

Water Resources Data Wisconsin Water Year 1983



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-83-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

CALENDAR FOR WATER YEAR 1983

1982

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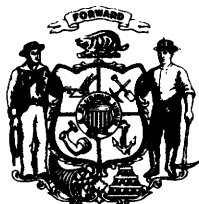
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Water Resources Data Wisconsin Water Year 1983

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-83-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

WILLIAM P. CLARK, 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
Milwaukee Metropolitan Sewerage District
Sokaogon Chippewa Community
Menominee Indian Tribe of Wisconsin
Lac Courte Oreilles Governing Board

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U.S. Geological Survey
1815 University Avenue
Madison, Wisconsin 53705-4042

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.

The 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, southeast

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; 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 1983

INTRODUCTION

Water-resources data for Wisconsin for the 1983 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".

The Survey began releasing preliminary streamflow data for each State from the 1961 water year on, preliminary water-quality data from the 1964 water year on, and preliminary ground-water data from 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 an annual 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 collecting ground-water level data. 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, Lowell B. Jackson, 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.

Milwaukee Metropolitan Sewerage District, Harold Cahill, Jr., executive director.

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 are expected to 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 a number containing 8 to 14 digits. 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 COMPILATION OF DATA

The basic data collected at gaging stations include stage and discharge measurements of streams, and stage, surface area, and content measurements of lakes and reservoirs. 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 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, reference to 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. Extremes of discharge for the period of record are given under "EXTREMES FOR PERIOD OF RECORD", discharge information available outside the period of record are given under "EXTREMES OUTSIDE OF PERIOD OF RECORD", and discharge for the current year are given under "EXTREMES FOR 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 their 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 follow "EXTREMES FOR CURRENT YEAR" and allow for an approximation of daily gage heights from daily discharges. They also indicate the range in stage resulting from any given range in discharge. 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 $1 \text{ ft}^3/\text{s}$; to the nearest tenth for discharges between 1.0 and $10 \text{ ft}^3/\text{s}$; to the nearest whole number for discharges between 10 and $1,000 \text{ ft}^3/\text{s}$; and to 3 significant figures for discharges above $1,000 \text{ ft}^3/\text{s}$.

OTHER DATA AVAILABLE

For most gaging stations more detailed information including records available in computer-usable form and statistical analyses is on file in the District Office.

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, geologic unit, 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, because their concentration at different locations in the cross section usually differ most streams must be sampled using depth-integrating samplers 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 analytical methods being used.

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.

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 observation wells are published in this report. These wells are part of a network of observation wells measured in Wisconsin by U.S. Geological Survey personnel, State or County personnel, and by interested area residents.

These data represent water-table and artesian conditions in the principal aquifers of the State, except 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. Precipitation is the major climatic factor affecting ground-water levels. The water table is usually highest in spring.

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 are obtained from direct measurements with a steel tape or from the graph on a water-stage recorder. Water-level measurements in this report are referenced to the land-surface datum (lstd)--a datum plane

approximately at land surface at each well. The altitude of the 1sd above the National Geodetic Vertical Datum of 1929 and the height of the measuring point (MP) above or below the 1sd is given in each well description. All taped^{new} 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.

ACCESS OF WATSTORE DATA

The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the District Office.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

NOTEWORTHY HYDROLOGICAL EVENTS OF 1983

STREAMFLOW

Runoff was above normal during the 1983 water year. Recorded flood peaks during March 5-13 had 2-7 year recurrence intervals at gaging stations in the Chippewa River, 4-8 year recurrence intervals in the Black River, and 2-16 year recurrence intervals in the Wisconsin River basins as a result of high snowmelt and rainfall runoff. Peaks in the Root River (6 year recurrence interval) and Fox River (2-6 year recurrence intervals) basins in southeast Wisconsin occurred April 3 and 4. Local thunderstorms on August 17 produced a peak discharge having a 15-year recurrence interval at the Menomonee River at Wauwatosa gaging station in southeastern Wisconsin. High base flow was maintained for most streams during the 1983 water year. Recorded low-flows generally were greater than the 2-year low-flow discharge.

Streamflow was much higher than normal throughout the State in the fall with flows up to five times greater than normal in the Black River basin in west central Wisconsin. Sustained high base flows in January and February and runoff from snowmelt and rainfall in early March resulted in above normal streamflows for the winter months. Flows were slightly below normal in the north central and west central portions of the State in the spring. Spring flows in the remainder of the State were near normal or slightly above normal. Summer flows varied statewide with above normal flows occurring along the western edge, below normal to normal flows in the Wisconsin River basin and northwestern portion, and above average flows in the eastern portion of the State.

Runoff for the year ranged from 108 to 178 percent of the long-term average (fig. 1). The area of highest runoff was the Fox River basin in southeast Wisconsin, which was 178 percent of the long-term average. The area of lowest runoff occurred in the upper Wolf River and Oconto River basins which ranged from 108 to 118 percent of the long-term average. Figure 2 shows the comparison of monthly and annual mean runoff for the 1983 water year to the 65-year base period.

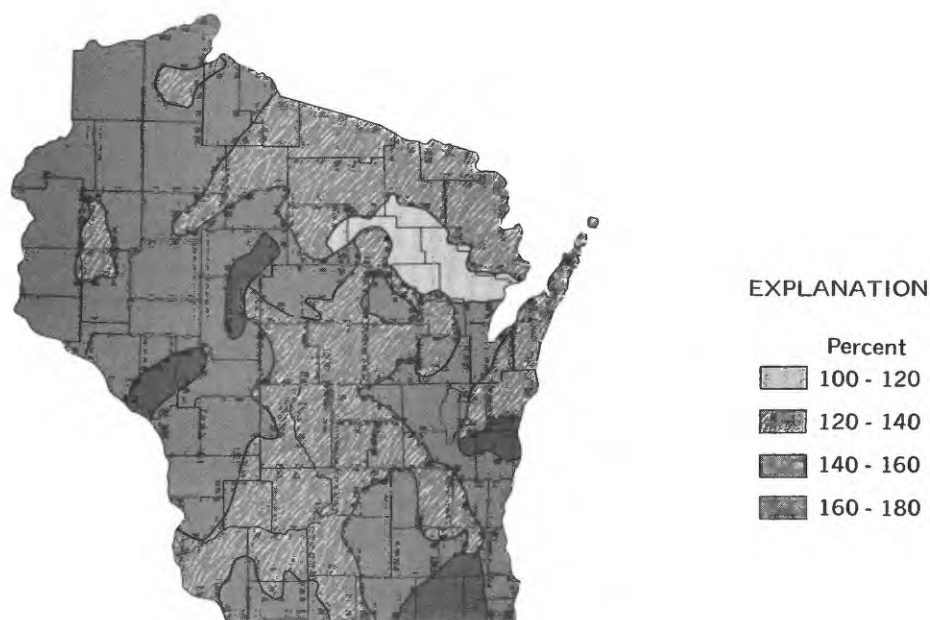


Figure 1. 1983 runoff as percent of long-term average runoff.

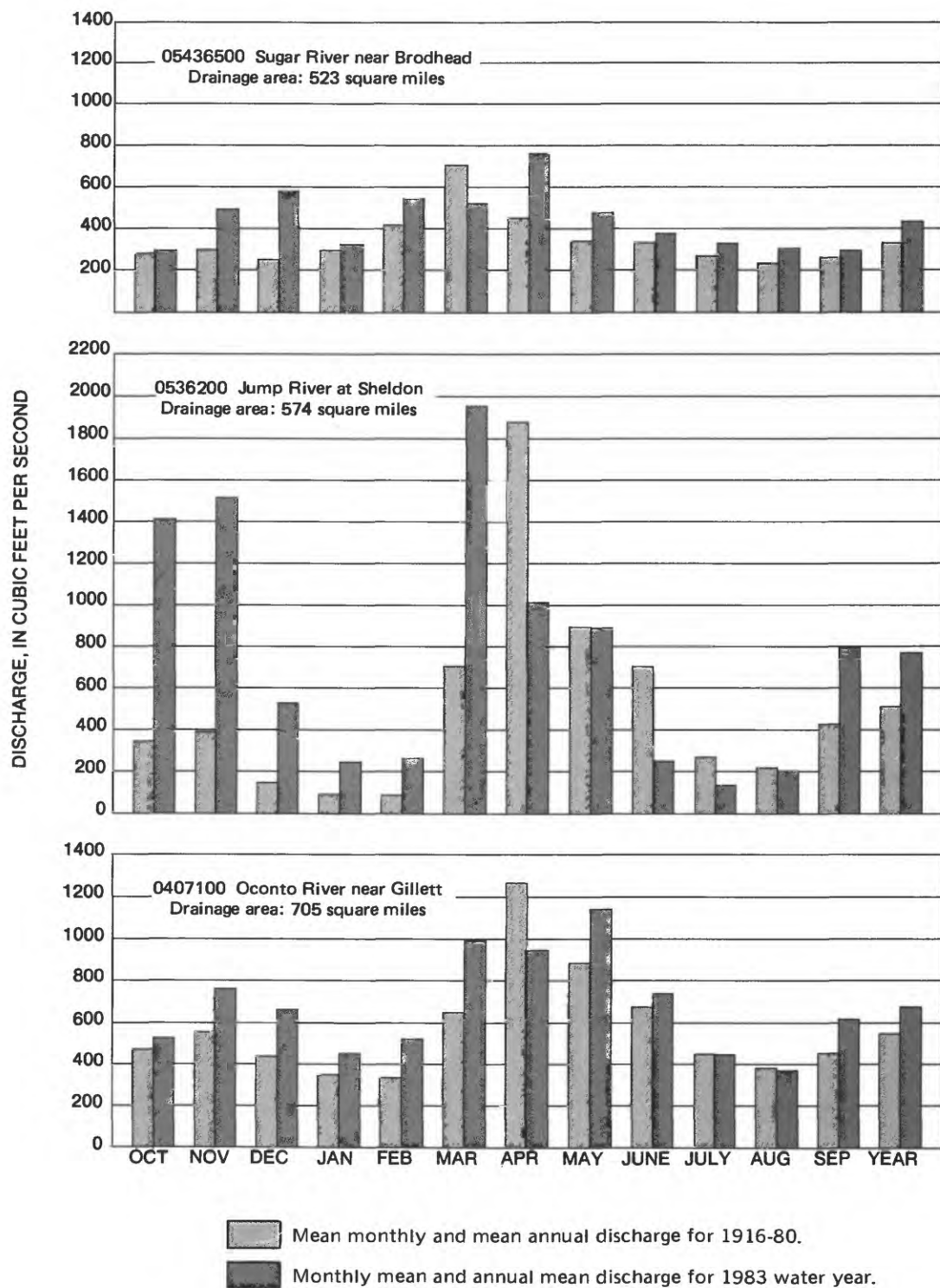


Figure 2. Comparison of discharge at representative gaging stations during 1983 water year with discharge for 1916-80.

Based on statistical analysis of data collected at National Stream Quality Accounting Network and Hydrologic Benchmark Network stations for the period 1974-81, significant trends of increasing pH in the Popple River near Fence and the Milwaukee River at Milwaukee; and decreasing pH in the St. Croix River at St. Croix Falls and the Chippewa River at Durand probably are continuing. Sulfate concentrations tend to decrease at all stations.

Water quality data collected as part of cooperative studies of acid precipitation in Wisconsin are tabulated in a separate section of this report.

GROUND-WATER LEVELS

The seasonal level of the water table reflects natural recharge and discharge, and indirectly reflects long-term precipitation trends. Changes in the water table are represented by seasonal averages of measurements made in 29 shallow-aquifer wells.

The relation of seasonal water-table levels during 1983 to the long-term means, or normals, is shown in figure 3. The normal water level is defined as being within one-half the standard deviation of the seasonal mean for the period of record. The months included in each season are grouped so that SPRING includes the months of March, April, and May when ground-water recharge is highest. The seasons are: WINTER, December to February; SPRING, March to May; SUMMER, June to August; and FALL, September to November.

During the last quarter of last year (September-November 1982), water levels in south-central and north-central Wisconsin were above normal and two areas on the east coast showed below normal levels. The first quarter of this year (WINTER), water levels were above normal throughout most of the State. Areas in central and southeast Wisconsin were normal, and below normal levels were measured in wells in Kewaunee and Kenosha Counties. In the SPRING, water levels continued to be above normal over the State. Water levels at four isolated wells were in the normal range, and levels at the Kewaunee and Kenosha wells remained below normal. During the SUMMER, water levels again fell into the normal range in central Wisconsin and a total of five wells in eastern Wisconsin had below normal levels. Still, the level of the water table over most of the State was above normal. In the FALL, the relation of the level of the water table to normal levels remained about the same as it was during the summer.

In summary, the water-table level in Wisconsin was above normal throughout most of the State during 1983. As indicated on figure 3, levels in many of the wells were more than one standard deviation above normal (none were more than one below normal). Seven of these (in Barron, Clark, Dane, Lafayette, Langlade, Taylor, and Trempealeau Counties) maintained levels more than one standard deviation above normal through all four quarters. Below-normal levels persisted in wells in Kewaunee and Kenosha Counties; probably the result of pumping from the deep-confined aquifer in the Green Bay and the southeast Wisconsin-northeast Illinois areas. Levels in the Kewaunee well were below normal all of 1982.

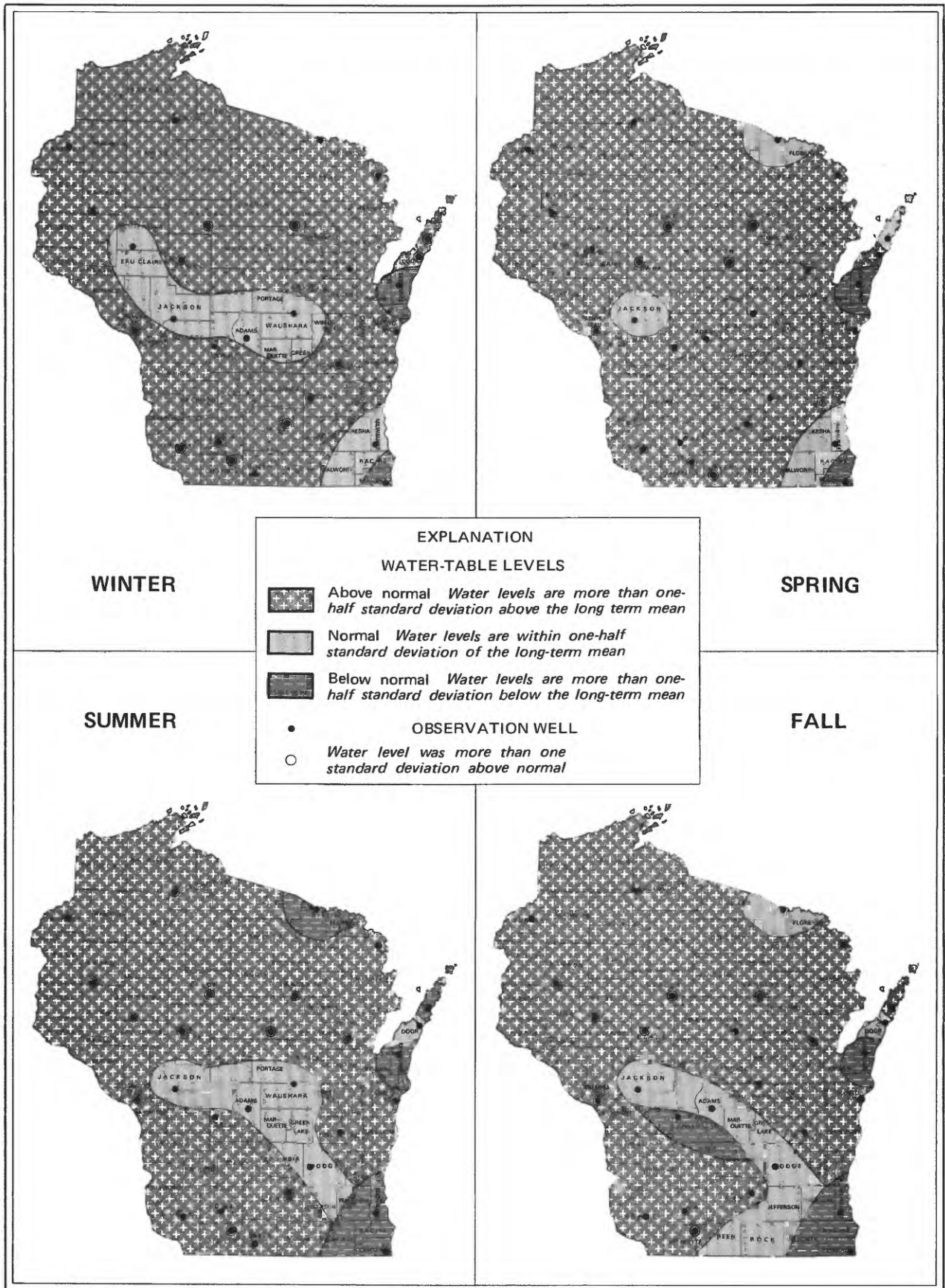


Figure 3. Relation of seasonal water-table levels to long-term means.

ST. LAWRENCE RIVER BASIN RECORDS

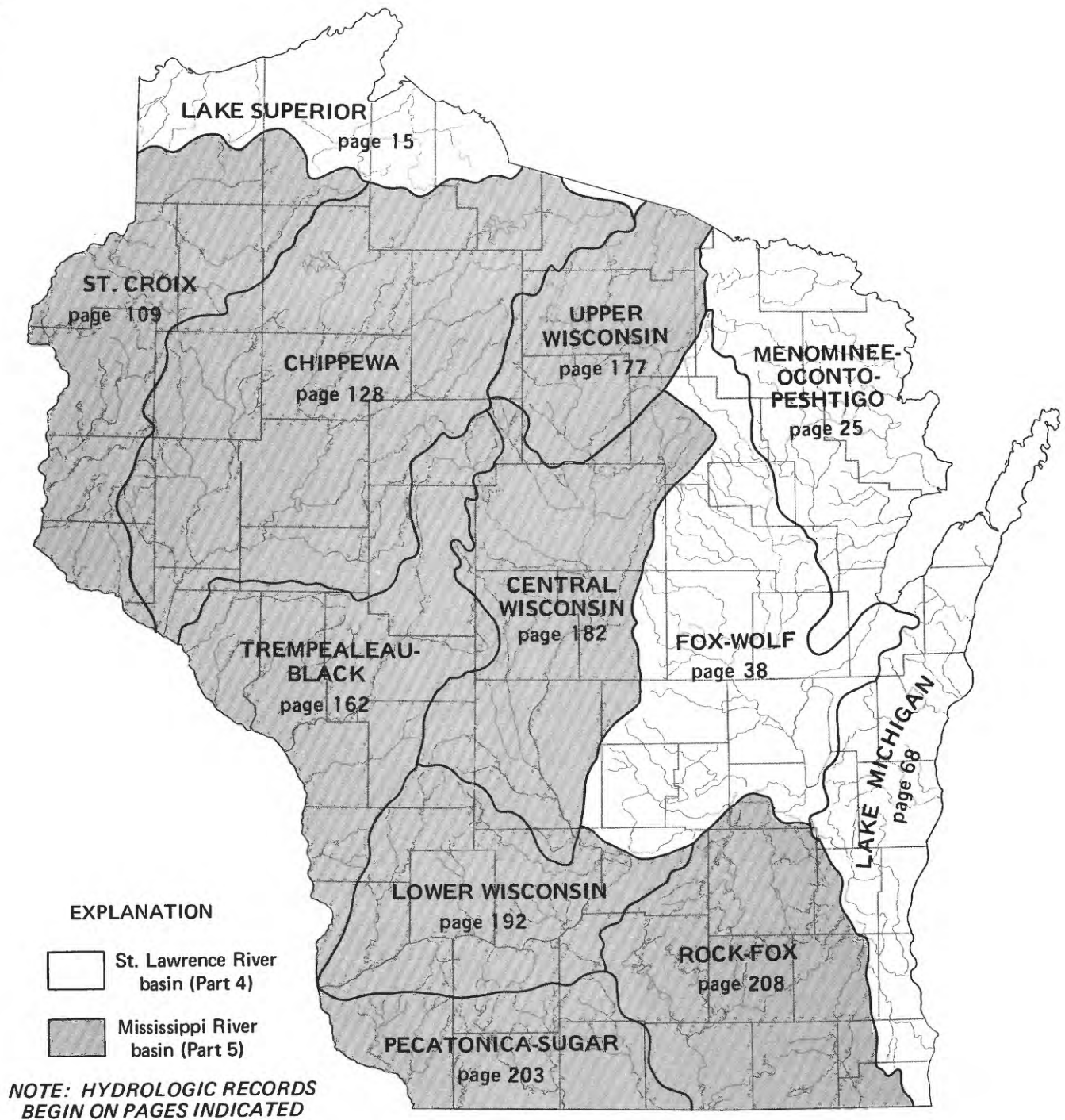
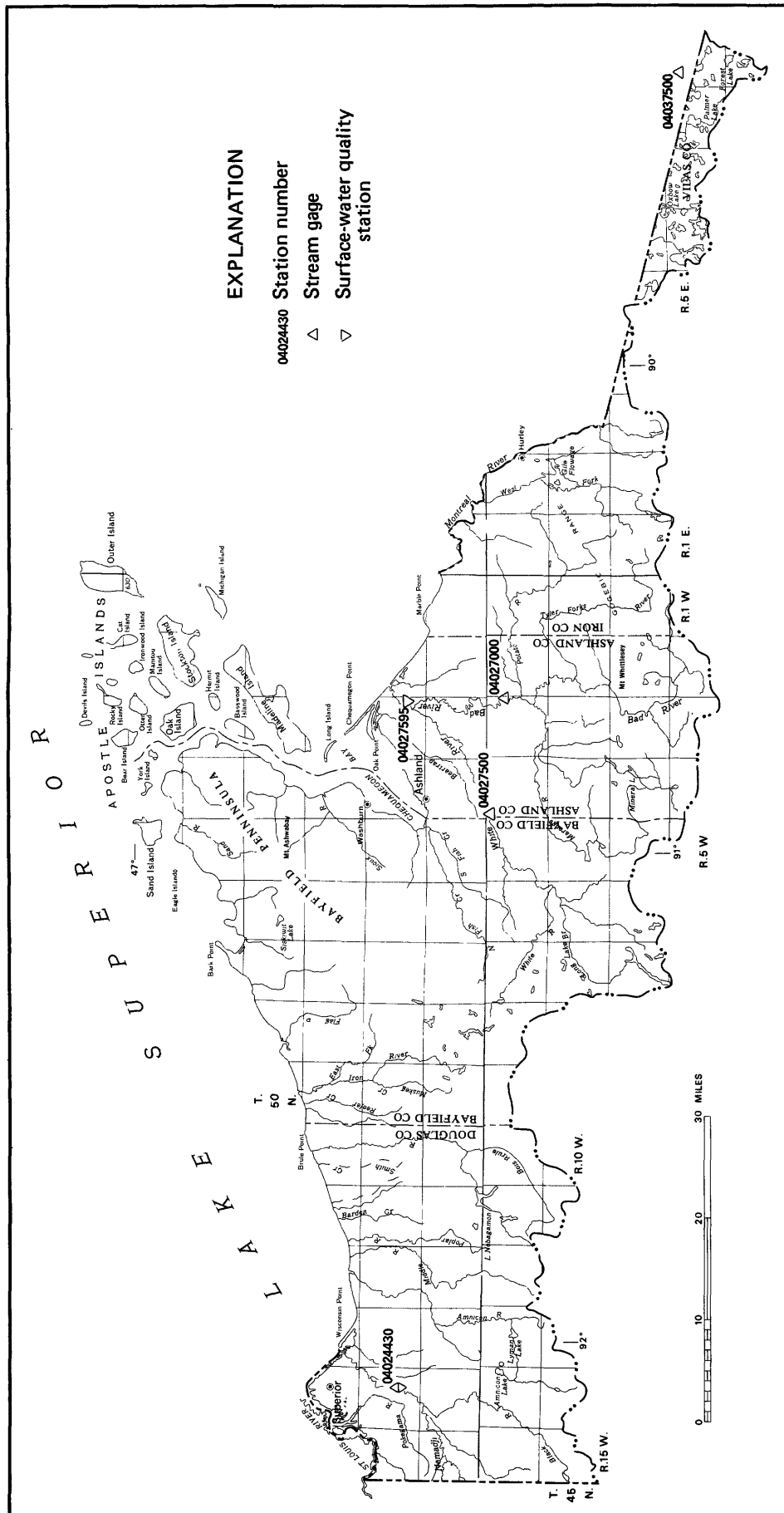


Figure 4. Major surface-water drainage basins and index of hydrologic records.



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 south of South Superior and 7.8 mi downstream from Black River.

DRAINAGE AREA.--420 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WI-75-1: 1974(M). WDR WI-82-1: Drainage area and 1981.

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

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

AVERAGE DISCHARGE.--9 years, 381 ft³/s, 12.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s May 10, 1979, gage height, 22.83 ft; minimum daily, 16 ft³/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 and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 7	2000	5,100	19.88	Apr. 9	0800	2,040	13.26
Oct. 10	1900	3,060	16.36	Apr. 12	0900	2,180	13.73
Nov. 21	1100	5,750	20.54	Apr. 22	0800	2,880	15.89
Mar. 8	----	3,000	ice jam	July 4	2400	*5,950	20.53
Mar. 9	----	ice jam	*20.91	Aug. 3	2100	2,630	15.67

minimum daily discharge, 90 ft³/s Feb. 8.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 13-17, Nov. 24 to Dec. 1, Dec. 7 to Apr. 7.)

Oct. 1 to July 2				July 3 to Sept. 30			
4.0	84	15.0	2,570	4.1	95	15.0	2,400
5.0	198	17.0	3,330	5.0	202	17.0	3,200
7.0	514	19.0	4,430	7.0	505	19.0	4,460
11.0	1,400	20.0	5,200	11.0	1,320	20.00	5,350

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	327	370	140	110	180	900	1110	507	202	120	147
2	287	302	400	140	110	230	1400	914	384	187	116	131
3	928	331	490	140	100	270	1700	769	306	641	1210	119
4	545	443	400	140	100	390	1600	661	271	4900	1980	113
5	373	435	320	140	100	640	1600	541	274	4630	1140	201
6	1650	409	270	140	98	1000	1400	497	278	1790	736	461
7	4740	391	220	130	96	2500	1200	442	251	1130	567	360
8	3560	457	190	130	90	3000	1190	391	211	867	452	283
9	1700	436	180	140	92	2300	1800	352	193	660	366	233
10	2730	391	170	140	92	1800	1340	323	213	518	531	606
11	2790	429	170	140	94	1400	1710	298	187	408	903	1370
12	2000	564	160	140	94	1200	1980	278	167	328	583	844
13	1520	480	160	130	94	920	1600	474	152	272	401	882
14	1170	430	160	130	96	1100	1430	729	146	235	319	652
15	923	380	160	130	98	960	1010	548	168	206	272	505
16	744	350	160	130	100	860	1070	449	219	183	235	965
17	636	370	150	120	98	780	993	386	189	168	222	1120
18	647	409	150	120	98	680	944	339	160	165	214	775
19	567	645	150	120	98	620	871	317	138	165	196	579
20	687	2700	150	110	100	560	1200	325	123	155	179	457
21	829	5130	150	110	110	490	2270	363	118	146	167	392
22	648	2570	140	110	100	450	2710	366	138	134	157	350
23	555	1210	140	110	100	420	2720	328	153	126	146	310
24	498	940	150	110	100	410	2580	294	136	118	131	270
25	447	800	160	110	100	400	2590	264	125	110	120	237
26	400	680	180	100	100	400	2580	241	135	103	113	220
27	369	600	160	100	120	400	2300	218	130	98	105	205
28	342	500	150	100	150	400	1860	204	118	98	105	184
29	348	450	150	110	---	420	1600	212	109	114	226	172
30	401	400	140	110	---	450	1350	266	116	104	218	286
31	368	---	140	110	---	560	---	479	---	108	176	---
TOTAL	33557	23959	6240	3830	2838	26190	49498	13378	5815	19069	12406	13429
MEAN	1082	799	201	124	101	845	1650	432	194	615	400	448
MAX	4740	5130	490	140	150	3000	2720	1110	507	4900	1980	1370
MIN	155	302	140	100	90	180	871	204	109	98	105	113
CFSM	2.58	1.90	.48	.30	.24	2.01	3.93	1.03	.46	1.46	.95	1.07
IN.	2.97	2.12	.55	.34	.25	2.32	4.38	1.18	.52	1.69	1.10	1.19

CAL YR 1982	TOTAL	183107	MEAN	502	MAX	5130	MIN	58	CFSM	1.20	IN	16.22
WTR YR 1983	TOTAL	210209	MEAN	576	MAX	5130	MIN	90	CFSM	1.37	IN	18.62

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	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)
NOV , 1982												
02...	1410	311	172	7.3	--	7.0	18	11.4	--	--	83	130
JAN , 1983												
18...	1230	121	283	7.6	--	.0	9.9	12.3	--	--	K4	210
APR												
19...	1000	901	142	7.7	2.5	2.5	55	12.2	--	--	K8	190
MAY												
24...	1610	284	160	7.8	20.5	15.0	22	9.2	--	--	K16	210
JUL												
06...	1200	1630	105	7.1	17.0	17.0	100	8.8	744	93	460	K2400
AUG												
16...	1420	221	150	7.8	23.5	22.0	20	7.5	754	87	60	900

DATE	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)	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 , 1982												
02...	78	4	20	6.8	2.7	7	.1	.3	74	15	2.8	<.10
JAN , 1983												
18...	100	6	26	9.4	4.4	8	.2	1.0	98	16	3.5	<.10
APR												
19...	66	8	17	5.6	2.8	8	.2	1.1	58	11	2.8	<.10
MAY												
24...	80	9	21	6.7	2.9	7	.1	.9	71	9.5	1.0	<.10
JUL												
06...	59	2	17	4.0	1.8	6	.1	.8	57	5.5	2.2	<.10
AUG												
16...	86	13	23	6.8	2.6	6	.1	.9	73	17	3.2	<.10

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 , 1982											
02...	10	124	103	.17	104	.14	.100	.60	.040	.030	.010
JAN , 1983											
18...	15	139	134	.19	45.4	.24	.080	.50	.030	.020	.010
APR											
19...	10	113	86	.15	275	.19	.100	.40	.120	.020	.020
MAY											
24...	6.8	120	92	.16	92.0	<.10	.060	.50	.030	<.010	<.010
JUL											
06...	7.2	104	73	.14	458	<.10	.040	1.40	.050	.040	<.010
AUG											
16...	11	141	110	.19	84.1	<.10	.020	.90	.040	.010	<.010

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
NOV , 1982											
02...	1410	311	70	1	32	1	1	1	3	2	600
APR , 1983											
19...	1000	901	100	1	59	<1	<1	<1	<3	11	510
MAY											
24...	1610	284	10	1	34	<1	1	<1	<3	4	320
AUG											
16...	1420	221	<10	2	61	<1	<1	<1	<3	4	1600

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1982											
02...	<1	4	30	<.1	10	<1	<1	<1	47	6.0	4
APR , 1983											
19...	5	<4	18	.2	<10	2	<1	<1	36	<6.0	4
MAY											
24...	<1	<4	20	<.1	<10	<1	<1	<1	47	<6.0	<3
AUG											
16...	2	5	28	<.1	<10	1	<1	<1	57	<6.0	13

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	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 , 1982							
06...	1010	581	160	11.5	--	--	--
NOV							
02...	1410	311	172	7.0	28	24	91
DEC							
15...	1400	158	242	.5	--	--	--
JAN , 1983							
18...	1230	121	283	.0	11	3.6	93
MAR							
15...	1530	960	153	.0	--	--	--
APR							
19...	1000	901	142	2.5	136	331	83
MAY							
24...	1610	284	160	15.0	36	28	88
JUL							
06...	1200	1630	105	17.0	266	1170	90
AUG							
16...	1420	221	150	22.0	44	26	91

STREAMS TRIBUTARY TO LAKE SUPERIOR

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 northwest of Red Cliff.

DRAINAGE AREA.--28.2 mi².

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN , 1983 22...	1600	5.5	202	8.0	30.0	16.0	9.4	746	97	100	0	27

DATE	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)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
JUN , 1983 22...	8.6	3.4	7	.2	1.1	106	2.0	8.0	1.1	.20	12

DATE	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, 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, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)
JUN , 1983 22...	113	125	.15	1.7	.020	<.10	.060	.14	.20	.040	<.010

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SED. TOTAL, SIEVE DIAM. % FINER THAN .062 MM	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR , 1983 16...	1150	40	60	37	4.0	60
APR 19...	1345	56	65	85	13	65

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 downstream from Potato River, 8.5 mi south of Odanah, and 23 mi from mouth.

DRAINAGE AREA.--597 mi².

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 1337: 1922. WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 668.30 ft National Geodetic Vertical Datum of 1929. May 17, 1948, to Nov. 6, 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 downstream at different datum.

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

AVERAGE DISCHARGE.--43 years (1915-22, 1949-83), 620 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,700 ft³/s Apr. 24, 1960, gage height, 21.7 ft from flood-marks and from rating curve extended above 12,000 ft³/s and a comparison with contracted-opening measurement of peak flow 45,600 ft³/s at Odanah, drainage area 990 mi²; minimum, 34 ft³/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, top of downstream bridge submerged, information from Indian Service.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 10	0800	3,620	7.80	Apr. 14	0600	3,510	7.68
Oct. 20	1400	3,450	7.61	Apr. 27	1100	6,530	10.63
Nov. 21	0900	*7,150	*11.16	May 31	0600	4,330	8.53
Mar. 8	--	4,500	ice jam	June 4	0700	4,630	8.82

minimum discharge, 105 ft³/s Sept. 3, 4, gage height, 2.32 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge affected by ice Nov. 12-18, 25-30, Dec. 8 to Mar. 14, Mar. 20-26.)

2.2	81	4.0	782
2.5	162	6.0	2,100
3.0	324	10.0	5,810
		11.0	6,960

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	1190	995	320	310	380	961	2180	2830	491	205	110
2	611	1040	1150	320	310	430	1530	1750	1900	482	170	109
3	793	943	1330	320	310	520	1570	1440	1920	691	159	107
4	749	924	1320	320	310	640	1290	1210	4200	2080	168	109
5	632	998	1110	320	310	1100	1220	1040	2910	1780	162	535
6	974	1030	932	320	310	1700	1320	907	2120	1240	151	852
7	2450	1040	800	320	310	2600	1200	812	1510	788	138	712
8	2070	1170	720	320	300	4500	1160	725	1120	562	133	563
9	1730	1150	660	330	300	3600	1490	656	939	438	130	419
10	3330	1090	580	340	300	2900	1320	594	818	367	168	480
11	2720	1400	520	330	300	2600	1550	557	716	309	483	966
12	2030	1500	460	320	300	2400	1910	526	615	270	465	796
13	1630	1400	400	320	310	2500	2370	519	540	236	335	670
14	1400	1300	360	320	320	2200	3130	564	496	211	253	526
15	1140	1200	330	320	330	1840	2230	523	489	196	208	420
16	928	1100	320	310	330	1570	1920	481	501	182	176	542
17	795	1000	310	310	310	1340	1650	439	501	179	173	731
18	750	920	310	310	310	1190	1410	402	477	179	168	675
19	705	1700	300	310	330	1040	1340	390	413	176	170	600
20	2770	4960	300	310	350	920	1700	393	360	176	161	729
21	2740	6820	300	320	360	840	2220	423	329	173	154	737
22	2110	4690	290	330	360	760	3130	425	312	173	150	588
23	1880	2830	300	340	350	700	4230	424	297	162	143	474
24	2110	2000	310	320	330	720	4680	442	264	156	135	435
25	2360	1800	350	310	320	740	5240	426	243	143	130	377
26	2280	1600	370	310	320	720	6080	398	230	135	122	327
27	2070	1400	350	310	320	633	6280	362	224	130	119	293
28	1780	1200	330	310	350	596	5190	337	212	124	114	261
29	1640	1100	320	310	---	539	3880	427	203	122	109	240
30	1690	1000	320	310	---	596	2870	1940	211	122	108	230
31	1410	---	320	310	---	579	---	4020	---	190	108	---
TOTAL	50953	51495	16767	9870	8970	43393	76071	25732	27900	12663	5568	14613
MEAN	1644	1717	541	318	320	1400	2536	830	930	408	180	487
MAX	3330	6820	1330	340	360	4500	6280	4020	4200	2080	483	966
MIN	611	920	290	310	300	380	961	337	203	122	108	107
CFSM	2.75	2.88	.91	.53	.54	2.35	4.25	1.39	1.56	.68	.30	.82
IN.	3.17	3.21	1.04	.62	.56	2.70	4.74	1.60	1.74	.79	.35	.91

CAL YR 1982	TOTAL	318723	MEAN	873	MAX	7830	MIN	116	CFSM	1.46	IN	19.86
WTR YR 1983	TOTAL	343995	MEAN	942	MAX	6820	MIN	107	CFSM	1.58	IN	21.43

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 downstream from bridge on State Highway 112 over dam, and 4.5 mi south of Ashland city limits.

DRAINAGE AREA.--301 mi².

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

REVISED RECORDS.--WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 660.15 ft 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.--35 years, 282 ft³/s, 12.72 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s Oct. 7, gage height, 3.39 ft; minimum daily, 98 ft³/s Dec. 9.

