4674	4164	3217	3092	3988	2687	2455
MEAN	117	103	94.0	80.3	84.1	151	139	104	103	129	86.7	81.8
MAX	291	172	128	86	160	667	481	137	147	306	132	88
MIN	93	89	77	72	67	76	98	92	84	82	74	71
CAL YR 1981	TOTAL	35604	MEAN	97.5	MAX	782	MIN	64				
WTR YR 1982	TOTAL	38757	MEAN	106	MAX	667	MIN	67				

ROCK RIVER BASIN

05430175 YAHARA RIVER NEAR FULTON, WI

LOCATION.--Lat 42°49'50", long 89°10'09", in NE 1/4 NE 1/4 sec.10, T.4 N., R.11 E., Rock County, Hydrologic Unit 07090001, on right bank, 700 ft (213 m) downstream from Badfish Creek, 2,000 ft (610 m) upstream from bridge on State Highway 59, and 2.8 mi (4.5 km) northwest of Fulton.

DRAINAGE AREA.--517 mi² (1,340 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 792.7 ft (241.61 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Diurnal fluctuation caused by powerplant at Stebbensville 1.5 mi (2.4 km) upstream, and additional regulation from other dams and powerplants upstream.

AVERAGE DISCHARGE.--5 years, 341 ft³/s (9.657 m³/s), 8.96 in/yr (228 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft³/s (86.1 m³/s) Sept. 1, 1981, gage height, 8.36 ft (2.548 m); minimum daily, 60 ft³/s (1.70 m³/s) Aug. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s (51.3 m³/s) Mar. 13, gage height, 6.60 ft (2.012 m); minimum daily, 119 ft³/s (3.37 m³/s) Aug. 21.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 18-21, 28-31, Jan. 5 to Feb. 20, and Mar. 3-9.)

3.1	108	5.0	846
3.5	206	7.0	2,090
4.0	378		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	449	497	326	300	323	534	325	386	182	343	245
2	398	433	475	321	310	322	594	371	442	188	340	175
3	387	475	458	329	310	310	1360	417	328	269	304	150
4	374	532	462	328	310	300	853	377	393	324	435	215
5	385	437	437	330	310	300	861	439	391	232	398	165
6	456	416	458	330	300	300	655	435	355	273	361	170
7	394	247	462	330	290	300	687	430	330	669	374	156
8	371	428	441	330	290	310	695	438	380	389	398	165
9	400	471	458	320	300	310	688	367	365	449	351	175
10	445	386	420	310	300	313	670	392	349	595	358	235
11	406	273	395	320	300	329	750	363	350	936	356	210
12	419	366	403	330	290	454	706	338	329	531	333	211
13	416	273	386	330	280	1510	695	306	318	462	285	231
14	497	304	407	330	270	968	673	271	310	439	286	223
15	528	338	424	330	270	685	666	247	407	365	292	270
16	497	366	416	320	280	1050	665	267	432	376	312	293
17	647	319	396	310	270	778	624	249	399	399	295	282
18	1090	300	380	310	260	689	587	228	334	387	265	321
19	685	350	370	310	260	684	593	176	389	378	186	308
20	564	330	370	310	270	781	567	270	373	355	240	248
21	515	338	370	320	270	762	542	173	280	348	119	264
22	449	323	367	320	303	685	543	270	323	405	174	315
23	484	327	379	310	425	661	536	270	321	411	173	250
24	497	362	381	300	409	659	511	254	313	373	188	305
25	647	342	358	310	308	643	498	258	309	373	209	235
26	647	493	344	320	304	625	502	259	299	365	124	173
27	433	587	328	320	325	571	518	313	271	372	194	152
28	499	454	330	320	320	528	514	280	291	369	169	123
29	488	458	330	320	---	526	511	319	324	318	163	194
30	471	428	330	300	---	538	468	468	281	344	178	156
31	327	---	330	300	---	545	---	379	---	325	159	---
TOTAL	15244	11605	12362	9894	8434	17759	19266	9949	10372	12201	8362	6615
MEAN	492	387	399	319	301	573	642	321	346	394	270	221
MAX	1090	587	497	330	425	1510	1360	468	442	936	435	321
MIN	327	247	328	300	260	300	468	173	271	182	119	123
CFSM	.95	.75	.77	.62	.58	1.11	1.24	.62	.67	.76	.52	.43
IN.	1.10	.84	.89	.71	.61	1.28	1.39	.72	.75	.88	.60	.48
CAL YR 1981	TOTAL	124746	MEAN	342	MAX	2160	MIN	119	CFSM	.66	IN	8.98
WTR YR 1982	TOTAL	142063	MEAN	389	MAX	1510	MIN	119	CFSM	.75	IN	10.22

ROCK RIVER BASIN

05430500 ROCK RIVER AT AFTON, WI

LOCATION.--Lat 42°36'33", long 89°04'14", in NE 1/4 sec.28, T.2 N., R.12 E., Rock County, Hydrologic Unit 07090001, on right bank in Afton, 0.3 mi (0.5 km) downstream from highway bridge and 1.1 mi (1.8 km) upstream from Bass Creek.

DRAINAGE AREA.--3,340 mi² (8,651 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for January 1914, published in WSP 1308.

REVISED RECORDS.--WSP 1238: 1916(M), 1919(M), 1933, 1937-38, 1943. WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 742.36 ft (226.271 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 21, 1932, a nonrecording gage, and Aug. 21, 1932, to Sept. 30, 1933, water-stage recorder, at same site at datum 1 ft (0.30 m) higher.

REMARKS.--Records good except those for winter periods and discharge below 800 ft³/s (22.7 m³/s), which are fair. Diurnal fluctuation caused by powerplants above station.

AVERAGE DISCHARGE.--68 years, 1,790 ft³/s (50.69 m³/s), 7.28 in/yr (185 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s (368 m³/s) Mar. 23, 24, 1929, gage height, 11.81 ft (3.600 m) present datum; maximum gage height observed, 13.05 ft (3.978 m) Feb. 5, 1916, present datum (backwater from ice); minimum discharge, 22 ft³/s (0.62 m³/s) Sept. 9, 1964; minimum daily, 42 ft³/s (1.189 m³/s) Aug. 25, 26, 1934; minimum gage height, 0.09 ft (0.027 m) Aug. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,040 ft³/s (228 m³/s) Apr. 11, gage height, 9.79 ft (2.984 m); minimum daily, 625 ft³/s (17.7 m³/s) Sept. 29.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 16 to Mar. 14.)

2.8	605	6.0	3,160
3.0	740	8.0	5,480
4.0	1,440	10.0	8,360
5.0	2,220		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1760	3730	2570	1300	820	1700	5550	4880	3210	1540	2720	1120
2	1820	3730	2490	1300	820	1700	5760	4620	3230	1500	2640	1270
3	2000	3650	2600	1300	840	1800	6380	4450	3280	1680	2500	1060
4	2130	3640	2690	1200	840	1800	7150	4260	3090	1780	2680	1010
5	2250	3490	2730	1200	840	1800	7480	4110	3040	1620	2730	1100
6	2440	3340	2720	1200	820	1800	7800	3980	2890	1520	2620	1040
7	2510	3250	2800	1200	820	1700	7660	3740	2690	1760	2550	1170
8	2510	3040	2770	1200	820	1700	7900	3700	2570	1740	2570	962
9	2560	3220	2760	1100	820	1700	7930	3580	2490	1600	2450	942
10	2650	2990	2590	1100	820	1700	7830	3360	2310	2060	2420	828
11	2650	2860	2590	1100	820	1700	7910	3230	2170	3010	2380	818
12	2640	2770	2580	1000	840	1800	8030	3220	2100	3340	2350	823
13	2660	2740	2570	800	840	2500	7980	3060	1960	3520	2260	816
14	2710	2520	2500	660	860	3000	7910	2900	1860	3540	2120	825
15	2830	2560	2410	720	860	3250	7780	2760	2000	3450	1950	898
16	2890	2500	2200	740	880	3770	7700	2790	2030	3280	1950	826
17	3070	2470	2100	740	900	4370	7550	2700	1910	3110	1890	976
18	3540	2350	2000	740	1000	4320	7280	2660	1630	2930	1760	835
19	3850	2450	1900	740	1300	4680	7140	2580	1660	2900	1530	943
20	3730	2370	1800	740	1300	5040	7010	2620	1640	2800	1280	935
21	4020	2080	1800	760	1300	5360	6720	2860	1580	2750	1500	875
22	4110	2020	1800	780	1400	5360	6630	2820	1590	3290	1270	855
23	4140	1950	1700	760	1700	5500	6300	2730	1620	2810	1240	926
24	4150	1910	1600	760	1800	5700	6080	2740	1550	2800	785	856
25	4200	1850	1600	780	1800	5880	5910	2810	1650	2810	999	898
26	4530	1980	1600	800	1700	5940	5840	2910	1670	2950	970	793
27	4170	2080	1500	800	1700	6010	5730	3120	1560	3110	708	678
28	4130	2130	1500	800	1700	5940	5490	3140	1490	3120	880	750
29	4090	2160	1400	800	---	5880	5360	3100	1580	3030	844	625
30	3990	2290	1400	800	---	5800	5220	3350	1630	2910	1020	775
31	3850	---	1300	800	---	5520	---	3350	---	2850	919	---
TOTAL	98580	80120	66570	28720	30960	114720	207010	102130	63680	81110	56485	27228
MEAN	3180	2671	2147	926	1106	3701	6900	3295	2123	2616	1822	908
MAX	4530	3730	2800	1300	1800	6010	8030	4880	3280	3540	2730	1270
MIN	1760	1850	1300	660	820	1700	5220	2580	1490	1500	708	625
CFSM	.95	.80	.64	.28	.33	1.11	2.07	.99	.64	.78	.55	.27
IN.	1.10	.89	.74	.32	.34	1.28	2.31	1.14	.71	.90	.63	.30
CAL YR 1981	TOTAL	732664	MEAN	2007	MAX	4550	MIN	365	CFSM	.60	IN	8.16
WTR YR 1982	TOTAL	957313	MEAN	2623	MAX	8030	MIN	625	CFSM	.79	IN	10.66

ROCK RIVER BASIN

05430500 ROCK RIVER AT AFTON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1954 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: September 1954 to current year.

INSTRUMENTATION.--Temperature recorder since Sept. 1, 1954.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 32.0°C July 27-30, Aug. 4, 1955, July 26, 28, 1964; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C July 26; minimum, 0.5°C on many days during winter period.

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

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	16.0	14.5	15.5	11.0	10.5	10.5	3.0	2.5	2.5	1.5	.5	1.0
2	14.0	12.5	13.5	11.0	10.5	11.0	3.0	2.5	3.0	1.0	.5	.5
3	13.5	12.0	12.5	12.0	11.0	11.5	2.5	2.0	2.5	1.5	.5	1.0
4	12.5	12.0	12.5	12.0	11.5	11.5	2.5	2.0	2.0	1.5	.5	1.0
5	13.5	12.5	13.0	12.0	11.0	11.5	2.0	1.5	2.0	1.5	.5	1.0
6	14.0	13.0	13.5	11.0	10.0	10.5	2.0	1.5	1.5	1.0	.5	1.0
7	14.0	12.5	13.0	10.5	9.5	10.0	3.0	1.5	2.5	.5	.5	.5
8	13.5	12.0	12.5	10.0	9.0	9.5	3.0	2.0	2.5	.5	.5	.5
9	13.0	12.0	12.5	9.5	8.5	9.0	2.0	.5	1.5	.5	.5	.5
10	13.5	12.5	13.0	8.5	7.5	8.0	1.5	.5	1.0	.5	.5	.5
11	14.0	12.5	13.0	8.0	7.0	7.5	1.5	.5	1.0	.5	.5	.5
12	14.0	13.0	13.5	8.0	7.0	7.0	1.5	.5	1.0	.5	.5	.5
13	14.0	13.0	13.5	8.0	7.0	7.0	1.5	1.0	1.0	1.0	.5	.5
14	14.0	13.5	14.0	8.0	7.0	7.0	2.0	1.5	1.5	1.0	.5	.5
15	14.5	14.0	14.0	7.5	7.0	7.5	1.5	1.0	1.0	.5	.5	.5
16	14.5	13.5	14.0	8.5	7.5	8.0	1.0	.5	.5	.5	.5	.5
17	13.5	13.5	13.5	8.5	7.5	8.0	1.0	.5	.5	.5	.5	.5
18	13.5	12.0	12.5	8.0	7.5	8.0	1.0	.5	.5	.5	.5	.5
19	12.0	10.5	11.0	7.5	7.0	7.5	1.0	.5	.5	1.0	.5	.5
20	10.5	10.0	10.5	7.0	5.5	6.0	.5	.5	.5	1.0	.5	.5
21	10.5	10.5	10.5	5.0	3.5	4.5	1.0	.5	.5	1.0	.5	1.0
22	10.5	9.5	10.0	3.5	2.5	3.0	2.0	1.0	1.5	1.0	.5	.5
23	9.5	8.5	9.0	2.5	1.5	2.0	1.5	.5	1.0	1.0	.5	.5
24	8.5	7.0	7.5	3.5	1.5	2.5	1.5	.5	1.0	1.0	.5	.5
25	7.0	6.5	6.5	4.0	3.0	3.5	1.5	.5	1.0	1.0	.5	.5
26	7.5	6.5	7.0	4.5	3.5	4.0	1.5	1.0	1.0	1.0	.5	.5
27	8.0	7.0	7.5	4.0	3.5	4.0	2.0	1.0	1.5	1.0	.5	.5
28	8.5	7.5	8.0	4.0	3.0	3.5	2.5	1.0	1.5	1.5	.5	1.0
29	9.0	8.0	8.5	3.5	2.5	3.0	1.5	.5	1.0	1.0	.5	1.0
30	10.0	8.5	9.5	3.0	2.0	2.5	1.0	.5	.5	1.0	.5	1.0
31	10.5	10.0	10.0	---	---	---	1.5	1.0	1.0	1.0	.5	.5
MONTH	16.0	6.5	11.5	12.0	1.5	7.0	3.0	.5	1.5	1.5	.5	.5

ROCK RIVER BASIN
05430500 ROCK RIVER AT AFTON, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.0	.5	.5	5.5	3.5	4.5	6.5	5.0	6.0	14.0	12.5	13.0
2	1.0	.5	.5	4.5	3.0	4.0	6.0	5.0	5.5	15.5	13.0	14.0
3	1.0	.5	.5	4.0	2.0	3.0	6.5	4.5	5.5	16.5	14.0	15.0
4	1.0	.5	.5	2.5	.5	1.5	4.5	3.5	3.5	16.0	15.0	15.5
5	1.0	.5	.5	3.0	.5	1.5	3.5	1.5	2.5	17.0	16.0	16.5
6	1.0	.5	.5	4.0	1.0	2.0	2.0	.5	1.5	18.0	16.5	17.5
7	1.0	.5	.5	4.0	1.5	2.5	2.5	1.5	2.0	18.5	17.0	17.5
8	1.0	.5	.5	2.0	1.0	1.5	3.0	2.5	3.0	19.0	17.0	18.0
9	1.0	.5	.5	3.0	.5	1.5	4.0	3.0	3.5	19.0	17.0	18.0
10	1.0	.5	.5	4.0	1.0	2.5	4.5	3.5	4.0	19.5	17.5	18.5
11	1.0	.5	.5	5.0	3.0	4.0	5.0	4.0	4.5	20.0	18.0	19.0
12	1.0	.5	.5	4.5	3.5	4.0	6.0	5.0	5.5	21.0	19.0	20.0
13	1.0	.5	.5	4.0	2.0	3.0	7.5	6.0	7.0	21.5	19.5	20.5
14	1.0	.5	1.0	4.0	2.5	3.0	8.5	7.0	8.0	22.5	20.0	21.0
15	1.5	.5	1.0	4.0	3.0	3.5	9.5	8.5	9.0	23.0	20.5	21.5
16	1.0	.5	1.0	4.0	3.5	3.5	10.5	9.5	10.0	22.5	20.5	21.5
17	1.5	.5	1.0	3.5	3.5	3.5	11.5	10.5	11.0	23.5	21.0	22.0
18	2.0	1.0	1.5	4.0	3.0	3.5	12.0	10.5	11.0	23.5	22.0	22.5
19	2.0	1.0	1.5	3.5	2.5	3.0	11.5	11.5	11.5	23.0	21.5	22.0
20	3.0	1.0	2.0	3.0	2.5	2.5	11.5	10.0	11.0	22.5	20.5	22.0
21	3.5	1.0	2.0	3.0	2.5	3.0	10.5	9.5	10.0	20.5	17.5	19.0
22	5.0	2.0	3.5	3.5	2.5	3.0	11.0	9.5	10.5	17.5	15.5	16.5
23	4.5	3.5	4.0	4.5	3.0	3.5	12.5	10.5	11.5	15.5	15.0	15.5
24	3.5	2.0	3.0	5.0	4.0	4.5	13.0	12.0	12.5	15.5	15.0	15.0
25	3.5	1.5	2.5	4.5	4.0	4.5	13.0	12.5	13.0	16.0	15.0	15.5
26	4.0	1.5	2.5	4.0	3.0	3.5	13.0	12.5	13.0	16.0	15.5	16.0
27	5.0	2.0	3.5	4.0	2.5	3.0	13.0	12.0	12.5	17.0	16.0	16.5
28	5.5	2.5	4.0	4.5	3.5	4.0	13.0	12.0	12.5	18.0	16.5	17.0
29	---	---	---	5.5	4.0	5.0	13.0	12.5	12.5	18.5	17.5	18.0
30	---	---	---	6.5	5.5	6.0	12.5	12.0	12.5	20.0	18.0	19.0
31	---	---	---	7.0	6.0	6.5	---	---	---	20.5	19.5	20.0
MONTH	5.5	.5	1.5	7.0	.5	3.5	13.0	.5	8.0	23.5	12.5	18.0
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	21.0	19.5	20.5	24.0	21.0	22.5	26.5	25.0	25.5	22.0	19.0	20.5
2	21.0	19.0	20.0	22.5	21.0	22.0	27.0	25.0	26.0	22.5	19.5	21.0
3	20.0	18.5	19.0	24.0	21.5	22.5	27.5	25.0	26.5	22.5	19.5	21.0
4	19.5	17.5	18.5	25.5	22.0	23.5	27.0	25.5	26.5	23.0	18.5	20.5
5	20.0	17.5	19.0	27.0	23.5	25.0	26.5	25.0	25.5	23.0	19.5	21.0
6	19.5	18.0	19.0	27.0	25.0	26.0	25.5	24.5	25.0	20.5	19.0	20.0
7	21.0	18.5	19.5	27.0	24.0	25.5	26.0	24.5	25.0	21.0	18.5	19.5
8	22.5	19.5	21.0	26.5	24.0	25.0	26.5	24.5	25.0	21.5	17.5	19.5
9	22.0	20.5	21.5	26.5	24.0	25.0	25.5	23.5	24.5	22.5	18.0	20.0
10	22.5	20.0	21.0	25.5	24.0	25.0	24.0	22.5	23.5	22.5	19.0	20.5
11	22.5	19.5	21.0	24.5	23.0	24.0	23.5	21.5	22.5	24.0	19.5	22.0
12	22.5	20.0	21.5	25.0	23.0	24.0	23.5	21.0	22.5	23.0	21.0	22.0
13	23.5	20.0	21.5	26.0	24.5	25.0	24.5	22.0	23.0	23.0	21.5	22.0
14	23.0	20.5	21.5	27.0	25.5	26.0	24.0	23.0	23.5	22.5	20.5	21.5
15	21.5	20.5	21.0	26.5	25.5	25.5	24.0	22.0	23.0	21.0	19.5	20.0
16	21.5	19.5	20.5	26.0	25.0	25.5	25.0	22.5	23.5	20.5	17.5	19.0
17	21.5	19.0	20.5	27.5	25.5	26.5	26.0	23.5	24.5	18.5	17.5	17.5
18	20.5	19.0	19.5	27.5	27.0	27.5	26.0	23.5	24.5	18.5	16.0	17.5
19	21.0	18.0	19.5	27.5	27.0	27.0	26.0	24.0	25.0	19.0	15.5	17.0
20	21.0	18.0	19.5	27.5	26.0	27.0	26.5	24.0	25.0	16.5	15.0	16.0
21	21.5	18.5	20.0	26.5	24.5	26.0	26.0	23.5	24.5	16.5	14.0	15.5
22	22.0	18.5	20.5	25.5	23.5	24.5	24.0	23.0	23.5	17.0	13.5	15.0
23	22.0	19.0	20.5	26.5	24.0	25.0	25.0	22.5	23.5	15.5	13.5	14.5
24	23.0	20.0	21.5	26.5	24.5	25.5	23.0	21.0	22.0	15.5	14.0	14.5
25	22.0	20.5	21.5	27.5	25.5	26.5	23.5	19.5	21.5	14.5	13.5	14.0
26	22.0	19.5	20.5	28.0	26.5	27.0	22.5	20.5	21.5	15.0	13.5	14.0
27	22.5	20.0	21.0	27.0	26.0	26.5	22.5	19.0	20.5	16.0	13.0	14.5
28	24.0	21.0	22.5	26.5	25.0	25.5	22.0	18.5	20.0	16.5	13.5	15.0
29	23.0	22.5	22.5	26.0	24.5	25.5	19.5	18.5	19.0	18.0	15.0	16.5
30	24.0	21.0	22.5	26.5	25.0	25.5	20.0	19.0	19.5	19.5	15.5	17.0
31	---	---	---	26.5	24.5	25.5	20.0	18.5	19.0	---	---	---
MONTH	24.0	17.5	20.5	28.0	21.0	25.5	27.5	18.5	23.5	24.0	13.0	18.5

ROCK RIVER BASIN

05431486 TURTLE CREEK AT CARVERS ROCK ROAD NEAR CLINTON, WI

LOCATION.--Lat 42°35'50", long 88°49'45", in SW 1/4 sec.27, T.2 N., R.14 E., Rock County, Hydrologic Unit 07090001, on left bank 25 ft (8 m) downstream from bridge on Carvers Rock Road, 3.3 mi (5.3 km) northeast of Clinton, 13 mi (21 km) northeast of Beloit, and 17.8 mi (28.6 km) upstream from mouth.

DRAINAGE AREA.--199 mi² (515 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 823 ft (251 m), from topographic map. September 1939 to December 1979, water-stage recorder at site 1.8 mi (2.90 km) downstream at a different datum.

REMARKS.--Records good except those for winter periods, which are fair. Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes.

AVERAGE DISCHARGE.--43 years, 119 ft³/s (3.370 m³/s) 8.12 in/yr (206 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s (467 m³/s) Apr. 21, 1973, gage height, 12.85 ft (3.971 m), from rating curve extended above 6,500 ft³/s (184 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 8.0 ft³/s (0.23 m³/s) Dec. 29, 1956, gage height, 2.04 ft (0.622 m), result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)				
Mar. 13	0645	2,760	78.2	8.83	2.691	July 22	1845	*3,340	94.6	*9.25	2.819
Apr. 3	1330	1,660	47.0	7.72	2.353						

minimum discharge, 13.0 ft³/s (0.368 m³/s) Mar. 4, gage height, 3.14 ft (0.957 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10-12 and Dec. 15 to Mar. 11.)

3.6	58	7.0	1,180
4.0	126	8.0	1,880
5.0	370	9.0	2,980
6.0	726		

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

DAY	OCT	NOV	DEC	JAN	MEAN VALUES		APR	MAY	JUN	JUL	AUG	SEP
					FEB	MAR						
1	91	108	143	88	84	86	239	113	138	236	195	115
2	98	103	152	86	84	80	300	112	123	200	189	118
3	104	118	139	86	84	76	1300	111	115	263	150	106
4	106	116	138	86	82	70	668	110	109	279	464	101
5	103	109	130	84	82	68	464	117	121	255	401	97
6	106	108	128	84	80	68	402	116	145	254	322	95
7	103	106	128	82	80	66	398	110	126	345	279	96
8	100	100	124	82	80	66	382	108	98	242	348	93
9	98	95	118	82	80	68	374	105	93	263	194	90
10	99	94	110	80	78	70	386	102	89	283	159	88
11	95	91	110	82	80	80	403	102	87	314	146	87
12	93	85	110	82	82	303	406	150	95	176	136	85
13	91	83	109	84	84	2300	373	128	94	170	127	86
14	106	80	107	84	86	875	331	118	87	195	122	96
15	128	83	94	82	88	448	286	116	132	171	118	139
16	119	87	98	80	90	760	303	140	143	176	113	109
17	148	86	98	76	92	555	352	163	120	160	105	113
18	294	86	98	78	92	353	316	167	124	130	101	125
19	208	84	98	82	94	316	299	165	118	126	99	113
20	199	92	100	86	100	372	293	132	107	115	99	104
21	183	88	100	86	110	488	273	119	102	143	97	102
22	173	80	100	88	120	337	251	128	97	1990	97	98
23	161	83	100	88	150	322	240	126	91	1560	98	97
24	151	89	98	86	120	335	178	120	82	623	108	95
25	145	89	96	86	100	320	140	118	175	513	173	94
26	140	138	96	84	96	285	134	123	190	476	140	93
27	136	245	96	86	90	258	129	269	153	461	122	92
28	133	172	90	86	88	234	114	301	166	384	101	93
29	133	144	86	86	---	227	110	224	472	274	100	90
30	139	123	88	86	---	242	112	216	315	236	106	118
31	125	---	90	86	---	262	---	187	---	203	106	---
TOTAL	4108	3165	3372	2604	2576	10390	9956	4416	4107	11216	5115	3028
MEAN	133	106	109	84.0	92.0	335	332	142	137	362	165	101
MAX	294	245	152	88	150	2300	1300	301	472	1990	464	139
MIN	91	80	86	76	78	66	110	102	82	115	97	85
CFSM	.67	.53	.55	.42	.46	1.68	1.67	.71	.69	1.82	.83	.51
IN.	.77	.59	.63	.49	.48	1.94	1.86	.83	.77	2.10	.96	.57
CAL YR 1981	TOTAL	40288	MEAN 110	MAX 657	MIN 51	CFSM .55	IN 7.53					
WTR YR 1982	TOTAL	64053	MEAN 175	MAX 2300	MIN 66	CFSM .88	IN 11.97					

ROCK RIVER BASIN

05431486 TURTLE CREEK AT CARVERS ROCK ROAD NEAR CLINTON, WI-CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1980 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: January 1980 to September 1982 (discontinued).

REMARKS.--Sediment records are good except for ice period which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,810 mg/l July 22, 1982; minimum daily mean, 2 mg/l Jan. 31 - Feb. 13, 1981. Maximum observed, 1,260 mg/l Feb. 22; minimum observed, 3 mg/l Nov. 11, 1980, Dec. 3, 1982.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 12,100 tons (11,000 tonnes) July 22, 1982; minimum daily, 0.31 tons (0.28 tonnes) Feb. 3, 4, 8-12, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,810 mg/l July 22; minimum daily mean, 3 mg/l Dec. 3-8. Maximum observed, 1,230 mg/l Apr. 3; minimum observed, 3 mg/l Dec. 3.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 12,100 tons (11,000 tonnes) July 22; minimum daily, 1.0 tons (0.9 tonnes) Dec. 6-8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR , 1982							
13...	1015	2660	470	3380	--	--	--
13...	1306	2600	475	3330	47	63	74
13...	1442	2430	491	3220	49	68	77
13...	1730	2120	422	2420	--	--	--
14...	0912	898	214	519	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM
MAR , 1982							
13...	--	--	81	--	--	--	--
13...	83	87	90	92	94	99	100
13...	--	--	85	--	--	--	--
13...	85	89	91	93	95	99	100
14...	--	--	95	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
MAR , 1982											
13...	1306	2600	2	4	16	39	48	54	63	81	100

ROCK RIVER BASIN

05431486 TURTLE CREEK AT CARVERS ROCK ROAD NEAR CLINTON, WI-CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24	5.9	22	6.5	10	3.6	13	3.1	7	1.6	54	13
2	23	5.9	36	10	6	2.3	13	3.0	7	1.6	53	11
3	21	6.0	57	18	3	1.2	13	3.0	7	1.6	52	11
4	20	5.8	57	18	3	1.1	13	3.0	7	1.5	51	9.6
5	19	5.4	60	18	3	1.1	13	2.9	7	1.5	51	9.4
6	18	5.1	21	6.0	3	1.0	12	2.7	6	1.3	27	5.0
7	17	4.8	15	4.3	3	1.0	12	2.7	6	1.3	25	4.5
8	16	4.4	19	5.1	3	1.0	12	2.7	6	1.3	28	5.0
9	18	4.8	24	6.1	4	1.3	12	2.7	6	1.3	60	11
10	23	6.2	21	5.5	4	1.2	12	2.6	6	1.3	50	9.5
11	30	7.7	18	4.5	4	1.2	12	2.7	6	1.3	50	11
12	34	8.6	16	3.6	4	1.2	11	2.4	6	1.3	197	161
13	44	11	13	3.0	4	1.2	11	2.5	5	1.1	678	4230
14	58	17	14	3.1	5	1.4	11	2.5	5	1.2	227	580
15	78	27	16	3.7	6	1.5	11	2.4	5	1.2	105	129
16	59	19	17	3.9	7	1.9	11	2.4	5	1.2	572	1310
17	66	32	11	2.6	8	2.1	10	2.1	6	1.5	185	309
18	182	149	7	1.7	9	2.4	10	2.1	7	1.7	74	71
19	71	40	7	1.6	11	2.9	10	2.2	8	2.0	47	40
20	54	29	7	1.7	13	3.5	10	2.3	15	4.0	69	82
21	52	26	7	1.7	16	4.3	10	2.3	25	7.4	148	208
22	37	18	7	1.5	16	4.3	9	2.1	50	16	42	38
23	21	9.2	7	1.5	16	4.3	9	2.1	80	32	33	28
24	20	8.3	6	1.5	15	4.0	9	2.1	70	23	41	38
25	30	12	17	4.2	15	4.0	9	2.1	60	16	30	26
26	36	14	78	37	15	3.9	9	2.1	58	15	22	17
27	21	7.6	101	69	15	3.9	8	1.9	57	14	42	29
28	47	17	49	23	14	3.4	8	1.9	56	13	36	23
29	35	13	28	11	14	3.2	8	1.9	---	---	30	18
30	22	8.2	16	5.5	14	3.3	8	1.9	---	---	65	43
31	16	5.3	---	---	14	3.4	8	1.9	---	---	78	56
TOTAL	---	533.2	---	282.8	---	76.1	---	74.3	---	167.2	---	7536.0

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	51	33	21	6.4	68	25	179	114	35	18	50	16
2	149	142	14	4.2	53	18	177	96	33	17	51	16
3	826	2940	16	4.8	47	14	192	137	31	13	49	14
4	200	394	23	6.9	38	11	174	131	380	589	39	11
5	94	119	33	10	51	17	123	85	136	156	29	7.5
6	119	134	40	12	75	29	96	67	95	82	23	5.9
7	49	52	22	6.4	49	17	213	203	89	67	29	7.5
8	28	29	21	6.1	34	9.1	145	95	136	136	39	9.7
9	26	26	22	6.2	27	6.7	134	95	82	43	36	8.9
10	32	34	22	6.2	15	3.7	125	95	61	26	24	5.6
11	28	31	26	7.3	14	3.3	116	99	53	21	29	6.9
12	36	39	64	27	18	4.6	108	51	48	18	29	6.8
13	42	42	49	17	19	4.7	100	46	43	15	26	6.1
14	50	44	52	17	20	4.7	93	49	36	12	68	18
15	61	47	37	11	57	21	87	40	46	15	82	32
16	166	153	38	15	47	18	81	38	37	11	37	11
17	148	144	114	50	69	22	75	33	30	8.5	36	11
18	57	49	124	56	99	33	70	24	26	7.2	31	11
19	47	38	90	40	51	16	65	22	22	5.8	35	11
20	38	30	67	24	45	13	60	19	31	8.2	34	9.7
21	24	17	42	14	45	12	77	37	40	10	22	6.2
22	35	24	35	12	55	14	1810	12100	38	10	19	5.1
23	51	33	44	15	67	17	350	1710	34	9.0	20	5.2
24	52	25	41	13	50	11	131	226	39	12	32	8.4
25	39	15	36	12	372	308	64	89	84	39	33	8.4
26	26	9.5	30	9.9	310	166	49	63	55	21	13	3.4
27	6	2.0	260	252	133	55	46	57	40	13	7	1.9
28	14	4.1	268	229	181	82	43	45	47	13	26	6.5
29	29	8.6	143	87	1130	1920	41	30	55	15	26	6.4
30	31	9.3	107	62	310	287	39	25	58	16	43	14
31	---	---	82	42	---	---	37	20	49	14	---	---
TOTAL	---	4667.5	---	1081.4	---	3162.8	---	15941	---	1440.7	---	291.1
TOTAL LOAD FOR YEAR:			35254.1		TONS.							

ROCK RIVER BASIN

05432500 PECATONICA RIVER AT DARLINGTON, WI

LOCATION.--Lat 42°40'40", long 90°07'07", in NE 1/4 sec.3, T.2 N., R.3 E., Lafayette County, Hydrologic Unit 07090003, on right bank in Darlington, 0.3 mi (0.5 km) downstream from Vinegar Branch, and 3.6 mi (5.8 km) upstream from Otter Creek.

DRAINAGE AREA.--273 mi² (707 km²).

PERIOD OF RECORD.--September 1939 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 802.42 ft (244.578 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--43 years, 184 ft³/s (5.211 m³/s), 9.15 in/yr (232 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s (623 m³/s), July 16, 1950, gage height, 20.71 ft (6.312 m), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of slope-area determination of peak flow; minimum, 17 ft³/s (0.48 m³/s) Nov. 29, 1966, gage height, 2.09 ft (0.637 m), result of freezeup; minimum gage height, 1.07 ft (0.326 m), Dec. 6, 1968, result of freezeup.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of Feb. 21, 1937, reached a stage of 17.6 ft (5.36 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.48 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 14	1900	2,660 75.3	13.11 4.00	Aug. 5	1800	1,640 46.4	11.14 3.40
Mar. 17	1300	*2,700 76.5	*13.16 4.01				

minimum daily, 120 ft³/s (3.40 m³/s) Dec. 16, Jan. 24 to Feb. 18.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 14-23; stage-discharge relation affected by ice Dec. 11 to Mar. 14.)

Oct. 1 to Mar. 13

2.2	112
3.0	200
4.0	320
6.0	580
8.0	880
10.0	1,320

Mar. 14 to Sept. 30

2.5	146	8.0	856
3.0	191	9.0	1,040
4.0	300	10.0	1,280
5.0	422	11.0	1,580
6.0	556	12.0	2,000
7.0	700	13.0	2,580

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	223	259	130	120	170	424	238	344	181	182	207
2	226	217	313	130	120	160	390	233	309	174	177	203
3	209	211	275	130	120	150	655	227	282	274	173	188
4	215	208	251	130	120	150	685	225	262	221	643	178
5	220	210	235	130	120	150	471	300	248	189	1470	175
6	292	209	226	130	120	140	400	385	238	193	861	178
7	263	201	234	130	120	140	410	355	242	392	409	176
8	219	196	249	130	120	130	369	284	234	308	344	172
9	210	190	234	130	120	130	359	256	225	212	302	169
10	211	182	191	130	120	130	357	241	222	221	274	168
11	213	182	190	130	120	140	378	232	211	628	256	168
12	199	181	180	130	120	200	413	236	210	338	240	166
13	194	180	180	130	120	1300	438	231	203	316	230	165
14	259	180	160	130	120	2300	397	225	194	278	226	182
15	419	181	140	130	120	1970	368	214	311	258	221	201
16	298	199	120	130	120	1490	462	212	417	338	215	173
17	285	208	150	130	120	2390	515	208	254	309	208	175
18	400	187	150	130	120	1200	413	210	241	253	202	182
19	346	183	140	130	130	654	375	237	229	238	198	172
20	303	187	140	130	140	642	379	243	215	220	194	166
21	286	179	140	130	160	881	349	219	208	223	186	161
22	280	165	140	130	200	657	321	257	202	238	185	158
23	264	173	140	130	500	599	303	254	194	213	202	157
24	257	194	140	120	540	594	296	223	187	193	195	158
25	256	191	140	120	350	575	286	213	184	187	271	159
26	255	217	140	120	230	446	282	238	212	182	232	156
27	250	406	140	120	200	374	283	341	210	182	193	156
28	242	306	130	120	180	344	260	572	193	202	183	154
29	234	250	130	120	---	334	249	410	195	183	184	154
30	230	232	130	120	---	396	242	490	197	232	288	152
31	226	---	130	120	---	573	---	389	---	219	238	---
TOTAL	8006	6228	5517	3950	4790	19509	11529	8598	7073	7795	9382	5129
MEAN	258	208	178	127	171	629	384	277	236	251	303	171
MAX	419	406	313	130	540	2390	685	572	417	628	1470	207
MIN	194	165	120	120	120	130	242	208	184	174	173	152
CFSM	.95	.76	.65	.47	.63	2.30	1.41	1.02	.86	.92	1.11	.63
IN.	1.09	.85	.75	.54	.65	2.66	1.57	1.17	.96	1.06	1.28	.70
CAL YR 1981	TOTAL	65622	MEAN 180	MAX 2360	MIN 72	CFSM .66	IN 8.94					
WTR YR 1982	TOTAL	97506	MEAN 267	MAX 2390	MIN 120	CFSM .98	IN 13.29					

ROCK RIVER BASIN

05433000 EAST BRANCH PECATONICA RIVER NEAR BLANCHARDVILLE, WI

LOCATION.--Lat 42°47'10" long 89°51'40", in SE 1/4 sec. 26, T.4 N., R.5 E., Lafayette County, Hydrologic Unit 07090003, on left bank at downstream side of bridge on State Highway 78, 1.8 mi (2.9 km) south of Blanchardville and 4.5 mi (7.2 km) upstream from Sawmill Creek.

DRAINAGE AREA.--221 mi² (572 km²).

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 796.8 ft (242.86 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge 50 ft (15 m) upstream at same datum. Auxiliary nonrecording gage 2.7 mi (4.3 km) upstream at same datum read during high flows.

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

AVERAGE DISCHARGE.--43 years, 141 ft³/s (3.993 m³/s), 8.66 in/yr (220 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s (331 m³/s) Feb. 28, 1948, gage height, 15.74 ft (4.798 m); minimum, 18 ft³/s (0.51 m³/s) Nov. 29, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft³/s (36.8 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 13	1900	*1,890 53.5	*12.24 3.731	Aug. 5	0300	1,650 46.7	11.87 3.618
Mar. 17	0700	1,740 49.3	12.01 3.661				

minimum daily, 80 ft³/s (2.27 m³/s) Dec. 16.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 11 to Dec. 10; stage-discharge relation affected by ice Dec. 11 to Mar. 12.)

Oct. 1 to Mar. 12

Mar. 13 to Sept. 30

3.5	79	3.9	123	8.0	563
4.0	118	4.0	131	9.0	704
5.0	212	5.0	224	10.0	932
6.0	314	6.0	324	11.0	1,250
7.0	424	7.0	438	12.0	1,730

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	152	160	110	110	120	274	193	223	159	145	159
2	162	149	191	110	110	120	270	189	205	153	143	157
3	153	146	161	110	110	110	642	184	194	189	141	149
4	156	144	152	110	110	110	588	182	187	163	980	144
5	160	144	146	110	110	110	370	227	183	152	1190	142
6	200	143	143	110	110	110	324	362	179	155	372	143
7	178	139	148	110	110	110	314	275	183	281	248	142
8	154	139	155	110	110	110	289	221	177	187	233	141
9	150	135	145	110	110	110	284	205	173	159	209	139
10	155	132	128	110	110	110	294	197	172	183	195	138
11	156	132	120	110	110	110	319	192	165	258	186	137
12	146	130	120	110	110	140	335	201	163	185	179	135
13	145	130	110	110	110	1390	324	191	162	162	174	135
14	215	129	110	110	110	1380	284	185	157	159	172	138
15	298	130	100	110	110	622	271	179	260	160	170	146
16	201	136	80	110	110	796	300	182	283	179	167	136
17	209	136	110	110	110	1390	321	179	187	165	162	136
18	342	129	130	110	110	487	273	186	179	153	158	139
19	227	129	130	110	120	417	254	194	175	151	157	135
20	202	133	120	110	130	365	263	191	169	147	156	134
21	193	129	120	110	150	466	246	187	166	171	150	130
22	188	122	120	110	160	328	231	211	164	391	150	129
23	180	123	120	110	240	332	223	195	158	190	156	127
24	172	134	120	110	230	361	219	185	155	163	153	128
25	172	128	120	110	180	349	215	180	153	156	212	128
26	172	153	120	110	140	295	217	188	171	151	164	126
27	165	256	120	110	130	260	220	261	161	154	153	126
28	161	174	120	110	130	244	203	347	156	162	147	125
29	158	152	110	110	---	238	197	252	205	148	149	124
30	156	143	110	110	---	276	194	299	202	161	205	123
31	154	---	110	110	---	348	---	245	---	155	169	---
TOTAL	5650	4251	3949	3410	3590	11714	8758	6665	5467	5502	7345	4091
MEAN	182	142	127	110	128	378	292	215	182	177	237	136
MAX	342	256	191	110	240	1390	642	362	283	391	1190	159
MIN	145	122	80	110	110	110	194	179	153	147	141	123
CFSM	.82	.64	.58	.50	.58	1.71	1.32	.97	.82	.80	1.07	.62
IN.	.95	.72	.66	.57	.60	1.97	1.47	1.12	.92	.93	1.24	.69
CAL YR 1981	TOTAL	54172	MEAN 148	MAX 1810	MIN 66	CFSM .67	IN 9.12					
WTR YR 1982	TOTAL	70392	MEAN 193	MAX 1390	MIN 80	CFSM .87	IN 11.85					

ROCK RIVER BASIN

05434500 PECATONICA RIVER AT MARTINTOWN, WI

LOCATION.--Lat 42°30'34", long 89°47'58", in SE 1/4 sec.32, T.1 N., R.6 E., Green County, Hydrologic Unit 07090003, on right bank about 400 ft (120 m) downstream from highway bridge in Martintown, 0.3 mi (0.5 km) upstream from Wisconsin-Illinois State line and 8.8 mi (14.1 km) downstream from Skinner Creek.

DRAINAGE AREA.--1,034 mi² (2,678 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1308: 1949-50(M). WDR WI-71-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 757.83 ft (230.99 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 6, 1940, nonrecording gage at same site and datum. Auxiliary recording gage 1.2 mi (1.9 km) downstream, at same datum, which records stage above 7.4 ft (2.26 m).

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

AVERAGE DISCHARGE.--43 years, 708 ft³/s (20.05 m³/s), 9.30 in/yr (236 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s (428 m³/s) July 1, 1969, gage height, 21.46 ft (6.541 m); no flow for part of Dec. 14, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,780 ft³/s (164 m³/s) Mar. 17, gage height, 16.78 ft (5.115 m), no other peaks above base of 4,000 ft³/s (113 m³/s); minimum daily discharge, 490 ft³/s (13.9 m³/s) Feb. 4-18.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Mar. 14.)

4.3	468	11.0	2,180
5.0	643	13.0	2,940
7.0	1,140	15.0	4,270
9.0	1,650	17.0	5,980

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

DISCHARGE, IN CUBIC FEET PER SECOND, AT THE LOWER END OF THE WEIR												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1060	958	1040	560	500	680	1540	909	1600	897	884	912
2	979	940	1120	560	500	640	1500	955	1410	818	814	843
3	915	922	1130	560	500	620	1890	938	1280	828	775	800
4	879	904	1070	560	490	600	2110	925	1180	934	921	758
5	881	895	1000	560	490	580	2200	986	1120	913	1590	728
6	903	889	960	560	490	560	2090	1260	1070	848	1930	711
7	919	877	949	540	490	540	1850	1430	1040	1310	2220	711
8	945	862	963	540	490	540	1660	1340	1020	1540	2220	706
9	867	842	958	540	490	540	1550	1180	992	1330	1710	689
10	834	823	926	520	490	540	1490	1070	963	1080	1270	684
11	825	810	870	520	490	540	1510	1010	939	1300	1100	685
12	818	798	832	520	490	580	1610	1030	921	1410	1020	677
13	794	796	800	520	490	2000	1710	1040	906	1280	964	670
14	894	793	780	520	490	3500	1670	985	882	1080	929	667
15	1180	788	760	520	490	4510	1570	944	967	1020	904	670
16	1270	800	660	500	490	5430	1480	914	1220	997	884	707
17	1290	817	540	500	490	5750	1480	909	1300	1040	860	701
18	2080	822	660	500	490	5610	1510	900	1120	1040	835	695
19	2250	805	600	500	500	5450	1410	909	1010	959	813	700
20	2000	797	580	500	520	5160	1330	933	965	908	797	684
21	1620	790	580	500	600	4540	1290	938	925	916	778	666
22	1390	778	580	500	800	3790	1240	937	894	1280	760	652
23	1280	767	580	500	940	3180	1180	996	868	1490	762	644
24	1200	789	580	500	1000	2700	1140	1000	841	1230	780	632
25	1150	818	580	500	1000	2300	1110	950	822	1000	856	637
26	1110	933	580	500	900	2020	1090	957	834	908	916	640
27	1090	1330	580	500	800	1750	1080	1170	840	866	886	636
28	1050	1340	560	500	720	1510	1060	1510	851	857	796	633
29	1020	1200	560	500	--	1370	1020	1660	846	866	757	623
30	995	1040	560	500	---	1350	990	1870	909	867	788	617
31	973	---	560	500	---	1450	---	1780	---	898	916	---
TOTAL	35461	26723	23498	16100	16630	70330	44360	34395	30535	32710	32435	20778
MEAN	1144	891	758	519	594	2269	1479	1110	1018	1055	1046	693
MAX	2250	1340	1130	560	1000	5750	2200	1870	1600	1540	2220	912
MIN	794	767	540	500	490	540	990	900	822	818	757	617
CFSM	1.11	.86	.73	.50	.57	2.19	1.43	1.07	.99	1.02	1.01	.67
IN.	1.28	.96	.85	.58	.60	2.53	1.60	1.24	1.10	1.18	1.17	.75
CAL YR 1981	TOTAL	274969	MEAN	753	MAX	4060	MIN	300	CFSM	.73	IN	9.89
WTR YR 1982	TOTAL	383955	MEAN	1052	MAX	5750	MIN	490	CFSM	1.02	IN	13.81

ROCK RIVER BASIN

05434500 PECATONICA RIVER AT MARTINTOWN, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973, 1975, 1979 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to September 1982 (discontinued).

REMARKS.--Sediment records are good except those for winter period which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,010 mg/l June 16, 1981; minimum daily mean, 5 mg/l Nov. 24, 25, 1980. Maximum observed, 2,140 mg/l June 15, 1981: Minimum observed, 4 mg/l Nov. 24, 1980.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 4,490 tons (4,070 tonnes) June 16, 1981; minimum daily, 6 tons (5.4 tonnes) Nov. 24, 1980.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 864 mg/l Mar. 13; minimum daily mean, 11 mg/l Dec. 19, 20. Maximum observed, 1,040 mg/l Oct. 18; minimum observed, 10 mg/l Dec. 19.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 4,670 tons (4,240 tonnes) Mar. 13; minimum daily, 17 tons (15 tonnes) Dec. 20.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAR , 1982									
15...	1500	4620	171	2130	88	90	96	99	100
15...	1600	4650	159	2000	87	90	95	99	100
17...	1839	5760	118	1840	88	89	94	99	100
18...	1433	5590	95	1430	90	91	95	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM
MAR , 1982									
17...	1839	5760	1	1	17	86	98	99	100

ROCK RIVER BASIN

05434500 PECATONICA RIVER AT MARTINTOWN, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	140	401	118	305	24	67	14	21	17	23	40	73
2	135	357	88	224	26	78	14	21	17	23	40	69
3	128	316	78	194	24	73	14	21	17	23	40	67
4	123	292	95	231	20	58	14	21	17	22	70	113
5	117	278	85	206	19	51	14	21	17	22	76	119
6	108	263	69	164	18	46	14	21	17	22	78	118
7	99	218	52	124	22	56	15	22	17	22	80	117
8	82	210	48	113	27	69	15	22	18	24	80	117
9	75	175	43	98	26	67	15	22	18	24	80	117
10	73	164	54	121	18	44	15	22	18	24	80	117
11	84	188	51	111	19	45	15	22	18	24	80	117
12	92	203	48	103	19	43	15	22	18	24	124	194
13	103	220	36	78	18	40	15	22	18	24	864	4670
14	113	275	32	68	20	42	15	22	19	25	294	2780
15	130	417	52	111	18	37	15	22	19	25	159	1930
16	104	358	58	126	25	45	15	20	19	25	131	1910
17	115	428	51	112	26	38	15	20	19	25	115	1780
18	520	2890	43	95	19	34	16	22	20	26	100	1520
19	163	989	34	73	11	18	16	22	20	27	89	1310
20	92	499	22	48	11	17	16	22	22	31	59	825
21	74	324	26	55	14	22	16	22	27	44	40	493
22	64	241	35	75	16	25	16	22	30	65	48	487
23	57	196	25	52	15	23	16	22	35	89	49	423
24	49	157	21	44	13	20	16	22	45	122	58	420
25	40	125	22	49	17	27	16	22	55	148	77	480
26	38	113	61	162	20	31	16	22	60	146	88	478
27	40	116	174	628	26	41	16	22	55	119	75	357
28	51	146	105	380	18	27	16	22	45	87	63	258
29	67	184	49	161	17	26	17	23	---	---	61	225
30	80	215	30	84	16	24	17	23	---	---	86	316
31	89	235	---	---	14	21	17	23	---	---	99	386
TOTAL	---	11193	---	4395	---	1255	---	675	---	1305	---	22386

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	102	426	137	360	211	912	274	664	238	568	148	364
2	106	431	163	420	212	808	259	573	230	505	135	306
3	168	865	143	362	217	748	295	660	220	460	131	283
4	179	1020	146	366	235	751	375	946	250	622	133	273
5	102	605	153	407	235	711	352	870	305	1310	125	246
6	78	441	156	529	249	716	327	750	353	1830	122	235
7	61	306	158	611	288	808	574	2060	231	1370	123	237
8	50	226	131	474	288	790	493	2060	137	822	119	227
9	51	212	127	404	256	687	348	1250	150	682	112	209
10	51	206	130	375	299	777	247	721	172	592	109	202
11	53	215	149	407	319	808	200	702	179	531	122	225
12	60	259	172	481	299	743	199	755	163	449	150	275
13	65	298	180	506	322	787	198	681	165	430	118	213
14	74	331	180	478	310	738	197	573	163	408	135	244
15	73	309	204	520	344	903	196	540	160	391	123	222
16	96	385	201	497	363	1200	195	525	173	412	120	228
17	134	538	195	478	291	1030	194	546	184	427	115	217
18	161	654	205	498	252	763	193	540	180	405	110	207
19	176	673	236	578	247	674	192	498	166	365	125	237
20	120	433	218	550	238	620	191	469	163	349	103	191
21	83	288	208	526	245	613	190	471	166	348	86	155
22	67	222	177	447	257	621	265	939	136	279	69	122
23	73	233	164	442	270	631	319	1290	72	148	62	108
24	102	312	173	470	306	696	259	859	60	127	75	128
25	134	401	167	430	318	706	254	686	111	258	99	170
26	114	337	164	425	297	669	250	613	150	372	91	157
27	101	292	180	572	297	673	245	573	147	351	69	119
28	104	298	225	922	311	714	240	555	131	282	61	104
29	102	282	285	1290	301	686	238	556	137	281	60	101
30	109	291	336	1700	308	756	238	557	138	294	79	131
31	---	---	191	917	---	---	238	577	148	367	---	---
TOTAL	---	11789	---	17442	---	22739	---	24059	---	16035	---	6136
TOTAL LOAD FOR YEAR:			139409	TONS.								

ROCK RIVER BASIN

05436500 SUGAR RIVER NEAR BRODHEAD, WI

LOCATION.--Lat 42°36'42", long 89°23'53", in SW 1/4 sec.26, T.2 N., R.9 E., Green County, Hydrologic Unit 07090004, on left bank at downstream side of highway bridge, 1.2 mi (1.9 km) southwest of Brodhead, and 1.9 mi (3.1 km) upstream from Sylvester Creek.

DRAINAGE AREA.--523 mi² (1,355 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for January and February 1914, published in WSP 1308.

REVISED RECORDS.--WSP 1238: 1914-16, 1918, 1922, 1927, 1933. WSP 1508: 1916-17(M), 1919(M), 1920, 1921(M), 1927-28(M), 1930(M), 1931, 1936(M), 1943(M). WDR WI-71-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 768.14 ft (234.129 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods of ice effect which are fair. Some regulation from dam and powerplant upstream.

AVERAGE DISCHARGE.--68 years, 344 ft³/s (9.742 m³/s), 8.93 in/yr (227 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s (419 m³/s) Sept. 13, 1915, gage height, 11.4 ft (3.47 m) from floodmarks, from rating curve extended above 7,500 ft³/s (212 m³/s); minimum, 35 ft³/s (0.99 m³/s) Sept. 19, 1959, gage height, -0.16 ft (-0.049 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft³/s (36.8 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Oct. 20	0600	1,520 43.0	4.48 1.366	Apr. 5	0900	2,010 56.9	5.46 1.664
Mar. 14	1200	*3,940 112	*7.89 2.405				

minimum discharge, 162 ft³/s (4.59 m³/s) Dec. 16, gage height, 0.36 ft (0.110 m), result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Mar. 13.)