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 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	320	315	247	205	254	453	526	758	269	234	191
2	282	297	316	250	219	251	750	443	739	272	202	195
3	315	277	370	227	204	230	723	389	804	308	202	196
4	287	273	353	198	195	288	686	346	744	487	212	195
5	253	271	326	226	182	311	689	320	667	511	204	223
6	459	279	313	236	183	580	667	314	695	519	207	219
7	810	288	197	223	183	820	580	269	570	460	189	249
8	540	304	149	219	201	1000	581	271	480	374	202	244
9	723	307	98	226	201	1000	657	261	400	306	190	208
10	869	297	146	225	203	960	577	250	362	238	208	212
11	689	312	161	224	202	860	828	240	346	247	238	215
12	591	420	184	213	203	760	844	248	317	228	282	222
13	547	357	181	185	206	780	1020	260	309	216	275	247
14	475	314	189	217	207	640	1020	280	283	217	242	196
15	375	252	221	192	220	540	676	310	299	209	221	221
16	324	277	189	149	238	480	702	300	286	209	223	215
17	268	279	205	179	272	420	631	290	293	190	198	255
18	254	283	203	206	266	382	511	280	273	243	219	256
19	254	455	206	202	236	341	468	280	270	205	218	257
20	542	705	204	197	222	317	671	270	250	221	192	242
21	523	694	208	225	228	285	741	260	246	217	220	222
22	509	693	202	212	226	242	945	250	239	216	192	247
23	532	663	211	211	220	243	977	250	231	193	191	228
24	522	541	215	193	216	238	1030	250	230	193	193	215
25	465	396	240	231	206	229	967	260	225	204	215	215
26	419	331	232	175	205	247	949	256	226	187	190	185
27	374	248	183	135	206	250	897	246	202	201	191	214
28	331	245	192	167	225	242	862	254	200	192	190	186
29	315	229	102	198	---	234	774	259	216	192	190	212
30	330	320	126	200	---	234	674	734	280	191	209	186
31	335	---	226	185	---	254	---	875	---	207	190	---
TOTAL	13790	10927	6663	6373	5980	13912	22550	10041	11440	8122	6529	6568
MEAN	445	364	215	206	214	449	752	324	381	262	211	219
MAX	869	705	370	250	272	1000	1030	875	804	519	282	257
MIN	253	229	98	135	182	229	453	240	200	187	189	185
CFSM	1.48	1.21	.71	.68	.71	1.49	2.50	1.08	1.27	.87	.70	.73
IN.	1.70	1.35	.82	.79	.74	1.72	2.79	1.24	1.41	1.00	.81	.81
CAL YR 1982	TOTAL	104814	MEAN 287	MAX 1550	MIN 98	CFSM .95	IN 12.95					
WTR YR 1983	TOTAL	122895	MEAN 337	MAX 1030	MIN 98	CFSM 1.12	IN 15.19					

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.

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE OF HG	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)
NOV , 1982												
03...	1250	1340	101	7.6	--	6.4	6.9	11.4	--	--	83	340
JAN , 1983												
19...	0920	516	157	7.4	--	.0	4.9	12.5	--	--	K5	150
APR												
19...	1700	1920	95	7.5	6.5	4.0	31	12.4	--	--	K5	130
MAY												
25...	1445	692	136	7.5	15.5	15.0	--	9.1	--	--	K7	K230
JUL												
07...	0830	1760	84	7.4	25.5	19.5	21	8.0	754	88	110	740
AUG												
17...	1400	408	152	7.9	26.0	23.0	9.7	7.4	752	88	42	230

DATE	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)	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 , 1982												
03...	48	7	13	3.7	2.5	10	.2	.3	41	15	2.2	<.10
JAN , 1983												
19...	65	0	17	5.4	3.0	9	.2	.8	65	11	2.3	<.10
APR												
19...	42	3	11	3.5	2.6	12	.2	1.0	39	11	2.3	<.10
MAY												
25...	--	--	--	--	1.9	--	--	--	--	--	--	--
JUL												
07...	46	7	13	3.4	1.9	8	.1	.8	40	12	2.1	<.10
AUG												
17...	77	4	21	5.9	2.9	8	.1	.8	73	9.4	2.1	<.10

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 , 1982											
03...	10	83	72	.11	300	<.10	.040	.40	.070	.090	.020
JAN , 1983											
19...	14	87	93	.12	121	.21	.050	.30	.020	.020	.010
APR											
19...	9.8	74	65	.10	384	.13	.170	.40	.070	.010	.020
MAY											
25...	--	--	--	--	--	<.10	.110	.30	<.010	<.010	<.010
JUL											
07...	8.5	92	66	.13	437	<.10	.040	1.00	.550	.050	.010
AUG											
17...	11	113	97	.15	124	<.10	.020	.20	.030	.030	<.010

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
NOV , 1982											
03...	1250	1340	70	<1	31	1	4	<1	3	5	390
APR , 1983											
19...	1700	1920	100	1	60	<1	1	3	<3	11	310
AUG											
17...	1400	408	20	2	58	<1	<1	<1	<3	<1	200

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1982											
03...	1	4	16	<.1	10	<1	<1	--	28	6.0	14
APR , 1983											
19...	5	<4	15	.1	<10	1	<1	<1	25	<6.0	3
AUG											
17...	2	5	10	<.1	<10	4	<1	<1	48	7.0	<3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1982							
03...	1250	1340	101	6.4	12	43	92
JAN , 1983							
19...	0920	516	157	.0	4	5.6	77
APR							
19...	1700	1920	95	4.0	50	259	99
MAY							
25...	1445	692	136	15.0	20	37	66
JUL							
07...	0830	1760	84	19.5	33	157	98
AUG							
17...	1400	408	152	23.0	14	15	94

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 downstream from Cisco Lake Dam, 2.5 mi upstream from Langford Creek, 5.0 mi upstream from U.S. Highway 2, and 13 mi west of Watersmeet.

DRAINAGE AREA.--50.7 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1968, nonrecording gage at same site and at datum 4.00 ft higher.

REMARKS.--Records good except those below 10.0 ft³/s, which are poor. Flow completely regulated by Cisco Lake, usable capacity, 15,600 acre-ft. Several observations of water temperature were made during the year.

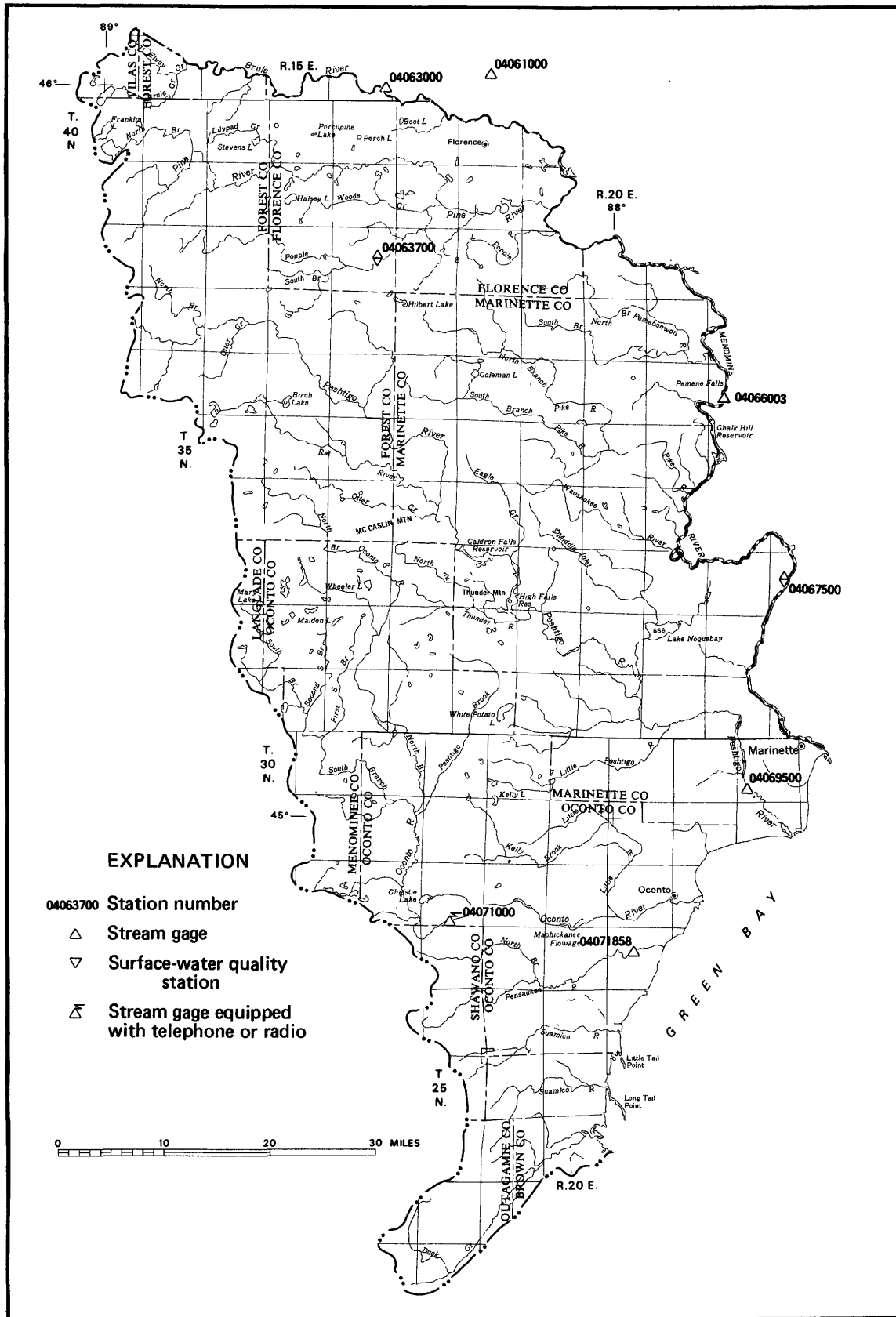
AVERAGE DISCHARGE.--39 years, 47.5 ft³/s, 12.72 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 190 ft³/s July 5, 6, gage height, 5.60 ft; minimum daily, 0.29 ft³/s May 16, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	112	102	95	65	50	49	65	.89	30	.40	14
2	52	108	102	93	65	50	49	73	.87	31	.39	14
3	52	108	102	90	66	50	49	72	1.4	40	.65	14
4	106	106	101	88	66	51	49	38	5.8	47	.67	14
5	138	103	100	87	65	68	49	2.4	9.7	98	.62	15
6	119	102	102	71	64	81	48	1.5	22	188	.61	25
7	142	100	101	75	57	84	49	1.2	51	182	.44	68
8	162	96	100	87	49	85	49	.93	93	174	.36	95
9	159	95	99	86	49	88	49	.64	108	168	26	92
10	157	95	97	77	49	89	51	.38	110	162	111	97
11	152	93	96	62	48	89	51	.35	110	72	128	98
12	147	95	94	53	49	89	58	.29	110	3.6	97	96
13	142	112	76	60	46	89	71	.39	85	2.5	72	93
14	136	101	59	67	30	88	79	.37	28	1.6	50	60
15	129	113	60	67	30	87	81	.31	1.9	1.6	49	14
16	126	110	59	67	31	87	81	.25	1.3	1.4	41	15
17	126	108	60	67	31	86	80	.27	1.0	1.3	29	23
18	121	100	59	66	31	86	79	.26	.95	1.0	29	30
19	116	104	61	66	31	85	79	.27	1.0	1.0	17	30
20	122	110	61	65	31	85	78	.25	16	.90	2.8	80
21	128	113	61	56	32	84	77	.28	29	1.0	2.3	124
22	127	109	61	41	32	83	77	.36	117	1.1	1.8	123
23	124	114	61	32	32	80	77	.55	177	.93	1.5	122
24	123	105	61	33	33	79	77	.58	173	.85	1.3	119
25	120	112	66	33	33	78	62	.68	168	.74	.93	116
26	120	109	68	33	34	76	42	.59	162	.46	.77	51
27	122	111	86	34	34	76	54	.55	103	.40	.47	25
28	88	109	102	34	43	62	61	.44	30	.40	.34	11
29	96	107	102	44	---	49	65	.64	30	.38	8.4	1.6
30	117	105	100	53	---	49	70	1.0	29	.36	15	1.5
31	115	---	98	59	---	49	---	1.2	---	.42	14	---
TOTAL	3734	3165	2557	1941	1226	2332	1890	264.93	1775.81	1213.94	702.75	1681.1
MEAN	120	106	82.5	62.6	43.8	75.2	63.0	8.55	59.2	39.2	22.7	56.0
MAX	162	114	102	95	66	89	81	73	177	188	128	124
MIN	50	93	59	32	30	49	42	.25	.87	.36	.34	1.5
CAL YR 1982	TOTAL	24215.97	MEAN	66.3	MAX	201	MIN	.29				
WTR YR 1983	TOTAL	22483.53	MEAN	61.6	MAX	188	MIN	.25				



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

MENOMINEE-OCONTO-PESHTIGO RIVER BASIN

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 upstream from highway bridge, 1.0 mi upstream from Paint River, 2.5 mi north of Florence, and 5.0 mi upstream from confluence with Michigamme River.

DRAINAGE AREA.--389 mi².

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 National Geodetic Vertical Datum of 1929 (levels by Owen Ayres Associates). Prior to Aug. 29, 1944, nonrecording gage at bridge 40 ft 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.--40 years (water years 1915, 1945-83), 362 ft³/s, 12.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s July 2, 1953, gage height, 6.57 ft; maximum gage height, 8.27 ft Dec. 26, 1969, backwater from ice; minimum discharge, 118 ft³/s Dec. 2, 1963 (discharge measurement); minimum gage height, 1.79 ft July 24, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,650 ft³/s May 23, gage height, 3.95 ft; maximum gage height recorded, 7.18 ft Jan. 30, backwater from ice, but may have been higher during periods of no gage height record, Dec. 9-27, Jan. 5-8, 11-15, 18-29, Jan. 31 to Feb. 2, Feb. 5-9; minimum discharge, 267 ft³/s Sept. 3, 4, gage height, 2.13 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369	403	440	410	320	330	374	648	896	393	427	307
2	344	392	457	400	320	335	389	627	808	388	334	287
3	359	388	410	390	320	345	393	659	787	447	381	273
4	363	385	401	390	320	370	386	592	1080	724	481	268
5	347	381	386	390	320	468	383	546	1150	703	419	296
6	429	374	383	390	320	495	405	515	994	537	362	361
7	535	356	370	380	315	731	407	682	817	454	323	344
8	536	354	360	380	310	900	407	953	714	412	298	309
9	476	352	350	370	310	930	450	836	699	385	294	288
10	561	354	350	370	310	752	464	685	670	373	433	289
11	569	400	340	365	310	696	462	595	604	360	657	319
12	521	614	330	355	320	630	476	555	561	343	535	301
13	478	703	325	350	320	586	560	574	533	332	431	291
14	442	586	325	350	320	562	855	636	512	324	379	281
15	417	580	325	350	330	534	1080	570	604	328	341	276
16	389	556	325	345	330	512	898	516	644	310	321	331
17	368	533	325	340	330	495	752	482	600	300	328	372
18	378	436	330	335	330	484	678	461	541	291	361	418
19	370	435	340	330	330	478	621	463	492	291	343	420
20	564	532	350	330	330	468	612	496	458	285	321	1040
21	772	616	360	330	330	462	657	520	434	329	303	1300
22	692	582	370	330	330	438	768	774	616	423	316	1020
23	609	521	390	325	330	434	849	1550	780	359	305	719
24	565	457	410	325	325	420	881	1560	600	320	290	582
25	540	400	440	320	325	400	898	1210	517	303	284	495
26	512	450	460	320	325	390	930	922	494	295	282	431
27	485	380	460	320	325	403	952	748	447	286	281	400
28	466	370	450	320	330	398	922	674	418	294	281	370
29	476	410	440	320	---	382	836	890	399	298	274	344
30	464	380	430	320	---	372	721	1010	392	295	307	332
31	433	---	410	320	---	369	---	1020	---	474	352	---
TOTAL	14829	13680	11842	10870	9035	15569	19466	22969	19261	11656	11044	13064
MEAN	478	456	382	351	323	502	649	741	642	376	356	435
MAX	772	703	460	410	330	930	1080	1560	1150	724	657	1300
MIN	344	352	325	320	310	330	374	461	392	285	274	268
CFSM	1.23	1.17	.98	.90	.83	1.29	1.67	1.91	1.65	.97	.92	1.12
IN.	1.42	1.31	1.13	1.04	.86	1.49	1.86	2.20	1.84	1.11	1.06	1.25
CAL YR 1982	TOTAL	150210	MEAN 412	MAX 1330	MIN 219	CFSM 1.06	IN 14.36					
WTR YR 1983	TOTAL	173285	MEAN 475	MAX 1560	MIN 268	CFSM 1.22	IN 16.57					

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 downstream from confluence of Brule and Michigamme Rivers, 3.5 mi northeast of Florence, and at mile 117.

DRAINAGE AREA.--1,780 mi².

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 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 Wisconsin Electric Power Co., 10.4 mi 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, and Peavy Pond, capacity, 33,860 acre-ft, on Michigamme River, and by many smaller reservoirs above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--69 years, 1,817 ft³/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,100 ft³/s, June 5, 6, gage height, 8.65 ft; minimum, 223 ft³/s Sept. 18, gage height, 1.88 ft; minimum daily, 1,020 ft³/s Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2010	2290	2220	2140	2360	1820	2270	3480	6800	1630	1680	1190
2	2080	2260	3040	2250	2350	1860	2330	3690	6920	1460	1760	1260
3	2040	2410	3290	2210	2330	2020	2330	3260	5660	1830	1810	1370
4	2420	2260	3200	2200	2250	2260	2010	2960	6030	2130	2170	1270
5	2290	2240	2970	2250	2390	2130	2420	2810	8090	2610	1780	1260
6	2410	2010	2670	2200	1310	1790	2220	2830	7950	2600	1800	1480
7	2350	2230	2380	2250	2200	2200	1880	2990	6860	2710	1810	1380
8	2700	2460	2170	2100	2340	3460	2030	3320	4580	2560	1810	1330
9	2250	2410	1730	2200	2270	3410	2130	3330	3340	1530	1740	1300
10	2460	2210	1790	2360	2130	2820	2210	3010	3350	1640	1930	1020
11	2710	2480	1910	2220	2320	2530	2350	2780	3640	1790	2250	1120
12	2970	2810	1670	2080	2340	2880	1820	2300	3510	1640	1900	1350
13	3050	3270	2120	2270	2370	2820	1320	2560	3420	1170	1380	1450
14	3000	3180	1870	2230	2230	2850	2090	2390	3250	1480	1280	1390
15	2950	2870	2190	2310	2080	2780	3370	2440	3040	1830	1500	1170
16	2930	2590	2210	2280	2470	2380	3340	2560	3310	1590	1610	1310
17	2830	2800	2300	2210	2300	2400	3040	2650	2960	1510	1830	1260
18	3110	2620	2330	2210	2320	2340	2880	2480	2570	1690	1450	1220
19	2970	2660	2070	2250	2210	2550	2510	2250	2470	1670	1560	1390
20	3190	2680	2150	1990	2240	2440	2260	2400	2090	1670	1530	2830
21	3240	3280	2090	2200	2280	2530	1680	2450	2240	1550	1530	3810
22	3210	3370	2060	2490	2280	2380	1850	2940	2980	1830	1670	3230
23	3130	3040	2220	2260	2070	2240	2380	6030	5140	1980	1630	2580
24	2980	2920	2080	2210	2450	2070	2400	7200	4730	1630	1500	2460
25	3030	2940	2170	2340	2220	2300	2900	7040	4200	2000	1640	1460
26	3050	3130	2000	2350	2240	2260	3160	7100	3640	1950	1540	1400
27	3260	2850	1880	2450	2230	2240	3720	5730	2760	1970	1770	1630
28	3130	2360	1840	2400	2230	2290	3490	4330	1510	2000	1810	1530
29	3250	2150	1970	2260	---	2300	3780	4480	1810	2020	1790	1630
30	3120	2160	1790	2360	---	2310	3710	5530	1620	1830	1490	1330
31	2680	---	2240	2300	---	2420	---	6740	---	2050	1500	---
TOTAL	86800	78940	68620	69830	62810	75080	75880	116060	120470	57550	52450	48410
MEAN	2800	2631	2214	2253	2243	2422	2529	3744	4016	1856	1692	1614
MAX	3260	3370	3290	2490	2470	3460	3780	7200	8090	2710	2250	3810
MIN	2010	2010	1670	1990	1310	1790	1320	2250	1510	1170	1280	1020
CAL YR 1982	TOTAL	790519	MEAN	2166	MAX	8850	MIN	494				
WTR YR 1983	TOTAL	912900	MEAN	2501	MAX	8090	MIN	1020				

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 upstream from bridge on U. S. Forest Service Road 2159, 1.8 mi downstream from Mud Creek, 2.6 mi northwest of Fence, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--139 mi².

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 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.--20 years, 126 ft³/s, 12.31 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 15	1200	320	2.47	May 8	2000	386	2.73
Apr. 14	2000	455	2.86	May 24	2300	*690	*3.25
Apr. 28	1000	406	2.77				

minimum discharge, 34 ft³/s July 27.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 23-26, May 1-8, 10-15, Aug. 6-16; stage-discharge relation affected by ice Nov. 25 to Dec. 2, Dec. 6 to Feb. 27, Mar. 6-13, 15, 20-30.)

Oct. 1 to Aug. 16

Aug. 17 to Sept. 30

1.2	30	2.5	330	1.2	30	2.0	189
1.4	50	3.0	550	1.4	55	2.5	378
1.7	100	3.5	840	1.7	110		
2.0	170						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	186	110	100	66	77	88	371	472	72	54	39
2	150	172	120	100	66	78	98	344	421	70	47	37
3	154	160	150	96	64	81	107	322	373	80	65	36
4	152	151	153	94	62	91	105	289	364	148	91	36
5	140	144	148	88	60	122	106	259	344	174	85	40
6	135	136	140	86	60	150	125	236	317	168	68	43
7	143	128	130	84	64	190	126	296	288	157	58	45
8	153	124	120	84	66	230	128	370	263	130	51	43
9	157	121	100	82	68	250	154	383	261	108	45	39
10	187	121	90	82	68	250	162	365	244	97	78	40
11	198	138	80	80	70	270	162	343	222	88	172	40
12	200	234	76	80	70	280	174	313	202	79	226	42
13	196	286	74	80	70	270	237	300	176	70	220	40
14	187	260	74	80	72	242	378	325	163	62	201	40
15	174	272	72	78	72	220	432	312	186	57	182	40
16	161	265	74	74	72	192	400	290	219	51	156	53
17	148	243	72	74	72	184	388	261	205	58	129	56
18	139	214	70	74	74	169	366	231	176	65	124	77
19	135	203	72	72	74	148	332	222	151	57	106	87
20	192	221	74	74	74	160	306	217	133	49	87	165
21	256	239	74	72	74	150	281	210	121	49	75	237
22	274	237	74	72	74	140	285	318	138	49	72	270
23	271	228	76	72	74	130	301	504	140	46	66	259
24	262	201	78	70	72	120	325	632	124	43	58	239
25	247	190	94	68	72	120	347	672	111	40	53	216
26	233	160	130	66	72	110	367	626	101	37	50	194
27	220	140	140	66	74	110	391	556	89	35	47	175
28	215	120	140	68	76	110	405	489	81	38	45	155
29	229	110	130	68	---	96	401	476	74	39	42	133
30	213	110	120	68	---	92	388	493	71	41	43	112
31	199	---	110	68	---	88	---	500	---	55	40	---
TOTAL	5875	5514	3165	2420	1952	4920	7865	11525	6230	2312	2836	3028
MEAN	190	184	102	78.1	69.7	159	262	372	208	74.6	91.5	101
MAX	274	286	153	100	76	280	432	672	472	174	226	270
MIN	135	110	70	66	60	77	88	210	71	35	40	36
CFSM	1.37	1.32	.73	.56	.50	1.14	1.89	2.68	1.50	.54	.66	.73
IN.	1.57	1.48	.85	.65	.52	1.32	2.10	3.08	1.67	.62	.76	.81

CAL YR 1982	TOTAL	48234	MEAN 132	MAX 514	MIN 21	CFSM .95	IN 12.91
WTR YR 1983	TOTAL	57642	MEAN 158	MAX 672	MIN 35	CFSM 1.14	IN 15.43

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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
DEC , 1982												
16...	0800	74	180	7.7	--	.0	1.6	10.6	--	--	K9	K1
JAN , 1983												
25...	1600	68	185	7.4	--	.0	2.0	13.6	--	--	K14	38
MAY												
10...	1300	364	81	6.8	18.0	9.5	1.1	10.3	--	--	K5	250
SEP												
07...	1255	45	220	7.8	20.0	17.0	<1.0	8.6	729	93	27	87

DATE	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)	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)
DEC , 1982												
16...	95	8	20	11	1.6	4	.0	.6	87	10	1.8	.10
JAN , 1983												
25...	98	4	21	11	1.7	4	.0	.9	94	12	1.6	<.10
MAY												
10...	37	6	8.3	4.0	1.2	6	.0	.8	31	12	1.5	<.10
SEP												
07...	110	0	24	12	1.7	3	.0	.9	112	10	1.6	.20

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)
DEC , 1982											
16...	13	128	111	.17	25.6	.16	.050	.40	.020	.020	.020
JAN , 1983											
25...	14	115	119	.16	21.1	.20	.090	.10	.150	.010	.010
MAY											
10...	4.0	71	51	.10	69.8	.14	.110	.50	.050	.010	<.010
SEP											
07...	10	129	128	.18	15.7	<.10	<.010	.50	.010	.010	<.010

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
16...	0800	74	80	1	16	<1	4	<1	<3	2	370
MAY , 1983											
10...	1300	364	100	1	12	<1	4	3	<3	9	210

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
16...	24	<4	60	2.6	<10	1	<1	<1	23	<6.0	20
MAY , 1983											
10...	17	<4	20	.2	<10	2	<1	<1	11	<6.0	31

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)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
JAN , 1983									
25...	1600	68	<3.3	<.4	2.3	<.4	.05	<.4	.54

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1982							
06...	1150	133	120	14.0	--	--	--
DEC							
16...	0800	74	180	.0	4	.80	64
JAN , 1983							
25...	1600	68	185	.0	2	.37	67
FEB							
21...	1555	74	220	1.0	--	--	--
APR							
06...	1245	125	160	3.5	--	--	--
MAY							
10...	1300	364	81	9.5	5	4.9	--
JUN							
14...	1515	152	120	23.5	--	--	--
JUL							
26...	1650	37	220	25.0	--	--	--
AUG							
16...	1210	158	95	22.0	--	--	--
SEP							
07...	1255	45	220	17.0	3	.36	100
17...	1125	45	220	17.5	--	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN

04066003 MENOMINEE RIVER BELOW PEMENE CREEK NEAR PEMBINE, WI

LOCATION.--Lat 45°34'46", long 87°47'13", in NE 1/4, sec.29, T. 37 N., R.28 W., Michigan Meridian, Menominee County, MI, Hydrologic Unit 04030108, on left bank 40 ft downstream from County Trunk Z bridge, 0.9 mi downstream from Pemene Creek, 3.9 mi west of Nathan, MI, 10.6 mi southeast of Pembine, and at mile 64.3. Prior to August 1982, at site 1.5 mi upstream.

DRAINAGE AREA.--3,140 mi².

PERIOD OF RECORD.--October 1949 to current year. Published as "near Pembine" prior to August 1982. Monthly discharges only for some periods, published in WSP 1307.

GAGE.--Water-stage recorder. Altitude of gage is 740 ft, from topographic map. October 1949 to Oct. 27, 1972, water-stage recorder at site 1.0 mi upstream at different datum, and Oct. 28, 1972, to August 1982, water-stage recorder at site 1.5 mi upstream at different datum.

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

AVERAGE DISCHARGE.--34 years, 3,012 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s May 8, 1960, gage height, 13.90 ft site and datum then in use; minimum, 694 ft³/s Sept. 3, 1969, gage height, 1.66 ft site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft³/s May 25, gage height, 12.68 ft; maximum gage height, 18.85 ft Jan. 21, backwater from ice; minimum daily, 1,800 ft³/s Sept. 17.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 7 to Mar. 8.)

7.5	1,770	11.0	7,450
8.0	2,370	12.0	9,650
9.0	3,850	13.0	12,200
10.0	5,550		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3310	3590	3390	3400	2900	2900	3360	5820	9650	2440	2600	2090
2	3310	3610	4000	3400	2900	2700	3340	5690	9380	2630	2720	1840
3	3220	3370	4450	3000	2900	2600	3510	5430	8980	2460	2680	1830
4	3390	3450	4880	3000	2800	3000	3670	5010	7730	3560	2540	1880
5	3610	3400	4980	3200	2700	3400	3680	4770	9870	3470	2700	1870
6	3760	3290	5010	3400	2600	3400	3740	4410	10600	3940	2570	1810
7	4060	3320	4000	3100	2100	4600	3770	4740	10000	3750	2340	1960
8	3980	3340	3100	2800	2500	7000	3610	6070	8500	4010	2310	1920
9	4120	3230	2700	3100	2900	9260	3620	6450	5440	2900	2270	1850
10	4130	3400	2900	3100	2900	7930	4000	5990	5350	2650	2230	1850
11	4550	3740	2600	3100	2800	5640	4820	4960	5720	2660	3230	2090
12	5160	4730	2500	3000	2800	5410	3900	4440	5270	2460	3210	2090
13	5250	6400	2700	3100	2800	5820	4290	4690	5190	2260	2800	2300
14	5020	6120	3000	3100	2900	5580	5120	4410	4700	1990	2420	2210
15	4610	5340	2800	2900	3000	5030	7710	4520	4480	2330	2310	1860
16	4470	4480	2800	2700	2900	4160	8120	4330	4820	2500	2280	1840
17	4150	4500	2800	3000	2800	4030	6920	4400	4750	2330	2570	1800
18	4000	4490	3000	2900	2900	3950	5930	3860	4420	2350	2660	2070
19	4320	4360	3000	2800	2900	4250	5340	3910	3610	2350	2320	2140
20	5020	4630	2700	2700	2800	3950	4960	4150	3550	2230	2190	2960
21	5490	5430	2700	2800	3000	3940	4050	3960	3300	2290	2310	4910
22	5190	5970	2900	2800	3100	3750	3900	4210	3270	2220	2070	5490
23	5900	5040	3000	3000	3100	3450	4650	8410	5450	2500	2100	4850
24	4920	4920	3300	3000	2900	3160	4790	10700	6060	2500	2120	4270
25	4570	4320	3700	2800	2800	3260	4830	11200	5100	2600	2060	3620
26	4940	4450	4000	2700	2900	3290	5300	10900	4740	2500	2030	2590
27	4780	4640	4100	2600	3100	3340	6180	9650	4370	2300	2040	2660
28	4710	3690	4100	2700	2900	3340	5560	7670	2730	2360	2260	2790
29	4930	3420	3500	2800	---	3370	6010	6420	2370	2520	2240	2580
30	4550	3450	3200	3000	---	3340	6000	8220	2410	2450	2120	2380
31	4420	---	3400	2900	---	3370	---	8470	---	2590	2440	---
TOTAL	137840	128120	105210	91900	79600	132220	144680	187860	171810	82100	74740	76400
MEAN	4446	4271	3394	2965	2843	4265	4823	6060	5727	2648	2411	2547
MAX	5900	6400	5010	3400	3100	9260	8120	11200	10600	4010	3230	5490
MIN	3220	3230	2500	2600	2100	2600	3340	3860	2370	1990	2030	1800
WTR YR 1983 TOTAL	1412480		MEAN 3870		MAX 11200	MIN 1800						

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 downstream from bridge on County Highway JJ, 2.9 mi downstream from Grand Rapids Dam, 2.6 mi east of McAllister, 1.9 mi downstream from Little Cedar River, and at mile 22.6.

DRAINAGE AREA.--3,930 mi².

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 National Geodetic Vertical Datum of 1929 (Michigan Department of Transportation reference mark). Prior to May 15, 1945, nonrecording gage 1,400 ft downstream at same datum; May 16, 1945, to September 1961, water-stage recorder 1,000 ft downstream at same datum; October 1961 to September 1979, crest-stage gage 1,100 ft 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, and Peavy Pond, capacity, 33,860 acre-ft on the Michigamme River, and by many smaller reservoirs above station.

AVERAGE DISCHARGE.--20 years (water years 1946-61, 1980-83), 3,506 ft³/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft³/s May 26, gage height, 15.58 ft; minimum daily 1,830 ft³/s Sept. 5.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10-15, Dec. 28 to Mar. 6.)

9.0	1,740	13.0	8,300
9.5	2,360	14.0	10,500
10.0	3,040	15.0	13,000
11.0	4,600	16.0	15,900
12.0	6,400		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3710	5250	4320	4700	3300	3900	4400	6990	10300	2680	2910	2680
2	3700	4420	4470	4600	3400	3800	4460	7100	11000	2820	3140	2270
3	3650	4330	5360	4300	3500	3600	4630	7040	11100	2840	2910	2100
4	3850	4100	5570	4100	3500	3800	4800	6720	10500	3040	2880	2010
5	3980	4160	5910	4100	3500	4200	4790	6230	9630	4000	3070	1830
6	4520	3980	6300	4300	3300	5000	4780	5960	10900	4230	2800	2160
7	5250	3920	6580	4100	3000	6060	5230	5850	11900	4370	2770	2060
8	5770	3900	5500	4200	2700	7520	5320	6780	11400	3840	2810	2250
9	5370	4260	3770	3800	3300	10200	4980	7990	9560	4240	2600	2050
10	5480	4030	3400	4000	3700	11200	5260	8330	6450	3060	3120	2080
11	5710	4390	3700	4000	3600	10600	6320	7410	6350	2700	2740	2120
12	6060	5410	3900	3700	3500	8860	6520	6250	6710	2760	3920	2350
13	6620	7130	3600	3600	3500	6970	6170	5610	5990	2640	3750	2330
14	6470	8640	3300	3700	3800	7130	6750	5920	5910	2460	3190	2350
15	6250	7780	3700	3500	3800	7000	8630	5500	5480	2060	2950	2540
16	5600	6530	4450	3500	3500	6680	10800	5650	5250	2580	2650	2550
17	5400	6030	3940	3500	3500	5310	10800	5270	5430	2770	2780	2680
18	5160	5820	3560	3500	3900	5250	9120	5270	5830	2250	2770	2110
19	4980	5850	3730	3500	3900	5410	7670	4910	5060	2480	2900	2610
20	5210	5420	3840	3400	3600	5300	6980	5080	4150	2480	2750	3390
21	6660	6040	4020	3500	3900	5110	6300	5470	3850	2450	2470	4880
22	7240	6990	3360	3600	3900	4720	5370	5650	3860	2410	2660	6350
23	6900	7320	3780	3700	3900	5030	5450	7130	4610	2360	2490	6780
24	6950	6250	3930	3900	3700	4660	6000	11200	6370	2780	2650	5840
25	5930	5690	4580	3700	3800	4200	5940	13500	6510	2450	2370	5250
26	5250	5470	5050	3500	3700	4250	5960	14100	5360	2490	2240	4060
27	5440	5090	5710	3200	3600	4170	6560	13300	5100	2550	2280	3000
28	5730	5590	5400	3400	3900	4130	7150	11900	4580	2530	2240	3340
29	5200	4490	5000	3700	---	3880	6710	9520	3030	2650	2510	3190
30	5750	3980	4500	3400	---	4090	7120	8310	2530	2740	2630	3380
31	5270	---	4500	3400	---	4270	---	9790	---	2780	2340	---
TOTAL	169060	162260	138730	117100	100200	176300	190970	235730	204700	88490	86290	92590
MEAN	5454	5409	4475	3777	3579	5687	6366	7604	6823	2855	2784	3086
MAX	7240	8640	6580	4700	3900	11200	10800	14100	11900	4370	3920	6780
MIN	3650	3900	3300	3200	2700	3600	4400	4910	2530	2060	2240	1830
CFSM	1.39	1.38	1.14	.96	.91	1.45	1.62	1.94	1.74	.73	.71	.79
IN.	1.60	1.54	1.31	1.11	.95	1.67	1.81	2.23	1.94	.84	.82	.88
CAL YR 1982	TOTAL	1508020	MEAN	4132	MAX	12500	MIN	1540	CFSM	1.05	IN	14.27
WTR YR 1983	TOTAL	1762420	MEAN	4829	MAX	14100	MIN	1830	CFSM	1.23	IN	16.68

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
DEC , 1982												
15...	1200	3700	200	8.0	--	.0	1.5	13.9	--	--	22	K11
JAN , 1983												
26...	0900	3500	210	7.6	--	.0	1.4	13.0	--	--	500	60
FEB												
22...	1400	3900	245	7.9	--	.0	1.9	14.0	--	--	--	--
MAY												
11...	1330	7280	150	7.6	19.0	12.0	1.8	--	--	--	--	--
JUL												
27...	1245	2900	200	8.1	--	26.0	1.0	7.3	747	92	12	160
SEP												
08...	1350	2200	220	7.8	23.0	22.0	1.2	6.4	752	74	9	180

DATE	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)	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)
DEC , 1982												
15...	--	--	--	--	--	--	--	.7	92	12	2.9	.10
JAN , 1983												
26...	110	6	24	11	2.3	4	.1	.9	99	13	2.7	<.10
FEB												
22...	110	5	24	11	2.4	5	.1	1.2	100	14	3.4	<.10
MAY												
11...	82	10	19	8.5	1.7	4	.0	.9	73	10	2.4	<.10
JUL												
27...	99	10	23	10	2.8	6	.1	.9	89	14	2.9	.40
SEP												
08...	110	8	25	11	2.3	4	.0	1.0	100	12	2.9	.10

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)
DEC , 1982											
15...	--	132	--	.18	1320	.21	.020	.40	.020	.050	.050
JAN , 1983											
26...	10	118	123	.16	1120	.28	.060	.20	.220	<.010	.010
FEB											
22...	9.5	130	126	.18	1370	.27	.050	.20	.030	.010	<.010
MAY											
11...	5.8	89	92	.12	1750	<.10	.020	.20	.020	.010	<.010
JUL											
27...	7.4	127	115	.17	994	<.10	.040	.40	.040	.020	<.010
SEP											
08...	7.6	138	122	.19	820	<.10	<.010	1.00	.130	.010	<.010

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
15...	1200	3700	70	1	--	--	--	<1	--	2	--
FEB , 1983											
22...	1400	3900	<10	1	14	<1	3	<1	<3	4	180
MAY											
11...	1330	7280	<10	1	14	<1	2	1	<3	8	130
SEP											
08...	1350	2200	--	2	18	<1	1	--	<3	--	14

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
15...	16	--	--	2.8	--	1	--	<1	--	--	--
FEB , 1983											
22...	17	<4	12	<.1	<10	2	<1	<1	43	<6.0	10
MAY											
11...	68	<4	17	<.1	10	5	<1	<1	29	<6.0	9
SEP											
08...	--	<4	16	.5	<10	--	<1	<1	44	<6.0	11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC , 1982							
15...	1200	3700	200	.0	5	50	72
JAN , 1983							
26...	0900	3500	210	.0	2	19	71
FEB							
22...	1400	3900	245	.0	1	11	67
APR							
05...	1420	4710	225	5.5	--	--	--
MAY							
11...	1330	7280	150	12.0	3	59	87
JUN							
15...	1455	5350	155	22.5	--	--	--
JUL							
27...	1245	2900	200	26.0	4	31	61
SEP							
08...	1240	1860	220	22.0	--	--	--
08...	1350	2200	220	22.0	4	24	97

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 downstream from Chicago and Northwestern Railway bridge, 0.5 mi downstream from Wisconsin Public Service Corp. Powerplant at Peshtigo, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--1,080 mi².