0.7	230	4.0	1,280
1.0	296	6.0	2,320
2.0	572	8.0	4,090

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	381	384	513	270	240	280	579	405	660	543	337	339
2	352	378	555	270	240	280	569	404	580	507	329	323
3	333	372	585	260	240	270	1000	396	479	491	322	306
4	323	367	537	260	240	270	1610	390	432	550	579	293
5	332	368	467	260	240	260	1950	417	408	484	655	287
6	336	385	434	260	240	250	1350	483	393	407	872	285
7	373	360	425	250	240	240	896	570	388	756	933	286
8	356	350	427	250	240	240	739	630	379	878	726	284
9	335	344	434	250	240	240	673	541	367	819	507	280
10	311	338	410	240	240	250	668	452	352	667	432	277
11	318	334	400	250	240	260	724	428	344	989	388	280
12	336	331	400	250	240	270	808	459	348	886	360	275
13	301	329	377	250	240	1800	830	530	338	799	329	274
14	361	328	354	250	240	3680	783	460	327	631	337	275
15	488	327	330	240	240	3410	702	421	375	487	338	276
16	639	331	300	230	240	2470	638	400	520	435	330	275
17	643	336	280	230	240	2060	606	398	602	628	321	283
18	857	332	290	240	240	1970	593	398	559	818	313	288
19	1220	360	290	240	250	1530	559	390	444	592	307	287
20	1440	325	290	240	260	1090	531	380	404	459	303	281
21	973	334	290	240	280	993	515	384	379	416	294	279
22	654	326	300	250	320	958	498	413	362	400	294	274
23	520	317	300	250	360	883	445	462	350	455	294	273
24	472	337	290	240	430	736	450	465	340	446	297	290
25	449	338	290	240	500	672	433	435	345	398	319	280
26	437	366	280	240	450	633	428	426	355	367	328	274
27	429	590	280	240	370	568	431	489	350	350	307	268
28	419	747	270	240	320	508	435	634	341	357	296	268
29	412	766	260	240	---	494	421	675	439	366	291	273
30	435	602	270	240	---	492	411	781	555	351	310	260
31	393	---	270	240	---	544	---	744	---	343	342	---
TOTAL	15628	11702	11198	7640	7860	28601	21275	14860	12515	17075	12390	8493
MEAN	504	390	361	246	281	923	709	479	417	551	400	283
MAX	1440	766	585	270	500	3680	1950	781	660	989	933	339
MIN	301	317	260	230	240	240	411	380	327	343	291	260
CFSM	.96	.75	.69	.47	.54	1.77	1.36	.92	.80	1.05	.77	.54
IN.	1.11	.83	.80	.54	.56	2.03	1.51	1.06	.89	1.21	.88	.60
CAL YR 1981	TOTAL	130783	MEAN	358	MAX	1520	MIN	150	CFSM	.69	IN	9.30
WTR YR 1982	TOTAL	169237	MEAN	464	MAX	3680	MIN	230	CFSM	.89	IN	12.04

ROCK RIVER BASIN

05436500 SUGAR RIVER NEAR BRODHEAD, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965-67, 1973, 1976, 1979 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to current year.

REMARKS.--Sediment records are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 216 mg/l Mar. 14, 1982; minimum daily mean, 1 mg/l Dec. 20-23, 1979. Maximum observed, 330 mg/l Mar. 13, 1982; minimum observed, 1 mg/l Dec. 20, 30, 1979.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,150 tons (1,950 tonnes) Mar. 14, 1982; minimum daily, 0.65 tons (0.59 tonnes) Dec. 20, 1979.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 216 mg/l Mar. 14; minimum daily mean, 4 mg/l Dec. 28-31, Feb. 6-20. Maximum observed, 330 mg/l Mar. 13; minimum observed, 4 mg/l Dec. 28, 31, Feb. 12, 21.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,150 tons (1,950 tonnes) Mar. 14; minimum daily, 2.6 tons (2.4 tonnes) Feb. 6-18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR , 1982										
15...	1110	3530	118	1130	55	56	59	85	97	100
15...	1235	3420	80	741	75	76	80	95	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
MAR , 1982												
15...	1145	3510	1	12	56	78	84	90	94	96	98	100

ROCK RIVER BASIN

05436500 SUGAR RIVER NEAR BRODHEAD, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	90	93	52	54	31	43	6	4.4	5	3.2	9	6.8
2	90	86	51	52	38	58	8	5.8	5	3.2	8	6.0
3	85	76	50	50	54	86	8	5.6	5	3.2	7	5.1
4	80	70	49	48	43	63	8	5.6	5	3.2	7	5.1
5	76	68	48	48	40	51	8	5.6	5	3.2	7	4.9
6	76	69	47	49	37	44	7	4.9	4	2.6	6	4.0
7	85	86	46	45	34	39	7	4.7	4	2.6	6	3.9
8	80	77	45	43	32	37	7	4.7	4	2.6	6	3.9
9	76	69	44	41	30	35	7	4.5	4	2.6	6	3.9
10	62	52	44	40	27	30	7	4.5	4	2.6	8	5.4
11	50	43	43	39	25	27	7	4.7	4	2.6	8	5.6
12	45	41	42	38	24	25	7	4.7	4	2.6	10	7.3
13	45	37	41	36	22	22	7	4.7	4	2.6	163	792
14	42	40	40	35	20	19	7	4.7	4	2.6	216	2150
15	60	79	40	35	19	18	6	3.9	4	2.6	103	953
16	72	125	38	34	17	14	6	3.7	4	2.6	103	683
17	85	148	39	35	16	12	6	3.7	4	2.6	79	442
18	104	243	38	34	15	12	6	3.9	4	2.6	60	320
19	125	413	38	37	15	12	6	3.9	4	2.7	45	189
20	83	326	37	32	14	11	6	3.9	4	2.8	30	89
21	66	173	37	33	13	10	6	3.9	5	3.8	30	79
22	65	115	36	32	13	11	6	4.0	11	9.5	29	74
23	64	90	36	31	12	9.7	6	4.0	20	19	28	68
24	62	79	35	32	8	6.2	6	3.9	35	41	27	55
25	60	73	35	32	9	7.0	5	3.2	41	55	26	47
26	59	70	40	39	7	5.3	5	3.2	20	24	23	39
27	57	66	62	100	5	3.8	5	3.2	8	8.0	16	25
28	56	63	104	211	4	2.9	5	3.2	11	9.5	20	27
29	55	61	99	205	4	2.8	5	3.2	---	---	18	24
30	54	63	61	100	4	2.9	5	3.2	---	---	24	32
31	53	56	---	---	4	2.9	5	3.2	---	---	29	43
TOTAL	---	3150	---	1640	---	722.5	---	130.3	---	225.1	---	6192.9

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	30	47	53	58	69	123	89	131	31	28	44	40
2	33	50	47	51	68	106	86	118	30	27	40	35
3	74	218	42	45	64	82	82	109	30	26	37	30
4	125	543	43	45	88	102	78	116	98	171	40	31
5	76	404	46	52	106	117	75	98	74	130	44	34
6	31	116	49	64	115	122	72	79	74	176	48	37
7	25	60	62	95	95	100	132	286	78	197	48	37
8	16	31	62	105	79	80	114	270	58	114	51	39
9	17	30	48	71	78	77	86	191	46	63	54	41
10	17	31	63	77	80	76	69	126	58	68	61	46
11	19	38	70	80	81	76	116	313	55	58	89	67
12	26	56	81	101	79	75	84	201	50	49	72	54
13	27	62	91	131	77	70	59	128	53	47	49	36
14	26	54	85	106	71	63	42	72	59	53	51	38
15	27	51	74	84	52	53	33	44	57	52	55	41
16	27	47	64	69	76	108	34	40	55	49	50	37
17	30	48	55	59	96	157	77	134	61	53	45	35
18	35	56	53	56	64	97	128	282	54	46	43	33
19	37	56	90	94	64	77	87	140	44	37	32	25
20	34	49	95	98	58	63	52	66	41	33	41	31
21	19	26	91	94	71	73	35	39	71	57	38	28
22	26	35	93	103	92	90	34	37	74	59	33	25
23	39	47	76	95	96	91	54	66	71	57	37	27
24	44	53	64	81	96	88	48	58	67	54	39	31
25	46	54	76	89	90	84	40	43	62	54	39	30
26	49	56	66	76	86	83	36	36	55	49	35	26
27	51	60	50	66	93	88	34	32	51	42	34	24
28	50	59	48	82	98	90	32	31	55	44	33	24
29	55	63	48	87	90	107	32	32	54	42	39	28
30	59	65	55	120	90	134	32	30	52	43	36	25
31	---	---	53	106	---	---	31	29	48	44	---	---
TOTAL	---	2565	---	2540	---	2752	---	3377	---	2022	---	1035
TOTAL LOAD FOR YEAR:	26351.8		TONS.									

ROCK RIVER BASIN

05437500 ROCK RIVER AT ROCKTON, IL

LOCATION.--Lat 42°26'55", long 89°04'11", in SW 1/4 NE 1/4 sec.24, T.46 N., R.1 E., Winnebago County, Hydrologic Unit 07090005, on right bank 750 ft (229 m) downstream from State Highway 75 in Rockton, 1.0 mi (1.6 km) downstream from Pecatonica River, and at mile 156.1 (251.2 km).

DRAINAGE AREA.--6,363 mi² (16,480 km²).

PERIOD OF RECORD.--June 1903 to July 1906, October 1906 to March 1909, July 1914 to September 1919, October 1939 to current year. Published as "below mouth of Pecatonica River at Rockton" 1903-09; as "at Rockford" 1914-19. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 325: 1903-9. WSP 895: 1904(M). WSP 1508: 1915, 1916-17(M). WDR IL-75: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 707.94 ft (215.780 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1906, nonrecording gage at same site at datum about 1 ft (0.3 m) higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at same site at datum about 2 ft (0.6 m) higher. July 30, 1914, to Apr. 30, 1919, nonrecording gage at site at Rockford about 21 mi (34 km) downstream, at different datum. Oct. 1, 1939, to Aug. 10, 1973, at site 800 ft (244 km) upstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are poor. Low flow regulated by powerplant above station.

AVERAGE DISCHARGE.--50 years (water years 1904-5, 1915-19, 1940-82), 3,940 ft³/s (111.6 m³/s), 8.41 in/yr (214 mm/yr), discharge for site at Rockford adjusted for difference in drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s (920 m³/s) Mar. 30, 1916, gage height, 13.06 ft (3.981 m), site and datum then in use; minimum daily, 501 ft³/s (14.2 m³/s) Sept. 14, 1958.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood in February 1937 reached a stage of 14.6 ft (4.45 m), backwater from ice, from painted floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,900 ft³/s (479 m³/s) Mar. 17, gage height, 10.45 ft (3.185 m); minimum daily discharge, 2,050 ft³/s (58.1 m³/s) Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4980	6360	6040	2950	2100	6110	10700	8300	8540	4880	5660	3520
2	4960	6220	5950	2900	2100	6060	10700	7880	8280	4790	5500	4010
3	4860	6180	5880	2900	2150	5640	12900	7520	8160	4740	5520	3970
4	4770	6110	6040	2900	2150	5280	14200	7310	7520	4800	5610	3260
5	4630	5980	5860	2850	2150	4620	14200	7080	6830	4510	6360	3570
6	4720	5640	5720	2700	2100	4290	14700	7170	6510	4520	6660	3430
7	4720	5630	5570	2600	2050	4160	14900	6830	6150	5600	6680	3460
8	4720	5300	5570	2550	2100	4010	15000	7080	5790	5300	7460	3450
9	4790	5250	5360	2400	2150	3950	14800	7140	5520	4800	7440	3090
10	4770	5250	5090	2350	2200	3790	14300	6890	5360	5770	7230	3090
11	4770	4930	4910	2300	2200	4160	14100	6570	5020	9400	6850	2930
12	4650	4770	4890	2300	2300	4490	14000	6530	4910	9220	6260	2990
13	4590	4720	4980	2300	2300	12000	14000	6330	4720	8600	5660	3050
14	4770	4470	4770	2350	2300	13900	13900	6000	4440	8000	5270	2980
15	4980	4520	4560	2350	2300	14200	13800	5840	4720	7600	4840	3320
16	5590	4350	4260	2400	2300	15200	13700	5730	5020	7200	4630	2970
17	6040	4490	3940	2400	2250	16800	13700	5630	5140	6900	4610	3350
18	7210	4260	3520	2400	2200	16500	13100	5500	5120	6600	4420	3170
19	8120	4310	3090	2400	2300	16000	12500	5400	4840	6400	4070	3300
20	8260	4490	3100	2400	2500	15900	12200	5300	4890	6180	3770	3190
21	8740	3940	4400	2350	2700	16500	11700	5200	4510	5800	3460	3240
22	9070	3870	4200	2300	3300	16700	11200	5100	4210	8220	3670	2980
23	9140	3730	3950	2250	4500	16600	10800	5000	4330	9750	3430	3270
24	8890	3830	3700	2200	5890	16400	10300	4950	3940	8040	3230	2860
25	8140	3620	3500	2200	5770	16000	9870	4900	4060	7460	3490	3070
26	7940	3900	3450	2200	5730	15200	9570	5000	4350	7020	3670	2950
27	7640	4980	3300	2150	6040	14300	9420	5400	4110	6790	3190	2820
28	7080	5500	3200	2150	6090	13700	9120	6000	4230	6620	3470	2790
29	7040	5700	3100	2150	---	12900	8790	7100	4540	6240	3360	2750
30	6850	5770	3050	2150	---	12300	8660	8810	5460	5980	3540	2750
31	6680	---	3000	2100	---	11500	---	8990	---	5880	3530	---
TOTAL	194110	148070	137950	74900	84220	339160	370830	198480	161220	203610	152540	95580
MEAN	6262	4936	4450	2416	3008	10940	12360	6403	5374	6568	4921	3186
MAX	9140	6360	6040	2950	6090	16800	15000	8990	8540	9750	7460	4010
MIN	4590	3620	3000	2100	2050	3790	8660	4900	3940	4510	3190	2750
CFSM	.98	.78	.70	.38	.47	1.72	1.94	1.01	.85	1.03	.77	.50
IN.	1.13	.87	.81	.44	.49	1.98	2.17	1.16	.94	1.19	.89	.56
CAL YR 1981	TOTAL	1557250	MEAN	4266	MAX	10300	MIN	1600	CFSM	.67	IN	9.10
WTR YR 1982	TOTAL	2160670	MEAN	5920	MAX	16800	MIN	2050	CFSM	.93	IN	12.63

ILLINOIS RIVER BASIN

05527800 DES PLAINES RIVER AT RUSSELL, IL

LOCATION.--Lat 42°29'22", long 87°55'32", in SE 1/4 sec.3, T.46 N., R.11 E., Lake County, Hydrologic Unit 07120004, at center of downstream side of bridge on Russell Road, 0.3 mi (0.5 km) west of Russell, 7.2 mi (11.6 km) upstream from Mill Creek, and at mile 109.3 (175.9 km).

DRAINAGE AREA.--123 mi² (319 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961-63, and annual maximum, water years 1962-66. June 1967 to current year.

REVISED RECORDS.--WDR IL-75: Drainage area. WDR IL-76: 1960-68(M), 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 662.00 ft (201.778 m) National Geodetic Vertical Datum of 1929. Oct. 17, 1961, to June 29, 1967, crest-stage gage at left downstream side of bridge at datum 4.29 ft (1.308 m) higher.

REMARKS.--Water-discharge records good except those for winter periods, which are poor.

AVERAGE DISCHARGE.--15 years, 94.6 ft³/s (2.679 m³/s), 10.44 in/yr (265 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s (60.0 m³/s) Mar. 21, 1979, gage height, 9.69 ft (2.954 m); maximum gage height, 10.75 ft (3.277 m) Mar. 6, 1976; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 873 ft³/s (24.7 m³/s) Mar. 18, gage height, 8.30 ft (2.530 m); minimum, 0.34 ft³/s (0.010 m³/s) Jan. 10, result of freezeup.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	52	198	15	7.7	100	267	69	74	20	39	7.6
2	191	45	196	15	7.6	103	252	62	62	16	37	9.2
3	165	41	195	16	7.6	109	278	55	50	20	56	8.7
4	134	37	193	20	7.5	110	335	51	42	74	70	7.5
5	105	38	183	19	7.4	107	414	46	36	123	93	6.8
6	84	40	168	16	7.4	102	436	47	32	159	101	6.6
7	70	39	153	14	7.4	99	464	45	29	184	82	5.8
8	63	36	138	12	7.3	97	451	39	27	197	61	5.9
9	58	32	122	10	7.1	96	431	34	25	210	46	5.8
10	52	30	111	7.5	6.9	93	412	32	23	214	34	4.9
11	45	28	90	8.5	7.0	90	409	30	21	205	27	4.6
12	39	26	79	8.1	7.2	129	412	38	19	178	23	4.8
13	35	25	68	8.3	7.2	213	419	49	16	135	19	4.4
14	36	24	59	8.1	7.4	343	414	44	16	89	17	3.7
15	57	24	56	7.9	7.6	436	396	35	16	55	15	5.5
16	70	24	47	7.8	8.0	561	403	30	20	44	13	6.7
17	73	24	42	7.0	8.7	737	438	30	24	44	13	7.3
18	94	23	36	7.6	9.5	860	436	29	22	39	11	9.1
19	135	23	31	7.8	10	865	419	36	25	33	9.6	9.9
20	164	39	27	8.0	13	823	396	29	24	27	8.1	8.6
21	174	65	24	7.8	20	840	359	34	21	23	7.7	7.9
22	165	68	23	7.9	35	795	316	46	19	83	7.3	7.0
23	141	91	22	8.1	78	708	273	82	17	185	7.0	6.8
24	117	120	21	7.9	130	649	233	122	16	217	6.3	6.4
25	94	125	19	7.5	123	585	196	142	13	232	11	5.9
26	77	135	18	7.7	115	519	158	138	16	242	17	5.9
27	67	150	17	7.8	107	460	129	125	40	243	14	6.0
28	59	170	16	7.8	102	412	109	122	40	222	11	6.1
29	53	185	16	7.7	---	369	91	121	29	173	9.2	6.1
30	57	195	15	7.6	---	325	78	109	23	109	7.9	5.2
31	57	---	14	7.5	---	293	---	92	---	60	7.5	---
TOTAL	2942	1954	2397	308.9	869.5	12028	9824	1963	837	3855	880.6	196.7
MEAN	94.9	65.1	77.3	9.96	31.1	388	327	63.3	27.9	124	28.4	6.56
MAX	211	195	198	20	130	865	464	142	74	243	101	9.9
MIN	35	23	14	7.0	6.9	90	78	29	13	16	6.3	3.7
CFSM	.77	.53	.63	.08	.25	3.15	2.66	.52	.23	1.01	.23	.05
IN.	.89	.59	.72	.09	.26	3.64	2.97	.59	.25	1.17	.27	.06
CAL YR 1981	TOTAL	26983.1	MEAN	73.9	MAX	370	MIN	5.7	CFSM	.60	IN	8.16
WTR YR 1982	TOTAL	38055.7	MEAN	104	MAX	865	MIN	3.7	CFSM	.85	IN	11.51

ILLINOIS RIVER BASIN

05543830 FOX RIVER AT WAUKESHA, WI

LOCATION.--Lat 43°00'17", long 88°14'37", in SW 1/4 sec.3, T.6 N., R.18 E., Waukesha County, Hydrologic Unit 07120006, on left bank 20 ft (6.10 m) downstream from Prairie Street bridge in Waukesha, 1.0 mi (1.6 km) downstream from dam and 3.2 mi (5.1 km) downstream from Pewaukee River.

DRAINAGE AREA.--127 mi² (329 km²).

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 793.04 ft (241.719 m) National Geodetic Vertical Datum of 1929 (levels by city of Waukesha).

REMARKS.--Records good to fair. Occasional regulation from mill dam 1.0 mi (1.6 km) upstream.

AVERAGE DISCHARGE.--19 years, 92.0 ft³/s (2.605 m³/s), 9.84 in/yr (250 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,260 ft³/s (64.0 m³/s) Apr. 22, 1973, gage height, 7.42 ft (2.262 m); minimum, 3.0 ft³/s (0.085 m³/s) Jan. 1, 1964, gage height, 1.52 ft (0.463 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 965 ft³/s (27.3 m³/s) Apr. 5, gage height, 5.49 ft (1.673 m); minimum, 9.8 ft³/s (0.278 m³/s) Nov. 3 and Jan. 8, gage height, 1.83 ft (0.558 m), result of regulation; minimum daily, 14 ft³/s (0.396 m³/s) Sept. 30.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation effected by ice Jan. 5-27, Feb. 5-12.)

1.9	14	3.0	178
2.1	31	4.0	418
2.4	71	5.0	750
		6.0	1,220

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	124	151	53	46	72	306	123	122	57	35	27
2	196	160	159	54	45	77	334	117	104	53	161	27
3	166	76	153	57	45	75	707	112	88	52	150	26
4	164	115	145	52	43	73	871	106	78	55	108	23
5	167	111	137	52	44	77	930	105	71	54	89	22
6	209	110	128	50	45	73	709	106	65	88	82	20
7	194	107	123	48	46	72	623	103	63	105	77	20
8	164	101	124	45	46	69	511	94	65	95	71	21
9	140	98	114	42	46	70	432	84	61	70	65	22
10	137	92	94	40	47	73	393	86	60	92	61	22
11	134	93	94	39	47	74	393	93	58	127	56	20
12	130	89	83	38	47	93	438	106	54	144	51	19
13	120	86	79	37	45	188	488	105	51	115	47	20
14	161	82	76	37	44	260	478	88	50	93	45	21
15	202	80	68	37	45	301	448	85	87	84	44	21
16	192	80	71	39	44	398	456	82	88	78	42	27
17	211	81	65	40	47	529	453	81	79	70	40	23
18	279	80	58	44	50	572	409	77	71	65	35	21
19	311	84	58	47	50	567	361	74	71	61	28	21
20	284	90	55	48	56	538	321	68	76	53	28	18
21	248	92	55	48	58	423	291	68	74	55	26	17
22	240	88	56	48	66	490	264	94	73	76	24	16
23	231	84	57	49	76	492	240	160	68	92	25	15
24	217	85	55	49	78	509	217	185	61	63	30	15
25	213	88	54	48	71	519	194	175	79	47	30	15
26	199	124	54	48	69	486	177	187	87	41	32	16
27	174	173	54	48	67	433	163	203	81	36	29	17
28	145	177	54	48	67	380	151	198	67	33	25	15
29	129	157	54	46	---	336	139	182	65	32	29	16
30	133	143	53	44	---	318	131	160	30	30	30	14
31	129	---	52	44	---	318	---	139	---	29	29	---
TOTAL	5845	3150	2633	1419	1480	9055	12028	3646	2178	2145	1624	597
MEAN	189	105	84.9	45.8	52.9	292	401	118	72.6	69.2	52.4	19.9
MAX	311	177	159	57	78	572	930	203	122	144	161	27
MIN	120	76	52	37	43	69	131	68	50	29	24	14
CFSM	1.50	.83	.67	.36	.42	2.32	3.18	.94	.58	.55	.42	.16
IN.	1.73	.93	.78	.42	.44	2.67	3.55	1.08	.64	.63	.48	.18
CAL YR 1981	TOTAL	36439	MEAN	99.8	MAX	593	MIN	22	CFSM	.79	IN	10.76
WTR YR 1982	TOTAL	45800	MEAN	125	MAX	930	MIN	14	CFSM	.99	IN	13.52

ILLINOIS RIVER BASIN

05544200 MUKWONAGO RIVER AT MUKWONAGO, WI

LOCATION.--Lat 42°51'24", long 88°19'40", in NE 1/4 NE 1/4 sec.35, T.5 N., R.18 E., Waukesha County, Hydrologic Unit 07120006, on left bank 100 ft (30 m) upstream from bridge on State Highway 83 in Mukwonago, 100 ft (30 m) downstream from railroad bridge, and 800 ft (244 m) downstream from dam.

DRAINAGE AREA.--74.1 mi² (191.9 km²).

PERIOD OF RECORD.--July 1973 to current year.

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 779.23 ft (237.509 m) National Geodetic Vertical Datum of 1929 (Southeastern Wisconsin Regional Planning Commission bench mark). Prior to Oct. 19, 1981, at datum 0.85 ft (0.259 m) higher.

REMARKS.--Records fair, except those for period of no gage-height, Jan. 9 to Mar. 11, which are poor. Discharge affected by manipulation of gates at dams 800 ft (244 m) and 11.4 mi (18.3 km) upstream.

AVERAGE DISCHARGE.--9 years, 59.0 ft³/s (1.671 m³/s), 9.99 in/yr (254 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 300 ft³/s (8.50 m³/s) Mar. 5, 1976, gage height, 2.50 ft (0.762 m); minimum daily, 1.8 ft³/s (0.051 m³/s) Dec. 23, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 140 ft³/s (3.96 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 16	0530	146	4.13	2.77	0.844	May 5	1600	189	5.35	2.96	0.902
Apr. 6	1345	*225	6.37	*3.09	0.942						

minimum daily discharge, 10 ft³/s (0.283 m³/s) May 8.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).

1.7	6.5	2.5	82
1.9	15	2.8	144
2.1	27	3.2	246
2.3	50		

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	45	118	37	39	45	83	31	53	45	36	32
2	60	44	107	37	39	45	65	37	56	42	40	41
3	58	42	96	39	40	45	102	42	55	42	41	40
4	62	42	71	44	40	47	116	45	54	42	58	37
5	64	47	41	45	40	47	170	113	52	41	62	36
6	62	53	43	47	40	45	201	162	51	45	62	33
7	60	49	45	47	40	43	186	123	49	51	63	32
8	56	50	47	47	39	43	173	10	48	52	63	26
9	56	48	46	46	39	43	161	14	47	55	63	21
10	54	45	46	43	38	45	149	21	42	62	60	20
11	54	43	45	42	39	43	132	26	21	77	57	19
12	56	41	44	40	39	46	124	47	17	103	55	17
13	56	39	42	40	40	61	106	60	23	74	51	18
14	60	38	42	40	42	73	104	57	26	50	49	19
15	62	36	42	39	44	120	103	54	46	51	45	20
16	60	36	41	38	48	143	99	53	55	50	26	22
17	54	19	41	38	47	145	100	53	53	40	14	24
18	58	11	40	38	45	145	101	58	51	41	17	26
19	58	14	40	38	43	140	99	61	51	41	19	27
20	57	22	40	40	43	140	96	71	49	40	21	28
21	55	26	40	43	44	139	93	80	46	40	21	28
22	54	27	40	43	45	133	89	79	56	48	22	27
23	55	28	40	41	45	128	84	80	59	59	22	28
24	57	29	38	40	47	124	82	85	57	67	23	28
25	55	30	37	40	47	120	80	84	54	56	26	28
26	52	40	37	40	47	114	76	85	53	66	27	27
27	52	53	37	40	47	108	72	119	53	62	28	27
28	52	55	37	40	45	103	63	110	42	53	30	27
29	52	6.7	37	39	---	93	20	92	37	59	30	27
30	52	98	37	39	---	91	24	53	42	60	29	29
31	47	---	37	39	---	96	---	53	---	47	29	---
TOTAL	1754	1156.7	1494	1269	1191	2753	3153	2058	1398	1661	1189	814
MEAN	56.6	38.6	48.2	40.9	42.5	88.8	105	66.4	46.6	53.6	38.4	27.1
MAX	64	98	118	47	48	145	201	162	59	103	63	41
MIN	47	6.7	37	37	38	43	20	10	17	40	14	17
CFSM	.76	.52	.65	.55	.57	1.20	1.42	.90	.63	.72	.52	.37
IN.	.88	.58	.75	.64	.60	1.38	1.58	1.03	.70	.83	.60	.41
CAL YR 1981	TOTAL	18266.7	MEAN	50.0	MAX	160	MIN	6.7	CFSM	.68	IN	9.17
WTR YR 1982	TOTAL	19890.7	MEAN	54.5	MAX	201	MIN	6.7	CFSM	.74	IN	9.99

ILLINOIS RIVER BASIN

05545300 WHITE RIVER NEAR BURLINGTON, WI

LOCATION.--Lat 42°39'57", long 88°19'03", in NE 1/4 NW 1/4 sec.1, T.2 N., R.18 E., in Walworth County, Hydrologic Unit 07120006, on right bank 10 ft (3 m) downstream from bridge on State Highway 36, 2.2 mi (3.5 km) southwest of Burlington and 3.4 mi (5.5 km) upstream from mouth.

DRAINAGE AREA.--110 mi² (285 km²).

PERIOD OF RECORD.--Annual maximum, water years 1958-64, 1967-73; August 1964 to September 1966 no winter records; April 1973 to current year.

REVISED RECORDS.--WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 757.43 ft (230.865 m) National Geodetic Vertical Datum of 1929. Prior to August 1964, crest-stage gage.

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

AVERAGE DISCHARGE.--9 years (water years 1974-82), 89.5 ft³/s (2.53 m³/s), 12.88 in/yr (327 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,960 ft³/s (53.8 m³/s) July 18, 1969, gage height, 13.59 ft (4.142 m); minimum recorded, 2.3 ft³/s (0.065 m³/s) July 4, 1965, gage height, 7.79 ft (2.374 m).

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 13	1215	960	27.2	13.31	4.057	July 22	2115
Apr. 3	1630	664	18.8	12.53	3.819	*1,110	31.4
						*13.62	4.151

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15 to Mar. 15.)

8.2	17	10.0	240
8.3	24	11.0	366
8.5	41	12.0	536
8.7	64	13.0	825
9.0	110	14.0	1,360

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	40	112	26	25	30	207	135	148	50	162	42
2	66	38	119	25	25	31	208	135	138	46	195	46
3	59	37	99	25	24	30	513	129	128	209	151	42
4	60	48	121	25	24	29	522	80	119	147	206	36
5	60	60	124	25	24	28	436	68	113	87	203	32
6	74	49	119	25	24	27	320	68	105	79	172	31
7	72	41	117	24	24	27	323	66	101	213	147	30
8	68	38	107	24	23	27	304	58	95	161	130	28
9	65	36	89	24	23	27	294	54	92	118	117	28
10	63	54	123	24	23	28	306	53	91	143	102	32
11	59	41	135	25	23	30	320	53	80	250	85	34
12	53	54	105	23	23	35	320	160	75	168	73	36
13	50	69	66	23	24	60	294	147	72	124	65	34
14	62	69	58	23	24	140	259	144	65	122	63	33
15	79	67	54	23	24	280	236	151	105	142	60	34
16	61	61	44	23	25	338	299	220	121	134	56	35
17	90	67	37	24	25	362	396	185	90	122	53	34
18	218	60	33	24	26	293	307	156	86	110	48	36
19	135	56	31	24	26	282	240	144	85	99	46	35
20	90	62	30	24	27	323	214	283	77	83	44	33
21	70	58	30	25	28	383	198	198	74	83	39	32
22	65	53	30	25	28	323	185	228	68	641	38	31
23	61	52	31	25	28	289	172	205	38	811	39	36
24	57	67	30	25	29	296	155	182	31	529	36	33
25	54	69	30	25	29	285	126	164	59	402	82	29
26	51	116	30	24	28	248	109	159	176	319	65	28
27	48	191	29	24	28	219	100	200	81	275	50	27
28	46	126	28	24	29	203	88	204	96	259	41	27
29	44	96	26	24	---	189	84	188	66	234	37	26
30	43	82	26	25	---	207	122	173	60	215	38	25
31	42	---	26	25	---	233	---	159	---	187	39	---
TOTAL	2142	1957	2039	754	713	5302	7657	4549	2735	6562	2682	985
MEAN	69.1	65.2	65.8	24.3	25.5	171	255	147	91.2	212	86.5	32.8
MAX	218	191	135	26	29	383	522	283	176	811	206	46
MIN	42	36	26	23	23	27	84	53	31	46	36	25
CFSM	.63	.59	.60	.22	.23	1.56	2.32	1.34	.83	1.93	.79	.30
IN.	.72	.66	.69	.25	.24	1.79	2.59	1.54	.92	2.22	.91	.33
CAL YR 1981	TOTAL	26908	MEAN	73.7	MAX	418	MIN	17	CFSM	.67	IN	9.10
WTR YR 1982	TOTAL	38077	MEAN	104	MAX	811	MIN	23	CFSM	.95	IN	12.88

ILLINOIS RIVER BASIN

05546500 FOX RIVER AT WILMOT, WI

LOCATION.--Lat 42°30'40", long 88°10'45", in SW 1/4 sec.30, T.1 N., R.20 E., Kenosha County, Hydrologic Unit 07120006, on right bank 100 ft (30 m) downstream from bridge on County Trunk Highway C, 300 ft (90 m) upstream from Wilmot Dam, 1.0 mi (1.6 km) north of Wisconsin-Illinois State line, and 6.0 mi (9.6 km) upstream from Fox Chain of Lakes.

DRAINAGE AREA.--868 mi² (2,248 km²).

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1308: 1943(M), 1945(M). WDR WI-67-1: Drainage area.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 735.22 ft (224.095 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1956, nonrecording gage and concrete dam.

REMARKS.--Records good. Three 6 ft (1.8 m) lift gates in Wilmot dam were in operation during the year; discharge through gates computed by weir and orifice formulas and added to flow over dam. Gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years, 519 ft³/s (14.70 m³/s), 8.12 in/yr (206 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,520 ft³/s (213 m³/s) Mar. 31, 1960, gage height, 9.25 ft (2.819 m), from graph based on gage readings; no flow part of day Oct. 26, 1945; minimum daily discharge, 35 ft³/s (0.99 m³/s) Sept. 9, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,510 ft³/s (99.4 m³/s) Apr. 5, gage height, 7.79 ft (2.374 m); minimum daily, 220 ft³/s (6.23 m³/s) Sept. 30.

DAY	DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	526	670	841	285	292	467	1820	838	831	392	545	350
2	650	635	949	283	290	483	1770	829	779	365	588	340
3	678	529	950	297	286	484	1980	740	670	495	700	310
4	573	555	938	257	282	474	2590	655	552	753	800	310
5	616	543	931	278	300	451	2920	586	529	592	1000	280
6	641	559	892	320	310	464	2800	524	509	508	980	260
7	699	614	863	298	310	470	2690	517	416	587	880	260
8	652	599	817	300	310	470	2570	578	404	802	820	250
9	580	541	789	300	310	480	2480	562	403	685	760	260
10	565	512	622	300	320	500	2470	510	396	609	660	280
11	552	454	507	300	320	560	2480	448	393	744	580	280
12	489	439	590	290	320	700	2490	504	388	783	520	260
13	473	455	613	290	320	896	2460	590	357	733	490	260
14	482	466	587	290	320	1430	2380	574	336	712	460	270
15	541	466	403	290	310	2070	2170	570	365	768	430	284
16	627	386	409	290	310	2480	2050	658	480	722	390	281
17	642	338	420	280	313	2690	2190	685	522	606	370	267
18	896	390	356	280	317	2810	2310	638	487	564	360	281
19	1270	400	366	280	319	2900	2200	628	480	526	350	270
20	1190	430	364	280	319	3000	2010	809	449	485	340	256
21	1120	440	359	280	331	2900	1850	890	423	425	330	247
22	1010	420	351	290	352	2700	1710	877	399	854	320	247
23	995	413	324	290	403	2600	1550	944	383	1590	310	292
24	868	438	277	290	450	2600	1340	965	349	1750	310	269
25	838	463	265	290	474	2700	1190	902	347	1550	380	236
26	835	497	275	300	454	2800	1090	894	511	1320	400	237
27	913	837	289	300	456	2700	1020	930	549	1060	420	235
28	857	1000	292	300	460	2400	938	1100	491	880	350	230
29	806	945	280	304	---	2200	839	1080	482	747	320	225
30	715	868	278	300	---	1900	828	1000	428	637	310	220
31	692	---	291	294	---	1900	---	882	---	604	330	---
TOTAL	22991	16302	16488	9026	9558	51679	59185	22907	14108	23848	15803	8047
MEAN	742	543	532	291	341	1667	1973	739	470	769	510	268
MAX	1270	1000	950	320	474	3000	2920	1100	831	1750	1000	350
MIN	473	338	265	257	282	451	828	448	336	365	310	220
CFSM	.86	.63	.61	.34	.39	1.92	2.27	.85	.54	.89	.59	.31
IN.	.99	.70	.71	.39	.41	2.21	2.54	.98	.60	1.02	.68	.34
CAL YR 1981	TOTAL	209479	MEAN	574	MAX	2170	MIN	180	CFSM	.66	IN	8.98
WTR YR 1982	TOTAL	269942	MEAN	740	MAX	3000	MIN	220	CFSM	.85	IN	11.57

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual minimum has been determined.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
STREAMS TRIBUTARY TO LAKE SUPERIOR							
04024384	LAKE SUPERIOR TRIBUTARY AT SUPERIOR, WI	LAT 46°43'18", LONG 92°04'02", IN SE 1/4 SW 1/4 SEC.13, T.49 N., R.14 W., DOUGLAS COUNTY, AT CULVERT ON U.S. HIGHWAY 2, 1.6 MI (2.6 KM) NORTH OF 24TH AVENUE, AND 0.5 MI (0.8 KM) DOWNSTREAM FROM CENTRAL PARK, AT SUPERIOR.	4.90	1982	07-09-82	4.80	298
04024400	STONY BROOK NEAR SUPERIOR, WIS.	LAT 46°35'01", LONG 92°07'10", IN SE 1/4 SEC.4, T.47 N., R.14 W., DOUGLAS COUNTY, AT BOX CULVERT ON STATE HIGHWAY 35, 12.5 MI (20.1 KM) SOUTH OF TOLL BRIDGE ON U.S. HIGHWAYS 2 AND 35 AT ST. LOUIS RIVER AT SUPERIOR.	2.20	1959-82	07-06-82	17.00	265
04025200	PEARSON CREEK NEAR MAPLE, WIS.	LAT 46°38'51", LONG 91°42'55", ON COMMON BOUNDARY OF SECS.11 AND 14, T.48 N., R.11 W., DOUGLAS COUNTY, AT BOX CULVERT ON STATE HIGHWAY 13, 4.0 MI (6.4 KM) NORTH OF MAPLE.	4.01	1957-82	07-07-82	13.45	320
04026200	SAND RIVER TRIBUTARY NEAR RED CLIFF, WIS.	LAT 46°53'53", LONG 90°56'47", IN NE 1/4 SEC.14, T.51 N., R.5 W., BAYFIELD COUNTY, AT BOX CULVERT ON STATE HIGHWAY 13, 8.0 MI (12.9 KM) NORTHWEST OF RED CLIFF.	1.14	1959-82	07-07-82	11.90	160
*04026300	SIOUX RIVER NEAR WASHBURN, WIS.	LAT 46°41'20", LONG 90°57'02", IN NE 1/4 SEC.35, T.49 N., R.5 W., BAYFIELD COUNTY, ON COUNTY TRUNK HIGHWAY C, 2.5 MI (4.0 KM) WEST OF WASHBURN.	35.2	1959-65 1966- 1967-82	07-10-82	12.59	550
04026450	BAD RIVER NEAR MELLE, WIS.	LAT 46°16'14", LONG 90°42'26", IN NE 1/4 NW 1/4 SEC.26, T.44 N., R.3 W., ASHLAND COUNTY, ON LEFT BANK 150 FT (45.7 M) DOWNSTREAM FROM BRIDGE ON U.S. FOREST SERVICE ROAD, 4.4 MI (7.1 KM) SOUTHEAST OF MELLE.	83.4	1971-75# 1976-82	07-11-82	3.90	539
*04027200	PEARL CREEK AT GRANDVIEW, WIS.	LAT 46°22'05", LONG 91°05'27", IN NE 1/4 SEC.22, T.45 N., R.6 W., BAYFIELD COUNTY, AT BOX CULVERT ON U.S. HIGHWAY 63, 0.8 MI (1.3 KM) EAST OF GRANDVIEW.	16.9	1960-82	05-12-82	10.80	105
STREAMS TRIBUTARY TO LAKE MICHIGAN							
*04059900	ALLEN CREEK TRIBUTARY NEAR ALVIN, WIS.	LAT 45°58'05", LONG 88°47'24", ON NORTH BOUNDARY SEC.7, T.40 N., R.14 E., FOREST COUNTY, AT CULVERT ON STATE HIGHWAY 70, 2.2 MI (3.5 KM) SOUTHEAST OF ALVIN.	1.24	1960-82	05-05-82	10.93	15
04063640	NORTH BRANCH PINE RIVER AT WINDSOR DAM NEAR ALVIN, WIS.	LAT 45°55'43", LONG 88°51'38", IN SE 1/4 SEC.21, T.40 N., R.13 E., FOREST COUNTY, AT BRIDGE ON COUNTRY ROAD, AT WINDSOR DAM, 3.8 MI (6.1 KM) UPSTREAM FROM CONFLUENCE OF NORTH AND SOUTH FORKS, 4.0 MI (6.4 KM) SOUTHWEST OF ALVIN.	27.8	1967-68# 1970-82	07-10-82	2.49	63
04063688	SOUTH BRANCH POPPLE RIVER NEAR NEWALD, WIS.	LAT 45°44'42", LONG 88°35'31", IN NW 1/4 SEC.26, T.38 N., R.15 E., FLORENCE COUNTY, AT CORRUGATED TWIN BARREL CULVERTS ON U.S. FOREST SERVICE ROAD 2159, 5.4 MI (8.7 KM) EAST OF NEWALD.	9.47	1970-82	07-10-82	11.68	43
*04063800	WOODS CREEK NEAR FENCE, WIS.	LAT 45°49'53", LONG 88°23'17", IN SE 1/4 SEC.29, T.39 N., R.17 E., FLORENCE COUNTY, AT BOX CULVERT ON STATE HIGHWAY 101, 6.0 MI (9.7 KM) NORTH OF FENCE.	41.40	1958-82	04-06-82	11.19	190

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982							ANNUAL MAXIMUM	DIS-
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	CHARGE (FT ³ /S)	
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED								
04064800	LITTLE POPPLE RIVER NEAR AURORA, WIS.	LAT 45°47'34", LONG 88°11'40", IN SW 1/4 SEC.1, T.38 N., R.18 E., FLORENCE COUNTY, AT 3-BARREL CORRUGATED CULVERT ON COUNTY TRUNK HIGHWAY N, 5.5 MI (8.8 KM) WEST OF AURORA.	35.0	1970-82	07-10-82	12.78	330	
04067760	PESHTIGO RIVER NEAR CAVOUR, WIS.	LAT 45°39'20", LONG 88°38'52", IN SW 1/4 SEC.29, T.37 N., R.15 E., FOREST COUNTY, AT BRIDGE ON U.S. HIGHWAY 8, 0.7 MI (1.1 KM) NORTHWEST OF CAVOUR.	150	1970-82	05-06-82	12.17	610	
04067800	ARMSTRONG CREEK NEAR ARMSTRONG CREEK, WIS.	LAT 45°39'29", LONG 88°28'44", IN W 1/2 SEC.27, T.37 N., R.16 E., FOREST COUNTY, AT BRIDGE ON U.S. HIGHWAY 8, 1.8 MI (2.9 KM) NORTHWEST OF ARMSTRONG CREEK.	23.2	1958-82	07-11-82	10.06	94	
04069700	NORTH BRANCH OCONTO RIVER NEAR WABENO, WIS.	LAT 45°26'19", LONG 88°37'40", IN SW 1/4 SEC.9, T.34 N., R.15 E., FOREST COUNTY, AT PIPE ARCH CULVERT ON COUNTY TRUNK HIGHWAY C, 0.6 MI (1.0 KM) EAST OF INTERSECTION WITH STATE HIGHWAY 32 AT WABENO.	34.1	1970-82	05-06-82	11.49	100	
04071700	NORTH BRANCH LITTLE RIVER NEAR COLEMAN, WIS.	LAT 45°00'37", LONG 88°02'43", ON COMMON BOUNDARY OF SECS.2 AND 3, T.29 N., R.20 E., OCONTO COUNTY, AT BRIDGE ON U.S. HIGHWAY 141, 3.8 MI (6.1 KM) SOUTH OF COLEMAN.	21.4	1958-82	03-19-82	12.91	250	
*04071800	PENSAUKEE RIVER NEAR PULASKI, WIS.	LAT 44°45'48", LONG 88°15'07", IN NE 1/4 SEC.1, T.26 N., R.18 E., SHAWANO COUNTY, AT BRIDGE ON STATE HIGHWAY 32, 6.1 MI (9.8 KM) NORTH OF PULASKI.	41.80	1961-82	07-11-82	14.69	900	
04072220	BEAVER DAM CREEK AT GREEN BAY, WI	LAT 44°31'40", LONG 88°04'39", IN SW 1/4 NE 1/4 SEC.28, T.24 N., R.20 E., BROWN COUNTY, UPSTREAM OF BRIDGE ON TAYLOR STREET, AT GREEN BAY.	3.44	1978-82	07-18-82	11.04	231	
*04073400	BIRD CREEK AT WAUTOMA, WIS.	LAT 44°06'00", LONG 89°18'00", IN S 1/2 SEC.34, T.19 N., R.10 E., WAUSHARA COUNTY, AT CONCRETE CULVERT ON STATE HIGHWAY 21, 0.2 MI (0.3 KM) WEST OF WAUTOMA.	3.59	1959-82	04-03-82	11.36	60	
04074300	MUD CREEK NEAR NASHVILLE, WIS.	LAT 45°34'19", LONG 89°02'39", IN SW 1/4 SEC.30, T.36 N., R.12 E., FOREST COUNTY, AT CONCRETE CIRCULAR CULVERT ON U.S. HIGHWAY 8, 3.5 MI (5.6 KM) NORTH OF NASHVILLE.	10.0	1970-82	03-13-82	12.29	56	
*04074700	HUNTING RIVER NEAR ELCHO, WIS.	LAT 45°25'10", LONG 89°11'15", IN N 1/2 SEC.24, T.34 N., R.10 E., LANGLADE COUNTY, AT TWIN CULVERTS ON U.S. HIGHWAY 45 AND STATE HIGHWAY 47, 1.5 MI (2.4 KM) SOUTH OF ELCHO.	9.00	1958-82	04-10-82	11.76	70	
*04074850	LILY RIVER NEAR LILY, WIS.	LAT 45°20'59", LONG 88°49'52", IN SE 1/4 SEC.11, T.33 N., R.13 E., LANGLADE COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY A, 3.2 MI (5.1 KM) NORTH FROM JUNCTION OF STATE HIGHWAYS 55 AND 52 AT LILY.	52.4	1970-82	04-10-82	9.44	26	
*04075200	EVERGREEN CREEK NEAR LANGLADE, WIS.	LAT 45°10'11", LONG 88°48'12", IN NW 1/4 SEC.18, T.31 N., R.14 E., LANGLADE COUNTY, AT CULVERT ON STATE HIGHWAY 64, 3.5 MI (5.6 KM) SOUTHWEST OF LANGLADE.	8.00	1959-65 1966-72# 1973-82	07-11-82	11.66	80	
*04079700	SPAULDING CREEK NEAR BIG FALLS, WIS.	LAT 44°38'13", LONG 89°01'20", ON COMMON BOUNDARY OF SECS.14 AND 15, T.25 N., R.12 E., WAUPACA COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY E, 1.5 MI (2.4 KM) NORTH OF BIG FALLS.	4.90	1959-65 1966# 1967-82	04-03-82	10.82	49	
04081900	SAWYER CREEK AT OSHKOSH, WIS.	LAT 44°02'00", LONG 88°35'00", IN SW 1/4 SEC.15, T.18 N., R.16 E., WINNEBAGO COUNTY, AT BRIDGE ON U.S. HIGHWAY 41, 1.0 MI (1.6 KM) SOUTHWEST OF BRIDGE ON ALGOMA STREET AT FOX RIVER, AT OSHKOSH.	15.3	1961-82	03-16-82	12.43	400	
*04085030	APPLE CREEK NEAR KAUKAUNA, WIS.	LAT 44°19'15", LONG 88°17'33", ON WEST BOUNDARY SEC.2, T.21 N., R.18 E., OUTAGAMIE COUNTY, AT BRIDGE ON STATE HIGHWAY 55, 3.0 MI (4.8 KM) NORTH OF KAUKAUNA.	15.0	1960-82	04-04-82	14.20	800	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982								
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)	
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED								
04085083	FOX RIVER TRIBUTARY AT GREEN BAY, WI	LAT 44°29'56", LONG 88°02'07", IN LAND GRANT NUMBER 11, T.23 N., R.20 E., BROWN COUNTY, AT STORM SEWER AT HALRON OIL COMPANY, 200 FT (61 M) NORTH OF LIBERTY STREET, AT GREEN BAY.	1.59	1979-82	07-18-82	16.27	324	
04085136	BAIRD CREEK TRIBUTARY AT GREEN BAY, WI	LAT 44°29'08", LONG 87°58'16", IN EAST SIDE OF LAND GRANT NUMBER 6, T.23 N., R.21 E., BROWN COUNTY, ON WEST SIDE OF U.S. HIGHWAY 141, 0.4 MI (0.6 KM) SOUTHEAST OF JUNCTION WITH CASS STREET, AT GREEN BAY.	.34	1979-82	08-03-82	18.19	485	
04085300	NESHOTA RIVER TRIBUTARY NEAR DENMARK, WIS.	LAT 44°23'43", LONG 87°52'13", IN NE 1/4 SEC.7, T.22 N., R.22 E., BROWN COUNTY, AT BOX CULVERT ON U.S. HIGHWAY 141, 3.8 MI (6.1 KM) NORTHWEST OF DENMARK.	3.08	1959-82	08-03-82	14.07	290	
*04085400	KILLSNAKE RIVER NEAR CHILTON, WIS.	LAT 44°03'33", LONG 88°08'36", IN E 1/2 SEC.6, T.18 N., R.20 E., CALUMET COUNTY, AT BRIDGE ON COUNTRY ROAD, 2.4 MI (3.9 KM) NORTHEAST OF CHILTON.	29.5	1961-82	08-04-82	11.70	600	
*04087050	LITTLE MENOMONEE RIVER NEAR FREISTADT, WIS.	LAT 43°12'24", LONG 88°02'24", ON COMMON BOUNDARY OF SECS.29 AND 32, T.9 N., R.21 E., OZAUKEE COUNTY, AT BRIDGE ON DONGES BAY ROAD, 2.0 MI (3.2 KM) SOUTH OF FREISTADT.	8.00	1958-82	10-01-82	13.06	330	
04087100	HONEY CREEK AT MILWAUKEE, WIS.	LAT 42°58'41", LONG 87°59'52", IN SE 1/4 SEC.15, T.6 N., R.21 E., MILWAUKEE COUNTY, 400 FT (122 M) UPSTREAM FROM BRIDGE ON S. 68TH STREET, 6.0 MI (9.7 KM) SOUTHWEST OF MOUTH OF MILWAUKEE RIVER, AT MILWAUKEE.	3.26	1959-82	10-18-82	20.23	420	
*04087200	OAK CREEK NEAR SOUTH MILWAUKEE, WIS.	LAT 42°52'58", LONG 87°53'31", ON COMMON BOUNDARY OF SECS.21 AND 22, T.5 N., R.22 E., MILWAUKEE COUNTY, AT BRIDGE ON WEST NICHOLSON ROAD, 3.0 MI (4.8 KM) SOUTHWEST OF SOUTH MILWAUKEE.	13.8	1958-82	04-07-82	16.07	390	
04087230	WEST BRANCH ROOT RIVER CANAL TRIBUTARY NEAR NORTH CAPE, WIS.	LAT 42°45'44", LONG 88°01'04", IN SE 1/4 SEC.33, T.4 N., R.21 E., RACINE COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY U, 3.0 MI (4.8 KM) SOUTHEAST OF NORTH CAPE.	3.92	1962-82	04-07-82	11.74	87	
*04087250	PIKE CREEK NEAR KENOSHA, WIS.	LAT 42°36'12", LONG 87°53'41", IN W 1/2 SEC.27, T.2 N., R.22 E., KENOSHA COUNTY, AT BOX CULVERT ON STATE HIGHWAY 43, 3.0 MI (4.8 KM) NORTHWEST OF KENOSHA.	7.25	1960-82	03-11-82	15.96	120	
ST. CROIX RIVER BASIN								
*05333100	LITTLE FROG CREEK NEAR MINONG, WIS.	LAT 46°05'48", LONG 91°46'39", IN NW 1/4 SEC.29, T.42 N., R.11 W., WASHBURN COUNTY, AT CULVERT ON COUNTRY ROAD, 2.5 MI (4.0 KM) EAST OF MINONG.	13.0	1961-82	05-11-82	16.81	600	
*05335380	BASHAW BROOK NEAR SHELL LAKE, WIS.	LAT 45°47'02", LONG 92°07'51", IN SW 1/4 SEC.8, T.38 N., R.14 W., BURNETT COUNTY, AT TWIN BOX CULVERTS ON COUNTRY ROAD, 10.5 MI (16.9 KM) NORTHWEST OF SHELL LAKE.	24.9	1959-65 1966- 1967-82	03-30-82	11.29	48	
*05340300	TRADE RIVER NEAR FREDERIC, WIS.	LAT 45°37'41", LONG 92°29'19", IN SW 1/4 SEC.4, T.36 N., R.17 W., POLK COUNTY, AT BOX CULVERT ON STATE HIGHWAYS 35 AND 48, 2.5 MI (4.0 KM) SOUTHWEST OF FREDERIC.	6.34	1958-82	05-13-82	11.31	100	
05341900	KINNICKINNIC RIVER TRIBUTARY AT RIVER FALLS, WIS.	LAT 44°49'57", LONG 92°38'23", IN NE 1/4 SEC.14, T.27 N., R.19 W., PIERCE COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY FF, 1.6 MI (2.6 KM) SOUTHWEST OF RIVER FALLS.	7.26	1959-82	1982	C	+	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982				ANNUAL MAXIMUM			
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
CHIPPEWA RIVER BASIN							
05357360	BEAR RIVER NEAR POWELL, WIS.	LAT 46°04'40", LONG 90°00'52", IN NE 1/4 SEC.32, T.42 N., R.4 E., IRON COUNTY, AT BRIDGE ON STATE HIGHWAY 182, 3.0 MI (4.8 KM) WEST OF POWELL.	118	1970-82	04-16-82	12.83	720
05357390	WEBER CREEK NEAR MERCER, WIS.	LAT 46°11'16", LONG 90°07'57", IN SE 1/4 SEC.21, T.43 N., R.3 E., IRON COUNTY, AT CULVERT ON U.S. HIGHWAY 51, 3.7 MI (6.0 KM) NORTHEAST OF MERCER.	5.86	1970-82	04-16-82	11.89	140
05358100	SMITH CREEK NEAR PARK FALLS, WIS.	LAT 45°57'06", LONG 90°28'07", IN NE 1/4 SEC.15, T.40 N., R.1 W., PRICE COUNTY, AT CULVERT ON STATE HIGHWAY 13, 1.5 MI (2.4 KM) NORTHWEST OF PARK FALLS.	9.11	1970-82	04-16-82	13.05	212
*05359600	PRICE CREEK NEAR PHILLIPS, WIS.	LAT 45°43'33", LONG 90°40'12", IN SW 1/4 SEC.31, T.38 N., R.2 W., PRICE COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY W, 13.0 MI (20.9 KM) WEST OF PHILLIPS.	16.9	1958-65 1966# 1967-82	04-03-82	14.27	265
*05361400	HAY CREEK NEAR PRENTICE, WIS.	LAT 45°32'32", LONG 90°21'37", IN SE 1/4 SEC.4, T.35 N., R.1 E., PRICE COUNTY, AT CULVERT ON U.S. HIGHWAY 8, 3.5 MI (5.6 KM) WEST OF PRENTICE.	21.9	1961-82	04-03-82	13.53	850
05361420	DOUGLAS CREEK NEAR PRENTICE, WIS.	LAT 45°31'06", LONG 90°15'28", IN NE 1/4 SEC.17, T.35 N., R.2 E., PRICE COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY C, 2.3 MI (3.7 KM) SOUTHEAST OF INTERSECTION WITH STATE HIGHWAY 13 AT PRENTICE.	24.6	1970-82	04-03-82	14.05	720
05361600	NORTH FORK JUMP RIVER NEAR PHILLIPS, WIS.	LAT 45°37'45", LONG 90°23'32", IN SW 1/4 SEC.5, T.36 N., R.1 E., PRICE COUNTY, AT CULVERT ON STATE HIGHWAY 13, 4.0 MI (6.4 KM) SOUTH OF PHILLIPS.	10.4	1970-82	04-03-82	12.47	212
*05364000	YELLOW RIVER AT CADOTT, WIS.	LAT 44°57'21", LONG 91°08'48", IN NE 1/4 SEC.31, T.29 N., R.6 W., CHIPPEWA COUNTY, AT BRIDGE ON STATE HIGHWAY 27, AT CADOTT.	351	1943-61# 1962-82	03-21-82	10.21	3,600
05364100	SETH CREEK NEAR CADOTT, WIS.	LAT 44°59'24", LONG 91°08'48", IN SW 1/4 SEC.17, T.29 N., R.6 W., CHIPPEWA COUNTY, AT CULVERT ON STATE HIGHWAY 27, 3.1 MI (5.0 KM) NORTH OF CADOTT.	3.04	1962-82	03-21-82	13.44	284
05364500	DUNCAN CREEK AT BLOOMER, WIS.	LAT 45°07'00", LONG 91°30'00", IN SEC.8, T.30 N., R.9 W., CHIPPEWA COUNTY, 0.2 MI (0.3 KM) BELOW BLOOMER DAM, AT BLOOMER.	49.2	1945-51# 1958-82	04-03-82	7.67	1,120
*05365700	GOGGLE-EYE CREEK NEAR THORP, WIS.	LAT 44°58'40", LONG 90°48'00", ON WEST BOUNDARY SEC.19, T.29 N., R.3 W., CLARK COUNTY, AT CULVERT ON STATE HIGHWAY 73, 1.3 MI (2.1 KM) NORTH OF THORP.	6.70	1958-82	03-21-82	15.46	1,020
*05366500	EAU CLAIRE RIVER NEAR FALL CREEK, WIS.	LAT 44°48'35", LONG 91°16'50", IN NW 1/4 SEC.19, T.27 N., R.7 W., EAU CLAIRE COUNTY, 500 FT (152 M) EAST OF COUNTY TRUNK HIGHWAY K, 3.2 MI (5.1 KM) NORTH OF FALL CREEK.	758	1943-55# 1958-81	03-16-82	13.64	12,600
05367030	WILLOW CREEK NEAR EAU CLAIRE, WIS.	LAT 44°44'11", LONG 91°26'48", ON COMMON BOUNDARY OF SECS.14 AND 15, T.26 N., R.9 W., EAU CLAIRE COUNTY, AT BOX CULVERT ON STATE HIGHWAY 93, 4.0 MI (6.4 KM) SOUTH OF EAU CLAIRE.	4.38	1958-82	1982	B	<60
*05367480	EAST BRANCH PINE CREEK TRIBUTARY NEAR DALLAS, WIS.	LAT 45°16'50", LONG 91°48'30", IN SW 1/4 SEC.1, T.32 N., R.12 W., BARRON COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY O, 1.5 MI (2.4 KM) NORTH OF DALLAS.	3.85	1960-82	03-16-82	13.15	184
05367700	LIGHTNING CREEK AT ALMENA, WIS.	LAT 45°25'17", LONG 92°01'57", IN NW 1/4 SEC.19, T.34 N., R.13 W., BARRON COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY P, AT ALMENA.	19.8	1958-82	05-05-82	11.59	780