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Diurnal fluctuation caused by two powerplants upstream.

AVERAGE DISCHARGE.--30 years, 1,236 ft³/s, 11.78 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,410 ft³/s May 27, gage height, 8.11 ft; minimum daily, 340 ft³/s Aug. 1.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-14, Dec. 30 to Jan. 3, Jan. 16-22, 25-28, Feb. 3-12.)

1.4	215	6.0	2,180
2.0	450	7.0	3,580
3.0	970	9.0	5,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	740	1160	1170	1000	630	1580	1060	1490	2240	769	340	504
2	632	1270	1260	1100	572	1600	1080	1780	2140	844	437	491
3	688	1370	1440	1100	660	1800	1250	1950	2120	683	383	492
4	729	962	1460	790	740	1920	1360	1670	2240	1090	502	445
5	725	739	1520	815	700	2120	1500	1520	2120	954	440	437
6	838	951	1890	823	600	2230	1400	1560	1960	1100	658	367
7	1320	890	1970	770	540	2680	1420	1960	2030	1140	546	1060
8	1350	924	1600	869	660	3170	1510	2490	1590	1010	536	1240
9	1060	783	1100	752	640	3580	1720	2330	1470	955	513	1310
10	1160	829	821	730	620	3440	1930	2430	1410	699	404	1200
11	1330	1380	800	813	620	3100	2030	2370	1380	503	700	1190
12	1130	1850	1000	692	640	2890	2030	2150	1170	622	1070	987
13	1060	2480	840	732	631	2650	2220	1710	1070	578	1140	1040
14	1170	2670	760	772	581	2200	2750	1460	1100	608	1110	1130
15	1180	2520	931	818	589	2260	2920	1670	940	566	1030	1180
16	994	2330	798	740	594	1830	2670	1490	1110	548	970	1170
17	1000	1920	717	700	554	1780	2660	1410	1070	442	778	1270
18	700	1550	653	760	744	1750	2490	1400	1040	394	745	1150
19	771	1580	679	700	717	1690	2310	1390	910	474	638	1120
20	953	1780	749	620	636	1600	2070	1710	982	507	675	1900
21	1310	1770	751	580	751	1390	1690	1750	832	459	504	2170
22	1580	1660	659	640	1070	1400	1360	1980	826	445	522	2530
23	1640	1680	738	573	1210	1130	1640	2960	780	378	665	2320
24	1560	1560	952	616	1310	1190	1700	3850	738	397	549	1950
25	1260	1260	1200	660	1370	1120	1530	3930	718	343	545	1680
26	1360	1160	1300	720	1290	1100	1350	4060	732	426	490	1400
27	1270	1030	1660	660	1260	1000	1310	4210	862	422	428	1310
28	1260	813	1720	580	1440	758	1400	3510	936	506	574	1090
29	1340	1070	1810	560	---	959	1410	2760	807	440	483	871
30	1160	1170	940	576	---	997	1460	2370	711	597	492	988
31	1080	---	1000	576	---	946	---	2380	---	455	499	---
TOTAL	34350	43111	34888	22837	22369	57860	53230	69700	38034	19354	19366	35992
MEAN	1108	1437	1125	737	799	1866	1774	2248	1268	624	625	1200
MAX	1640	2670	1970	1100	1440	3580	2920	4210	2240	1140	1140	2530
MIN	632	739	653	560	540	758	1060	1390	711	343	340	367
CFSM	1.03	1.33	1.04	.68	.74	1.73	1.64	2.08	1.17	.58	.58	1.11
IN.	1.18	1.48	1.20	.79	.77	1.99	1.83	2.40	1.31	.67	.67	1.24

CAL YR 1982 TOTAL 364752 MEAN 999 MAX 3670 MIN 215 CFSM .93 IN 12.56
WTR YR 1983 TOTAL 451091 MEAN 1236 MAX 4210 MIN 340 CFSM 1.14 IN 15.54

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 upstream from County Trunk Highway BB bridge, 2.0 mi upstream from Christy Brook, 2.0 mi south of Gillett, and at mile 29.

DRAINAGE AREA.--705 mi².

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 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.--72 years (water years 1907-08, 1914-83), 581 ft³/s, 11.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft³/s Apr. 10, 1922, gage height, 11.2 ft from flood-marks, caused by a failure of dam at Pulcifer 4 mi above station; minimum, 93 ft³/s Nov. 26, 1941, gage height, 0.13 ft flow retarded by anchor ice above station.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 9	1600	ice jam	*5.12	May 26	0700	1,800	3.58
Mar. 10	2200	*1,860	3.66				

minimum discharge, 306 ft³/s Sept. 5, gage height, 0.92 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26 to Dec. 1, Dec. 7 to Mar. 4.)

0.9	300	3.0	1,400
1.4	481	4.0	2,100
2.0	783		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	526	660	620	420	760	633	692	1270	505	371	339
2	399	539	683	580	420	800	653	748	1260	589	324	330
3	418	559	720	560	410	820	709	841	1220	655	312	318
4	426	551	756	520	400	880	771	932	1170	709	330	311
5	420	533	794	500	400	949	806	963	1110	710	385	327
6	435	513	900	480	400	1050	824	944	1060	697	375	351
7	453	495	900	460	400	1170	842	1000	1010	644	360	361
8	483	481	860	450	400	1310	848	1100	952	575	341	363
9	512	463	800	440	400	1660	875	1250	883	516	325	349
10	537	442	760	430	420	1790	953	1330	818	479	337	341
11	559	591	700	430	430	1790	994	1270	765	459	417	337
12	568	1030	660	430	440	1610	1040	1160	721	438	516	329
13	553	1110	620	430	450	1420	1130	1070	682	417	505	323
14	527	1210	600	430	460	1300	1190	1010	649	390	449	319
15	505	1280	640	430	470	1200	1290	965	653	340	412	317
16	484	1250	620	420	500	1110	1430	928	679	341	380	353
17	467	1120	600	420	520	1050	1460	868	719	343	365	469
18	455	971	580	410	540	982	1370	809	706	346	378	702
19	457	905	560	410	560	940	1250	848	651	364	396	767
20	554	892	540	420	580	896	1140	902	596	401	369	1090
21	684	874	520	420	600	842	1040	954	537	383	350	1160
22	738	883	500	430	640	774	965	1140	526	373	422	1370
23	751	898	500	430	680	705	921	1220	541	347	475	1460
24	724	871	520	420	720	677	874	1400	542	344	438	1330
25	676	795	540	410	680	651	822	1710	510	337	396	1150
26	628	680	580	410	680	642	769	1790	486	329	350	948
27	589	640	620	400	700	662	749	1690	490	319	343	774
28	567	620	680	410	720	638	733	1520	524	341	339	666
29	565	620	740	420	---	624	717	1370	515	437	331	608
30	559	640	720	420	---	617	706	1280	480	486	332	564
31	543	---	680	420	---	621	---	1250	---	419	342	---
TOTAL	16629	22982	20553	13860	14440	30940	28504	34954	22725	14033	11765	18426
MEAN	536	766	663	447	516	998	950	1128	758	453	380	614
MAX	751	1280	900	620	720	1790	1460	1790	1270	710	516	1460
MIN	393	442	500	400	400	617	633	692	480	319	312	311
CFSM	.76	1.09	.94	.63	.73	1.42	1.35	1.60	1.08	.64	.54	.87
IN.	.88	1.21	1.08	.73	.76	1.63	1.50	1.84	1.20	.74	.62	.97

CAL YR 1982	TOTAL	220516	MEAN	604	MAX	2400	MIN	260	CFSM	.86	IN	11.64
WTR YR 1983	TOTAL	249811	MEAN	684	MAX	1790	MIN	311	CFSM	.97	IN	13.18

STREAMS TRIBUTARY TO LAKE MICHIGAN

04071858 PENSAAKEE RIVER NEAR PENSAAKEE, 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 downstream from bridge on town road, 2.8 mi downstream from Brookside Creek, 2.6 mi west of Pensaukee, 3.5 mi upstream from mouth.

DRAINAGE AREA.--134 mi².

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 National Geodetic Vertical Datum of 1929 (Wisconsin Department of Transportation bench mark).

REMARKS.--Records good except those for periods of backwater from beaver dam, Oct. 1-31, missing record, May 3 to June 21, and periods of ice effect, which are fair.

AVERAGE DISCHARGE.--11 years, 92.4 ft³/s, 9.36 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 3	0300	997	7.29	Mar. 7	2300	916	7.02
Dec. 6	2000	862	6.84	Sept. 21	1900	*1,000	7.31
Mar. 2	2200	unknown	e*7.63				

minimum, 6.8 ft³/s July 17-18.

a Ice jam

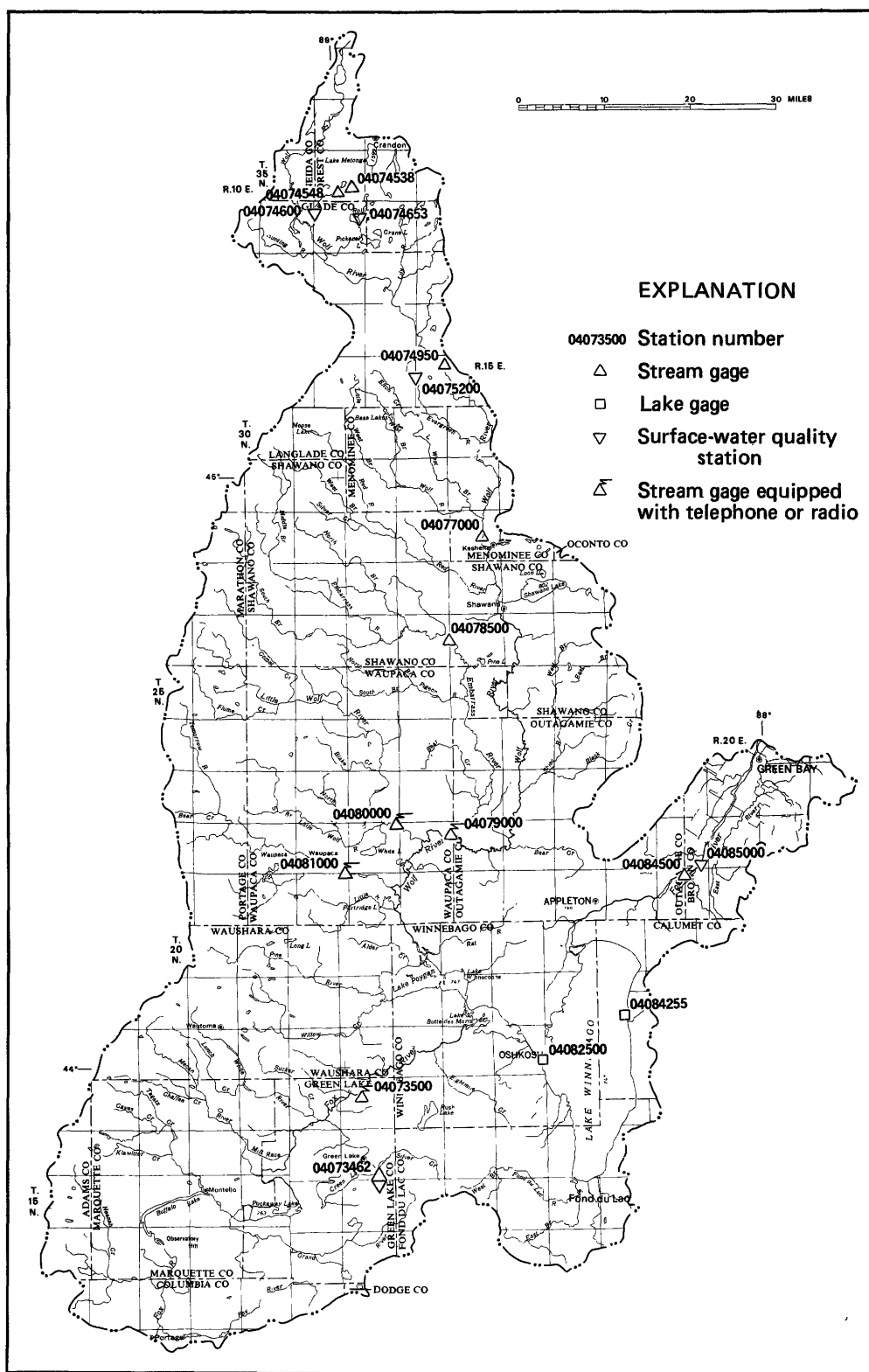
RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 8-14, 18-24, and Dec. 28 to Mar. 4, and by backwater from beaver dam, Oct. 1-31.)

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		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	36	139	170	24	540	200	48	200	25	15	13
2	12	59	224	120	23	900	195	84	100	26	12	11
3	10	107	332	100	22	860	267	290	78	25	9.7	10
4	9.0	110	302	80	22	660	410	200	80	30	8.7	9.8
5	8.0	102	255	60	22	599	345	130	70	36	8.0	8.8
6	11	88	685	44	22	575	253	120	58	32	7.9	13
7	20	77	748	36	21	839	256	180	50	28	8.9	38
8	36	71	390	34	20	862	260	390	45	23	7.5	40
9	30	63	270	34	20	793	259	290	45	19	11	38
10	43	115	220	36	20	548	599	190	39	16	16	29
11	40	232	160	39	21	351	576	130	35	14	21	20
12	40	721	120	39	22	291	365	100	31	12	23	15
13	34	967	100	38	22	268	333	120	29	10	21	14
14	23	604	90	38	28	248	459	190	29	9.4	18	12
15	37	322	73	37	30	219	447	290	33	8.7	17	12
16	29	221	61	35	32	182	318	250	39	8.3	14	31
17	29	168	55	34	38	174	220	140	30	8.0	16	51
18	30	140	52	32	46	192	166	86	26	7.5	19	118
19	33	127	48	30	48	220	137	120	23	7.3	19	182
20	80	134	46	29	50	185	119	300	21	7.2	18	467
21	70	147	44	27	54	164	107	400	21	8.0	20	959
22	60	147	42	26	88	136	96	290	22	13	28	806
23	60	126	41	24	140	126	86	480	22	25	30	437
24	50	106	68	23	220	114	80	700	21	20	28	271
25	40	99	147	22	270	104	72	560	18	14	34	186
26	35	92	213	21	250	104	66	640	17	9.9	29	138
27	35	98	175	20	230	106	61	400	19	8.4	23	113
28	37	69	250	20	320	107	54	250	28	9.4	21	95
29	36	87	430	21	---	127	51	300	27	14	17	79
30	35	96	340	23	---	158	49	360	25	24	14	65
31	35	---	280	24	---	179	---	360	---	16	13	---
TOTAL	1067.0	5531	6400	1316	2125	10931	6906	8388	1281	514.1	547.7	4281.6
MEAN	34.4	184	206	42.5	75.9	353	230	271	42.7	16.6	17.7	143
MAX	80	967	748	170	320	900	599	700	200	36	34	959
MIN	8.0	36	41	20	20	104	49	48	17	7.2	7.5	8.8
CFSM	.26	1.37	1.54	.32	.57	2.63	1.72	2.02	.32	.12	.13	1.07
IN.	.30	1.54	1.78	.37	.59	3.03	1.92	2.33	.36	.14	.15	1.19

CAL YR 1982 TOTAL 39801.5 MEAN 109 MAX 1690 MIN 6.9 CFSM .81 IN 11.05
WTR YR 1983 TOTAL 49288.4 MEAN 135 MAX 967 MIN 7.2 CFSM 1.01 IN 13.68



Base from U.S. Geological Survey
State base map, 1898

FOX-WOLF RIVER BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI

LOCATION.--Lat 43°48'58", long 88°55'42" in SE 1/4 SE 1/4 NW 1/4 sec.34, T.16 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, at culvert on Spring Grove Road at Forest Glen Beach, 2.6 mi southeast of Green Lake.

DRAINAGE AREA.--3.05 mi².

WATER DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 800 ft, from topographic map.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--December 1981 to September 1982: Maximum discharge during period, 220 ft³/s Apr. 3, gage height, 6.35 ft; minimum daily, 0.62 ft³/s Sept. 29, 30.

Water year 1983: Maximum discharge, 222 ft³/s Aug. 17, gage height, 6.36 ft; minimum daily, 0.52 ft³/s Oct. 4, 30, 31.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4, 7-11, Feb. 5-7, 10-12, 1982, and Feb. 2, 6, 1983.)

Dec. 2, 1981 to Mar. 15, 1982

Mar. 15, 1982 to Sept. 30, 1983

4.0	0.48	4.4	6.2	4.0	0.42	4.5	8.3
4.1	.92	4.5	10	4.1	1.0	4.6	12
4.2	1.9	4.8	38	4.2	2.0	4.8	21
4.3	3.5			4.3	3.5	5.0	33
				4.4	5.6	5.3	58

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			3.5	2.6	1.3	2.7	4.9	5.0	3.1	2.0	1.8	1.2
2			3.4	2.6	1.3	2.6	4.8	4.9	3.0	2.0	1.8	1.1
3			3.4	2.6	1.3	2.4	50	4.7	3.0	2.0	2.2	1.0
4			3.1	2.6	1.3	2.3	13	4.7	3.0	1.9	1.6	1.0
5			3.0	2.6	1.3	2.1	12	4.8	2.9	1.8	1.5	1.0
6			3.0	2.5	1.2	2.1	11	4.8	2.9	1.8	1.4	1.0
7			3.0	2.4	1.2	1.8	10	4.4	3.0	2.2	1.4	.94
8			2.9	2.3	1.1	1.9	9.9	4.2	3.0	1.8	1.4	.93
9			2.8	2.2	1.1	1.7	9.9	4.1	3.0	1.8	1.4	.93
10			2.8	2.1	1.1	1.7	9.6	4.1	2.9	4.0	1.3	.93
11			2.7	2.0	1.0	2.6	9.3	4.2	2.8	2.9	1.3	.90
12			2.6	2.0	.96	14	9.0	4.0	2.7	2.3	1.3	.86
13			2.6	1.8	.92	31	8.7	3.9	2.7	2.1	1.3	.86
14			2.6	1.8	.93	14	8.2	3.7	2.7	2.0	1.3	.88
15			2.5	1.7	.91	7.0	7.8	4.3	2.8	2.0	1.3	.86
16			2.6	1.6	.86	28	7.8	3.4	2.7	1.9	1.2	.84
17			2.6	1.6	.82	8.6	7.3	3.1	3.2	1.9	1.2	.88
18			2.5	1.7	.80	7.8	7.0	3.4	2.6	1.9	1.2	.83
19			2.5	1.7	.80	6.6	7.1	3.1	2.4	1.8	1.2	.80
20			2.5	1.6	.93	5.9	6.8	3.0	2.4	1.8	1.2	.80
21			2.5	1.6	2.3	8.4	6.3	2.9	2.4	3.3	1.1	.75
22			2.5	1.6	7.3	9.5	6.1	4.2	2.3	2.6	1.1	.69
23			2.5	1.6	15	8.9	6.1	3.4	2.3	2.1	1.1	.70
24			2.6	1.5	5.3	8.5	5.9	3.3	2.2	2.0	1.8	.71
25			2.6	1.5	3.4	7.3	5.8	3.2	2.7	2.0	1.2	.68
26			2.7	1.5	2.8	6.5	6.0	3.2	2.3	1.9	1.1	.68
27			2.8	1.5	2.7	5.6	5.5	3.5	2.3	1.9	1.1	.68
28			2.6	1.4	2.5	5.1	5.4	3.4	2.2	1.9	1.0	.63
29			2.6	1.3	---	4.8	5.2	3.3	2.1	1.8	1.2	.62
30			2.6	1.3	---	6.3	5.2	3.2	2.0	1.8	1.1	.62
31			2.6	1.3	---	5.6	---	3.2	---	1.8	1.1	---
TOTAL			85.2	58.1	62.43	223.3	271.6	118.6	79.6	65.0	41.2	25.30
MEAN			2.75	1.87	2.23	7.20	9.05	3.83	2.65	2.10	1.33	.84
MAX			3.5	2.6	15	31	50	5.0	3.2	4.0	2.2	1.2
MIN			2.5	1.3	.80	1.7	4.8	2.9	2.0	1.8	1.0	.62
CFSM			.90	.61	.73	2.36	2.97	1.26	.87	.69	.44	.28
IN.			1.04	.71	.76	2.72	3.31	1.45	.97	.79	.50	.31

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.73	2.5	6.4	3.7	10	8.9	8.7	8.1	4.8	3.5	3.7
2	.57	.81	4.1	6.4	3.6	9.2	10	9.5	7.8	4.5	3.4	3.5
3	.57	.63	3.0	6.5	3.4	12	11	8.2	7.8	5.2	3.4	3.4
4	.52	.62	3.3	6.6	3.2	16	11	7.8	7.7	5.7	3.4	3.3
5	.55	.62	6.4	6.5	3.1	11	12	7.6	7.4	4.8	3.3	3.3
6	.66	.62	8.3	6.5	3.0	11	13	7.6	7.2	4.9	4.3	3.3
7	.69	.62	10	6.3	3.0	10	13	12	7.1	4.8	3.2	3.0
8	.66	.58	10	6.4	3.0	9.8	13	8.8	7.2	4.7	3.0	3.0
9	.69	.82	10	6.4	3.0	9.3	14	8.2	6.9	4.7	3.0	2.9
10	.67	1.9	10	6.7	3.0	8.7	13	7.8	6.6	4.7	2.9	2.9
11	.63	2.5	9.7	6.0	2.8	8.4	13	7.8	6.6	4.7	2.9	2.7
12	.62	2.6	9.8	5.6	2.8	8.1	13	7.7	6.4	4.5	2.8	2.7
13	.68	1.9	9.4	5.6	2.8	7.9	14	7.8	6.3	4.5	2.8	2.6
14	.67	1.9	9.2	5.5	2.8	7.6	14	8.1	6.1	4.5	2.7	2.5
15	.62	2.0	8.9	5.2	2.7	7.5	12	7.9	6.1	4.4	2.7	2.6
16	.62	2.1	8.5	5.2	2.7	7.8	13	7.7	5.9	4.3	2.9	2.7
17	.66	2.2	8.3	5.0	2.7	7.7	12	7.6	5.7	4.3	2.9	2.5
18	.66	2.2	7.7	4.8	2.7	8.0	12	7.5	5.9	4.4	6.2	2.5
19	.93	2.2	7.5	4.7	3.0	8.3	12	9.1	5.9	4.4	5.0	2.3
20	.89	2.3	7.1	4.7	7.1	8.9	12	8.2	5.7	4.3	4.3	2.5
21	.66	2.2	6.8	4.7	7.6	9.1	11	7.6	5.6	4.2	4.1	2.3
22	.65	2.3	6.6	4.7	7.8	9.0	11	8.3	5.4	4.1	3.7	2.1
23	.64	2.2	7.0	4.7	11	9.0	11	8.2	5.3	4.0	3.4	2.1
24	.62	2.2	6.9	4.5	8.1	9.0	10	8.0	5.2	3.9	3.2	2.0
25	.62	2.3	6.5	4.4	5.5	9.0	10	10	5.1	3.7	3.2	2.0
26	.62	2.3	6.1	4.2	4.6	8.9	9.9	7.8	5.0	3.7	3.2	1.9
27	.63	2.4	6.3	4.0	6.1	8.9	9.3	7.7	5.7	3.7	3.2	1.8
28	.75	2.7	7.7	4.1	13	8.5	9.2	8.0	5.0	3.8	3.0	1.8
29	.73	2.7	6.1	3.9	---	8.1	9.0	9.6	4.8	3.8	3.0	1.8
30	.52	2.5	6.0	3.8	---	8.1	8.7	8.4	4.8	3.6	3.7	1.8
31	.52	---	6.2	3.7	---	8.4	---	8.4	---	3.5	3.9	---
TOTAL	20.14	53.65	225.9	163.7	127.8	283.2	345.0	257.6	186.3	135.1	134.3	77.5
MEAN	.65	1.79	7.29	5.28	4.56	9.14	11.5	8.31	6.21	4.36	4.33	2.58
MAX	.93	2.7	10	6.7	13	16	14	12	8.1	5.7	2.9	3.7
MIN	.52	.58	2.5	3.7	2.7	7.5	8.7	7.5	4.8	3.5	2.7	1.8
CFSM	.21	.59	2.39	1.73	1.50	3.00	3.77	2.73	2.04	1.43	1.42	.85
IN.	.25	.65	2.75	2.00	1.56	3.45	4.21	3.14	2.27	1.65	1.64	.94
CAL YR 1982	TOTAL	1244.82	MEAN	3.41	MAX	50	MIN	.52	CFSM	1.12	IN	15.18
WTR YR 1983	TOTAL	2010.19	MEAN	5.51	MAX	29	MIN	.52	CFSM	1.81	IN	24.51

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1981 to current year.

TOTAL AMMONIA-NITROGEN DISCHARGE: October 1981 to current year.

TOTAL-PHOSPHORUS DISCHARGE: October 1981 to current year.

INSTRUMENTATION.--Automatic pumping sampler since December 1981.

REMARKS.--Records good except those for April 3, 1982, when sampler intake was washed out and may have been in contact with the bottom. Discharge-concentration curve for the event appeared reasonable and daily mean was computed using pumping sampler samples. Records for October and November 1981 are estimated and are rated poor.

COOPERATION.--Observer furnished by the Green Lake Sanitary District.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,420 tons Apr. 3, 1982; minimum daily, 0 ton Sept. 11-18, 24-30, 1982.

TOTAL AMMONIA-NITROGEN DISCHARGE.--Maximum daily, 490 lb Apr. 3, 1982; minimum daily, 0.10 lb Aug. 19 to Nov 9, 1982.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 976 lb Apr. 3, 1982; minimum daily, 0.10 lb Sept. 26 to Nov. 8, 1982.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 244 tons Aug. 17; minimum daily, 0.01 ton Oct. 1 to Nov. 8, Sept. 26-30.

TOTAL AMMONIA-NITROGEN DISCHARGE: Maximum daily, 134 lb Mar. 4; minimum daily, 0.10 lb Oct. 1 to Nov. 9.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 140 lb Mar. 4; minimum daily, 0.10 lb Oct. 1 to Nov. 8.

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

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
DEC , 1981				
03...	1515	3.2	1000	2.0
JAN , 1982				
19...	1510	1.7	860	4.0
MAY				
21...	1221	2.8	670	15.5
JUL				
12...	1437	2.3	710	16.5
12...	1445	2.3	710	16.5
AUG				
03...	1109	1.8	680	15.0

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDED (MG/L)
DEC , 1981					
03...	1440	3.2	--	--	22
07...	1245	3.0	.050	.050	44
15...	1130	2.5	--	--	23
22...	1425	2.5	--	--	27
JAN , 1982					
06...	1405	2.5	--	--	20
13...	1440	1.8	--	--	10
19...	1515	1.7	.020	.040	20
28...	1045	1.3	--	--	23
FEB					
04...	1500	1.5	--	--	30
12...	1455	1.1	--	--	11
19...	1430	.80	--	--	13
22...	1500	5.3	.230	.480	192
22...	1845	15	.430	.700	977
23...	1130	15	.320	.600	163
MAR					
09...	1115	1.8	--	--	13
10...	1530	1.7	--	--	13
12...	2030	55	--	--	4280
12...	2045	62	.910	.630	--
12...	2100	65	--	--	3440
12...	2115	79	--	--	2980
12...	2130	82	1.60	1.50	--
12...	2145	82	--	--	2350
12...	2200	69	--	--	2250
12...	2230	79	--	--	1920
12...	2235	79	1.80	1.90	1690
12...	2345	49	--	--	1560
13...	0015	59	--	--	1620
13...	0045	47	--	--	1640
13...	0845	13	.750	.920	509
13...	1310	38	.840	.990	--
13...	1330	41	--	--	811
13...	1400	45	.670	.800	1130
13...	1401	45	.840	.990	--
13...	1430	55	--	--	1220
13...	1500	56	--	--	1280
13...	1530	55	1.00	1.10	1220
13...	1531	55	.650	1.50	--
13...	1600	55	--	--	1290
13...	1630	54	--	--	1200

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

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

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)
MAR , 1982						APR , 1982					
13...	1800	44	--	--	1250	03...	0245	12	--	--	15300
13...	2000	30	.690	.720	1160	03...	0300	13	--	--	22600
13...	2300	16	--	--	647	03...	0315	18	--	--	19400
14...	0500	7.3	--	--	294	03...	0330	25	1.90	2.50	21100
14...	0700	6.6	.500	.500	254	03...	0400	44	--	--	50200
14...	0900	6.6	--	--	196	03...	0430	66	--	--	51300
14...	1000	7.7	--	--	196	03...	0445	78	1.60	5.10	38200
14...	1100	8.1	--	--	202	03...	0500	91	--	--	35200
14...	1200	11	--	--	296	03...	0545	65	2.10	6.00	--
14...	1300	17	--	--	418	03...	0600	58	--	--	43900
14...	1400	23	--	--	545	03...	0615	68	--	--	38100
14...	1500	28	.370	.670	533	03...	0630	79	--	--	28600
14...	1600	27	--	--	494	03...	0645	91	8.40	7.10	48300
14...	1700	26	--	--	435	03...	0700	105	--	--	44800
14...	1900	23	--	--	364	03...	0715	127	1.60	4.70	22300
14...	2000	18	.420	.680	331	03...	0745	185	--	--	13000
15...	1515	9.6	.240	.460	322	03...	0815	203	1.70	3.60	9920
15...	2145	7.7	--	--	103	07...	1455	10	.070	.100	93
16...	0345	5.9	.170	.270	110	15...	1500	7.7	--	--	36
16...	0445	6.6	--	--	411	21...	1050	6.4	--	--	25
16...	0545	9.6	--	--	876	MAY					
16...	0645	18	.910	.820	1890	05...	1520	4.7	--	--	18
16...	0745	39	--	--	3070	13...	1445	3.9	--	--	10
16...	0845	74	1.10	1.00	3010	18...	1020	3.4	--	--	22
16...	0945	70	--	--	2280	21...	1230	2.8	.010	.040	19
16...	1045	68	1.10	.950	1890	27...	1430	4.1	--	--	54
16...	1145	65	--	--	1810	JUN					
16...	1345	42	--	--	1410	04...	1510	3.0	--	--	14
16...	1545	31	.960	.970	844	17...	1550	2.5	--	--	14
16...	1945	19	--	--	513	21...	1550	2.4	--	--	14
17...	0145	9.6	--	--	262	JUL					
17...	0745	8.0	--	--	177	10...	1510	18	4.10	2.60	10900
17...	1445	8.0	.200	.550	172	10...	1520	18	--	--	9830
17...	2015	9.3	.200	.310	135	10...	1540	9.9	5.00	3.50	6690
18...	0615	6.9	--	--	101	10...	1610	6.4	3.50	2.80	4620
18...	1115	6.6	--	--	102	12...	1445	2.3	.060	.120	273
18...	1215	6.9	.120	<.010	110	21...	1746	2.3	.080	.170	--
18...	1315	7.2	--	--	134	21...	1800	20	1.70	1.80	1540
18...	1415	7.7	--	--	193	21...	1801	20	.940	.950	--
18...	1515	8.3	--	--	291	21...	1815	17	--	--	14600
18...	1700	9.6	--	--	288	21...	1830	14	1.10	1.30	7390
18...	1730	9.9	--	--	242	21...	1845	11	--	--	6540
18...	1800	9.9	--	--	208	21...	1900	8.0	--	--	3600
18...	1830	9.9	.150	.300	181	21...	1901	8.0	--	--	4630
18...	1900	9.9	--	--	160	21...	2000	5.6	--	--	1720
18...	1930	9.3	--	--	148	21...	2100	3.7	.290	.650	580
18...	2300	7.7	--	--	104	21...	2130	3.5	.180	.490	524
19...	0330	6.9	.140	.250	103	21...	2200	8.3	--	--	1460
21...	1500	8.3	--	--	206	21...	2230	8.0	--	--	1210
21...	1530	9.3	--	--	267	21...	2330	6.9	--	--	677
21...	1600	11	.150	.390	428	22...	0030	5.6	.310	.720	464
21...	1630	12	--	--	712	AUG					
21...	1700	12	--	--	642	03...	1115	1.6	--	--	26
21...	1730	14	--	--	566	03...	2200	11	--	--	1230
21...	1800	16	--	--	1210	03...	2210	14	.200	--	5630
21...	1830	16	--	--	851	03...	2220	11	.200	1.30	7250
21...	1900	16	.210	.420	548	03...	2230	10	.280	--	--
21...	1930	16	--	--	433	03...	2240	9.6	.280	.860	4190
21...	2000	15	--	--	381	03...	2310	5.6	--	--	2170
21...	2300	9.9	--	--	207	03...	2330	3.9	.090	--	--
22...	0400	7.2	.200	.250	97	03...	2340	3.4	.090	1.00	1540
22...	1230	7.7	--	--	122	24...	1625	4.5	--	--	323
22...	1330	10	.170	.350	304	24...	1635	5.2	.200	.580	449
22...	1430	12	--	--	752	24...	1645	4.7	--	--	438
22...	1530	14	--	--	1110	24...	1705	3.9	.120	.750	375
22...	1630	14	--	--	1000	24...	1715	3.7	--	--	362
22...	1730	15	.260	.610	814	24...	1716	3.7	--	--	426
22...	1830	14	--	--	622	24...	1725	3.7	.170	.720	354
22...	2030	12	.280	.460	290	24...	1735	4.3	--	--	400
22...	2230	9.9	--	--	178	24...	1745	4.7	.090	.760	418
23...	0030	8.6	.230	.330	125	24...	1746	4.7	.100	.790	--
26...	1400	6.6	--	--	51	24...	1801	7.2	.110	.960	586
30...	1150	9.0	--	--	867	24...	1820	7.5	--	--	843
30...	1230	8.3	--	--	564	24...	1821	7.5	--	--	784
30...	1645	7.2	--	--	291	24...	1831	6.6	.170	1.10	637
APR						24...	1850	4.9	.050	.980	628
03...	0130	9.3	--	--	485	SEP					
03...	0145	9.6	.120	.400	697	08...	1050	.93	--	--	3
03...	0200	9.6	--	--	1090	14...	1100	.86	--	--	2
03...	0215	10	--	--	2420	23...	1415	.68	--	--	3
03...	0230	11	--	--	8770	26...	1500	.68	--	--	1

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEARS OCTOBER 1982 TO SEPTEMBER 1983

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)
NOV , 1982							
10...	0240	3.4	5.5	.090	2.4	2.50	8.0
10...	0340	3.0	4.0	.100	1.7	1.80	5.8
10...	0415	3.4	4.1	.130	1.9	2.00	6.1
11...	1725	3.5	7.8	.050	1.4	1.40	9.2
11...	1825	8.6	4.4	.140	5.2	5.30	9.7
11...	1845	7.7	3.2	.200	4.2	4.40	7.6

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
OCT , 1982				
05...	1403	.57	660	14.5
DEC				
20...	1246	7.2	820	7.0
JAN , 1983				
26...	1320	4.1	910	6.0
FEB				
23...	1545	14	290	35.0
MAR				
02...	1530	11	430	6.5
02...	1531	11	--	6.5
APR				
12...	1620	13	750	8.0
MAY				
05...	0935	7.7	770	9.0
05...	1010	7.7	770	9.0
JUN				
08...	1155	6.9	700	12.0
JUL				
15...	1517	4.5	760	13.5
AUG				
26...	1713	3.4	810	13.0

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDEED (MG/L)
OCT , 1982					
05...	1405	.57	.020	.030	5
13...	1355	.68	--	--	6
27...	1410	.62	--	--	9
NOV					
01...	1400	.74	--	--	3
10...	0230	3.2	--	--	101
10...	0240	3.4	.090	.750	--
10...	0250	3.4	--	--	118
10...	0330	3.0	--	--	71
10...	0340	3.0	.100	.730	--
10...	0415	3.4	.130	.780	106
10...	0435	3.5	--	--	124
10...	0545	2.8	--	--	90
11...	1725	3.5	.050	.410	--
11...	1735	4.5	--	--	177
11...	1755	4.9	--	--	243
11...	1805	4.9	--	--	239
11...	1815	7.7	--	--	576
11...	1825	8.6	.140	.340	--
11...	1835	8.0	--	--	787
11...	1845	7.7	.200	1.10	--
17...	1430	2.1	--	--	28
18...	1443	2.1	.020	.070	27
24...	1340	2.3	--	--	12
28...	1220	3.9	--	--	69
28...	1230	4.1	.030	.190	--
28...	1240	4.1	--	--	70
28...	1250	3.9	--	--	74
28...	1310	3.7	--	--	71
28...	1330	3.5	.040	.280	--
28...	1410	3.2	--	--	49
28...	1510	3.2	--	--	40
28...	1610	3.0	.060	.250	43
DEC					
02...	0405	3.2	--	--	72
02...	0415	3.9	.070	.180	--
02...	0425	4.9	--	--	208
02...	0435	6.1	.100	.380	--
02...	0445	14	--	--	4370
02...	0455	17	2.20	2.00	--
02...	0505	18	--	--	7470

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEARS OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)
DEC , 1982						FEB , 1983					
02...	0515	18	2.10	2.10	--	22...	1910	9.9	--	--	97
02...	0525	17	--	--	4710	22...	1940	10	.550	.400	--
02...	0535	14	--	--	4000	22...	2010	10	--	--	96
02...	0555	11	--	--	3140	22...	2210	9.9	--	--	80
02...	0615	9.3	1.50	1.80	--	23...	0010	8.6	--	--	65
02...	0635	7.5	--	--	1890	23...	0040	8.6	.500	.370	--
02...	0715	5.4	--	--	1120	23...	0310	8.0	--	--	50
02...	0815	4.1	--	--	524	23...	0610	6.6	--	--	41
02...	0835	3.9	.560	.840	--	23...	0640	6.4	.380	.320	--
05...	1525	5.2	--	--	91	23...	0835	6.6	--	--	32
05...	1535	5.4	.050	.190	--	23...	0915	6.9	--	--	32
05...	1545	5.4	--	--	95	23...	1015	6.6	.350	.300	--
05...	1635	6.9	--	--	242	23...	1215	7.2	--	--	41
05...	1715	9.3	.250	.620	--	23...	1505	12	--	--	307
05...	1735	9.0	--	--	527	23...	1545	14	.530	.680	703
05...	1815	9.3	--	--	492	23...	1550	15	1.50	.640	576
05...	1835	12	.080	.510	--	23...	1555	16	--	--	752
05...	1855	20	.710	.840	1630	23...	1635	17	--	--	727
05...	1905	20	--	--	2260	23...	1720	20	.530	.640	--
05...	1935	20	--	--	1800	23...	1805	19	--	--	951
05...	1955	14	.490	.690	1240	23...	1850	18	--	--	618
09...	1300	9.9	--	--	106	23...	1935	17	--	--	403
09...	1705	10	.030	.140	118	23...	2150	13	.560	.550	--
10...	0105	10	--	--	126	23...	2235	12	--	--	144
10...	0505	10	.020	.130	101	24...	0135	9.9	--	--	132
10...	1305	10	.030	.100	89	24...	0650	7.7	--	--	63
15...	1430	9.0	--	--	72	24...	0735	7.7	--	--	53
20...	1300	7.2	.070	.050	58	24...	0825	7.5	.410	.380	--
22...	1420	6.6	--	--	47	24...	0850	7.2	--	--	47
27...	2310	10	--	--	1130	24...	0930	7.2	--	--	57
27...	2320	11	.170	.720	--	24...	1015	7.2	.330	.320	--
27...	2330	12	--	--	834	24...	1100	7.2	--	--	44
27...	2400	10	--	--	647	24...	1400	8.0	--	--	52
28...	0030	9.9	--	--	482	24...	1530	8.6	--	--	53
28...	0040	9.6	.360	.630	--	24...	1615	9.0	.300	.300	--
28...	0050	9.6	--	--	392	24...	1700	9.0	--	--	60
28...	0100	9.9	--	--	362	24...	2000	7.2	--	--	49
28...	0110	11	--	--	364	25...	0200	6.1	--	--	45
28...	0120	11	.260	.650	--	25...	0245	5.9	.210	.190	--
28...	0130	11	--	--	402	25...	0330	5.9	--	--	52
28...	0200	11	--	--	410	25...	0500	5.6	--	--	47
28...	0220	11	.250	.580	--	25...	0905	5.6	--	--	29
28...	0230	11	--	--	368	26...	0920	4.5	--	--	28
28...	0240	11	--	--	340	28...	1000	5.2	--	--	26
28...	0250	11	--	--	316	MAR					
28...	0300	11	.260	.490	--	01...	1415	12	--	--	275
28...	0310	11	--	--	325	01...	1430	13	--	--	255
28...	0330	11	--	--	291	01...	1445	13	--	--	253
28...	0340	10	.200	.450	--	01...	1500	13	--	--	247
JAN , 1983						02...	1230	7.5	--	--	53
04...	1430	6.6	--	--	18	02...	1530	11	.170	.240	170
07...	1505	6.1	--	--	38	02...	1531	11	.170	.250	163
13...	1400	5.6	--	--	29	03...	1240	15	--	--	854
18...	1520	4.7	--	--	18	03...	1255	16	--	--	681
26...	1320	4.1	.030	.040	93	03...	1300	16	--	--	674
FEB						03...	1325	17	.370	.680	--
01...	1430	3.7	--	--	10	03...	1340	16	--	--	638
09...	1435	3.0	--	--	10	03...	1410	17	--	--	526
17...	0855	2.4	--	--	22	03...	1425	18	--	--	478
20...	1645	11	1.50	.450	--	03...	1440	19	--	--	528
20...	1655	11	--	--	195	03...	1455	19	.270	.540	--
20...	1715	11	--	--	183	03...	1520	18	--	--	465
20...	1735	11	--	--	247	03...	1625	17	--	--	449
20...	1745	12	.870	.500	--	03...	1640	18	--	--	487
20...	1815	11	--	--	260	03...	1730	17	--	--	488
20...	1915	11	--	--	162	03...	1740	18	--	--	498
20...	2055	9.9	--	--	102	03...	1825	16	.280	.530	--
20...	2105	9.9	1.00	.430	--	03...	1840	16	--	--	369
22...	0950	5.9	--	--	25	04...	1300	14	.220	.830	--
22...	0955	5.9	.430	.310	--	04...	1315	47	--	--	21500
22...	1005	5.9	--	--	26	04...	1330	45	4.10	4.30	--
22...	1145	5.9	--	--	26	04...	1345	44	--	--	16400
22...	1205	6.1	--	--	28	04...	1400	47	3.60	3.00	--
22...	1235	6.4	.510	.320	--	04...	1415	54	--	--	22200
22...	1245	6.4	--	--	32	04...	1445	50	4.60	4.60	10600
22...	1325	6.6	--	--	38	04...	1500	43	--	--	9210
22...	1405	7.2	--	--	46	04...	1545	29	--	--	5620
22...	1415	7.2	.570	.380	--	04...	1645	21	1.60	1.60	--
22...	1745	9.6	--	--	86	04...	1700	20	--	--	3260
22...	1810	9.9	--	--	98	04...	1830	15	--	--	1620

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEARS OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	NITRO- GEN AMMONIA TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	SEDI- MENT, SUS- PENDE (MG/L)
MAR , 1983						JUN , 1983					
04...	1845	15	1.20	1.60	--	06...	1810	5.2	--	--	317
04...	1900	15	--	--	1290	07...	1130	7.2	--	--	21
05...	1420	11	--	--	158	08...	1155	6.9	--	--	33
07...	1030	10	--	--	88	08...	1200	7.2	1.30	--	--
09...	1300	9.3	--	--	51	09...	1250	6.9	--	--	25
17...	1100	7.7	--	--	31	16...	1220	5.9	--	--	13
24...	1500	12	--	--	37	24...	1430	5.2	--	--	13
APR						JUL					
04...	1445	12	--	--	62	02...	0830	4.5	--	--	16
09...	1130	15	--	--	131	03...	2225	16	.270	.390	627
09...	1150	15	.060	.110	--	03...	2235	17	--	--	928
09...	1430	14	--	--	86	07...	1340	4.7	--	--	25
12...	1535	13	.020	.050	46	15...	1440	4.5	--	--	20
12...	1540	13	.010	.060	44	21...	1400	4.3	--	--	28
13...	0105	16	--	--	178	25...	1545	3.7	--	--	37
13...	0125	16	--	--	196	AUG					
13...	0245	16	--	--	142	05...	1100	3.4	--	--	24
13...	0325	16	--	--	180	06...	1810	5.2	--	--	317
13...	0505	16	--	--	205	06...	1820	11	.510	.390	6600
22...	0915	11	--	--	20	06...	1830	20	--	--	8520
26...	1520	9.9	--	--	19	06...	1840	21	.890	.710	10300
MAY						06...	1850	19	--	--	5240
04...	1525	7.7	--	--	18	06...	1920	12	.390	.530	--
05...	0935	7.7	<.010	.020	40	06...	1930	9.9	--	--	1780
07...	0950	9.6	.190	.270	210	06...	2030	7.7	--	--	1410
07...	1000	9.9	--	--	275	06...	2040	7.5	.260	.680	--
07...	1125	13	--	--	729	11...	1510	2.8	--	--	7
07...	1135	16	.290	.420	827	17...	0100	11	.120	.910	1060
07...	1145	21	--	--	2300	17...	0120	12	.150	.720	--
07...	1155	22	1.40	1.50	4290	17...	0130	12	--	--	3660
07...	1205	24	--	--	3680	17...	0150	9.9	--	--	3150
07...	1215	26	1.30	1.60	3080	17...	0200	8.6	.110	.870	1840
07...	1225	28	--	--	4990	17...	0210	9.3	--	--	1480
07...	1255	25	2.40	2.90	--	17...	0220	22	--	--	8630
07...	1315	26	2.80	2.90	5780	17...	0230	38	--	--	17700
07...	1335	31	--	--	8710	17...	0240	67	.400	.870	15100
07...	1355	27	--	--	5860	17...	0250	93	--	--	10400
07...	1415	26	2.00	2.20	3610	17...	0310	105	--	--	6710
07...	1455	27	--	--	2670	17...	0320	130	.310	.610	5500
07...	1535	19	--	--	1890	17...	0330	153	--	--	6200
07...	1555	18	1.20	1.40	--	17...	0340	175	.360	.650	5000
11...	1540	7.7	--	--	36	17...	0350	199	--	--	3800
17...	1435	7.7	--	--	21	17...	0400	216	.290	.560	3050
25...	0035	14	--	--	967	17...	0410	203	--	--	2820
25...	0045	15	.150	.220	1120	17...	0430	177	--	--	2440
25...	0055	18	--	--	5870	17...	0440	157	.230	.660	2290
25...	0105	18	.320	.280	--	17...	0450	140	--	--	2210
25...	0115	18	--	--	1940	17...	0510	93	--	--	2040
25...	0145	15	--	--	3240	17...	0520	83	.210	.700	2010
25...	0205	14	.320	.280	--	17...	0910	18	.200	.490	1250
25...	0215	14	--	--	2010	17...	1010	15	--	--	1140
25...	0225	15	--	--	1620	17...	1115	13	.090	.590	--
25...	0315	15	--	--	869	17...	1145	12	--	--	906
25...	0345	15	.170	.430	--	17...	1315	10	--	--	689
25...	0355	15	--	--	4540	17...	1815	8.0	.040	.320	295
25...	0415	15	--	--	6900	17...	2315	7.2	--	--	151
25...	0445	14	.170	.430	--	18...	0015	7.2	.040	.340	--
25...	0535	12	--	--	7960	18...	0920	6.4	--	--	80
25...	1100	9.6	--	--	757	22...	1125	3.7	--	--	22
25...	1200	9.6	.140	.240	--	26...	1335	3.5	--	--	30
25...	1400	9.6	--	--	221	26...	1640	3.5	.030	.080	18
25...	1545	3.7	--	--	37	30...	0215	6.9	--	--	415
28...	2320	14	--	--	1450	30...	0225	9.9	.230	.360	1770
28...	2330	16	.180	.270	1950	30...	0245	18	.190	.790	1770
28...	2340	15	--	--	3930	30...	0305	16	--	--	2590
29...	0020	15	--	--	10200	30...	0335	11	--	--	2010
29...	0030	15	.180	.270	--	30...	0345	9.0	.290	.920	1670
29...	0040	17	--	--	10700	30...	0515	7.5	.130	.440	--
29...	0050	17	2.20	.320	--	30...	0535	8.3	--	--	624
29...	0100	17	--	--	10000	30...	0555	12	.120	.380	782
29...	0130	16	--	--	8890	30...	0635	7.7	.380	.490	--
29...	0150	15	--	--	8170	30...	1140	5.4	.210	.210	110
29...	0210	14	--	--	7300	SEP					
29...	0230	14	1.30	.980	6250	02...	1505	3.5	--	--	23
29...	1210	8.3	.120	.250	--	06...	1605	3.4	.050	.040	9
29...	1220	8.3	--	--	297	11...	1530	2.8	--	--	11
31...	0930	8.3	--	--	68	16...	1430	2.5	--	--	4
						20...	1445	2.5	--	--	6

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

NITROGEN, AMMONIA, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.10	.90	1.10	.40	.40	3.9	1.40	.60	.20	.50	.30	.10
2	1.00	.90	1.00	.40	.40	3.8	1.40	.60	.20	.50	.30	.10
3	.90	.90	1.00	.40	.40	3.6	490	.60	.20	.50	1.00	.10
4	1.20	.90	.80	.40	.40	3.4	9.00	.50	.20	.50	.40	.10
5	1.10	.90	.70	.40	.40	3.1	7.20	.50	.20	.50	.20	.10
6	1.20	.90	.70	.40	.50	3.2	5.30	.50	.20	.50	.20	.10
7	1.10	.90	.70	.40	.50	2.7	3.80	.40	.80	1.20	.20	.10
8	1.00	.90	.70	.40	.50	3.0	3.60	.40	.80	.80	.20	.10
9	1.00	.90	.60	.20	.50	2.7	3.40	.40	.80	.80	.20	.10
10	.90	.90	.60	.20	.50	2.7	3.20	.40	.80	10.00	.20	.10
11	.90	.80	.60	.20	.50	4.2	3.00	.40	.70	4.00	.20	.10
12	.90	.80	.50	.20	.50	95.0	2.80	.30	.70	.70	.20	.10
13	1.10	.80	.50	.20	.60	146	2.50	.30	.70	.60	.20	.10
14	4.20	.70	.50	.20	.60	32.0	2.30	.30	.70	.50	.20	.10
15	1.90	.70	.50	.20	.60	10.0	2.10	2.20	.80	.40	.20	.10
16	1.50	.70	.50	.20	.60	141	2.00	1.50	.70	.40	.20	.10
17	1.30	.70	.50	.20	.60	14.0	1.80	1.00	1.70	.30	.20	.10
18	3.20	.70	.50	.20	.70	6.1	1.60	.80	1.10	.30	.20	.10
19	1.60	.70	.50	.20	.70	4.8	1.60	.30	.80	.20	.10	.10
20	1.40	1.10	.50	.20	.90	3.3	1.40	.20	.50	.20	.10	.10
21	1.30	.90	.50	.20	2.50	6.5	1.30	.20	.50	7.40	.10	.10
22	1.20	.80	.50	.20	15.00	11.0	1.20	1.10	.50	2.10	.10	.10
23	1.20	.80	.50	.20	27.00	10.0	1.10	.60	.50	.60	.10	.10
24	1.20	.80	.50	.20	7.20	8.5	1.10	.40	.50	.60	.80	.10
25	1.10	.70	.50	.20	4.70	6.3	1.00	.20	1.50	.60	.10	.10
26	1.10	1.00	.60	.30	3.80	4.8	3.20	.20	1.00	.50	.10	.10
27	1.00	1.50	.60	.20	3.80	3.5	1.50	.20	.70	.50	.10	.10
28	1.00	1.20	.50	.30	3.50	2.8	.80	.20	.60	.40	.10	.10
29	1.00	1.10	.50	.30	---	2.2	.80	.20	.60	.40	.10	.10
30	.90	1.10	.50	.30	---	2.5	.70	.20	.50	.40	.10	.10
31	.90	---	.50	.30	---	1.9	---	.20	---	.30	.10	---
TOTAL	40.40	26.60	18.70	8.30	78.30	548.5	562.10	15.90	19.70	37.20	6.80	3.00
MEAN	1.30	.89	.60	.27	2.80	17.7	18.70	.51	.66	1.20	.22	.10

WTR YR 1982 TOTAL 1365.50 MEAN 3.70

NITROGEN, AMMONIA, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.10	.30	1.70	.50	8.6	4.20	.50	4.6	1.3	1.10	1.00
2	.10	.10	16.00	1.70	.50	6.0	4.60	.60	4.6	1.2	1.10	.90
3	.10	.10	1.90	1.80	.50	12.0	4.70	.50	4.7	3.7	.90	.90
4	.10	.10	.70	1.80	.40	134	4.70	.40	4.8	6.4	.90	.90
5	.10	.10	5.80	1.70	.40	26.0	4.70	.50	4.8	3.8	.90	.90
6	.10	.10	6.00	1.70	.40	17.0	4.80	.90	4.8	3.9	5.50	.90
7	.10	.10	6.50	1.60	.40	16.0	4.60	61.00	4.8	3.7	1.90	.80
8	.10	.10	3.50	1.60	.40	14.0	4.40	14.00	4.9	3.6	1.40	.80
9	.10	.10	1.70	1.50	.40	13.0	4.30	7.00	4.8	3.6	1.20	.70
10	.10	.80	1.40	1.60	.40	11.0	3.10	5.90	4.3	3.3	.90	.70
11	.10	1.30	1.70	1.40	.30	10.0	2.10	5.00	4.2	3.3	.80	.60
12	.10	1.00	1.90	1.30	.30	9.7	1.50	4.20	4.2	3.2	.60	.60
13	.10	.40	2.00	1.20	.30	9.0	1.50	3.30	3.7	2.9	.50	.50
14	.10	.40	2.00	1.20	.30	8.3	1.40	4.30	3.6	2.9	.40	.50
15	.10	.30	2.20	1.10	.30	7.8	1.20	3.40	3.6	2.8	.30	.50
16	.10	.30	2.30	1.10	.30	7.7	1.20	2.50	3.2	2.6	.40	.50
17	.10	.30	2.40	1.00	.30	7.3	1.10	2.00	3.1	2.5	36.00	.50
18	.10	.20	2.40	.90	.30	7.2	1.10	2.00	3.2	2.6	1.30	.40
19	.10	.20	2.60	.90	1.90	7.1	1.00	6.90	2.9	2.4	1.00	.40
20	.10	.20	2.60	.90	27.00	7.3	1.00	3.50	2.7	2.3	.90	.40
21	.10	.20	2.30	.90	23.00	7.2	.90	2.80	2.7	2.3	.80	.40
22	.10	.20	1.90	.80	22.00	6.7	.90	2.80	2.3	2.0	.70	.30
23	.10	.20	1.80	.80	26.00	6.4	.80	2.50	2.3	1.9	.60	.30
24	.10	.20	1.60	.80	15.00	6.2	.80	2.20	2.2	1.9	.60	.30
25	.10	.20	1.30	.70	5.10	5.9	.70	8.80	1.9	1.6	.60	.30
26	.10	.20	1.10	.70	2.30	5.6	.70	4.00	1.8	1.6	.50	.20
27	.10	.30	1.60	.60	7.20	5.3	.60	3.50	2.2	1.6	.50	.20
28	.10	.50	6.00	.60	29.00	4.8	.60	3.80	1.6	1.4	.50	.20
29	.10	.50	1.60	.60	---	4.4	.60	22.00	1.5	1.4	.50	.20
30	.10	.40	1.60	.60	---	4.2	.50	4.60	1.6	1.4	5.30	.20
31	.10	---	1.70	.60	---	4.1	---	4.70	---	1.1	1.10	---
TOTAL	3.10	9.20	88.40	35.40	165.20	399.8	64.30	190.10	101.6	80.2	69.70	16.00
MEAN	.10	.31	2.90	1.10	5.90	12.9	2.10	6.10	3.4	2.6	2.30	.53

WTR YR 1983 TOTAL 1223.00 MEAN 3.40

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.60	1.30	1.60	.60	.30	1.50	3.60	1.60	.70	.30	.60	.70
2	1.50	1.30	.90	.60	.30	1.40	3.00	1.60	.70	.30	.50	.50
3	1.30	1.20	.90	.60	.30	1.30	976	1.50	.70	.30	3.90	.40
4	1.80	1.20	.90	.60	.30	1.20	20.00	1.40	.70	.20	3.80	.40
5	1.60	1.20	.80	.60	.30	1.10	17.00	1.40	.60	.20	1.50	.40
6	1.70	1.20	.80	.60	.30	.90	15.00	1.40	.60	.20	1.40	.40
7	1.60	1.20	.80	.50	.30	.80	6.00	1.30	.70	.30	1.30	.40
8	1.50	1.20	.80	.50	.20	.80	5.20	1.20	.70	.20	1.20	.30
9	1.50	1.20	.80	.50	.20	.70	5.10	1.10	.70	.20	1.00	.30
10	1.30	1.20	.70	.40	.20	.70	4.90	1.10	.60	42.00	.90	.30
11	1.30	1.10	.70	.40	.20	1.70	4.60	1.10	.50	11.00	.90	.30
12	1.30	1.10	.70	.40	.20	93.00	4.40	1.00	.50	1.70	.80	.30
13	1.60	1.10	.70	.40	.20	188	4.20	1.00	.50	1.10	.80	.30
14	6.20	1.10	.70	.40	.20	46.00	3.80	.90	.50	1.10	.70	.30
15	2.80	1.10	.60	.40	.20	13.00	3.60	2.10	.60	1.10	.60	.20
16	2.20	1.10	.70	.40	.20	137	3.50	1.60	.50	1.00	.60	.20
17	1.90	1.10	.70	.40	.20	25.00	3.20	1.00	.80	1.00	.50	.20
18	4.70	1.10	.60	.40	.20	9.30	3.00	.90	.40	1.00	.50	.20
19	2.30	1.10	.60	.40	.20	8.20	3.00	.70	.40	1.00	.40	.20
20	2.10	1.60	.60	.40	.20	5.40	2.80	.60	.40	1.00	.40	.20
21	1.90	1.20	.60	.40	1.50	12.00	2.60	.60	.40	10.00	.40	.20
22	1.80	1.10	.60	.40	23.00	21.00	2.40	1.60	.40	5.40	.30	.20
23	1.70	1.10	.60	.40	46.00	15.00	2.40	1.00	.40	2.10	.30	.20
24	1.70	1.10	.60	.40	8.60	13.00	2.20	.90	.30	1.80	4.00	.20
25	1.60	1.10	.60	.30	4.60	9.00	2.20	.80	.50	1.60	.90	.20
26	1.60	1.50	.60	.30	3.00	6.70	2.20	.80	.40	1.30	.60	.10
27	1.50	2.20	.70	.40	2.20	4.80	2.00	1.00	.40	1.20	.60	.10
28	1.50	1.70	.60	.30	1.40	3.70	1.90	1.00	.30	1.00	.50	.10
29	1.50	1.60	.60	.30	---	2.80	1.80	.90	.30	.90	.60	.10
30	1.30	1.60	.60	.30	---	13.00	1.70	.80	.30	.80	.50	.10
31	1.30	---	.60	.30	---	7.00	---	.80	---	.70	.50	---
TOTAL	59.20	37.90	22.30	13.30	95.00	645.00	1113.30	34.70	15.50	92.00	31.50	8.00
MEAN	1.91	1.26	.72	.43	3.39	20.80	37.10	1.12	.52	2.97	1.02	.27
WTR YR 1982	TOTAL	2167.70	MEAN	5.94								

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.10	1.60	3.90	.60	26.00	4.80	1.10	4.10	1.10	.80	1.40
2	.10	.10	18.00	3.00	.50	20.00	5.60	1.20	3.90	1.00	.80	1.20
3	.10	.10	3.00	2.40	.50	23.00	6.10	1.00	3.80	2.50	.80	1.00
4	.10	.10	1.50	1.90	.40	140	6.40	.90	3.60	2.30	.70	.90
5	.10	.10	12.00	1.80	.40	36.00	6.80	.80	3.50	1.30	.70	.80
6	.10	.10	9.00	1.70	.40	26.00	7.30	.80	3.30	1.30	5.60	.70
7	.10	.10	9.30	1.60	.30	12.00	7.60	64.00	3.10	1.30	1.70	.60
8	.10	.10	8.50	1.70	.30	11.00	7.70	4.70	3.00	1.20	1.50	.60
9	.10	.70	7.60	1.60	.30	9.80	7.90	.90	2.90	1.20	1.40	.60
10	.10	4.10	6.00	1.70	.30	8.80	6.20	.80	2.70	1.20	1.20	.60
11	.10	5.10	4.90	1.50	.20	8.30	4.70	.80	2.60	1.20	1.10	.50
12	.10	3.70	4.60	1.40	.20	7.80	4.00	.80	2.50	1.20	1.00	.50
13	.10	1.40	4.10	1.40	.20	7.40	4.50	.80	2.40	1.10	.90	.40
14	.10	1.20	3.80	1.40	.20	6.90	4.10	.90	2.30	1.10	.90	.40
15	.10	1.10	3.40	1.30	.20	6.60	3.40	.80	2.20	1.10	.80	.40
16	.10	1.00	3.00	1.20	.20	6.60	3.30	.80	2.10	1.10	1.00	.40
17	.10	.90	2.70	1.20	.20	6.40	3.10	.80	2.00	1.10	94.00	.40
18	.10	.80	2.40	1.10	.20	6.40	2.90	1.20	2.00	1.10	6.80	.40
19	.20	.80	2.20	1.10	.50	6.50	2.80	6.40	1.90	1.10	2.70	.40
20	.10	.80	1.90	1.10	14.00	6.80	2.70	9.10	1.80	1.00	2.20	.40
21	.10	.80	1.60	1.10	10.00	6.70	2.30	6.20	1.70	1.00	2.10	.30
22	.10	.80	1.30	1.10	15.00	6.40	2.20	4.90	1.60	1.00	1.80	.30
23	.10	.80	1.20	1.00	27.00	6.20	2.10	3.50	1.60	.90	1.60	.30
24	.10	.80	1.10	1.00	15.00	6.10	1.80	2.50	1.50	.90	1.50	.30
25	.10	.80	.90	1.00	3.50	5.90	1.70	14.00	1.40	.90	1.40	.30
26	.10	.80	.70	.90	1.90	5.70	1.60	3.20	1.40	.90	1.40	.20
27	.10	.90	3.60	.80	5.00	5.50	1.50	1.70	2.10	.90	1.30	.20
28	.10	2.70	17.00	.80	63.00	5.10	1.40	2.00	1.30	.90	1.10	.20
29	.10	2.10	8.10	.70	---	4.70	1.30	20.00	1.20	.90	1.00	.20
30	.10	1.80	6.20	.70	---	4.60	1.20	3.00	1.20	.80	9.80	.20
31	.10	---	4.90	.60	---	4.60	---	4.40	---	.80	1.60	---
TOTAL	3.20	34.70	156.10	43.70	160.50	443.80	119.00	164.00	70.70	35.40	151.20	15.10
MEAN	.10	1.16	5.04	1.41	5.73	14.30	3.97	5.29	2.36	1.14	4.88	.50
WTR YR 1983	TOTAL	1397.40	MEAN	3.83								

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.40	.30	.15	.10	.19	1.1	.27	.20	.06	.16	.06
2	.40	.40	.20	.15	.10	.17	.98	.25	.16	.06	.14	.03
3	.40	.30	.19	.15	.10	.15	2420	.24	.14	.06	6.6	.02
4	.60	.30	.22	.15	.10	.13	9.7	.23	.12	.06	2.2	.02
5	.50	.30	.25	.14	.09	.10	5.7	.23	.11	.06	.41	.01
6	.50	.30	.30	.14	.08	.09	3.7	.22	.11	.05	.34	.01
7	.50	.30	.34	.12	.07	.08	3.3	.19	.11	.30	.30	.01
8	.40	.30	.32	.11	.06	.07	2.2	.17	.11	.20	.26	.01
9	.40	.30	.28	.09	.05	.06	2.0	.15	.11	.10	.23	.01
10	.40	.30	.26	.08	.04	.06	1.7	.14	.11	47	.18	.01
11	.40	.30	.23	.06	.04	.27	1.5	.13	.10	10	.14	.00
12	.40	.30	.21	.06	.03	74	1.3	.12	.10	1.9	.12	.00
13	.50	.30	.19	.05	.03	90	1.1	.11	.10	1.3	.11	.00
14	4.0	.30	.17	.05	.03	15	.91	.12	.10	1.0	.09	.00
15	1.2	.30	.16	.06	.03	3.8	.77	.80	.10	.81	.09	.00
16	.80	.30	.17	.06	.03	118	.71	.30	.10	.64	.06	.00
17	.60	.30	.17	.07	.03	4.2	.64	.20	.20	.53	.06	.00
18	2.5	.30	.17	.08	.03	3.1	.57	.20	.10	.43	.06	.00
19	.90	.30	.17	.09	.03	1.5	.54	.18	.09	.34	.05	.01
20	.70	.50	.18	.09	.08	.86	.49	.16	.09	.27	.05	.01
21	.60	.30	.18	.09	.48	6.6	.43	.15	.09	26	.04	.01
22	.60	.30	.18	.09	12	9.6	.40	.80	.09	1.7	.03	.01
23	.50	.30	.18	.09	9.4	2.7	.39	.30	.08	.69	.03	.01
24	.50	.30	.18	.09	.99	5.0	.37	.25	.08	.51	1.2	.00
25	.50	.30	.18	.09	.35	2.5	.36	.20	.20	.45	.23	.00
26	.50	.40	.18	.09	.26	.92	.36	.20	.10	.37	.14	.00
27	.40	.80	.18	.10	.24	.67	.33	.49	.08	.33	.11	.00
28	.40	.50	.17	.09	.20	.53	.31	.43	.07	.29	.08	.00
29	.40	.40	.17	.08	---	.42	.30	.36	.07	.25	.16	.00
30	.40	.30	.16	.09	---	4.9	.28	.29	.07	.21	.12	.00
31	.40	---	.16	.09	---	2.0	---	.24	---	.19	.09	---
TOTAL	21.70	10.30	6.40	2.94	25.07	347.67	2462.44	8.12	3.29	96.16	13.88	0.24
MEAN	.70	.34	.21	.09	.90	11	82	.26	.11	3.1	.45	.01
WTR YR 1982	TOTAL	2998.21		MEAN	8.2							

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.01	.07	.50	.11	6.9	.75	.42	1.2	.23	.27	.32
2	.01	.01	15	.43	.10	4.7	1.1	.46	1.0	.18	.25	.23
3	.01	.01	.39	.37	.09	9.8	1.4	.40	.85	1.2	.24	.17
4	.01	.01	.39	.34	.09	219	1.8	.45	.71	.85	.23	.13
5	.01	.01	8.6	.40	.08	5.3	1.9	.82	.59	.37	.21	.11
6	.01	.01	5.8	.51	.09	3.4	1.9	.65	.48	.36	16	.08
7	.01	.01	5.2	.61	.08	2.5	1.9	57	.43	.32	2.5	.07
8	.01	.01	3.9	.63	.08	1.8	1.8	8.4	.57	.31	.40	.08
9	.01	.04	3.1	.60	.08	1.3	2.8	1.2	.48	.30	.13	.08
10	.01	.26	2.6	.61	.09	1.1	2.6	.95	.41	.29	.09	.08
11	.01	2.1	2.2	.52	.09	1.0	2.0	.78	.37	.28	.06	.08
12	.01	.97	2.2	.46	.10	.92	1.7	.69	.33	.27	.05	.07
13	.01	.16	2.0	.44	.11	.85	4.4	.80	.29	.26	.05	.05
14	.01	.16	1.9	.40	.12	.77	2.1	1.0	.26	.25	.04	.04
15	.01	.16	1.7	.34	.13	.71	1.4	.90	.24	.24	.04	.04
16	.01	.16	1.6	.31	.15	.69	1.3	.48	.21	.25	.07	.03
17	.01	.16	1.5	.27	.16	.65	1.2	.43	.20	.26	244	.03
18	.01	.15	1.3	.24	.15	.68	1.0	.60	.21	.28	1.5	.03
19	.02	.14	1.2	.23	.19	.73	.91	12	.21	.29	.77	.03
20	.02	.13	1.1	.22	2.4	.80	.81	4.2	.20	.31	.48	.04
21	.01	.11	.97	.21	2.0	.84	.66	1.1	.19	.31	.34	.03
22	.01	.10	.84	.20	1.3	.85	.60	1.0	.19	.33	.23	.02
23	.01	.09	.81	.19	8.5	.87	.59	.85	.19	.35	.22	.02
24	.01	.08	.72	.18	1.5	.90	.53	.70	.18	.36	.22	.02
25	.01	.07	.62	.17	.51	.88	.51	53	.16	.37	.24	.02
26	.01	.07	.52	.16	.34	.85	.51	1.7	.14	.36	.22	.01
27	.01	.07	1.8	.15	.70	.82	.48	1.1	.48	.35	.14	.01
28	.01	.20	4.0	.14	23	.76	.47	6.3	.31	.34	.11	.01
29	.01	.10	.76	.13	---	.71	.46	56	.27	.32	.09	.01
30	.01	.08	.64	.12	---	.69	.43	2.0	.25	.30	8.1	.01
31	.01	---	.56	.11	---	.70	---	1.5	---	.28	.46	---
TOTAL MEAN	0.33 .01	5.64 .19	73.99 2.4	10.19 .33	42.34 1.5	272.47 8.8	40.01 1.3	217.88 7.0	11.60 .39	10.77 .35	277.75 9.0	1.95 .07
WTR YR 1983	TOTAL	964.92	MEAN	2.6								

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 downstream from government dam, 1.0 mi south of Huron Street bridge in Berlin, 2.5 mi upstream from Barnes Creek, and at mile 89.0.

DRAINAGE AREA.--1,340 mi².

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 above mean tide at New York City (by Corps of Engineers). Prior to Oct. 27, 1954, nonrecording gage at site 0.3 mi upstream at same datum.

REMARKS.--Records good except those for periods of ice effect, which are fair. Usually less than about 10 ft³/s was diverted into the basin from the Wisconsin River at Portage Canal throughout the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--85 years, 1,105 ft³/s, 11.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s Mar. 17, 18, 1946, gage height, 15.5 ft; minimum observed, 248 ft³/s Sept. 16, 1948, gage height, 6.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,710 ft³/s Mar. 19, gage height, 12.21 ft; minimum daily discharge, 635 ft³/s Aug. 12.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used July 26 to Sept. 16; stage-discharge relation affected by ice Dec. 12 to Feb. 27.)