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982							ANNUAL MAXIMUM	DIS-
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	CHARGE (FT ³ /S)	
CHIPPEWA RIVER BASIN--CONTINUED								
05370600	ARKANSAW CREEK TRIBUTARY NEAR ARKANSAW, WIS.	LAT 44°38'31", LONG 92°03'09", IN SW 1/4 SEC.14, T.25 N., R.14 W., PEPIN COUNTY, AT BOX CULVERT ON U.S. HIGHWAY 10, 1.2 MI (1.9 KM) NORTHWEST OF ARKANSAW.	2.56	1959-82	1982	B	<60	
*05370900	SPRING CREEK NEAR DURAND, WIS.	LAT 44°34'13", LONG 91°57'48", IN S 1/2 SEC.9, T.24 N., R.13 W., BUFFALO COUNTY, AT BRIDGE ON COUNTRY ROAD, 4.0 MI (6.4 KM) SOUTH OF BRIDGE ON CHIPPEWA RIVER AT DURAND.	6.49	1962-82	05-05-82	11.19	50	
BUFFALO RIVER BASIN								
05371800	BUFFALO RIVER TRIBUTARY NEAR OSSEO, WIS.	LAT 44°35'01", LONG 91°05'40", IN S 1/2 SEC.3, T.24 N., R.6 W., JACKSON COUNTY, AT CULVERT ON U.S. HIGHWAY 10, 6.5 MI (10.5 KM) EAST OF OSSEO.	1.44	1960-82	07-22-82	10.48	28	
05371920	BUFFALO RIVER NEAR MONDOVI, WIS.	LAT 44°31'36", LONG 91°41'46", IN SW 1/4 SE 1/4 SEC.27, T.24 N., R.11 W., BUFFALO COUNTY, AT BRIDGE ON STATE HIGHWAY 88, 4.0 MI (6.4 KM) SOUTH OF MONDOVI.	280	1974-82	07-21-82	12.70	1,220	
WAUMANDEE CREEK BASIN								
*05378200	EAGLE CREEK NEAR FOUNTAIN CITY, WIS.	LAT 44°09'49", LONG 91°42'28", IN SW 1/4 SEC.33, T.20 N., R.11 W., BUFFALO COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY G, 2.5 MI (4.0 KM) NORTH OF FOUNTAIN CITY.	26.8	1961-82	05-06-82	15.67	1,480	
BLACK RIVER BASIN								
05380800	BLACK RIVER TRIBUTARY NEAR WHITTLESEY, WIS.	LAT 45°12'34", LONG 90°19'05", IN SW 1/4 SEC.35, T.32 N., R.1 E., TAYLOR COUNTY, AT BRIDGE ON STATE HIGHWAY 13, 1.1 MI (1.8 KM) SOUTH OF WHITTLESEY.	2.12	1960-82	09-11-82	11.92	160	
*05380900	POPLAR RIVER NEAR OWEN, WIS.	LAT 44°53'10", LONG 90°34'17", IN NW 1/4 SEC.25, T.28 N., R.2 W., CLARK COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY N, 4.2 MI (6.8 KM) SOUTH OF OWEN.	157	1958-65 1966# 1967-82	04-02-82	13.38	2,300	
*05380970	CAWLEY CREEK NEAR NEILLSVILLE, WIS.	LAT 44°36'42", LONG 90°34'31", IN SW 1/4 SEC.25, T.25 N., R.2 W., CLARK COUNTY, AT BRIDGE ON STATE HIGHWAY 73, 3.7 MI (6.0 KM) NORTH OF NEILLSVILLE.	38.6	1961-82	08-24-82	13.62	795	
*05382200	FRENCH CREEK NEAR ETTRICK, WIS.	LAT 44°11'04", LONG 91°18'49", IN NE 1/4 SEC.27, T.20 N., R.8 W., TREMPPEALEAU COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAYS D AND T, 2.5 MI (4.0 KM) WEST OF ETTRICK.	14.3	1960-82	03-30-82	9.34	75	
LA CROSSE RIVER BASIN								
*05382500	LITTLE LA CROSSE RIVER NEAR LEON, WIS.	LAT 43°53'45", LONG 90°50'25", IN NE 1/4 SEC.3, T.16 N., R.4 W., MONROE COUNTY, 4.0 MI (6.4 KM) UPSTREAM FROM MOUTH, 1.5 MI (2.4 KM) NORTHWEST OF LEON.	77.1	1934-61# 1962-82	07-11-82	4.2	550	
MORMON CREEK BASIN								
*05386300	MORMON CREEK NEAR LA CROSSE, WIS.	LAT 43°46'00", LONG 91°08'27", IN NE 1/4 SEC.19, T.15 N., R.6 W., LA CROSSE COUNTY, AT BRIDGE ON COUNTRY ROAD, 6.0 MI (9.7 KM) SOUTHEAST OF LA CROSSE.	25.5	1961-82	05-04-82	6.82	70	
BAD AXE RIVER BASIN								
*05387100	NORTH FORK BAD AXE RIVER NEAR GENOA, WIS.	LAT 43°33'10", LONG 91°08'58", IN SW 1/4 SEC.36, T.13 N., R.7 W., VERNON COUNTY, AT BRIDGE ON STATE HIGHWAY 56, 4.1 MI (6.6 KM) SOUTHEAST OF GENOA.	80.9	1959-65 1966# 1967-81	1982	B	<500	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982					ANNUAL MAXIMUM		
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
WISCONSIN RIVER BASIN							
*05390140	MUSKRAT CREEK AT CONOVER, WIS.	LAT 46°03'27", LONG 89°15'24", IN SW 1/4 SEC.4, T.41 N., R.10 E., VILAS COUNTY, AT CORRUGATED CULVERT ON U.S. HIGHWAY 45, 0.1 MI (0.2 KM) NORTH OF CONOVER.	10.2	1970-82	03-30-82	12.90	105
05390240	FOURMILE CREEK NEAR THREE LAKES, WIS.	LAT 45°50'17", LONG 89°04'32", IN NE 1/4 SEC.26, T.39 N., R.11 E., ONEIDA COUNTY, AT 2-BARREL CORRUGATED CULVERT ON FOURMILE CREEK ROAD, 5.5 MI (8.9 KM) NORTHEAST OF THREE LAKES.	10.3	1970-82	05-06-82	12.85	115
05391260	GUDEGAST CREEK NEAR STARKS, WIS.	LAT 45°41'41", LONG 89°15'42", IN NW 1/4 SEC.16, T.37 N., R.10 E., ONEIDA COUNTY, AT CORRUGATED CULVERT ON COUNTRY ROAD, 3.0 MI (4.8 KM) NORTHWEST OF STARKS.	14.0	1970-82	03-29-82	12.42	87
05391950	SQUAW CREEK NEAR HARRISON, WIS.	LAT 45°32'47", LONG 89°29'16", IN SW 1/4 SEC.3, T.35 N., R.8 E., LINCOLN COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY A, 5.0 MI (8.0 KM) NORTHEAST OF HARRISON.	3.23	1970-82	05-06-82	11.03	25
*05392150	MISHONAGON CREEK NEAR WOODRUFF, WIS.	LAT 45°54'41", LONG 89°45'30", IN NE 1/4 SEC.32, T.40 N., R.6 E., VILAS COUNTY, AT TWIN CULVERTS ON STATE HIGHWAY 47, 3.0 MI (4.8 KM) NORTHWEST OF WOODRUFF.	17.6	1958-82	04-16-82	10.0	55
*05392350	BEARSKIN CREEK NEAR HARSHAW, WIS.	LAT 45°38'43", LONG 89°41'12", IN SW 1/4 SEC.36, T.37 N., R.6 E., ONEIDA COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY K, 2.1 MI (3.4 KM) SOUTHWEST OF HARSHAW.	31.1	1958-65 1966# 1967-82	04-16-82	10.38	130
05393640	LITTLE PINE CREEK NEAR IRMA, WIS.	LAT 45°23'37", LONG 89°40'20", IN NW 1/4 SEC.31, T.34 N., R.7 E., LINCOLN COUNTY, AT BOX CULVERT ON U.S. HIGHWAY 51, 3.0 MI (4.8 KM) NORTH OF IRMA.	22.0	1970-82	04-16-82	13.01	145
*05394200	DEVIL CREEK NEAR MERRILL, WIS.	LAT 45°08'56", LONG 89°47'13", IN N 1/2 SEC.30, T.31 N., R.6 E., LINCOLN COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY F, 5.8 MI (9.3 KM) SOUTHWEST OF MERRILL.	9.58	1961-82	04-16-82	14.03	400
05395020	LLOYD CREEK NEAR DOERING, WIS.	LAT 45°13'57", LONG 89°22'04", IN SE 1/4 SEC.21, T.32 N., R.9 E., LANGLADE COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY C, 4.5 MI (7.2 KM) EAST OF DOERING.	7.80	1970-82	04-03-82	12.8	250
05395100	TRAPPE RIVER TRIBUTARY NEAR MERRILL, WIS.	LAT 45°08'07", LONG 89°30'08", IN SW 1/4 SEC.28, T.31 N., R.8 E., LINCOLN COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY P, 9.5 MI (15.3 KM) SOUTHEAST OF MERRILL.	1.58	1959-82	04-03-82	12.34	105
05396100	PET BROOK TRIBUTARY NEAR EDGAR, WIS.	LAT 44°56'40", LONG 89°57'05", IN SE 1/4 SEC.31, T.29 N., R.5 E., MARATHON COUNTY, AT CULVERT ON STATE HIGHWAY 29, 1.5 MI (2.4 KM) NORTHEAST OF EDGAR.	6.86	1962-82	04-03-82	16.30	1,140
05396300	WISCONSIN RIVER TRIBUTARY AT WAUSAU, WI	LAT 44°57'28", LONG 89°39'52", IN NE 1/4 NW 1/4 SEC.34, T.29 N., R.7 E., MARATHON COUNTY, ON ROAD RIGHT-OF-WAY OF 24TH AVENUE OPPOSITE THE ACE MOTEL, 300 FT (91 M) EAST OF U.S. HIGHWAY 51, AT WAUSAU.	1.10	1982	--	--	+
05397600	BIG SANDY CREEK NEAR WAUSAU, WIS.	LAT 45°01'55", LONG 89°27'00", IN SE 1/4 SEC.31, T.30 N., R.9 E., MARATHON COUNTY, AT BRIDGE ON STATE HIGHWAY 52, 10.0 MI (16.1 KM) NORTHEAST OF WAUSAU.	11.5	1959-82	04-03-82	13.05	740
05400025	JOHNSON CREEK NEAR KNOWLTON, WIS.	LAT 44°44'19", LONG 89°36'39", IN SE 1/4 NE 1/4 SEC.13, T.26 N., R.7 E., MARATHON COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY X, 2.7 MI (4.3 KM) EAST OF KNOWLTON.	25.1	1973-82	05-02-73 09-11-75 03-25-76 07-23-78 03-31-79 06-06-80 06-14-81 04-03-82	18.59 18.92 18.92 20.10 20.37 21.78 19.08 15.28	E820 E980 E980 E1,800 E2,000 E3,700 E1,080 1,200
05401800	YELLOW RIVER TRIBUTARY NEAR PITTSVILLE, WIS.	LAT 44°28'58", LONG 90°07'05", ON COMMON BOUNDARY OF SECS.11 AND 14, T.23 N., R.3 E., WOOD COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY C, 2.0 MI (3.2 KM) NORTH OF PITTSVILLE.	7.23	1959-82	04-04-82	12.18	350

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /3)
WISCONSIN RIVER BASIN--CONTINUED							
*05403520	WEBSTER CREEK AT NEW LISBON, WIS.	LAT 43°51'23", LONG 90°10'25", IN NE 1/4 SEC.19, T.16 N., R.3 E., JUNEAU COUNTY, AT BRIDGE ON STATE HIGHWAY 80, 1.2 MI (1.9 KM) SOUTH OF NEW LISBON.	11.8	1961-82	04-03-82	13.71	190
*05403550	ONEMILE CREEK NEAR MAUSTON, WIS.	LAT 43°45'50", LONG 90°04'45", IN SE 1/4 SEC.24, T.15 N., R.3 E., JUNEAU COUNTY, AT BRIDGE ON STATE HIGHWAY 58, 2.4 MI (3.9 KM) SOUTH OF MAUSTON.	30.2	1958-82	04-03-82	14.01	400
05403630	HULBERT CREEK NEAR WISCONSIN DELLS, WIS.	LAT 43°37'37", LONG 89°48'36", IN SE 1/4 SW 1/4 SEC.5, T.13 N., R.6 E., SAUK COUNTY, 1.6 MI (2.6 KM) UPSTREAM FROM MOUTH, AND 2.0 MI (3.2 KM) WEST OF WISCONSIN DELLS.	11.2	1971-77# 1978-82	04-03-82	3.48	80
*05404200	NARROWS CREEK AT LOGANVILLE, WIS.	LAT 43°26'32", LONG 90°02'06", IN SE 1/4 SEC.8, T.11 N., R.4 E., SAUK COUNTY, AT BRIDGE ON STATE HIGHWAYS 23 AND 154, 0.2 MI (0.3 KM) NORTH OF LOGANVILLE.	40.1	1958-65 1966# 1967-82	03-16-82	14.15	1,500
*05405600	ROWAN CREEK AT POYNETTE, WIS.	LAT 43°23'13", LONG 89°23'25", IN S 1/2 SEC.35, T.11 N., R.9 E., COLUMBIA COUNTY, AT BRIDGE ON U.S. HIGHWAY 51, AT POYNETTE.	10.4	1961-82	04-03-82	12.64	280
05406800	ROCKY BRANCH NEAR RICHLAND CENTER, WIS.	LAT 43°18'52", LONG 90°23'22", IN E 1/2 SEC.29, T.10 N., R.1 E., RICHLAND COUNTY, AT CULVERT ON STATE HIGHWAY 80, 1.5 MI (2.4 KM) SOUTH OF RICHLAND CENTER.	1.68	1960-82	08-04-82	12.23	125
*05407100	RICHLAND CREEK NEAR PLUGTOWN, WIS.	LAT 43°11'12", LONG 90°44'23", IN NW 1/4 SEC.9, T.8 N., R.3 W., CRAWFORD COUNTY, AT BRIDGE ON U.S. HIGHWAY 61, 2.0 MI (3.2 KM) SOUTH OF PLUGTOWN.	19.2	1958-82	08-04-82	18.87	4,400
*05407200	CROOKED CREEK NEAR BOSCOBEL, WIS.	LAT 43°06'27", LONG 90°42'18", IN SE 1/4 SEC.2, T.7 N., R.3 W., GRANT COUNTY, AT BRIDGE ON U.S. HIGHWAY 61, 1.6 MI (2.6 KM) SOUTH OF BOSCOBEL.	12.9	1959-82	03-13-82	12.33	530
GRANT RIVER BASIN							
*05413400	PIGEON CREEK NEAR LANCASTER, WIS.	LAT 42°49'00", LONG 90°43'20", IN SW 1/4 SEC.15, T.4 N., R.3 W., GRANT COUNTY, AT CULVERT ON COUNTRY ROAD, 2.0 MI (3.2 KM) SOUTH OF LANCASTER.	6.93	1960-65 1966# 1967-82	08-04-82	11.13	180
PLATTE RIVER BASIN							
*05414200	BEAR BRANCH NEAR PLATTEVILLE, WIS.	LAT 42°45'46", LONG 90°30'06", IN NW 1/4 SEC.4, T.3 N., R.1 W., GRANT COUNTY, AT BOX CULVERT ON STATE HIGHWAY 81, 2.3 MI (3.7 KM) NORTHWEST OF PLATTEVILLE.	2.80	1958-82	07-11-82	12.0	230
GALENA RIVER BASIN							
*05414900	PATS CREEK NEAR ELK GROVE, WIS.	LAT 42°40'03", LONG 90°22'40", IN SW 1/4 SEC.4, T.2 N., R.1 E., LAFAYETTE COUNTY, AT BRIDGE ON STATE HIGHWAY 81, 7.0 MI (11.3 KM) SOUTHEAST OF PLATTEVILLE.	8.49	1960-82	03-12-82	12.99	490
ROCK RIVER BASIN							
*05423800	EAST BRANCH ROCK RIVER TRIBUTARY NEAR SLINGER, WIS.	LAT 43°23'06", LONG 88°18'29", IN S 1/2 SEC.26, T.11 N., R.18 E., WASHINGTON COUNTY, AT CULVERT ON U.S. HIGHWAY 41, 4.0 MI (6.4 KM) NORTHWEST OF SLINGER.	4.42	1960-82	04-03-82	11.86	160
*05425700	ROBBINS CREEK AT COLUMBUS, WIS.	LAT 43°20'48", LONG 89°01'55", IN SE 1/4 SEC.11, T.10 N., R.12 E., COLUMBIA COUNTY, AT CULVERT ON U.S. HIGHWAY 16, AT COLUMBUS.	8.01	1960-82	07-22-82	12.32	188

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1982					ANNUAL MAXIMUM		
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
ROCK RIVER BASIN--CONTINUED							
05425827	MAUNESHA RIVER NEAR SUN PRAIRIE, WIS.	LAT 43°13'37", LONG 89°09'33", IN SE 1/4 SEC.23, T.9 N., R.11 E., DANE COUNTY, AT BRIDGE ON TOWN ROAD, 4.2 MI (6.8 KM) NORTHEAST OF SUN PRAIRIE.	26.0	1973-82	04-03-82	12.17	410
*05427200	ALLEN CREEK NEAR FORT ATKINSON, WIS.	LAT 42°53'54", LONG 88°51'35", IN NE 1/4 SEC.17, T.5 N., R.14 E., JEFFERSON COUNTY, AT BOX CULVERT ON STATE HIGHWAY 26, 2.5 MI (4.0 KM) SOUTHWEST OF FORT ATKINSON.	10.2	1958-82	04-03-82	11.17	165
05427800	TOKEN CREEK NEAR MADISON, WIS.	LAT 43°10'52", LONG 89°19'28", IN SW 1/4 SEC.4, T.8 N., R.10 E., DANE COUNTY, AT CULVERT ON U.S. HIGHWAY 51, 8 MI (12.9 KM) NORTHEAST OF STATE CAPITOL IN MADISON.	24.3	1961-65 1966# 1967-75 1976-81# 1982	07-22-82	11.59	140
05430403	FISHER CREEK TRIBUTARY AT JANESVILLE, WI	LAT 42°40'18", LONG 89°03'31", IN SW 1/4 SE 1/4 SEC.34, T.3 N., R.12 E., ROCK COUNTY, AT CULVERT ON ROCKPORT ROAD, 0.4 MI (0.6 KM) WEST OF SOUTH CROSBY AVENUE, AND 0.6 MI (1.0 KM) UPSTREAM FROM COUNTY TRUNK HIGHWAY D, AT JANESVILLE.	1.95	1982	06-25-82	6.37	294
*05431400	LITTLE TURTLE CREEK AT ALLENS GROVE, WIS.	LAT 42°34'46", LONG 88°45'33", IN NE 1/4 SEC.6, T.1 N., R.15 E., WALWORTH COUNTY, AT BRIDGE ON COUNTRY ROAD, 0.2 MI (0.3 KM) SOUTH OF ALLENS GROVE.	41.8	1962-82	07-22-82	13.81	950
*05432300	ROCK BRANCH NEAR MINERAL POINT, WIS.	LAT 42°50'D2", LONG 90°09'15", IN SE 1/4 SEC.8, T.4 N., R.3 E., IOWA COUNTY, AT BOX CULVERT ON STATE HIGHWAY 23, 2.5 MI (4.0 KM) SOUTH OF MINERAL POINT.	4.83	1959-82	02-28-82	11.40	160
*05433500	YELLOWSTONE RIVER NEAR BLANCHARDVILLE, WIS.	LAT 42°46'55", LONG 89°59'50", IN NE 1/4 SEC.34, T.4 N., R.4 E., LAFAYETTE COUNTY, 0.6 MI (1.0 KM) UPSTREAM FROM BRIDGE ON COUNTY TRUNK HIGHWAY F, 7.0 MI (11.3 KM) WEST-SOUTHWEST OF BLANCHARDVILLE.	28.5	1954-65# 1966-81	08-04-82	9.58	1,500
05435900	SUGAR RIVER TRIBUTARY NEAR PINE BLUFF, WIS.	LAT 43°02'48", LONG 89°38'42", IN SE 1/4 SEC.27, T.7 N., R.7 E., DANE COUNTY, AT CULVERT ON COUNTY TRUNK HIGHWAY J, 1.1 MI (1.8 KM) SOUTHEAST OF PINE BLUFF.	7.42	1961-82	02-25-82	14.09	300
*05436200	GILL CREEK NEAR BROOKLYN, WIS.	LAT 42°49'38", LONG 89°26'43", IN NW 1/4 SEC.16, T.4 N., R.9 E., GREEN COUNTY, AT CULVERT ON STATE HIGHWAY 92, 4.3 MI (6.9 KM) WEST OF BROOKLYN.	3.34	1961-82	04-04-82	13.67	130
*05437200	EAST FORK RACCOON CREEK TRIBUTARY NEAR BELOIT, WIS.	LAT 42°30'44", LONG 89°06'40", ON COMMON BOUNDARY OF SECS.30 AND 31, T.1 N., R.12 E., ROCK COUNTY, AT CULVERT ON STATE HIGHWAY 81, 2.9 MI (4.7 KM) WEST OF BELOIT.	4.64	1958-82	04-03-82	14.73	565
ILLINOIS RIVER BASIN							
05545100	SUGAR CREEK AT ELKHORN, WIS.	LAT 42°41'05", LONG 88°30'50", IN SW 1/4 SEC.29, T.3 N., R.17 E., WALWORTH COUNTY, AT CULVERT ON STATE HIGHWAY 11, 2.0 MI (3.2 KM) NORTHEAST OF ELKHORN.	6.68	1962-82	04-03-82	13.54	295
05545200	WHITE RIVER TRIBUTARY NEAR BURLINGTON, WIS.	LAT 42°41'03", LONG 88°21'37", ON COMMON BOUNDARY OF SECS.27 AND 34, T.3 N., R.18 E., WALWORTH COUNTY, AT BOX CULVERT ON STATE HIGHWAY 11, 4.5 MI (7.2 KM) WEST OF BURLINGTON.	2.42	1958-82	04-03-82	13.10	205
*05548150	NORTH BRANCH NIPPERSINK CREEK TRIBUTARY NEAR GENOA CITY, WIS.	LAT 42°30'15", LONG 88°23'01", IN E 1/2 SEC.32, T.1 N., R.18 E., WALWORTH COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY B, 3.0 MI (4.8 KM) WEST OF GENOA CITY.	13.8	1962-82	03-13-82	12.14	260

+ Discharge not determined.

* Also a low-flow partial-record station.

Operated as a continuous-record station.

B Peak did not reach bottom of gage.

C Gage not operating.

E Revised.

F Backwater from ice.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

MEASUREMENTS AT MISCELLANEOUS SITES

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge Measurements Made at Miscellaneous Sites During Water Year 1982

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Date	Discharge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN						
Duck Creek	Lake Michigan	NW 1/4 NE 1/4 sec.15, T.22 N., R.18 E., Outagamie County, at County Trunk S, at Freedom.	49.2	1981	8-27-82	0
Duck Creek	Lake Michigan	Lat 44°23'26", long 88°17'29", in SE 1/4 SE 1/4 sec.10, T.22 N., R.18 E., Outagamie County, at State Highway 55, at Freedom.	49.7	1981	8-27-82	0
Duck Creek Tributary	Duck Creek	NE 1/4 NE 1/4 sec.10, T.22 N., R.18 E., Outagamie County, on State Highway 55, 0.8 mi (1.3 km) north of Freedom.	0.07	--	8-27-82	0
Duck Creek	Lake Michigan	NW 1/4 NE 1/4 sec.11, T.22 N., R.18 E., Outagamie County, on country road 1.1 mi (1.8 km) north of Freedom.	50.5	1969 1981	8-27-82	0.78
Duck Creek	Lake Michigan	Nw 1/4 NE 1/4 sec.1, T.22 N., R.18 E., Outagamie County, on County Trunk J, 2.3 mi (3.7 km) northeast of Freedom.	51.1	1981	8-27-82	0.30
Duck Creek Tributary	Duck Creek	SE 1/4 NW 1/4 sec.36, T.23 N., R.18 E., Outagamie County, on Advent Road, 2.9 mi (4.7 km) northeast of Freedom.	0.48	--	8-27-82	0
Duck Creek	Lake Michigan	NE 1/4 SW 1/4 sec.30, T.23 N., R.19 E., Outagamie County, on Tip Road.	53.2	1981	8-27-82	0.40
Duck Creek	Lake Michigan	NE 1/4 NE 1/4 sec.30, T.23 N., R.19 E., Outagamie County, on County Trunk EE.	53.5	1981	8-27-82	0.39
Duck Creek Tributary	Duck Creek	SE 1/4 SE 1/4 sec.19, T.23 N., R.19 E., Outagamie County, on County Trunk EE, 4.6 mi (7.4 km) southwest of Oneida.	17.1	1969 1980	8-27-82	0
Duck Creek	Lake Michigan	NE 1/4 NW 1/4 sec.20, T.23 N., R.19 E., Outagamie County, on Fish Creek Road, 3.4 mi (5.5 km) southwest of Oneida.	71.2	1981	8-27-82	0.54
Duck Creek Tributary	Duck Creek	SE 1/4 SW 1/4 sec.17, T.23 N., R.19 E., Outagamie County, at mouth and 3.1 mi (5.0 km) southwest of Oneida.	24.0	--	8-27-82	0
Duck Creek	Lake Michigan	NW 1/4 SE 1/4 sec.17, T.23 N., R.19 E., Outagamie County, at country road, 2.9 mi (4.7 km) southwest of Oneida.	95.5	1969-70 1972-74 1976-77 1981	8-27-82	0.61
Duck Creek	Lake Michigan	SE 1/4 SE 1/4 sec.4, T.23 N., R.19 E., Outagamie County, 0.2 mi (0.3 km) off of King Lane, 1.0 mi (1.6 km) southwest of Oneida.	97.0	1981	8-27-82	0.47
Duck Creek	Lake Michigan	NE 1/4 NW 1/4 sec.3, T.23 N., R.19 E., Brown County, at State Highway 54, at Oneida.	97.7	1981	8-27-82	0
Duck Creek	Lake Michigan	Lat 44°30'42", long 88°10'12", in SE 1/4 NE 1/4 sec.34, T.24 N., R.19 E., Brown County, at town road and 1.1 mi (1.7 km) northeast of Oneida.	98.5	1981	8-27-82	0.23
Duck Creek	Lake Michigan	NE 1/4 NE 1/4 sec.35, T.24 N., R.19 E., Brown County, 0.15 mi (0.2 km) northwest of County Trunk GE and State Highway 54 intersection, 2.1 mi (3.4 km) northeast of Oneida.	99.5	1981	8-27-82	0.36
Duck Creek	Lake Michigan	SW 1/4 NE 1/4 sec.25, T.24 N., R.19 E., Brown County, end of country road, 3.2 mi (5.1 km) northeast of Oneida.	108	1981	8-27-82	0.87
Duck Creek	Lake Michigan	Lat 44°31'59", long 88°07'46", in SW 1/4 SW 1/4 sec.19, T.24 N., R.20 E., Brown County, on country road and 2.2 mi (3.5 km) southwest of Howard.	108	1969 1976 1981	8-27-82	0.92

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge Measurements Made at Miscellaneous Sites During Water Year 1982

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Date	Discharge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED						
Trout Creek	Duck Creek	Lat 44°31'24", long 88°08'48", in SW 1/4 NW 1/4 sec.25, T.24 N., R.19 E., Brown County, at golf course and 2.7 mi (4.3 km) northeast of Oneida.	14.9	1981	8-27-82	1.35
Duck Creek	Lake Michigan	NW 1/4 NE 1/4 sec.20, T.24 N., R.20 E., Brown County, at Pamperin Park, 0.7 mi (1.1 km) west of Howard.	128	1981	8-27-82	4.70
West Branch Wolf River	Wolf River	Lat 45°01'06", long 88°52'27", in SW 1/4 SW 1/4 sec.1, T.29 N., R.13 E., Menominee County, at town road and 3.0 mi (4.8 km) northeast of Neopit.	41.8	--	9-1-82	36.4
Little West Branch Wolf River	Wolf River	Lat 44°59'11", long 88°52'49", in SE 1/4 SE 1/4 sec.14, T.29 N., R.13 E., Menominee County, at Wagon Bridge Road, 2.5 mi (4.0 km) west of Neopit.	--	--	9-1-82	26.9
West Branch Red River	Wolf River	Lat 45°03'42", long 89°06'08", in SE 1/4 SE 1/4 sec.24, T.30 N., R.11 E., Langlade County, at Rollwood Road, 4.4 mi (7.1 km) west of Philox.	--	--	9-2-82	5.22
Little West Branch Creek	West Branch Wolf River	Lat 45°00'54", long 88°46'11", in NE 1/4 NW 1/4 sec.11, T.29 N., R.14 E., Menominee County, at County Trunk Highway M, 3.8 mi (6.1 km) northeast of Neopit.	17.0	1969-70	9-1-82	8.15
West Branch Wolf River	Wolf River	Lat 44°56'08", long 88°40'11", in NW 1/4 SW 1/4 sec.3, T.28 N., R.15 E., Menominee County, at town road, 4.2 mi (6.8 km) northwest of Keshena.	163	1966	9-1-82	173
Fox River	Lake Michigan	Section 22, T.20 N., R.17 E., Winnebago County, on Highway 114 bridge in Neenah-Menasha.	--	1980	4-28-82	7,560
ST. CROIX RIVER BASIN						
St. Croix River	Mississippi River	Lat 46°11'32", long 92°04'16", in NE 1/4 SE 1/4 sec.23, T.43 N., R.14 W., Douglas County, St. Croix National Scenic Riverway, at bridge on County Trunk Highway T, 4.3 mi (6.9 km) southeast of Dairyland.	a440	1976-78 1980-81	4-15-82 8-24-82	1,510 189
Namekagon River	St. Croix River	Lat 46°03'06", long 91°25'53", in NE 1/4 NE 1/4 sec.12, T.41 N., R.9 W., Sawyer County, St. Croix National Scenic Riverway, at bridge on town road, 3.7 mi (6.0 km) northeast of Hayward.	a192	1975-78 1980-81	4-7-82 8-24-82	261 134
Namekagon River	St. Croix River	Lat 45°58'08", long 91°31'51", in NW 1/4 NE 1/4 sec.7, T.40 N., R.9 W., Sawyer County, 0.3 mi (0.5 km) downstream from Rainbow Creek, and 3.9 mi (6.3 km) southwest of Hayward.	--	1981	10-15-81 6-15-82	241 223
Namekagon River	St. Croix River	Lat 45°58'42", long 91°34'31", in SE 1/4 NW 1/4 sec.2, T.40 N., R.10 W., Washburn County, at boat landing 1.1 mi (1.8 km) upstream from bridge on County Trunk Highway E, and 5.1 mi (8.2 km) southwest of Hayward.	--	1981	10-15-81 6-15-82	245 249
Yellow River	St. Croix River	Lat 46°00'44", long 92°21'27", in NW 1/4 NW 1/4 sec.27, T.41 N., R.16 W., Burnette County, St. Croix National Scenic Riverway, at bridge on State Highway 35, 0.7 mi (1.1 km) northeast of Danbury.	--	1976-78 1980-81	4-17-82 8-25-82	476 199

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge Measurements Made at Miscellaneous Sites During Water Year 1982

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Measurements	
					Date	Discharge (ft ³ /s)
ST. CROIX RIVER BASIN--CONTINUED						
Clam River	St. Croix River	Lat 45°52'50", long 92°29'15", in SW 1/4 NW 1/4sec.9, T.39 N., R.15 W., Burnett County, St. Croix National Scenic Riverway, at ice-house bridge, 2.5 mi (4.0 km) downstream from Black Brook, and 6.0 mi (9.7 km) west of Webster.	a364	1968-69 1976-78 1980-81	4-16-82 8-25-82	650 168
Kettle River	St. Croix River	Lat 45°54'13", long 92°43'47", in SW 1/4 SW 1/4 sec.33, T.40 N., R.19 W., Pine County, MN, St. Croix National Scenic Riverway, 200 ft (61 m) west of town road, 8.0 mi (12.9 km) south of Cloverdale, MN, and 9.0 mi (14.5 km) northwest of Grantsburg.	--	1981	4-16-82 8-25-82	8,780 214
ROCK RIVER BASIN						
East Branch Rock River	Rock River	Lat 43°30'15", long 88°32'51", in SW 1/4 SE 1/4 sec.14, T.12 N., R.16 E., Dodge County, at sewage treatment plant, at Mayville.	174	--	9-28-82	12.9
East Branch Rock River	Rock River	Lat 43°30'38", long 88°33'27", in SW 1/4 NW 1/4 sec.14, T.12 N., R.16 E., Dodge County, at bridge on County Trunk Highway Y, 1.1 mi (1.8 km) northwest of City Hall in Mayville.	--	--	9-28-82	15.0

a Approximately.

WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY PARTIAL-RECORD STATIONS ARE PARTICULAR SITES WHERE CHEMICAL-QUALITY, BIOLOGICAL, PHYSICAL, AND/OR SEDIMENT DATA ARE COLLECTED SYSTEMATICALLY OVER A PERIOD OF YEARS FOR USE IN HYDROLOGIC ANALYSES.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE SUPERIOR

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
04027000 - BAD RIVER NEAR ODANAH, WI (LAT 46 29 15 LONG 090 41 45)									
NOV , 1981					APR , 1982				
10...	1100	239	80	2.0	14...	1310	2960	70	3.5
DEC					JUN				
09...	1210	160	150	.0	01...	1400	691	120	13.5
JAN , 1982					JUL				
14...	1140	163	165	.0	13...	1215	904	90	19.5
FEB					AUG				
04...	1110	154	180	.0	19...	1520	130	185	24.0
04027500 - WHITE RIVER NEAR ASHLAND, WI (LAT 46 29 50 LONG 090 54 15)									
NOV , 1981					JUN , 1982				
05...	1110	330	176	7.0	01...	1630	137	170	15.0
DEC					JUL				
16...	0925	106	100	.5	13...	0800	373	126	18.0
FEB , 1982					AUG				
04...	1500	171	205	.0	19...	0950	118	180	20.5
APR									
26...	1220	170	178	10.5					

LAKE SUPERIOR

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
470313090541300 - LAKE SUPERIOR SITE 1 NORTH OF YORK ISLAND, WI (LAT 47 03 13 LONG 090 54 13)								
JUL , 1982								
26...	1135	.00	--	6.8	16.9	<.010	2.9	<.1
26...	1140	10.0	--	7.2	16.5	<.010	1.8	.1
26...	1145	177	--	7.2	4.0	<.010	1.5	<.1
465605090401700 - LAKE SUPERIOR SITE 2 NEAR RED CLIFF, WI (LAT 46 56 05 LONG 090 40 17)								
JUL , 1982								
26...	1400	.00	--	7.0	17.6	--	1.8	<.1
26...	1405	108	--	7.2	5.0	<.010	1.3	<.1
26...	1415	213	--	7.1	4.4	<.010	1.6	.1
464948090432800 - LAKE SUPERIOR SITE 3 NR BASSWOOD & MADELAINE IS (LAT 46 49 48 LONG 090 43 28)								
JUL , 1982								
27...	0845	.00	--	--	--	<.010	1.7	<.1
27...	0850	85.0	--	--	--	<.010	1.3	<.1
27...	0855	171	--	--	--	<.010	1.1	<.1
465158090453900 - LAKE SUPERIOR SITE 4 NR RED CLIFF & BASSWOOD IS (LAT 46 51 58 LONG 090 45 39)								
JUL , 1982								
26...	0855	.00	--	7.1	18.8	.010	2.0	<.1
26...	0900	20.0	--	7.1	12.7	<.010	1.7	.1
26...	0905	88.0	--	7.1	4.8	<.010	1.6	<.1
465525090340201 - PRESQUE ISLE BAY SITE 1 NEAR STOCKTON ISLAND, WI (LAT 46 55 25 LONG 090 34 02)								
JUL , 1982								
27...	1025	.00	80	7.4	17.0	.020	1.3	--
465515090341401 - PRESQUE ISLE BAY SITE 2 NEAR STOCKTON ISLAND, WI (LAT 46 55 15 LONG 090 34 14)								
JUL , 1982								
27...	1055	.00	80	--	18.0	.020	1.4	--
465507090340601 - PRESQUE ISLE BAY SITE 3 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 34 06)								
JUL , 1982								
27...	1115	.00	70	7.4	18.0	--	1.5	<.1
465518090334101 - PRESQUE ISLE BAY SITE 4 NEAR STOCKTON ISLAND, WI (LAT 46 55 18 LONG 090 33 41)								
JUL , 1982								
27...	1210	.00	80	7.5	17.0	<.010	1.5	--
465507090332501 - PRESQUE ISLE BAY SITE 5 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 33 25)								
JUL , 1982								
27...	1225	.00	80	7.5	--	.010	1.7	--
465457090334101 - PRESQUE ISLE BAY SITE 6 NEAR STOCKTON ISLAND, WI (LAT 46 54 57 LONG 090 33 41)								
JUL , 1982								
27...	1240	.00	80	7.5	18.0	<.010	1.6	--
465445090332601 - PRESQUE ISLE BAY SITE 7 NEAR STOCKTON ISLAND, WI (LAT 46 54 45 LONG 090 33 26)								
JUL , 1982								
27...	1310	.00	70	7.6	19.0	<.010	1.6	--
465454090331101 - PRESQUE ISLE BAY SITE 8 NEAR STOCKTON ISLAND, WI (LAT 46 54 54 LONG 090 33 11)								
JUL , 1982								
27...	1320	.00	75	7.5	18.0	.020	1.8	--
465439090331101 - PRESQUE ISLE BAY SITE 9 NEAR STOCKTON ISLAND, WI (LAT 46 54 39 LONG 090 33 11)								
JUL , 1982								
27...	1330	.00	75	7.5	18.0	.010	2.4	--

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

LAKE SUPERIOR--CONTINUED

DATE	TIME	SAM- PLING DEPTH (FEET)	NITRO- GEN NH4 TOTAL IN BOT. MAT. (MG/KG AS N)	NITRO- GEN NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	PHOS- PHORUS, TOTAL IN BOT. MAT. (MG/KG AS P)	CARBON, INORG + ORGANIC TOT IN BOT MAT (G/KG AS C)	CARBON, INOR- GANIC, TOT IN BOT MAT (G/KG AS C)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)
470313090541300 - LAKE SUPERIOR SITE 1 NORTH OF YORK ISLAND, WI (LAT 47 03 13 LONG 090 54 13)								
JUL , 1982								
26...	1200	180	--	--	260	3.0	<.1	<.01
465605090401700 - LAKE SUPERIOR SITE 2 NEAR RED CLIFF, WI (LAT 46 56 05 LONG 090 40 17)								
JUL , 1982								
26...	1430	220	--	--	87	3.4	<.1	<.01
464948090432800 - LAKE SUPERIOR SITE 3 NR BASSWOOD & MADELAINE IS (LAT 46 49 48 LONG 090 43 28)								
JUL , 1982								
27...	0905	174	--	--	470	14	<.1	<.01
465158090453900 - LAKE SUPERIOR SITE 4 NR RED CLIFF & BASSWOOD IS (LAT 46 51 58 LONG 090 45 39)								
JUL , 1982								
26...	0925	98.0	--	--	160	5.3	<.1	<.01
465525090340201 - PRESQUE ISLE BAY SITE 1 NEAR STOCKTON ISLAND, WI (LAT 46 55 25 LONG 090 34 02)								
JUL , 1982								
27...	1030	10.0	<.4	720	4	1.2	<.1	--
465515090341401 - PRESQUE ISLE BAY SITE 2 NEAR STOCKTON ISLAND, WI (LAT 46 55 15 LONG 090 34 14)								
JUL , 1982								
27...	1100	30.0	2.6	880	10	3.3	<.1	--
465507090340601 - PRESQUE ISLE BAY SITE 3 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 34 06)								
JUL , 1982								
27...	1120	79.0	11	1300	86	7.2	<.1	<.01
465518090334101 - PRESQUE ISLE BAY SITE 4 NEAR STOCKTON ISLAND, WI (LAT 46 55 18 LONG 090 33 41)								
JUL , 1982								
27...	1215	15.0	2.3	510	6	1.8	<.1	--
465507090332501 - PRESQUE ISLE BAY SITE 5 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 33 25)								
JUL , 1982								
27...	1230	11.0	3.5	450	12	.9	<.1	--
465457090334101 - PRESQUE ISLE BAY SITE 6 NEAR STOCKTON ISLAND, WI (LAT 46 54 57 LONG 090 33 41)								
JUL , 1982								
27...	1245	44.0	1.8	790	22	4.2	<.1	--
465445090332601 - PRESQUE ISLE BAY SITE 7 NEAR STOCKTON ISLAND, WI (LAT 46 54 45 LONG 090 33 26)								
JUL , 1982								
27...	1315	34.0	.7	600	19	4.8	<.1	<.01
465454090331101 - PRESQUE ISLE BAY SITE 8 NEAR STOCKTON ISLAND, WI (LAT 46 54 54 LONG 090 33 11)								
JUL , 1982								
27...	1325	11.0	1.8	230	27	.8	<.1	<.01
465439090331101 - PRESQUE ISLE BAY SITE 9 NEAR STOCKTON ISLAND, WI (LAT 46 54 39 LONG 090 33 11)								
JUL , 1982								
27...	1335	11.0	1.3	320	9	.7	<.1	--

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

LAKE SUPERIOR--CONTINUED

DATE	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN	BED MAT. SIEVE DIAM. % FINER THAN
	.062 MM	.125 MM	.250 MM	.500 MM	1.00 MM	2.00 MM	4.00 MM
470313090541300 - LAKE SUPERIOR SITE 1 NORTH OF YORK ISLAND, WI (LAT 47 03 13 LONG 090 54 13)							
JUL , 1982							
26...	14	46	76	97	100	--	--
465605090401700 - LAKE SUPERIOR SITE 2 NEAR RED CLIFF, WI (LAT 46 56 05 LONG 090 40 17)							
JUL , 1982							
26...	11	36	61	90	98	99	100
464948090432800 - LAKE SUPERIOR SITE 3 NR BASSWOOD & MADELAINE IS (LAT 46 49 48 LONG 090 43 28)							
JUL , 1982							
27...	50	69	93	100	--	--	--
465158090453900 - LAKE SUPERIOR SITE 4 NR RED CLIFF & BASSWOOD IS (LAT 46 51 58 LONG 090 45 39)							
JUL , 1982							
26...	19	38	64	84	98	100	--
465525090340201 - PRESQUE ISLE BAY SITE 1 NEAR STOCKTON ISLAND, WI (LAT 46 55 25 LONG 090 34 02)							
JUL , 1982							
27...	0	1	21	98	100	--	--
465515090341401 - PRESQUE ISLE BAY SITE 2 NEAR STOCKTON ISLAND, WI (LAT 46 55 15 LONG 090 34 14)							
JUL , 1982							
27...	1	8	35	92	99	100	--
465507090340601 - PRESQUE ISLE BAY SITE 3 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 34 06)							
JUL , 1982							
27...	21	61	80	96	99	100	--
465518090334101 - PRESQUE ISLE BAY SITE 4 NEAR STOCKTON ISLAND, WI (LAT 46 55 18 LONG 090 33 41)							
JUL , 1982							
27...	0	2	27	98	100	--	--
465507090332501 - PRESQUE ISLE BAY SITE 5 NEAR STOCKTON ISLAND, WI (LAT 46 55 07 LONG 090 33 25)							
JUL , 1982							
27...	0	2	50	99	100	--	--
465457090334101 - PRESQUE ISLE BAY SITE 6 NEAR STOCKTON ISLAND, WI (LAT 46 54 57 LONG 090 33 41)							
JUL , 1982							
27...	5	42	76	96	99	100	--
465445090332601 - PRESQUE ISLE BAY SITE 7 NEAR STOCKTON ISLAND, WI (LAT 46 54 45 LONG 090 33 26)							
JUL , 1982							
27...	0	6	23	88	98	99	100
465454090331101 - PRESQUE ISLE BAY SITE 8 NEAR STOCKTON ISLAND, WI (LAT 46 54 54 LONG 090 33 11)							
JUL , 1982							
27...	0	4	80	100	--	--	--
465439090331101 - PRESQUE ISLE BAY SITE 9 NEAR STOCKTON ISLAND, WI (LAT 46 54 39 LONG 090 33 11)							
JUL , 1982							
27...	0	4	67	98	99	100	--

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE MICHIGAN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
04066000 - MENOMINEE RIVER NEAR PEMBINE, WI (LAT 45 35 56 LONG 087 46 32)									
OCT , 1981					JUN , 1982				
07... 1530	2460	210	12.0		15... 1550	2670	190	18.5	
APR , 1982									
27... 1500	10800	125	7.5						
04069500 - PESHTIGO RIVER AT PESHTIGO, WI (LAT 45 02 49 LONG 087 44 40)									
OCT , 1981					AUG , 1982				
07... 0920	804	245	10.5		04... 1115	525	240	23.0	
NOV					SEP				
11... 1010	504	295	5.0		13... 1200	522	240	22.5	
04071000 - OCONTO RIVER NEAR GILLETT, WI (LAT 44 51 53 LONG 088 18 00)									
OCT , 1981					MAY , 1982				
05... 1630	439	260	10.5		13... 1000	703	--	11.0	
NOV					JUN				
11... 1605	355	280	4.0		29... 1430	426	--	17.0	
MAR , 1982					AUG				
04... 1035	362	220	.0		25... 1320	288	--	18.0	
04071858 - PENSAAKEE RIVER NEAR PENSAAKEE, WI (LAT 44 49 08 LONG 087 57 12)									
OCT , 1981					MAR , 1982				
06... 1445	68	565	11.5		03... 1015	20	510	.0	
29... 1145	50	565	6.5		MAY				
NOV					12... 0940	38	--	11.0	
11... 1245	24	625	3.5		JUN				
12... 1625	30	580	--		30... 1020	26	--	18.5	
DEC					AUG				
17... 1230	16	845	.5		25... 1610	14	--	19.0	
04073500 - FOX RIVER AT BERLIN, WI (LAT 43 57 14 LONG 088 57 08)									
OCT , 1981					JUN , 1982				
28... 1127	1900	360	5.5		11... 1030	1480	370	20.0	
DEC					AUG				
07... 1700	1340	400	1.5		05... 1400	1060	320	23.5	
JAN , 1982									
19... 1300	588	370	.0						
04074538 - SWAMP CREEK ABOVE RICE LAKE, AT MOLE LAKE, WI (LAT 45 29 18 LONG 088 57 49)									
OCT , 1981					APR , 1982				
17... 1355	15	150	8.5		22... 1130	54	165	5.0	
NOV					JUN				
18... 1130	21	210	1.0		16... 1545	24	190	18.5	
18... 1310	16	150	4.0		AUG				
DEC					02... 1345	17	215	20.0	
22... 1220	18	230	.5		SEP				
JAN , 1982					10... 1145	14	205	17.5	
21... 1630	14	220	.0						
FEB									
26... 1000	22	240	.0						
04074548 - SWAMP CREEK BELOW RICE LAKE, AT MOLE LAKE, WI (LAT 45 28 46 LONG 088 59 52)									
APR , 1982					JUL , 1982				
07... 1300	58	180	.5		27... 1000	33	200	22.0	
22... 1305	81	165	5.5		AUG				
MAY					20... 1010	15	230	20.0	
20... 1000	56	175	16.5		SEP				
JUN					07... 1245	35	200	15.5	
01... 1215	29	150	17.0						
16... 1715	38	215	20.5						
04078500 - EMBARRASS RIVER NEAR EMBARRASS, WI (LAT 44 43 29 LONG 088 44 10)									
OCT , 1981					MAY , 1982				
05... 1320	207	355	10.5		13... 1355	345	--	12.0	
28... 1300	220	375	5.5		JUN				
NOV					29... 1210	220	--	18.0	
12... 0940	154	410	3.0		AUG				
JAN , 1982					25... 1100	235	--	18.0	
05... 1345	114	475	.5						
MAR									
02... 1155	105	400	.0						
04079000 - WOLF RIVER AT NEW LONDON, WI (LAT 44 23 32 LONG 088 44 25)									
OCT , 1981					MAY , 1982				
27... 1355	2010	340	5.5		11... 1245	2740	300	15.5	
DEC					JUL				
30... 1400	729	300	.0		01... 1135	1120	--	19.5	
MAR , 1982					SEP				
02... 1715	766	360	.0		16... 1140	1290	--	19.5	
04080000 - LITTLE WOLF RIVER AT ROYALTON, WI (LAT 44 24 45 LONG 088 51 55)									
SEP , 1982									
16... 1300	316	--	9.0						
04081000 - WAUPACA RIVER NEAR WAUPACA, WI (LAT 44 19 50 LONG 088 59 45)									
SEP , 1982									
28... 1350	188	--	8.0						