8.3	610	11.0	1,950
9.0	910	12.0	2,560
10.0	1,370	13.0	3,280

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	737	909	1960	1600	860	1970	2320	1980	1960	1020	757	1120
2	711	934	2010	1500	860	2000	2360	2040	1940	1030	740	1140
3	759	986	2050	1400	840	2030	2430	2030	1930	1030	755	1130
4	726	1030	2060	1300	800	2080	2450	1970	1910	1090	760	1110
5	679	1060	2120	1200	800	2160	2470	1910	1900	1100	741	1080
6	662	1050	2240	1200	820	2250	2480	1900	1890	1070	750	1090
7	693	1050	2280	1100	820	2360	2500	1960	1860	1060	760	1080
8	705	1040	2310	1100	820	2470	2490	2010	1830	1050	750	1070
9	672	1030	2260	1000	840	2550	2480	2010	1810	1020	719	1050
10	660	1110	2220	1000	840	2580	2540	2010	1780	988	704	1040
11	703	1230	2210	1000	840	2580	2550	2010	1740	967	670	994
12	708	1480	2100	980	840	2590	2490	2000	1700	914	635	946
13	805	1630	2100	960	840	2600	2540	1990	1650	880	674	894
14	830	1760	2000	940	840	2590	2580	1990	1600	870	682	887
15	842	1870	2000	920	820	2580	2610	1950	1560	852	667	891
16	784	1960	1900	900	820	2600	2620	1920	1510	820	674	983
17	780	2040	1800	880	820	2590	2640	1890	1450	785	894	1030
18	786	2080	1800	880	820	2610	2630	1860	1380	775	1000	1110
19	795	2130	1700	860	840	2690	2610	1870	1310	797	1020	1140
20	863	2170	1600	860	900	2700	2570	1880	1220	823	1010	1170
21	871	2190	1500	860	1000	2700	2520	1870	1170	808	986	1200
22	911	2180	1500	880	1200	2680	2490	1900	1040	791	968	1230
23	948	2170	1400	880	1300	2650	2450	1930	920	781	945	1230
24	964	2120	1400	880	1500	2600	2390	1950	843	762	935	1230
25	963	2080	1400	860	1600	2550	2320	1970	798	723	934	1230
26	941	2030	1400	860	1700	2500	2260	1990	783	699	936	1230
27	927	1980	1400	860	1800	2480	2210	2000	820	724	970	1210
28	927	1960	1400	860	1940	2460	2150	2000	874	739	977	1190
29	936	1970	1500	860	---	2390	2090	2000	920	756	974	1160
30	955	1960	1500	860	---	2340	2040	1990	967	788	1040	1130
31	926	---	1600	860	---	2330	---	1980	---	793	1090	---
TOTAL	25169	49189	56720	31100	28720	76260	73280	60760	43065	27305	26117	32995
MEAN	812	1640	1830	1003	1026	2460	2443	1960	1436	881	842	1100
MAX	964	2190	2310	1600	1940	2700	2640	2040	1960	1100	1090	1230
MIN	660	909	1400	860	800	1970	2040	1860	783	699	635	887
CFSM	.61	1.22	1.37	.75	.77	1.84	1.82	1.46	1.07	.66	.63	.82
IN.	.70	1.37	1.57	.86	.80	2.12	2.03	1.69	1.20	.76	.73	.92
CAL YR 1982	TOTAL	493418	MEAN	1352	MAX	3780	MIN	580	CFSM	1.01	IN	13.70
WTR YR 1983	TOTAL	530680	MEAN	1454	MAX	2700	MIN	635	CFSM	1.09	IN	14.73

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 upstream from bridge on State Highway 55, on Mole Lake Indian Reservation.

DRAINAGE AREA.--46.3 mi².

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

REVISED RECORD.--WDR WI-82-1: Drainage area.

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

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

AVERAGE DISCHARGE.--6 years, 31.7 ft³/s, 9.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 228 ft³/s June 15, 1981, gage height, 3.82 ft; minimum, 6.8 ft³/s Aug. 25, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 208 ft³/s May 23, gage height, 3.71 ft; minimum, 12 ft³/s Aug. 29-30, Sept. 3-4, gage height, 1.97 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 12-21, Jan. 27 to Feb. 20.)

Oct. 1 to Feb. 20

Feb. 21 to Sept. 30

2.2	17	1.9	10	2.8	68
2.5	35	2.1	16	3.2	122
2.8	62	2.3	22	3.7	206
3.1	104	2.5	36		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	33	30	37	28	25	33	43	79	34	20	14
2	30	32	34	35	28	26	36	40	69	32	19	13
3	34	30	42	32	27	28	36	39	64	33	22	12
4	31	32	38	33	27	34	35	35	68	61	26	12
5	27	30	42	32	27	46	34	31	68	60	20	16
6	38	28	37	32	26	62	37	30	61	57	18	25
7	47	25	30	34	25	92	36	54	55	46	16	24
8	41	26	34	33	25	113	37	80	51	47	15	21
9	38	25	30	35	25	104	42	63	52	36	14	18
10	59	26	29	34	24	85	45	52	48	30	24	17
11	55	41	28	34	24	77	45	43	45	27	50	18
12	46	75	26	31	24	61	48	40	41	29	36	17
13	42	94	26	31	24	59	63	48	39	23	33	16
14	38	65	27	31	24	54	83	65	38	19	24	15
15	35	45	27	30	26	49	94	55	73	21	21	14
16	32	45	27	30	26	46	75	45	70	17	20	22
17	29	37	25	29	26	44	59	39	53	16	20	23
18	28	35	26	29	26	42	54	33	45	25	19	35
19	28	38	27	28	27	41	46	41	37	23	18	37
20	57	49	27	28	27	41	45	49	32	22	16	64
21	85	52	27	29	27	39	47	47	31	20	16	72
22	68	44	26	30	27	38	51	80	43	19	19	48
23	52	40	27	30	27	36	51	197	36	18	18	33
24	48	32	28	31	26	35	50	158	30	17	15	26
25	45	30	42	30	25	35	46	118	27	16	13	22
26	41	29	52	26	25	32	47	91	26	15	13	21
27	37	21	45	25	25	32	52	73	26	15	12	20
28	36	26	44	26	25	32	42	64	28	20	12	20
29	42	29	43	27	---	31	41	68	25	28	12	18
30	42	29	38	27	---	31	40	77	25	22	14	19
31	36	---	39	29	---	31	---	85	---	20	19	---
TOTAL	1298	1143	1023	948	723	1501	1450	1983	1385	868	614	732
MEAN	41.9	38.1	33.0	30.6	25.8	48.4	48.3	64.0	46.2	28.0	19.8	24.4
MAX	85	94	52	37	28	113	94	197	79	61	50	72
MIN	27	21	25	25	24	25	33	30	25	15	12	12
CFSM	.91	.82	.71	.66	.56	1.05	1.04	1.38	1.00	.61	.43	.53
IN.	1.04	.92	.82	.76	.58	1.21	1.16	1.59	1.11	.70	.49	.59
CAL YR 1982	TOTAL	11015.5	MEAN	30.2	MAX	106	MIN	8.9	CFSM	.65	IN	8.85
WTR YR 1983	TOTAL	13668.0	MEAN	37.4	MAX	197	MIN	12	CFSM	.81	IN	10.98

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 downstream from bridge on County Trunk Highway M, 0.9 mi west of Mole Lake.

DRAINAGE AREA.--56.8 mi², revised.

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

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

REMARKS.--Records are fair.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 202 ft³/s May 24, gage height, 3.06 ft; minimum daily discharge, 22 ft³/s Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	50	39	44	38	41	45	59	94	44	29	24
2	40	48	39	40	38	41	47	59	90	46	28	23
3	43	45	40	39	39	40	48	59	84	46	31	23
4	43	42	43	38	39	45	48	58	85	55	35	23
5	44	43	47	38	39	56	48	56	86	62	36	24
6	49	43	52	38	38	70	48	57	81	63	35	26
7	61	42	47	38	38	97	48	61	76	61	33	27
8	65	41	43	38	37	117	49	74	71	56	32	28
9	65	41	40	38	37	139	50	82	68	57	30	27
10	72	43	39	38	37	134	52	77	64	54	34	28
11	77	46	39	38	37	124	53	69	60	48	42	28
12	77	68	39	38	37	108	54	64	57	44	44	28
13	72	87	38	38	37	94	58	62	54	41	43	28
14	66	91	38	38	37	80	80	66	53	36	41	28
15	64	82	38	38	38	71	101	68	58	33	39	29
16	59	74	38	38	40	64	104	66	67	31	36	31
17	54	66	38	38	40	61	92	63	68	29	35	32
18	52	59	38	38	40	57	80	59	66	33	35	34
19	45	56	38	38	39	55	70	59	62	38	32	36
20	61	58	38	38	39	53	63	61	58	42	30	55
21	79	61	38	38	39	52	59	62	55	40	29	69
22	89	62	37	38	40	50	59	81	56	37	27	70
23	88	57	37	38	39	47	60	161	56	34	24	60
24	81	51	37	38	39	46	60	199	53	31	26	47
25	76	46	40	38	41	45	58	194	50	28	25	37
26	70	42	48	37	42	45	58	162	46	26	25	34
27	64	40	50	37	42	45	57	125	44	24	25	33
28	58	39	54	37	42	45	59	101	43	27	24	33
29	55	39	51	37	---	45	58	94	41	28	22	34
30	55	39	50	38	---	45	58	92	40	30	23	36
31	55	---	46	38	---	45	---	95	---	29	24	---
TOTAL	1917	1601	1299	1183	1088	2057	1824	2645	1886	1253	974	1035
MEAN	61.8	53.4	41.9	38.2	38.9	66.4	60.8	85.3	62.9	40.4	31.4	34.5
MAX	89	91	54	44	42	139	104	199	94	63	44	70
MIN	38	39	37	37	37	40	45	56	40	24	22	23
CFSM	1.09	.94	.74	.67	.69	1.17	1.07	1.50	1.11	.71	.55	.61
IN.	1.26	1.05	.85	.77	.71	1.35	1.19	1.73	1.24	.82	.64	.68
WTR YR 1983	TOTAL	18762	MEAN	51.4	MAX	199	MIN	22	CFSM	.91	IN	12.29

STREAMS TRIBUTARY TO LAKE MICHIGAN

04074600 SWAMP CREEK NEAR POST LAKE, WI

LOCATION.--LAT 44°26'24", LONG 89°02'32", in NE 1/4 SW 1/4 sec. 7, T.34 N., R.12 E., Langlade County,
Hydrologic Unit 04030202, 100 ft below culvert on County Trunk Highway K, 2 mi east of Post Lake.

DRAINAGE AREA.--76.5 mi²

PERIOD OF RECORD.--October 1982 to September 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	NITRO- GEN DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
MAY , 1983 06...	0930	74	160	7.4	10.5	.41	79	7	18	8.3	
		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)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
MAY , 1983 06...	2.5	6	.1	.80	72	5.5	10	2.5	<.10	2.3	
		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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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)
MAY , 1983 06...	85	88	.12	.110	<.010	.110	.040	.26	.30	.020	
					ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	
MAY , 1983 06...	0930	74	1	<1	<100	4	2	20	4		
		COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	
MAY , 1983 06...	<10	3	<1	580	640	10	<10	60	100		
		MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	
MAY , 1983 06...	.1	.01	3	<10	<1	<1	<1	40	10		

STREAMS TRIBUTARY TO LAKE MICHIGAN

04074653 PICKEREL CREEK NEAR MOLE LAKE, WI

LOCATION.--LAT 45°26'29", LONG 88°56'23", in NW 1/4 SW 1/4 sec. 12, T34 N., R.12 E., Langlade County,
Hydrologic Unit 04030202, about 1,000 ft upstream of Rolling Stone Lake inlet.

DRAINAGE AREA.--6.72 mi²

PERIOD OF RECORD.--October 1982 to September 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	NITRO- GEN DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
MAY , 1983 06...	1100	3.1	185	7.6	5.5	.35	93	6	21	9.9	
		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)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
MAY , 1983 06...	2.2	5	.1	.60	87	4.2	10	.90	<.10	11	
		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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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)
MAY , 1983 06...	104	110	.14	.150	<.010	.150	.020	.18	.20	.020	
				ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)		
MAY , 1983 06...	1100	3.1	1	<1	100	6	3	<10	5		
		COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	
MAY , 1983 06...	<10	3	<1	210	680	10	<10	40	100		
		MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	
MAY , 1983 06...		.1	.02	4	<10	<1	<1	<1	30	10	

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 east of White Lake, 3.0 mi upstream from White Lake Creek, and at about mile 170 above mouth.

DRAINAGE AREA.--463 mi².

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, from topographic map. Prior to Oct. 1, 1976, nonrecording gage 50 ft downstream at same altitude.

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

AVERAGE DISCHARGE.--16 years (water years 1967-79, 1981-83), 461 ft³/s, 13.52 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,310 ft³/s May 29, gage height, 9.35 ft; minimum discharge, 227 ft³/s Aug. 9, 10.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26 to Dec. 2, Dec. 6 to Mar. 3.)

7.5	207	9.0	1,000
8.0	390	9.5	1,460
8.5	640		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	514	450	410	390	390	440	426	974	455	238	260
2	443	505	480	420	390	400	494	447	920	452	232	253
3	466	500	538	420	390	420	513	457	883	424	254	247
4	456	490	527	420	390	462	504	486	930	492	273	245
5	444	477	518	410	390	532	495	484	942	493	268	255
6	453	457	500	390	390	644	498	483	910	461	271	276
7	459	443	460	390	390	876	494	605	852	440	268	283
8	472	449	410	390	390	928	462	721	816	428	240	270
9	468	443	370	420	390	957	462	643	836	420	230	260
10	556	466	370	410	390	850	474	600	792	418	280	257
11	571	537	390	410	390	871	487	574	680	408	345	255
12	565	782	400	430	390	903	505	556	588	392	335	255
13	605	842	400	420	400	914	577	579	542	380	329	261
14	628	722	380	420	400	854	715	697	496	371	338	267
15	611	632	380	410	410	790	856	692	500	360	340	275
16	591	672	380	410	420	736	846	660	514	336	310	352
17	564	728	370	410	420	701	830	627	507	299	289	352
18	554	654	340	400	410	672	803	596	489	280	287	429
19	513	615	320	410	410	657	767	634	484	280	286	476
20	605	661	310	410	420	557	758	660	478	300	275	612
21	676	676	310	410	450	514	704	646	448	290	287	632
22	603	640	320	400	460	495	688	818	465	290	306	582
23	578	610	330	390	450	512	678	1170	456	310	294	547
24	573	571	340	390	440	527	666	1140	442	280	282	517
25	612	493	390	390	430	493	656	1190	426	270	273	492
26	655	520	460	390	410	463	648	1230	423	250	266	469
27	655	470	470	390	400	453	646	1170	411	270	265	447
28	637	440	450	390	390	444	632	1160	398	310	266	427
29	609	460	420	390	---	436	618	1240	383	260	259	407
30	572	450	410	390	---	430	527	1070	386	249	261	386
31	536	---	410	390	---	428	---	1030	---	245	261	---
TOTAL	17186	16919	12603	12530	11400	19309	18443	23491	18371	10913	8708	11046
MEAN	554	564	407	404	407	623	615	758	612	352	281	368
MAX	676	842	538	430	460	957	856	1240	974	493	345	632
MIN	443	440	310	390	390	390	440	426	383	245	230	245
CFSM	1.20	1.22	.88	.87	.88	1.35	1.33	1.64	1.32	.76	.61	.80
IN.	1.38	1.36	1.01	1.01	.92	1.55	1.48	1.89	1.48	.88	.70	.89
CAL YR 1982	TOTAL	150250	MEAN	412	MAX	1190	MIN	184	CFSM	.89	IN	12.07
WTR YR 1983	TOTAL	180919	MEAN	496	MAX	1240	MIN	230	CFSM	1.07	IN	14.54

STREAMS TRIBUTARY TO LAKE MICHIGAN

04075200 EVERGREEN CREEK NEAR LANGLADE, WI

LOCATION.--LAT 45°10'11", LONG 88°48'12", in SW 1/4 NW 1/4 sec. 18, T.31 N., R.14 E., Langlade County,
Hydrologic Unit 04030202, at culvert on State Highway 64, 3.5 mi southwest of Langlade.

DRAINAGE AREA.--8.09 mi²

PERIOD OF RECORD.--October 1982 to September 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	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)
MAY , 1983										
05...	1700	13	295	8.4	11.5	150	8	34	16	2.4

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
MAY , 1983									
05...	3	.0	1.3	143	1.1	10	.90	.60	9.6

DATE	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)	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)
MAY , 1983									
05...	158	160	.21	<.010	<.100	.020	.08	.10	.010

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
MAY , 1983								
05...	1700	13	1	<100	3	<10	3	70

DATE	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)
MAY , 1983							
05...	10	10	.1	1	<1	<1	40

STREAMS TRIBUTARY TO LAKE MICHIGAN

04077000 WOLF RIVER AT KESHENA FALLS NEAR KESHENA, WI

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 downstream from Keshena Falls, 1.7 mi upstream from Keshena, 3.1 mi downstream from West Branch Wolf River, and at mile 136.4.

DRAINAGE AREA.--788 mi².

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 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 downstream at datum 4.03 ft lower.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--74 years (1907-8, 1910-83), 760 ft³/s, 13.10 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 27	--	ice jam	*9.64	May 8	1600	1,540	6.78
Mar. 9	1000	1,840	7.10	May 23	2400	*2,240	7.49
Apr. 15	1900	1,610	6.86	Sept.20	1400	1,870	7.13

minimum discharge, 471 ft³/s Aug. 10, gage height, 5.47 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 10 to Mar. 5.)

5.5	489	6.5	1,290
6.0	843	7.0	1,750
		8.0	2,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	714	870	720	660	660	680	779	884	1690	798	535	565
2	737	866	740	680	660	680	823	1010	1590	888	512	535
3	722	865	780	680	660	700	922	1080	1510	812	514	512
4	737	844	860	680	640	760	941	1010	1530	909	573	496
5	722	810	840	680	640	880	929	981	1570	960	579	504
6	714	775	820	660	640	1050	924	1030	1540	874	555	543
7	745	746	800	640	640	1340	940	1330	1460	795	552	554
8	760	733	720	640	640	1590	928	1520	1380	748	530	546
9	760	735	660	640	640	1810	897	1450	1340	712	488	522
10	836	760	620	680	640	1590	959	1270	1320	694	558	506
11	975	820	600	660	640	1400	975	1160	1250	684	774	492
12	952	940	660	660	640	1520	999	1080	1130	657	763	490
13	927	1300	760	700	640	1480	1180	1050	1010	636	679	495
14	957	1400	740	680	660	1400	1440	1190	958	615	641	495
15	961	1200	680	680	680	1280	1580	1290	982	596	625	529
16	929	1100	640	660	700	1200	1560	1230	989	582	618	711
17	896	1200	680	660	700	1150	1460	1170	954	552	685	818
18	858	1200	600	660	700	1120	1390	1100	917	521	639	984
19	833	1100	560	660	680	1120	1330	1260	866	511	603	1050
20	1030	1000	520	660	700	1050	1280	1400	832	547	567	1730
21	1220	1100	500	680	720	891	1250	1340	808	555	585	1710
22	1190	1100	500	660	740	805	1200	1470	852	592	668	1480
23	1050	1000	520	660	780	773	1200	2040	868	577	630	1240
24	991	960	540	640	740	837	1190	2180	815	554	582	1070
25	944	880	560	620	720	837	1160	2030	768	530	552	967
26	973	820	640	640	700	847	1150	1960	744	509	534	900
27	1010	840	760	640	680	810	1140	1880	783	496	525	843
28	1050	760	780	640	680	793	1120	1770	765	625	514	796
29	1030	720	720	640	---	781	1110	1860	700	671	507	753
30	978	760	660	640	---	771	1020	1910	707	612	534	715
31	919	---	660	640	---	767	---	1770	---	566	584	---
TOTAL	28120	28204	20840	20420	18960	32712	33776	43705	32628	20378	18205	23551
MEAN	907	940	672	659	677	1055	1126	1410	1088	657	587	785
MAX	1220	1400	860	700	780	1810	1580	2180	1690	960	774	1730
MIN	714	720	500	620	640	680	779	884	700	496	488	490
CFSM	1.15	1.19	.85	.84	.86	1.34	1.43	1.79	1.38	.83	.75	1.00
IN.	1.33	1.33	.98	.96	.90	1.54	1.59	2.06	1.54	.96	.86	1.11

CAL YR 1982	TOTAL	278376	MEAN 763	MAX 1980	MIN 370	CFSM .97	IN 13.14
WTR YR 1983	TOTAL	321499	MEAN 881	MAX 2180	MIN 488	CFSM 1.12	IN 15.18

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 downstream from bridge on county road, 1.3 mi downstream from Mill Creek, and 4.0 mi northwest of Embarrass.

DRAINAGE AREA.--384 mi².

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 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.--64 years, 294 ft³/s, 10.40 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,270 ft³/s Sept. 21, gage height, 6.90 ft; minimum discharge, 125 ft³/s July 17, gage height, 2.80 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21-24 and Dec. 5 to Feb. 19.)

2.8	125	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 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	353	324	340	200	457	319	380	706	222	225	941
2	165	341	392	300	200	495	375	448	616	237	192	673
3	193	341	526	280	210	589	446	623	509	240	178	463
4	195	332	589	270	200	812	456	630	487	294	179	298
5	193	313	540	270	200	1030	474	548	513	336	190	228
6	194	294	640	300	190	1410	498	475	489	288	190	267
7	192	277	700	270	190	1800	525	660	430	236	183	213
8	199	264	540	250	190	1900	527	1020	371	202	164	210
9	248	256	460	230	200	1770	536	1020	338	182	151	202
10	349	290	420	220	200	1220	578	805	316	172	156	190
11	479	520	390	210	200	858	622	587	300	168	183	174
12	474	1220	360	210	210	641	630	474	278	158	210	169
13	430	1830	330	220	210	567	686	445	237	154	199	168
14	367	1670	310	230	220	534	945	598	237	143	176	170
15	308	1250	290	250	220	509	1150	699	252	139	159	168
16	272	904	270	230	230	445	1080	618	268	134	151	199
17	250	638	250	220	210	436	881	485	274	127	184	279
18	231	545	240	210	210	451	641	415	251	136	326	506
19	222	483	230	210	210	469	522	489	228	148	391	703
20	346	498	220	210	222	455	458	753	212	311	302	1540
21	701	560	220	220	240	426	414	797	204	482	240	2190
22	820	600	210	220	268	358	411	859	221	552	302	1840
23	746	500	210	220	312	333	430	1290	243	474	396	1330
24	634	400	220	220	351	321	442	1440	266	374	305	912
25	480	361	240	210	359	304	439	1300	261	270	234	625
26	386	329	380	200	297	295	425	1080	223	217	199	389
27	336	314	430	200	255	283	417	750	208	189	183	391
28	299	298	500	210	329	283	409	571	222	208	171	344
29	296	290	460	220	---	270	403	538	219	299	164	311
30	331	322	420	220	---	284	395	635	210	353	238	284
31	362	---	380	210	---	297	---	699	---	290	909	---
TOTAL	10858	16593	11691	7280	6533	20302	16534	22131	9589	7735	7430	16377
MEAN	350	553	377	235	233	655	551	714	320	250	240	546
MAX	820	1830	700	340	359	1900	1150	1440	706	552	909	2190
MIN	160	256	210	200	190	270	319	380	204	127	151	168
CFSM	.91	1.44	.98	.61	.61	1.71	1.44	1.86	.83	.65	.63	1.42
IN.	1.05	1.61	1.13	.71	.63	1.97	1.60	2.14	.93	.75	.72	1.59

CAL YR 1982 TOTAL 125160 MEAN 343 MAX 1830 MIN 100 CFSM .89 IN 12.12
WTR YR 1983 TOTAL 153053 MEAN 419 MAX 2190 MIN 127 CFSM 1.09 IN 14.83

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 downstream from Pearl Street bridge in New London, 0.2 mi downstream from Embarrass River, and at mile 56.3.

DRAINAGE AREA.--2,260 mi².

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 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.--87 years, 1,745 ft³/s, 10.49 in/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,200 ft³/s Mar. 12, gage height, 8.60 ft; minimum daily discharge, 902 ft³/s July 19.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 9 to Mar. 7.)

1.7	880	6.0	2,800
2.0	980	7.0	3,460
3.0	1,380	8.0	4,900
4.0	1,780	9.0	7,160
5.0	2,280		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	1930	2640	2300	1100	2600	2560	2620	4810	1390	1310	1900
2	1190	1980	2630	2200	1100	2700	2550	2600	4610	1340	1210	2050
3	1180	2030	2690	2100	1100	2800	2630	2580	4410	1330	1130	2090
4	1170	2050	2760	2000	1100	3000	2720	2610	4210	1450	1060	2010
5	1210	2020	2840	1900	1100	3200	2790	2620	4000	1500	1020	1930
6	1200	1960	3030	1800	1100	3500	2840	2630	3850	1550	1010	1940
7	1230	1880	3150	1700	1100	4200	2880	2710	3690	1580	1010	2070
8	1250	1810	3220	1600	1100	4960	2890	2900	3510	1540	988	1980
9	1290	1750	3100	1500	1100	5550	2910	3020	3360	1460	958	1810
10	1410	1800	3100	1500	1100	5860	2970	3120	3220	1360	959	1620
11	1510	2080	2900	1400	1100	6090	3010	3160	3070	1280	969	1450
12	1610	2680	2800	1300	1100	6170	3060	3170	2940	1200	964	1300
13	1670	3030	2600	1200	1100	6120	3130	3210	2820	1120	1030	1220
14	1710	3260	2400	1200	1100	5940	3200	3290	2710	1050	1110	1160
15	1720	3410	2200	1200	1100	5640	3280	3340	2610	1010	1120	1120
16	1690	3560	2100	1200	1100	5320	3350	3340	2500	962	1060	1210
17	1640	3760	2000	1200	1100	4970	3410	3290	2400	928	1160	1330
18	1600	3890	2000	1200	1100	4660	3470	3230	2290	915	1220	1580
19	1570	3930	1900	1200	1200	4470	3520	3200	2150	912	1320	1900
20	1580	3910	1900	1200	1200	4230	3560	3180	2000	954	1410	2600
21	1640	3850	1800	1200	1300	3950	3570	3170	1850	1050	1390	3010
22	1810	3740	1800	1100	1300	3770	3510	3230	1700	1230	1440	3330
23	1980	3610	1800	1100	1500	3580	3410	3340	1580	1350	1540	3720
24	2060	3460	1800	1100	1600	3380	3300	3480	1500	1420	1590	4140
25	2130	3320	1800	1100	1700	3230	3190	3700	1450	1400	1570	4560
26	2180	3210	1900	1100	2100	3090	3090	3910	1430	1290	1490	4830
27	2190	3080	2000	1100	2300	2950	3000	4180	1410	1160	1380	4900
28	2170	2930	2100	1100	2500	2840	2910	4450	1380	1050	1230	4790
29	2120	2800	2200	1100	---	2730	2820	4740	1360	1050	1160	4500
30	2030	2690	2300	1100	---	2650	2710	4910	1390	1100	1300	4090
31	1960	---	2400	1100	---	2590	---	4920	---	1290	1700	---
TOTAL	50920	85410	73860	43100	36500	126740	92240	103850	80210	38221	37808	76140
MEAN	1643	2847	2383	1390	1304	4088	3075	3350	2674	1233	1220	2538
MAX	2190	3930	3220	2300	2500	6170	3570	4920	4810	1580	1700	4900
MIN	1170	1750	1800	1100	1100	2590	2550	2580	1360	912	958	1120
CFSM	.73	1.26	1.05	.62	.58	1.81	1.36	1.48	1.18	.55	.54	1.12
IN.	.84	1.41	1.22	.71	.60	2.09	1.52	1.71	1.32	.63	.62	1.25
CAL YR 1982	TOTAL	710618	MEAN	1947	MAX	7270	MIN	680	CFSM	.86	IN	11.70
WTR YR 1983	TOTAL	844999	MEAN	2315	MAX	6170	MIN	912	CFSM	1.02	IN	13.91

STREAMS TRIBUTARY TO LAKE MICHIGAN

04080000 LITTLE WOLF RIVER AT ROYALTON, WI

LOCATION.--Lat 44°24'47", long 88°51'55", in SE 1/4 NE 1/4 sec.1, T.22 N., R.13 E., Waupaca County, Hydrologic Unit 04030202, on right bank 50 ft upstream from highway bridge in Royalton and 6.0 mi upstream from mouth.

DRAINAGE AREA.--507 mi², revised.

PERIOD OF RECORD.--January 1914 to September 1970, October 1982 to current year.

REVISED RECORD.--WSP 1337: 1914-16 (M), 1918-19 (M), 1921-25 (M), 1927 (M), 1928-37, 1939 (M), 1940, 1945-46 (M), 1948 (M), 1950 (M). WSP 1507: 1943. WSP 1727: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 774.00 ft, National Geodetic Vertical Datum of 1929. Prior to Aug. 20, 1915, non-recording gage at highway bridge at datum 0.75 ft lower. Aug. 20, 1915, to Apr. 23, 1934, non-recording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Occasional fluctuation caused by recreational dam 6 mi upstream. Gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1915-70, 1983), 399 ft³/s, 10.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,950 ft³/s Mar. 30, 1943, gage height, 8.00 ft, from rating curve extended above 3,500 ft³/s; maximum gage height, 11.95 ft Mar. 28, 1950 (backwater from ice); minimum, 52 ft³/s Nov. 26, 1958, gage height, 0.75 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 13	2115	*2,660	*4.23	Sept. 22	2030	2,630	4.20
Mar. 8	2200	2,310	3.90				

minimum, 159 ft³/s Aug. 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 27-28, Dec. 8-9, Dec. 11 to Feb. 20.)

1.1	155	3.0	1,450
1.5	310	3.5	1,920
2.0	610	4.0	2,410
2.5	1,000		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	371	625	640	220	1170	445	423	944	276	217	938
2	241	489	638	560	220	1130	523	491	807	280	186	1040
3	241	507	880	490	220	1170	664	690	684	278	188	857
4	270	494	868	440	220	1370	690	799	597	374	197	436
5	270	469	931	410	200	1500	679	731	596	360	208	346
6	249	435	1210	390	200	1830	726	583	589	361	229	706
7	274	364	1120	380	200	2150	679	883	534	312	215	727
8	278	365	1100	370	200	2240	660	1350	474	261	183	445
9	360	359	1000	360	200	2180	685	1350	458	242	174	414
10	393	518	957	350	200	1810	742	1250	421	234	177	362
11	439	1040	900	340	200	1310	766	958	376	226	188	292
12	488	2120	780	330	210	1090	850	686	361	212	189	243
13	421	2290	700	320	220	862	841	618	357	212	186	250
14	371	2330	600	320	230	725	938	839	333	200	180	251
15	335	2010	500	310	240	685	1090	968	333	192	171	256
16	310	1480	450	300	250	702	1100	996	344	189	166	335
17	301	1150	420	290	270	708	1050	887	393	186	259	365
18	301	859	390	290	280	695	928	630	329	183	333	441
19	288	652	330	280	300	765	661	655	293	187	398	588
20	360	728	330	270	330	718	543	879	287	211	319	1670
21	463	754	320	260	381	641	518	923	271	226	255	2030
22	728	742	330	250	648	586	483	1130	259	236	289	2320
23	603	723	340	240	984	487	498	1280	251	232	390	2290
24	494	670	370	230	1000	476	496	1310	255	220	376	1690
25	482	623	500	220	997	443	494	1390	249	215	262	1190
26	423	424	620	220	809	401	485	1210	243	201	241	781
27	355	420	600	220	595	404	469	938	247	189	216	618
28	349	410	700	220	778	401	449	660	263	182	191	519
29	345	406	940	220	---	402	427	739	270	229	192	455
30	353	600	860	220	---	409	426	825	272	251	422	440
31	362	---	760	220	---	427	---	887	---	313	823	---
TOTAL	11380	24802	21069	9960	10802	29887	20005	27958	12090	7470	8020	23295
MEAN	367	827	680	321	386	964	667	902	403	241	259	777
MAX	728	2330	1210	640	1000	2240	1100	1390	944	374	823	2320
MIN	233	359	320	220	200	401	426	423	243	182	166	243
CFSM	.72	1.63	1.34	.63	.76	1.90	1.32	1.78	.80	.48	.51	1.53
IN.	.83	1.82	1.55	.73	.79	2.19	1.47	2.05	.89	.55	.59	1.71

WTR YR 1983 TOTAL 206738 MEAN 566 MAX 2330 MIN 166 CFSM 1.12 IN 15.17

STREAMS TRIBUTARY TO LAKE MICHIGAN

04081000 WAUPACA RIVER NEAR WAUPACA, WI

LOCATION.--Lat 44°19'50", long 88°59'45", in NW 1/4 NW 1/4 sec.1, T.21 N., R.12 E., Waupaca County, Hydrologic Unit 04030202, on right bank 10 ft downstream from Harrington Road bridge, 4 mi upstream from Weyauwega Lake Dam, 4.5 mi southeast of Waupaca, and about 5 mi downstream from Crystal River.

DRAINAGE AREA.--265 mi², revised.

PERIOD OF RECORD.--June 1916 to September 1966 (no winter records for 1964 and 1965 water years). Operated as crest-stage gage from October 1966 to September 1970 and low-flow partial-record station from October 1966 to September 1977. October 1982 to current year. Published as "near Weyauwega" June 1916 to October 1917.

GAGE.--Water-stage recorder. Altitude is 780 ft (from survey level line along railroad). Prior to Oct. 19, 1917, chain gage at site 1 mi downstream at different datum. Oct. 19, 1917, to Nov. 23, 1938, chain gage on bridge at present site and datum.

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

AVERAGE DISCHARGE.--49 years (1916-63, 1966, 1983), 237 ft³/s, 12.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft³/s Mar. 20, 1948, gage height, 6.90 ft; maximum gage height, 8.06 ft Mar. 28, 1950 (backwater from ice); minimum discharge, 38 ft³/s June 7, 1947; minimum daily, 50 ft³/s Jan. 22, 28, 1926.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 670 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	0545	*954	3.76	Mar. 6	1045	688	3.01
Dec. 30	1045	ice jam	*3.87	Sept. 20	1530	791	3.49

minimum daily discharge, 176 ft³/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	214	260	310	210	366	252	224	308	216	224	308
2	182	249	276	280	200	380	263	278	289	218	197	269
3	185	255	291	270	200	413	299	301	280	219	208	252
4	186	246	282	260	200	527	318	282	282	243	203	239
5	184	232	295	260	190	592	290	257	269	248	208	252
6	184	221	399	270	190	668	284	270	269	235	204	311
7	199	212	359	270	190	659	288	404	259	219	202	290
8	210	204	325	250	200	585	283	452	261	209	197	265
9	210	204	310	230	200	498	275	370	256	203	197	250
10	224	287	280	220	210	421	295	309	244	199	192	241
11	228	404	270	210	210	352	299	285	239	200	205	239
12	225	825	260	230	210	316	291	269	232	180	207	237
13	217	654	250	250	220	302	310	296	233	181	192	238
14	214	530	250	240	220	310	333	367	244	178	189	236
15	203	403	240	230	230	293	338	351	235	181	193	234
16	200	346	230	230	230	287	316	304	240	180	196	258
17	200	309	230	230	230	291	298	275	233	182	303	265
18	197	286	240	220	220	301	280	262	222	184	341	264
19	200	273	260	210	219	310	261	320	217	187	310	292
20	216	279	240	200	219	308	252	322	214	197	257	709
21	235	277	230	200	229	294	241	298	212	196	249	707
22	239	271	220	210	242	275	240	332	215	195	269	586
23	230	262	210	220	294	259	237	391	207	192	262	409
24	220	255	220	220	336	252	235	367	206	189	246	344
25	218	250	230	210	312	248	233	354	201	191	235	310
26	216	242	270	200	271	241	233	336	203	186	224	291
27	212	220	250	200	252	244	227	306	207	186	226	276
28	208	240	290	200	286	244	223	287	220	190	221	266
29	212	233	340	210	---	245	222	301	213	229	215	257
30	208	237	360	220	---	241	221	314	212	228	259	253
31	212	---	340	210	---	247	---	327	---	215	344	---
TOTAL	6450	9120	8507	7170	6420	10969	8137	9811	7122	6256	7175	9348
MEAN	208	304	274	231	229	354	271	316	237	202	231	312
MAX	239	825	399	310	336	668	338	452	308	248	344	709
MIN	176	204	210	200	190	241	221	224	201	178	189	234
CFSM	.79	1.15	1.03	.87	.86	1.34	1.02	1.19	.89	.76	.87	1.18
IN.	.91	1.28	1.19	1.01	.90	1.54	1.14	1.38	1.00	.88	1.01	1.31

WTR YR 1983 TOTAL 96485 MEAN 264 MAX 825 MIN 176 CFSM 1.00 IN 13.54

STREAMS TRIBUTARY TO LAKE MICHIGAN

440654089120500 LAKE MORRIS NEAR MOUNT MORRIS, WI

WATER QUALITY DATA

LOCATION.--LAT 44°06'54", LONG 89°12'05", in SW 1/4 sec. 16, T.19 N., R.11 E., Waushara County, Hydrologic Unit 04030202, at deepest part of lake about 1 mi west of Mount Morris.

PERIOD OF RECORD.--June to September 1983.

WATER-QUALITY DATA, JUNE TO SEPTEMBER 1983

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
JUN , 1983						
18...	1630	.00	--	--	--	--
18...	1632	1.00	316	7.4	22.5	10.2
18...	1634	4.00	309	7.5	22.5	10.0
18...	1636	8.00	321	7.5	18.0	7.2
18...	1638	10.30	--	--	--	--
18...	1640	12.00	329	7.3	12.0	5.4
18...	1642	16.00	326	7.2	9.0	6.4
18...	1646	20.00	332	7.2	7.0	7.1
18...	1648	24.00	328	7.1	6.0	7.3
18...	1650	28.00	327	7.1	5.5	6.7
18...	1652	32.00	332	7.1	5.0	5.3
18...	1654	36.00	335	7.1	5.0	1.8
18...	1656	40.00	345	7.1	4.5	.0
18...	1700	43.00	--	--	--	--
18...	1710	.50	--	--	--	--
18...	1711	43.00	--	--	--	--
JUL						
25...	1050	.00	--	--	--	--
25...	1200	43.00	--	--	--	--
25...	1225	2.00	305	8.6	26.5	9.9
25...	1227	6.00	317	8.8	26.5	9.7
25...	1230	10.00	320	8.3	24.5	9.3
25...	1231	12.00	326	8.5	19.0	10.4
25...	1232	14.00	334	8.4	16.0	11.7
25...	1235	18.00	339	7.6	8.5	7.9
25...	1238	22.00	344	7.7	7.0	7.3
25...	1240	26.00	334	7.7	6.0	5.1
25...	1242	30.00	337	7.7	5.5	3.4
25...	1244	34.00	330	7.6	4.0	.2
25...	1246	38.00	347	7.5	4.5	.1
25...	1248	40.00	366	7.4	4.5	.0
25...	1250	42.00	--	--	--	--
AUG						
25...	--	--	316	8.4	25.5	9.1
25...	1020	42.00	--	--	--	--
25...	1125	2.00	316	8.4	25.5	9.1
25...	1127	6.00	316	8.3	25.5	9.1
25...	1129	10.00	326	8.0	24.0	8.2
25...	1131	13.80	--	--	--	--
25...	1133	14.00	328	8.4	21.0	11.6
25...	1135	18.00	336	7.8	14.0	4.4
25...	1137	22.00	331	7.5	9.5	1.0
25...	1139	26.00	319	7.3	7.0	2.1
25...	1141	30.00	322	7.2	6.0	.1
25...	1143	34.00	322	7.1	5.5	.1
25...	1145	38.00	337	7.1	5.5	.0
25...	1150	42.00	351	7.0	5.0	.0
25...	1200	.50	316	8.4	25.5	9.1
25...	1201	43.00	351	7.0	5.0	.0

STREAMS TRIBUTARY TO LAKE MICHIGAN
440654089120500 LAKE MORRIS NEAR MOUNT MORRIS, WI--CONTINUED
WATER-QUALITY DATA, JUNE TO SEPTEMBER 1983

DATE	TIME	SAM- PLING DEPTH (FEET)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	TRANS- PAR- ENCY (SECCHI DISK) (M)	NITRO- GEN DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L 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
JUN , 1983												
18...	1700	43.00	35	1.00	--	--	160	.00	35.0	18.0	1.50	2.00
18...	1710	.50	45	1.30	--	.82	160	.00	31.0	19.0	1.50	2.00
18...	1711	43.00	--	--	--	1.19	--	--	--	--	--	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINIT LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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)
JUN , 1983											
18...	.0	1.00	173	12.0	11.00	212	.290	--	--	--	--
18...	.0	.70	164	12.0	--	186	.250	.30	.020	.32	.070
18...	--	--	--	--	--	--	--	.47	.030	.50	.390

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHODIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHODIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHODIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
JUN , 1983											
18...	--	--	--	--	--	--	--	25	230	--	--
18...	.43	.50	.110	.015	.010	.010	.03	7	3.00	--	--
18...	.31	.70	.090	.049	.040	.040	.12	--	--	--	--

DATE	TIME	SAM- PLING DEPTH (FEET)	TRANS- PAR- ENCY (SECCHI DISK) (M)	PHOS- PHORUS, TOTAL (MG/L AS P)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
JUN , 1983						
18...	1638	10.3	3.2	--	--	--
JUL						
25...	1200	43.0	--	.203	--	--
25...	1210	--	--	--	2.10	<.100
25...	1232	14.0	4.3	--	--	--
25...	1250	42.0	--	--	--	--
AUG						
25...	--	--	--	.007	2.30	.100
25...	1131	13.8	4.0	--	--	--
25...	1200	.50	--	.007	--	--
25...	1201	43.0	--	.061	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN

04084255 LAKE WINNEBAGO NEAR STOCKBRIDGE, WI

LOCATION.--Lat 44°04'17", long 88°19'52", Stockbridge Indian Reservation, Calumet County, Hydrologic Unit 04030203, on east shore of Lake Winnebago, 300 ft south of County Highway E and 1.6 mi west of Stockbridge.

DRAINAGE AREA.--5,880 mi², at lake outlet at Menasha Dam. Area of Lake Winnebago, 215 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 745.05 ft, mean tide of New York City (levels by Corps of Engineers).

REMARKS.--Records good. Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha dam to crest during navigation season, plus additional 18 in. below crest during winter. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 3.52 ft Nov. 12, 1982 and July 3, 1983. Minimum observed, 0.99 ft Feb. 20-22, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.52 ft Nov. 12 and July 3, local condition due to seiche; minimum, 0.99 ft Feb. 20-22.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		2.93	2.84	2.22	1.29	1.14	1.84	2.65	3.15	2.94	2.78	2.99
2		2.99	2.89	2.20	1.31	1.18	1.73	2.76	3.12	2.95	2.74	3.00
3		3.07	2.93	2.16	1.33	1.23	1.84	2.83	3.10	2.98	2.73	3.01
4		3.10	2.93	2.12	1.31	1.27	1.90	2.89	3.11	3.06	2.70	3.00
5		3.10	2.95	2.08	1.27	1.31	1.87	2.91	3.09	2.95	2.70	3.02
6		3.04	3.12	2.06	1.25	1.35	1.85	2.89	3.12	2.96	2.70	3.06
7		2.94	3.07	2.06	1.23	1.41	1.90	2.76	3.08	2.97	2.70	3.02
8		2.91	3.03	2.01	1.20	1.50	1.87	2.98	3.03	2.96	2.68	2.97
9		2.84	3.04	1.96	1.18	1.56	1.81	3.03	3.00	2.91	2.63	2.98
10		2.92	2.97	1.94	1.16	1.63	1.91	3.02	2.97	2.91	2.61	3.00
11		3.00	2.89	1.91	1.13	1.67	1.94	2.99	2.97	2.95	2.57	2.98
12		3.26	2.85	1.88	1.11	1.70	1.95	2.96	2.97	2.93	2.61	2.90
13		3.28	2.78	1.83	1.08	1.73	2.00	2.96	2.96	2.91	2.63	2.90
14		3.26	2.73	1.80	1.06	1.78	2.24	2.99	2.97	2.91	2.63	2.91
15		3.32	2.70	1.80	1.05	1.79	2.27	2.97	3.01	2.89	2.62	2.85
16		3.27	2.67	1.75	1.05	1.83	2.25	2.94	3.02	2.89	2.63	2.91
17		3.22	2.62	1.70	1.05	1.85	2.28	2.96	2.99	2.90	2.80	2.95
18		3.19	2.56	1.66	1.03	1.86	2.30	2.93	2.94	2.87	2.83	3.01
19		3.16	2.54	1.61	1.02	1.99	2.38	2.94	2.92	2.87	2.85	3.03
20		3.16	2.50	1.57	1.01	1.95	2.44	3.03	2.91	2.90	2.84	3.09
21		3.15	2.45	1.53	1.01	1.97	2.49	3.04	2.91	2.87	2.80	3.14
22		3.12	2.39	1.49	1.02	2.07	2.51	3.15	2.94	2.87	2.86	3.08
23		3.12	2.35	1.47	1.03	2.06	2.50	3.22	2.93	2.90	2.86	3.01
24		3.18	2.34	1.44	1.05	2.04	2.56	3.18	2.91	2.84	2.86	2.96
25		3.10	2.33	1.42	1.06	2.02	2.61	3.09	2.91	2.82	2.88	2.91
26		3.00	2.31	1.38	1.06	1.98	2.65	3.09	2.94	2.81	2.90	2.88
27		2.95	2.28	1.35	1.06	1.91	2.71	3.05	2.87	2.80	2.91	2.87
28		2.91	2.35	1.32	1.09	1.95	2.72	3.06	2.84	2.80	2.93	2.87
29		2.92	2.35	1.31	---	1.94	2.74	3.16	2.85	2.83	2.94	2.87
30		2.88	2.29	1.32	---	1.90	2.73	3.16	2.90	2.80	2.98	2.87
31		---	2.25	1.31	---	1.87	---	3.15	---	2.81	2.97	---
MEAN		3.08	2.65	1.73	1.13	1.72	2.23	2.99	2.98	2.90	2.77	2.97
MAX		3.32	3.12	2.22	1.33	2.07	2.74	3.22	3.15	3.06	2.98	3.14
MIN		2.84	2.25	1.31	1.01	1.14	1.73	2.65	2.84	2.80	2.57	2.85

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 upstream from Wrightstown, and 18 mi upstream from mouth.

DRAINAGE AREA.--6,010 mi².

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 and 04084255). Daily discharge determined from records of flow through turbines, head, gate openings, and lockages through navigation canal. Usually less than about 5 ft³/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.--87 years, 4,197 ft³/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge during year, 12,800 ft³/s Dec. 10; minimum daily, 1,400 ft³/s Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	3790	11100	7570	4180	6180	11100	4460	9730	2740	2420	2640
2	2080	4100	11300	7430	4080	6730	11400	4530	9610	2700	2470	3170
3	1890	4240	11500	7300	5980	6900	10800	3550	9830	2680	2800	3540
4	1960	4800	11000	8150	5040	8740	11400	4100	8990	3040	2770	3570
5	2000	4880	11300	8220	5220	8920	10500	4280	9040	2310	2210	3950
6	2040	4680	12200	7920	4990	9210	10700	5290	9070	2530	2350	2940
7	2150	4770	12200	7760	4610	10400	9790	5460	9080	2710	2510	3370
8	1670	4540	11700	7880	5560	9760	9070	5300	9060	2620	2020	4690
9	2100	4700	9880	7920	5310	9680	9180	6060	8940	2400	1630	4140
10	2080	5250	12800	7420	4360	9510	9340	8800	8130	2560	1980	3300
11	1390	6880	10800	6220	4220	9560	7780	11000	6580	3130	1120	2680
12	1800	10300	12200	7020	4540	10400	3690	9980	6400	2440	1540	2830
13	1620	9020	9310	7500	4580	10700	6470	8430	6170	2480	1670	2750
14	1720	9390	8780	6220	4500	10700	4370	7820	4930	2580	1700	2940
15	2090	8790	10100	6140	4650	10400	4860	6790	4710	2510	1760	3070
16	2230	9810	10200	6320	4260	10700	5140	7780	4990	2240	1900	2880
17	2460	10000	10400	5350	4520	10400	5110	7180	4840	1980	2550	3110
18	2750	12000	10100	6640	4900	10800	5010	6020	5110	2410	1870	3810
19	2560	12000	9920	6140	4800	10800	5330	6390	4780	2410	1920	4000
20	3370	11900	9720	6090	4800	11300	5140	6480	4260	2790	1830	5490
21	3330	12000	9540	6100	5060	8750	5250	6850	2860	2770	2100	7360
22	3140	11900	9240	5940	5090	10600	5040	8990	3930	2500	1780	8520
23	3220	12000	8020	6170	5260	12700	4770	9910	3610	2390	1960	9520
24	3250	11900	7970	5610	5400	11900	5540	10900	3310	2270	2250	9920
25	3230	12200	8010	4750	5720	12000	6510	11200	2790	2280	2180	9460
26	2800	11700	7700	4770	5970	11900	4030	11200	2700	2540	2200	8450
27	3370	11700	7430	4620	5920	11200	4110	8860	2760	2700	2260	8000
28	4410	11600	8780	3420	5910	10600	4560	8060	2540	2320	2220	7880
29	4310	11600	7070	3300	---	11500	4740	9690	2510	3230	2280	7240
30	4460	11500	8190	3720	---	11100	4680	9700	2890	2560	2550	6600
31	3900	---	7780	4170	---	11800	---	9800	---	2730	2320	---
TOTAL	81380	263940	306240	193780	139430	315840	205410	234860	174150	79550	65120	151820
MEAN	2625	8798	9879	6251	4980	10190	6847	7576	5805	2566	2101	5061
MAX	4460	12200	12800	8220	5980	12700	11400	11200	9830	3230	2800	9920
MIN	1390	3790	7070	3300	4080	6180	3690	3550	2510	1980	1120	2640
CAL YR 1982	TOTAL	1915020	MEAN	5247	MAX	12900	MIN	1390				
WTR YR 1983	TOTAL	2211520	MEAN	6059	MAX	12800	MIN	1120				

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085000 FOX RIVER AT WRIGHTSTOWN, WI
(NATIONAL STREAM QUALITY ACCOUNTING 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, approximately.

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	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- NESS NONCAR- BONATE (MG/L AS CACO3)
DEC , 1982											
15...	0800	10100	370	8.4	.0	7.5	13.4	1100	780	180	25
MAR , 1983											
17...	1250	10400	345	8.6	4.0	3.0	6.9	E190	200	180	25
MAY											
25...	1150	6790	340	8.6	15.0	6.9	9.1	--	--	180	31
AUG											
16...	1430	1900	410	--	27.0	16	7.2	K300	2900	180	26

DATE	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)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC , 1982											
15...	37	21	8.4	9	.3	2.2	154	20	11	.10	1.5
MAR , 1983											
17...	39	21	7.9	8	.3	2.5	159	22	14	.20	3.2
MAY											
25...	38	21	7.4	8	.2	2.5	151	20	11	.20	.3
AUG											
16...	40	20	14	14	.5	2.9	157	30	19	.20	4.1

DATE	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)
DEC , 1982										
15...	215	194	.29	5860	.34	.240	1.40	.090	.030	.030
MAR , 1983										
17...	207	206	.28	5810	.42	.110	1.00	.050	.010	<.010
MAY										
25...	190	191	.26	3480	<.10	.090	1.10	.090	<.010	.020
AUG										
16...	245	225	.33	1260	<.10	.020	.90	.090	.050	.020

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

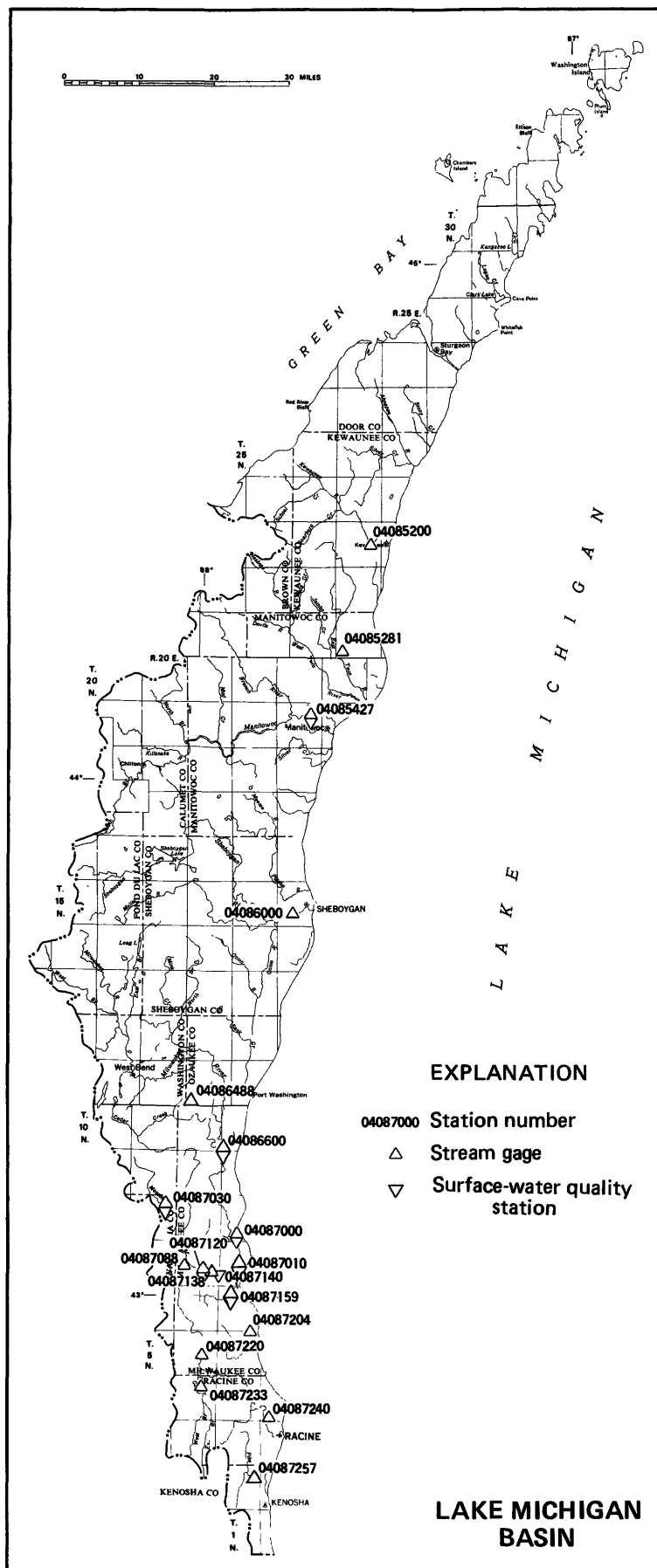
STREAMS TRIBUTARY TO LAKE MICHIGAN
04085000 FOX RIVER AT WRIGHTSTOWN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
15...	0800	10100	20	1	29	1	2	<1	3	--	4
MAR , 1983											
17...	1250	10400	20	1	27	<1	2	1	<3	12	30
MAY											
25...	1150	6790	200	1	31	1	2	<1	3	2	14
AUG											
16...	1430	1900	10	3	51	<1	3	4	<3	20	14

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
15...	--	4	3	<.1	10	--	<1	<1	110	6.0	10
MAR , 1983											
17...	6	<4	32	<.1	<10	3	<1	<1	95	<6.0	11
MAY											
25...	<1	4	3	<.1	10	2	<1	<1	110	6.0	3
AUG											
16...	1	6	3	.3	<10	2	<1	<1	260	7.0	16

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER 0.062 MM
DEC , 1982							
15...	0800	10100	370	.0	10	273	88
MAR , 1983							
17...	1250	10400	345	4.0	7	197	95
MAY							
25...	1150	6790	340	15.0	23	422	83
AUG							
16...	1430	1900	410	27.0	13	67	95



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 west of Kewaunee, and about 7.0 mi upstream from mouth.

DRAINAGE AREA.--127 mi².

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 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, which are poor.

AVERAGE DISCHARGE.--17 years, 80.0 ft³/s, 8.55 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 13	0900	1,060	11.56	Mar. 7	1615	943	11.33
Dec. 6	1430	1,010	11.48	Apr. 3	0715	943	11.34
Feb. 22	2245	ice jam	*12.21	Apr. 9	1430	*1,190	11.70

minimum discharge, 7.1 ft³/s Sept. 11, gage height, 8.30 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-13, Jan. 3-4, Jan. 16 to Feb. 22.)

8.3	4.6	9.5	171
8.5	22	10.0	308
8.7	43	10.5	482
9.1	94	11.0	720
		12.0	1,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	98	83	30	468	519	62	106	35	22	17
2	18	35	296	55	30	405	696	83	85	34	20	15
3	17	43	478	48	30	397	828	90	75	32	18	14
4	16	39	286	41	29	487	426	77	109	38	19	13
5	16	33	383	41	29	607	300	69	219	36	18	12
6	16	29	874	40	29	580	271	71	172	32	17	14
7	19	27	447	42	29	843	247	120	109	28	16	14
8	20	26	211	39	29	668	283	275	79	26	14	13
9	22	25	137	39	29	607	944	177	70	26	12	12
10	24	42	101	47	29	343	530	115	62	25	17	10
11	24	98	90	84	29	243	303	91	54	24	25	9.5
12	24	471	80	72	29	215	243	78	49	23	22	10
13	22	886	70	65	29	224	334	74	44	22	18	11
14	21	373	56	49	29	218	386	74	41	21	16	10
15	21	183	52	37	33	190	247	73	44	21	14	11
16	20	118	51	35	43	160	182	67	46	21	14	19
17	20	86	49	33	60	157	148	61	42	21	16	22
18	20	72	51	30	82	162	126	57	38	21	16	47
19	20	72	51	31	88	159	120	104	36	21	16	49
20	32	105	49	31	160	138	114	135	34	22	14	51
21	44	126	49	30	390	126	109	112	32	24	19	53
22	41	119	46	31	600	115	101	142	30	26	52	50
23	34	98	53	33	747	115	95	487	28	24	38	41
24	29	77	66	32	581	105	90	294	28	22	29	35
25	27	59	83	31	331	100	84	204	27	21	26	30
26	25	57	79	31	267	105	78	162	26	19	26	26
27	24	54	82	30	239	107	74	116	35	18	24	24
28	24	53	97	30	376	115	69	93	49	19	22	22
29	23	60	105	30	---	147	67	105	42	33	19	20
30	23	76	95	30	---	230	64	112	36	36	19	19
31	22	---	97	30	---	388	---	113	---	28	18	---
TOTAL	727	3563	4762	1280	4406	8924	8078	3893	1847	799	636	693.5
MEAN	23.5	119	154	41.3	157	288	269	126	61.6	25.8	20.5	23.1
MAX	44	886	874	84	747	843	944	487	219	38	52	53
MIN	16	21	46	30	29	100	64	57	26	18	12	9.5
CFSM	.19	.94	1.21	.33	1.24	2.27	2.12	.99	.49	.20	.16	.18
IN.	.21	1.04	1.39	.37	1.29	2.61	2.37	1.14	.54	.23	.19	.20
CAL YR 1982	TOTAL	34595.0	MEAN	94.8	MAX	1600	MIN	12	CFSM	.75	IN	10.13
WTR YR 1983	TOTAL	39608.5	MEAN	109	MAX	944	MIN	9.5	CFSM	.86	IN	11.60

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 downstream from bridge on State Highway 147, at Mishicot, 0.8 mi upstream from Johnson Creek, and 9.8 mi upstream from mouth.

DRAINAGE AREA.--110 mi².

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 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 upstream.

AVERAGE DISCHARGE.--11 years, 72.9 ft³/s, 9.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,210 ft³/s Mar. 31, 1979, gage height, 13.75 ft; minimum, 1.7 ft³/s July 20, 1979, gage height, 3.69 ft.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 7	2245	599	7.92	Apr. 10	1200	630	8.06
Apr. 4	0215	*772	*8.66				

minimum discharge, 2.9 ft³/s Aug. 24, gage height, 3.72 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 16-22, Jan. 28 to Feb. 18.)

3.9	7.4	6.0	234
4.0	11	7.0	410
4.2	20	8.0	616
4.4	34	9.0	859
5.0	95		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	80	53	19	253	244	58	166	31	15	15
2	12	20	153	44	18	296	406	69	128	28	13	13
3	12	26	345	42	18	308	652	81	103	25	13	13
4	12	30	293	34	16	356	736	78	103	31	14	11
5	12	27	278	32	18	454	565	68	120	32	14	11
6	12	23	438	31	19	495	390	67	138	27	13	12
7	14	21	401	31	18	568	296	108	118	23	15	14
8	14	20	283	32	18	567	249	204	85	21	14	13
9	15	20	158	32	18	511	282	190	70	20	12	12
10	16	43	112	40	17	373	588	136	61	19	14	11
11	16	83	76	65	17	268	553	101	52	18	19	11
12	16	262	66	54	17	205	404	85	45	17	19	11
13	15	397	50	53	17	182	298	78	40	16	16	11
14	14	371	45	40	18	173	329	76	36	14	15	11
15	14	241	45	35	20	154	327	76	40	14	14	12
16	14	132	44	32	26	138	270	69	41	13	13	16
17	14	88	42	28	35	129	207	61	38	13	14	17
18	14	73	42	25	56	126	159	54	33	13	14	66
19	15	69	46	23	79	136	131	84	29	13	14	61
20	21	93	46	23	140	137	117	148	27	15	13	62
21	26	121	44	24	276	124	107	160	25	15	13	53
22	26	116	41	25	295	122	99	200	24	24	24	45
23	22	99	43	27	378	115	92	288	22	21	35	38
24	19	79	53	30	439	104	87	263	20	17	23	31
25	18	60	71	31	357	91	79	232	19	15	9.9	26
26	18	59	82	27	288	89	75	172	19	14	14	28
27	17	46	78	22	226	89	71	130	27	13	15	27
28	16	51	105	19	208	90	67	108	48	13	15	19
29	16	59	108	18	---	71	62	234	48	15	14	17
30	16	69	88	19	---	103	61	226	36	16	17	17
31	15	---	71	19	---	138	---	204	---	18	16	---
TOTAL	495	2813	3827	1010	3071	6965	8003	4108	1761	584	483.9	704
MEAN	16.0	93.8	123	32.6	110	225	267	133	58.7	18.8	15.6	23.5
MAX	26	397	438	65	439	568	736	288	166	32	35	66
MIN	12	15	41	18	16	71	61	54	19	13	9.9	11
CFSM	.15	.85	1.12	.30	1.00	2.05	2.43	1.21	.53	.17	.14	.21
IN.	.17	.95	1.29	.34	1.04	2.36	2.71	1.39	.60	.20	.16	.24
CAL YR 1982	TOTAL	26220.0	MEAN	71.8	MAX	830	MIN	12	CFSM	.65	IN	8.87
WTR YR 1983	TOTAL	33824.9	MEAN	92.7	MAX	736	MIN	9.9	CFSM	.84	IN	11.44

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 upstream from bridge on County Trunk Highway JJ, just west of the Manitowoc city limits and 6.6 mi upstream from mouth.

DRAINAGE AREA.--526 mi².

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--11 years, 320 ft³/s, 8.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft³/s Mar. 31, 1979, gage height, 13.24 ft from floodmarks; minimum discharge, 10 ft³/s Nov. 7, 1976, gage height, 3.69 ft, result of freezeup.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 6	0645	1,020	7.09	Mar. 7	0500	1,690	8.13
Dec. 31	0215	ice jam	*8.38	Apr. 9	2145	*1,850	8.34
Feb. 28	1700	ice jam	8.35	May 29	1130	1,130	7.28

minimum daily discharge, 33 ft³/s Sept. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 8-23, and Dec. 29 to Mar. 2.)

3.9	28	6.0	540
4.1	51	7.0	980
4.5	114	8.0	1,600
5.0	224	9.0	2,410

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	86	507	210	94	840	838	526	1010	146	57	55
2	63	99	594	190	92	940	1130	492	988	148	56	55
3	62	120	689	170	90	1040	1540	476	958	142	54	55
4	60	134	677	160	90	1130	1600	450	939	146	51	54
5	59	139	797	150	88	1280	1530	418	915	140	50	51
6	59	139	1020	140	92	1370	1440	391	879	127	50	49
7	61	134	982	140	94	1650	1410	471	839	118	50	46
8	60	123	880	130	96	1600	1380	526	787	110	50	44
9	64	119	800	130	98	1580	1510	499	744	102	47	42
10	66	201	760	120	98	1440	1700	477	700	94	58	39
11	63	307	700	120	100	1330	1610	462	662	87	61	38
12	71	662	680	120	100	1280	1490	449	623	83	54	39
13	73	725	640	120	100	1260	1410	447	579	78	56	38
14	72	701	600	110	110	1210	1420	441	537	72	53	33
15	71	728	580	110	110	1150	1400	431	514	69	51	34
16	68	732	560	110	130	1090	1350	399	475	64	50	58
17	63	730	520	110	160	1040	1270	372	434	57	56	53
18	59	731	500	110	210	1010	1190	346	384	51	54	74
19	63	725	480	110	280	1060	1120	375	333	48	54	84
20	77	739	460	100	360	1030	1060	512	287	76	55	121
21	91	745	440	100	460	883	1000	525	244	85	56	142
22	100	738	420	100	620	776	946	725	203	107	56	156
23	100	715	400	100	800	895	879	1020	171	101	55	152
24	99	698	398	100	1000	839	836	958	146	96	52	141
25	98	652	413	100	920	787	802	955	127	85	49	130
26	96	617	437	98	800	752	761	945	114	75	47	121
27	93	580	441	98	680	712	707	911	128	67	47	112
28	89	567	497	98	760	689	677	896	130	61	46	102
29	86	546	420	96	---	689	623	1090	132	64	43	92
30	87	525	300	96	---	672	575	1070	137	62	58	85
31	89	---	240	94	---	693	---	1030	---	60	58	---
TOTAL	2325	14457	17832	3740	8632	32717	35204	19085	15119	2821	1634	2295
MEAN	75.0	482	575	121	308	1055	1173	616	504	91.0	52.7	76.5
MAX	100	745	1020	210	1000	1650	1700	1090	1010	148	61	156
MIN	59	86	240	94	88	672	575	346	114	48	43	33
CFSM	.14	.92	1.09	.23	.59	2.01	2.23	1.17	.96	.17	.10	.15
IN.	.16	1.02	1.26	.26	.61	2.31	2.49	1.35	1.07	.20	.12	.16

CAL YR 1982 TOTAL 132992 MEAN 364 MAX 2760 MIN 44 CFSM .69 IN 9.41
WTR YR 1983 TOTAL 155861 MEAN 427 MAX 1700 MIN 33 CFSM .81 IN 11.02

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	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)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)
DEC , 1982											
14...	1320	754	620	8.1	.0	7.9	--	K11	96	310	75
MAR , 1983											
16...	1835	1080	440	8.3	3.0	1.3	--	27	300	--	--
MAY											
25...	0930	955	440	8.5	14.0	21	8.5	33	62	250	40
AUG											
16...	1045	44	610	8.6	25.0	14	7.4	80	160	330	46

DATE	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)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC , 1982											
14...	66	36	12	8	.3	6.8	239	55	29	.10	13
MAR , 1983											
16...	--	--	--	--	--	4.4	187	34	20	<.10	--
MAY											
25...	53	29	7.1	6	.2	3.5	212	23	13	.10	5.7
AUG											
16...	64	41	17	10	.4	3.5	283	34	37	.10	7.8

DATE	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)
DEC , 1982										
14...	412	362	.56	839	1.2	.030	.90	.210	.170	.150
MAR , 1983										
16...	331	--	.45	961	.36	.020	.80	.050	.040	.030
MAY										
25...	293	262	.40	756	.67	.050	1.70	.230	.130	.130
AUG										
16...	436	375	.59	51.8	.19	.020	1.20	.160	.120	.130

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
14...	1320	754	20	1	35	1	2	<1	3	3	130
MAR , 1983											
16...	1835	1080	10	1	--	--	--	<1	--	4	--
MAY											
25...	0930	955	100	1	31	1	1	<1	3	2	84
AUG											
16...	1045	44	10	2	65	<1	2	<1	<3	10	11

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
14...	3	4	10	<.1	10	4	<1	<1	120	6.0	10
MAR , 1983											
16...	4	--	--	.1	--	3	<1	<1	--	--	--
MAY											
25...	<1	4	15	<.1	10	4	<1	<1	110	6.0	3
AUG											
16...	7	8	15	.2	<10	3	<1	<1	420	6.0	7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC , 1982							
14...	1320	754	620	.0	14	29	75
MAR , 1983							
16...	1835	1080	440	3.0	8	23	94
MAY							
25...	0930	955	440	14.0	41	106	93
AUG							
16...	1045	44	610	25.0	20	2.4	88

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 upstream from bridge on State Highway 141, near west city limits of Sheboygan, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--418 mi².

PERIOD OF RECORD.--June 1916 to September 1924 (published as "near Sheboygan"), October 1950 to current year. 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 National Geodetic Vertical Datum of 1929. June 1916 to June 1924, nonrecording gage at site 0.7 mi downstream at different datum. November 1950 to June 1951, nonrecording gage at site 0.3 mi downstream at datum 3.15 ft lower.

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

AVERAGE DISCHARGE.--41 years (1916-24, 1950-83), 247 ft³/s, 8.02 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	1500	1,560	5.84	Apr. 4	0015	2,580	7.28
Dec. 3	0230	1,640	5.97	Apr. 10	0030	*2,860	*7.63
Mar. 7	1315	1,930	6.41	May 22	2030	1,740	6.14

minimum discharge, 56 ft³/s Aug. 16, gage height, 1.87 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25-27, Dec. 12-15, Dec. 31-Jan. 27, Feb. 4-12).

1.8	48	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 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	122	272	230	109	874	954	346	886	158	76	123
2	70	294	660	210	115	920	1890	374	772	149	73	108
3	67	302	1470	200	111	998	2380	398	692	134	73	97
4	65	252	1110	190	110	1180	2430	368	648	138	73	89
5	67	205	1040	180	100	1380	2340	336	595	147	77	88
6	67	175	1260	180	100	1490	2140	322	537	130	75	96
7	78	154	994	170	110	1820	2050	395	467	116	71	101
8	78	149	820	170	110	1700	1800	515	403	104	67	97
9	93	150	562	160	110	1520	2050	438	387	103	62	89
10	92	397	519	160	110	1250	2490	481	285	98	63	86
11	89	599	432	160	120	1050	2020	484	216	95	70	90
12	89	1290	400	150	120	963	1610	429	224	91	72	89
13	85	1180	370	150	119	912	1530	416	204	85	69	83
14	82	887	350	150	124	856	1640	389	191	78	61	82
15	78	659	330	150	129	753	1420	351	210	75	59	80
16	74	521	307	140	152	745	1180	306	211	73	62	115
17	70	546	301	140	211	725	1040	306	187	69	96	153
18	67	654	283	140	308	738	915	293	156	73	130	391
19	86	682	260	140	347	1050	819	388	152	81	131	382
20	199	743	255	140	511	1020	740	705	144	93	105	295
21	212	735	240	140	753	735	646	539	144	84	99	292
22	182	631	248	140	782	671	538	940	120	75	148	255
23	155	426	255	140	846	760	454	1390	108	66	138	238
24	127	264	310	140	965	682	441	1120	94	62	129	222
25	118	250	364	140	758	577	411	1080	98	61	107	225
26	117	230	397	140	623	529	327	895	107	63	96	228
27	113	220	370	140	556	521	267	750	119	61	95	228
28	111	232	477	114	687	497	281	675	170	79	93	215
29	111	252	452	113	---	475	270	884	169	84	89	198
30	111	263	292	112	---	480	321	900	159	85	95	187
31	109	---	260	109	---	563	---	919	---	86	117	---
TOTAL	3134	13464	15660	4738	9196	28434	37394	18132	8855	2896	2771	5022
MEAN	101	449	505	153	328	917	1246	585	295	93.4	89.4	167
MAX	212	1290	1470	230	965	1820	2490	1390	886	158	148	391
MIN	65	122	240	109	100	475	267	293	94	61	59	80
CFSM	.24	1.07	1.21	.37	.79	2.19	2.98	1.40	.71	.22	.21	.40
IN.	.28	1.20	1.39	.42	.82	2.53	3.33	1.61	.79	.26	.25	.45
CAL YR 1982	TOTAL	126361	MEAN	346	MAX	3590	MIN	65	CFSM	.83	IN	11.25
WTR YR 1983	TOTAL	149696	MEAN	410	MAX	2490	MIN	59	CFSM	.98	IN	13.32

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086488 Mud Lake Outlet Channel near Decker Corner, WI

LOCATION.--Lat 43°22'38", long 88°02'08", in NW 1/4 SW 1/4 sec. 31, T.11 N., R.21 E., Ozaukee County, Hydrologic Unit 04040003, on culvert deck of abandoned private road, 0.25 mi east of County Trunk Y, 1.7 mi northeast of Decker Corner, and 0.40 mi downstream of Mud Lake.

DRAINAGE AREA.--7.36 mi².

PERIOD OF RECORD.--October 1982 to present.

GAGE.--Water-stage recorder. Altitude of gage is 860 ft, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52 ft³/s Apr. 9-11, gage height, 2.31 ft; minimum, 0.10 ft³/s Oct. 30-31, gage height, 0.38 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 1 to Feb. 15.)