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALA- CHLOR TOTAL RECOVER (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CYAN- AZINE TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
		04085281		- EAST TWIN RIVER AT MISHICOT, WI (LAT 44 14 16 LONG 087 38 11)								
MAY , 1982												
19...	1145	585	18.0	<1	<1.0	--	<.1	<.10	<1.0	<.10	<.1	.5
AUG												
17...	1530	500	23.5	<1	<1.0	--	<.1	.10	<1.0	<.10	<.1	<.1
		04085390		- SOUTH BRANCH MANITOWOC RIVER NEAR CHILTON, WI (LAT 44 02 08 LONG 088 08 33)								
AUG , 1982												
17...	1945	735	23.5	350	<1.0	--	<.1	.60	9.0	<.10	1.5	<.1
		04085480		- SHEROYGAN RIVER NEAR FOND DU LAC, WI (LAT 43 48 33 LONG 088 15 04)								
AUG , 1982												
16...	1830	650	28.0	<1	<1.0	--	<.1	.30	<1.0	<.10	<.1	<.1
		04085845		- ONION RIVER NEAR SHEROYGAN FALLS, WI (LAT 43 41 48 LONG 087 49 15)								
MAY , 1982												
18...	1545	700	20.5	<1	<1.0	--	<.1	.30	<1.0	<.10	<.1	<.1
AUG												
16...	1940	665	26.0	<1	<1.0	--	<.1	.30	<1.0	<.10	<.1	<.1
		04086000		- SHEROYGAN RIVER AT SHEROYGAN, WI (LAT 43 44 25 LONG 087 45 35)								
MAY , 1982												
18...	1700	--	20.5	580	<1.0	<.10	<.1	.20	<1.0	<.10	1.9	<.1
AUG												
17...	1015	655	22.0	360	<1.0	--	<.1	.20	<1.0	<.10	1.5	<.1
		04086100		- MILWAUKEE RIVER AT CAMPBELLSPORT, WI (LAT 43 36 26 LONG 088 15 52)								
AUG , 1982												
16...	1730	595	24.0	<1	<1.0	--	<.1	.10	<1.0	<.10	.1	<.1
		04086200		- EAST BRANCH MILWAUKEE RIVER NEAR NEW FANE, WI (LAT 43 33 01 LONG 088 11 18)								
AUG , 1982												
16...	1630	460	25.0	<1	<1.0	--	<.1	<.10	<1.0	<.10	.3	<.1
		04086300		- NORTH BRANCH MILWAUKEE RIVER NEAR CASCADE, WI (LAT 43 36 03 LONG 088 00 43)								
AUG , 1982												
16...	1520	650	23.0	<1	<1.0	--	<.1	<.10	<1.0	<.10	<.1	<.1
		04086500		- CEDAR CREEK NEAR CEDARBURG, WI (LAT 43 19 23 LONG 087 58 43)								
MAY , 1982												
18...	1415	695	20.5	<1	<1.0	--	<.1	.30	<1.0	<.10	<.1	.1
AUG												
16...	1340	625	25.0	<1	<1.0	--	<.1	.10	<1.0	<.10	.2	<.1

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA. WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

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WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

DATE	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
04085281 - EAST TWIN RIVER AT MISHICOT, WI (LAT 44 14 16 LONG 087 38 11)												
MAY , 1982												
19...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	<.50	<.1
AUG												
17...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	<.50	<.1
	04085390											
- SOUTH BRANCH MANITOWOC RIVER NEAR CHILTON, WI (LAT 44 02 08 LONG 088 08 33)												
AUG , 1982												
17...	<.1	<.1	<.1	<.1	<.1	<.10	.20	<.1	<1.00	<10	4.6	<.1
	04085480											
- SHEBOYGAN RIVER NEAR FOND DU LAC, WI (LAT 43 48 33 LONG 088 15 04)												
AUG , 1982												
16...	<.1	<.1	<.1	<.1	<.1	<.10	.50	<.1	<1.00	<10	--	<.1
	04085845											
- ONION RIVER NEAR SHEBOYGAN FALLS, WI (LAT 43 41 48 LONG 087 49 15)												
MAY , 1982												
18...	<.1	<.1	<.1	<.1	<.1	<.10	1.3	<.1	<1.00	<10	--	<.1
AUG												
16...	<.1	<.1	<.1	<.1	<.1	<.10	3.0	<.1	<1.00	<10	15.0	<.1
	04086000											
- SHEBOYGAN RIVER AT SHEBOYGAN, WI (LAT 43 44 25 LONG 087 45 35)												
MAY , 1982												
18...	<.1	<.1	<.1	<.1	<.1	<.10	.50	<.1	<1.00	<10	<.50	<.1
AUG												
17...	<.1	<.1	<.1	<.1	<.1	<.10	1.1	<.1	<1.00	<10	--	<.1
	04086100											
- MILWAUKEE RIVER AT CAMPBELLSPORT, WI (LAT 43 36 26 LONG 088 15 52)												
AUG , 1982												
16...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	--	<.1
	04086200											
- EAST BRANCH MILWAUKEE RIVER NEAR NEW FANE, WI (LAT 43 33 01 LONG 088 11 18)												
AUG , 1982												
16...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	--	<.1
	04086300											
- NORTH BRANCH MILWAUKEE RIVER NEAR CASCADE, WI (LAT 43 36 03 LONG 088 00 43)												
AUG , 1982												
16...	<.1	<.1	<.1	<.1	<.1	<.10	.20	<.1	<1.00	<10	--	<.1
	04086500											
- CEDAR CREEK NEAR CEDARBURG, WI (LAT 43 19 23 LONG 087 58 43)												
MAY , 1982												
18...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	--	<.1
AUG												
16...	<.1	<.1	<.1	<.1	<.1	<.10	<.10	<.1	<1.00	<10	--	<.1

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
04086340 - NORTH BRANCH MILWAUKEE RIVER NEAR FILLMORE, WI (LAT 43 28 58 LONG 088 03 39)									
DEC , 1981									
16...	1011	66	750	.0					
	04086600								
- MILWAUKEE RIVER NEAR CEDARBURG, WI (LAT 43 16 46 LONG 087 56 34)									
NOV , 1981					JUL , 1982				
18...	1334	368	710	6.5	01...	1540	327	605	24.0
DEC					20...	1154	234	630	25.0
10...	1144	2.5	700	.0	AUG				
JAN , 1982					19...	1458	126	600	28.0
28...	1432	202	650	.0					
APR									
23...	1020	975	570	11.0					
	04087010								
- MILWAUKEE R ABOVE NORTH AVE DAM AT MILWAUKEE, WI (LAT 43 03 32 LONG 087 53 41)									
JUL , 1982									
16...	1123	175	600	27.0					
	04087088								
- UNDERWOOD CREEK AT WAUWATOSA, WI (LAT 43 03 17 LONG 088 02 46)									
OCT , 1981					APR , 1982				
26...	1313	5.9	1100	12.5	14...	1328	39	1010	12.5
JAN , 1982					MAY				
18...	1230	2.9	--	.0	24...	1228	13	1160	16.0
MAR									
01...	1301	8.2	2400	8.0					
	04087138								
- MENOMONEE RIVER AT MILWAUKEE, WI (LAT 43 01 28 LONG 087 57 36)									
APR , 1982					JUL , 1982				
15...	1528	282	905	11.0	08...	1355	63	650	24.5
27...	1449	95	1050	12.5	SEP				
MAY					09...	1323	23	--	21.5
25...	1205	115	940	15.0					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
04087160 - KINNICKINNIC RIVER AT MILWAUKEE, WI (LAT 42 59 48 LONG 087 55 13)									
DEC , 1981					APR , 1982				
09... 1302	9.8	1010	5.5		15... 1229	20	1350	13.0	
JAN , 1982					MAY				
19... 1137	8.1	1250	1.0		26... 1216	11	1150	16.5	
MAR					JUL				
03... 1204	14	3850	4.0		07... 1228	36	470	25.0	
	04087204				- OAK CREEK AT SOUTH MILWAUKEE, WI (LAT 42 55 30 LONG 087 52 12)				
OCT , 1981					MAR , 1982				
01... 1245	174	525	14.0		03... 1002	20	2790	.0	
06... 1054	29	980	13.0		APR				
19... 1155	63	800	8.5		15... 1026	38	1150	9.0	
27... 1412	12	925	15.5		MAY				
28... 1155	12	1190	9.5		26... 1021	19	1130	14.5	
DEC					JUL				
09... 0958	13	1210	1.0		07... 1028	35	780	21.5	
JAN , 1982									
27... 1105	3.0	--	.5						
	04087257				- PIKE RIVER NEAR RACINE, WI (LAT 42 30 49 LONG 087 51 30)				
NOV , 1981					JUL , 1982				
24... 0930	40	840	5.0		19... 1210	14	750	22.0	
CHIPPEWA RIVER BASIN									
05356000 - CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WI (LAT 45 50 57 LONG 091 04 44)									
NOV , 1981					MAY , 1982				
09... 1050	673	78	5.0		27... 1400	830	50	17.0	
DEC					JUL				
16... 1220	1370	60	1.5		15... 0945	413	68	21.0	
FEB , 1982					AUG				
17... 1150	505	113	2.3		20... 1250	595	70	25.5	
APR									
16... 1015	356	60	4.0						
	05356121				- COUDERAY R AT COUNTY HIGHWAY B NR COUDERAY, WI (LAT 45 47 43 LONG 091 21 07)				
NOV , 1981					MAY , 1982				
09... 1200	68	110	2.5		27... 1100	145	97	18.0	
DEC					JUL				
16... 1315	56	95	.5		15... 0800	92	118	22.0	
FEB , 1982					AUG				
17... 1445	66	142	.0		20... 1620	68	120	24.0	
APR									
01... 0945	248	84	1.5						
26... 1600	161	106	14.2						
	05356500				- CHIPPEWA RIVER NEAR BRUCE, WI (LAT 45 27 08 LONG 091 15 39)				
OCT , 1981					MAY , 1982				
21... 1215	1270	90	10.0		24... 1300	1970	66	18.0	
DEC					JUL				
08... 1210	1570	95	1.0		01... 1415	726	115	21.0	
JAN , 1982					AUG				
27... 1340	730	125	.0		12... 1035	953	130	18.5	
APR									
06... 1600	4470	95	2.0						
	05360500				- FLAMBEAU RIVER NEAR BRUCE, WI (LAT 45 22 21 LONG 091 12 34)				
OCT , 1981					MAY , 1982				
21... 1130	1810	110	9.0		24... 1000	2750	64	18.0	
DEC					JUL				
08... 1115	824	100	1.0		01... 1115	1660	110	24.0	
JAN , 1982					AUG				
27... 1115	1170	148	.0		12... 0850	867	145	18.0	
APR									
06... 0930	4400	96	.5						
	05362000				- JUMP RIVER AT SHELDON, WI (LAT 45 18 29 LONG 090 57 23)				
OCT , 1981					APR , 1982				
22... 1120	554	110	9.0		06... 1145	3950	75	1.0	
DEC					MAY				
08... 1020	120	160	.5		10... 1330	3030	50	12.5	
JAN , 1982					JUN				
19... 1130	70	190	.0		29... 1155	149	125	22.5	
MAR					AUG				
17... 1030	280	160	.5		10... 1115	82	140	18.5	
	05365500				- CHIPPEWA RIVER AT CHIPPEWA FALLS, WI (LAT 44 55 37 LONG 091 24 33)				
DEC , 1981					JUN , 1982				
10... 1550	3240	110	.5		08... 1230	8320	100	19.0	
JAN , 1982					30... 0930	256	160	21.0	
29... 1220	6260	90	.5		AUG				
MAR					17... 1440	4390	135	23.0	
30... 0915	7890	135	3.0						
MAY									
27... 0900	7050	110	14.5						

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CHIPPEWA RIVER BASIN--CONTINUED

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05368000 - HAY RIVER AT WHEELER, WI (LAT 45 02 52 LONG 091 54 39)									
OCT , 1981					APR , 1982				
27...	1430	265	342	6.0	20...	1520	731	210	3.5
DEC					MAY				
09...	1510	215	325	.5	11...	1045	567	260	15.0
MAR , 1982					25...	1020	345	305	14.5
16...	1505	275	310	2.5	JUN				
22...	1515	260	343	6.5	28...	1130	231	333	19.0
31...	1110	5870	88	2.5	AUG				
31...	1530	6180	90	3.0	13...	1300	181	340	15.6
APR									
05...	1020	1190	185	2.0					
05369000 - RED CEDAR RIVER AT MENOMONIE, WI (LAT 44 53 02 LONG 091 55 57)									
OCT , 1981					MAY , 1982				
23...	1120	1980	225	8.0	25...	1900	1960	154	18.0
JAN , 1982					27...	1015	2480	145	18.0
29...	1015	901	230	.0	JUN				
MAR					29...	1600	2510	200	23.0
22...	1425	685	230	2.0	AUG				
31...	1700	7250	164	3.0	17...	1230	777	215	23.0
APR									
01...	1800	13500	160	3.5					
05369945 - EAU GALLE R A LOW-WTR BRIDGE A SPRING VALLEY, WI (LAT 44 52 02 LONG 092 15 07)									
OCT , 1981					APR , 1982				
26...	1545	9.2	400	4.0	26...	1230	16	360	10.5
DEC					MAY				
09...	1300	8.0	325	1.5	25...	1440	15	362	15.0
JAN , 1982					JUN				
28...	1110	7.7	400	.0	29...	0940	11	408	16.5
FEB					AUG				
17...	1500	6.8	369	.5	16...	1500	8.5	420	18.0
MAR					SEP				
26...	1050	127	210	.0	01...	1300	11	366	15.8
29...	1215	170	172	2.0					
05369955 - FRENCH CREEK NEAR SPRING VALLEY, WI (LAT 44 52 05 LONG 092 15 37)									
OCT , 1981					APR , 1982				
26...	1450	.46	460	5.0	26...	1145	.61	380	10.0
DEC					MAY				
09...	1200	.36	450	2.5	25...	1600	.78	390	15.5
JAN , 1982					JUN				
28...	1005	.33	420	.0	29...	0810	.56	474	13.0
MAR					AUG				
23...	1350	1.1	400	5.5	16...	1440	.44	420	16.0
29...	1225	11	162	1.5					
31...	1030	26	128	3.0					
05369970 - LOUSY CREEK NEAR SPRING VALLEY, WI (LAT 44 52 21 LONG 092 14 21)									
OCT , 1981					MAR , 1982				
27...	0830	2.1	375	5.5	31...	1000	19	105	2.5
DEC					MAY				
21...	1405	2.0	354	3.5	26...	0830	2.2	340	10.0
JAN , 1982					JUN				
28...	1535	1.9	360	1.5	29...	1130	2.1	362	12.0
FEB					AUG				
17...	1230	1.9	370	2.0	17...	0940	2.2	380	11.5
MAR									
23...	1100	2.2	354	6.0					
05369985 - LOHN CREEK NEAR SPRING VALLEY, WI (LAT 44 51 42 LONG 092 14 00)									
OCT , 1981					APR , 1982				
27...	0945	.28	420	8.0	12...	1230	.27	430	7.0
DEC					MAY				
21...	1300	.24	430	2.0	26...	1030	.27	420	11.0
FEB , 1982					JUN				
18...	1225	.24	410	3.5	29...	1325	.24	400	14.0
MAR					AUG				
23...	1010	.38	422	6.0	17...	0840	.23	475	12.0
TREMPEALEAU RIVER BASIN									
05379500 - TREMPEALEAU RIVER AT DODGE, WI (LAT 44 07 55 LONG 091 33 14)									
OCT , 1981					JUN , 1982				
20...	1700	685	250	8.5	08...	1645	396	300	21.5
DEC					JUL				
15...	1425	280	310	.0	30...	0850	594	200	21.0
JAN , 1982					SEP				
28...	0940	276	210	.0	20...	1310	429	320	13.5
APR									
01...	0930	1340	160	5.5					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

BLACK RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05381000 - BLACK RIVER AT NEILLSVILLE, WI (LAT 44 33 35 LONG 090 36 54)									
OCT , 1981					MAY , 1982				
20...	1150	1390	150	7.5	20...	1400	892	--	12.0
NOV					JUL				
19...	1030	172	180	4.5	08...	1040	122	--	18.5
JAN , 1982					SEP				
15...	1215	40	230	.0	09...	1020	355	--	16.5
MAR									
11...	1500	99	220	.0					

WISCONSIN RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05391000 - WISCONSIN R AT RAINBOW LK NEAR LAKE TOMAHAWK, WI (LAT 45 49 58 LONG 089 32 51)									
OCT , 1981					APR , 1982				
02...	1605	435	75	12.0	22...	1415	293	75	8.0
DEC					JUN				
11...	1325	711	80	2.5	23...	1355	540	70	20.0
FEB , 1982					AUG				
25...	1445	672	60	1.0	05...	1500	639	80	23.5
05393500 - SPIRIT RIVER AT SPIRIT FALLS, WI (LAT 45 26 58 LONG 089 58 47)									
OCT , 1981					JUN , 1982				
02...	1235	57	100	6.0	23...	1610	24	90	18.5
DEC					AUG				
28...	1215	18	155	.0	04...	1455	25	80	25.0
APR , 1982					SEP				
21...	1350	558	80	3.5	16...	1535	330	60	13.0
05394500 - PRAIRIE RIVER NEAR MERRILL, WI (LAT 45 14 09 LONG 089 38 59)									
OCT , 1981					APR , 1982				
22...	1410	152	135	6.5	26...	1525	470	70	12.0
DEC					JUN				
08...	1345	122	120	1.5	23...	1040	114	160	16.0
JAN , 1982					AUG				
05...	1345	83	180	.5	04...	1200	89	165	22.5
MAR					SEP				
17...	1345	96	--	1.0	15...	1135	378	60	13.0
APR									
21...	1020	648	65	3.5					
05395000 - WISCONSIN RIVER AT MERRILL, WI (LAT 45 10 41 LONG 089 40 52)									
JUN , 1982									
25...	1600	2100	100	20.5					
05396000 - RIB RIVER AT RIB FALLS, WI (LAT 44 58 25 LONG 089 54 15)									
JUN , 1982					SEP , 1982				
03...	1125	123	80	27.0	16...	1115	1330	75	12.5
15...	1125	92	125	19.5					
05397110 - EAU CLAIRE RIVER NEAR ANTIGO, WI (LAT 45 07 33 LONG 089 14 03)									
OCT , 1981									
05...	0955	97	200	9.0					
05397500 - EAU CLAIRE RIVER AT KELLY, WI (LAT 44 55 06 LONG 089 33 00)									
OCT , 1981					MAR , 1982				
19...	1115	454	150	5.0	19...	1300	119	--	.0
NOV					APR				
18...	1100	106	280	4.0	20...	1435	1040	185	3.5
JAN , 1982					JUN				
05...	1500	71	150	.0	24...	1405	123	125	19.5
FEB					SEP				
18...	1330	62	240	.0	14...	1105	134	230	17.0
05398000 - WISCONSIN RIVER AT ROTHSCILD, WI (LAT 44 53 09 LONG 089 38 05)									
OCT , 1981					JUN , 1982				
16...	1430	3630	150	12.5	24...	1230	2840	120	19.5
APR , 1982									
14...	1430	12700	70	3.5					
05399500 - BIG EAU PLEINE RIVER NEAR STRATFORD, WI (LAT 44 49 19 LONG 090 04 46)									
OCT , 1981					MAY , 1982				
19...	1405	643	190	6.0	04...	1350	42	200	11.0
NOV					JUL				
18...	1455	32	330	6.5	08...	1315	13	--	20.5
JAN , 1982					SEP				
14...	1400	13	230	.0	09...	1250	53	--	15.5
MAR									
11...	1135	16	260	.0					
05400650 - LITTLE PLOVER RIVER AT PLOVER, WI (LAT 44 28 26 LONG 089 31 44)									
JAN , 1982					MAY , 1982				
15...	1515	6.8	340	2.5	19...	1320	15	--	14.0
MAR					SEP				
12...	1425	6.1	320	6.0	08...	1300	8.0	--	15.5
05400800 - WISCONSIN R AT WISCONSIN RAPIDS, WI (LAT 44 22 05 LONG 089 51 30)									
OCT , 1981									
20...	1540	7580	220	10.5					

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MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

WISCONSIN RIVER BASIN--CONTINUED

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05402000 - YELLOW RIVER AT BABCOCK, WI (LAT 44 18 05 LONG 090 07 15)									
OCT , 1981					MAY , 1982				
19...	1710	1370	140	9.0	25...	1315	78	--	15.0
NOV					JUL				
19...	1300	42	140	5.0	07...	1455	17	--	20.0
JAN , 1982					SEP				
14...	1715	16	130	.0	08...	1500	53	--	16.5
MAR									
12...	1125	30	185	.0					
05403500 - LEMONWEIR RIVER AT NEW LISBON, WI (LAT 43 52 47 LONG 090 09 40)									
OCT , 1981					JUN , 1982				
21...	1400	899	105	8.0	07...	1410	273	130	19.5
DEC					JUL				
16...	1039	163	150	.0	21...	1030	180	140	23.5
FEB , 1982					SEP				
18...	1050	168	200	.5	16...	1025	127	200	15.0
APR									
08...	1110	1450	110	2.0					
05404000 - WISCONSIN RIVER NEAR WISCONSIN DELLS, WI (LAT 43 36 22 LONG 089 45 25)									
OCT , 1981					JUL , 1982				
22...	1410	8880	180	9.5	26...	1040	4200	170	26.0
APR , 1982					SEP				
06...	1420	40400	200	1.0	07...	1230	4570	150	18.5
JUN									
11...	1530	4560	125	20.0					
05405000 - BARABOO RIVER NEAR BARABOO, WI (LAT 43 28 51 LONG 089 38 09)									
OCT , 1981					JUN , 1982				
23...	1045	370	350	7.5	10...	1430	261	350	18.5
DEC					JUL				
17...	1215	205	310	.5	19...	1200	202	365	24.0
FEB , 1982					SEP				
01...	1050	203	380	.0	14...	1120	176	400	20.5
APR									
07...	1030	1300	240	2.0					
05406500 - BLACK EARTH CREEK AT BLACK EARTH, WI (LAT 43 08 03 LONG 089 43 56)									
OCT , 1981					JUN , 1982				
19...	0955	41	590	6.5	14...	1308	35	550	16.5
DEC					JUL				
17...	0935	29	510	1.0	21...	1530	32	580	17.0
FEB , 1982					SEP				
01...	1400	27	450	.5	13...	1145	28	--	17.5
APR									
13...	0820	60	410	9.0					
05408000 - KICKAPOO RIVER AT LAFARGE, WI (LAT 43 34 27 LONG 090 38 35)									
OCT , 1981					JUN , 1982				
20...	1005	221	470	7.0	15...	1125	169	400	16.5
DEC					JUL				
15...	1110	77	480	.0	20...	1130	151	460	22.0
FEB , 1982					SEP				
18...	1435	150	340	.5	15...	1345	164	470	15.0
APR									
12...	1350	266	540	8.0					
05410500 - KICKAPOO RIVER AT STEUBEN, WI (LAT 43 11 27 LONG 090 52 28)									
OCT , 1981					APR , 1982				
22...	1130	572	520	8.5	06...	1328	1240	320	4.0
DEC					JUN				
14...	1214	468	460	.0	10...	1327	494	450	--
JAN , 1982					AUG				
20...	1310	379	375	.0	03...	1235	453	460	23.0
FEB					SEP				
08...	1124	362	420	.0	08...	1445	485	490	16.5
PLATTE RIVER BASIN									
05414000 - PLATTE RIVER NEAR ROCKVILLE, WI (LAT 42 43 52 LONG 090 38 25)									
OCT , 1981					JUN , 1982				
22...	1730	142	700	8.5	10...	1855	134	530	--
DEC					AUG				
15...	0921	86	560	.0	03...	1941	133	610	26.0
FEB , 1982					04...	1215	1920	260	21.0
09...	1108	74	520	.0	SEP				
APR					09...	0931	112	625	15.5
07...	0925	186	570	3.0					
GALENA RIVER BASIN									
05415000 - GALENA RIVER AT BUNCOMBE, WI (LAT 42 30 49 LONG 090 22 40)									
OCT , 1981					APR , 1982				
23...	0900	88	990	4.0	07...	1314	113	730	4.0
DEC					JUN				
15...	1225	56	820	.0	11...	0918	73	700	--
FEB , 1982					SEP				
09...	1435	43	760	.0	09...	1256	83	820	19.5

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

ROCK RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05423000 - WEST BRANCH ROCK RIVER NEAR WAUPUN, WI (LAT 43 40 05 LONG 088 39 10)									
OCT , 1981					OCT , 1981				
05...	0956	35	730	11.0	05...	1100	35	730	11.0
05423100 - WEST BRANCH ROCK RIVER AT CTH D NEAR WAUPUN, WI (LAT 43 38 51 LONG 088 40 50)									
OCT , 1981					OCT , 1981				
05...	1136	40	740	11.0	05...	1230	40	740	11.0
05424082 - ROCK RIVER AT HUSTISFORD, WI (LAT 43 20 44 LONG 088 35 52)									
JAN , 1982									
12...	1120	85	800	3.0					
05425500 - ROCK RIVER AT WATERTOWN, WI (LAT 43 11 25 LONG 088 43 35)									
DEC , 1981									
14...	1300	439	700	.5					
05426031 - ROCK RIVER AT JEFFERSON, WI (LAT 42 59 46 LONG 088 48 26)									
SEP , 1982									
16...	1200	252	660	20.5					
05426250 - BARK RIVER NEAR ROME, WI (LAT 42 57 39 LONG 088 40 09)									
OCT , 1981					MAR , 1982				
07...	1330	113	540	12.0	11...	0900	72	690	.5
NOV					MAY				
30...	1230	91	540	1.0	04...	1300	92	640	19.0
JAN , 1982					SEP				
12...	1430	49	670	.0	17...	1100	42	580	17.0
05426900 - WHITEWATER CREEK AT MILLIS RD NR WHITEWATER, WI (LAT 42 48 14 LONG 088 42 10)									
OCT , 1981									
08...	1230	18	640	10.5					
05427000 - WHITEWATER CR AT WILLIS RAY RD NR WHITEWATER WI (LAT 42 49 02 LONG 088 42 36)									
OCT , 1981									
08...	1010	17	640	8.0					
05427507 - KOSHKONONG CREEK NEAR ROCKDALE, WI (LAT 42 57 05 LONG 089 01 37)									
OCT , 1981					APR , 1982				
26...	1000	126	750	6.0	13...	1137	640	286	8.5
DEC					JUN				
21...	1032	46	825	.5	08...	0940	75	570	20.0
FEB , 1982					JUL				
12...	1305	41	800	.0	20...	1008	87	715	22.5
MAR					SEP				
17...	0912	668	300	.5	07...	1035	41	740	17.5
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
05427900 - SIXMILE CREEK NEAR WAUNAKEE, WI (LAT 43 10 29 LONG 089 25 58)									
OCT , 1981					OCT , 1981				
14...	0615	22	76	4.5	17...	1315	20	47	2.5
14...	0630	23	61	3.8	17...	1330	24	49	3.2
14...	1145	22	29	1.7	17...	1345	27	50	3.6
14...	1215	22	31	1.8					
14...	1245	22	30	1.8					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

ROCK RIVER BASIN--CONTINUED

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
05427570 - ROCK RIVER AT INDIANFORD, WI (LAT 42 48 15 LONG 089 05 25)									
OCT , 1981					JUL , 1982				
26...	1325	3630	600	7.0	29...	1225	2700	475	25.5
APR , 1982					SEP				
14...	1400	6950	455	8.0	10...	1315	410	525	21.5
JUL									
13...	1255	3160	480	25.5					
05429500 - YAHARA RIVER NEAR MC FARLAND, WI (LAT 43 00 32 LONG 089 18 18)									
OCT , 1981					APR , 1982				
22...	1355	244	410	12.0	27...	0917	301	410	10.5
NOV					JUN				
30...	1350	258	420	3.5	21...	1118	131	415	21.0
JAN , 1982					JUL				
13...	1155	168	450	1.5	19...	1500	150	410	27.5
FEB					AUG				
23...	1355	170	470	3.0	20...	1125	43	400	26.5
MAR					SEP				
19...	1025	263	450	2.5	24...	1500	58	405	17.0
05430150 - BADFISH CREEK NEAR COOKSVILLE, WI (LAT 42 50 00 LONG 089 11 48)									
OCT , 1981					JUN , 1982				
28...	1350	103	1010	13.0	02...	1136	110	1080	17.0
DEC					JUL				
22...	1335	85	1050	7.0	19...	1012	103	1040	21.5
JAN , 1982					AUG				
21...	1220	80	1225	3.5	18...	1020	95	1220	20.0
FEB					SEP				
11...	1110	102	1360	--	10...	1500	87	1195	22.0
APR									
14...	1535	118	1040	14.0					
05430175 - YAHARA RIVER NEAR FULTON, WI (LAT 42 49 50 LONG 089 10 09)									
OCT , 1981					APR , 1982				
28...	1148	478	975	9.5	15...	1125	668	755	11.5
DEC					JUN				
22...	1230	361	970	5.5	09...	1026	370	1000	22.0
JAN , 1982					JUL				
21...	1050	310	565	.0	19...	1243	399	900	26.0
FEB					AUG				
16...	1130	282	880	2.5	18...	1200	133	1170	21.0
MAR					SEP				
16...	1640	1480	345	2.0	10...	1000	131	1210	19.0
05432500 - PECATONICA RIVER AT DARLINGTON, WI (LAT 42 40 40 LONG 090 07 07)									
OCT , 1981					APR , 1982				
19...	1313	324	740	6.5	08...	1427	375	610	4.5
DEC					JUN				
16...	1313	140	610	.0	11...	1351	205	700	--
JAN , 1982					JUL				
21...	1236	129	620	.0	29...	1430	181	730	20.0
FEB					SEP				
11...	1410	124	640	.0	13...	1454	169	720	18.0
MAR									
15...	1325	1890	290	1.5					
05433000 - EAST BR PECATONICA R NR BLANCHARDVILLE, WI (LAT 42 47 10 LONG 089 51 40)									
OCT , 1981					APR , 1982				
19...	1006	228	580	7.5	08...	1050	288	510	4.5
DEC					JUN				
16...	1047	83	540	.0	02...	1615	205	580	17.0
FEB , 1982					JUL				
11...	1100	113	490	.0	29...	1025	147	650	20.0
MAR					SEP				
16...	1341	804	320	2.5	13...	1120	136	565	19.5
17...	1251	1520	220	2.0					
ILLINOIS RIVER BASIN									
05543830 - FOX RIVER AT WAUKESHA, WI (LAT 43 00 17 LONG 088 14 37)									
OCT , 1981					MAY , 1982				
28...	0950	142	870	7.5	27...	0932	180	780	15.0
DEC					JUL				
08...	1506	120	925	3.5	13...	0942	114	740	22.0
JAN , 1982					SEP				
19...	1445	49	1030	.5	16...	1000	22	1035	16.5
MAR					16...	1210	22	1035	16.5
03...	1503	77	1200	2.0					
APR									
19...	1209	363	700	11.5					
05544200 - MUKWONAGO RIVER AT MUKWONAGO, WI (LAT 42 51 24 LONG 088 19 40)									
NOV , 1981					MAY , 1982				
30...	1430	125	490	2.5	04...	1015	45	480	17.0
MAR , 1982					SEP				
11...	1200	45	580	1.0	17...	0900	24	470	18.0
17...	1300	145	590	2.0					
05545300 - WHITE RIVER NEAR BURLINGTON, WI (LAT 42 39 57 LONG 088 19 03)									
OCT , 1981									
07...	0956	72	580	10.0					

GROUND-WATER RECORDS



Figure 5. Location of observation wells and ground-water-quality sites in Wisconsin.

GROUND-WATER LEVELS

ADAMS COUNTY

435759089490001. Local number, AD-17/06E/08-0076.

LOCATION.--Lat 43°57'59", long 89°49'00", Hydrologic Unit 07070003. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water table well, diameter 1 1/4 in (0.03 m), depth 21 ft (6.4 m), cased to 19 ft (5.8 m), well point 19-21 ft (5.8-6.4 m).

DATUM.--Altitude of land-surface is 955 ft (291 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.50 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--September 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.61 ft (2.93 m) below land-surface datum, May 29, 1973; lowest water level measured, 18.14 ft (5.53 m) below land-surface datum, Mar. 7, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	14.04	DEC 28	14.96	FEB 22	15.90	APR 20	13.40	JUN 14	13.82	AUG 9	14.77
13	14.06	JAN 5	15.34	MAR 2	15.93	26	13.43	22	13.93	16	14.92
20	13.92	12	15.28	9	16.09	MAY 3	13.47	28	14.08	24	15.11
NOV 2	13.75	20	15.54	15	15.87	11	13.34	JUL 6	14.25	30	15.07
9	13.97	26	15.60	22	15.47	18	13.40	13	14.32	SEP 7	14.97
17	14.32	FEB 2	15.69	29	14.88	25	13.36	20	14.38	13	15.06
DEC 1	14.22	8	15.81	APR 6	14.28	JUN 1	13.48	28	14.40	21	15.20
7	14.47	15	15.87	12	13.57	7	13.60	AUG 3	14.51	28	15.37
14	14.67										

ASHLAND COUNTY

460936090531701. Local number, AS-43/04W/32-0006.

LOCATION.--Lat 46°09'36", long 90°53'17", Hydrologic Unit 07050001. Owner: U.S. Forest Service.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 89 ft (27 m).

DATUM.--Altitude of land-surface datum is 1,470 ft (448 m) National Geodetic Vertical Datum of 1929. Measuring point: top of hole in pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.5 ft (7.8 m) below land-surface datum, Mar. 2, 1978; lowest water level measured, 32.4 ft (9.8 m) below land-surface datum, Apr. 1, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	28.20	DEC 18	28.60	FEB 2	29.05	APR 12	29.60	AUG 17	28.27	SEP 29	28.50
NOV 23	28.60	JAN 15	28.80	MAR 10	29.35	JUN 30	29.50	31	28.40		

BARRON COUNTY

451514091582101. Local number, BR-33/13W/21-0046.

LOCATION.--Lat 45°15'14", long 91°58'21", Hydrologic Unit 07050007. Owner: Edward Thuftin.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in (0.10 m), depth 65 ft (19.8 m).

DATUM.--Altitude of land-surface is 1,115 ft (340 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft (0.60 m) above land-surface datum.

PERIOD OF RECORD.--October 1956 to current year.

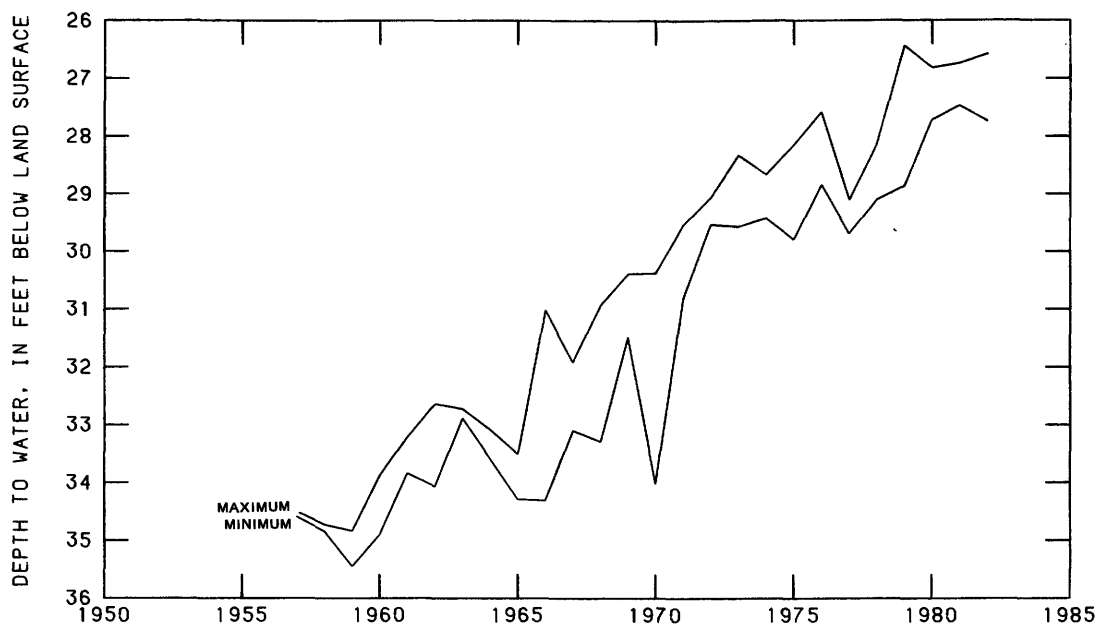
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.44 ft (8.06 m) below land-surface datum, Aug 6, 1979; lowest water level measured, 35.45 ft (10.81 m) below land-surface datum, May 13, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	27.15	APR 26	27.27	MAY 25	26.70	JUL 8	26.70	AUG 4	26.92	SEP 1	26.94
DEC 7	27.70	MAY 7	26.97	JUN 1	26.61	16	26.66	13	26.92	8	27.06
JAN 20	27.60	11	26.91	15	26.63	22	26.86	18	26.90	13	27.06
APR 5	27.74	21	26.87	25	26.70	30	26.88	23	26.96	24	27.15

GROUND-WATER LEVELS

BARRON COUNTY



BR-33/13W/21-0046

BROWN COUNTY

443228088003101. Local number; BN-24/20E/24-0076.

LOCATION.--Lat 44°32'28", long 88°00'31", Hydrologic Unit 04030204. Owner: Wisconsin Public Service Corp.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in (0.13 m), depth 500 ft (152 m), cased to 150 ft (45.7 m), open end.

DATUM.--Altitude of land-surface is 590 ft (180 m) National Geodetic Vertical Datum of 1929. Measuring point: top of 3 in pipe, 4.00 ft (1.21 m) above land-surface datum.

PERIOD OF RECORD.--April 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.24 ft (12.58 m) below land-surface datum, May 3, 1961; lowest water level measured, 248.97 ft (75.94 m) below land-surface datum, Aug. 30, 1955.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	102.93	JAN 5	88.24	FEB 23	80.52	APR 20	74.98	JUN 15	77.50	AUG 10	87.69
NOV 18	92.10	12	87.60	MAR 2	80.65	27	72.50	22	79.26	17	88.82
24	91.70	18	86.89	8	79.08	MAY 4	72.57	29	80.70	24	89.18
DEC 1	90.40	19	85.86	16	76.40	11	72.63	JUL 6	81.70	31	90.00
8	90.60	26	84.65	23	76.18	18	72.83	13	82.80	7	89.86
15	89.86	FEB 2	83.42	29	75.40	25	73.64	20	84.45	14	89.33
18	91.47	9	82.12	APR 6	74.40	JUN 2	75.80	27	85.47	21	89.55
22	88.89	16	81.25	13	74.90	8	76.76	AUG 3	86.69	27	89.08
29	88.84	19	82.21								

GROUND-WATER LEVELS

BURNETT COUNTY

455224092215601. Local number, BT-39/16W/17-0002.

LOCATION.--Lat 45°52'24", long 92°21'56", Hydrologic Unit 07030001. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 46 ft (14.0 m), cased to 46 ft (14.0 m), perforated 44 1/2-46 ft (13.6-14.0 m).

DATUM.--Altitude of land-surface is 981 ft (299 m) National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.87 ft (1.48 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.33 ft (9.25 m) below land-surface datum, June 28, 1968; lowest water level measured, 37.32 ft (11.38 m) below land-surface datum, Mar. 3, 1938.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	33.83	DEC 4	33.76	FEB 5	33.85	APR 9	33.88	JUN 11	33.73	AUG 6	33.80
9	33.85	11	33.84	12	33.93	16	33.84	18	33.74	13	33.79
16	33.84	18	33.86	19	33.77	23	33.92	25	33.76	20	33.79
23	33.85	25	33.80	26	33.89	30	34.00	JUL 2	33.75	27	33.79
30	33.78	JAN 1	33.72	MAR 5	33.80	MAY 7	33.86	9	33.73	SEP 3	33.76
NOV 6	33.77	8	33.79	12	33.75	14	33.85	16	33.74	10	33.71
13	33.80	15	33.83	19	33.88	21	33.82	23	33.77	17	33.75
20	33.80	22	33.77	26	33.90	28	33.76	30	33.74	24	33.72
27	33.72	29	33.70	APR 2	33.64	JUN 4	33.78				

CHIPPEWA COUNTY

445544091155701. Local number, CH-28/07W/17-0142.

LOCATION.--Lat 44°55'44", long 91°15'57", Hydrologic Unit 07050005. Owner: Wi. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 60 ft (18.3 m), cased to 39 ft (11.9 m), open end.

DATUM.--Altitude of land-surface is 965 ft (294 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 2.20 ft (0.67 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.72 ft (8.45 m) below land-surface datum, July 10, 1973; lowest water level measured, 33.46 ft (10.21 m) below land-surface datum, Jan. 10, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	28.95	JAN 4	29.13	MAR 2	29.84	APR 27	30.12	JUL 1	29.59	AUG 17	29.64
NOV 4	28.92	12	29.56	9	30.19	MAY 3	29.71	6	29.24	24	29.47
12	29.72	19	29.54	16	29.71	10	29.75	13	29.54	31	29.63
25	29.32	26	29.84	23	29.80	18	30.45	20	29.50	SEP 7	30.32
DEC 2	28.94	FEB 3	29.72	30	29.67	JUN 1	29.66	27	29.38	14	29.79
15	29.25	9	29.70	APR 6	30.28	8	29.70	AUG 3	29.25	21	29.87
22	28.95	16	30.61	13	29.87	15	29.00	10	29.58	28	29.56
29	29.63	23	30.41	19	29.79	22	29.55				

CLARK COUNTY

444525090443201. Local number, CK-26/03W/04-0001.

LOCATION.--Lat 44°45'25", long 90°44'32", Hydrologic Unit 07050006. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 150 ft (45.7 m), cased to 53 ft (16.2 m), open end.

DATUM.--Altitude of land-surface is 1,210 ft (369 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.45 ft (16.60 m) JUL. 29, 1982; lowest water level measured, 70.64 ft (21.55 m) below land-surface datum, Sept. 17, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	56.59	JAN 15	57.04	MAY 20	57.41	JUN 9	55.63	JUL 29	54.45	AUG 31	56.20
NOV 18	56.51	MAR 11	57.76								

GROUND-WATER LEVELS

357

DANE COUNTY

430429089230301. Local number, DN-07/09E/23-0005.

LOCATION.--Lat 43°04'29", long 89°23'03", Hydrologic Unit 07090001. Owner: State of Wisconsin.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 346 ft (106 m), cased to 265 ft (80.8 m), open end.

DATUM.--Altitude of land-surface is 930 ft (284 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 3.50 ft (1.07 m) below land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 83.37 ft (25.43 m) below land-surface datum, Jan. 2, 1961; lowest water level measured, 120.27 ft (36.66m) below land-surface datum, Jul 30, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	108.82	JAN 19	112.55	MAR 15	114.80	MAY 3	107.90	JUN 28	90.95	AUG 16	91.40
NOV 30	106.98	25	115.80	22	116.15	17	111.08	JUL 6	90.35	23	95.00
DEC 7	108.40	FEB 2	106.88	29	107.80	24	87.60	12	89.35	30	91.95
14	106.88	8	111.25	APR 5	109.50	JUN 1	87.79	22	96.85	SEP 11	93.40
23	108.94	15	104.20	12	108.80	10	89.98	26	91.90	14	95.70
28	107.56	22	114.90	20	104.40	15	89.20	AUG 2	96.75	20	93.35
JAN 6	114.00	MAR 1	109.30	26	111.60	21	89.10	9	90.65	27	94.00
12	117.98	8	113.45								

430456089190601. Local number, DN-07/10E/09-0105.

LOCATION.--Lat 43°04'56", long 89°19'06", Hydrologic Unit 07070005. Owner: City of Madison.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 380 ft (116 m), cased to 85 ft (26 m), open end.

DATUM.--Altitude of land-surface is 870 ft (265 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.00 ft (6.10 m) below land-surface datum, Nov. 24, 1980; lowest water level measured, 32.76 ft (9.99 m) below land-surface datum, June 30, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.37	25.41	25.84	25.14	25.81	26.38	25.30	24.95	24.35		24.55	
10	26.49	25.43	26.12	25.95	26.75	26.65	23.80	24.76	24.82	24.57	24.94	
15	26.00	25.89	25.76	25.64	26.47	25.90	23.68	24.48	24.30	24.74	24.48	
20	25.58	25.22	25.09	25.65	26.79	25.46	24.42	24.74	24.29	24.94	25.64	
25	25.51	25.09	24.87	25.46	26.16	24.74	23.89	24.47	25.25	24.57	24.93	
EOM	25.73	25.17	24.87	25.33	25.65	24.74	24.19	24.13		24.35	25.23	
WTR YEAR 1982	MAX	22.54	APR 19		MIN	27.16	FEB 18					

DODGE COUNTY

432407088552701. Local number, DG-11/13E/23-0081.

LOCATION.--Lat 43°24'15", long 88°55'26", Hydrologic Unit 07090002. Owner: WI. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 125 ft (38.1 m), cased to 57 ft (17.4 m), open end.

DATUM.--Altitude of land-surface is 880 ft (268 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in side of casing, 1.30 ft (0.40 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.22 ft (4.95 m) below land-surface datum, Mar. 30, 1979; lowest water level measured, 26.67 ft (8.13 m) below land-surface datum, Feb. 3, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	19.39	NOV 19	18.82	JAN 19	19.79	MAY 28	17.64	JUN 22	18.60	AUG 30	19.60
NOV 13	18.82	DEC 22	19.20	MAR 10	19.69	JUN 15	18.92	JUL 13	19.37	SEP 8	19.87

GROUND-WATER LEVELS

DOOR COUNTY

455757087151701. Local number, DR-29/27E/30-0007.

LOCATION.--Lat 45°57'57", long 87°15'17", Hydrologic Unit 04030102. Owner: Fred Peterson.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 4 in (0.10 m), depth 111 ft (33.8 m).

DATUM.--Altitude of land-surface is 725 ft (221 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.00 ft (2.44 m) below land-surface datum, Mar. 22, 1979; lowest water level measured, 56.12 ft (17.12 m) below land-surface datum, Feb. 21, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	32.70	NOV 27	17.90	MAR 2	40.69	MAY 24	46.21	JUN 21	46.28	AUG 27	46.23
27	30.73	DEC 9	36.80	APR 1	8.50						

DOUGLAS COUNTY

463217091342801. Local number, DS-47/10W/23-0001.

LOCATION.--Lat 46°32'17", long 91°34'28", Hydrologic Unit 04010301. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 in (0.20 m), depth 40 ft (12.2 m), cased to 40 ft (12.2 m), perforated 37-40 ft (11.3-12.2 m).

DATUM.--Altitude of land-surface is 980 ft (299 m) National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.33 ft (1.32 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.81 ft (0.55 m) above land-surface datum, Apr. 28, 1978; lowest water level measured, 29.59 ft (9.02 m) below land-surface datum, July 29, 1939.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	4.83	DEC 4	3.66	FEB 8	7.26	APR 12	5.56	JUN 14	2.52	AUG 9	2.23
9	5.09	11	4.07	15	7.53	19	2.89	21	2.95	16	2.57
16	5.59	18	4.66	22	7.81	26	2.07	28	3.35	23	3.02
23	4.26	26	4.99	MAR 2	8.14	MAY 3	1.16	JUL 8	1.27	30	3.42
30	3.72	JAN 4	5.51	8	8.45	10	0.46	12	0.18	SEP 7	3.88
NOV 6	3.27	11	5.87	15	8.74	17	0.31	19	0.82	13	4.21
13	2.67	18	6.20	22	8.97	23	0.69	26	1.57	20	4.58
20	2.82	26	6.61	29	9.25	JUN 8	2.24	AUG 2	1.49	27	4.94
27	0.87	FEB 1	6.90	APR 6	6.70						

FOND DU LAC COUNTY

434725088255601. Local number, FL-15/17E/11-0012.

LOCATION.--Lat 43°47'25", long 88°25'56", Hydrologic Unit 04030203. Owner: City of Fond du Lac.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 4 in (0.10 m), depth 817 ft (249 m), cased to 127 ft (38.7 m), open end.

DATUM.--Altitude of land-surface is 753 ft (230 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, at land-surface datum.

REMARKS.--Water level affected by pumping of nearby municipal wells. Measurements discontinued as of July 10, 1982.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 50.03 ft (15.25 m) below land-surface datum, Feb. 10 1962; lowest water level, 72.36 ft (22.07 m) below land-surface datum, July 30, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.78	57.69	56.42	54.50	55.50	56.21	56.60	54.19	58.33	58.97		
10	57.18	56.01	57.32	55.20	55.33	56.13	56.73	55.18	58.97	59.15		
15	57.19	57.97	56.81	54.88	55.13	55.85	56.37	57.38	59.11	59.10		
20	56.60	57.87		55.46	55.74	55.95	56.35	57.67	58.96			
25	56.66	57.78		54.98	56.27	56.34	56.47	57.27	59.03			
EOM	56.11	56.17	55.69	54.26	56.33	56.33	54.40	55.76	59.00			

WTR YEAR 1982 MAX 50.30 JAN 4 MIN 59.80 JUL 4

434358088301001. Local number. FL-15/17E/30-0374.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 120 ft 63.6 m), cased to 63 ft (19 m), open end.

DATUM.--Altitude of land-surface is 835 ft (255 m) National Geodetic Vertical Datum of 1928. Measuring point: hole in pump base, 1.50 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--October 16, 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.37 ft (4.38 m) below land-surface datum, May 23, 1968; lowest water level measured, 34.99 ft (10.67 m) below land-surface datum, Mar. 21, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	23.69	DEC 30	21.95	FEB 17	24.39	APR 27	20.31	JUN 24	21.11
NOV 18	21.34	JAN 29	23.51	MAR 25	24.29	MAY 26	20.84	AUG 5	23.79

460156088474901. Local number, FR-41/14E/18-0002.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 18 ft (5.5 m), cased to 15 ft (4.6 m), well point 15-18 ft (4.6-5.5 m).

DATUM.--Land-surface datum is 1,552 ft (472.96 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.70 ft (0.52 m) above land-surface datum.

PERIOD OF RECORD.--October 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.96 ft (2.43 m) below land-surface datum, Apr. 29, 1954; lowest water level measured, 11.89 ft (3.63 m) below land-surface datum, Aug. 13, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL
DEC 1	11.38		FEB 1	10.48		APR 2	10.91		JUN 2	10.85		JUL 30	10.73
31	11.02		28	10.32		MAY 3	9.71		JUL 1	11.33		AUG 31	11.09

425551090391301. Local number. GR-05/02W/06-0005.

AQUIFER. -- Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 35 ft (10.7 m), cased to 5 ft (1.5 m), open end.

DATUM.--Altitude of land-surface is 980 ft (299 m) National Geodetic Vertical Datum of 1929. Measuring point: edge of pump base, 0.50 ft (0.15 m) above land-surface datum.

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

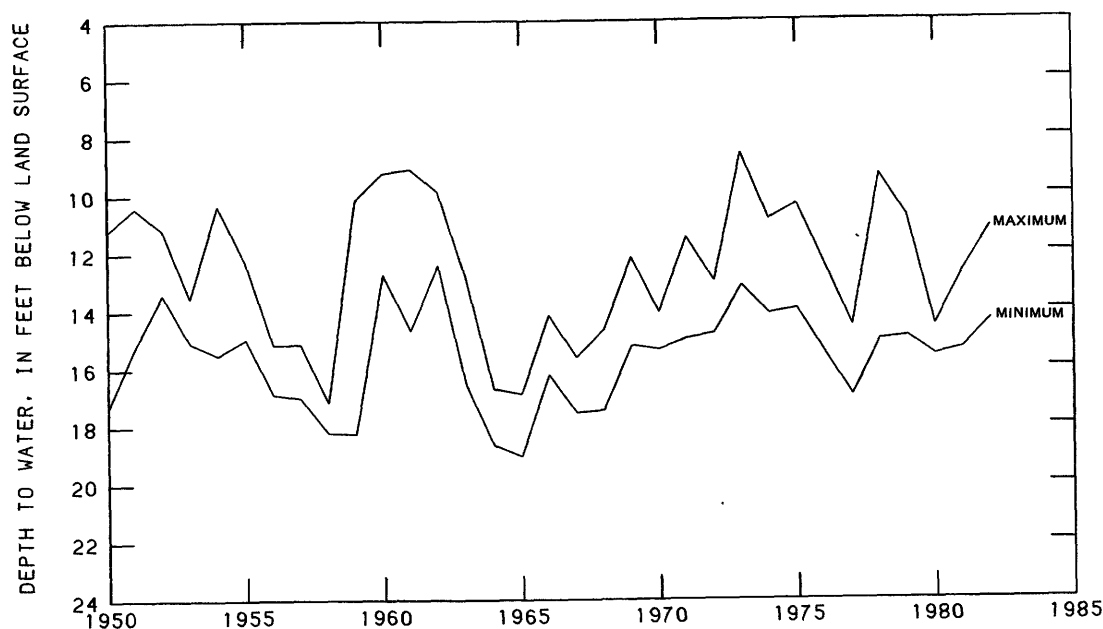
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.60 ft (2.62 m) below land-surface datum, May 22, 1973; lowest water level measured, 19.03 ft (5.80 m) below land-surface datum, Aug. 17, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

GROUND-WATER LEVELS

GRANT COUNTY



GR-05/02W/06-0005

GREEN COUNTY

423815089404201. Local number, GN-02/07E/21-0001.

LOCATION.--Lat 42°38'15", long 89°40'42", Hydrologic Unit 07090003. Owner: Charles Segner.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 75 ft (22.9 m).

DATUM.--Altitude of land-surface is 995 ft (303 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 4.50 ft (1.37 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.96 ft (14.63 m) below land-surface datum, Apr. 13, 1966; lowest water level measured, 69.72 ft (21.26 m) below land-surface datum, Feb. 17, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	57.00	NOV 12	54.09	MAY 5	53.67	JUN 3	51.72	JUL 8	52.24	AUG 24	50.83

425644090101901. Local number. IW-06/03E/32-0032.

AQUIFER.--Galena-Platteville.

DATUM.--Altitude of land-surface is 1,200 ft (366 m) National Geodetic Vertical Datum of 1929. Measuring point:
1/4 in hole pump base, at land-surface datum.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.40 ft (12.02 m) below land-surface datum, May 17, 1960; lowest water level measured, 68.81 ft (20.99 m) below land-surface datum, Aug. 18, 1965.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	53.10	FEB 11	56.69	MAY 5	52.87	JUL 1	56.06	AUG 30	53.58	SEP 13	54.50
NOV 9	54.18	APR 8	50.29	JUN 11	55.46	29	56.10				

441051090470901. Local number, JA-20/03W/30-0005.

AQUIFER.--Sandstone.

DATUM.--Altitude of land-surface is 845 ft (258 m) National Geodetic Vertical Datum of 1929. Measuring point:
hole in pump base, at land-surface datum.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.53 ft (4.74 m) below land-surface datum, May 22, 1973; lowest water level measured, 22.60 ft (6.89 m) below land-surface datum, Dec. 19, 1958.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	19.00	DEC 15	19.50	MAR 10	20.50	MAY 12	19.50	JUL 13	19.40	SEP 15	19.92
NOV 10	19.10	JAN 11	19.55	APR 12	19.97	JUN 15	19.90	AUG 10	19.59		

430213088472201. Local number, JE-07/14E/25-0009.

AQUIFER. -- Sandstone.

DATUM.--Altitude of land-surface is 813 ft (248 m) National Geodetic Vertical Datum of 1929. Measuring point: pump base, 2.10 ft (0.64 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.16 ft (4.62 m) below land-surface datum, Feb. 28, 1949; lowest water level measured, 50.65 ft (15.45 m) below land-surface datum, May 28, 1958.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	26.64	DEC 14	22.95	FEB 16	26.76	MAR 15	26.34	APR 12	21.62	MAY 19	23.74
NOV 13	22.46	JAN 15	22.49								

GROUND-WATER LEVELS

JUNEAU COUNTY

435515090152901. Local number, JU-17/02E/28-0098.

LOCATION.--Lat 43°55'15", long 90°15'29", Hydrologic Unit 07070003. Owner: Wl. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in (0.15 m), depth 71 ft (21.6 m), cased to 42 ft (12.8 m), open end.

DATUM.--Altitude of land-surface is 930 ft (284 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--July 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.86 ft (3.01 m) below land-surface datum, May 24, 1973; lowest water level measured, 13.90 ft (4.24 m) below land-surface datum, Jan. 10, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	11.82	JAN 29	12.65	APR 30	11.67	JUN 11	11.73	JUL 14	12.20	AUG 31	12.62
NOV 25	12.40	FEB 18	12.64	MAY 28	11.51	JUN 30	11.85	JUL 22	12.98	SEP 30	12.45
DEC 23	13.02	MAR 30	12.55								

KENOSHA COUNTY

423611087530001. Local number, KE-02/22E/27-0004.

LOCATION.--Lat 42°36'11", long 87°53'00", Hydrologic Unit 04040002. Owner: Sunset Ridge Memorial Park.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled domestic and irrigation water-table well, diameter 6 in (0.15 m), depth 190 ft (57.9 m).

DATUM.--Altitude of land-surface is 730 ft (222 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in manhole, at land-surface datum.

REMARKS.--Water level affected by regional pumping of wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 73.70 ft (22.48 m) below land-surface datum, Apr. 16, 1952; lowest water level measured, 97.57 ft (29.74 m) below land-surface datum, Jun 9, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	82.82	DEC 24	82.20	MAR 3	82.50	MAY 5	84.10	JUN 10	84.57	JUL 19	85.05
24	82.81	JAN 26	82.75	APR 1	82.97						

423907087521701. Local number, KE-02/22E/11-0006.

LOCATION.--Lat 42°39'07", long 87°52'17", Hydrologic Unit 04040002. Owner: Kenosha County.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 1,751 ft (534 m), cased to 492 ft (150 m), open end.

DATUM.--Altitude of land-surface is 639 ft (195 m) National Geodetic Vertical Datum of 1929. Measuring point: bottom of breather pipe, 1.35 ft (0.41 m) above land-surface datum.

REMARKS.--Water level affected by regional pumping of wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.10 ft (6.44 m) below land-surface datum, Dec. 3, 1947; lowest water level measured, 188.57 ft (57.48 m) below land-surface datum, Sept. 16, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	181.13	JAN 26	181.68	MAR 3	182.07	MAY 5	182.03	JUL 9	183.14	SEP 16	188.57
DEC 15	181.53	FEB 11	181.79	APR 1	182.28	JUN 10	182.71				

GROUND-WATER LEVELS

LAFAYETTE COUNTY

423113090161101. Local number, LF-01/02E/33-0057.

LOCATION.--Lat 42°31'13", long 90°16'11", Hydrologic Unit 07060005. Owner: Coulthard Estate.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 265 ft (80.8 m), cased to 16 ft (4.9 m), open end.

DATUM.--Altitude of land-surface is 1,000 ft (305 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 3.00 ft (0.91 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 63.67 ft (19.42 m) below land-surface datum, Apr. 29, 1952; lowest water level, 130.99 ft (39.95 m) below land-surface datum, Nov. 6, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	90.06	87.70	86.20		83.24	81.70		77.23		71.74	69.43	67.26
10	89.99	87.87	85.90		82.66	81.28	79.14	76.87			69.10	66.90
15	89.75	87.17	85.46		82.28	81.13	78.74		73.10		68.60	66.73
20	89.15		85.43		81.90	80.55	78.61		72.85		68.31	66.45
25	88.55	86.56		83.64	82.60		77.91		72.56	70.39	67.94	66.15
EOM	88.29	86.35		83.27	82.14		77.84		72.35	69.80	67.56	65.95

WTR YEAR 1982 MAX 65.83 SEP 28 MIN 90.24 OCT 7

424620089590001. Local number, LF-04/04E/35-0078.

LOCATION.--Lat 42°46'20", long 89°58'57", Hydrologic Unit 07090003. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 29 ft (8.8 m), cased to 4 ft (1.2 m), open end.

DATUM.--Altitude of land-surface is 850 ft (259 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.20 ft (0.06 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.89 ft (1.19 m) below land-surface datum, May 23, 1974; lowest water level measured, 19.81 ft (6.04 m) below land-surface datum, Mar. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	13.08	JAN 21	16.48	APR 8	6.06	JUN 29	12.30	SEP 13	14.53	SEP 14	14.58
DEC 16	14.54	FEB 11	16.80	JUN 2	8.01						

423029090125601. Local number, LF-01/02E/35-0121.

LOCATION.--Lat 42°30'29", long 90°12'56", Hydrologic Unit 07060005. Owner: Arthur Hancock.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 237 ft (72.2 m), cased to 20 ft (6.1 m), open end.

DATUM.--Altitude of land-surface is 1,030 ft (314 m) National Geodetic Vertical Datum of 1929. Measuring point: top of south side of casing, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.70 ft (16.37 m) below land-surface datum, Dec. 15, 1981; lowest water level measured, 78.72 ft (24.01 m) below land-surface datum, Apr. 14, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	55.52	DEC 15	53.70	APR 7	59.07	JUN 11	56.37	AUG 4	56.14	SEP 9	56.70

GROUND-WATER LEVELS

LANGLADE COUNTY

450942089085301. Local number, LA-31/11E/20-0118.

LOCATION.--Lat 45°09'42", long 89°08'53", Hydrologic Unit 07070002. Owner: Wi. Public Service Corp.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/2 in (0.03 m), depth 21 ft (6.4 m), cased to 19 ft (5.8 m), well point 19-21 ft (5.8-6.4 m).

DATUM.--Land-surface datum is 1,510 ft (460.25 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing. 2.50 ft (0.76 m) above land-surface datum.

PERIOD OF RECORD.--August 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.09 ft (1.55 m) below land-surface datum, May 18, 1973; lowest water level measured, 13.84 ft (4.22 m) below land-surface datum, Feb. 28, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL		DATE	WATER LEVEL
OCT 30	10.72		DEC 22	11.50		FEB 26	12.15		MAY 25	9.70		JUL 28	9.63
NOV 27	10.77		JAN 29	11.85		APR 27	9.78		JUN 28	9.93		AUG 27	9.84

LINCOLN COUNTY

452318089402501. Local number, LN-34/06E/36-0060.

LOCATION.--Lat 45°23'18", long 89°40'25", Hydrologic Unit 07070002. Owner: U.S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 22 ft (6.7 m), cased to 20 ft (6.1 m), well point 20-22 ft (6.1-6.7 m).

DATUM.--Altitude of land-surface is 1,435 ft (437 m) National Geodetic Vertical Datum of 1929. Measuring point: top of pipe, 3.00 ft (0.91 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.38 ft (1.95 m) below land-surface datum, May 15, 1960; lowest water level measured, 10.38 ft (3.16 m) below land-surface datum, Jan. 17, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL			
OCT	2	8.69	DEC	4	8.79	FEB	5	9.06	MAR	30	8.70	JUN	9	7.92	AUG	10	8.80
	17	8.55		10	8.83		10	9.07		7	7.47		18	8.13		17	8.90
	20	8.53		18	8.91		17	9.06		19	6.95		30	8.32		24	8.89
	26	8.49		22	8.93		26	9.02		28	7.01	JUL	9	8.58		30	8.90
NOV	5	8.55		30	8.94	MAR	4	9.02	MAY	3	7.17		20	8.22	SEP	13	8.67
	12	8.66	JAN	7	9.01		10	9.04		19	6.94		27	8.30		21	8.30
	18	8.70		19	9.01		17	8.99		25	7.30		4	8.57		28	8.73
	27	8.72		28	9.08		23	8.91	JUN	3	7.70						

MANITOWOC COUNTY

440430087420401. Local number, MN-19/23E/35-0028.

LOCATION.--Lat 44°04'30", long 87°42'04", Hydrologic Unit 04030101. Owner: Wl. Dept. of Transportation.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 147 ft (44.8 m), cased to 133 ft (40.5 m), open end.

DATUM.--Altitude of land-surface is 670 ft (204 m) National Geodetic Vertical Datum of 1929. Measuring point:
1/4 in hole in pump base, 1.00 ft (0.30 m) above land-surface datum.

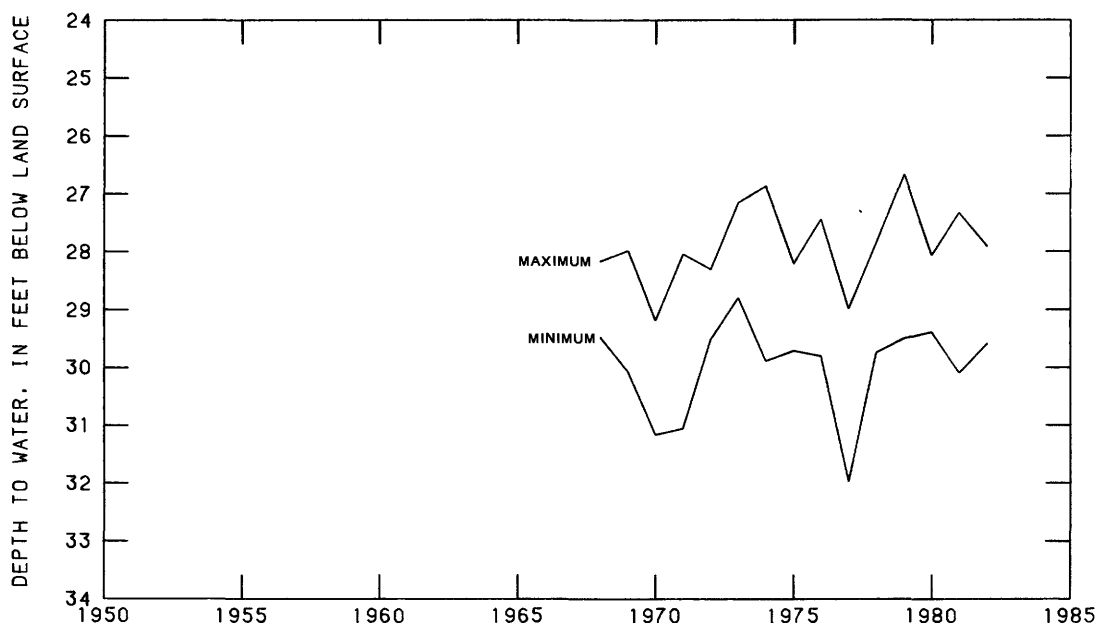
PERIOD OF RECORD.--June 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.66 ft (8.13 m) below land-surface datum, Jun. 11, 1979; lowest water level measured, 31.97 ft (9.75 m) below land-surface datum, Jan. 26, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL						
OCT	5	29.00	DEC	3	27.32	MAR	17	28.98	MAY	5	27.90	JUN	21	28.28	AUG	3	29.20
	7	29.01															
NOV	5	28.40	JAN	19	28.54	APR	2	28.00	JUN	4	28.10	JUL	6	28.40	SEP	7	29.50

MANITOWOC COUNTY



MN-19/23E/35-0028

MARATHON COUNTY

444114090082501. Local number, MR-26/03E/33-0007.

LOCATION.--Lat 44°41'14", long 90°08'25", Hydrologic Unit 07070002. Owner: City of Marshfield.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 7 in (0.18 m), depth 49 ft (14.9 m), cased to 30 ft (9.1 m), screened 30-49 ft (9.1-14.9 m).

DATUM.--Altitude of land-surface is 1,190 ft (363 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--June 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.47 ft (0.75 m) below land-surface datum, May. 19, 1979; lowest water level, 38.96 ft (11.88 m) below land-surface datum, Jan. 9, 1975.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.22	7.54	7.82						8.38	9.06	6.90	7.79
10	5.49	8.45	8.26						8.49	9.83	7.47	8.52
15	4.68	8.60			22.50	6.65			8.50	6.91	8.01	
20	4.74	8.63							8.46	6.09	8.24	
25	5.32			18.25				5.32	8.66	7.05	7.33	7.64
EOM	6.50							8.27	8.72	5.50	7.34	7.91

WTR YEAR 1982 MAX 3.16 OCT 18 MIN 25.80 FEB 22

GROUND-WATER LEVELS

MARATHON COUNTY

444709089265301. Local number, MR-27/09E/31-0028.

LOCATION.--Lat 44°47'09", long 89°26'53", Hydrologic Unit 07070002. Owner: U.S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 27 ft (8.2 m), cased to 25 ft (7.6 m), well point 25-27 ft (7.6-8.2 m).

DATUM.--Altitude of land-surface is 1,229 ft (375 m) National Geodetic Vertical Datum of 1929. Measuring point: top of pipe, 0.80 ft (0.24 m) above land-surface datum.

PERIOD OF RECORD.--November 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.77 ft (3.89 m) below land-surface datum, July 21, 1973; lowest water level measured, 26.09 ft (7.96 m) below land-surface datum, Mar. 30, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	17.34	DEC 6	17.83	FEB 7	18.28	APR 10	17.69	JUN 6	17.76	JUL 31	18.04
10	17.42	13	17.93	14	18.51	18	17.66	13	17.75	AUG 8	18.11
17	17.49	20	17.99	21	18.58	25	17.64	19	17.74	21	18.12
25	17.54	27	18.02	28	18.70	MAY 2	17.65	27	17.89	28	18.21
NOV 1	17.54	JAN 3	18.12	MAR 7	18.66	9	17.64	JUL 4	17.89	SEP 5	18.23
7	17.59	10	18.17	14	18.86	16	17.57	11	17.89	11	18.27
15	17.63	17	18.23	20	18.84	23	17.67	17	17.93	19	18.32
22	17.69	24	18.32	28	18.68	30	17.72	24	17.98	26	18.37
29	17.80	31	18.31	APR 4	17.62						

MARINETTE COUNTY

453816087590101. Local number, MT-37/20E/34-0007.

LOCATION.--Lat 45°38'16", long 87°59'01", Hydrologic Unit 04030108. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 33 ft (10 m), cased to 33 ft (10 m), open end.

DATUM.--Altitude of land-surface is 980 ft (299 m) National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.00 ft (1.22 m) above land-surface datum.

PERIOD OF RECORD.--March 1939 to current year.

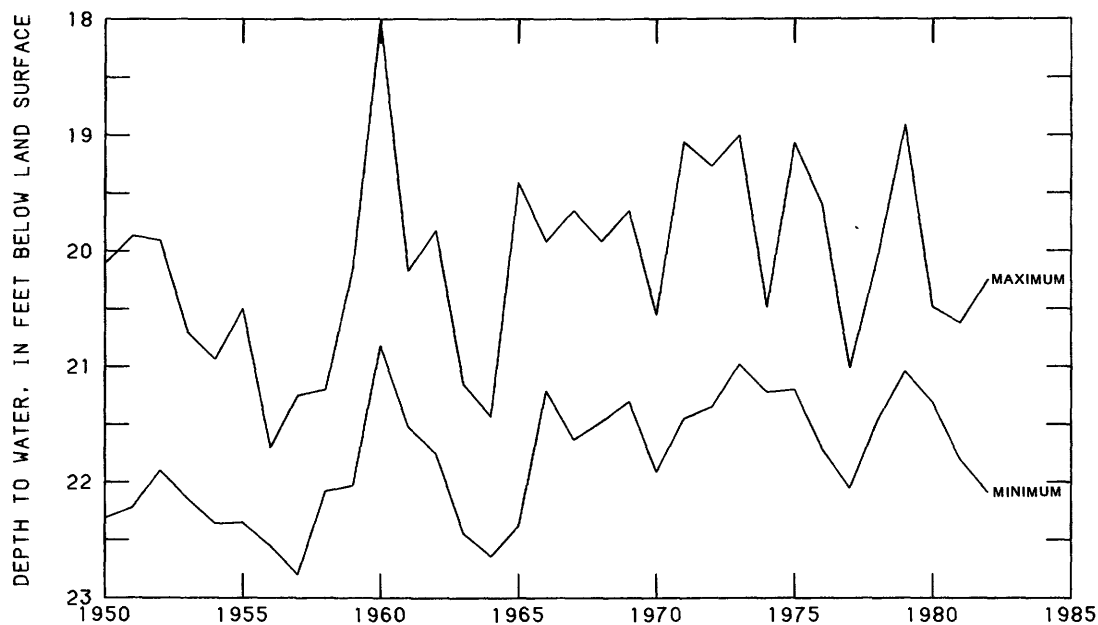
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.01 ft (5.49 m) below land-surface datum, May 17, 1960; lowest water level measured, 23.26 ft (7.09 m) below land-surface datum, Nov. 2, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	21.39	DEC 8	21.66	FEB 9	21.88	APR 13	21.12	JUN 15	21.12	AUG 10	20.84
13	21.39	15	21.71	16	21.97	20	20.90	22	21.17	17	20.97
20	21.38	22	21.77	23	21.99	27	20.76	29	21.21	24	21.06
27	21.40	29	21.80	MAR 2	22.00	MAY 5	20.73	JUL 6	21.30	31	21.05
NOV 3	21.42	JAN 5	21.82	9	22.05	11	20.68	13	21.03	SEP 7	21.03
10	21.47	12	21.83	16	22.06	18	20.70	20	20.59	14	21.01
17	21.53	19	21.85	23	22.09	25	20.75	27	20.57	21	20.88
24	21.58	26	21.87	30	22.01	JUN 1	20.89	AUG 3	20.69	28	20.79
DEC 1	21.61	FEB 2	21.87	APR 6	21.39	8	21.02				

GROUND-WATER LEVELS

MARINETTE COUNTY



MT-37/20E/34-0007

MARQUETTE COUNTY

435244089293401. Local number; MQ-16/08E/12-0009.

LOCATION.--Lat 43°52'44", long 89°29'34", Hydrologic Unit 04030201. Owner: Village of Westfield.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 274 ft (83.5 m).

DATUM.--Altitude of land-surface is 880 ft (268 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.87 ft (4.23 m) below land-surface datum, July 11, 1973; lowest water level measured, 18.21 ft (5.55 m) below land-surface datum, Feb. 18, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	14.73	DEC 22	15.01	FEB 26	15.54	MAY 24	14.89	JUN 22	15.11	AUG 20	14.99
NOV 24	14.91	JAN 26	15.11	MAR 23	15.35	JUN 6	14.64	JUL 20	15.11	SEP 20	15.16
		FEB 9	15.39	APR 20	15.03						

GROUND-WATER LEVELS

MARQUETTE COUNTY

433956089275601. Local number, MQ-14/09E/30-0026.

LOCATION.--Lat 43°39'56", long 89°27'56", Hydrologic Unit 04030201. Owner: Wi. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in (0.15 m), depth 170 ft (5.18 m), cased to 145 ft (44.2 m), open end.

DATUM.--Altitude of land-surface is 800 ft (244 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--May 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.80 ft (3.90 m) below land-surface datum, Apr. 2, 1973; lowest water level measured, 19.22 ft (5.86 m) below land-surface datum, Feb. 22, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	15.41	DEC 22	15.68	MAR 23	15.56	MAY 24	14.58	JUN 22	15.13	AUG 20	15.98
20	14.96	FEB 9	16.36	APR 20	14.82	JUN 8	14.80	JUL 20	15.48	SEP 20	16.43
NOV 24	15.25	26	16.21								

MILWAUKEE COUNTY

425819087551201. Local number, ML-06/22E/20-0085.

LOCATION.--Lat 42°58'19", long 87°55'12", Hydrologic Unit 04040003. Owner: City of Milwaukee.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 16 in (0.41 m), depth 1,834 ft (559.0), cased to 705 ft (214.9 m), open end.

DATUM.--Altitude of land-surface is 705 ft (217.9 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in cover on casing, 6.00 ft (1.83 m) below land-surface datum.

PERIOD OF RECORD.--Water years 1938, 1944, 1946, 1950, 1952, 1961, 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 110.00 ft (33.55 m) below land-surface datum, 1938; lowest water level, 288.29 ft (87.87 m) below land-surface datum, Oct 14, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	283.50	285.05	285.14	284.35	285.03	284.50	283.98	283.25	282.52	283.15	283.35	284.15
10	283.84	285.80	285.23	284.69	284.59	284.48	283.62	283.06	282.15	282.93	283.50	283.92
15	284.19	285.80	285.09	284.30	284.40	284.60	283.02	282.95	281.95	283.11	283.83	284.02
20	284.23	285.75	285.42	284.78	284.31	284.52	283.86	282.93	282.04	283.40	283.91	283.99
25	284.74	285.75	285.34	284.88	284.79	284.39	283.18	283.06	282.48	283.33	283.98	283.88
EOM	285.26	285.14	284.86	284.95	284.60	283.98	283.57	282.74	282.94	283.30	284.30	283.62

WTR YEAR 1982 MAX 281.75 JUN 15 MIN 285.93 NOV 14

430412087545801. Local number, ML-07/22E/17-0120.

LOCATION.--Lat 43°04'12", long 87°54'58", Hydrologic Unit 04040003. Owner: Nunn-Bush Shoe Co.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 400 ft (122 m), cased to 215 ft (65.5 m), open end.

DATUM.--Altitude of land-surface is 685 ft (209 m) National Geodetic Vertical Datum of 1929. Measuring point: top of concrete, 8.75 ft (2.68 m) below land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.21 ft (17.74 m) below land-surface datum, Apr 3, 1982. lowest water level, 107.95 ft (32.92 m) below land-surface datum, Feb. 28, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	61.03	60.34		59.38	59.99	59.45	59.09	58.97	58.84	58.60	59.05	58.90
10	61.10	60.57		59.74	59.66	59.55	59.04	58.96	58.65	58.55	59.00	58.90
15	61.15	60.26		59.31	59.34	59.35	58.97	58.94	58.54	58.75	59.00	58.92
20	60.84	59.85		59.73	59.37	59.30	59.08	58.82	58.50	58.87	58.98	58.72
25	60.80	60.06		59.64	59.90	59.17	58.98	58.85	58.70	58.86	58.83	58.68
EOM	60.68	60.10	59.69	59.64	59.80	59.03	59.19	58.49	58.67	58.89	58.97	58.76

WTR YEAR 1982 MAX 58.21 APR 3 MIN 61.25 OCT 12

GROUND-WATER LEVELS

MILWAUKEE COUNTY

425613088014301. Local number, ML-06/21E/32-0148.

LOCATION.--Lat 42°56'13", long 88°01'43", Hydrologic Unit 04040002. Owner: Milwaukee County.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 180 ft (54.9 m), cased to 43 ft (13.1 m), open end.

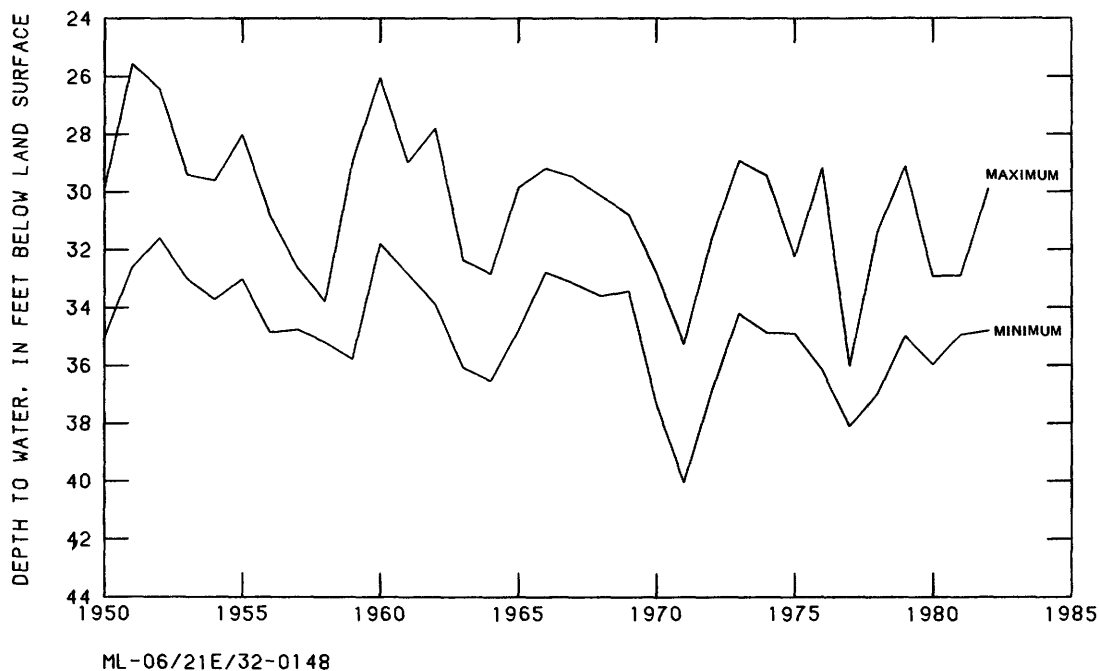
DATUM.--Altitude of land-surface is 774 ft (236 m) National Geodetic Vertical Datum of 1929. Measuring point: top of 1/4 in pipe, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.44 ft (7.75 m) below land-surface datum, May 3, 1951; lowest water level measured, 40.03 ft (12.21 m) below land-surface datum, Aug. 13, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	33.83	DEC 30	33.87	APR 2	31.50	JUN 1	30.62	AUG 4	31.94	SEP 22	33.48
NOV 3	33.08	FEB 1	34.62	MAY 3	29.90	JUL 6	31.50	AUG 31	32.83	SEP 30	33.73
DEC 1	32.88	MAR 3	34.80								



GROUND-WATER LEVELS

MONROE COUNTY

434342090495601. Local number, MO-15/04W/34-0002.

LOCATION.--Lat 43°43'42", long 90°49'56", Hydrologic Unit 07060001. Owner: Joseph Anderson.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 44 ft (13.4 m).

DATUM.--Altitude of land-surface is 1,100 ft (335 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.50 ft (0.15 m) above land-surface datum.

REMARKS.--No measurements made in 1981-82 water year.

PERIOD OF RECORD.--July 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft (1.43 m) below land-surface datum, Apr. 10, 1976; lowest water level measured, 18.23 ft (5.56 m) below land-surface datum, Mar. 27, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

440026090390101. Local number, MO-18/02W/29-0017.

LOCATION.--Lat 44°00'26", long 90°39'01", Hydrologic Unit 07040006. Owner: U.S. Army.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 9 in (0.23 m), depth 192 ft (58.5 m), cased to 109 ft (33.2 m), open end.

DATUM.--Altitude of land-surface is 909 ft (277 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.43 ft (0.13 m) below land-surface datum, May 8, 1973; lowest water level, 7.75 ft (2.36 m) below land-surface datum, Mar. 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	5.35	5.19	5.67	6.06	6.34	6.60	5.40	5.07	5.03	5.56	5.80	6.10
10	5.36	5.32	5.74	6.12	6.39	6.65	5.05	4.88	5.14	5.64	5.89	6.14
15	5.38	5.40	5.79	6.16	6.46	6.46	5.05	4.88	5.26	5.63	6.00	6.23
20	5.15	5.46	5.83	6.21	6.52	6.13	4.99	4.83	5.38	5.65	6.11	6.25
25	4.99	5.53	5.91	6.26	6.56	6.00	4.95	4.80	5.49	5.69	6.19	6.34
EOM	5.10	5.60	6.00	6.31	6.57	5.82	4.99	4.85	5.51	5.74	6.23	6.40

WTR YEAR 1982 MAX 4.78 MAY 25 MIN 6.65 MAR 10

OCONTO COUNTY

445054088025201. Local number, OC-27/20E/03-0020.

LOCATION.--Lat 44°50'54", long 88°02'52", Hydrologic Unit 04030104. Owner: WI. Dept. of Transportation.

AQUIFER.--Prairie du Chien.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased to 88 ft (26.8 m), open end.

DATUM.--Altitude of land-surface is 640 ft (195 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 2.00 ft (0.61 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.07 ft (2.46 m) below land-surface datum, June 20, 1969; lowest water level measured, 13.52 ft (4.12 m) below land-surface datum, Aug. 27, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	10.81	JAN 15	9.67	MAR 22	13.22	MAY 27	10.04	JUN 24	10.18	SEP 9	10.11
NOV 12	10.60	28	10.18	APR 19	9.60	28	10.15	28	10.18	28	10.29
13	10.70	FEB 24	10.76	28	9.81	JUN 15	10.19	AUG 31	10.26		

455213089323501. Local number. ON-39/08E/18-0022.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jettied unused water-table well, diameter 6 in (0.15 m), depth 27 ft (8.2 m), cased to 27 ft (8.2 m), open end.

DATUM.--Altitude of land-surface is 1,607 ft (489.8 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 6.00 ft (1.83 m) above land-surface datum.

PERIOD OF RECORD.--October 1944 to current year.

EXTREMES FOR PERIOD OF RECORD:--Highest water level, 12.29 ft (3.75 m) below land-surface datum, May 28, 1973;
lowest water level, 19.29 ft (5.88 m) below land-surface datum, Apr. 9, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.77	15.09	15.46	15.74	16.08	16.50	17.03	16.05	15.14	15.22	15.48	15.80
10	14.82	15.18	15.50	15.80	16.15	16.57	17.01	15.82	15.13	15.28	15.53	15.76
15	14.88	15.20	15.55	15.83	16.22	16.67	17.01	15.62	15.10	15.27	15.59	15.78
20	14.95	15.28	15.59	15.90	16.28	16.75	16.89	15.48	15.09	15.30	15.67	15.80
25	14.98	15.33	15.65	15.96	16.37	16.86	16.64	15.34	15.14	15.37		15.80
EOM	15.07	15.39	15.66	16.04	16.40	16.99	16.37	15.25	15.20	15.41	15.74	15.80

WTR YEAR 1982 MAX 14.63 OCT 1 MIN 17.03 APR 5

454026089425301. Local number, ON-37/06E/27-0023.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 37 ft (11.3 m), cased to 35 ft (10.7 m), well point 35-37 ft (10.7-11.3 m).

DATUM.--Altitude of land-surface is 1,529 ft (466 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--November 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.35 ft (8.04 m) below land-surface datum, July 22, 1973; lowest water level measured, 33.67 ft (10.27 m) below land-surface datum, Apr. 15, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL				
OCT	4	27.71	DEC	6	28.03	FEB	7	28.70	APR	8	29.25	JUN	1	28.82	AUG	8	28.62	
	11	27.82		13	28.25		14	28.77		14	29.30		6	28.75		16	28.65	
	18	27.80		20	28.32		21	28.88		18	29.29		22	28.69		22	28.70	
	25	27.94		28	28.40		28	29.02		25	29.24		27	28.65		29	28.79	
NOV	1	27.98	JAN	5	28.47	MAR	7	29.01	MAY	2	29.15	JUL	4	28.63	SEP	5	28.92	
	8	28.02		12	28.54		14	29.05		9	29.12		11	28.59		12	28.95	
	15	28.05		18	28.56		21	29.02		16	29.08		29	28.55		20	28.99	
	22	28.13		25	28.63		28	29.20		23	28.95		AUG	2		28.60	26	29.02
	29	28.15		31	28.65													

OUTAGAMIE COUNTY

441734088251101. Local number, OU-21/17E/15-0029.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled irrigation artesian well, diameter 10 in (0.25 m), depth 300 ft (91.4 m).

DATUM.--Altitude of land-surface is 839 ft (255 m) National Geodetic Vertical Datum of 1929. Measuring point: top of breather hole, 2.00 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--July 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.84 ft (16.73 m) below land-surface datum, Nov. 24, 1955; lowest water level measured, 64.48 ft (19.67 m) below land-surface datum, Dec. 30, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

GROUND-WATER LEVELS

POLK COUNTY

453013092314601. Local number, PK-35/17W/08-0040.

LOCATION.--Lat 45°30'13", long 92°31'46", Hydrologic Unit 07030005. Owner: Village of Milltown.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 52 ft (15.8 m).

DATUM.--Altitude of land-surface is 1,250 ft (381 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.04 ft (9.47 m) below land-surface datum, Oct. 1, 1975, Apr. 27, 1976; lowest water level measured, 41.38 ft (12.62 m) below land-surface datum, July 22, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 5	34.98	MAY 7	34.49	JUN 4	34.12	JUL 8	34.07	AUG 18	34.33	SEP 8	33.96

452352092332001. Local number, PK-34/18W/26-0093.

LOCATION.--Lat 45°23'52", long 92°33'20", Hydrologic Unit 07030005. Owner: Wi. Dept. of Transportation.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 64 ft (19.52 m), cased to 60 ft (18.29 m), open end.

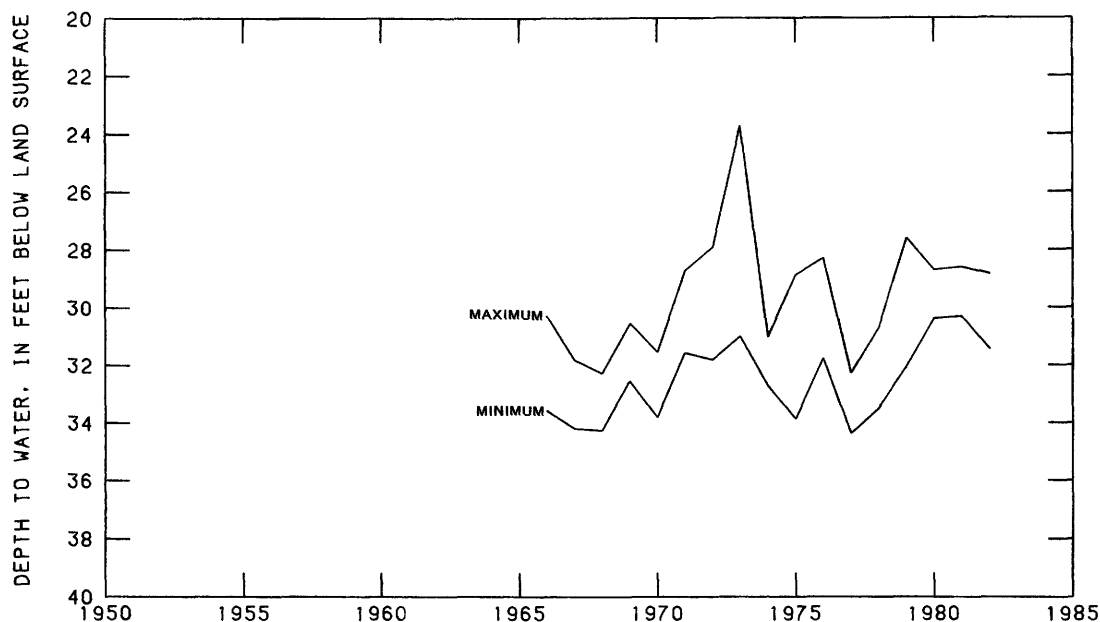
DATUM.--Altitude of land-surface is 1,140 ft (348 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 2.00 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--March 10, 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.72 ft (7.23 m) below land-surface datum, June 20, 1973; lowest water level measured, 34.37 ft (10.48 m) below land-surface datum, September 6, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	29.45	DEC 9	30.11	FEB 10	30.87	APR 7	30.54	JUN 2	29.22	AUG 11	29.86
13	29.60	16	30.17	17	30.98	14	30.24	9	29.17	18	29.89
21	29.56	23	30.27	24	31.09	21	30.00	16	29.19	25	29.96
NOV 4	29.73	JAN 6	30.48	MAR 3	31.17	28	29.85	23	29.28	SEP 1	30.14
12	29.79	13	30.46	10	31.24	MAY 5	29.72	30	29.34	8	30.19
18	29.84	20	30.63	17	31.33	12	29.62	JUL 7	29.40	15	29.74
24	29.92	27	30.68	24	31.44	19	29.41	14	29.48	22	29.67
DEC 2	29.98	FEB 3	30.80	31	31.23	26	29.25	21	29.56	29	29.48



PK-34/18W/26-0093

GROUND-WATER LEVELS

PORTAGE COUNTY

443127089174101. Local number, PT-24/10E/28-0015.

LOCATION.--Lat 44°31'27", long 89°17'41", Hydrologic Unit 04030202. Owner: Lawrence Krogwold.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven unused water-table well, diameter 2 in (0.05 m), depth 52 ft (15.8 m), cased to 50 ft (15.2 m), screened 50-52 ft (15.2-15.8 m).

DATUM.--Altitude of land-surface is 1,133 ft (345 m) National Geodetic Vertical Datum of 1929. Measuring point: rim of casing, 1.50 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.50 ft (8.69 m) below land-surface datum, Aug. 4, 1973; lowest water level measured, 38.81 ft (11.84 m) below land-surface datum, Nov. 12, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	32.42	DEC 12	32.56	FEB 20	32.71	APR 17	32.85	JUN 12	32.78	AUG 7	32.69
17	32.43	26	32.59	MAR 6	32.77	MAY 1	32.84	26	32.75	21	32.68
31	32.48	JAN 9	32.61	20	32.82	15	32.82	JUL 10	32.72	SEP 4	32.68
NOV 14	32.50	23	32.64	APR 3	32.85	29	32.80	24	32.71	18	32.68
28	32.53	FEB 6	32.68								

442100089384901. Local number, PT-22/07E/35-0035.

LOCATION.--Lat 44°21'00", long 89°38'49", Hydrologic Unit 07070003. Owner: U.S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 11 ft (3.4 m), cased to 9 ft (2.7 m), well point 9-11 ft (2.7-3.4 m).

DATUM.--Altitude of land-surface is 1,054 ft (321 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--September 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.99 ft (0.30 m) below land-surface datum, Apr. 9, 1951; lowest water level measured, 7.00 ft (2.13 m) below land-surface datum, Dec. 31, 1981; Jan. 28, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	5.00	DEC 31	7.00	FEB 27	6.50	APR 30	4.70	JUN 30	4.35	AUG 30	5.20
NOV 30	6.00	JAN 28	7.00	MAR 30	4.00	MAY 28	5.40	JUL 29	3.95		

GROUND-WATER LEVELS

PORTAGE COUNTY

442623089302701. Local number, PT-23/08E/25-0376.

LOCATION.--Lat44°26'23", long 89°30'27", Hydrologic Unit 07070003. Owner: U. S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water table well, diameter 1 1/4 in (0.03 m), depth 36 ft (10.98 m), cased to 34 ft (10.37 m), well point 34-36 ft (10.37-10.98 m).

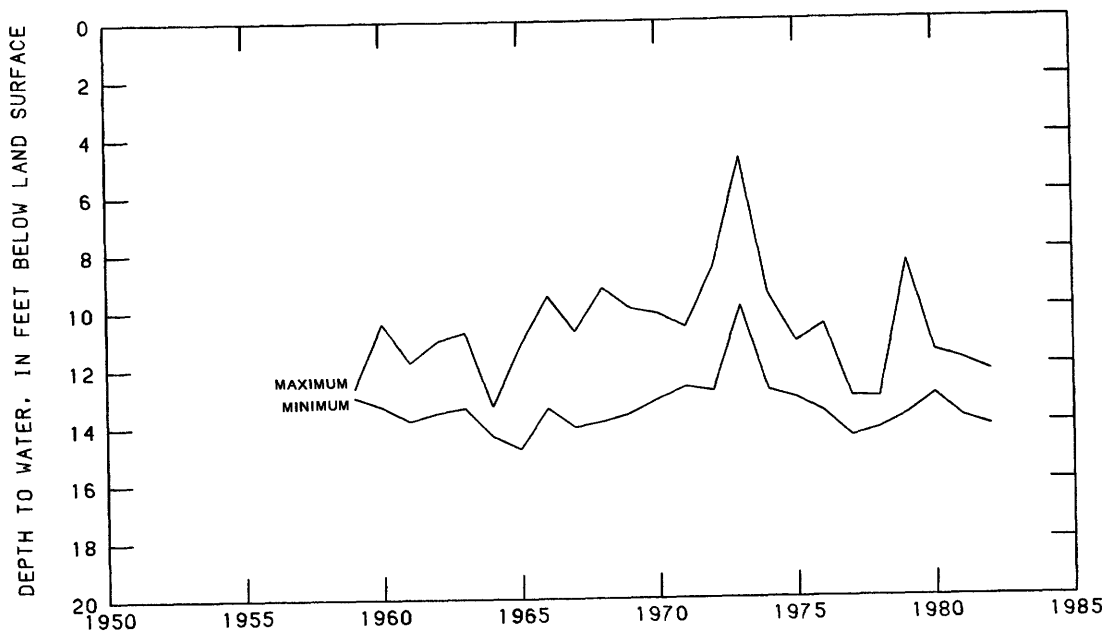
DATUM.--Altitude of land-surface is 1,099 ft (335 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 4.20 ft (1.28 m) above land-surface datum.

PERIOD OF RECORD.--December 1, 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.77 ft (1.45 m) below land-surface datum, June 5, 1973; lowest water level measured, 14.78 ft (4.51 m) below sand-surface datum, February 28, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	13.20	DEC 31	13.80	FEB 27	13.80	APR 30	12.60	JUN 30	12.75	AUG 30	13.08
NOV 30	13.50	JAN 28	14.10	MAR 30	13.80	MAY 28	12.30	JUL 29	12.50	SEP 30	12.20



PT-23/08E/25-0376

GROUND-WATER LEVELS

PRICE COUNTY

455448090263401. Local number, PR-40/01W/24-0006.

LOCATION.--Lat 45°54'48", long 90°26'34", Hydrologic Unit 07050002. Owner: Wi. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jetted unused water-table well, diameter 8 in (0.20 m), depth 13 ft (4.0 m), cased to 13 ft (4.0 m).

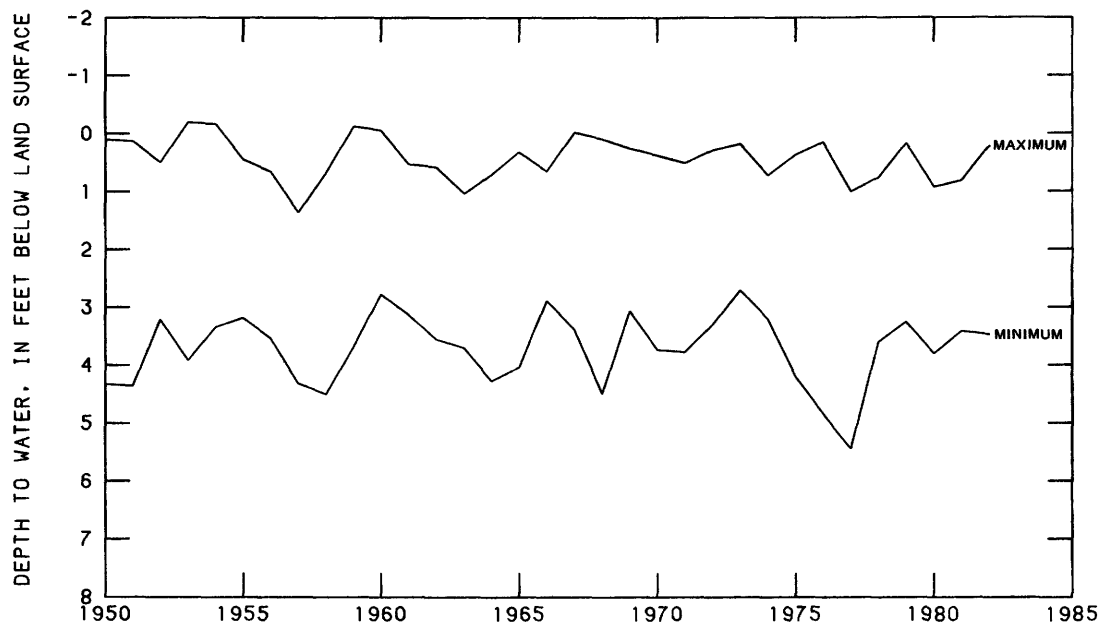
DATUM.--Altitude of land-surface is 1,510 ft (460 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 5.00 ft (1.52 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.41 ft (0.13 m) above land-surface datum, June 29, 1946; lowest water level measured, 5.67 ft (1.73 m) below land-surface datum, Oct. 31, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	1.75	DEC 4	2.42	FEB 12	3.20	APR 16	0.45	JUN 11	1.20	AUG 6	1.80
9	1.50	11	2.59	19	3.47	23	0.58	18	1.13	13	1.51
16	1.40	18	2.72	26	3.35	30	0.89	25	1.21	20	1.54
23	1.41	25	2.97	MAR 5	3.38	MAY 7	0.99	JUL 2	1.60	27	1.91
30	1.69	JAN 8	3.10	12	3.35	14	0.40	9	1.61	SEP 3	1.30
NOV 6	1.94	15	3.20	19	2.70	21	0.84	16	0.57	10	0.80
13	2.13	22	3.20	26	1.45	28	1.06	23	1.20	17	0.60
20	2.26	29	3.30	APR 2	2.30	JUN 4	1.10	30	0.76	24	0.72
27	2.35	FEB 5	3.24	9	1.50						



PR-40/01W/24-0006

GROUND-WATER LEVELS

RACINE COUNTY

424202087542301. Local number, RA-03/22E/21-0005.

LOCATION.--Lat 42°42'02", long 87°54'23", Hydrologic Unit 04040002. Owner: Chicago, Milwaukee, St. Paul and Pacific Railroad Co.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.30 m), depth 1,176 ft (358 m), cased to 586 ft (179 m), 10 in (0.25 m) liner 976-1,083 ft (297-330 m).

DATUM.--Altitude of land-surface is 730 ft (225 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

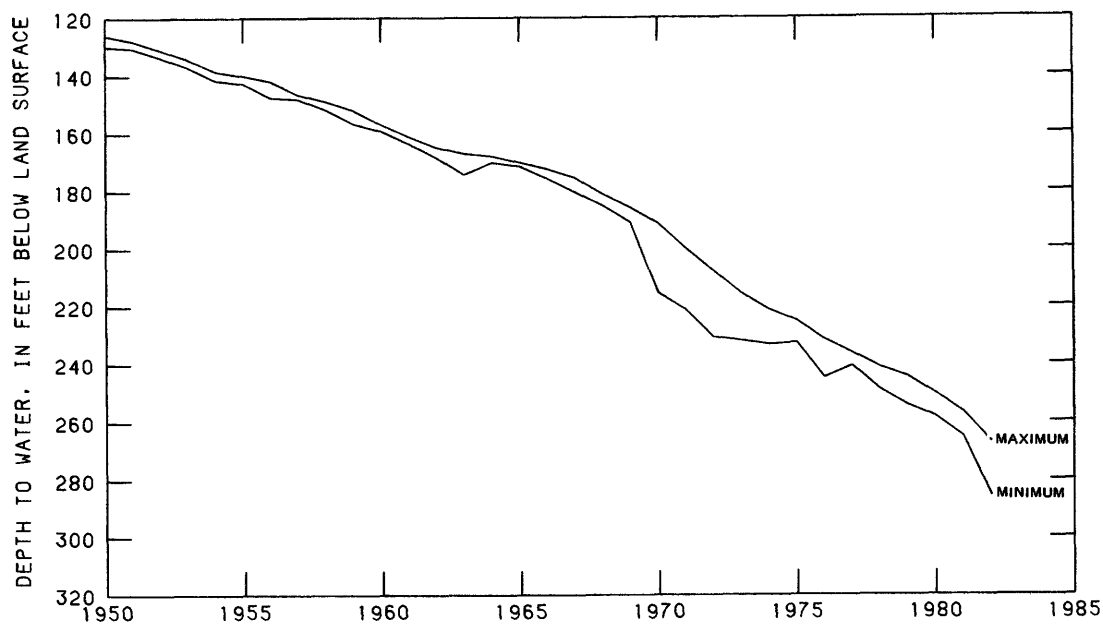
REMARKS.--Water level affected by regional pumping of wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 109.00 ft (33.25 m) below land-surface datum, July 29, 1946; lowest water level measured, 285.34 ft (86.97 m) below land-surface datum, Sept. 2, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	265.05	DEC 15	260.30	JUN 3	283.57	JUL 9	269.56	SEP 2	285.34	SEP 17	267.70
NOV 5	263.20										



GROUND-WATER LEVELS

RICHLAND COUNTY

431840090203201. Local number, RI-10/01E/26-0023.

LOCATION.--Lat 43°18'40", long 90°20'32", Hydrologic Unit 07070005. Owner: Koch Tractor, Inc.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in (0.15 m), depth 160 ft (48.8 m), cased to 135 ft (41.1 m), open end.

DATUM.--Altitude of land-surface is 725 ft (221 m) National Geodetic Vertical Datum of 1929. Measuring point: top of 1 in breather pipe, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--February 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.11 ft (2.78 m) below land-surface datum, May 22, 1973; lowest water level measured, 15.70 ft (4.79 m) below land-surface datum, Dec. 13, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	13.44	JAN 28	13.47	JUN 15	12.56	JUL 20	14.02	AUG 31	12.96	SEP 15	13.22
DEC 15	13.34	MAR 31	12.69								

ROCK COUNTY

423956089022301. Local number, RO-02/12E/02-0003.

LOCATION.--Lat 42°39'56", long 89°02'23", Hydrologic Unit 07090001. Owner: School for the Blind, Janesville.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 470 ft (143 m), cased to 113 ft (34.4 m), open end.

DATUM.--Altitude of land-surface is 824 ft (251 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole cap of casing, 1.50 ft (0.46 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.88 ft (15.21 m) below land-surface datum, July 22, 1974; lowest water level measured, 59.43 ft (18.13 m) below land-surface datum, Aug. 5, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	53.10	DEC 10	52.70	FEB 3	52.89	MAR 31	52.21	JUN 2	51.74	JUL 28	52.94
9	52.90	17	52.65	10	52.87	7	52.03	10	53.24	AUG 4	54.50
16	52.80	24	52.70	16	52.84	14	51.84	16	53.92	12	52.65
23	52.78	31	52.48	25	53.08	22	51.90	23	52.62	19	52.78
30	52.62	JAN 6	52.67	MAR 4	52.53	28	51.81	30	52.75	SEP 2	57.10
NOV 6	52.58	13	52.67	11	52.62	MAY 5	51.60	JUL 7	52.20	17	52.35
13	52.67	22	52.84	18	52.62	19	51.74	13	51.29	21	52.20
20	52.79	27	52.66	24	52.29	26	51.70	21	55.66	30	51.89
DEC 3	52.60										

RUSK COUNTY

452110091195701. Local number, RU-33/08W/11-0037.

LOCATION.--Lat 45°21'10", long 91°19'57", Hydrologic Unit 07050001. Owner: Tony Shydowski.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic and stock water-table well, diameter 4 in (0.10 m), depth 77 ft (23.5 m), cased to 27 ft (8.2 m), open end.

DATUM.--Altitude of land-surface is 1,085 ft (331 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.50 ft (0.15 m) above land-surface datum.

PERIOD OF RECORD.--October 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.36 ft (3.16 m) below land-surface datum, May 18, 1966; lowest water level measured, 14.80 ft (4.51 m) below land-surface datum, Sept. 29, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	13.28	OCT 22	13.30

GROUND-WATER LEVELS

RUSK COUNTY

453107090420101. Local number, RU-35/03W/14-0089.

LOCATION.--Lat 45°31'07", long 90°42'01", Hydrologic Unit 07050004. Owner: Hawkins Cemetery.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled public-supply water-table well, diameter 6 in (0.15 m), depth 25 ft (7.6 m).

DATUM.--Altitude of land-surface is 1,380 ft (421 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.10 ft (3.39 m) below land-surface datum, Apr. 17, 1972; lowest water level measured, 23.50 ft (7.17 m) below land-surface datum, Mar. 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL
OCT 19	14.89

ST. CROIX COUNTY

450812092223601. Local number, SC-31/16W/29-0094.

LOCATION.--Lat 45°08'12", long 92°22'36", Hydrologic Unit 07030005. Owner: Cylon Methodist Church.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 4 in (0.10 m), depth 73 ft (22.2 m), cased to 63 ft (19.2 m), open end.

DATUM.--Altitude of land-surface is 1,059 ft (323 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.90 ft (0.88 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.29 ft (8.63 m) below land-surface datum, Sept. 24, 1973; lowest water level measured, 36.04 ft (10.99 m) below land-surface datum, Sept. 13, 1961.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 27	30.84	JUN 22	30.52	JUL 13	30.89	AUG 25	31.14

SAUK COUNTY

432201089460101. Local number, SK-10/06E/03-0001.

LOCATION.--Lat 43°22'01", long 89°46'01", Hydrologic Unit 07070005. Owner: Badger Army Ammunition Plant.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 16 in (0.40 m), depth 426 ft (130 m), cased to 203 ft (61.9 m), open end.

DATUM.--Altitude of land-surface is 865 ft (264 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.43 ft (0.44 m) above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.45 ft (17.83 m) below land-surface datum, May 20, 1953; lowest water level, 93.25 ft (28.44 m) below land-surface datum, June 4, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	67.69	68.25	68.68	67.74	68.36	67.73	66.93	65.62	66.91	66.20	65.94	66.31
10	68.09	68.29	68.47	68.64	68.19	67.59	66.62	65.43	66.17	65.69	66.23	65.74
15	68.07	69.20	68.16	69.03	67.75	67.57	66.22	65.33	66.07	65.89	66.39	65.94
20	68.47	68.88	68.25	68.89	67.50	67.35	66.52	65.41	65.79	66.49	67.77	65.59
25	68.12	68.51	68.05	68.87	67.95	67.29	66.34	65.40	66.18	66.21	66.42	65.86
EOM	68.72	68.37	67.82	68.24	67.79	66.86	66.02	65.48	65.91	65.89	66.20	66.46

WTR YEAR 1982 MAX 65.04 MAY 27 MIN 69.69 JAN 17

GROUND-WATER LEVELS

SHAWANO COUNTY

444203088214601. Local number, SH-26/18E/30-0001.

LOCATION.--Lat 44°42'03", long 88°21'46", Hydrologic Unit 04030103. Owner: Harry Sievert.

AQUIFER.--Prairie du Chien.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 132 ft (40.2 m).

DATUM.--Altitude of land-surface is 917 ft (280 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.86 ft (16.12 m) below land-surface datum, Apr. 25, 1973; lowest water level measured, 64.60 ft (19.70 m) below land-surface datum, Jan. 11, 1956.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	57.68	MAY 27	58.25	JUN 24	58.81	JUL 2	56.65	JUL 22	58.03	SEP 9	58.13
APR 23	55.85										

TAYLOR COUNTY

450947090483902. Local number, TA-31/04W/13-0001.

LOCATION.--Lat 45°09'47", long 90°48'39", Hydrologic Unit 07050005. Owner: Village of Gilman.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 18 in (0.46 m), depth 26 ft (7.9 m), cased to 16 ft (4.9 m), screened 16-26 ft (4.9-7.9 m).