0.35	0.09	0.8	2.8
0.40	0.10	1.0	5.9
0.45	0.16	1.2	10
0.50	0.34	1.5	19
0.60	0.89	2.0	40
0.70	1.7	2.5	68

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.20	4.7	6.3	1.0	2.6	14	11	16	3.3	.60	.54
2	.28	.39	7.4	5.5	1.0	2.8	20	12	15	3.2	.53	.53
3	.27	.38	10	4.5	1.0	3.5	22	11	14	2.9	.53	.47
4	.26	.58	11	3.7	1.0	4.5	23	11	14	3.4	.53	.42
5	.25	.58	14	3.4	1.0	7.3	27	10	13	3.0	.51	.46
6	.24	.61	16	3.1	1.0	10	27	9.9	12	2.8	.47	.50
7	.25	.73	18	2.9	1.0	15	39	9.6	11	2.6	.42	.43
8	.25	.76	18	2.9	1.0	16	43	9.5	11	2.4	.36	.42
9	.30	1.0	18	2.7	1.0	18	49	8.8	10	2.2	.30	.39
10	.60	1.8	16	2.5	1.0	18	52	7.9	9.4	2.2	.29	.39
11	.38	1.9	15	2.4	1.0	18	51	7.4	8.6	1.9	.26	.44
12	.36	2.9	13	2.3	1.0	17	50	6.8	8.0	1.3	.26	.36
13	.35	3.3	12	2.1	1.0	17	49	6.5	7.3	1.2	.22	.31
14	.33	4.5	10	2.0	1.0	16	45	6.4	6.9	1.1	.18	.30
15	.32	4.9	9.3	1.9	1.4	16	42	6.1	7.1	.96	.16	.31
16	.30	4.8	8.7	1.7	1.4	16	40	5.5	7.2	.89	.16	.50
17	.29	4.9	8.2	1.6	1.5	15	37	5.2	6.8	.80	1.3	.40
18	.27	4.9	7.8	1.5	1.5	15	33	4.7	6.3	1.9	.46	.64
19	.44	5.1	7.4	1.4	1.6	18	29	6.2	5.8	1.7	.29	.48
20	.70	5.7	6.8	1.3	1.7	19	27	6.4	5.4	1.6	.26	.60
21	.54	5.4	6.1	1.3	1.7	26	24	6.7	5.0	1.6	.85	.58
22	.54	5.5	5.6	1.2	1.8	21	22	12	4.4	1.8	1.3	.48
23	.62	5.5	5.6	1.2	2.0	18	21	14	4.0	1.6	1.0	.46
24	.50	5.2	5.9	1.1	2.1	16	19	16	3.7	1.3	.83	.48
25	.45	5.7	6.7	1.1	2.2	16	17	17	3.4	1.2	.97	.76
26	.38	5.0	6.8	1.0	2.1	14	16	16	3.1	1.1	.96	.73
27	.30	5.2	6.7	1.0	2.2	14	15	15	2.9	.98	.88	.73
28	.18	4.8	7.2	1.0	2.4	14	14	14	3.1	.94	.79	.73
29	.16	4.9	7.5	1.0	---	13	13	15	3.0	1.0	.66	.70
30	.10	4.7	6.5	1.0	---	13	12	15	3.1	.88	.60	.65
31	.10	---	6.5	1.0	---	13	---	16	---	.79	.69	---
TOTAL	10.60	101.83	302.4	67.6	39.6	442.7	892	318.6	230.5	54.54	17.62	15.19
MEAN	.34	3.39	9.75	2.18	1.41	14.3	29.7	10.3	7.68	1.76	.57	.51
MAX	.70	5.7	18	6.3	2.4	26	52	17	16	3.4	1.3	.76
MIN	.10	.20	4.7	1.0	1.0	2.6	12	4.7	2.9	.79	.16	.30
CFSM	.05	.46	1.33	.30	.19	1.94	4.04	1.40	1.04	.24	.08	.07
IN.	.05	.51	1.53	.34	.20	2.24	4.51	1.61	1.16	.28	.09	.08

WTR YR 1983 TOTAL 2493.18 MEAN 6.83 MAX 52 MIN .10 CFSM .93 IN 12.60

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI

LOCATION.--Lat 43°16'49", long 87°56'30", in NW 1/4 NW 1/4 sec.6, T.9 N., R.22 E., Ozaukee County, Hydrologic Unit 04040003, on right bank 60 ft downstream from Pioneer Road bridge, 2.6 mi southeast of Cedarburg, 1.0 mi west of I-43, and 26.25 mi upstream from mouth.

DRAINAGE AREA.--607 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 653.558 ft, National Geodetic Vertical Datum of 1929 (Southeastern Wisconsin Regional Planning Commission bench mark).

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

EXTREMES FOR CURRENT PERIOD.--November 1981 to September 1982: Maximum discharge during period, 3,140 ft³/s Apr. 3; maximum gage height, 11.71 ft Mar. 18 (backwater from ice); minimum daily, 88 ft³/s Aug. 28.

Water year 1983: Maximum discharge, 3,040 ft³/s Apr. 10, gage height, 9.92 ft; minimum daily, 99 ft³/s Aug. 14-16.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10, 1981 to Mar. 21, 1982,
Dec. 12-17, 21-25, and 31, 1982, Jan. 1-8 and Jan. 11 to Feb. 21, 1983.)

Nov. 1, 1981 to Nov. 11, 1982

Nov. 12, 1982 to Sept. 30, 1983

5.4	74	7.0	910
5.7	185	9.0	2,050
6.0	326	11.0	3,050

5.4	95	7.0	910
5.7	220	9.0	2,300
6.0	365	11.0	3,900

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		540	1030	280	190	240	1540	509	685	340	191	200
2		640	1100	310	190	240	1650	496	606	228	188	194
3		560	1010	280	190	240	2790	475	505	197	226	186
4		480	903	280	190	230	2910	412	410	141	263	176
5		480	797	260	190	230	2990	397	364	132	339	167
6		490	724	250	180	220	2560	431	332	172	325	160
7		470	684	240	180	220	2310	392	323	304	255	157
8		460	625	220	180	210	2100	379	298	362	206	154
9		450	493	200	180	220	1890	358	272	256	271	143
10		430	340	160	170	240	1760	329	270	160	245	103
11		430	320	160	180	300	1750	342	237	165	243	98
12		420	310	170	190	400	1810	355	224	372	200	108
13		400	300	170	190	720	1840	368	205	192	112	111
14		360	280	170	190	1100	1790	352	192	184	135	111
15		340	270	170	200	1400	1690	334	245	247	161	122
16		350	250	160	210	1700	1550	343	318	251	142	121
17		370	250	160	210	2000	1670	412	314	260	131	127
18		361	250	170	220	2300	1590	397	288	269	118	124
19		373	250	190	220	2400	1430	434	266	244	118	131
20		408	260	190	230	2400	1190	447	265	212	124	130
21		419	270	190	230	2200	1090	462	247	182	120	123
22		419	280	190	240	1990	1030	553	238	249	89	115
23		369	320	190	240	1970	955	946	227	281	92	116
24		339	350	200	250	2230	828	959	222	263	98	118
25		397	330	180	260	2380	747	897	240	211	117	118
26		560	240	180	240	2210	658	887	200	214	210	121
27		1200	230	200	230	1890	643	915	210	258	106	127
28		1210	230	200	240	1740	624	916	240	208	88	129
29		1130	230	200	---	1540	598	874	250	198	130	129
30		1030	230	200	---	1460	550	793	250	196	185	126
31		---	250	200	---	1570	---	736	---	204	262	---
TOTAL		15885	13406	6320	5810	38190	46533	16900	8943	7152	5490	4045
MEAN		530	432	204	208	1232	1551	545	298	231	177	135
MAX		1210	1100	310	260	2400	2990	959	685	372	339	200
MIN		339	230	160	170	210	550	329	192	132	88	98
CFSM		.87	.71	.34	.34	2.03	2.56	.90	.49	.38	.29	.22
IN.		.97	.82	.39	.36	2.34	2.85	1.04	.55	.44	.34	.25

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	251	594	430	200	815	903	430	949	211	171	228
2	112	421	679	410	190	819	1900	490	872	222	117	166
3	109	577	1280	400	190	881	2590	634	789	194	107	192
4	108	566	1470	380	190	1080	2840	640	727	226	117	179
5	106	582	1620	350	200	1100	2920	572	669	245	123	175
6	107	554	1790	330	210	1130	2930	556	557	170	123	193
7	112	445	1690	320	230	1420	2870	548	504	175	123	189
8	132	394	1500	310	230	1620	2590	576	500	175	122	182
9	165	373	1200	293	230	1600	2600	608	480	175	112	162
10	164	431	1050	311	220	1460	2910	617	400	170	111	180
11	177	684	799	310	220	1260	2800	558	360	156	117	167
12	159	1070	580	240	220	1080	2300	527	290	155	113	194
13	148	1220	540	230	230	958	2160	525	300	151	100	169
14	143	1190	580	230	240	889	2100	513	297	144	99	156
15	139	1060	560	220	260	795	1930	500	324	136	99	151
16	125	977	500	220	350	777	1720	503	396	128	99	205
17	120	876	440	210	450	801	1440	492	391	127	271	224
18	121	792	399	210	540	828	1310	471	357	187	638	276
19	119	609	396	210	640	1080	1200	474	317	250	518	370
20	159	641	386	210	780	1140	1100	524	299	242	420	336
21	249	637	370	210	1100	987	959	569	271	173	356	443
22	286	629	350	220	1360	895	859	1030	256	216	410	321
23	283	565	370	220	1280	746	780	1490	236	214	454	278
24	264	591	380	220	1280	765	722	1450	216	192	399	275
25	245	462	400	210	1200	749	692	1270	210	170	359	280
26	228	420	589	210	1090	646	633	1080	195	157	335	289
27	211	375	628	210	862	614	614	981	185	154	317	287
28	199	414	683	210	799	662	540	867	188	151	298	261
29	196	385	686	210	---	657	470	864	172	151	273	242
30	190	439	517	210	---	648	460	923	171	156	216	221
31	180	---	450	200	---	704	---	958	---	185	206	---
TOTAL	5176	18630	23476	8154	14991	29606	49842	22240	11878	5558	7323	6991
MEAN	167	621	757	263	535	955	1661	717	396	179	236	233
MAX	286	1220	1790	430	1360	1620	2930	1490	949	250	638	443
MIN	106	251	350	200	190	614	460	430	171	127	99	151
CFSM	.28	1.02	1.25	.43	.88	1.57	2.74	1.18	.65	.30	.39	.38
IN.	.32	1.14	1.44	.50	.92	1.81	3.05	1.36	.73	.34	.45	.43
CAL YR 1982	TOTAL	186665	MEAN	511	MAX	2990	MIN	88	CFSM	.84	IN	11.44
WTR YR 1983	TOTAL	203865	MEAN	559	MAX	2930	MIN	99	CFSM	.92	IN	12.49

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1982 to September 1983.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: July 1982 to September 1983.

INSTRUMENTATION.--Automatic pumping sampler since July 1, 1982.

REMARKS.--Sediment records are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 68 mg/l July 12, 1982; minimum daily mean, 1 mg/l Oct. 25, 26, 1982. Maximum observed, 230 mg/l May 22; minimum observed, 1 mg/l on several days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 280 tons, Apr. 4, 1983; minimum daily, 1.7 tons Oct. 25, 26, 1982.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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
NOV , 1982					
02...	1410	474	45	58	85
10...	1425	435	12	14	76
APR , 1983					
02...	1430	2170	56	328	86

SUSPENDED-SEDIMENT, JULY TO SEPTEMBER 1982

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)	LOADS (T/DAY)
	JULY		AUGUST		SEPTEMBER	
1	19	32	13	16	14	18
2	19	25	19	24	11	14
3	18	23	15	21	10	12
4	17	17	34	55	9	10
5	16	16	37	69	8	9.1
6	35	53	34	70	8	8.2
7	59	100	29	44	7	7.2
8	45	87	24	33	7	7.0
9	34	53	20	30	7	6.7
10	24	28	13	19	8	5.3
11	20	26	8	12	8	5.0
12	68	147	6	8.4	8	5.5
13	33	41	9	6.2	8	6.0
14	26	32	12	10	9	6.5
15	21	31	12	13	9	7.0
16	22	33	13	12	7	5.8
17	29	46	11	9.6	6	5.0
18	24	37	9	6.5	5	4.3
19	30	43	10	7.9	5	4.1
20	31	42	15	12	3	2.9
21	17	20	13	9.8	3	2.4
22	16	25	10	6.0	4	2.9
23	21	34	10	6.2	4	3.1
24	27	42	11	7.0	4	2.9
25	22	28	13	9.8	3	2.3
26	18	23	43	59	3	2.4
27	27	42	25	17	3	2.9
28	16	21	18	10	8	6.5
29	9	12	19	16	16	13
30	9	12	23	29	10	8.2
31	11	15	25	55	---	---
TOTAL	---	1186	---	703.4	---	196.2

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 downstream from Port Washington Road bridge and 6.6 mi upstream from mouth.

DRAINAGE AREA.--696 mi².

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 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 upstream at different datum.

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

AVERAGE DISCHARGE.--69 years, 411 ft³/s, 8.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s Mar. 20, 1918, Aug. 6, 1924, gage height, 9.00 ft 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 3,000 ft³/s, revised, and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Apr. 2	1615	3,840	5.44	Aug. 17	0530	*4,720	*5.95
Apr. 9	1145	3,640	5.32				

minimum discharge, 10 ft³/s Sept.21, gage height, 1.49 ft, result of regulation.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25-26, Dec. 31 to Jan. 6, Jan. 13-22, and Jan. 26 to Feb. 8.)

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	960	573	480	210	900	1180	528	1080	275	185	236
2	140	558	1360	460	200	896	2920	656	1000	256	158	204
3	130	751	1830	440	190	933	3440	672	911	209	127	185
4	129	659	1650	420	200	1080	3120	676	824	405	145	186
5	128	627	2050	390	210	1190	3000	658	759	263	150	176
6	128	630	2010	360	220	1250	3000	569	705	221	150	617
7	131	551	1880	340	230	1500	2940	708	583	200	142	208
8	137	473	1670	331	240	1680	2710	601	587	199	139	202
9	301	543	1320	325	234	1710	3060	636	524	186	134	179
10	197	535	1030	341	235	1580	3200	639	509	178	179	277
11	186	603	946	336	239	1420	2790	635	428	164	175	217
12	188	1160	615	256	228	1240	2470	624	337	162	143	184
13	176	1220	568	250	252	1080	2330	592	361	154	123	191
14	165	1250	655	240	268	991	2270	586	401	146	115	172
15	166	1140	625	230	288	929	2090	519	432	168	121	189
16	152	1040	542	230	439	855	1870	292	452	286	165	324
17	139	962	428	220	534	869	1640	475	428	126	1490	219
18	138	864	441	220	606	1030	1450	470	386	156	526	307
19	350	761	444	220	696	1330	1310	695	337	281	542	359
20	358	747	421	220	841	1360	1180	629	311	356	464	655
21	227	706	405	230	1150	1210	1060	685	295	207	390	476
22	295	691	401	240	1390	979	927	1350	272	223	400	458
23	315	723	434	248	1440	918	845	1840	254	218	491	328
24	299	608	460	233	1430	849	760	1630	227	203	406	317
25	284	510	512	230	1250	856	723	1440	212	179	396	425
26	268	430	598	230	1100	792	683	1240	196	165	350	361
27	250	367	689	230	1040	786	616	1070	209	162	327	361
28	235	497	804	230	878	777	606	980	242	162	305	325
29	231	434	789	220	---	819	567	1200	201	166	284	292
30	223	461	517	220	---	838	541	1000	191	168	272	267
31	213	---	490	210	---	968	---	1100	---	179	206	---
TOTAL	6425	21461	27157	8830	16238	33615	55298	25395	13654	6423	9200	8897
MEAN	207	715	876	285	580	1084	1843	819	455	207	297	297
MAX	358	1250	2050	480	1440	1710	3440	1840	1080	405	1490	655
MIN	128	367	401	210	190	777	541	292	191	126	115	172
CFSM	.30	1.03	1.26	.41	.83	1.56	2.65	1.18	.65	.30	.43	.43
IN.	.34	1.15	1.45	.47	.87	1.80	2.96	1.36	.73	.34	.49	.48
CAL YR 1982	TOTAL	218503	MEAN	599	MAX	4260	MIN	104	CFSM	.86	IN	11.68
WTR YR 1983	TOTAL	232593	MEAN	637	MAX	3440	MIN	115	CFSM	.92	IN	12.43

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.--

SUSPENDED-SEDIMENT DISCHARGE: July 1982 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 192 mg/l Nov. 12; minimum daily mean, 4 mg/l Oct. 25.
Maximum observed, 573 mg/l Aug. 17; minimum observed, 3 mg/l Oct. 25.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,140 tons Apr. 11; minimum daily, 2.8 tons Oct. 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	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- NESS NONCAR- BONATE (MG/L AS CACO3)
DEC 14...	0900	659	690	8.1	.0	2.8	--	520	320	350	68
MAR , 1983 16...	1100	858	585	8.3	5.5	2.5	--	E18000	E11000	--	--
MAY 24...	1645	1610	510	8.3	17.0	10	9.0	1400	55	270	44
AUG 15...	1600	123	650	8.5	25.0	15	7.2	E300	180	270	39

DATE	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)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC 14...	74	39	19	11	.5	3.1	278	51	35	.10	13
MAR , 1983 16...	--	--	--	--	--	2.7	238	37	37	.10	--
MAY 24...	58	31	15	11	.4	2.4	229	24	26	.20	6.4
AUG 15...	46	37	35	22	1.0	2.8	229	34	62	.20	6.5

DATE	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)
DEC 14...	422	402	.57	751	1.5	.130	.50	.100	.080	.070
MAR , 1983 16...	368	--	.50	853	1.0	.190	.90	.080	.070	.060
MAY 24...	313	301	.43	1360	1.2	.110	1.40	.150	.080	.080
AUG 15...	399	361	.54	133	<.10	<.010	1.60	.130	.060	.030

E ESTIMATED.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
14...	0900	659	20	1	42	1	3	<1	3	--	57
MAR , 1983											
16...	1100	858	30	1	--	--	--	<1	--	4	--
MAY											
24...	1645	1610	<10	2	41	1	2	<1	3	3	40
AUG											
15...	1600	123	10	2	63	<1	1	3	<3	5	14

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
14...	--	4	15	<.1	10	--	<1	<1	210	6.0	16
MAR , 1983											
16...	5	--	--	.1	--	12	<1	<1	--	--	--
MAY											
24...	2	4	5	<.1	10	1	<1	<1	170	6.0	3
AUG											
15...	5	11	16	.3	<10	1	<1	<1	300	10	7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	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
NOV , 1982										
02...	1500	423	--	--	28	32	94			
10...	1120	525	--	--	48	68	93			
DEC										
07...	1100	1890	--	--	38	194	93			
14...	0900	659	690	.0	11	20	74			
MAR , 1983										
16...	1100	858	585	5.5	4	9.3	83			
APR										
02...	0930	2710	--	--	134	980	88			
02...	1145	3200	--	--	144	1240	74			
MAY										
24...	1645	1610	510	17.0	32	139	88			
AUG										
15...	1600	123	650	25.0	18	6.0	94			

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
DEC , 1982								
07...	1100	1890	38	194	93	96	99	100

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), JULY TO SEPTEMBER 1982

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	456	97	121	223	118	72	249	32	22
2	302	74	62	361	60	88	228	25	15
3	254	49	34	238	34	28	214	23	13
4	204	38	21	463	77	122	204	20	11
5	159	34	15	314	46	39	190	18	9.2
6	233	52	45	361	44	43	185	18	9.2
7	463	121	156	319	32	28	176	32	16
8	398	82	87	223	27	16	176	26	12
9	361	54	53	249	54	38	176	18	8.7
10	325	60	65	275	65	48	151	15	6.0
11	233	59	41	249	37	25	119	12	3.9
12	343	79	82	249	29	19	119	11	3.4
13	286	65	52	176	27	13	130	13	4.6
14	238	42	27	127	26	9.0	134	14	5.2
15	238	46	30	168	34	15	155	28	12
16	280	42	32	168	27	13	146	20	8.0
17	302	39	32	155	25	10	176	41	21
18	286	36	28	134	25	9.1	155	34	14
19	291	34	27	138	27	11	142	31	12
20	259	34	24	319	97	113	151	24	9.6
21	244	45	35	134	49	18	146	17	6.8
22	373	90	94	119	32	10	142	17	6.3
23	297	49	40	104	22	6.2	138	16	5.9
24	325	39	34	138	38	19	142	16	6.1
25	259	38	26	146	48	20	138	16	6.0
26	244	36	24	172	31	16	138	16	5.8
27	302	73	67	190	36	20	142	15	5.8
28	264	103	75	108	18	5.3	151	15	6.0
29	233	105	66	159	33	20	155	13	5.5
30	223	109	66	204	34	19	151	11	4.7
31	223	113	69	249	46	33	---	---	---
TOTAL	8898	---	1630	6632	---	945.6	4819	---	274.7

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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	10	4.0	77	312	24	42	14	19	9	5.1	12	29
2	11	4.0	33	50	145	612	14	17	9	4.9	11	27
3	11	3.9	41	89	167	836	14	17	9	4.6	14	34
4	12	4.2	184	327	96	428	14	16	9	4.9	17	49
5	12	4.0	104	175	75	415	14	15	9	5.1	21	67
6	11	3.8	77	131	59	321	12	12	9	5.3	31	108
7	11	3.8	65	97	43	217	12	11	9	5.6	43	173
8	10	3.7	41	52	34	155	12	11	10	6.5	46	208
9	60	60	52	79	28	102	12	11	10	6.3	41	190
10	33	18	47	69	23	65	12	11	10	6.3	29	123
11	18	8.9	70	127	19	49	10	9.1	10	6.5	21	79
12	14	7.2	192	606	16	26	10	6.9	11	6.8	22	74
13	11	5.4	120	395	13	20	10	6.8	11	7.5	16	47
14	12	5.2	107	362	11	20	10	6.5	11	8.0	11	31
15	11	4.7	95	293	11	19	10	6.2	11	8.6	10	26
16	12	4.9	77	217	10	15	10	6.2	12	15	10	22
17	11	4.0	28	72	10	12	9	5.3	12	17	7	17
18	20	7.3	15	36	10	12	9	5.3	17	28	7	19
19	26	31	18	37	10	11	9	5.3	16	29	7	25
20	42	45	31	63	9	10	9	5.3	19	45	8	29
21	31	19	31	59	9	9.8	9	5.6	45	142	8	26
22	37	29	23	43	9	9.7	9	5.8	59	225	8	21
23	20	17	18	36	11	13	9	6.0	67	261	9	22
24	8	6.3	15	25	14	17	9	5.7	40	153	10	23
25	4	2.8	13	20	14	19	9	5.6	34	114	11	26
26	5	3.9	11	13	16	26	9	5.6	31	93	13	27
27	10	6.6	9	8.6	30	56	9	5.6	27	76	14	31
28	16	10	7	9.7	52	113	9	5.6	15	35	16	34
29	17	10	6	7.3	35	75	9	5.3	---	---	19	43
30	15	9.2	8	9.7	20	28	9	5.3	---	---	23	52
31	13	7.7	---	---	15	20	9	5.1	---	---	27	71
TOTAL	---	354.5	---	3820.3	---	3773.5	---	264.1	---	1325.0	---	1753

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	28	89	10	14	35	103	24	18	35	17	17	11
2	110	991	21	37	32	87	22	16	32	14	19	10
3	94	876	16	29	29	72	23	14	30	10	21	10
4	68	570	14	26	27	59	52	61	28	11	23	11
5	58	471	12	21	24	49	36	26	25	10	25	12
6	52	420	10	16	22	42	27	17	23	9.5	64	163
7	59	467	27	58	22	34	15	8.1	22	8.2	25	14
8	42	307	18	30	21	33	16	8.5	21	7.7	24	13
9	79	646	17	29	21	29	16	8.0	23	8.3	23	11
10	99	849	22	37	20	28	17	8.0	29	15	28	24
11	151	1140	22	38	20	23	17	7.5	20	9.9	38	23
12	146	971	23	38	19	18	16	7.2	16	6.1	34	17
13	125	785	23	37	18	18	16	6.7	15	4.9	29	15
14	81	498	24	38	20	24	16	6.1	14	4.3	24	11
15	51	286	24	34	23	28	20	10	15	4.9	24	13
16	33	167	24	19	20	25	33	44	56	31	37	34
17	27	122	17	22	21	24	26	8.8	156	1070	28	17
18	24	94	12	15	22	23	20	8.4	41	55	26	22
19	24	85	27	54	22	20	21	18	25	37	29	28
20	24	76	17	29	23	19	34	32	20	26	33	58
21	20	58	12	23	22	17	34	19	16	17	30	41
22	24	59	57	246	21	15	33	20	36	38	27	34
23	21	49	77	386	20	14	31	18	25	32	24	22
24	19	38	39	172	23	14	29	16	20	22	22	19
25	16	31	33	128	26	15	28	14	18	20	31	37
26	15	27	34	113	30	16	29	13	17	16	31	30
27	13	22	35	100	33	19	30	13	15	14	30	29
28	12	20	34	90	31	20	31	14	14	12	29	25
29	11	17	42	136	29	16	32	14	13	10	29	23
30	10	15	40	108	26	14	33	15	14	11	28	20
31	---	---	38	117	---	---	34	16	16	8.7	---	---
TOTAL	---	10246	---	2240	---	918	---	505.3	---	1560.5	---	797
TOTAL LOAD FOR YEAR:			27557.2 TONS.									

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087010 MILWAUKEE RIVER ABOVE NORTH AVENUE DAM AT MILWAUKEE, WI

LOCATION.--Lat 43°03'32", long 87°53'43", in NW 1/4 NE 1/4 sec.21, T.7 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, located 200 ft upstream from North Avenue dam on the right bank and 500 ft downstream from North Avenue bridge, and about 3.1 mi upstream from mouth.

DRAINAGE AREA.--702 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 14, 1982, to current year. Partial record June 29, 1979, to Dec. 5, 1979.

GAGE.--Water-stage recorder. Altitude of gage is 590 ft, from topographic map.

REMARKS.--Records are good for discharge greater than 800 ft³/s, fair for discharges between 800 ft³/s and 500 ft³/s, and poor for discharges less than 500 ft³/s. Occasional regulation caused by recreational dam 4.0 mi upstream and North Avenue dam.

EXTREMES FOR CURRENT PERIOD.--June to September 1982: Maximum discharge, 1,580 ft³/s Aug. 20, gage height, 3.34 ft; minimum daily discharge, 114 ft³/s Aug. 23.

Water year 1983: Maximum discharge, 5,030 ft³/s Aug. 17, gage height, 5.10 ft; no flow part of Jan. 13 and May 20 due to manipulation of gates on North Avenue dam; minimum daily discharge, 100 ft³/s Aug. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 31 to Feb. 14; stage-discharge relation does not apply during the periods Dec. 22-30 and May 16-21 and 23-27 due to manipulation of gates on North Avenue dam.)

2.1	75	3.0	1,010
2.3	185	4.0	2,780
2.5	345	5.0	4,810
2.7	570		

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									---	365	200	244
2									---	251	382	213
3									---	208	215	201
4									---	172	490	186
5									---	137	275	176
6									---	217	333	168
7									---	414	302	163
8									---	318	217	163
9									---	305	222	164
10									---	281	251	150
11									---	221	232	124
12									---	278	233	116
13									---	252	184	124
14									182	201	135	126
15									356	200	161	146
16									263	234	175	136
17									301	259	163	166
18									289	245	151	151
19									268	243	152	140
20									265	222	401	135
21									242	227	142	134
22									232	401	128	129
23									222	254	114	127
24									211	275	133	131
25									250	234	158	127
26									220	213	162	125
27									213	258	191	128
28									240	235	117	134
29									265	203	153	141
30									253	199	199	143
31									---	199	228	---
TOTAL									---	7721	6599	4511
MEAN									---	249	213	150
MAX									---	414	490	244
MIN									---	137	114	116
CFSM									---	.36	.30	.21
IN.									---	.41	.35	.24

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087010 MILWAUKEE RIVER ABOVE NORTH AVENUE DAM AT MILWAUKEE, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	1080	558	480	210	919	1200	481	1070	228	157	222
2	131	603	1570	460	200	922	2980	645	997	215	135	210
3	121	773	2020	440	190	956	3490	627	897	178	109	182
4	120	664	1780	420	200	1110	3170	652	802	397	120	188
5	120	616	2210	390	210	1250	3050	627	726	210	125	177
6	123	630	2170	360	220	1310	3060	531	674	190	131	654
7	125	563	2040	340	230	1590	3010	678	521	158	122	191
8	127	459	1820	330	240	1770	2790	557	538	162	116	182
9	295	535	1460	330	240	1800	3120	589	478	150	107	166
10	188	521	1120	340	240	1670	3280	595	459	144	147	267
11	171	598	1010	340	240	1510	2890	606	377	136	148	203
12	178	1240	581	260	230	1310	2540	586	292	133	119	159
13	172	1280	530	250	250	1130	2420	547	312	119	105	170
14	163	1330	658	240	270	1030	2330	569	353	112	100	156
15	163	1210	660	230	363	961	2160	457	403	144	103	166
16	153	1100	550	230	549	878	1950	290	416	338	141	323
17	141	1020	419	220	662	886	1700	480	388	109	1720	201
18	143	912	430	220	738	1080	1490	470	344	123	500	283
19	346	803	440	220	858	1400	1360	700	292	227	538	349
20	416	779	420	220	1050	1440	1200	640	263	351	440	671
21	200	737	393	230	1400	1270	1090	700	247	187	362	489
22	262	704	400	240	1670	994	947	1350	218	186	366	452
23	287	752	440	250	1740	945	847	1900	205	185	451	312
24	286	596	460	230	1710	854	754	1700	183	168	375	296
25	274	597	510	230	1420	871	703	1500	174	152	372	423
26	259	461	600	230	1140	798	672	1300	168	141	327	353
27	245	360	700	230	1080	777	595	1100	172	138	306	345
28	228	488	800	230	901	761	576	972	199	140	286	322
29	221	428	800	220	---	817	534	1230	164	144	268	285
30	213	440	520	220	---	833	500	1040	156	143	260	259
31	205	---	490	210	---	980	---	1120	---	163	205	---
TOTAL	6209	22279	28559	8840	18451	34822	56408	25239	12488	5571	8761	8656
MEAN	200	743	921	285	659	1123	1880	814	416	180	283	289
MAX	416	1330	2210	480	1740	1800	3490	1900	1070	397	1720	671
MIN	120	360	393	210	190	761	500	290	156	109	100	156
CFSM	.29	1.06	1.31	.41	.94	1.60	2.68	1.16	.59	.26	.40	.41
IN.	.33	1.18	1.51	.47	.98	1.85	2.99	1.34	.66	.30	.46	.46
WTR YR 1983	TOTAL	236283	MEAN	647	MAX	3490	MIN	100	CFSM	.92	IN	12.52

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087010 MILWAUKEE RIVER ABOVE NORTH AVENUE DAM AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1982 to September 1983.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: June 1982 to September 1983.

INSTRUMENTATION.--Automatic pumping sampler since July 1982.

REMARKS.--Sediment records are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 185 mg/l Apr. 2, 1983; minimum daily mean, 1 mg/l Nov. 27, 1982. Maximum observed, 581 mg/l Aug. 17, 1983; minimum observed, 1 mg/l Nov. 27, 1982.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,780 tons Apr. 2, 1983; minimum daily, 1.2 tons Nov. 27, 1983.

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	---	---	33	33	32	17	24	16
2	---	---	32	22	34	38	24	13
3	---	---	30	17	24	14	27	15
4	---	---	28	13	34	47	30	15
5	---	---	26	9.7	33	25	32	15
6	---	---	24	14	30	27	26	12
7	---	---	27	31	30	25	24	10
8	---	---	22	19	27	16	31	14
9	---	---	21	18	27	16	32	14
10	---	---	24	20	25	17	30	12
11	---	---	29	18	20	12	29	9.8
12	---	---	29	24	18	11	31	9.7
13	---	---	31	22	21	10	33	11
14	0	.00	43	24	24	8.6	33	11
15	0	.00	35	19	20	8.7	31	13
16	0	.00	35	22	17	7.8	29	11
17	0	.00	29	20	17	7.7	33	15
18	0	.00	26	17	20	8.1	28	11
19	0	.00	24	16	25	10	28	11
20	0	.00	22	13	31	47	28	10
21	0	.00	22	15	28	11	26	9.3
22	0	.00	40	44	33	11	24	8.2
23	0	.21	30	20	27	8.3	22	7.4
24	1	.57	24	18	22	8.0	20	7.1
25	1	.97	22	14	30	13	19	6.5
26	2	1.4	20	11	27	12	18	6.1
27	4	2.4	39	31	37	20	17	6.0
28	7	4.7	59	38	30	9.6	21	7.6
29	12	9.0	39	21	29	12	25	9.6
30	22	15	36	19	26	14	24	9.4
31	---	---	34	18	24	14	---	---
TOTAL	---	34.25	---	640.7	---	505.8	---	325.7

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087010 MILWAUKEE RIVER ABOVE NORTH AVENUE DAM AT MILWAUKEE, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS
	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24	8.6	35	157	7	12	16	21	9	5.1	7	18
2	25	8.8	42	73	64	359	16	20	9	4.9	7	18
3	25	8.2	21	45	124	675	16	19	9	4.6	9	24
4	23	7.4	23	42	89	429	16	18	9	4.9	12	36
5	17	5.6	21	34	99	598	16	17	9	5.1	15	52
6	17	5.7	17	28	78	456	14	14	8	4.8	20	71
7	19	6.3	13	21	50	274	14	13	8	5.0	43	184
8	20	7.0	11	13	36	178	14	12	8	5.2	44	211
9	24	21	10	15	17	66	14	12	8	5.2	44	212
10	18	9.3	23	32	18	55	14	13	8	5.2	23	105
11	23	11	19	31	17	46	12	11	8	5.2	13	53
12	21	9.9	48	165	16	26	12	8.4	8	5.0	14	48
13	18	8.6	43	149	25	38	12	8.1	3	2.0	15	47
14	19	8.6	35	126	41	74	12	7.8	3	2.2	16	45
15	21	9.2	27	89	29	51	12	7.4	6	5.9	14	36
16	22	8.9	16	49	14	21	10	6.2	19	28	11	27
17	22	8.3	14	40	7	8.2	10	5.9	13	23	9	23
18	20	7.5	11	28	5	6.1	10	5.9	8	15	14	45
19	24	26	11	24	4	4.6	10	5.9	6	15	29	109
20	33	40	19	40	4	4.1	10	5.9	15	41	24	92
21	26	14	16	32	9	9.5	9	5.6	40	120	19	67
22	19	14	12	22	13	8.3	9	5.8	44	201	15	41
23	14	11	18	36	26	42	9	6.0	40	190	10	25
24	11	8.2	13	21	12	25	9	5.6	33	150	6	14
25	9	6.3	7	11	6	12	9	5.6	49	192	7	16
26	10	7.1	3	3.6	6	15	9	5.6	27	81	8	17
27	13	8.4	1	1.2	35	66	9	5.1	12	34	7	15
28	14	8.9	16	26	58	125	9	5.6	7	17	7	14
29	19	12	6	7.5	40	86	9	5.3	---	---	7	16
30	18	10	4	4.7	25	35	9	5.3	---	---	8	18
31	16	8.9	---	---	20	26	9	5.1	---	---	8	22
TOTAL	---	334.7	---	1366.0	---	3830.8	---	292.1	---	1177.3	---	1721

	MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION	
DAY	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11	38	16	21	32	92	37	24	31	13	38	23
2	185	1780	35	63	36	96	23	13	28	10	40	23
3	121	1170	32	54	40	96	20	9.7	27	8.0	42	21
4	53	458	31	54	41	88	63	81	27	8.7	43	22
5	40	326	30	50	41	81	20	12	27	9.1	41	20
6	43	351	29	41	38	70	22	11	27	9.4	72	174
7	38	310	24	43	32	45	30	13	26	8.5	38	20
8	32	240	25	37	29	42	37	16	27	8.4	32	16
9	66	590	25	40	26	34	35	14	31	8.9	48	22
10	63	561	27	44	24	30	31	12	29	11	31	22
11	49	381	28	46	23	24	28	10	20	8.1	33	19
12	57	388	29	46	23	18	27	9.7	20	6.4	31	13
13	64	418	30	45	21	18	26	8.4	20	5.8	34	16
14	56	353	32	48	20	20	25	7.7	21	5.7	29	12
15	48	277	33	40	24	26	25	9.6	23	6.3	39	17
16	39	203	33	19	27	31	37	56	18	7.4	37	33
17	25	118	30	10	24	26	42	13	161	1280	40	22
18	18	72	27	2.9	23	22	25	8.4	49	62	45	35
19	19	69	25	2.6	22	17	29	22	44	64	40	37
20	21	68	22	6.9	21	15	36	34	41	49	39	70
21	23	67	20	34	23	15	33	17	39	38	35	47
22	22	56	74	327	25	15	31	16	39	39	30	37
23	21	48	167	194	27	15	30	15	34	41	26	22
24	20	40	117	110	27	13	33	15	29	29	23	18
25	19	36	91	90	26	12	37	15	30	30	20	23
26	19	34	68	80	26	12	37	14	31	27	24	23
27	19	31	44	70	26	12	36	13	32	26	25	23
28	19	30	35	92	24	13	36	14	33	25	25	22
29	18	26	35	119	23	10	36	14	34	25	25	19
30	17	23	47	134	21	8.8	36	14	36	25	25	17
31	---	---	43	132	---	---	35	15	37	20	---	---
TOTAL	---	8562	---	2095.4	---	1016.8	---	546.5	---	1914.7	---	888
TOTAL LOAD FOR YEAR:			23745.3	TONS.								

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 upstream from Pilgrim Road (County Trunk Highway YY) bridge in Menomonee Falls, at mile 21.1.

DRAINAGE AREA.--34.7 mi².

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 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 upstream.

AVERAGE DISCHARGE.--6 years (1976-77, 1980-83) 26.5 ft³/s, 10.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,010 ft³/s July 13, 1981, gage height, 6.57 ft; minimum discharge, 0.85 ft³/s July 29, 30, and Aug. 13, 1982, gage height, 2.55 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 380 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Apr. 5	1415	478	5.25	Aug. 17	0430	*572	*5.71

minimum, 2.4 ft³/s Aug. 8, 9, gage height, 2.70 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 3-6; stage-discharge relation affected by ice Dec. 11-14, Jan. 2-6, and Jan. 10 to Feb. 16.)