DATUM.--Altitude of land-surface is 1,200 ft (366 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft (0.61 m) above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.93 ft (1.20 m) below land-surface datum, Apr. 18, 1982; lowest water level, 13.11 ft (4.00 m) below land-surface datum, Oct. 15, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.23	9.30	9.54	9.75		9.73	5.28	8.09	9.08	9.56		9.24
10	9.05	9.50	9.63			9.66	6.78	6.83	9.44	9.73	10.08	9.35
15	8.81	9.61	9.75		9.53	9.60	6.84	7.33	9.57	9.03	10.22	7.74
20	8.38	9.52	9.70	9.50	9.20	9.18	5.06	8.22	9.56	9.25	10.34	8.45
25	8.82	9.56	9.79		9.26	9.15	6.84	8.87	9.63	9.56	10.35	8.93
EOM	9.12	9.48	9.77		8.95	6.32	7.58	9.38	9.50	9.74	9.47	8.67

WTR YEAR 1982 MAX 3.93 APR 18 MIN 10.39 AUG 24

450830090215201. Local number, TA-31/01E/28-0006.

LOCATION.--Lat 45°08'30", long 90°21'52", hydrologec unit 07040007. Owner: P. J. Ziehlke.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Dug domestic water table well, diameter 3.00 ft (0.92 m), depth 35 ft (10.68 m), open end.

DATUM.--Altitude of land-surface is 1,460 ft (445 m) National Geodetic Vertical Datum of 1929. Measuring point: top of curb, 1.00 ft (0.31 m) above land-surface datum.

PERIOD OF RECORD.--August 20, 1957 to current year.

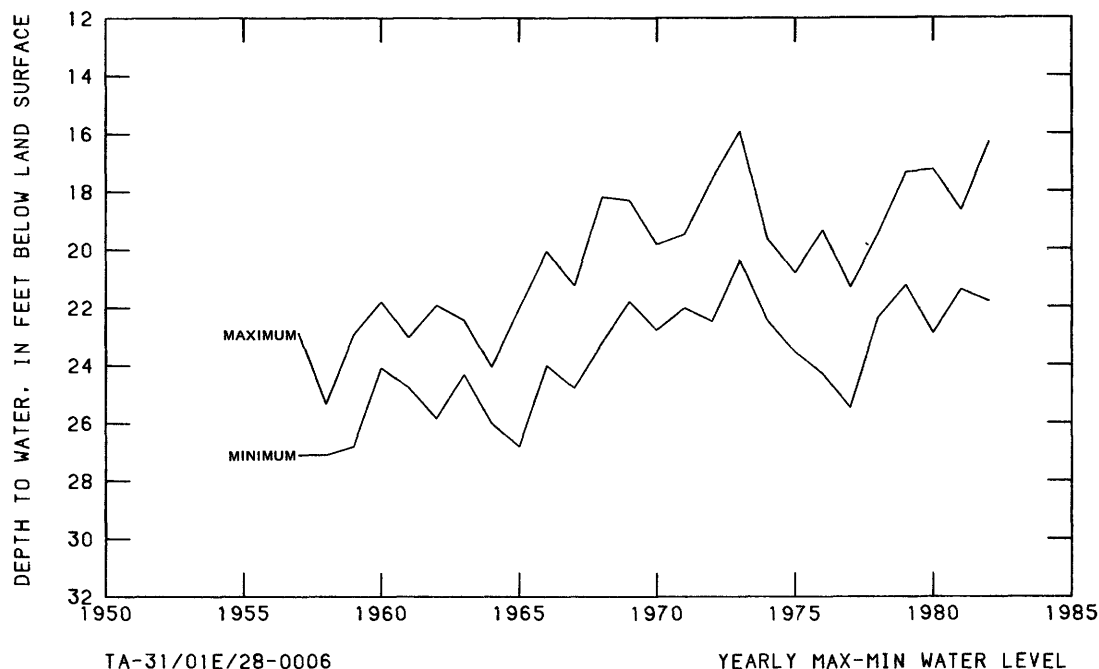
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.91 ft (4.85 m) below sand-surface datum, May 31, 1973; lowest water level measured, 27.10 ft (8.27 m) below land-surface datum, March 13, 1958.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	19.95	DEC 3	21.38	MAR 15	21.79	JUN 5	17.96	JUL 28	18.90	SEP 1	19.32
NOV 2	19.64	FEB 15	20.75	APR 9	20.86	JUL 8	19.12				

GROUND-WATER LEVELS

TAYLOR COUNTY



451919090172401. Local number, TA-33/02E/30-0009.

LOCATION.--Lat 45°19'19", long 90°17'24", Hydrologic Unit 07050005. Owner: Wl. Dept. of Transportation.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in (0.15 m), depth 160 ft (48.8 m), cased to 155 ft (47.2 m), open end.

DATUM.--Altitude of land-surface is 1,591 ft (485 m) National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 0.50 ft (0.15 m) above land-surface datum.

PERIOD OF RECORD.--December 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.30 ft (8.94 m) below land-surface datum, Jul. 19, 1979; lowest water level measured, 35.35 ft (10.78 m) below land-surface datum, June 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	30.00	DEC 2	31.70	MAR 15	33.55	MAY 27	32.04	JUL 28	31.37	AUG 31	31.06
30	33.36	FEB 2	32.55	APR 18	32.55	JUL 8	31.12	AUG 16	30.87		

TREMPEALEAU COUNTY

440422091182901. Local number, TR-19/08W/35-0001.

LOCATION.--Lat 44°04'22", long 91°18'29", Hydrologic Unit 07040007. Owner: Mrs. William Davidson.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 195 ft (59.4 m).

DATUM.--Altitude of land-surface is 820 ft (250 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 133.18 ft (40.62 m) below land-surface datum, Jan. 13, 1955; lowest water level measured, 144.95 ft (44.21 m) below land-surface datum, Oct. 27, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	138.38	DEC 30	139.56	FEB 18	139.13	APR 28	137.31	JUN 29	138.23	AUG 25	138.96
NOV 27	139.19	JAN 26	139.25	MAR 19	138.66	MAY 30	137.98	JUL 27	138.85	SEP 28	137.29

GROUND-WATER LEVELS

TREMPEALEAU COUNTY

440414091270401. Local number, TR-19/09W/33-0009.

LOCATION.--Lat 44°04'14", long 91°27'04", Hydrologic Unit 07040005. Owner: Village of Centerville.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled public-supply water-table, diameter 6 in (0.15 m), depth 71 ft (21.6 m), cased to 66 ft (20.1 m), screened 66-71 ft (20.1-21.6 m).

DATUM.--Altitude of land-surface is 740 ft (226 m) National Geodetic Vertical Datum of 1929. Measuring point: top of breather pipe, at land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.51 ft (13.58 m) below land-surface datum, June 18, 1975; lowest water level measured, 57.11 ft (17.42 m) below land-surface datum, Mar. 16, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	48.94	DEC 9	48.95	FEB 11	48.98	APR 9	48.96	JUN 3	48.94	AUG 6	48.97
NOV 11	48.95	JAN 8	48.97	MAR 8	48.99	MAY 5	48.95	JUL 13	48.96	SEP 7	48.97

VILAS COUNTY

455814089130301. Local number, VI-40/10E/10-0021.

LOCATION.--Lat 45°58'14", long 89°13'03", Hydrologic Unit 07070001. Owner: U.S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in (0.03 m), depth 27 ft (8.2 m), cased to 25 ft (7.6 m), well point 25-27 ft (7.6-8.2 m).

DATUM.--Altitude of land-surface is 1,640 ft (500 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--November 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.38 ft (3.47 m) below land-surface datum, May 21, 1973; lowest water level measured, 16.86 ft (5.14 m) below land-surface datum, Mar. 21, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	13.39	DEC 7	13.63	FEB 8	13.70	APR 12	14.23	JUN 14	13.62	AUG 9	13.42
12	13.40	14	13.64	15	13.71	19	14.20	21	13.62	16	13.41
19	13.40	21	13.64	22	13.71	26	14.18	28	13.57	23	13.41
26	13.40	28	13.65	MAR 1	13.82	MAY 3	14.16	JUL 5	13.56	30	13.40
NOV 2	13.41	JAN 4	13.66	8	13.91	10	14.13	12	13.55	SEP 6	13.42
9	13.54	11	13.67	15	14.21	17	13.70	19	13.53	13	13.44
16	13.55	18	13.68	22	14.24	24	13.68	26	13.45	20	13.46
23	13.56	25	13.68	29	14.24	JUN 1	13.66	AUG 2	13.43	27	13.47
30	13.56	FEB 1	13.69	APR 5	14.23	7	13.63				

WALWORTH COUNTY

423532088254601. Local number, WW-02/17E/36-0037.

LOCATION.--Lat 42°35'32", long 88°25'46", Hydrologic Unit 07120006. Owner: Lake Geneva Water Works.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth 820 ft (250 m), cased to 10 in (0.25 m) 0-214 ft (0-65 m), 8 in (0.20 m) 214-227 ft (65-69 m), open end.

DATUM.--Altitude of land-surface is 860 ft (262 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft (0.61 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 129.48 ft (39.49 m) below land-surface datum, Feb. 14, 1962; lowest water level measured, 199.78 ft (60.89 m) below land-surface datum, Sept. 30, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	197.66	DEC 23	197.98	FEB 19	196.91	APR 15	196.66	JUN 21	197.92	SEP 2	199.43
NOV 30	197.79	JAN 27	197.22	MAR 15	196.53	MAY 19	197.05	AUG 31	199.44	30	199.78

GROUND-WATER LEVELS

WAUKESHA COUNTY

430049088131301. Local number, WK-06/19E/02-0014.

LOCATION.--Lat 43°00'49", long 88°13'13", Hydrologic Unit 07120006. Owner: New Tribes Mission, Waukesha.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 1,300 ft (396 m).

DATUM.--Altitude of land-surface is 875 ft (266.70 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, at land-surface datum.

REMARKS.--Water level affected by pumping of nearby municipal wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 249.86 ft (76.21 m) below land-surface datum, July 6, 1947; lowest water level, 469.40 ft (143.07 m) below land-surface datum, Jul. 23, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	453.82	453.63	448.39	446.75	451.62	446.80	447.36	448.96	449.30	449.53	451.60	452.65
10	436.30	453.25	449.61	443.64	449.84	449.04	447.33	448.60	447.55	450.15	447.90	448.30
15	455.00	455.08	451.65	446.02	449.24	447.18	447.75	449.76	453.25	448.55	449.10	452.94
20	455.93	453.52	447.85	451.70	450.95	447.20	452.57	449.20	450.30	449.75	449.93	454.18
25	454.76	454.19	443.75	450.93	454.63	448.15		451.31	453.20		452.55	453.40
EOM	454.20	450.45	445.47	452.23	453.70	445.64	450.65	449.37	450.17		453.21	452.24

WTR YEAR 1982 MAX 442.35 DEC 24 MIN 459.20 NOV 12

425535088131701. Local number, WK-05/19E/02-0031.

LOCATION.--Lat 42°55'35", long 88°13'17", Hydrologic Unit 07120006. Owner: William M. Foss.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 508 ft (155 m), cased to 434 ft (132 m), open end.

DATUM.--Altitude of land-surface is 962 ft (293 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 126.28 ft (38.52 m) below land-surface datum, June 10, 1974; lowest water level, 138.14 ft (42.13 m) below land-surface datum, Feb. 2, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	132.90	132.62	132.91			133.25		131.19	131.58	131.75	131.91	132.16
10	132.91	132.84	132.91			133.23	131.55	131.24	131.66	131.76	131.93	132.17
15	132.82	132.77	132.81		133.11	133.31	131.40	131.31	132.05	131.73	132.20	132.50
20	132.77	132.75	132.77		133.19	132.94	131.32	131.36	131.68	131.99	132.20	
25	132.69	132.87	132.84		133.41	132.61	131.14	131.25	131.76	131.85	132.11	132.25
EOM	132.65	132.85	132.95	133.10	133.31	132.25	131.16	131.28	131.75	131.96	132.10	132.35

WTR YEAR 1982 MAX 131.06 MAY 6 MIN 133.41 FEB 26

WAUPACA COUNTY

441545088522901. Local number, WP-21/13E/25-0002.

LOCATION.--Lat 44°15'45", long 88°52'29", Hydrologic Unit 04030202. Owner: Village of Fremont.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 205 ft (62.5 m), cased to 109 ft (33.2 m), open end.

DATUM.--Altitude of land-surface is 764 ft (233 m) National Geodetic Vertical Datum of 1929. Measuring point: hole in cap, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.65 ft (2.64 m) below land-surface datum, Apr. 7, 1979; lowest water level measured, 15.91 ft (4.85 m) below land-surface datum, Feb. 23, 1954.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	13.98	DEC 5	13.82	FEB 9	14.58	APR 10	11.70	JUN 12	13.38	AUG 7	13.32
10	13.77	12	13.90	13	14.56	17	12.15	19	13.51	14	13.62
17	13.73	19	13.98	20	14.64	24	12.22	26	13.55	21	13.88
24	13.49	26	14.01	27	14.65	MAY 1	12.38	JUL 3	13.53	28	13.90
31	13.47	JAN 2	14.08	MAR 6	14.63	15	12.84	8	13.70	SEP 4	13.78
NOV 7	13.75	9	14.14	13	14.51	22	12.72	16	13.32	11	13.70
14	13.88	16	14.22	20	13.82	29	12.90	24	13.41	18	13.79
21	13.91	23	14.41	27	13.35	JUN 5	13.10	31	13.43	25	13.87
28	13.94	30	14.56	APR 3	12.72						

GROUND-WATER LEVELS

WAUSHARA COUNTY

440713089320801. Local number, WS-19/08E/15-0008.

LOCATION.--Lat 44°07'13", long 89°32'08", Hydrologic Unit 07070003. Owner: University of Wisconsin Experiment Farm, Hancock.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jetted observation water-table well, diameter 4 in (0.10 m), depth 18 ft (5.5 m), cased to 18 ft (5.5 m).

DATUM.--Altitude of land-surface is 1,080 ft (329 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--May 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.88 ft (1.79 m) below land-surface datum, July 5, 1973; lowest water level, 15.71 ft (4.79 m) below land-surface datum, June 10, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.24		10.39	10.63		11.21	10.81		10.04	9.91	9.85	9.93
10			10.44	10.66	10.98	11.24	10.51		9.95	9.91	9.81	9.94
15			10.46	10.72	11.02	11.29	10.39		10.34	9.90	9.81	10.02
20		10.26	10.49	10.78	11.05	11.28		9.89	10.02	10.29	9.91	10.03
25		10.30	10.54	10.82	11.15	11.28		9.88	10.07	9.95	9.96	10.05
EOM		10.34	10.59	10.88	11.16	11.10		9.86	9.93	9.92	9.98	10.08

WTR YEAR 1982 MAX 9.80 AUG 10 MIN 11.30 MAR 23

441414089091101. Local number, WS-20/11E/02-0053.

LOCATION.--Lat 44°14'14", long 89°09'11", Hydrologic Unit 04030202. Owner: Merle Knox.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in (0.15 m), depth 177 ft (53.9 m), cased to 172 ft (52.4 m), screened 172-177 ft (52.4-53.9 m).

DATUM.--Altitude of land-surface is 923 ft (281 m) National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--February 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.97 ft (10.06 m) below land-surface datum, June 26, 1973; lowest water level measured, 40.41 ft (12.33 m) below land-surface datum, Mar. 4, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	37.45	DEC 18	37.74	FEB 17	37.94	APR 13	37.18	JUL 20	37.32	AUG 17	36.98
NOV 16	37.74	JAN 16	37.66	MAR 17	37.91	MAY 18	37.60	AUG 3	36.68	SEP 20	37.09

WINNEBAGO COUNTY

440122088324601. Local number, WI-18/16E/23-0006.

LOCATION.--Lat 44°01'22", long 88°32'46", Hydrologic Unit 04030201. Owner: City of Oshkosh.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 200 ft (61 m).

DATUM.--Altitude of land-surface is 765 ft (233 m) National Geodetic Vertical Datum of 1929. Measuring point: top of 1 in pipe, at land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.20 ft (5.25 m) below land-surface datum, Apr. 26, 1979; lowest water level measured, 39.75 ft (12.12 m) below land-surface datum, Sept. 1, 1960.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	20.00	DEC 22	19.79	FEB 26	19.49	APR 30	17.85	JUL 14	20.25	SEP 8	19.26
NOV 16	19.72	JAN 24	19.74	MAR 29	19.07	JUN 8	19.46	AUG 4	19.80		

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

AQUIFER.--100 SDGV, sand-and-gravel aquifer, includes deposits of the Holocene and Pleistocene Series of the Quaternary System. 350 SLDL, Silurian Dolomite aquifer, includes rocks of the Upper and Middle Series of the Devonian System and the Cayuga, Niagara, and Alexandrian Series of the Silurian System. 362 MQKS, Maquoketa Shale aquifer, includes rocks of the Cincinnati Series of the Ordovician System. 365 GLPV, Galena-Platteville aquifer, includes rocks of the Siniippee Group of the Champlainian Series of the Ordovician System. 300 SNDS, sandstone aquifer, includes rocks of the Champlainian and Canadian Series of the Ordovician System and the St. Croix Series of the Cambrian System. 400 LKSS, Lake Superior Sandstone aquifer, includes rocks of the Bayfield and Oconto Groups of the Precambrian Erathem. 400 LVFL, lava flow aquifer, includes extrusive igneous rocks of the Keweenaw Super Group of the Precambrian Erathem. 400 BCPX, basement complex aquifer, includes other rocks of the Precambrian Erathem.

GEOLOGIC UNIT.--110 QNRN, rocks of the Quaternary System of the Cenozoic Erathem. 110 SAND, sand of the Holocene and Pleistocene Series of the Quaternary System. 110 SDGV, sand and gravel of the Holocene and Pleistocene Series of the Quaternary System. 350 SLRN, rocks of the Cayuga, Niagara, and Alexandrian Series of the Silurian System. 300 SODV, rocks of the Silurian-Ordovician System of the Paleozoic Erathem. 360 ODVC, rocks of the Ordovician System of the Paleozoic Erathem. 365 CMPL, rocks of the Champlainian Series of the Ordovician System. 365 SNRP, rocks of the Siniippee Group of the Champlainian Series. 365 STPR, St. Peter Sandstone. 368 PRDC, Prairie du Chien Group of the Ordovician System. 360 OVCB, rocks of the Ordovician-Cambrian System of the Paleozoic Erathem. 372 SCRX, rocks of the St. Croix Series of the Cambrian System of the Paleozoic Erathem. 372 TMPL, Trempealeau Group of the Cambrian System. 372 TNLC, Tunnel City Group of the Cambrian System. 372 EXMD, Elk Mound Group of the Cambrian System. 372 DRBC, Dresbach Group of the Cambrian System. 372 JRDN, Jordan Sandstone. 372 WNWG, Woneewoc Formation. 372 ECLR, Eau Claire Sandstone. 372 MNSN, Mount Simon Sandstone.

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)
ADAMS									
440145089365701	AD-18/07E/13-0231	100SDGV	110QRNR	19	18	19	82-05-25	405	8.0
440146089364401	AD-18/07E/13-0223	100SDGV	110QRNR	19	68	19	82-08-31	230	8.1
440146089364402	AD-18/07E/13-0224	100SDGV	110QRNR	70	67	70	82-05-25	325	8.1
				70	67	70	82-08-31	190	8.9
				28	25	28	82-05-25	435	7.9
				28	25	28	82-08-31	440	7.8
440151089363001	AD-18/07E/13-0225	100SDGV	110QRNR	71	68	71	82-05-25	220	8.1
440151089363002	AD-18/07E/13-0226	100SDGV	110QRNR	71	68	71	82-08-31	215	8.2
				28	25	28	82-05-25	200	8.1
				28	25	28	82-08-31	190	8.2
440159089370501	AD-18/07E/13-0221	100SDGV	110QRNR	63	60	63	82-05-25	250	8.3
440159089370502	AD-18/07E/13-0222	100SDGV	110QRNR	63	60	63	82-08-31	330	8.2
				28	25	28	82-05-25	405	8.3
				28	25	28	82-08-31	315	8.2
440207089363001	AD-18/07E/13-0227	100SDGV	110QRNR	71	68	71	82-05-25	275	7.9
				71	68	71	82-08-31	250	7.9
440207089363002	AD-18/07E/13-0228	100SDGV	110QRNR	21	18	21	82-05-25	170	8.7
				21	18	21	82-08-31	190	8.6
440211089365101	AD-18/07E/13-0229	100SDGV	110QRNR	70	67	70	82-05-25	250	8.1
				70	67	70	82-08-31	240	8.1
440211089365102	AD-18/07E/13-0230	100SDGV	110QRNR	30	27	30	82-05-25	120	8.4
				30	27	30	82-08-31	125	8.5

STATION NUMBER	DATE OF SAMPLE	TEMPERATURE (DEG C)	NITROGEN, DIS-SOLVED (MG/L AS N)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	NITROGEN, NITRITE (MG/L AS N)	NITROGEN, NO2+NO3 (MG/L AS N)	NITROGEN, AMMONIA (MG/L AS N)	NITROGEN, ORGANIC (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC (MG/L AS N)
ADAMS											
440145089365701	82-05-25	8.0	12	2.3	1.2	36	<.010	12	.040	.09	.13
	82-08-31	11.0	6.1	1.7	.9	10	.020	5.7	.020	.38	.40
440146089364401	82-05-25	10.0	3.4	1.5	.4	7.9	<.010	2.7	.070	.60	.67
	82-08-31	10.0	1.8	1.2	.3	1.2	<.010	1.4	<.010	--	.40
440146089364402	82-05-25	8.5	19	2.2	.8	8.7	<.010	19	.070	.39	.46
	82-08-31	9.5	16	2.2	.6	37	<.010	16	.010	.39	.40
440151089363001	82-05-25	9.5	1.5	1.1	<.1	1.5	<.010	1.1	.040	.32	.36
	82-08-31	10.0	1.1	.9	.1	.9	<.010	.79	<.010	--	.30
440151089363002	82-05-25	8.0	.86	1.1	.5	.9	<.010	.33	.030	.50	.53
	82-08-31	9.0	.49	1.1	.4	1.0	<.010	.19	<.010	--	.30
440159089370501	82-05-25	9.5	6.5	1.1	.2	40	<.010	5.8	.040	.62	.66
	82-08-31	10.0	12	1.3	.3	49	<.010	11	.030	1.2	1.2
440159089370502	82-05-25	9.5	22	2.4	1.1	28	.010	21	.040	.49	.53
	82-08-31	9.5	19	2.0	.8	14	<.010	18	<.010	--	.70
440207089363001	82-05-25	9.5	2.5	1.1	.2	1.3	<.010	2.1	.030	.32	.35
	82-08-31	10.5	2.7	1.0	<.1	.9	<.010	2.1	<.010	--	.60
440207089363002	82-05-25	8.5	6.2	1.5	.5	7.1	<.010	5.6	.020	.57	.59
	82-08-31	10.5	6.7	1.4	.2	11	<.010	6.0	<.010	--	.70
440211089365101	82-05-25	9.5	5.1	1.1	.3	1.3	<.010	4.7	.010	.34	.35
	82-08-31	10.5	5.0	1.0	.1	1.8	<.010	4.2	.020	.78	.80
440211089365102	82-05-25	9.5	.81	.7	.3	.7	<.010	.40	.040	.37	.41
	82-08-31	10.0	.78	.6	<.1	.5	<.010	.38	<.010	--	.40

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)		
ADAMS												
450158089364701		AD-18/07E/13-0138	100SDGV 100SDGV	110QRNR 110QRNR	100 100	60 60	100 100	82-05-25 82-09-02	220 340	8.3 8.2		
STATION	NUMBER	DATE OF SAMPLE	TEMPERATURE (DEG C)	NITROGEN DIS-SOLVED (MG/L AS N)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
ADAMS												
450158089364701		82-05-25 82-09-02	10.0 10.5	3.0 9.0	110 170	16 70	24 38	12 18	1.3 1.8	3 2	.1 .1	.4 .4
STATION	NUMBER	DATE OF SAMPLE	ALKALINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)
ADAMS												
450158089364701		82-05-25 82-09-02	93 99	10 14	3.8 14	148 187	<.010 <.010	2.8 8.7	.030 .020	.13 .28	.16 .30	.030 .020
STATION	NUMBER	DATE OF SAMPLE	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, HYDROLYZABLE DIS-SOLVED (MG/L AS P)	PHOSPHORUS, HYDRO. + ORTHO DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORGANIC DIS-SOLVED (MG/L AS P)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
ADAMS												
450158089364701		82-05-25 82-09-02	.020 .010	.01 .01	.03 .02	.00 .00	1 1	15 14	<10 20	1 <1	8 4	<3 <3
STATION	NUMBER	DATE OF SAMPLE	LEAD, DIS-SOLVED (UG/L AS Pb)	MANGANESE, DIS-SOLVED (UG/L AS Mn)	MERCURY DIS-SOLVED (UG/L AS Hg)	MOLYBDENUM, DIS-SOLVED (UG/L AS Mo)	ZINC, DIS-SOLVED (UG/L AS Zn)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)				
ADAMS												
	450158089364701	82-05-25 82-09-02	6 4	1 <1	<.1 <.1	<1 <1	5 5	1.0 1.1				

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)
BAYFIELD									
462456091274111	BA-45/09W/02-0191	100SDGV	110QRNR	17	14	17	82-03-10	85	9.1
				17	14	17	82-05-11	73	9.1
462456091274113	BA-45/09W/02-0190	100SDGV	110QRNR	99	96	99	82-03-10	96	9.2
				99	96	99	82-05-11	90	9.1
462506091273311	BA-46/09W/35-0192	100SDGV	110QRNR	20	17	20	82-03-10	54	6.5
				20	17	20	82-05-11	57	6.4
462506091273313	BA-46/09W/35-0195	100SDGV	110QRNR	90	87	90	82-05-11	75	9.2
462507091274811	BA-46/09W/35-0189	100SDGV	110QRNR	17	14	17	82-03-10	54	6.7
				17	14	17	82-05-11	57	6.9
462507091274813	BA-46/09W/35-0194	100SDGV	110QRNR	100	97	100	82-05-11	110	8.7
462514091273811	BA-46/09W/35-0188	100SDGV	110QRNR	16	13	16	82-03-10	62	6.8
				16	13	16	82-05-11	59	6.9
462514091273813	BA-46/09W/35-0193	100SDGV	110QRNR BROWN	102	99	102	82-05-11	95	8.8
441500088074201	BN-21/19E/35-D300	300SND	360OVCB	675	--	--	81-12-02	2100	7.5
441937088094301	BN-21/19E/02-0066	300SND	360OVCB	570	132	570	81-12-02	1380	7.2
441948088094901	BN-22/19E/35-0126	300SND	360OVCB	595	150	595	81-12-04	1280	7.4
442114087471201	BN-22/22E/26-0675	350SLDL	350SLRN	120	67	120	81-12-04	390	7.7
442149088082201	BN-22/19E/24-0988	300SND	360ODVC	182	74	182	81-12-02	640	7.7
443517088040401	BN-24/20E/03-0299	300SND	360OVCB	760	400	785	81-12-02	430	7.9
443755087455301	BN-25/22E/13-0952	350SLDL	350SLRN CALUMET	210	161	210	81-12-03	1180	7.6
441043088084101	CA-20/20E/29-0107	300SND	365CMPL	600	185	600	82-08-19	5400	7.3
441221088080201	CA-20/20E/17-0401	300SND	372JRDN	580	--	--	82-08-18	2510	7.6
441242088075401	CA-20/20E/17-0005	300SND	365CMPL	594	327	593	82-08-18	360	7.7
441303088075901	CA-20/20E/08-0028	300SND	365SNNP	385	--	--	82-08-18	390	8.1
441309088010301	CA-20/20E/05-0017	300SND	365SNNP	468	290	467	82-08-18	1010	7.7
DANE									
430208089131401	DN-07/11E/32-0350	300SND	365STPR DOUGLAS	101	47	101	82-06-29	475	7.2
461330091560411	DS-43/13W/12-0370	100SDGV	110QRNR	23	20	23	82-03-09	50	6.5
				23	20	23	82-05-03	48	6.4
461330091562011	DS-43/13W/12-0369	100SDGV	110QRNR	22	19	22	82-03-09	31	6.3
				22	19	22	82-05-03	31	6.2
461330091562013	DS-43/13W/12-0375	100SDGV	110QRNR	102	99	102	82-05-03	133	8.4
461340091561811	DS-43/13W/12-0368	100SDGV	110QRNR	19	16	19	82-03-09	41	6.5
				19	16	19	82-05-03	38	6.5
461340091561813	DS-43/13W/12-0372	100SDGV	110QRNR	89	86	89	82-04-13	78	9.2
				89	86	89	82-04-13	78	9.2
				89	86	89	82-05-03	75	9.1
461341091560111	DS-43/13W/12-0371	100SDGV	110QRNR	21	18	21	82-03-09	29	6.4
				21	18	21	82-05-04	29	6.2
461341091560113	DS-43/13W/12-0373	100SDGV	110QRNR FOREST	101	98	101	82-05-04	59	7.2
452509088255601	FR-34/16E/24-0573	100SDGV	110SAND	82	--	--	82-08-31	155	9.3
452515088294001	FR-34/16E/16-0572	100SDGV	110SDGV	23	--	--	82-08-31	165	7.5
452802088290901	FR-35/16E/34-0571	100SDGV	110SDGV	22	--	--	82-08-31	195	7.3
452934088345101	FR-35/15E/23-0565	100SDGV	110SDGV	27	--	--	82-08-31	210	8.1
453412088494301	FR-36/13E/26-0568	100SDGV	110SDGV IRON	58	--	--	82-08-30	210	7.6
460202089590201	IR-41/04E/15-0116	100SDGV	110SDGV JEFFERSON	44	--	--	82-08-25	150	8.5
430040089025901	JE-07/13E/30-0573	300SND	360ODVC	130	85	130	82-06-29	650	7.6
430212088541701	JE-07/13E/36-0173	300SND	365STPR	204	181	204	82-06-29	--	--

[illegible]

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	ALKA-LINITY LAB (MG/L AS CaCO3)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
BAYFIELD												
462456091274111	82-03-10	--	--	--	4.1	.4	--	--	--	--	--	--
	82-05-11	--	--	<.5	6.0	.4	--	--	--	--	--	--
462456091274113	82-03-10	--	--	--	3.5	.2	--	--	--	--	--	--
	82-05-11	--	--	<.5	4.0	.3	--	--	--	--	--	--
462506091273311	82-03-10	--	--	--	5.3	.4	--	--	--	--	--	--
	82-05-11	--	--	<.5	4.0	.3	--	--	--	--	--	--
462506091273313	82-05-11	--	--	<.5	4.0	.3	--	--	--	--	--	--
462507091274811	82-03-10	--	--	--	.1	.4	--	--	--	--	--	--
	82-05-11	--	--	<.5	2.0	.4	--	--	--	--	--	--
462507091274813	82-05-11	--	--	<.5	2.0	.3	--	--	--	--	--	--
462514091273811	82-03-10	--	--	--	2.0	.7	--	--	--	--	--	--
	82-05-11	--	--	<.5	3.0	.4	--	--	--	--	--	--
462514091273813	82-05-11	--	--	<.5	4.0	.4	--	--	--	--	--	--
BROWN												
441500088074201	81-12-02	150	--	--	780	250	2.0	6.6	1830	1650	--	--
441937088094301	81-12-02	100	--	--	790	25	2.5	7.0	1300	1260	--	--
441948088094901	81-12-04	110	--	--	680	15	2.6	6.4	1150	1100	--	--
442114087471201	81-12-04	250	--	--	13	2.5	.3	22	263	272	--	--
442149088082201	81-12-02	120	--	--	200	8.7	2.7	6.2	474	445	--	--
443517088040401	81-12-02	--	--	--	--	--	--	--	--	--	--	--
443755087455301	81-12-03	--	--	--	--	--	--	--	--	--	--	--
CALUMET												
441043088084101	82-08-19	178	--	--	560	1700	2.0	6.3	3800	3680	<.010	<.10
4412210880808201	82-08-18	184	--	--	320	380	1.7	3.3	1340	1280	<.010	<.10
441242088075401	82-08-18	156	--	--	14	8.4	.9	21	219	209	<.010	<.10
441303088075901	82-08-18	160	--	--	16	8.3	.9	22	197	214	<.010	<.10
441309088010301	82-08-18	144	--	--	190	220	1.9	7.9	828	782	.010	<.10
DANE												
430208089131401	82-06-29	279	--	--	22	9.4	.1	13	361	317	<.010	3.7
DOUGLAS												
461330091560411	82-03-09	--	--	--	7.0	.4	--	--	--	--	--	--
	82-05-03	--	--	<.5	7.0	.5	--	--	--	--	--	--
461333091562011	82-03-09	--	--	--	1.2	.4	--	--	--	--	--	--
	82-05-03	--	--	<.5	2.0	.5	--	--	--	--	--	--
461333091562013	82-05-03	--	--	<.5	3.0	.3	--	--	--	--	--	--
461340091561811	82-03-09	--	--	--	1.5	.7	--	--	--	--	--	--
	82-05-03	--	--	<.5	<1.0	.5	--	--	--	--	--	--
461340091561813	82-04-13	18	--	--	5.0	.2	<.1	11	56	--	<.010	.44
	82-04-13	31	--	--	5.0	.2	<.1	11	56	--	<.010	.42
	82-05-03	--	--	<.5	4.0	.4	--	--	--	--	--	--
461341091560111	82-03-09	--	--	--	.8	.6	--	--	--	--	--	--
	82-05-04	--	--	<.5	1.0	.4	--	--	--	--	--	--
461341091560113	82-05-04	--	--	<.5	<1.0	.4	--	--	--	--	--	--
FOREST												
452509088255601	82-08-31	79	--	--	7.0	1.6	.1	2.4	107	90	--	<.10
452515088294001	82-08-31	83	--	--	8.0	2.1	.1	3.9	114	97	--	.43
452802088290901	82-08-31	111	--	--	5.0	1.8	.1	14	146	131	--	<.10
452934088345101	82-08-31	103	--	--	11	.7	.1	16	131	136	--	.11
453412088494301	82-08-30	144	--	--	8.0	9.9	<.1	16	202	184	--	.37
IRON												
460202089590201	82-08-25	63	--	--	3.0	.2	.1	14	104	79	--	<.10
JEFFERSON												
430040089025901	82-06-29	233	--	--	69	28	.1	13	542	409	<.010	<.10
430212088541701	82-06-29	--	--	--	--	--	--	--	--	--	<.010	<.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
BAYFIELD												
462456091274111	82-03-10		--	--	--	--	--	--	--	--	--	--
	82-05-11		--	--	--	--	--	--	--	--	--	--
462456091274113	82-03-10		--	--	--	--	--	--	--	--	--	--
	82-05-11		--	--	--	--	--	--	--	--	--	--
462506091273311	82-03-10		--	--	--	--	--	--	--	--	--	--
	82-05-11		--	--	--	--	--	--	--	--	--	--
462506091273313	82-05-11		--	--	--	--	--	--	--	--	--	--
462507091274811	82-03-10		--	--	--	--	--	--	--	--	--	--
	82-05-11		--	--	--	--	--	--	--	--	--	--
462507091274813	82-05-11		--	--	--	--	--	--	--	--	--	--
462514091273811	82-03-10		--	--	--	--	--	--	--	--	--	--
	82-05-11		--	--	--	--	--	--	--	--	--	--
462514091273813	82-05-11		--	--	--	--	--	--	--	--	--	--
BROWN												
441500088074201	81-12-02		--	--	--	--	--	--	--	--	--	--
441937088094301	81-12-02		--	--	--	--	--	--	--	--	--	--
441948088094901	81-12-04		--	--	--	--	--	--	--	--	--	--
442114087471201	81-12-04		--	--	--	--	--	--	--	--	--	--
442149088082201	81-12-02		--	--	--	--	--	--	--	--	--	--
443517088040401	81-12-02		--	--	--	--	--	--	--	--	--	--
443755087455301	81-12-03		--	--	--	--	--	--	--	--	--	--
CALUMET												
441043088084101	82-08-19		.550	.00	.10	--	--	--	<100	--	--	--
441221088080201	82-08-18		.340	2.8	3.1	--	--	--	100	--	--	--
441242088075401	82-08-18		.030	.67	.70	--	--	--	77	--	--	--
441303088075901	82-08-18		.150	.00	.10	--	--	--	69	--	--	--
441309088010301	82-08-18		.170	.00	.10	--	--	--	37	--	--	--
DANE												
430208089131401	82-06-29		.030	.27	.30	--	--	--	35	--	--	--
DOUGLAS												
461330091560411	82-03-09		--	--	--	--	--	--	--	--	--	--
	82-05-03		--	--	--	--	--	--	--	--	--	--
461333091562011	82-03-09		--	--	--	--	--	--	--	--	--	--
	82-05-03		--	--	--	--	--	--	--	--	--	--
461333091562013	82-05-03		--	--	--	--	--	--	--	--	--	--
461340091561811	82-03-09		--	--	--	--	--	--	--	--	--	--
	82-05-03		--	--	--	--	--	--	--	--	--	--
461340091561813	82-04-13		.019	.28	.30	.017	<10	--	--	--	--	1
	82-04-13		.024	.29	.31	.182	<10	--	--	--	--	1
	82-05-03		--	--	--	--	--	--	--	--	--	--
461341091560111	82-03-09		--	--	--	--	--	--	--	--	--	--
	82-05-04		--	--	--	--	--	--	--	--	--	--
461341091560113	82-05-04		--	--	--	--	--	--	--	--	--	--
FOREST												
452509088255601	82-08-31		--	--	--	--	--	1	18	<1	10	<10
452515088294001	82-08-31		--	--	--	--	--	1	15	2	10	30
452802088290901	82-08-31		--	--	--	--	--	4	46	2	10	<10
452934088345101	82-08-31		--	--	--	--	--	3	29	<1	20	<10
453412088494301	82-08-30		--	--	--	--	--	2	29	4	20	<10
IRON												
460202089590201	82-08-25		--	--	--	--	--	4	17	2	10	<10
JEFFERSON												
430040089025901	82-06-29		.030	.47	.50	--	--	--	79	--	--	--
430212088541701	82-06-29		.140	.26	.40	--	--	--	--	--	--	--

STATION	NUMBER	DATE OF SAMPLE	IRON,	LEAD,	LITHIUM	MANGA-	MERCURY	SELE-	STRON-	ZINC,	GROSS	GROSS
			DIS- SOLVED (UG/L AS FE)	DIS- SOLVED (UG/L AS PB)	DIS- SOLVED (UG/L AS LI)	NESE, DIS- SOLVED (UG/L AS MN)	DIS- SOLVED (UG/L AS HG)	NIUM, DIS- SOLVED (UG/L AS SE)	TIUM, DIS- SOLVED (UG/L AS SR)	DIS- SOLVED (UG/L AS ZN)	ALPHA, DIS- SOLVED (UG/L AS U-NAT)	ALPHA, DIS- SOLVED (UG/L AS U-NAT)
BAYFIELD												
462456091274111	82-03-10	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462456091274113	82-03-10	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462506091273311	82-03-10	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462506091273313	82-05-11	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462507091274811	82-03-10	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462507091274813	82-05-11	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462514091273811	82-03-10	--	--	--	--	--	--	--	--	--	--	--
	82-05-11	--	--	--	--	--	--	--	--	--	--	--
462514091273813	82-05-11	--	--	--	--	--	--	--	--	--	--	--
BROWN												
44150088074201	81-12-02	260	--	--	60	.1	--	21000	--	--	--	--
441937088094301	81-12-02	1700	--	--	68	--	--	18000	--	--	--	--
441948088094901	81-12-04	1000	--	--	54	--	--	18000	--	--	--	--
442114087471201	81-12-04	510	--	--	4	--	--	410	--	--	--	--
442149088082201	81-12-02	210	--	--	15	<.1	--	32000	--	--	--	--
4433517088040401	81-12-02	--	--	--	--	<.1	--	--	--	--	--	--
443755087455301	81-12-03	--	--	--	--	<.1	--	--	--	--	--	--
CALUMET												
441043088084101	82-08-19	870	--	300	40	--	--	8000	--	--	--	--
441221088080201	82-08-18	60	--	210	50	--	--	6400	--	--	--	--
441242088075401	82-08-18	3	--	13	5	--	--	3300	--	--	--	--
441303088075901	82-08-18	40	--	12	4	--	--	4600	--	--	--	--
441309088010301	82-08-18	860	--	64	32	--	--	28000	--	--	--	--
DANE												
430208089131401	82-06-29	<3	--	<4	<1	--	--	48	--	--	--	--
DOUGLAS												
461330091560411	82-03-09	--	--	--	--	--	--	--	--	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--	--
461333091562011	82-03-09	--	--	--	--	--	--	--	--	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--	--
461333091562013	82-05-03	--	--	--	--	--	--	--	--	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--	--
461340091561811	82-03-09	--	--	--	--	--	--	--	--	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--	--
461340091561813	82-04-13	9	1	--	21	<.1	--	--	8	--	--	--
	82-04-13	4	4	--	21	<.1	--	--	6	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--	--
461341091560111	82-03-09	--	--	--	--	--	--	--	--	--	--	--
	82-05-04	--	--	--	--	--	--	--	--	--	--	--
461341091560113	82-05-04	--	--	--	--	--	--	--	--	--	--	--
FOREST												
452509088255601	82-08-31	<3	<10	--	11	<.1	<1	--	230	--	--	--
452515088294001	82-08-31	160	10	--	45	<.1	<1	--	100	--	--	--
452802088290901	82-08-31	6500	10	--	380	<.1	<1	--	220	<4.0	44	--
452934088345101	82-08-31	1500	<10	--	320	<.1	<1	--	27	--	--	--
453412088494301	82-08-30	450	<10	--	120	<.1	<1	--	35	<3.6	46	--
IRON												
460202089590201	82-08-25	22	<10	--	52	<.1	<1	--	12	--	--	--
JEFFERSON												
430040089025901	82-06-29	2600	--	<4	93	--	--	81	--	--	--	--
430212088541701	82-06-29	--	--	--	--	--	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
BAYFIELD					
462456091274111		82-03-10	--	--	--
		82-05-11	--	--	--
462456091274113		82-03-10	--	--	--
		82-05-11	--	--	--
462506091273311		82-03-10	--	--	--
		82-05-11	--	--	--
462506091273313		82-05-11	--	--	--
462507091274811		82-03-10	--	--	--
		82-05-11	--	--	--
462507091274813		82-05-11	--	--	--
462514091273811		82-03-10	--	--	--
		82-05-11	--	--	--
462514091273813		82-05-11	--	--	--
BROWN					
441500088074201		81-12-02	--	--	--
441937088094301		81-12-02	--	--	--
441948088094901		81-12-04	--	--	--
442114087471201		81-12-04	--	--	--
442149088082201		81-12-02	--	--	--
443517088040401		81-12-02	--	--	--
443755087455301		81-12-03	--	--	--
CALUMET					
441043088084101		82-08-19	--	--	<.3
441221088080201		82-08-18	--	--	1.8
441242088075401		82-08-18	--	--	1.6
441303088075901		82-08-18	--	--	2.1
441309088010301		82-08-18	--	--	<1.0
DANE					
430208089131401		82-06-29	--	--	1.2
DOUGLAS					
461330091560411		82-03-09	--	--	--
		82-05-03	--	--	--
461333091562011		82-03-09	--	--	--
		82-05-03	--	--	--
461333091562013		82-05-03	--	--	--
461340091561811		82-03-09	--	--	--
		82-05-03	--	--	--
461340091561813		82-04-13	--	--	--
		82-04-13	--	--	--
		82-05-03	--	--	--
461341091560111		82-03-09	--	--	--
		82-05-04	--	--	--
461341091560113		82-05-04	--	--	--
FOREST					
452509088255601		82-08-31	--	--	--
452515088294001		82-08-31	--	--	--
452802088290901		82-08-31	2.0	17	--
452934088345101		82-08-31	--	--	--
453412088494301		82-08-30	2.4	46	--
IRON					
460202089590201		82-08-25	--	--	--
JEFFERSON					
430040089025901		82-06-29	--	--	.8
430212088541701		82-06-29	--	--	1.1

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)
LANGLADE									
450322089004701	LA-30/12E/23-1207	100SDGV	110QRNR	90	88	90	82-08-03	435	7.1
450332089082601	LA-30/11E/23-0919	400BCPX	400PCMB	104	98	104	82-08-03	475	7.7
450421089072101	LA-30/11E/24-1185	100SDGV	110QRNR	59	56	59	82-08-03	455	7.3
450531089091101	LA-30/11E/10-0319	100SDGV	110QRNR	88	85	88	82-08-02	630	7.5
450608089032001	LA-30/12E/04-1190	100SDGV	110QRNR	123	120	123	82-08-03	465	7.5
450616089121401	LA-30/11E/08-1239	100SDGV	110QRNR	85	82	85	82-08-02	380	7.5
450730088425001	LA-31/14E/35-1009	100SDGV	110QRNR	50	47	50	82-08-31	370	7.8
450748088390001	LA-31/15E/32-0992	100SDGV	110QRNR	187	142	187	82-08-31	325	7.7
450810088482801	LA-31/13E/25-1092	100SDGV	110QRNR	48	45	48	82-08-31	285	7.4
450919089150601	LA-30/10E/21-0943	100SDGV	110QRNR	51	48	51	82-08-03	425	8.1
450953089015801	LA-31/12E/18-0577	100SDGV	110QRNR	125	122	125	82-08-03	470	7.4
450957088442901	LA-31/14E/15-0988	100SDGV	110QRNR	93	90	93	82-08-31	300	7.9
451142089181401	LA-31/09E/01-0933	400BCPX	400PCMB	202	40	202	82-08-04	295	6.4
451217089081301	LA-31/11E/05-0955	100SDGV	110QRNR	55	49	55	82-08-03	524	7.5
451221089135201	LA-32/10E/34-1059	100SDGV	110QRNR	35	32	35	82-08-04	155	5.9
451309088574101	LA-32/12E/26-1230	400BCPX	400PCMB	285	--	--	82-08-03	320	7.6
451352088424601	LA-32/14E/26-1097	100SDGV	110QRNR	85	--	--	82-08-31	295	7.5
451404089110901	LA-32/10E/24-1049	100SDGV	110QRNR	78	75	78	82-08-04	260	7.3
451405089234301	LA-32/09E/20-1026	100SDGV	110QRNR	66	64	66	82-08-04	335	5.6
451431089054401	LA-32/11E/22-0555	100SDGV	110QRNR	67	64	67	82-08-05	355	7.7
451456089165501	LA-32/10E/17-1043	400BCPX	400PCMB	86	76	86	82-08-04	305	7.5
451543088472701	LA-32/14E/18-1081	100SDGV	110QRNR	75	--	--	82-08-31	185	8.5
451613089090401	LA-32/11E/08-1064	100SDGV	110QRNR	51	49	51	82-08-05	320	7.4
451715089252601	LA-32/09E/06-1018	400BCPX	400PCMB	102	45	102	82-08-04	610	6.3
451717088404601	LA-32/14E/01-1077	100SDGV	110QRNR	42	--	--	82-08-31	245	7.5
451728089182501	LA-32/09E/01-1011	100SDGV	110QRNR	40	37	40	82-08-04	150	7.0
451734089124001	LA-32/10E/02-1040	100SDGV	110QRNR	74	72	74	82-08-05	255	7.3
451756089044001	LA-33/11E/35-1141	100SDGV	110QRNR	248	--	--	82-08-05	230	7.9
451832088512001	LA-33/13E/27-1165	100SDGV	110QRNR	56	53	56	82-08-31	240	8.0
451832089245401	LA-33/12E/25-1152	100SDGV	110QRNR	44	41	44	82-08-31	220	7.9
451847089153301	LA-33/10E/28-1126	100SDGV	110QRNR	33	31	33	82-08-05	260	7.2
452002089090001	LA-33/11E/20-1137	100SDGV	110QRNR	130	127	130	82-09-02	100	7.2
452102088544901	LA-33/13E/07-1155	100SDGV	110QRNR	130	127	130	82-09-01	295	7.9
452151089203001	LA-33/09E/10-1099	100SDGV	110QRNR	36	--	--	82-08-30	190	7.1
452200089021801	LA-33/12E/06-1147	100SDGV	110QRNR	90	87	90	82-09-02	185	8.2
452201089002901	LA-33/12E/04-1145	400BCPX	400PCMB	322	58	322	82-09-01	215	7.9
452209088441401	LA-33/14E/03-1170	400BCPX	400PCMB	102	39	102	82-09-01	110	6.8
452231088460301	LA-33/14E/05-1172	100SDGV	110QRNR	64	61	64	82-09-01	275	7.8
452234088590201	LA-33/12E/03-0980	100SDGV	110QRNR	53	47	53	82-09-03	180	7.0
452236089145901	LA-33/10E/04-1115	100SDGV	110QRNR	227	222	227	82-09-01	230	7.9
452239088534301	LA-33/13E/05-0981	100SDGV	110QRNR	80	74	80	82-09-01	405	7.7
452314089120401	LA-34/10E/35-0700	400BCPX	400PCMB	215	202	215	82-09-02	225	7.7
452315089240601	LA-34/09E/32-0716	100SDGV	110QRNR	135	132	135	82-09-03	200	7.2
452349089114801	LA-34/10E/25-0673	100SDGV	110QRNR	209	--	--	82-09-02	315	7.5
452359088591901	LA-34/12E/28-0967	400BCPX	400PCMB	182	45	182	82-09-02	155	7.0
452439089052801	LA-34/11E/23-0973	100SDGV	110QRNR	72	69	72	82-09-02	210	8.2
452552088571201	LA-34/12E/14-0861	100SDGV	110QRNR	85	--	--	82-09-02	255	7.8
452557089165401	LA-34/10E/18-1256	100SDGV	110QRNR	51	--	--	82-09-03	140	7.8
452607089223001	LA-34/09E/16-0711	100SDGV	110QRNR	33	--	--	82-09-03	150	6.8
452649089042801	LA-34/11E/11-1228	400BCPX	400PCMB	103	41	103	82-09-02	145	8.1
452715089105001	LA-34/10E/01-0668	100SDGV	110QRNR LINCOLN	74	71	74	82-09-02	225	7.5
453036089341520	LN-35/07E/23-0067	100SDGV	110QRNR	17	14	17	82-07-07	37	5.8
453055089343120	LN-35/07E/14-0066	100SDGV	110QRNR	17	14	17	82-07-07	37	5.8
				13	10	13	82-07-07	150	5.9
				13	10	13	82-07-07	150	5.9
MARINETTE									
450217087373201	MT-30/24E/30-0213	300SNDS	360ODVC	510	133	510	82-08-25	1380	7.9
450320087452301	MT-30/23E/19-0334	300SNDS	372SCRX	695	--	--	82-08-25	410	7.8
450353087370801	MT-30/24E/17-0215	300SNDS	365SNNP	110	108	110	82-08-26	350	8.1
450502087393001	MT-30/23E/12-0202	300SNDS	360ODVC	384	40	384	82-08-26	1320	7.5
450509087411201	MT-30/23E/10-0199	300SNDS	365SNNP	60	41	60	82-08-26	350	7.8
450627087451301	MT-31/22E/34-0332	300SNDS	372EKMD	600	479	600	81-11-02	415	7.8
			372EKMD	600	384	478	81-11-04	410	7.8
			368PRDC	600	205	299	81-11-11	387	7.6
			365GLPV	600	29	120	81-11-12	387	7.7
450957088053301	MT-31/19E/14-0232	300SNDS	360OVCB	165	41	165	82-08-25	415	7.6

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	TEMPER- ATURE (DEG C)	NITRO- GEN DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS NONCAR- BONATE (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
LANGLADE												
450322089004701		82-08-03	9.0	2.2	210	13	47	23	2.4	2	.1	.9
450332089082601		82-08-03	9.0	2.6	230	11	52	25	2.1	2	.1	.8
450421089072101		82-08-03	8.5	6.0	220	35	48	24	2.7	3	.1	.7
450531089091101		82-08-02	9.5	.84	280	22	63	30	13	9	.4	1.4
450608089032001		82-08-03	9.5	--	230	1.0	50	25	2.0	2	.1	1.0
450616089121401		82-08-02	9.5	6.1	170	24	39	18	3.7	4	.1	.4
450730088425001		82-08-31	9.5	2.6	200	19	44	22	2.6	3	.1	.8
450748088390001		82-08-31	8.5	.30	170	1.0	38	19	7.4	8	.3	1.6
450810088482801		82-08-31	9.0	1.8	150	22	33	17	2.6	4	.1	.9
450919089150601		82-08-03	11.0	7.5	190	49	42	20	5.1	6	.2	.8
450953089015801		82-08-03	9.0	3.9	230	26	52	25	2.3	2	.1	.8
45095708842901		82-08-31	8.0	--	170	8.0	37	18	2.7	3	.1	.9
451142089181401		82-08-04	12.0	5.2	110	27	31	7.9	12	19	.5	1.6
451217089081301		82-08-03	9.0	--	250	59	54	27	4.4	4	.1	.8
451221089135201		82-08-04	9.0	2.9	48	18	12	4.3	5.3	19	.4	.9
451309088574101		82-08-03	9.5	--	150	.00	34	16	4.8	6	.2	.7
451352088424601		82-08-31	10.5	--	150	.00	40	13	1.9	3	.1	.8
451404089110901		82-08-04	9.5	--	110	.00	29	10	3.0	5	.1	.6
451405089234301		82-08-04	8.5	10	120	70	29	12	8.7	13	.4	.7
451431089054401		82-08-05	8.5	--	190	4.0	44	20	2.5	3	.1	1.0
451456089165501		82-08-04	8.0	--	140	.00	32	14	6.1	9	.2	1.0
451543088472701		82-08-31	9.0	--	81	.00	24	5.1	7.2	16	.4	1.4
451613089090401		82-08-05	9.0	.34	170	11	39	17	2.0	3	.1	1.1
451715089252601		82-08-04	12.5	7.2	260	57	66	23	11	8	.3	.5
451717088404601		82-08-31	9.5	--	130	9.0	31	13	2.6	4	.1	.8
451728089182501		82-08-04	9.5	.60	54	.00	12	5.9	5.2	--	.3	<.1
451734089124001		82-08-05	9.5	--	120	.00	30	10	2.3	4	.1	.9
451756089044001		82-08-05	11.5	--	110	.00	29	10	4.4	8	.2	.8
451832088512001		82-08-31	9.0	--	120	.00	28	13	2.7	4	.1	1.6
451832089245401		82-08-31	8.0	.51	120	5.0	27	13	1.6	3	.1	1.0
451847089153301		82-08-05	8.5	--	130	.00	33	11	2.4	4	.1	.7
452002089090001		82-09-02	8.5	.49	49	4.0	11	5.3	2.5	--	.2	<.1
452102088544901		82-09-01	9.0	2.9	160	16	34	18	1.9	3	.1	.7
452151089203001		82-08-30	11.0	--	90	.00	21	9.0	3.6	8	.2	.6
452200089021801		82-09-02	9.0	--	76	4.0	20	6.2	2.4	6	.1	.3
452201089002901		82-09-01	8.5	--	120	5.0	25	13	2.5	4	.1	.7
452209088441401		82-09-01	9.0	.77	50	3.0	11	5.4	1.5	6	.1	.5
452231088460301		82-09-01	8.5	.30	150	4.0	33	17	1.9	3	.1	.9
452234088590201		82-09-03	9.0	--	77	.00	17	8.3	1.7	5	.1	.5
452236089145901		82-09-01	11.5	--	120	.00	34	8.1	4.8	8	.2	.2
452239088534301		82-09-01	9.0	1.1	--	--	--	--	--	--	--	--
452314089120401		82-09-02	8.0	--	110	.00	33	6.9	6.8	12	.3	.6
452315089240601		82-09-03	8.5	.83	98	.00	23	9.9	3.2	7	.2	.3
452349089114801		82-09-02	10.5	--	170	.00	45	14	5.0	6	.2	.3
452359088591901		82-09-02	8.0	--	76	6.0	17	8.1	3.0	8	.2	.2
452439089052801		82-09-02	8.0	.58	110	8.0	25	12	2.6	5	.1	.3
452552088571201		82-09-02	10.5	--	140	1.0	33	14	3.7	4	.1	.4
452557089165401		82-09-03	8.0	--	68	.00	17	6.2	2.8	11	.2	.3
452607089223001		82-09-03	8.5	2.2	73	.00	18	6.7	2.8	8	.2	.9
452649089042801		82-09-02	9.0	--	93	.00	26	6.9	3.6	8	.2	.9
452715089105001		82-09-02	9.0	.24	130	6.0	29	13	2.5	4	.1	.3
LINCOLN												
453036089341520		82-07-07	10.0	--	8	--	2.3	.6	2.9	40	.4	1.0
45305508934120		82-07-07	10.0	--	8	--	2.3	.6	3.0	41	.5	1.0
45305508934120		82-07-07	11.0	--	42	--	12	2.9	11	35	.7	1.3
45305508934120		82-07-07	11.0	--	41	--	12	2.7	9.9	34	.7	1.3
MARINETTE												
450217087373201		82-08-25	13.5	--	700	620	180	59	88	22	1.6	5.6
450320087452301		82-08-25	10.0	--	190	17	38	23	9.4	10	.3	4.1
450353087370801		82-08-26	11.0	--	--	--	--	--	--	--	--	--
450502087393001		82-08-26	10.5	--	490	370	130	40	80	26	1.7	6.8
450509087411201		82-08-26	11.5	--	180	8.0	32	25	3.9	4	.1	.8
450627087451301		81-11-02	11.0	.62	180	41	39	20	12	12	.4	3.1
450627087451301		81-11-04	11.5	.31	180	29	38	20	11	12	.4	3.1
450627087451301		81-11-11	10.0	--	190	5.0	39	21	12	12	.4	4.5
450627087451301		81-11-12	11.0	--	190	14	41	22	13	13	.5	3.4
450957088053301		82-08-25	8.0	--	210	90	49	22	2.6	3	.1	.6

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
LANGLADE												
450322089004701	82-08-03	199		10	2.1	.3	14	223	219	<.010	1.9	<.010
450332089082601	82-08-03	222		8.0	5.3	.3	14	250	241	<.010	2.2	<.010
450421089072101	82-08-03	184		<1.0	9.4	.2	14	255	--	<.010	5.8	<.010
450531089091101	82-08-02	259		13	40	.1	16	334	332	.060	.14	<.010
450608089032001	82-08-03	227		6.0	2.9	.2	11	242	236	<.010	<1.0	<.010
450616089121401	82-08-02	148		6.0	5.6	<.1	17	197	179	.040	5.9	.010
450730088425001	82-08-31	181		9.0	6.3	.3	15	218	209	<.010	2.5	<.010
450748088390001	82-08-31	172		9.0	1.9	1.3	11	169	193	<.010	.10	.030
450810088482801	82-08-31	130		4.0	8.7	.2	11	139	157	.040	1.5	.040
450919089150601	82-08-03	138		11	18	<.1	24	241	204	<.010	7.3	.020
450953089015801	82-08-03	207		9.0	9.7	.2	13	261	237	<.010	3.8	<.010
450957088442901	82-08-31	159		11	.8	.3	16	178	182	<.010	.22	<.010
451142089181401	82-08-04	83		15	12	.1	32	189	162	<.010	5.0	<.010
451217089081301	82-08-03	187		25	16	<.1	15	324	255	<.010	6.5	<.010
451221089135201	82-08-04	30		7.0	9.9	<.1	18	103	76	<.010	2.6	<.010
451309088574101	82-08-03	154		4.0	2.7	.3	17	168	172	<.010	<1.0	.010
451352088424601	82-08-31	155		<1.0	.9	.6	14	108	--	<.010	<1.0	.990
451404089110901	82-08-04	123		<1.0	.6	.2	21	133	--	<.010	<1.0	.270
451405089234301	82-08-04	52		7.0	26	<.1	28	240	143	<.010	9.9	<.010
451431089054401	82-08-05	188		3.0	5.3	<.1	14	212	203	<.010	<1.0	.010
451456089165501	82-08-04	146		6.0	.9	.2	19	150	168	<.010	<1.0	.080
451543088472701	82-08-31	96		3.0	.6	.6	13	114	113	<.010	<1.0	<.010
451613089090401	82-08-05	156		10	2.3	.1	16	161	182	<.010	.14	.020
451715089252601	82-08-04	203		21	32	.1	26	369	304	.020	7.0	.020
451717088404601	82-08-31	122		8.0	2.3	.5	11	137	144	<.010	<1.0	.060
451728089182501	82-08-04	54		3.0	5.2	.2	31	93	95	<.010	.40	<.010
451734089124001	82-08-05	119		6.0	1.5	<.1	18	146	149	<.010	<1.0	.470
451756089044001	82-08-05	122		<1.0	.6	.1	18	116	--	<.010	<1.0	.020
451832088512001	82-08-31	132		3.0	.8	.4	13	130	142	<.010	<1.0	<.010
451832089245401	82-08-31	116		8.0	.7	.1	13	128	134	<.010	.25	<.010
451847089153301	82-08-05	131		2.0	2.0	.1	23	141	160	<.010	<1.0	.450
452002089090001	82-09-02	45		7.0	.6	.1	22	83	76	<.010	.29	.040
452102088544901	82-09-01	143		6.0	5.4	<.1	14	168	166	<.010	3.0	<.010
452151089203001	82-08-30	93		2.0	1.9	.1	28	105	126	<.010	<1.0	.270
452200089021801	82-09-02	72		5.0	1.5	.1	13	87	93	<.010	<1.0	.090
452201089002901	82-09-01	111		10	1.1	<.1	14	122	134	<.010	.26	<.010
452209088441401	82-09-01	47		7.0	.6	.2	12	71	67	<.010	.52	<.010
452231088460301	82-09-01	149		9.0	.8	.1	14	166	166	<.010	.20	<.010
452234088590201	82-09-03	77		2.0	.7	<.1	17	87	105	<.010	<1.0	.870
452236089145901	82-09-01	128		<1.0	.4	.2	20	139	--	<.010	<1.0	.080
452239088534301	82-09-01	--	--	--	--	--	--	--	--	<.010	.86	<.010
452314089120401	82-09-02	121		2.0	.7	.4	19	142	143	<.010	<1.0	.250
452315089240601	82-09-03	108		1.0	.7	.2	25	139	131	<.010	.13	.110
452349089114801	82-09-02	179		<1.0	.5	.2	33	205	--	<.010	<1.0	.370
452359088591901	82-09-02	70		11	.7	.1	21	99	103	<.010	<1.0	.020
452439089052801	82-09-02	104		9.0	2.7	.1	19	116	133	<.010	.38	.020
452552088571201	82-09-02	139		2.0	.5	.2	16	144	153	<.010	<1.0	.180
452557089165401	82-09-03	73		2.0	.2	.2	23	95	97	<.010	<1.0	.020
452607089223001	82-09-03	73		6.0	1.8	.2	22	120	102	<.010	.11	.040
452649089042801	82-09-02	98		3.0	.2	.2	17	111	117	<.010	<1.0	.030
452715089105001	82-09-02	120		8.0	1.3	.2	19	154	146	<.010	.14	.010
LINCOLN												
453036089341520	82-07-07	5.0		6.0	4.9	<.1	.4	28	--	<.010	.01	.084
	82-07-07	4.0		6.0	4.8	<.1	.4	27	--	<.010	.01	.109
453055089343120	82-07-07	17		16	23	<.1	19	129	--	<.010	.31	.048
	82-07-07	17		16	23	<.1	19	131	--	<.010	.31	.061
MARINETTE												
450217087373201	82-08-25	83		620	130	1.5	8.1	1230	1150	<.010	<1.0	.230
450320087452301	82-08-25	174		26	6.6	.6	7.4	239	221	<.010	<1.0	.050
450353087370801	82-08-26	--	--	--	--	--	--	--	--	<.010	<1.0	.130
450502087393001	82-08-26	120		460	61	2.0	6.9	916	866	<.010	<1.0	.150
450509087411201	82-08-26	175		12	3.6	.4	26	187	210	<.010	<1.0	<.010
450627087451301	81-11-02	140		38	12	.6	6.5	232	217	<.010	.03	.080
	81-11-04	150		35	10	.6	6.3	234	215	<.010	.01	.080
	81-11-11	180		34	9.6	.7	6.8	229	237	<.010	<.01	.070
	81-11-12	180		36	12	.7	6.2	232	244	<.010	<.01	.070
450957088053301	82-08-25	123		92	12	.2	13	226	265	<.010	1.9	<.010

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
LANGLADE											
450322089004701	82-08-03	--	.30	<.010	--	--	--	--	--	--	<3
450332089082601	82-08-03	--	.40	.040	--	--	--	--	--	--	16
450421089072101	82-08-03	--	.20	.040	--	--	--	--	--	--	<3
450531089091101	82-08-02	--	.70	<.010	--	--	--	--	--	--	11
450608089032001	82-08-03	--	.60	<.010	--	--	--	--	--	--	970
450616089121401	82-08-02	.19	.20	.040	--	--	--	--	--	--	<3
450730088425001	82-08-31	--	.10	.010	--	--	--	--	--	--	27
450748088390001	82-08-31	.17	.20	<.010	--	--	--	--	--	--	70
450810088482801	82-08-31	.26	.30	.020	--	--	--	--	--	--	900
450919089150601	82-08-03	.18	.20	.010	--	--	--	--	--	--	16
450953089015801	82-08-03	--	.10	.040	--	--	--	--	--	--	4
450957088429001	82-08-31	--	<.10	.010	--	--	--	--	--	--	13
451142089181401	82-08-04	--	.20	<.010	--	--	--	--	--	--	<3
451217089081301	82-08-03	--	<.10	.010	--	--	--	--	--	--	5
451221089135201	82-08-04	--	.30	.030	--	--	--	--	--	--	<3
451309088574101	82-08-03	.19	.20	<.010	--	--	--	--	--	--	180
451352088424601	82-08-31	.00	.20	.010	--	--	--	--	--	--	2000
451404089110901	82-08-04	.13	.40	1.10	--	--	--	--	--	--	310
451405089234301	82-08-04	--	.20	.010	--	--	--	--	--	--	4
451431089054401	82-08-05	--	<.10	.020	--	--	--	--	--	--	89
451456089165501	82-08-04	.12	.20	.120	--	--	--	--	--	--	480
451543088472701	82-08-31	.22	.30	.010	--	--	--	--	--	--	34
451613089090401	82-08-05	.18	.20	.010	--	--	--	--	--	--	79
451715089252601	82-08-04	.18	.20	<.010	--	--	--	--	--	--	<3
451717088404601	82-08-31	--	<.10	.020	--	--	--	--	--	--	950
451728089182501	82-08-04	--	.20	.050	--	--	--	--	--	--	5
451734089124001	82-08-05	.23	.70	.080	--	--	--	--	--	--	8100
451756089044001	82-08-05	.18	.20	.060	--	--	--	--	--	--	29
451832088512001	82-08-31	--	.20	<.010	--	--	--	--	--	--	15
451832089245401	82-08-31	--	.30	.020	--	--	--	--	--	--	<3
451847089153301	82-08-05	.05	.50	.090	--	--	--	--	--	--	6200
452002089090001	82-09-02	.16	.20	.020	--	1	12	2	<1	29	5
452102088544901	82-09-01	--	.20	<.010	--	--	--	--	--	--	<3
452151089203001	82-08-30	.03	.30	.210	--	2	25	<1	<1	2	3600
452200089021801	82-09-02	.11	.20	.100	--	--	--	--	--	--	780
452201089002901	82-09-01	--	<.10	.020	--	3	10	<1	1	4	<3
452209088441401	82-09-01	--	.20	.030	--	--	--	--	--	--	25
452231088460301	82-09-01	--	.10	.010	--	1	21	<1	1	4	<3
452234088590201	82-09-03	.00	.80	.060	--	1	29	2	3	3	11000
452236089145901	82-09-01	.02	.10	.240	--	--	--	--	--	--	280
452239088534301	82-09-01	--	.30	<.010	--	--	--	--	--	--	--
452314089120401	82-09-02	.00	.20	.290	--	6	27	<1	<1	5	240
452315089240601	82-09-03	.59	.70	.220	--	--	--	--	--	--	1300
452349089114801	82-09-02	.53	.90	.050	--	--	--	--	--	--	1200
452359088591901	82-09-02	5.1	5.1	.010	--	--	--	--	--	--	<3
452439089052801	82-09-02	.18	.20	.030	--	--	--	--	--	--	<3
452552088571201	82-09-02	.02	.20	.070	--	7	31	<1	<1	5	370
452557089165401	82-09-03	.28	.30	.080	--	1	16	<1	<1	5	<3
452607089223001	82-09-03	2.1	2.1	.020	--	--	--	--	--	--	7
452649089042801	82-09-02	.17	.20	.030	--	7	26	<1	<1	4	28
452715089105001	82-09-02	.09	.10	.030	--	1	19	<1	<1	11	<3
LINCOLN											
453036089341520	82-07-07	.42	.50	.007	40	--	--	--	--	2	180
453055089343120	82-07-07	.49	.60	.004	40	--	--	--	--	1	190
	82-07-07	.45	.50	.009	20	--	--	--	--	2	<3
	82-07-07	.34	.40	.010	20	--	--	--	--	2	<3
MARINETTE											
450217087373201	82-08-25	.07	.30	--	--	--	28	--	--	--	3100
450320087452301	82-08-25	--	<.10	--	--	--	83	--	--	--	28
450353087370801	82-08-26	--	--	--	--	--	--	--	--	--	--
450502087393001	82-08-26	--	<.10	--	--	--	31	--	--	--	2600
450509087411201	82-08-26	--	2.5	--	--	--	150	--	--	--	230
450627087451301	81-11-02	.51	.59	--	--	--	50	--	--	--	38
	81-11-04	.22	.30	--	--	--	50	--	--	--	28
	81-11-11	.21	.28	--	--	--	52	--	--	--	50
	81-11-12	.03	.10	--	--	--	46	--	--	--	49
450957088053301	82-08-25	--	<.10	--	--	--	36	--	--	--	17

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
LANGLADE								
450322089004701	82-08-03	--	--	<1	--	44	--	--
450332089082601	82-08-03	--	--	1	--	43	--	--
450421089072101	82-08-03	--	--	<1	--	42	--	--
450531089091101	82-08-02	--	--	14	--	64	--	--
450608089032001	82-08-03	--	--	38	--	36	--	--
450616089121401	82-08-02	--	--	2	--	47	--	--
450730088425001	82-08-31	--	--	<1	--	40	--	--
450748088390001	82-08-31	--	--	24	--	210	--	--
450810088482801	82-08-31	--	--	66	--	43	--	--
450919089150601	82-08-03	--	--	<1	--	69	--	--
450953089015801	82-08-03	--	--	<1	--	40	--	--
450957088442901	82-08-31	--	--	9	--	34	--	--
451142089181401	82-08-04	--	--	2	--	150	--	--
451217089081301	82-08-03	--	--	<1	--	54	--	--
451221089135201	82-08-04	--	--	5	--	57	--	--
451309088574101	82-08-03	--	--	30	--	57	--	--
451352088424601	82-08-31	--	--	100	--	34	--	--
451404089110901	82-08-04	--	--	760	--	49	--	--
451405089234301	82-08-04	--	--	3	--	110	--	--
451431089054401	82-08-05	--	--	130	--	38	--	--
451456089165501	82-08-04	--	--	64	--	60	--	--
451543088472701	82-08-31	--	--	28	--	90	--	--
451613089090401	82-08-05	--	--	200	--	32	--	--
451715089252601	82-08-04	--	--	2400	--	140	--	--
451717088404601	82-08-31	--	--	44	--	28	--	--
451728089182501	82-08-04	--	--	7	--	33	--	--
451734089124001	82-08-05	--	--	420	--	42	--	--
451756089044001	82-08-05	--	--	130	--	65	--	--
451832088512001	82-08-31	--	--	<1	--	35	--	--
451832089245401	82-08-31	--	--	<1	--	22	--	--
451847089153301	82-08-05	--	--	470	--	41	--	--
452002089090001	82-09-02	1	--	3	<.1	19	140	1.7
452102088544901	82-09-01	--	--	<1	--	28	--	--
452151089203001	82-08-30	2	--	290	<.1	48	14	1.6
452200089021801	82-09-02	--	--	140	--	31	--	--
452201089002901	82-09-01	4	--	<1	<.1	23	560	.9
452209088441401	82-09-01	--	--	8	--	14	--	--
452231088460301	82-09-01	3	--	<1	<.1	26	90	.9
452234088590201	82-09-03	5	--	220	<.1	26	91	2.1
452236089145901	82-09-01	--	--	160	--	82	--	--
452239088534301	82-09-01	--	--	--	--	--	--	--
452314089120401	82-09-02	2	--	170	<.1	90	74	1.3
452315089240601	82-09-03	--	--	1100	--	49	--	--
452349089114801	82-09-02	--	--	190	--	78	--	--
452359088591901	82-09-02	--	--	3	--	26	--	--
452439089052801	82-09-02	--	--	3	--	36	--	--
452552088571201	82-09-02	4	--	150	<.1	41	34	1.2
452557089165401	82-09-03	1	--	180	<.1	33	14	.9
452607089223001	82-09-03	--	--	8	--	37	--	--
452649089042801	82-09-02	2	--	75	<.1	66	24	.7
452715089105001	82-09-02	1	--	2	<.1	32	79	1.0
LINCOLN								
453036089341520	82-07-07	1	--	9	<.1	--	<4	--
	82-07-07	1	--	10	<.1	--	<4	--
453055089343120	82-07-07	2	--	1	<.1	--	6	--
	82-07-07	2	--	<1	<.1	--	<4	--
MARINETTE								
450217087373201	82-08-25	--	83	80	--	6200	--	1.9
450320087452301	82-08-25	--	15	11	--	1400	--	.3
450353087370801	82-08-26	--	--	--	--	--	--	--
450502087393001	82-08-26	--	92	42	--	4800	--	.3
450509087411201	82-08-26	--	10	7	--	390	--	1.3
450627087451301	81-11-02	--	17	11	--	1200	--	.3
	81-11-04	--	16	11	--	1200	--	.5
	81-11-11	--	23	9	--	1300	--	1.3
	81-11-12	--	18	12	--	1200	--	.5
450957088053301	82-08-25	--	<4	2	--	57	--	1.3

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEO-LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)
MENOMINEE									
445339088392901	ME-28/15E/22-0040	400BCPX	400GRNT	105	59	109	82-05-11	480	7.9
445429088385801	ME-28/15E/14-0034	100SDGV	110QRNR	40	37	40	82-05-11	430	8.1
445501088433301	ME-28/15E/07-0042	100SDGV	110QRNR	90	87	90	82-05-10	360	7.7
445904088513601	ME-29/13E/24-0047	100SDGV	110QRNR OCONTO	43	--	--	82-05-10	520	7.8
445054088025201	OC-27/20E/03-0020	300SNDS	365SNRP	88	88	100	82-08-24	285	8.2
445329087522901	OC-28/22E/19-0176	300SNDS	360QVCB OUTAGAMIE	639	--	--	82-08-24	410	7.8
442306088532001	OU-22/16E/17-0272	300SNDS	372TNLC PORTAGE	125	65	125	82-08-24	690	7.5
441650089305001	PT-21/08E/23-1003	100SDGV	110QRNR	55	52	55	82-05-27	65	6.6
441650089305002	PT-21/08E/23-1004	100SDGV	110QRNR	20	17	20	82-05-27	140	8.3
441651089311101	PT-21/08E/23-1001	100SDGV	110QRNR	20	17	20	82-09-02	145	8.4
441651089311102	PT-21/08E/23-1002	100SDGV	110QRNR	49	46	49	82-05-27	125	8.9
441651089311102	PT-21/08E/23-1002	100SDGV	110QRNR	49	46	49	82-09-02	130	8.8
441702089310401	PT-21/08E/23-0403	100SDGV	110QRNR	21	18	21	82-05-27	170	8.6
441702089310401	PT-21/08E/23-0403	100SDGV	110QRNR	21	18	21	82-09-02	195	8.5
441704089304101	PT-21/08E/23-1009	100SDGV	110QRNR	85	45	85	82-05-27	320	8.4
441704089304102	PT-21/08E/23-1010	100SDGV	110QRNR	85	45	85	82-09-02	440	8.1
441704089304102	PT-21/08E/23-1010	100SDGV	110QRNR	49	46	49	82-05-27	440	8.3
441704089304102	PT-21/08E/23-1010	100SDGV	110QRNR	49	46	49	82-09-02	520	8.2
441706089312301	PT-21/08E/23-1005	100SDGV	110QRNR	15	12	15	82-05-27	110	8.2
441706089312301	PT-21/08E/23-1005	100SDGV	110QRNR	15	12	15	82-09-02	210	7.7
441706089312302	PT-21/08E/23-1006	100SDGV	110QRNR	49	46	49	82-05-27	615	8.2
441706089312302	PT-21/08E/23-1006	100SDGV	110QRNR	49	46	49	82-09-02	570	8.2
441714089310601	PT-21/08E/23-1007	100SDGV	110QRNR	16	13	16	82-05-27	310	8.8
441714089310601	PT-21/08E/23-1007	100SDGV	110QRNR	16	13	16	82-09-02	280	8.6
441714089310602	PT-21/08E/23-1008	100SDGV	110QRNR	50	47	50	82-05-27	500	8.1
441714089310602	PT-21/08E/23-1008	100SDGV	110QRNR	50	47	50	82-09-02	480	8.3
442317089415301	PT-22/07E/17-1024	100SDGV	110QRNR	20	17	20	82-05-27	745	8.3
442317089415302	PT-22/07E/17-1025	100SDGV	110QRNR	20	17	20	82-09-02	760	8.1
442318089404401	PT-22/07E/16-1015	100SDGV	110QRNR	34	32	34	82-05-26	140	7.0
442318089404402	PT-22/07E/16-1016	100SDGV	110QRNR	34	32	34	82-09-01	145	7.0
442318089404402	PT-22/07E/16-1016	100SDGV	110QRNR	13	11	13	82-05-26	70	9.0
442318089411601	PT-22/07E/16-1017	100SDGV	110QRNR	13	11	13	82-09-01	80	5.4
442318089411601	PT-22/07E/16-1017	100SDGV	110QRNR	40	38	40	82-05-26	120	7.2
442329089411801	PT-22/07E/17-1021	100SDGV	110QRNR	40	38	40	82-09-01	110	7.3
442329089411802	PT-22/07E/17-1022	100SDGV	110QRNR	18	16	18	82-05-26	220	5.4
442329089411802	PT-22/07E/17-1022	100SDGV	110QRNR	18	16	18	82-09-01	190	5.4
442329089415301	PT-22/07E/17-1023	100SDGV	110QRNR	18	16	18	82-05-26	210	5.4
442329089415301	PT-22/07E/17-1023	100SDGV	110QRNR	18	16	18	82-09-01	200	5.4
442329089415301	PT-22/07E/17-1023	100SDGV	110QRNR	42	40	42	82-05-26	145	6.9
442330089405801	PT-22/07E/16-1018	100SDGV	110QRNR	42	40	42	82-09-01	140	6.9
442330089405801	PT-22/07E/16-1018	100SDGV	110QRNR	13	11	13	82-05-26	50	6.0
442330089413601	PT-22/07E/17-1026	100SDGV	110QRNR	13	11	13	82-09-01	260	5.5
442330089413601	PT-22/07E/17-1026	100SDGV	110QRNR	10	8.0	10	82-05-26	75	5.6
442342089415101	PT-22/07E/17-1019	100SDGV	110QRNR	10	8.0	10	82-09-01	98	5.6
442342089415102	PT-22/07E/17-1020	100SDGV	110QRNR	64	28	64	82-05-26	200	7.3
442342089415102	PT-22/07E/17-1020	100SDGV	110QRNR	64	28	64	82-09-01	220	7.0
442343089404501	PT-22/07E/09-1011	100SDGV	110QRNR	49	29	49	82-05-26	100	7.0
442343089404502	PT-22/07E/09-1012	100SDGV	110QRNR	49	29	49	82-09-01	140	6.9
442343089404502	PT-22/07E/09-1012	100SDGV	110QRNR	36	34	36	82-05-26	190	7.0
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	36	34	36	82-09-01	185	7.1
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	10	8.0	10	82-05-26	50	5.3
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	10	8.0	10	82-09-01	50	5.3
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	42	40	42	82-05-26	140	7.5
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	42	40	42	82-09-01	130	7.5
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	20	18	20	82-05-26	60	5.6
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	20	18	20	82-09-01	55	5.7
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	20	18	20	82-05-26	50	6.0
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	20	18	20	82-09-01	50	6.0
SHAWANO									
444426088264101	SH-26/17E/09-0024	300SNDS	372EKMD	450	105	450	82-08-23	430	7.8
444542088344801	SH-26/16E/05-0036	300SNDS	372EKMD	230	50	230	82-08-23	390	7.7
444627088321401	SH-27/16E/34-0027	300SNDS	372SCRX VERNON	95	51	95	82-08-23	600	7.8
432800091062501	VE-12/06W/33-0118	300SNDS	372MNSN	1274	1102	1224	81-10-22	500	7.4
432800091062501	VE-12/06W/33-0118	300SNDS	372MNSN	1274	797	1224	81-10-27	510	7.3
432800091062501	VE-12/06W/33-0118	300SNDS	372ECLR	1274	697	791	81-11-05	531	7.4
432800091062501	VE-12/06W/33-0118	300SNDS	372JRDN	1274	257	344	81-11-10	510	7.7
432800091062501	VE-12/06W/33-0118	300SNDS	372WNWC	1274	510	702	81-11-13	497	7.4
433921091132101	VE-14/07W/28-0117	300SNDS	372TNLC	1274	342	514	81-12-21	470	7.4
433921091132101	VE-14/07W/28-0117	300SNDS	372ECLR	633	163	240	81-10-01	455	7.5
433921091132101	VE-14/07W/28-0117	300SNDS	372MNSN	633	243	625	81-10-06	450	7.5
433921091132101	VE-14/07W/28-0117	300SNDS	372MNSN	633	508	625	81-10-08	450	7.6

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	TEMPERATURE (DEG C)	NITRO-GEN DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CaCO3)	HARD-NESS NONCAR-BONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
MENOMINEE											
445339088392901	82-05-11	9.0	--	240	.00	51	28	2.6	2	.1	1.3
445429088385801	82-05-11	10.0	--	200	.00	40	25	4.1	4	.1	2.0
445501088433301	82-05-10	9.0	--	180	1.0	38	20	1.3	2	.0	.4
445904088513601	82-05-10	9.0	--	240	11	53	27	2.7	2	.1	1.1
OCONTO											
445054088025201	82-08-24	10.0	--	130	.00	22	17	10	15	.4	1.4
445329087522901	82-08-24	10.0	--	180	87	39	19	14	15	.5	2.8
OUTAGAMIE											
442306088532001	82-08-24	11.0	--	390	34	84	43	9.6	5	.2	.7
PORTAGE											
441650089305001	82-05-27	9.5	2.1	--	--	--	--	.6	--	--	.3
	82-09-02	10.5	1.5	--	--	--	--	.9	--	--	.3
441650089305002	82-05-27	8.0	1.9	--	--	--	--	1.6	--	--	.2
	82-09-02	10.0	3.0	--	--	--	--	1.8	--	--	.4
441651089311101	82-05-27	9.5	--	--	--	--	--	.7	--	--	.3
	82-09-02	9.0	.50	--	--	--	--	.9	--	--	.3
441651089311102	82-05-27	7.5	1.8	--	--	--	--	2.3	--	--	.5
	82-09-02	10.0	5.1	--	--	--	--	2.5	--	--	.6
441702089310401	82-05-27	9.5	13	140	69	32	14	2.2	3	.1	3.0
	82-09-02	9.5	19	180	130	45	17	2.8	3	.1	3.7
441704089304101	82-05-27	10.0	24	--	--	--	--	2.8	--	--	.5
	82-09-02	10.0	29	--	--	--	--	2.9	--	--	.5
441704089304102	82-05-27	7.0	1.7	--	--	--	--	1.3	--	--	1.6
	82-09-02	11.5	11	--	--	--	--	1.9	--	--	3.0
441706089312301	82-05-27	10.0	54	--	--	--	--	3.5	--	--	.8
	82-09-02	10.0	31	--	--	--	--	3.3	--	--	.7
441706089312302	82-05-27	8.0	15	--	--	--	--	2.3	--	--	1.0
	82-09-02	12.0	15	--	--	--	--	2.2	--	--	1.3
441714089310601	82-05-27	9.5	29	--	--	--	--	33	1	--	.6
	82-09-02	10.0	32	--	--	--	--	3.4	--	--	.4
441714089310602	82-05-27	7.5	--	--	--	--	--	4.0	1	--	17
	82-09-02	10.5	48	--	--	--	--	3.7	1	--	20
442317089415301	82-05-26	9.0	.72	--	--	--	--	1.9	--	--	.3
	82-09-01	9.0	.55	--	--	--	--	2.0	--	--	.2
442317089415302	82-05-26	9.0	5.7	--	--	--	--	2.0	--	--	.5
	82-09-01	11.5	4.8	--	--	--	--	2.2	--	--	.5
442318089404401	82-05-26	9.5	.23	--	--	--	--	1.7	--	--	.3
	82-09-01	9.0	--	--	--	--	--	1.6	--	--	.1
442318089404402	82-05-26	7.0	15	--	--	--	--	1.4	--	--	8.7
	82-09-01	10.5	15	--	--	--	--	1.3	--	--	8.5
442318089411601	82-05-26	8.0	13	--	--	--	--	1.4	--	--	3.7
	82-09-01	10.5	12	--	--	--	--	--	--	--	3.6
442329089411801	82-05-26	9.0	.73	--	--	--	--	2.3	--	--	.3
	82-09-01	10.0	--	--	--	--	--	2.3	--	--	<.1
442329089411802	82-05-26	6.0	1.0	--	--	--	--	.4	--	--	1.2
	82-09-01	13.5	12	--	--	--	--	1.3	--	--	3.9
442329089415301	82-05-26	8.0	--	--	--	--	--	3.1	--	--	.5
	82-09-01	15.0	2.3	--	--	--	--	3.2	--	--	.6
442330089405801	82-05-26	9.0	2.7	86	28	19	9.4	2.5	6	.1	1.0
	82-09-01	9.5	7.8	98	57	21	11	2.2	5	.1	3.2
442330089413601	82-05-26	8.5	.55	36	3.0	8.5	3.6	1.7	9	.1	.7
	82-09-01	7.0	4.1	48	23	12	4.3	2.0	8	.1	.6
442342089415101	82-05-26	8.0	.94	--	--	--	--	2.7	--	--	.6
	82-09-01	8.0	.52	--	--	--	--	2.5	--	--	.6
442342089415102	82-05-26	7.0	--	--	--	--	--	1.2	--	--	.9
	82-09-01	11.0	.52	--	--	--	--	1.4	--	--	.9
442343089404501	82-05-26	8.0	.55	--	--	--	--	1.8	--	--	.6
	82-09-01	8.0	--	--	--	--	--	1.6	--	--	.5
442343089404502	82-05-26	7.0	.63	--	--	--	--	1.6	--	--	.8
	82-09-01	8.0	--	--	--	--	--	1.5	--	--	.6
442343089411501	82-05-26	8.0	--	--	--	--	--	1.0	--	--	.5
	82-09-01	8.5	--	--	--	--	--	1.1	--	--	.4
SHAWANO											
444426088264101	82-08-23	10.0	--	260	4.0	45	35	4.2	3	.1	1.1
444542088344801	82-08-23	9.5	--	240	1.0	52	27	2.6	2	.1	.6
444627088321401	82-08-23	9.5	--	320	64	69	36	17	10	.5	.8
VERNON											
432800091062501	81-10-22	11.0	3.3	290	52	61	34	4.3	3	.1	.5
	81-10-27	11.0	3.2	270	18	58	30	3.7	3	.1	.7
	81-11-05	14.0	2.9	290	36	60	33	3.9	3	.1	.5
	81-11-10	12.0	--	300	37	61	35	4.2	3	.1	.6
	81-11-13	10.0	1.3	280	15	59	31	3.6	3	.1	.7
433921091132101	81-12-21	11.0	.62	270	4.0	57	32	3.8	3	.1	.8
	81-10-01	13.5	--	250	10	49	31	2.4	2	.1	1.5
	81-10-06	13.0	--	260	44	50	32	2.7	2	.1	1.4
	81-10-08	13.0	--	230	2.0	45	29	1.9	2	.1	1.3

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (MG/L AS CACO3)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
MENOMINEE												
445339088392901	82-05-11	--	250	--	--	15	1.3	--	--	15	282	265
445429088385801	82-05-11	--	210	--	--	9.0	.7	--	--	23	245	230
445501088433301	82-05-10	--	176	--	--	12	.8	--	--	12	184	191
445904088513601	82-05-10	--	233	--	--	20	2.9	--	--	15	254	274
OCONTO												
445054088025201	82-08-24	--	143	--	--	6.0	1.6	.7	--	13	146	158
445329087522901	82-08-24	--	91	--	--	77	23	1.8	--	7.0	258	240
OUTAGAMIE												
442306088532001	82-08-24	--	353	--	--	43	18	.2	--	19	419	430
PORTAGE												
441650089305001	82-05-27	--	--	--	--	--	.7	--	--	--	--	--
	82-09-02	--	--	--	--	--	.5	--	--	--	--	--
441650089305002	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	1.0	--	--	--	--	--
441651089311101	82-05-27	--	--	--	--	--	.5	--	--	--	--	--
	82-09-02	--	--	--	--	--	.9	--	--	--	--	--
441651089311102	82-05-27	--	--	--	--	--	4.2	--	--	--	--	--
	82-09-02	--	--	--	--	--	4.0	--	--	--	--	--
441702089310401	82-05-27	--	69	--	--	10	18	--	--	--	203	--
	82-09-02	--	56	--	--	18	32	--	--	--	296	--
441704089304101	82-05-27	--	--	--	--	--	35	--	--	--	--	--
	82-09-02	--	--	--	--	--	48	--	--	--	--	--
441704089304102	82-05-27	--	--	--	--	--	3.1	--	--	--	--	--
	82-09-02	--	--	--	--	--	9.9	--	--	--	--	--
441706089312301	82-05-27	--	--	--	--	--	45	--	--	--	--	--
	82-09-02	--	--	--	--	--	47	--	--	--	--	--
441706089312302	82-05-27	--	--	--	--	--	30	--	--	--	--	--
	82-09-02	--	--	--	--	--	23	--	--	--	--	--
441714089310601	82-05-27	--	--	--	--	--	55	--	--	--	--	--
	82-09-02	--	--	--	--	--	67	--	--	--	--	--
441714089310602	82-05-27	--	--	--	--	--	61	--	--	--	--	--
	82-09-02	--	--	--	--	--	55	--	--	--	--	--
442317089415301	82-05-26	--	--	--	--	--	2.3	--	--	--	--	--
	82-09-01	--	--	--	--	--	2.9	--	--	--	--	--
442317089415302	82-05-26	--	--	--	--	--	1.3	--	--	--	--	--
	82-09-01	--	--	--	--	--	1.9	--	--	--	--	--
442318089404401	82-05-26	--	--	--	--	--	1.3	--	--	--	--	--
	82-09-01	--	--	--	--	--	1.1	--	--	--	--	--
442318089404402	82-05-26	--	--	--	--	--	12	--	--	--	--	--
	82-09-01	--	--	--	--	--	9.8	--	--	--	--	--
442318089411601	82-05-26	--	--	--	--	--	4.1	--	--	--	--	--
	82-09-01	--	--	--	--	--	5.2	--	--	--	--	--
442329089411801	82-05-26	--	--	--	--	--	1.2	--	--	--	--	--
	82-09-01	--	--	--	--	--	1.2	--	--	--	--	--
442329089411802	82-05-26	--	--	--	--	--	.6	--	--	--	--	--
	82-09-01	--	--	--	--	--	3.6	--	--	--	--	--
442329089415301	82-05-26	--	--	--	--	--	4.8	--	--	--	--	--
	82-09-01	--	--	--	--	--	4.1	--	--	--	--	--
442330089405801	82-05-26	--	58	--	--	19	4.6	--	--	--	147	--
	82-09-01	--	41	--	--	23	9.0	--	--	--	165	--
442330089413601	82-05-26	--	33	--	--	11	2.3	--	--	--	82	--
	82-09-01	--	25	--	--	9.0	7.2	--	--	--	96	--
442342089415101	82-05-26	--	--	--	--	--	2.9	--	--	--	--	--
	82-09-01	--	--	--	--	--	3.3	--	--	--	--	--
442342089415102	82-05-26	--	--	--	--	--	.9	--	--	--	--	--
	82-09-01	--	--	--	--	--	1.0	--	--	--	--	--
442343089404501	82-05-26	--	--	--	--	--	1.3	--	--	--	--	--
	82-09-01	--	--	--	--	5.0	1.2	--	--	--	75	--
442343089404502	82-05-26	--	--	--	--	--	.8	--	--	--	--	--
	82-09-01	--	--	--	--	--	.7	--	--	--	--	--
442343089411501	82-05-26	--	--	--	--	--	.5	--	--	--	--	--
	82-09-01	--	--	--	--	--	.4	--	--	--	--	--
SHAWANO												
444426088264101	82-08-23	--	253	--	--	22	4.3	.2	--	22	275	286
444542088344801	82-08-23	--	240	--	--	12	2.7	.1	--	15	281	256
444627088321401	82-08-23	--	257	--	--	17	58	.1	--	12	431	365
VERNON												
432800091062501	81-10-22	--	240	<.1	22	8.5	.1	.00	17	--	--	292
	81-10-27	234	250	<.1	20	8.1	.1	.10	15	--	--	286
	81-11-05	--	250	<.1	25	8.6	.1	.00	15	--	--	297
	81-11-10	249	260	<.1	8.0	8.6	.1	.00	18	--	--	292
	81-11-13	253	260	<.1	23	3.7	.1	.00	13	--	--	291
433921091132101	81-12-21	--	270	<.5	21	.9	<.1	<.01	11	--	--	289
	81-10-01	229	240	.2	19	2.4	<.1	.00	11	--	--	261
	81-10-06	244	240	<.1	10	2.6	<.1	.00	12	--	--	245
	81-10-08	241	230	--	11	2.6	<.1	.10	9.9	--	--	240

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, HYDRO-LYZABLE DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, HYDRO. + ORTHO DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORGANIC DIS-SOLVED (MG/L AS P)
MENOMINEE											
445339088392901	82-05-11	--	.14	--	--	--	--	--	--	--	--
445429088385801	82-05-11	--	<.10	--	--	--	--	--	--	--	--
445501088433301	82-05-10	--	.21	--	--	--	--	--	--	--	--
445904088513601	82-05-10	--	2.8	--	--	--	--	--	--	--	--
OCONTO											
445054088025201	82-08-24	<.010	<.10	.010	--	<.10	--	--	--	--	--
445329087522901	82-08-24	<.010	<.10	.010	--	<.10	--	--	--	--	--
OUTAGAMIE											
442306088532001	82-08-24	<.010	5.2	.030	--	<.10	--	--	--	--	--
PORTAGE											
441650089305001	82-05-27	.080	.92	.370	.83	1.2	--	--	--	--	--
	82-09-02	<.010	1.1	.030	.37	.40	--	--	--	--	--
441650089305002	82-05-27	<.010	1.4	.050	.45	.50	--	--	--	--	--
	82-09-02	<.010	2.0	.040	.96	1.0	--	--	--	--	--
441651089311101	82-05-27	<.010	<.10	.050	.35	.40	--	--	--	--	--
	82-09-02	<.010	.10	.010	.39	.40	--	--	--	--	--
441651089311102	82-05-27	<.010	1.6	.050	.15	.20	--	--	--	--	--
	82-09-02	<.010	4.2	.040	.86	.90	--	--	--	--	--
441702089310401	82-05-27	<.010	12	.070	.73	.80	.030	.020	.00	.02	.01
	82-09-02	<.010	19	.010	.39	.40	.020	.020	.01	.03	--
441704089304101	82-05-27	<.010	24	.030	.07	.10	--	--	--	--	--
	82-09-02	<.010	28	.030	.67	.70	--	--	--	--	--
441704089304102	82-05-27	<.010	1.4	.050	.25	.30	--	--	--	--	--
	82-09-02	<.010	9.9	.050	1.4	1.4	--	--	--	--	--
441706089312301	82-05-27	<.010	53	.040	.96	1.0	--	--	--	--	--
	82-09-02	<.010	30	.040	1.2	1.2	--	--	--	--	--
441706089312302	82-05-27	<.010	14	.040	.46	.50	--	--	--	--	--
	82-09-02	<.010	14	.020	.48	.50	--	--	--	--	--
441714089310601	82-05-27	<.010	28	.080	.52	.60	--	--	--	--	--
	82-09-02	<.010	31	.030	1.1	1.1	--	--	--	--	--
441714089310602	82-05-27	<.010	55	.060	--	<.10	--	--	--	--	--
	82-09-02	<.010	47	.030	.47	.50	--	--	--	--	--
442317089415301	82-05-26	<.010	.22	.170	.33	.50	--	--	--	--	--
	82-09-01	.010	.15	.190	.21	.40	--	--	--	--	--
442317089415302	82-05-26	<.010	4.8	.030	.87	.90	--	--	--	--	--
	82-09-01	<.010	4.5	.020	.28	.30	--	--	--	--	--
442318089404401	82-05-26	<.010	.13	.060	.04	.10	--	--	--	--	--
	82-09-01	<.010	<.10	.110	.79	.90	--	--	--	--	--
442318089404402	82-05-26	<.010	15	.120	.18	.30	--	--	--	--	--
	82-09-01	<.010	14	.020	.88	.90	--	--	--	--	--
442318089411601	82-05-26	<.010	13	.040	.26	.30	--	--	--	--	--
	82-09-01	<.010	12	.040	.26	.30	--	--	--	--	--
442329089411801	82-05-26	<.010	.23	.150	.35	.50	--	--	--	--	--
	82-09-01	.010	<.10	.200	.70	.90	--	--	--	--	--
442329089411802	82-05-26	<.010	.71	.090	.21	.30	--	--	--	--	--
	82-09-01	<.010	12	.030	.17	.20	--	--	--	--	--
442329089415301	82-05-26	<.010	<.10	.030	--	<.10	--	--	--	--	--
	82-09-01	<.010	2.0	.020	.28	.30	--	--	--	--	--
442330089405801	82-05-26	<.010	1.8	.120	.78	.90	.060	.070	.00	.06	.00
	82-09-01	.030	6.9	.190	.71	.90	.050	.050	.00	.05	.00
442330089413601	82-05-26	<.010	.15	.200	.20	.40	.050	<.010	--	.05	.00
	82-09-01	.010	3.1	.110	.89	1.0	.040	.040	.00	.04	.00
442342089415101	82-05-26	.040	.24	.130	.57	.70	--	--	--	--	--
	82-09-01	<.010	.12	.150	.25	.40	--	--	--	--	--
442342089415102	82-05-26	<.010	<.10	.070	.23	.30	--	--	--	--	--
	82-09-01	<.010	.12	.020	.38	.40	--	--	--	--	--
442343089404501	82-05-26	<.010	.15	.220	.18	.40	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--
442343089404502	82-05-26	.010	.13	.130	.37	.50	--	--	--	--	--
	82-09-01	<.010	<.10	.040	.46	.50	--	--	--	--	--
442343089411501	82-05-26	<.010	<.10	.070	--	<.10	--	--	--	--	--
	82-09-01	<.010	<.10	.060	.44	.50	--	--	--	--	--
SHAWANO											
444426088264101	82-08-23	<.010	<.10	.060	.14	.20	--	--	--	--	--
444542088344801	82-08-23	<.010	1.4	.020	--	<.10	--	--	--	--	--
444627088321401	82-08-23	--	--	--	--	<.10	--	--	--	--	--
VERNON											
432800091062501	81-10-22	.020	2.9	.040	.35	.39	.010	.010	.00	.01	.00
	81-10-27	.010	2.9	.040	.25	.29	.010	<.010	--	<.01	--
	81-11-05	.100	2.6	.050	.23	.28	.010	<.010	--	.01	.00
	81-11-10	<.010	3.0	.010	--	<.10	.050	.030	.00	.02	.03
	81-11-13	.080	1.1	.060	.15	.21	.030	.030	.01	.04	.00
	81-12-21	<.010	.02	.010	.59	.60	.010	<.010	--	<.01	--
433921091132101	81-10-01	<.010	<.01	.030	--	<.10	<.010	<.010	--	<.01	--
	81-10-06	<.010	<.01	.020	.12	.14	<.010	<.010	--	<.01	--
	81-10-08	<.010	<.01	<.010	--	.27	.010	<.010	--	<.01	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
MENOMINEE												
445339088392901	82-05-11	--	--	1	32	--	--	<1	10	--	<10	200
445429088385801	82-05-11	--	--	8	67	--	--	<1	10	--	<10	510
445501088433301	82-05-10	--	--	1	19	--	--	<1	20	--	20	120
445904088513601	82-05-10	--	--	1	27	--	--	<1	30	--	<10	80
OCONTO												
445054088025201	82-08-24	--	--	--	78	--	--	--	--	--	--	--
445329087522901	82-08-24	--	--	--	44	--	--	--	--	--	--	--
OUTAGAMIE												
442306088532001	82-08-24	--	--	--	51	--	--	--	--	--	--	--
PORTAGE												
441650089305001	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441650089305002	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441651089311101	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441651089311102	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441702089310401	82-05-27	--	--	1	25	--	<10	<1	--	--	3	--
	82-09-02	--	--	1	29	--	20	<1	--	--	12	--
441704089304101	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441704089304102	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441706089312301	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441706089312302	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441714089310601	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441714089310602	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
442317089415301	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442317089415302	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089404401	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089404402	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089411601	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089411801	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089411802	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089415301	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442330089405801	82-05-26	--	--	1	44	--	10	<1	--	--	4	--
	82-09-01	--	--	1	93	--	20	1	--	--	5	--
442330089413601	82-05-26	--	--	1	27	--	<10	<1	--	--	3	--
	82-09-01	--	--	1	37	--	20	2	--	--	5	--
442342089415101	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442342089415102	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089404501	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089404502	82-05-26	--	--	1	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089411501	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
SHAWANO												
444426088264101	82-08-23	--	--	--	100	--	--	--	--	--	--	--
444542088344801	82-08-23	--	--	--	54	--	--	--	--	--	--	--
444627088321401	82-08-23	--	--	--	21	--	--	--	--	--	--	--
VERNON												
432800091062501	81-10-22	--	--	2	30	1	<10	1	--	4	10	610
	81-10-27	--	--	1	30	<1	<10	2	--	4	<10	--
	81-11-05	--	--	2	30	<1	<10	<1	--	9	<10	210
	81-11-10	--	--	0	30	1	<10	1	--	3	10	920
	81-11-13	--	--	0	32	<1	40	<1	--	<3	<10	190
	81-12-21	--	--	1	33	<1	20	2	--	<3	<10	360
433921091132101	81-10-01	--	--	1	40	<1	30	<1	--	4	<10	490
	81-10-06	--	--	1	40	<1	30	<1	--	4	<10	1700
	81-10-08	--	--	1	40	1	10	1	--	13	10	590

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
MENOMINEE												
445339088392901	82-05-11	--	<3	<100	--	5	.2	--	<1	--	--	--
445429088385801	82-05-11	500	15	<100	--	25	<.1	--	<1	--	--	--
445501088433301	82-05-10	--	<3	<100	--	1	<.1	--	<1	--	--	--
445904088513601	82-05-10	--	<3	<30	--	<1	<.1	--	<1	--	--	--
OCONTO												
445054088025201	82-08-24	--	24	--	6	16	--	--	--	500	--	--
445329087522901	82-08-24	--	37	--	17	8	--	--	--	1900	--	--
OUTAGAMIE												
442306088532001	82-08-24	--	15	--	7	2	--	--	--	57	--	--
PORTAGE												
441650089305001	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441650089305002	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441651089311101	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441651089311102	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441702089310401	82-05-27	--	11	2	--	<1	.2	1	--	--	--	--
	82-09-02	--	14	1	--	<1	.1	5	--	--	--	--
441704089304101	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441704089304102	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441706089312301	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441706089312302	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441714089310601	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
441714089310602	82-05-27	--	--	--	--	--	--	--	--	--	--	--
	82-09-02	--	--	--	--	--	--	--	--	--	--	--
442317089415301	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442317089415302	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089404401	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089404402	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442318089411601	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089411801	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089411802	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442329089415301	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442330089405801	82-05-26	--	1600	2	--	150	--	1	--	--	--	--
	82-09-01	--	1600	2	--	130	.1	3	--	--	--	--
442330089413601	82-05-26	--	5200	4	--	150	<.1	<1	--	--	--	--
	82-09-01	--	4200	2	--	140	<.1	5	--	--	--	--
442342089415101	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442342089415102	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089404501	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089404502	82-05-26	--	--	--	--	--	--	--	<1	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
442343089411501	82-05-26	--	--	--	--	--	--	--	--	--	--	--
	82-09-01	--	--	--	--	--	--	--	--	--	--	--
SHAWANO												
444426088264101	82-08-23	--	79	--	8	14	--	--	--	240	--	--
444542088344801	82-08-23	--	17	--	5	2	--	--	--	46	--	--
444627088321401	82-08-23	--	34	--	5	19	--	--	--	42	--	--
VERNON												
432800091062501	81-10-22	470	140	10	4	14	--	10	<1	64	6.0	--
	81-10-27	--	71	24	<4	9	--	<10	<1	59	<6.0	--
	81-11-05	90	120	15	<4	22	--	<10	<1	61	<6.0	--
	81-11-10	910	6	10	4	1	--	10	<1	62	6.0	--
	81-11-13	100	95	<10	<4	15	--	<10	<1	60	<6.0	--
433921091132101	81-12-21	280	84	10	<4	9	--	<10	<1	56	<6.0	--
	81-10-01	120	370	<10	<4	20	--	<10	1	64	<6.0	--
	81-10-06	1200	510	<10	<4	19	--	<10	<1	71	<6.0	--
	81-10-08	150	440	10	4	17	--	10	<1	59	6.0	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	URANIUM, NATURAL DIS-SOLVED (UG/L AS U)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MENOMINEE					
445339088392901	82-05-11	160	--	--	--
445429088385801	82-05-11	6	--	--	--
445501088433301	82-05-10	120	--	--	--
445904088513601	82-05-10	50	--	--	--
OCONTO					
445054088025201	82-08-24	--	--	--	.8
445329087522901	82-08-24	--	--	--	.4
OUTAGAMIE					
442306088532001	82-08-24	--	--	--	2.6
PORTAGE					
441650089305001	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441650089305002	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441651089311101	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441651089311102	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441702089310401	82-05-27	<4	--	--	.7
	82-09-02	6	--	--	.9
441704089304101	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441704089304102	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441706089312301	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441706089312302	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441714089310601	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
441714089310602	82-05-27	--	--	--	--
	82-09-02	--	--	--	--
442317089415301	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442317089415302	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442318089404401	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442318089404402	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442318089411601	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442329089411801	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442329089411802	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442329089415301	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442330089405801	82-05-26	14	--	--	3.0
	82-09-01	23	--	--	2.3
442330089413601	82-05-26	14	--	--	2.9
	82-09-01	17	--	--	2.1
442342089415101	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442342089415102	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442343089404501	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442343089404502	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
442343089411501	82-05-26	--	--	--	--
	82-09-01	--	--	--	--
SHAWANO					
444426088264101	82-08-23	--	--	--	.3
444542088344801	82-08-23	--	--	--	.9
444627088321401	82-08-23	--	--	--	.6
VERNON					
432800091062501	81-10-22	30	<.1	.6	.9
	81-10-27	32	<.1	<.6	1.2
	81-11-05	46	<.1	1.3	1.6
	81-11-10	13	<.1	<.6	.7
	81-11-13	37	<.1	<.6	.3
	81-12-21	70	.2	<.6	.7
433921091132101	81-10-01	21	1.6	<.6	--
	81-10-06	12	1.9	<.6	1.2
	81-10-08	10	2.2	<.6	1.0

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEO-LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)
VILAS									
455307089133201	VI-39/10E/10-0796	100SDGV	110QRNR	19	17	19	82-08-18	100	5.7
455420089062201	VI-40/11E/34-0799	100SDGV	110QRNR	31	29	31	82-08-24	81	6.4
455506089320401	VI-40/08E/30-0782	100SDGV	110QRNR	45	43	45	82-08-23	74	7.5
455535089424301	VI-40/06E/26-0755	100SDGV	110QRNR	38	36	38	82-08-03	75	6.1
455535089424302	VI-40/06E/26-0756	100SDGV	110QRNR	64	62	64	82-08-03	104	6.5
455558089252501	VI-40/09E/19-0805	100SDGV	110QRNR	10	8.5	10	82-08-25	83	5.8
455558089252502	VI-40/09E/19-0806	100SDGV	110QRNR	25	23	25	82-08-16	70	6.4
455558089252503	VI-40/09E/19-0807	100SDGV	110QRNR	46	44	46	82-08-25	51	7.8
455630089160501	VI-40/10E/20-0786	100SDGV	110QRNR	48	46	48	82-08-24	520	6.3
455630089160502	VI-40/10E/20-0787	100SDGV	110QRNR	60	58	60	82-08-17	435	7.1
455659089070901	VI-40/11E/16-0797	100SDGV	110QRNR	78	35	37	82-08-24	75	7.0
455710089384501	VI-40/07E/17-0824	100SDGV	110QRNR	28	25	28	82-08-25	60	7.1
455806089033701	VI-40/11E/01-0798	100SDGV	110QRNR	33	31	33	82-08-24	78	6.7
455827089093701	VI-41/11E/06-0795	100SDGV	110QRNR	29	27	29	82-08-24	184	7.8
455846089405920	VI-40/06E/01-0873	100SDGV	110QRNR	11	--	--	82-07-08	22	6.0
455903089404720	VI-41/06E/36-0872	100SDSV	110QRNR	11	--	--	82-07-08	22	6.0
				8	--	--	82-07-08	53	6.5
				8	--	--	82-07-08	53	6.5
455933089231301	VI-41/09E/33-0823	100SDGV	110QRNR	30	27	30	82-08-25	48	6.4
455942089284401	VI-41/08E/34-0785	100SDGV	110QRNR	28	26	28	82-08-18	1100	5.7
460113089042701	VI-41/11E/24-0794	100SDGV	110QRNR	20	18	20	82-08-17	60	5.3
460117089322101	VI-41/08E/19-0784	100SDGV	110QRNR	19	17	19	82-08-23	138	6.9
460130089121101	VI-41/10E/23-0788	100SDGV	110QRNR	18	16	18	82-08-18	65	5.5
460204089191501	VI-41/09E/13-0778	100SDGV	110QRNR	23	21	23	82-08-23	46	6.2
460208089244101	VI-41/09E/18-0779	100SDGV	110QRNR	28	26	28	82-08-18	230	6.2
460208089244102	VI-41/09E/18-0780	100SDGV	110QRNR	49	47	49	82-08-23	53	7.8
460238089415601	VI-41/06E/12-0757	100SDGV	110QRNR	50	48	50	82-08-03	122	8.2
460421089462801	VI-42/06E/32-0758	100SDGV	110QRNR	57	40	42	82-08-03	268	7.4
460453089362201	VI-42/07E/34-0781	100SDGV	110QRNR	33	31	33	82-08-05	71	6.9
460515089082901	VI-42/11E/29-0822	100SDGV	110QRNR	32	29	32	82-08-24	57	6.2
460537089481801	VI-42/05E/25-0759	100SDGV	110QRNR	44	42	44	82-08-04	252	7.5
460540089542801	VI-42/05E/29-0761	100SDGV	110QRNR	30	18	20	82-08-04	62	6.6
460540089542802	VI-42/05E/29-0762	100SDGV	110QRNR	37	35	37	82-08-04	352	6.8
460619089045301	VI-42/11E/23-0793	100SDGV	110QRNR	34	32	34	82-08-18	80	6.0
460620089203501	VI-41/09E/23-0777	100SDGV	110QRNR	28	--	--	82-08-23	87	7.5
460628089482001	VI-42/05E/24-0760	100SDGV	110QRNR	26	24	26	82-08-04	138	6.9
460646089314101	VI-42/07E/17-0826	100SDGV	110QRNR	31	28	31	82-08-23	64	6.9
460651089415701	VI-42/06E/13-0768	100SDGV	110QRNR	53	51	53	82-08-05	119	7.8
460701089092001	VI-42/11E/17-0791	100SDGV	110QRNR	22	20	22	82-08-24	160	8.0
460701089092002	VI-42/11E/17-0792	100SDGV	110QRNR	30	28	30	82-08-24	196	8.3
460738089263401	VI-42/08E/12-0776	100SDGV	110QRNR	28	--	--	82-08-23	61	6.4
460803089143601	VI-42/10E/09-0789	100SDGV	110QRNR	33	31	33	82-08-23	76	7.7
460846089093901	VI-42/11E/05-0790	100SDGV	110QRNR	23	21	23	82-08-24	64	6.6
460853089544401	VI-42/05E/06-0763	100SDGV	110QRNR	34	32	34	82-08-04	120	7.4
460914089374201	VI-42/07E/04-0769	100SDGV	110QRNR	100	98	100	82-08-05	165	7.7
460953089412001	VI-42/06E/36-0825	100SDGV	110QRNR	42	39	42	82-08-05	162	6.8
460956089204801	VI-43/09E/35-0775	100SDGV	110QRNR	49	47	49	82-08-17	100	6.5
461011089314201	VI-43/08E/29-0772	100SDGV	110QRNR	19	17	19	82-08-05	118	6.7
461042089471401	VI-43/06E/30-0767	100SDGV	110QRNR	38	36	38	82-08-04	180	6.6
461130089254701	VI-42/08E/19-0827	100SDGV	110QRNR	23	20	23	82-08-05	420	5.7
461154089345501	VI-43/07E/23-0771	100SDGV	110QRNR	33	31	33	82-08-05	178	6.8
461212089285402	VI-43/08E/15-0774	100SDGV	110QRNR	54	38	40	82-08-17	295	7.2
461331089405501	VI-43/06E/12-0770	100SDGV	110QRNR	99	97	99	82-08-05	359	7.3
461436089501301	VI-44/05E/35-0765	100SDGV	110QRNR	43	41	43	82-08-04	175	6.5
461436089501302	VI-44/05E/35-0766	100SDGV	110QRNR	82	80	82	82-08-04	226	7.0
WALWORTH									
423532088254601	WW-02/17E/36-0037	300SNDS	365STPR	820	615	820	82-07-29	670	7.5
			365PLPV	820	295	415	82-08-03	670	7.7
			110QRNR	820	126	246	82-08-06	660	7.6
			WAUKESHA						
425702088052801	WK-06/20E/26-1511	300SNDS	365SNNP	--	--	--	82-09-16	580	8.2
430054088265901	WK-06/17E/02-0714	300SNDS	365SNNP	395	210	395	82-06-29	470	7.5

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	TEMPERATURE (DEG C)	NITROGEN DIS-SOLVED (MG/L AS N)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
VILAS											
455307089133201	82-08-18	10.5	--	24	12	6.1	2.1	8.5	43	.8	.8
455420089062201	82-08-24	8.0	--	28	8.0	7.5	2.3	2.6	16	.2	.4
455506089320401	82-08-23	9.0	--	25	.00	7.0	1.8	1.7	13	.2	.5
455535089424301	82-08-03	16.0	--	25	3.0	7.0	1.8	2.1	15	.2	.5
455535089424302	82-08-03	18.0	--	28	10	7.1	2.4	1.6	11	.1	.1
455558089252501	82-08-25	17.0	--	5	3.0	1.3	.4	.3	10	.1	.9
455558089252502	82-08-16	14.5	1.2	19	2.0	5.3	1.5	1.7	16	.2	.2
455558089252503	82-08-25	11.0	--	16	.00	5.8	.3	1.1	13	.1	.2
455630089160501	82-08-24	9.0	1.5	87	70	24	6.4	59	59	2.9	1.2
455630089160502	82-08-17	12.5	--	110	40	29	8.5	28	36	1.3	1.7
455659089070901	82-08-24	8.0	--	29	1.0	6.7	2.9	1.9	12	.2	.3
455710089384501	82-08-25	9.0	--	21	10	5.7	1.6	1.4	13	.1	.4
455806089033701	82-08-24	8.0	--	31	3.0	6.6	3.4	2.6	16	.2	.3
455827089093701	82-08-24	11.0	--	84	.00	21	7.6	2.9	7	.2	.3
455846089405920	82-07-08	14.5	--	5	--	1.5	.4	.7	21	.1	.6
455903089404720	82-07-08	14.5	--	5	--	1.5	.4	.8	21	.1	.6
	82-07-08	10.0	--	22	--	5.8	1.9	2.1	17	.2	.5
	82-07-08	10.0	--	21	--	5.8	1.5	2.1	18	.2	.5
455933089231301	82-08-25	11.0	--	12	.00	3.4	.9	1.1	16	.1	.5
455942089284401	82-08-18	12.0	4.2	25	5.0	7.5	1.5	170	93	16	2.2
460113089042701	82-08-17	13.0	3.1	--	--	--	--	--	--	--	--
460117089322101	82-08-23	12.0	--	41	.00	11	3.3	1.7	8	.1	.8
460130089121101	82-08-18	11.0	5.0	21	3.0	5.1	2.0	2.1	17	.2	1.6
460204089191501	82-08-23	11.0	--	11	.00	3.3	.7	1.1	17	.2	.4
460208089244101	82-08-18	10.5	--	50	34	14	3.6	13	35	.9	1.6
460208089244102	82-08-23	10.0	--	18	.00	4.7	1.6	1.1	11	.1	.3
460238089415601	82-08-03	16.0	--	45	.00	12	3.7	2.2	9	.2	.5
460421089462801	82-08-03	15.0	1.5	100	.00	33	5.1	2.1	4	.1	.7
460453089362201	82-08-05	13.0	--	27	3.0	7.6	2.0	1.6	11	.1	.3
460515089082901	82-08-24	8.0	--	19	8.0	5.6	1.1	1.4	14	.1	.6
460537089481801	82-08-04	13.0	--	120	.00	39	4.9	2.0	4	.1	.7
460540089542801	82-08-04	13.0	1.3	22	3.0	6.7	1.3	1.1	10	.1	.2
460540089542802	82-08-04	11.0	.66	130	.00	41	6.3	2.1	3	.1	1.3
460619089045301	82-08-18	12.0	.64	17	.00	4.8	1.1	1.6	17	.2	.6
460620089203501	82-08-23	11.0	--	34	.00	9.1	2.8	1.3	7	.1	.6
460628089482001	82-08-04	10.0	1.4	55	18	16	3.7	1.9	7	.1	.4
460646089314101	82-08-23	9.0	--	21	.00	5.8	1.6	1.2	11	.1	.8
460651089415701	82-08-05	14.0	1.3	49	5.0	14	3.4	1.7	7	.1	.5
460701089092001	82-08-24	10.0	--	72	2.0	20	5.3	3.2	9	.2	.9
460701089092002	82-08-24	9.0	--	89	4.0	24	7.1	3.0	7	.1	.7
460738089263401	82-08-23	11.0	--	20	.00	5.2	1.7	1.0	10	.1	.5
460803089143601	82-08-23	9.0	--	30	.00	8.5	2.1	1.3	--	.1	<.1
460846089093901	82-08-24	8.5	--	25	1.0	6.8	2.0	1.8	13	.2	.7
460853089544401	82-08-04	11.0	--	48	2.0	11	5.1	1.6	7	.1	.5
460914089374201	82-08-05	11.0	--	76	.00	25	3.2	1.6	4	.1	.3
460953089412001	82-08-05	11.0	.36	66	.00	19	4.4	1.9	6	.1	.7
460956089204801	82-08-17	11.5	3.1	37	2.0	11	2.3	3.0	15	.2	.7
461011089314201	82-08-05	13.0	--	42	7.0	11	3.5	2.0	9	.1	1.0
461042089471401	82-08-04	13.0	--	63	11	16	5.5	2.0	6	.1	.4
461130089254701	82-08-05	13.0	--	43	27	13	2.5	28	58	2.0	.9
461154089345501	82-08-05	13.0	--	74	6.0	21	5.2	2.6	7	.1	.6
461212089285402	82-08-17	9.0	13	100	.00	31	5.7	4.3	8	.2	1.7
461331089405501	82-08-05	18.0	.35	160	7.0	44	12	4.6	6	.2	.7
461436089501301	82-08-04	12.0	--	46	.00	13	3.3	1.8	8	.1	.4
461436089501302	82-08-04	13.0	--	100	.00	35	3.2	1.9	4	.1	.5
WALWORTH											
423532088254601	82-07-29	13.0	--	340	21	77	36	6.9	4	.2	1.3
	82-08-03	14.5	--	350	.00	77	39	8.1	5	.2	1.2
	82-08-06	13.0	--	350	4.0	75	39	6.8	4	.2	1.3
WAUKESHA											
425702088052801	82-09-16	14.5	--	250	23	54	23	23	16	.7	22
430054088265901	82-06-29	12.0	--	310	.00	67	34	9.2	6	.3	1.1

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	ALKA-LINITY LAB (MG/L AS CAC03)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
VILAS											
455307089133201	82-08-18	12	--	9.0	13	<.1	--	15	61	62	<.010
455420089062201	82-08-24	20	--	3.0	5.9	<.1	--	19	76	53	<.010
455506089320401	82-08-23	26	--	6.0	1.7	<.1	--	14	55	49	<.010
455535089424301	82-08-03	22	--	3.0	3.9	<.1	--	12	50	44	<.010
455535089424302	82-08-03	18	--	4.0	1.3	<.1	--	25	70	61	<.010
455558089252501	82-08-25	2.0	--	12	1.1	<.1	--	7.2	86	44	<.010
455558089252502	82-08-16	17	--	7.0	1.6	<.1	--	15	56	45	<.010
455558089252503	82-08-25	18	--	3.0	2.0	<.1	--	.4	31	24	<.010
455630089160501	82-08-24	17	--	6.0	120	<.1	--	19	302	246	<.010
455630089160502	82-08-17	68	--	16	68	<.1	--	18	263	212	<.010
455659089070901	82-08-24	28	--	7.0	.3	<.1	--	17	60	53	<.010
455710089384501	82-08-25	11	--	6.0	.6	.2	--	16	54	41	<.010
455806089033701	82-08-24	28	--	8.0	<.1	.1	--	21	62	--	<.010
455827089093701	82-08-24	86	--	5.0	.3	.1	--	30	128	120	<.010
455846089405920	82-07-08	8.0	--	2.0	.3	<.1	--	3.7	21	--	<.010
455903089404720	82-07-08	8.0	--	2.0	.7	<.1	--	3.8	24	--	<.010
	82-07-08	20	--	8.0	.4	<.1	--	17	52	--	<.010
	82-07-08	20	--	8.0	.3	<.1	--	18	53	--	<.010
455933089231301	82-08-25	17	--	6.0	.2	.1	--	11	41	37	<.010
455942089284401	82-08-18	20	--	18	240	<.1	--	12	453	463	<.010
460113089042701	82-08-17	9.0	--	4.0	.9	<.1	--	--	47	--	<.010
460117089322101	82-08-23	41	--	6.0	1.9	<.1	--	28	92	89	<.010
460130089121101	82-08-18	18	--	5.0	2.0	<.1	--	15	83	46	.020
460204089191501	82-08-23	13	--	6.0	.9	<.1	--	13	34	36	<.010
460208089244101	82-08-18	16	--	4.0	35	<.1	--	9.3	165	90	--
460208089244102	82-08-23	20	--	5.0	.8	<.1	--	13	40	39	<.010
460238089415601	82-08-03	47	--	8.0	.3	<.1	--	19	72	74	<.010
460421089462801	82-08-03	110	--	2.0	.6	<.1	--	31	143	145	<.010
460453089362201	82-08-05	24	--	5.0	.3	<.1	--	17	53	48	<.010
460515089082901	82-08-24	11	--	11	.3	<.1	--	15	52	42	<.010
460537089481801	82-08-04	122	--	<1.0	.5	<.1	--	36	150	--	<.010
460540089542801	82-08-04	19	--	3.0	.5	<.1	--	17	50	41	<.010
460540089542802	82-08-04	137	--	1.0	.6	.1	--	45	193	206	.010
460619089045301	82-08-18	23	--	7.0	1.5	<.1	--	11	47	43	.020
460620089203501	82-08-23	36	--	5.0	.7	<.1	--	15	58	56	<.010
460628089482001	82-08-04	37	--	8.0	5.9	<.1	--	19	89	78	<.010
460646089314101	82-08-23	21	--	7.0	.3	<.1	--	12	45	43	<.010
460651089415701	82-08-05	44	--	5.0	2.7	<.1	--	15	84	69	<.010
460701089092001	82-08-24	70	--	7.0	1.0	.1	--	17	109	97	<.010
460701089092002	82-08-24	85	--	2.0	7.0	<.1	--	18	128	113	<.010
460738089263401	82-08-23	24	--	3.0	.9	<.1	--	8.6	36	37	<.010
460803089143601	82-08-23	31	--	1.0	<.1	.1	--	13	52	--	<.010
460846089093901	82-08-24	24	--	8.0	.6	<.1	--	18	58	52	<.010
460853089544401	82-08-04	46	--	5.0	.2	<.1	--	12	58	63	<.010
460914089374201	82-08-05	76	--	<1.0	.4	<.1	--	24	108	--	<.010
460953089412001	82-08-05	72	--	3.0	.6	<.1	--	18	100	91	<.010
460956089204801	82-08-17	35	--	10	2.2	<.1	--	9.9	62	61	<.010
461011089314201	82-08-05	35	--	10	.9	<.1	--	26	93	76	<.010
461042089471401	82-08-04	52	--	5.0	7.7	<.1	--	22	101	93	<.010
461130089254701	82-08-05	16	--	14	77	<.1	--	24	297	206	<.010
461154089345501	82-08-05	68	--	8.0	.3	<.1	--	21	117	103	<.010
461212089285402	82-08-17	118	--	4.0	2.8	<.1	--	36	157	162	.080
461331089405501	82-08-05	152	--	<1.0	5.3	<.1	--	25	203	--	.050
461436089501301	82-08-04	51	--	<1.0	.6	<.1	--	27	80	--	<.010
461436089501302	82-08-04	103	--	1.0	.9	<.1	--	25	143	130	<.010
WALWORTH											
423532088254601	82-07-29	320	--	29	21	.2	--	15	382	381	<.010
	82-08-03	359	--	25	12	.3	--	15	420	394	<.010
	82-08-06	344	--	26	12	.3	--	15	373	383	.040
WAUKESHA											
425702088052801	82-09-16	230	<.5	66	6.4	.7	.01	8.5	352	362	<.010
430054088265901	82-06-29	320	--	7.0	1.6	.2	--	14	343	328	.030

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	DATE OF SAMPLE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
VILAS											
455307089133201	82-08-18	<.10	.010	4.8	4.8	.010	--	1	42	<1	<1
455420089062201	82-08-24	1.2	<.010	--	<.10	.020	--	<1	11	<1	6
455506089320401	82-08-23	<.10	.060	.24	.30	<.010	--	<1	7	1	18
455535089424301	82-08-03	<.10	.100	.50	.60	.020	--	--	--	--	--
455535089424302	82-08-03	<.10	1.20	.00	.90	.020	--	1	18	3	3
455558089252501	82-08-25	<.10	.040	.26	.30	.030	--	--	--	--	--
455558089252502	82-08-16	.14	.020	1.1	1.1	<.010	--	1	29	<1	3
455558089252503	82-08-25	<.10	<.010	--	.30	.010	--	--	--	--	--
455630089160501	82-08-24	1.4	<.010	--	.10	.010	--	<1	35	1	5
455630089160502	82-08-17	<.10	.100	2.6	2.7	<.010	--	--	--	--	--
455659089070901	82-08-24	<.10	<.010	--	<.10	.010	--	--	--	--	--
455710089384501	82-08-25	<.10	<.010	--	3.6	.030	--	<1	9	2	3
455806089032101	82-08-24	<.10	<.010	--	<.10	<.010	--	3	7	24	5
455827089093701	82-08-24	<.10	<.010	--	.20	.030	--	3	11	1	2
455846089405920	82-07-08	<.01	.391	.91	1.3	.006	40	--	--	--	--
455903089404720	82-07-08	<.01	.389	.51	.90	.008	30	--	--	--	--
	82-07-08	.02	.048	.55	.60	.002	<10	--	--	--	--
	82-07-08	.03	.047	.55	.60	.003	<10	--	--	--	--
455933089231301	82-08-25	<.10	<.010	--	.20	.030	--	<1	31	<1	8
455942089284401	82-08-18	.33	.070	3.8	3.9	.030	--	--	--	--	--
460113089042701	82-08-17	2.5	<.010	--	.60	<.010	--	1	--	--	--
460117089322101	82-08-23	<.10	.110	.39	.50	.020	--	1	23	2	17
460130089121101	82-08-18	.11	.180	4.7	4.9	.070	--	--	--	--	--
460204089191501	82-08-23	<.10	.020	--	<.10	<.010	--	1	4	2	16
460208089244101	82-08-18	--	--	--	--	--	--	--	--	--	--
460208089244102	82-08-23	<.10	.030	--	<.10	.020	--	<1	6	1	22
460238089415601	82-08-03	<.10	.040	.26	.30	.050	--	<1	10	2	<1
460421089462801	82-08-03	.76	.220	.48	.70	.050	--	2	37	2	6
460453089362201	82-08-05	<.10	.010	--	<.10	.010	--	--	--	--	--
460515089082901	82-08-24	<.10	<.010	--	<.10	<.010	--	<1	10	<1	5
460537089481801	82-08-04	<.10	.110	.19	.30	.040	--	--	--	--	--
460540089542801	82-08-04	1.1	.050	.15	.20	.020	--	--	--	--	--
460540089542802	82-08-04	.16	.530	.00	.50	.050	--	2	88	4	12
460619089045301	82-08-18	.24	.100	.30	.40	.060	--	--	--	--	--
460620089203501	82-08-23	<.10	.010	.49	.50	.020	--	--	--	--	--
460628089482001	82-08-04	1.1	.020	.28	.30	.010	--	1	12	1	<1
460646089314101	82-08-23	<.10	.040	--	<.10	<.010	--	1	12	1	23
460651089415701	82-08-05	.15	.030	1.1	1.1	.010	--	--	--	--	--
460701089092001	82-08-24	<.10	.030	--	<.10	.060	--	--	--	--	--
460701089092002	82-08-24	.12	<.010	--	<.10	.040	--	2	30	<1	6
460738089263401	82-08-23	<.10	.040	.16	.20	.010	--	1	6	<1	22
460803089143601	82-08-23	<.10	<.010	--	<.10	.040	--	1	6	<1	4
460846089093901	82-08-24	<.10	<.010	--	<.10	.010	--	--	--	--	--
460853089544401	82-08-04	<.10	.040	.06	.10	.040	--	--	--	--	--
460914089374201	82-08-05	<.10	.140	.16	.30	.040	--	2	24	2	3
460953089412001	82-08-05	.16	.110	.09	.20	.010	--	--	--	--	--
460956089204801	82-08-17	.10	.100	2.9	3.0	.020	--	1	17	<1	<1
461011089314201	82-08-05	<.10	.030	.17	.20	.020	--	1	15	<1	4
461042089471401	82-08-04	<.10	.060	--	<.10	<.010	--	1	24	<1	<1
461130089254701	82-08-05	<.10	1.80	.20	2.0	.040	--	<1	35	6	16
461154089345501	82-08-05	.62	.020	--	<.10	<.010	--	<1	38	2	<1
461212089285402	82-08-17	.35	1.40	12	13	.120	--	--	--	--	--
461331089405501	82-08-05	.15	.070	.13	.20	.060	--	--	--	--	--
461436089501301	82-08-04	<.10	.110	.09	.20	.030	--	--	--	--	--
461436089501302	82-08-04	<.10	.110	.69	.80	.020	--	1	150	2	5
WALWORTH											
423532088254601	82-07-29	<.10	.880	.02	.90	--	--	--	330	--	--
	82-08-03	<.10	.870	.00	.80	--	--	--	190	--	--
	82-08-06	<.10	.940	.06	1.0	--	--	--	190	--	--
WAUKESHA											
425702088052801	82-09-16	<.10	.120	1.1	1.2	--	10	--	23	--	--
430054088265901	82-06-29	<.10	.220	.18	.40	--	--	--	130	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)
VILAS										
455307089133201	82-08-18	12	<3	1	--	6	--	42	11	
455420089062201	82-08-24	3	16	2	--	150	--	40	26	
455506089320401	82-08-23	3	140	4	--	84	--	18	880	
455535089424301	82-08-03	--	94	--	--	120	--	21	--	
455535089424302	82-08-03	4	7800	3	--	120	--	17	1100	
455558089252501	82-08-25	--	19000	--	--	220	--	9	--	
455558089252502	82-08-16	5	2500	6	--	42	--	24	120	
455558089252503	82-08-25	--	300	--	--	72	--	20	--	
455630089160501	82-08-24	2	9	3	--	4	--	130	61	
455630089160502	82-08-17	--	1200	--	--	430	--	100	--	
455659089070901	82-08-24	--	110	--	--	22	--	17	--	
455710089384501	82-08-25	4	62	3	--	33	--	23	2500	
455806089033701	82-08-24	1	3	4	--	7	--	18	6	
455827089093701	82-08-24	1	85	2	--	640	--	42	<4	
455846089405920	82-07-08	3	1900	3	--	33	<.1	--	6	
455903089404720	82-07-08	1	1900	2	--	33	<.1	--	<4	
	82-07-08	1	580	2	--	28	<.1	--	4	
	82-07-08	2	580	1	--	27	<.1	--	<4	
455933089231301	82-08-25	3	95	2	--	65	--	35	3800	
455942089284401	82-08-18	--	85	--	--	49	--	54	--	
460113089042701	82-08-17	--	--	--	--	--	--	--	--	
460117089322101	82-08-23	2	11000	6	--	450	--	28	61	
460130089121101	82-08-18	--	1100	--	--	890	--	23	--	
460204089191501	82-08-23	7	1200	2	--	23	--	18	1900	
460208089244101	82-08-18	--	5	--	--	14	--	84	--	
460208089244102	82-08-23	1	19	3	--	25	--	10	380	
460238089415601	82-08-03	2	85	1	--	4	--	17	17	
460421089462801	82-08-03	4	3600	2	--	390	--	53	38	
460453089362201	82-08-05	--	220	--	--	19	--	18	--	
460515089082901	82-08-24	3	70	4	--	63	--	29	15	
460537089481801	82-08-04	--	250	--	--	700	--	42	--	
460540089542801	82-08-04	--	50	--	--	66	--	17	--	
460540089542802	82-08-04	1	20000	2	--	560	--	68	5200	
460619089045301	82-08-18	--	1300	--	--	190	--	36	--	
460620089203501	82-08-23	--	17	--	--	<1	--	15	--	
460628089482001	82-08-04	1	12	<1	--	350	--	35	14	
460646089314101	82-08-23	2	170	3	--	54	--	15	1100	
460651089415701	82-08-05	--	42	--	--	8	--	20	--	
460701089092001	82-08-24	--	13	--	--	160	--	49	--	
460701089092002	82-08-24	2	15	3	--	150	--	59	9	
460738089263401	82-08-23	1	1100	2	--	85	--	14	22	
460803089143601	82-08-23	5	16	2	--	12	--	15	7	
460846089093901	82-08-24	--	44	--	--	19	--	20	--	
460853089544401	82-08-04	--	200	--	--	70	--	12	--	
460914089374201	82-08-05	2	230	2	--	240	--	27	11	
460953089412001	82-08-05	--	150	--	--	360	--	33	--	
460956089204801	82-08-17	6	14	3	--	500	--	27	210	
461011089314201	82-08-05	5	420	5	--	380	--	26	48	
461042089471401	82-08-04	1	1800	1	--	110	--	23	860	
461130089254701	82-08-05	2	28000	9	--	220	--	50	8600	
461154089345501	82-08-05	2	160	3	--	89	--	24	2700	
461212089285402	82-08-17	--	4900	--	--	1100	--	42	--	
461331089405501	82-08-05	--	24	--	--	180	--	56	--	
461436089501301	82-08-04	--	18000	--	--	220	--	22	--	
461436089501302	82-08-04	2	230	2	--	520	--	35	20	
WALWORTH										
423532088254601	82-07-29	--	1600	--	6	14	--	320	--	
	82-08-03	--	140	--	8	22	--	270	--	
	82-08-06	--	170	--	5	41	--	270	--	
WAUKESHA										
425702088052801	82-09-16	--	<3	--	30	6	--	20000	--	
430054088265901	82-06-29	--	1400	--	<4	23	--	440	--	

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION	NUMBER	DATE OF SAMPLE	RA-226, DIS- SOLVED, PLAN- CHET COUNT (PCI/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
VILAS					
455307089133201	82-08-18	--	--	1.9	
455420089062201	82-08-24	--	--	<.3	
455506089320401	82-08-23	--	--	1.4	
455535089424301	82-08-03	--	--	--	
455535089424302	82-08-03	--	--	3.3	
455558089252501	82-08-25	--	--	--	
455558089252502	82-08-16	--	--	2.3	
455558089252503	82-08-25	--	--	--	
455630089160501	82-08-24	--	--	.9	
455630089160502	82-08-17	--	--	--	
455659089070901	82-08-24	--	--	--	
455710089384501	82-08-25	--	--	1.3	
455806089033701	82-08-24	--	--	.5	
455827089093701	82-08-24	--	--	1.3	
455846089405920	82-07-08	--	--	--	
455903089404720	82-07-08	--	--	--	
	82-07-08	--	--	--	
	82-07-08	--	--	--	
455933089231301	82-08-25	--	--	.8	
455942089284401	82-08-18	--	--	--	
460113089042701	82-08-17	--	--	1.6	
460117089322101	82-08-23	--	--	2.8	
460130089121101	82-08-18	--	--	--	
460204089191501	82-08-23	--	--	.5	
460208089244101	82-08-18	--	--	--	
460208089244102	82-08-23	--	--	.3	
460238089415601	82-08-03	--	--	1.2	
460421089462801	82-08-03	--	--	3.1	
460453089362201	82-08-05	--	--	--	
460515089082901	82-08-24	--	--	2.0	
460537089481801	82-08-04	--	--	--	
460540089542801	82-08-04	--	--	--	
460540089542802	82-08-04	--	--	8.0	
460619089045301	82-08-18	--	--	--	
460620089203501	82-08-23	--	--	--	
460628089482001	82-08-04	--	--	.8	
460646089314101	82-08-23	--	--	.6	
460651089415701	82-08-05	--	--	--	
460701089092001	82-08-24	--	--	--	
460701089092002	82-08-24	--	--	.3	
460738089263401	82-08-23	--	--	1.1	
460803089143601	82-08-23	--	--	.7	
460846089093901	82-08-24	--	--	--	
460853089544401	82-08-04	--	--	--	
460914089374201	82-08-05	--	--	2.0	
460953089412001	82-08-05	--	--	--	
460956089204801	82-08-17	--	--	7.9	
461011089314201	82-08-05	--	--	3.1	
461042089471401	82-08-04	--	--	.5	
461130089254701	82-08-05	--	--	20	
461154089345501	82-08-05	--	--	.9	
461212089285402	82-08-17	--	--	--	
461331089405501	82-08-05	--	--	--	
461436089501301	82-08-04	--	--	--	
461436089501302	82-08-04	--	--	3.6	
WALWORTH					
423532088254601	82-07-29	--	--	--	
	82-08-03	--	--	3.2	
	82-08-06	--	--	--	
WAUKESHA					
425702088052801	82-09-16	2.5	2.1	.9	
430054088265901	82-06-29	--	--	1.2	

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DATE OF SAMPLE	ALA-CHLOR TOTAL RECOVER (UG/L)	AME-TRYNE TOTAL
ADAMS									
450158089364701	AD-18/07E/13-0138	100SDGV	100QRNR	100	60	100	82-05-25	--	<.10
				100	60	100	82-09-02	--	<.10
PORTAGE									
441702089310401	PT-21/08E/23-0403	100SDGV	110QRNR	85	45	85	82-05-27	--	--
				85	45	85	82-09-02	.20	<.10
442330089405801	PT-22/07E/16-1018	100SDGV	110QRNR	64	28	64	82-05-26	--	<.10
				64	28	64	82-09-01	<.10	<.10
442330089413601	PT-22/07E/17-1026	100SDGV	110QRNR	49	29	49	82-05-26	--	<.10
				49	29	49	82-09-01	--	<.10

STATION NUMBER	DATE OF SAMPLE	ATRA-ZINE, TOTAL (UG/L)	ATRA-TONE TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYPRA-ZINE TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)
ADAMS											
450158089364701	82-05-25	<.10	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01
	82-09-02	.30	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01
PORTAGE											
441702089310401	82-05-27	--	--	--	--	--	--	--	--	--	--
	82-09-02	<.10	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01
442330089405801	82-05-26	<.10	<.10	<.10	<.10	.01	<.01	<.01	<.01	<.01	<.01
	82-09-01	<.10	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01
442330089413601	82-05-26	<.10	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01
	82-09-01	<.10	<.10	<.10	<.10	<.01	<.01	<.01	<.01	<.01	<.01

STATION NUMBER	DATE OF SAMPLE	PRO-PAZINE TOTAL (UG/L)	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TONE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)	TOTAL TRI-THION (UG/L)
ADAMS									
450158089364701	82-05-25	<.10	<.1	<.1	<.10	<.10	<.1	--	<.01
	82-09-02	<.10	<.1	<.1	<.10	<.10	<.1	<.50	<.01
PORTAGE									
441702089310401	82-05-27	--	--	--	--	--	--	--	--
	82-09-02	<.10	<.1	<.1	<.10	<.10	<.1	<.50	<.01
442330089405801	82-05-26	<.10	<.1	<.1	<.10	<.10	<.1	--	<.01
	82-09-01	<.10	<.1	<.1	<.10	<.10	<.1	--	<.01
442330089413601	82-05-26	<.10	<.1	<.1	<.10	<.10	<.1	--	<.01
	82-09-01	<.10	<.1	<.1	<.10	<.10	<.1	.54	<.01

DISCONTINUED STATIONS

The following streamflow stations have been discontinued in Wisconsin. Continuous daily streamflow records were collected and published for the period of record shown for each station.

Station number	Station name	Drainage area (sq mi)	Period of record
04024314	Little Balsam Creek at Patzau, WI	5.00	1976-78
04024315	Little Balsam Creek near Patzau, WI	5.18	1975-78
04024318	Little Balsam Creek Tributary near Patzau, WI	0.54	1976-78
04024320	Little Balsam Creek near Foxboro, WI	6.27	1977-78
04025000	Amnicon River near Poplar (Amnicon Falls), WI	112	1914-16
04025500	Bois Brule River at Brule, WI	120	1942-81
04026000	Bois Brule (Brule) River near Brule, WI	153	1914-17
04026300	Sioux River near Washburn, WI	14.9	1964-66
04026347	Pine Creek at Moquah, WI	5.90	1975-78
04026348	Pine Creek Tributary at Moquah, WI	0.57	1976-78
04026349	Pine Creek near Moquah, WI	21.5	1975-78
04026450	Bad River near Mellen, WI	83.4	1970-75
04026500	Bad River at Mellen, WI	101	1948-55
04026870	Alder Creek near Upsen, WI	22.3	1972-77
04028500	Montreal River near Kimball, WI	109	1924-25
04029000	West Fork Montreal River at Gile, WI	78	1918-25, 1942-47
04029500	West Fork Montreal River near Kimball, WI	96	1924-25
04030000	Montreal River near Saxon, WI	262	1938-70
04063640	North Branch Pine River at Windsor Dam nr Alvin, WI	29.4	1966-68
04064000	Pine River near Florence, WI	500	1913-23
04064500	Pine River below Pine River Powerplant near Florence, WI	528	1923-75
04066500	Pike River at Amberg, WI	253	1914-70
04067000	Menominee River below Koss, WI	3,730	1907-09, 1913-81
04068000	Peshtigo River at High Falls near Crivitz, WI	554	1912-57
04072000	Suamico River at Suamico, WI	57.0	1951-52
04072750	Lawrence Creek near Westfield, WI	16.0	1967-73
04073050	Grand River near Kingston, WI	73.7	1968-75
04073405	West Branch White River near Wautoma, WI	43	1963-65
04075000	Wolf River near White Lake, WI	482	1935-37
04075200	Evergreen Creek near Langlade, WI	8.0	1964-73
04075500	Wolf River above West Branch Wolf River, WI	633	1927-62
04076000	West Branch Wolf River at Neopit, WI	108	1911-17
04076500	West Branch Wolf River near Keshena, WI	170	1928-31
04079602	Little Wolf River near Galloway, WI	22.5	1973-79
04079700	Spaulding Creek near Big Falls, WI	4.9	1964-66
04080000	Little Wolf River at Royalton, WI	514	1914-70
04080950	Emmons Creek near Rural, WI	27	1968-74
04080976	Storm Sewer to Mirror Lake at Waupaca, WI	0.04	1971-74
04081000	Waupaca River near Waupaca (Weyauwega), WI	272	1916-66
04081800	Daggets Creek at Butte Des Morts, WI	10.3	1976-77
04083000	West Branch Fond du Lac River at Fond du Lac, WI	84.5	1939-54
04083500	East Branch Fond du Lac River near Fond du Lac, WI	77.9	1939-54
04084200	Brothertown Creek at Brothertown, WI	5.59	1976-77
04085813	Onion River at Hingham, WI	37.2	1978-80
04086150	Milwaukee River at Kewaskum, WI	138	1968-81
04086200	East Branch Milwaukee River near New Fane, WI	54.1	1968-81
04086340	North Branch Milwaukee River near Fillmore, WI	148	1968-81
04086360	Milwaukee River at Waubesa, WI	432	1968-81
04086500	Cedar Creek near Cedarburg, WI	120	1930-70, 1973-81
04087018	Menominee River at Germantown, WI	19.0	1974-77
04087019	Jefferson Park Drainageway at Germantown, WI	1.82	1976-78
04087040	Menominee River at Butler, WI	60.6	1974-79
04087060	Noyes Creek at Milwaukee, WI	1.94	1974-79
04087070	Little Menominee River at Milwaukee, WI	19.7	1974-77
04087119	Honey Creek at Wauwatosa, WI	10.3	1974-81
04087125	Schoonmaker Creek at Wauwatosa, WI	1.94	1974-79
04087130	Hawley Road Storm Sewer at Milwaukee, WI	1.83	1975-77
05332000	Namekagon River at Trego, WI	460	1914-27
05332500	Namekagon River near Trego, WI	503	1927-70
05333500	St. Croix River near Danbury, WI	1,588	1914-81
05335010	Loon Creek near Danbury, WI	16.9	1970-71
05335380	Bashaw Brook near Shell Lake, WI	24.9	1964-66
05335500	Clam River near Webster, WI	364	1940-42
05336000	St. Croix River near Grantsburg, WI	2,820	1923-70
05339000	Wood River near Grantsburg, WI	190	1939
05341500	Apple River near Somerset, WI	555	1901-70
05342000	Kinnickinnic River near River Falls, WI	167	1916-21
05355500	West Fork Chippewa River at Lessards, nr Winter, WI	577	1911-16
05357500	Flambeau River at Flambeau Flowage (Flambeau Reservoir), WI	666	1927-61
05358000	Flambeau River near Butternut, WI	737	1914-38

LIST OF DISCONTINUED STATIONS--CONTINUED

Station number	Station name	Drainage area (sq mi)	Period of record
05358300	Pine Creek near Oxbo, WI	37.8	1970-75
05358500	Flambeau River at Babbs Island near Winter, WI	1,000	1929-75
05359500	South Fork Flambeau River near Phillips, WI	615	1929-75
05359600	Price Creek near Phillips, WI	14.7	1964-66
05360000	Flambeau River near (at) Ladysmith, WI	1,823	1903-6, 1914-61
05361000	Chippewa River near Holcombe, WI	3,790	1944-49
05361500	South Fork Jump River near Ogema, WI	328	1944-54
05362500	Chippewa River at Holcombe, WI	4,700	1942-49
05363000	Fisher River at (near) Holcombe, WI	76	1944-45
05363500	O'Neil Creek near Chippewa Falls, WI	67.1	1944-45
05363700	Yellow River near Hannibal, WI	91.2	1962-63
05364000	Yellow River at Cadott, WI	351	1942-61
05364500	Duncan Creek at Bloomer, WI	49.2	1943-51
05365000	Duncan Creek at Chippewa Falls, WI	114	1942-55
05366000	Eau Claire River near Augusta, WI	500	1914-26
05366300	Bridge Creek at Augusts, WI	34.5	1979-80
05366500	Eau Claire River near Fall Creek, WI	758	1942-55
05367000	Chippewa River at (near) Eau Claire, WI	6,630	1902-9, 1944-54
05367425	Red Cedar River near Cameron, WI	450	1966-70
05367426	Red Cedar River near Cameron, WI	453	1971-73
05367500	Red Cedar River near Colfax, WI	1,100	1914-61
05370500	Eau Galle River at Elmwood, WI	91.9	1942-53
05372000	Buffalo River near Tell, WI	406	1932-51
05379288	Bruce Valley Creek near Pleasantville, WI	10.1	1979-80
05379305	Elk Creek near Independence, WI	99.7	1979-80
05379400	Trempealeau River at Arcadia, WI	552	1960-77
05380000	Trempealeau River near Trempealeau, WI	722	1931-34
05380900	Poplar River near Owen, WI	157	1964-66
05382500	Little LaCrosse River near Leon, WI	77.4	1934-61, 1978-81
05383000	LaCrosse River near West Salem, WI	398	1913-70
05386490	Spring Coulee Creek near Coon Valley, WI	8.93	1978-80
05386500	Coon Creek at Coon Valley, WI	78.3	1934-40, 1978-81
05386999	Coon Creek near Stoldal, WI	120	1934-40, 1979-81
05387100	North Fork Bad Axe River near Genoa, WI	68.8	1964-66
05390180	Wisconsin River at Conover, WI	176	1966-71
05391226	Pelican River near Rhinelander, WI	101	1976-79
05392000	Wisconsin River at Whirlpool Rapids, near Rhinelander, WI	1,200	1905-61
05392350	Bearskin Creek near Harshaw, WI	27.8	1964-66
05392400	Tomaher near Bradley, WI	422	1914-27, 1928-29
05393000	Tomahawk River at Bradley, WI	545	1930-73
05394000	New Wood River near Merrill, WI	83.1	1952-61
05396000	Rib River at Rib Falls, WI	309	1925-57
05396500	Little Rib River near Wausau, WI	76	1914-16
05397000	East Branch Eau Claire River near Antigo, WI	75	1949-55
05397110	Eau Claire River near Antigo, WI	200	1974-81
05398500	Bull Junior Creek (Bull Creek Junior) near Rothschild, WI	26.4	1944-51
05399000	Big Eau Pleine River near Colby, WI	79	1941-54
05399431	Hamann Creek near Stratford, WI	11.3	1976-79
05400000	Wisconsin River at Knowlton, WI	4,520	1920-42
05400500	Plover River near Stevens Point, WI	136	1914-19, 1944-51
05400600	Little Plover River near Arnett, WI	1.5	1959-75
05400840	Fourmile Creek near Kellner, WI	51	1964-67
05400853	Buena Vista Creek near Kellner, WI	44	1964-67
05401020	Tenmile Creek Ditch 5 near Bancroft, WI	8.8	1964-73
05401050	Tenmile Creek near Nekoosa, WI	73.3	1963-79
05401100	Fourteenmile Creek near New Rome, WI	91.9	1964-79
05401500	Wisconsin River near Necedah, WI	5,860	1902-14, 1944-50
05401510	Big Roche a Cri Creek near Hancock, WI	9.5	1963-67
05401535	Big Roche a Cri Creek near Adams, WI	52.8	1963-78
05402500	Yellow River at Sprague, WI	420	1926-40
05403000	Yellow River at Necedah, WI	526	1940-57
05403630	Hulbert Creek near Wisconsin Dells, WI	11.2	1970-77
05403700	Dell Creek near Lake Delton, WI	44.9	1957-1965, 1970-80
05404200	Narrows Creek at Loganville, WI	40.0	1964-66
05406000	Wisconsin River at Prairie du Sac, WI	8,950	1946-53
05406573	Trout Creek at Confluence with Arneson Creek near Barneveld, WI	8.37	1975-79

LIST OF DISCONTINUED STATIONS--CONTINUED

Station number	Station name	Drainage area (sq mi)	Period of record
05406574	Trout Creek at Twin Parks Dam 8 nr Barneveld, WI	9.02	1975-79
05406575	Trout Creek at County Highway T nr Barneveld, WI	12.1	1975-79
05406577	Trout Creek near Ridgeway, WI	13.5	1975-79
05406590	Knight Hollow Creek near Arena, WI	7.57	1976-77
05406640	Otter Creek near Highland, WI	16.6	1968-69, 1970-75
05407500	Kickapoo River at Ontario, WI	151	1938-39, 1973-77
05408500	Knapp Creek near Bloomingdale, WI	8.47	1954-69
05409000	West Fork Kickapoo River near Readstown, WI	106	1938-39
05409500	Kickapoo River at Soldiers Grove, WI	530	1938-39
05409830	North Fork Nederlo Creek near Gays Mills, WI	2.21	1967-79
05409890	Nederlo Creek near Gays Mills, WI	9.46	1967-80
05410000	Kickapoo River at Gays Mills, WI	617	1913-34, 1964-77
05413400	Pigeon Creek near Lancaster, WI	6.81	1964-66
05423000	West Branch Rock River near Waupun, WI	40.7	1949-70, 1978-81
05423100	West Branch Rock River at County Trunk Highway D near Waupun, WI	43.9	1978-81
05423500	South Branch Rock River at Waupun, WI	62.8	1948-69
05424000	East Branch Rock River near Mayville, WI	179	1949-70
05425537	Johnson Creek near Johnson Creek, WI	1.13	1978-79
05425539	Johnson Creek near Johnson Creek, WI	13.3	1978-79
05425928	Pratt Creek near Juneau, WI	3.54	1978-80
05426500	Whitewater Creek near Whitewater, WI	7.2	1926-28, 1946-54
05426900	Whitewater Creek at Millis Road near Whitewater, WI	20.6	1978-81
05427000	Whitewater Creek at Whitewater, WI	22.7	1926-28, 1946-54 1978-81
05427718	Yahara River at Windsor, WI	73.6	1976-81
05427800	Token Creek near Madison, WI	24.3	1975-80
05427900	Sixmile Creek near Waunakee, WI	41.1	1976-81
05427943	Pheasant Branch at Airport Road near Middleton, WI	9.61	1977-81
05427945	South Fork Pheasant Branch at Highway 14 near Middleton, WI	5.74	1977-81
05427950	Pheasant Branch at Century Avenue at Middleton, WI	20.8	1977-81
05427952	Pheasant Branch at mouth at Middleton, WI	24.5	1978-81
05428665	Olbrich Park Storm Ditch at Madison, WI	2.57	1976-80
05429040	Manitou Way Storm Sewer at Madison, WI	0.22	1970-77
05429050	Nakoma Storm Sewer at Madison, WI	2.35	1971-77
05429118	Lake Wingra at Madison, WI	6.08	1970-79
05429120	Lake Wingra Outlet at Madison, WI	6.08	1970-77
05429580	Door Creek near Cottage Grove, WI	15.3	1975-79
05430000	Yahara River near Edgerton, WI	459	1916-17
05430030	Oregon Branch at Oregon, WI	9.93	1979-81
05430100	Badfish Creek near Stoughton, WI	43.5	1956-66
05431500	Turtle Creek near Clinton, WI	202	1939-79
05433000	East Branch Pecatonica River nr Blanchardville, WI	221	1939-79
05434000	Pecatonica River at Dill, WI	951	1914-19
05433510	Steiner Branch near Waldwick, WI	5.9	1977-79
05434235	Skinner Creek at Skinner Hollow Road near Monroe, WI	32.6	1978-81
05434240	Skinner Creek at Klondyke Road near Monroe, WI	35.0	1978-81
05435980	West Branch Sugar River near Mount Vernon, WI	32.7	1979-80
05436000	Mount Vernon Creek near Mount Vernon, WI	16.4	1954-65, 1975-80

DEFINITION OF TERMS

Terms used in this report with reference to streamflow, water-quality, and other hydrologic data are defined below. See also the conversion table for inch-pound units and International System (SI) units on the inside of the back cover.

Acre-foot (acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot. It is the equivalent of 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

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

Bacteria are microscopic, unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, and often clumped into colonies. Some bacteria cause disease; others perform essential roles in the natural recycling of materials such as decomposing organic matter into forms available for reuse by plants.

Fecal coliform bacteria are present in the intestines of warmblooded animals and are used to determine the sanitary quality of water. They are defined as those organisms that produce blue colonies within 24 hours when incubated at 44.5°C D+ 0.2°C on FC culture medium. Their concentrations are expressed as number of colonies per 100 ml of sample.

Fecal streptococci bacteria are also found in the intestines of warmblooded animals. Their presence in water is used to verify fecal pollution. They are characterized as gram-positive, spherical bacteria capable of growth in brain-heart infusion broth. They are defined as those organisms that produce red or pink colonies within 48 hours at 35°C D+ 1.0°C on M-enterococcus culture medium. Their concentrations are expressed as number of colonies per 100 ml of sample.

Bed material is the unconsolidated material at the bottom of a streambed, lake, pond, reservoir, or estuary.

Biochemical oxygen demand (BOD) measures the quantity of dissolved oxygen, in milligrams per liter, used by microorganisms for the decomposition of organic matter.

Cfs-day is the volume of water produced by a flow of 1 cubic foot per second for 24 hours. It is the equivalent of 86,400 cubic feet, 1.9835 acre-feet, 646,000 gallons, or 2,447 cubic meters.

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

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

Discharge is the volume of fluid or mass of suspended sediment passing a given point in a given period of time.

Mean discharge (MEAN) is the arithmetic average of all daily mean discharges for a specific period of time.

Instantaneous discharge is the discharge at a particular time.

Dissolved is an operational definition used by Federal and State agencies collecting water data as that material in a water sample which passes through a 0.45 μm membrane filter. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Drainage area of a stream at a specified location is measured in a horizontal plane and constitutes an area enclosed by a topographic divide from which surface runoff above the specified point drains by gravity into the stream. Values of the drainage areas given herein include closed basins and noncontributing areas within the basin, as noted.

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

Gaging station is a particular site on a stream or lake where systematic hydrologic data are collected.

Hardness is a physical-chemical characteristic of water that is attributable principally to the presence of calcium and magnesium and is expressed as calcium carbonate (CaCO_3). Hardness is commonly recognized by the increased quantity of soap required to produce lather.

Hydrologic unit designates part or all of a surface-drainage basin delineated by the Office of Water Data Coordination; each hydrologic unit is identified by an 8-digit number.

Micrograms per gram ($\mu\text{g}/\text{g}$) indicates the concentration of a chemical constituent as the mass (micrograms) of that constituent per unit mass (gram) of sediment.

Micrograms per kilogram ($\mu\text{g}/\text{kg}$) indicates the concentration of a chemical constituent as mass (micrograms) of that constituent per unit mass (kilogram) of sediment.

Micrograms per liter ($\mu\text{g}/\text{L}$) indicates the concentration of a chemical constituent as the mass (micrograms) of that constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (mg/L) indicates the concentration of a chemical constituent or suspended sediment as the mass (milligrams) per unit volume (liter) of water.

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

Partial-record station is a site for the systematic collection of limited streamflow or water-quality data over a period of years.

Particle size is measured as the diameter, in millimeters (mm), of suspended sediment and bed material determined by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) measure the fall diameter of particles in distilled water (chemically dispersed) or native water (surface water at the time and point of sampling).

Particle-size classification for this report is based on recommendations of the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

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

Picocurie (PCi) is one trillionth (1×10^{-12}) of a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} disintegrations per second. A picocurie yields 2.22 disintegrations per minute.

Polychlorinated biphenyls (PCB's) are industrial chemicals composed of biphenyl compounds containing various amounts of chlorine. Their chemical structure is similar to the organochlorine insecticides.

Polychlorinated naphthalenes (PCN's) are industrial chemicals composed of naphthalene compounds containing various amounts of chlorine. Their chemical structure is similar to the organochlorine insecticides.

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

Runoff in inches (IN, in) indicates the depth of water that would cover a drainage area if all runoff for a given time period were uniformly distributed.

Sediment originates mostly from disintegrated rocks and is transported by, suspended in, and deposited by water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. Topography, geology, soil type, land cover, land use, quantity and intensity of precipitation, and other environmental factors influence the quantity, characteristics, and cause of sediment in streams.

Suspended sediment is sediment maintained in suspension by turbulent currents or as a colloid.

Suspended-sediment discharge is the quantity of suspended sediment passing through a stream cross section in a unit of time. It is computed by multiplying water discharge times suspended-sediment concentration times 0.0027.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in a sample zone (from the water surface to approximately 0.3 ft above the streambed) and is expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

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

Sodium-adsorption ratio (SAR) expresses the relative activity of sodium ions in exchange reactions with soil.

Solute is any substance dissolved in water.

Specific conductance is a measure of the ability of water to conduct electrical current and is expressed in micromhos per centimeter at 25°C. It is related to the number and specific types of ions in solution, and is useful for approximating the concentration of dissolved solids in the water. Commonly, the concentration of dissolved solids mg/L is about 65 percent of the specific conductance.

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

Streamflow uniquely describes discharge in the natural channel of a surface stream course as opposed to the term "discharge", which can be applied to the flow of a canal. Unlike the term "runoff", streamflow may be applied to discharge whether it is affected by diversion or regulation or not.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a water-sediment sample retained on a 0.45 μm membrane filter has been digested by dilute acid that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter usually is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of dissolved and total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45 μm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of dissolved and total concentrations of the constituent.

Thermograph is an instrument that continuously and automatically records temperature.

Tons per acre-foot indicates the dry weight of a constituent in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the measure of a substance that passes a stream section in solution or suspension during a 24-hour period. It is computed by multiplying the concentration of the substance (mg/L) by 0.0027 times the discharge of the stream (cfs).

Total is the total amount of a given constituent in a water-sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." The term indicates the sample consists of a water-sediment mixture and that the analytical method determines all of the constituent in the sample.

Total, recoverable is the amount of a given constituent that is in solution after a water-sediment sample has been digested by dilute acid resulting in dissolution of only readily soluble substances. Complete dissolution of all particulate matter usually is not achieved, thus the determination represents something less than the "total" amount of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

WDR is the abbreviation for "Water-Data Report" used in the summary REVISIONS paragraph to indicate previously published State annual basic data reports.

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals and one open-file report by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

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Bennett, G.F., 1976, Introduction to ground-water hydraulics, a programed text for self-instruction: U.S. Geol. Survey Tech. Water-Resources Inv. Book 3, Chap. B2, 172p.

Benson, M.A., and Dalrymple, Tate, 1967, General field and office procedures for indirect discharge measurements: U.S. Geol. Survey Tech. Water-Resources Inv. Book 3, Chap. A1, 30p.

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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