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	53	29	41	12	49	145	24	56	16	3.1	6.3
2	3.8	77	105	22	12	54	337	47	40	12	2.9	5.4
3	3.3	47	182	17	12	64	421	47	34	12	3.3	5.0
4	3.9	27	173	16	12	72	449	35	31	25	3.5	4.2
5	4.0	21	158	15	12	69	453	30	26	17	3.6	5.7
6	5.1	18	170	15	12	82	423	28	33	13	3.2	40
7	6.2	16	141	15	11	133	338	33	31	11	3.0	19
8	5.1	16	90	14	11	126	251	39	24	9.2	2.7	13
9	12	21	59	14	11	85	261	31	24	8.5	2.5	9.6
10	6.4	36	41	15	11	59	317	27	26	7.7	7.5	12
11	5.8	37	35	15	12	45	257	23	20	7.4	4.6	10
12	5.6	70	30	14	13	40	165	23	17	7.3	3.5	9.3
13	5.4	55	25	13	16	37	120	22	16	6.9	3.5	8.5
14	5.2	34	22	13	24	36	131	26	21	6.6	3.6	7.5
15	5.6	24	20	12	35	36	115	23	27	6.6	3.6	9.3
16	5.1	21	20	12	40	39	81	23	41	6.1	10	15
17	4.2	19	19	12	37	36	65	20	34	5.9	133	12
18	4.2	18	21	11	40	51	60	22	19	6.0	89	15
19	14	18	24	11	52	93	55	43	16	8.0	44	28
20	18	29	23	11	95	93	48	58	12	8.4	18	35
21	9.9	31	21	11	123	62	44	43	11	6.4	18	39
22	8.5	29	19	13	106	64	41	92	10	6.1	37	30
23	6.9	33	21	16	99	51	37	108	9.9	5.9	33	22
24	6.3	28	37	14	97	43	33	65	9.0	4.9	20	17
25	6.0	22	52	13	68	40	33	47	7.9	5.0	16	29
26	5.8	19	50	11	51	38	34	34	6.9	4.3	15	33
27	5.9	18	42	11	41	41	30	28	8.8	4.3	13	27
28	6.4	23	54	11	44	44	29	29	10	4.5	12	21
29	6.5	29	47	12	---	49	27	89	9.8	4.5	10	17
30	6.3	28	70	13	---	55	25	77	10	3.8	11	14
31	6.2	---	58	12	---	77	---	67	---	3.4	8.7	---
TOTAL	201.7	917	1858	445	1109	1863	4825	1303	641.3	253.7	541.8	518.8
MEAN	6.51	30.6	59.9	14.4	39.6	60.1	161	42.0	21.4	8.18	17.5	17.3
MAX	18	77	182	41	123	133	453	108	56	25	133	40
MIN	3.3	16	19	11	11	36	25	20	6.9	3.4	2.5	4.2
CFSM	.19	.88	1.73	.42	1.14	1.73	4.64	1.21	.62	.24	.50	.50
IN.	.22	.98	1.99	.48	1.19	2.00	5.17	1.40	.69	.27	.58	.56
CAL YR 1982	TOTAL	12670.3	MEAN	34.7	MAX	397	MIN	3.3	CFSM	1.00	IN	13.58
WTR YR 1983	TOTAL	14477.3	MEAN	39.7	MAX	453	MIN	2.5	CFSM	1.14	IN	15.52

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 1982 to current year.

PERIOD OF DAILY RECORD.--

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

INSTRUMENTATION.--Sediment pumping sampler since March 1, 1975, to September 1977, June 1982 to current year.

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 on several days. Maximum observed, 856 mg/l Aug. 13, 1977; minimum observed, 1 mg/l on many days.

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

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 101 mg/l Nov. 1; minimum daily mean, 1 mg/l Apr. 23. Maximum observed, 753 mg/l Dec. 2; minimum observed, 1 mg/l Apr. 23, May 8.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 59 tons Apr. 4; minimum daily 0.03 ton Oct. 12-15, 17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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
NOV , 1982					
02...	1130	80	38	8.2	93
APR , 1983					
02...	1840	384	210	218	72

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 upstream from mouth.

DRAINAGE AREA.--18.2 mi².

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, from topographic map.

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

AVERAGE DISCHARGE.--7 years (1976-79, 1981-83), 11.9 ft³/s, 8.88 in/yr.

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

EXTREMES FOR CURRENT PERIOD.--Maximum recorded discharge, 378 ft³/s Apr. 2, gage height, 4.19 ft but may have been more during period of manometer malfunction Aug. 17; minimum, 1.60 ft³/s Oct. 15, gage height, 2.61 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 15-22, 25-28, and Feb. 3-10.)

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
		4.3	453

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	101	9.4	9.4	4.0	9.9	85	9.6	14	15	3.7	4.0
2	2.0	42	152	8.3	7.6	9.2	283	29	11	6.5	3.4	3.5
3	2.2	13	118	7.7	5.6	9.5	198	12	11	6.3	2.6	3.4
4	2.2	8.3	43	7.7	5.4	10	126	10	9.7	31	2.6	3.2
5	2.2	6.7	103	6.9	5.2	8.9	79	9.2	8.3	7.5	2.6	3.7
6	2.1	5.5	61	7.2	5.0	30	57	12	12	5.7	2.6	37
7	2.2	4.9	35	7.3	5.0	50	48	39	8.3	5.7	2.4	7.2
8	2.2	4.3	25	6.6	4.8	29	39	19	8.5	5.3	2.5	4.5
9	2.6	33	19	6.2	4.6	22	146	13	8.4	4.4	3.0	5.7
10	6.4	17	17	8.4	5.0	17	77	11	8.3	4.7	24	20
11	3.1	22	14	7.7	4.9	14	45	11	7.0	4.6	6.9	8.2
12	2.3	47	12	6.0	4.6	12	36	10	7.0	4.3	3.8	6.7
13	2.3	15	12	6.7	5.7	12	48	11	6.7	3.5	2.8	5.7
14	2.2	10	11	6.5	8.6	11	47	15	17	4.2	2.7	5.3
15	2.6	7.5	11	4.9	8.8	11	32	11	18	4.0	2.5	10
16	2.1	6.6	11	4.8	28	11	26	9.2	9.5	4.8	10	14
17	2.4	6.2	9.9	4.8	24	9.6	22	7.4	6.6	4.5	200	6.8
18	2.1	6.1	10	4.8	17	38	20	8.0	5.6	3.3	22	6.3
19	40	7.4	9.5	4.8	34	47	18	44	5.3	15	9.9	8.7
20	30	31	8.8	4.9	42	27	15	15	5.0	22	6.3	21
21	7.4	15	7.8	6.0	35	22	14	13	5.0	8.2	7.7	9.1
22	4.2	10	7.1	7.9	28	19	13	55	4.6	6.3	5.7	5.6
23	3.1	24	12	9.5	24	14	12	29	5.3	5.2	4.6	4.3
24	2.9	11	20	7.9	19	12	11	18	5.8	4.5	4.1	3.5
25	3.0	8.5	17	5.5	13	12	10	13	5.7	4.0	8.1	23
26	3.3	7.7	13	4.5	11	11	11	11	5.3	3.8	5.1	7.1
27	3.7	6.8	13	4.8	11	26	11	9.9	13	4.3	4.5	4.3
28	3.3	19	29	2.6	11	16	12	11	13	4.3	3.9	3.7
29	4.4	12	13	4.3	---	12	10	47	6.9	4.3	3.7	3.8
30	2.9	9.9	11	5.4	---	11	10	20	7.5	4.0	3.7	4.3
31	2.9	---	10	4.0	---	37	---	19	---	4.0	3.7	---
TOTAL	180.3	518.4	844.5	194.0	381.8	580.1	1561	551.3	259.3	215.2	371.1	253.6
MEAN	5.82	17.3	27.2	6.26	13.6	18.7	52.0	17.8	8.64	6.94	12.0	8.45
MAX	40	101	152	9.5	42	50	283	55	18	31	200	37
MIN	2.0	4.3	7.1	2.6	4.0	8.9	10	7.4	4.6	3.3	2.4	3.2
CFSM	.32	.95	1.50	.34	.75	1.03	2.86	.98	.48	.38	.66	.46
IN.	.37	1.06	1.73	.40	.78	1.19	3.19	1.13	.53	.44	.76	.52

CAL YR 1982 TOTAL 5383.0 MEAN 14.7 MAX 282 MIN 1.9 CFSM .81 IN 11.00
WTR YR 1983 TOTAL 5910.6 MEAN 16.2 MAX 283 MIN 2.0 CFSM .89 IN 12.08

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 downstream from Honey Creek, and at mile 6.2.

DRAINAGE AREA.--123 mi².

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 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.--22 years, 91.8 ft³/s, 10.14 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 19	2225	1,070	4.29	Apr. 9	1050	1,500	4.96
Nov. 1	1825	1,650	5.18	Aug. 17	0500	*7,560	*10.55
Dec. 2	1750	2,830	6.62	Sept. 6	0315	1,980	5.62
Apr. 2	1555	3,660	7.47				

minimum daily discharge, 13 ft³/s Oct. 3, 4, 5.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 3-6, 13, 14, 16-22, 26-28, Feb. 4-9, and 11.)

0.7	12	2.5	290
0.9	19	3.0	459
1.2	36	4.0	925
1.5	69	5.0	1,530
2.0	160	6.0	2,290

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	537	69	60	28	104	510	60	131	83	15	20
2	14	307	891	51	44	110	2280	178	103	35	16	18
3	13	133	843	40	32	118	1600	102	89	29	16	17
4	13	77	399	45	30	128	1060	83	79	195	16	16
5	13	56	584	43	26	126	889	69	68	44	17	17
6	14	43	484	43	26	228	748	75	95	33	16	425
7	16	37	319	44	27	398	627	188	70	29	14	65
8	15	33	237	39	28	293	490	106	62	26	15	36
9	154	173	162	38	30	231	888	75	59	23	18	29
10	41	141	123	47	31	167	757	62	88	22	80	105
11	21	148	93	48	31	130	521	57	56	22	49	56
12	19	328	74	39	29	115	402	57	49	21	20	27
13	17	153	77	38	35	105	409	60	43	20	17	23
14	17	99	63	36	53	99	410	101	100	21	17	22
15	18	72	61	35	62	99	305	71	118	21	15	35
16	19	58	60	31	184	98	237	57	75	50	46	92
17	15	51	56	29	204	91	189	55	57	22	1660	33
18	15	47	61	26	172	240	157	54	45	21	311	32
19	207	56	63	27	236	363	137	250	37	71	114	58
20	222	174	60	27	330	261	123	124	34	113	51	179
21	42	100	55	29	319	185	112	109	31	27	46	113
22	26	80	51	42	268	161	101	340	30	22	65	72
23	22	157	64	57	236	146	91	258	28	20	48	52
24	20	89	115	43	215	127	83	172	27	18	37	40
25	19	63	131	32	163	116	78	120	26	17	44	134
26	19	54	115	28	121	109	76	92	24	17	30	74
27	18	47	100	26	103	184	71	76	50	17	26	57
28	18	111	192	30	100	172	71	71	57	18	23	46
29	22	89	117	35	---	161	64	325	30	18	22	38
30	19	74	73	45	---	199	60	185	33	18	24	34
31	18	---	71	31	---	312	---	167	---	16	25	---
TOTAL	1120	3587	5863	1184	3163	5376	13552	3799	1794	1109	2913	1965
MEAN	36.1	120	189	38.2	113	173	452	123	59.8	35.8	94.0	65.5
MAX	222	537	891	60	330	398	2280	340	131	195	1660	425
MIN	13	33	51	26	26	91	60	54	24	16	14	16
CFSM	.29	.98	1.54	.31	.92	1.41	3.68	1.00	.49	.29	.76	.53
IN.	.34	1.08	1.77	.36	.96	1.63	4.10	1.15	.54	.34	.88	.59

CAL YR 1982	TOTAL	41550	MEAN 114	MAX 2050	MIN 12	CFSM .93	IN 12.57
WTR YR 1983	TOTAL	45425	MEAN 124	MAX 2280	MIN 13	CFSM 1.01	IN 13.74

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

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

PERIOD OF DAILY RECORD.--

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

INSTRUMENTATION.--Sediment pumping sampler Jan. 1, 1975, to September 1977, June 1982 to current year.

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, 2 mg/l on several days. Maximum observed, 1,370 mg/l Oct. 9, 1982; minimum observed, 1 mg/l on several days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,500 tons Mar. 22, 1975; minimum daily, 0.16 ton Jan. 19-21, 1977.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 315 mg/l Dec. 2; minimum daily mean, 2 mg/l on several days. Maximum observed, 1,370 mg/l Oct. 9; minimum observed, 1 mg/l June 30, July 5, 18.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,970 tons Apr. 2; minimum daily 0.10 ton Oct. 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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
NOV , 1982					
02...	1700	219	63	37	98

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087120 MENOMONEE RIVER AT WAUWATOSA, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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	9	.36	195	423	33	6.1	18	2.9	16	1.2	11	3.0
2	9	.32	134	129	315	1170	17	2.3	15	1.8	9	2.7
3	8	.27	45	17	99	248	17	2.3	15	1.3	10	3.2
4	7	.24	33	6.7	39	43	16	2.1	15	1.3	11	4.0
5	4	.16	25	3.9	54	86	15	1.9	15	1.3	13	4.5
6	3	.11	17	2.0	55	72	15	1.8	14	1.2	72	76
7	2	.10	15	1.5	35	31	17	2.0	14	1.2	76	78
8	5	.22	14	1.2	20	13	13	1.4	14	1.2	27	20
9	178	183	42	26	16	6.8	10	.99	14	1.1	20	12
10	29	3.8	40	15	36	12	14	1.9	14	1.2	12	5.5
11	9	.52	30	14	42	10	22	2.9	14	1.1	11	3.9
12	4	.18	55	58	44	8.9	22	2.3	13	1.4	7	2.0
13	3	.14	21	8.7	47	9.8	21	2.1	14	1.3	6	1.7
14	3	.14	24	6.3	48	8.1	21	2.0	15	2.4	5	1.3
15	3	.15	26	5.2	34	5.7	20	1.9	39	6.5	18	5.1
16	4	.20	25	3.9	25	4.0	20	1.8	70	50	35	9.3
17	4	.16	21	2.9	22	3.4	19	1.7	41	23	30	7.4
18	5	.19	31	3.8	21	3.5	19	1.7	21	9.7	66	61
19	98	165	28	4.2	18	3.1	18	1.7	61	55	49	48
20	148	97	31	15	10	1.5	18	1.7	50	45	23	17
21	42	5.1	17	4.6	5	.70	18	1.7	29	25	16	7.9
22	22	1.6	17	3.8	3	.45	20	2.2	27	19	11	4.5
23	27	1.6	31	15	34	6.5	26	4.0	25	16	8	3.0
24	32	1.7	15	3.9	65	20	17	2.0	23	13	9	3.0
25	38	2.0	15	2.5	47	17	17	1.5	21	9.0	11	3.5
26	33	1.7	15	2.2	18	5.6	17	1.5	16	5.4	14	4.2
27	27	1.3	15	1.9	17	4.7	17	1.5	14	4.0	14	6.6
28	22	1.1	45	20	29	16	16	1.4	13	3.5	18	8.3
29	18	1.1	50	10	20	6.3	16	1.5	---	---	38	17
30	14	.72	44	8.9	19	3.8	16	1.9	---	---	28	14
31	12	.56	---	---	18	3.5	16	1.3	---	---	27	23
TOTAL	---	470.74	---	820.1	---	1830.45	---	59.89	---	303.1	---	460.6

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	67	109	10	1.6	26	9.1	33	9.2	45	1.8	8	.42
2	291	1970	69	54	24	6.7	14	1.3	33	1.4	8	.39
3	70	314	13	3.6	28	6.7	12	1.3	24	1.0	8	.37
4	47	139	10	2.3	28	6.0	92	81	17	.73	10	.43
5	22	54	9	1.7	24	4.4	19	2.5	12	.53	23	1.8
6	16	32	19	4.3	22	6.3	2	.14	8	.36	258	414
7	13	22	52	51	28	5.2	2	.19	6	.23	64	11
8	17	22	15	4.4	49	8.2	4	.27	4	.17	36	3.6
9	96	265	22	4.4	51	8.6	6	.38	6	.26	13	1.0
10	44	95	31	5.3	83	20	10	.56	58	.48	38	24
11	22	32	31	4.7	66	10	15	.85	52	7.8	41	6.7
12	10	11	26	4.0	53	6.9	21	1.2	26	1.4	20	1.5
13	19	23	15	2.6	38	4.4	30	1.7	15	.69	11	.72
14	31	35	17	4.8	33	17	44	2.4	9	.42	9	.51
15	18	15	14	2.7	30	11	63	3.6	6	.25	14	2.3
16	20	13	9	1.3	28	5.9	98	17	22	7.1	31	8.1
17	20	10	9	1.3	22	3.4	24	1.6	227	1700	22	2.0
18	14	6.1	12	1.7	11	1.3	3	.15	64	57	15	1.4
19	17	6.3	86	72	13	1.3	63	25	32	9.8	15	4.3
20	21	7.0	19	6.6	18	1.6	65	27	20	2.8	79	44
21	20	6.2	16	4.9	25	2.1	30	2.2	20	2.5	58	19
22	18	5.0	88	107	33	2.6	21	1.2	28	5.4	23	4.4
23	14	3.6	25	18	32	2.5	14	.76	26	3.7	14	2.0
24	10	2.3	5	2.6	31	2.2	10	.48	39	4.1	12	1.3
25	4	.93	4	1.4	29	2.0	8	.36	52	6.9	32	13
26	3	.59	5	1.3	27	1.8	10	.49	35	3.0	40	7.9
27	2	.42	7	1.4	38	7.7	15	.69	38	2.7	38	5.9
28	4	.74	11	2.6	15	3.0	21	1.0	42	2.7	37	4.5
29	2	.42	83	93	4	.30	30	1.5	39	2.3	35	3.6
30	4	.68	20	10	3	.26	42	2.0	18	1.1	34	3.1
31	---	---	20	9.1	---	---	46	2.0	8	.54	---	---
TOTAL	---	3201.28	---	485.6	---	168.46	---	190.02	---	1876.68	---	593.24
TOTAL LOAD FOR YEAR:			10460.16		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 downstream from pedestrian walkway over the Menomonee River, 0.1 mi upstream from bridge at 35th Street, at Milwaukee.

DRAINAGE AREA.--134 mi².

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

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

REMARKS.--Records are poor except for the period November through April 18, which is fair to good. Stage-discharge relation affected by seiche from Lake Michigan Oct. 1-8, 11-18, 21-31, Dec. 12, 13, Jan. 14, Feb. 2, 3, Mar. 21, 26, 27, Apr. 19-30, May 1, 3-6, 9-18, 27, 28, June 2 to Aug. 16, Aug. 19 to Sept. 5, Sept. 7-30.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,240 ft³/s Aug. 17, 1983, gage height, 14.66 ft, from rating curve extended above 1,500 ft³/s on basis of four step-backwater determinations, Q10, Q50, Q100, Q500 obtained from Oct. 3, 4, 5, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--High water of July 13, 1981, reached a stage of 13.16 ft, present datum, from high-water marks; discharge, 5,910 ft³/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,240 ft³/s Aug. 17, gage height, 14.66 ft, from rating curve extended as explained above; minimum daily, 14 ft³/s (seiche affected), Oct. 3, 4, 5, determined by applying drainage area ratio to the corresponding daily discharge for Menomonee River at Wauwatose.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	690	72	62	33	104	508	65	155	90	16	22
2	15	335	1180	53	46	108	2390	254	112	38	17	20
3	14	147	983	43	36	120	1650	111	97	32	17	19
4	14	86	425	51	34	130	1090	90	86	212	17	17
5	14	62	693	49	28	128	907	75	74	48	19	19
6	15	49	520	48	28	252	772	82	103	36	17	537
7	17	43	332	49	29	409	625	266	76	32	15	71
8	16	41	245	44	31	302	476	135	67	28	16	39
9	222	220	170	42	34	236	1020	82	64	25	19	32
10	61	156	132	52	34	175	791	68	96	24	87	114
11	23	169	107	53	35	135	511	62	61	24	53	61
12	21	376	81	42	33	119	403	62	53	23	22	29
13	19	164	84	41	39	109	433	65	47	22	19	25
14	19	104	69	40	61	103	424	110	109	23	19	24
15	20	76	67	35	70	104	314	77	129	23	16	38
16	21	63	66	35	212	101	250	62	82	54	50	100
17	16	57	62	33	219	94	202	60	62	24	1930	36
18	16	55	67	29	181	289	176	59	49	23	388	35
19	318	65	68	30	252	394	149	303	40	77	138	63
20	314	212	64	30	350	268	134	142	37	123	64	195
21	46	107	60	32	335	210	122	132	34	29	57	123
22	28	86	56	41	276	161	110	435	33	24	78	78
23	24	176	71	61	242	145	99	274	31	22	58	57
24	22	89	125	50	219	126	90	188	29	20	44	44
25	21	66	138	36	164	115	85	141	28	19	50	146
26	21	59	119	31	121	110	83	107	26	19	34	81
27	20	50	106	29	104	201	77	83	54	19	28	52
28	20	129	217	32	101	171	84	77	62	20	26	50
29	24	92	126	38	---	159	70	399	33	20	24	41
30	21	76	134	51	---	195	65	214	36	20	26	37
31	20	---	79	35	---	318	---	189	---	17	27	---
TOTAL	1457	4100	6718	1297	3347	5591	14110	4469	1965	1210	3391	2205
MEAN	47.0	137	217	41.8	120	180	470	144	65.5	39.0	109	73.5
MAX	318	690	1180	62	350	409	2390	435	155	212	1930	537
MIN	14	41	56	29	28	94	65	59	26	17	15	17
CFSM	.35	1.02	1.62	.31	.90	1.34	3.51	1.08	.49	.29	.81	.55
IN.	.40	1.14	1.86	.36	.93	1.55	3.92	1.24	.55	.34	.94	.61
CAL YR 1982	TOTAL	47189	MEAN 129	MAX 2150	MIN 14	CFSM .96	IN 13.10					
WTR YR 1983	TOTAL	49860	MEAN 137	MAX 2390	MIN 14	CFSM 1.02	IN 13.84					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087140 MENOMONEE RIVER AT FALK CORP. AT 32ND STREET AT MILWAUKEE, WI

LOCATION.--LAT 43°01'35", long 87°57'14", in SW 1/4 sec.36, T.7 N., R.9 E., Milwaukee County, Hydrologic Unit 04040003, at Southwest corner Falk Corporation Property at 32nd Street, Milwaukee, and at Mile 0.40.

DRAINAGE AREA.--134 mi².

PERIOD OF RECORD.--December 1974 to July 1977, June 1982 to current year.

PERIOD OF DAILY RECORD.--

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

INSTRUMENTATION.--Automatic pumping sampler since Mar. 1, 1975, to June 1977, June 1982 to current year.

REMARKS.--Sediment records are fair. Mean suspended-sediment concentrations for more than 10 percent of the year are estimated. Stream discharge was estimated from measurements at this station and gage height record for 04087138 Menomonee River at Milwaukee and 04087120 Menomonee River at Wauwatosa.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 596 mg/l June 16, 1975; minimum daily mean, 1 mg/l on several days. Maximum observed, 1,040 mg/l Mar. 12, 1976; minimum observed, 1 mg/l on several days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,890 tons Apr. 2, 1983; minimum daily, 0.03 ton Sept. 26, 1976.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 357 mg/l Apr. 2; minimum daily mean, 1 mg/l Oct. 18. Maximum observed, 726 mg/l Aug. 10; minimum observed, 1 mg/l Oct. 19.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,890 tons Apr. 2; minimum daily 0.04 ton Oct. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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
APR , 1983					
02...	1815	3220	284	2470	69

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087140 MENOMONEE RIVER AT FALK CORP. AT 32ND STREET AT MILWAUKEE, WI--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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	3	.14	131	399	6	1.2	17	2.9	9	.80	4	1.1
2	4	.16	88	90	320	1730	18	2.5	9	1.1	4	1.0
3	3	.13	47	19	109	314	18	2.1	9	.87	9	2.8
4	3	.11	25	6.1	41	49	19	2.6	9	.83	12	4.3
5	2	.08	17	2.8	50	99	20	2.6	9	.68	7	2.4
6	4	.17	13	1.7	25	36	20	2.6	8	.60	34	40
7	6	.27	14	1.7	16	15	21	2.8	8	.63	68	78
8	6	.27	15	1.7	18	12	18	2.2	8	.67	24	20
9	197	280	27	23	7	3.5	15	1.8	8	.71	12	7.9
10	40	7.3	32	14	12	4.1	13	1.8	5	.49	9	4.3
11	10	.63	31	16	23	6.7	13	1.9	4	.41	8	2.9
12	7	.37	65	69	17	6.3	13	1.5	4	.35	8	2.7
13	5	.25	35	15	7	2.0	13	1.4	4	.42	11	3.2
14	4	.18	26	7.4	8	1.5	13	1.4	4	.66	13	3.5
15	3	.14	19	3.8	11	2.0	14	1.3	5	.87	9	2.6
16	2	.11	9	1.6	14	2.5	14	1.3	40	35	6	1.6
17	2	.07	6	1.0	12	2.0	14	1.2	41	25	4	.95
18	1	.04	5	.76	10	1.8	14	1.1	26	13	54	74
19	85	252	4	.65	9	1.6	15	1.2	63	59	49	52
20	158	181	47	28	12	2.1	15	1.2	66	64	27	19
21	28	4.5	52	16	17	2.7	19	1.6	50	46	25	14
22	17	1.3	25	5.8	18	2.7	22	2.4	42	31	24	11
23	15	.96	24	12	28	5.9	25	4.1	33	22	15	6.1
24	13	.77	16	3.9	28	9.3	10	1.3	19	11	6	2.0
25	12	.65	12	2.2	15	5.7	8	.74	10	4.6	5	1.5
26	10	.57	10	1.5	5	1.6	6	.52	8	2.6	5	1.6
27	9	.50	11	1.5	5	1.3	7	.54	6	1.8	20	12
28	8	.41	24	9.4	31	20	8	.70	5	1.3	6	3.0
29	3	.23	20	5.0	15	5.1	9	.98	---	---	2	.91
30	2	.13	11	2.3	16	5.8	9	1.2	---	---	5	2.7
31	2	.11	---	---	16	3.5	9	.85	---	---	15	15
TOTAL	---	733.55	---	761.81	---	2355.9	---	52.33	---	326.39	---	394.06
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	62	109	14	2.7	32	14	29	8.6	3	.14	6	.35
2	357	2890	69	87	25	7.6	12	1.3	6	.27	6	.32
3	98	445	13	4.0	23	6.0	16	2.4	10	.47	6	.29
4	46	136	16	3.8	23	5.4	172	160	12	.58	6	.27
5	31	76	19	3.8	17	3.5	40	5.3	13	.63	11	.71
6	21	45	22	5.0	20	6.5	39	3.8	10	.45	271	550
7	19	32	62	87	19	3.8	40	3.4	7	.28	51	11
8	25	31	13	5.0	27	4.9	44	3.4	5	.22	16	1.7
9	119	417	11	2.4	21	3.9	39	2.7	5	.25	11	.93
10	52	119	12	2.2	25	7.8	17	1.1	87	84	54	42
11	21	30	13	2.2	11	1.7	16	1.0	36	6.8	28	4.9
12	23	25	14	2.3	17	2.4	21	1.3	7	.40	15	1.2
13	35	44	16	2.8	20	2.5	43	2.6	8	.40	9	.64
14	24	28	30	8.8	66	47	36	2.2	13	.71	8	.54
15	13	11	12	2.6	33	16	27	1.6	10	.45	10	2.0
16	16	11	13	2.2	21	5.1	42	12	24	6.3	19	6.4
17	26	14	12	2.0	18	3.0	20	1.4	269	1620	10	.94
18	22	10	12	2.0	20	2.6	13	.77	59	71	6	.59
19	14	5.8	90	91	32	3.5	59	71	37	14	54	24
20	10	3.4	12	5.0	31	3.0	82	47	16	2.8	91	49
21	12	3.8	8	3.0	13	1.2	12	.98	23	3.9	50	17
22	14	4.0	86	143	16	1.4	12	.78	39	8.0	22	4.8
23	13	3.6	33	25	25	2.1	10	.59	27	4.2	12	1.9
24	22	5.2	36	18	13	1.0	14	.74	13	1.5	9	1.1
25	74	17	38	14	9	.70	19	.97	17	2.8	50	23
26	30	6.6	22	6.4	7	.49	35	1.7	10	.90	27	6.1
27	13	2.7	12	2.7	28	7.0	46	2.3	7	.54	13	2.2
28	12	2.7	19	7.6	20	4.2	46	2.4	7	.47	9	1.2
29	20	3.7	97	147	3	.24	17	.92	6	.36	6	.70
30	10	1.7	19	11	4	.37	6	.32	5	.37	7	.71
31	---	---	36	18	---	---	4	.20	5	.39	---	---
TOTAL	---	4533.2	---	719.5	---	168.90	---	344.77	---	1833.58	---	756.49
TOTAL LOAD FOR YEAR:			12980.48		TONS.							

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087159 KINNICKINNIC RIVER AT SOUTH 11TH STREET AT MILWAUKEE, WI

LOCATION.--Lat 42°59'51", long 87°55'35", in SW 1/4 NW 1/4 sec.8, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, on left bank 150 ft upstream from footbridge on South 11th Street, 3.2 mi upstream from mouth, at Milwaukee.

DRAINAGE AREA.--20.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1982 to September 1983. Low-flow records equivalent to records for Kinnickinnic River at Milwaukee, WI (04087160) September 1976 to January 1983 (discontinued). Discontinued gage was located 0.3 mi downstream from present gage.

GAGE.--Water-stage recorder and steel plate weir. Altitude of gage is 590 ft from river-profile map.

REMARKS.--Records are good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,430 ft³/s Dec. 2, gage height, 12.37 ft; minimum discharge, 5.0 ft³/s Jan. 15, gage height, 6.00 ft, may have been less during periods of missing record, Oct. 1-12 and Oct. 15-26.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 3, 17-19 and 27. Rating not in effect Oct. 1-12 prior to installation of control.)

6.0	5.0	7.3	116
6.2	9.9	8.0	274
6.4	17	9.0	590
6.6	29	10.0	1,020
6.9	58		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	269	12	8.6	8.6	11	52	14	13	33	9.6	9.9
2	7.0	37	702	8.0	28	11	525	84	12	10	10	9.9
3	7.6	11	179	7.8	14	11	143	13	12	10	11	9.7
4	8.0	9.3	33	8.4	9.9	11	37	11	11	71	11	9.2
5	8.2	9.8	187	8.5	8.1	9.7	24	10	9.9	11	10	14
6	9.0	9.3	45	9.2	9.2	55	37	19	18	9.4	9.7	96
7	11	9.8	23	8.7	9.2	50	22	66	12	9.3	9.3	10
8	8.0	9.4	18	7.6	8.5	27	17	16	11	9.5	11	9.6
9	100	158	15	7.4	9.1	22	249	12	11	9.5	12	10
10	13	25	14	9.9	8.8	14	45	11	10	9.1	116	49
11	9.6	49	12	9.1	9.7	12	24	11	10	10	30	12
12	8.0	127	11	8.2	9.0	11	30	12	10	10	10	8.1
13	8.3	17	11	7.8	14	11	76	12	11	10	8.8	7.6
14	8.4	13	11	8.3	23	12	45	143	44	11	8.7	7.6
15	9.8	11	11	7.1	25	13	20	17	26	12	10	16
16	7.0	11	12	6.9	77	11	18	14	12	11	21	28
17	6.0	10	11	6.8	47	11	15	12	9.4	11	416	11
18	8.0	10	13	6.8	28	113	14	12	8.6	12	19	11
19	210	21	13	7.4	71	76	13	103	9.0	34	14	39
20	74	58	11	8.1	59	22	13	18	11	49	12	56
21	9.0	16	9.4	7.8	37	18	12	23	10	13	23	13
22	7.4	14	9.2	12	26	20	12	147	11	13	13	9.3
23	7.0	43	15	20	22	17	11	28	11	12	10	8.8
24	7.4	14	26	12	17	15	11	17	10	11	10	7.5
25	7.0	11	18	8.6	13	14	11	14	9.6	10	24	36
26	6.4	10	11	7.6	11	15	11	13	9.3	9.5	13	9.9
27	7.2	9.4	13	7.4	11	66	11	13	26	11	10	9.0
28	8.1	42	41	7.7	11	39	16	14	40	12	9.3	8.8
29	8.5	16	11	9.5	---	34	10	82	12	11	10	8.4
30	6.1	14	9.6	17	---	41	11	19	14	9.9	11	7.8
31	5.7	---	8.9	9.3	---	43	---	19	---	12	9.5	---
TOTAL	608.9	1064.0	1516.1	279.5	624.1	835.7	1535	999	423.8	476.2	901.9	542.1
MEAN	19.6	35.5	48.9	9.02	22.3	27.0	51.2	32.2	14.1	15.4	29.1	18.1
MAX	210	269	702	20	77	113	525	147	44	71	416	96
MIN	5.7	9.3	8.9	6.8	8.1	9.7	10	10	8.6	9.1	8.7	7.5
WTR YR 1983	TOTAL	9806.3	MEAN	26.9	MAX	702	MIN	5.7				

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087159 KINNICKINNIC RIVER AT SOUTH 11TH STREET AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to September 1983.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1983.

INSTRUMENTATION.--Automatic pumping sampler since Oct. 1, 1982.

REMARKS.--Sediment records are good.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 432 mg/l Nov. 1; minimum daily mean, 1 mg/l on several days. Maximum observed, 2,400 mg/l Mar. 6; minimum observed, 1 mg/l on several days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,260 tons Dec. 2; minimum daily, 0.03 ton July 15, 16, 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983					
02...	1630	633	311	532	81

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MEAN CONCENTRATION	LOADS (T/DAY)	MEAN CONCENTRATION	LOADS (T/DAY)	MEAN CONCENTRATION	LOADS (T/DAY)	MEAN CONCENTRATION	LOADS (T/DAY)	MEAN CONCENTRATION	LOADS (T/DAY)	MEAN CONCENTRATION	LOADS (T/DAY)			
	(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)				
APRIL			MAY			JUNE			JULY			AUGUST		SEPTEMBER	
1	36	9.3	10	1.3	7	.27	90	14	3	.07	12	.34			
2	372		211	163	12	.38	9	.26	1	.04	13	.35			
3	38	18	13	.47	17	.57	14	2.9	2	.06	12	.31			
4	13	1.3	11	.33	18	.56	142	82	3	.09	11	.27			
5	11	.70	9	.27	17	.46	10	.30	3	.08	17	1.1			
6	15	1.6	22	1.9	22	1.4	11	.28	3	.09	140	133			
7	8	.49	69	35	11	.35	16	.40	4	.10	3	.08			
8	8	.39	14	.79	13	.39	12	.31	4	.12	3	.07			
9	98	126	5	.17	12	.36	2	.06	6	.18	3	.08			
10	16	2.2	4	.14	12	.34	2	.04	173	262	89	42			
11	15	.99	2	.07	10	.27	2	.04	38	6.3	11	.49			
12	19	2.8	1	.04	8	.23	2	.05	9	.25	2	.05			
13	61	18	6	.26	8	.26	2	.05	5	.13	2	.04			
14	31	5.0	129	142	113	37	2	.06	4	.10	7	.15			
15	7	.36	12	.55	30	2.9	1	.03	3	.09	12	1.1			
16	7	.36	17	.61	11	.35	1	.03	29	3.6	24	3.3			
17	11	.45	5	.16	7	.19	2	.06	267	585	8	.22			
18	10	.39	5	.18	7	.16	8	.03	15	.83	4	.14			
19	6	.20	84	35	7	.16	60	49	9	.35	129	97			
20	4	.15	3	.14	6	.18	75	24	7	.22	57	14			
21	3	.11	14	1.3	6	.17	4	.15	39	5.4	13	.52			
22	4	.14	125	130	5	.15	1	.04	10	.39	6	.14			
23	7	.20	16	1.4	5	.15	1	.05	9	.25	3	.08			
24	10	.28	6	.28	6	.16	2	.06	17	.49	3	.07			
25	5	.14	3	.13	6	.16	2	.05	38	3.9	24	3.1			
26	3	.09	3	.10	7	.17	2	.05	10	.35	13	.34			
27	4	.13	3	.10	50	8.9	1	.04	4	.11	9	.23			
28	12	.60	4	.27	33	8.4	2	.06	12	.29	6	.14			
29	3	.08	75	47	4	.12	2	.06	17	.49	4	.09			
30	2	.06	12	.72	7	.26	3	.08	12	.33	2	.05			
31	---	---	12	.71	---	---	15	.86	12	.31	---	---			
TOTAL	---	949.51	---	564.39	---	65.42	---	175.40	---	872.01	---	298.85			
TOTAL LOAD FOR YEAR:			5380.78 TONS.												

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 downstream from 15th Avenue bridge in South Milwaukee and 2.8 mi upstream from mouth.

DRAINAGE AREA.--25.0 mi².

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flows may occasionally be affected by construction and activity at gravel pit upstream.

AVERAGE DISCHARGE.--20 years, 21.7 ft³/s, 11.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s Sept. 13, 1978, gage height, 8.19 ft; maximum gage height, 8.23 ft 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 and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 2	2320	640	7.88	Apr. 9	1505	434	6.92
Dec. 5	1415	338	6.35	May 22	1555	315	6.19
Apr. 2	2125	*670	*8.00	Aug. 17	0515	642	7.89

minimum, 0.95 ft³/s Aug. 8 and 9, gage height, 2.24 ft.

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

2.2	0.75	3.0	37
2.25	1.0	4.0	101
2.3	1.6	5.0	181
2.35	2.7	6.0	290
2.4	4.6	7.0	450
2.5	8.7	8.0	670
2.6	14		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	70	17	13	5.1	20	101	12	20	13	1.1	5.8
2	1.3	72	217	11	13	20	464	42	15	10	1.1	5.5
3	1.5	21	512	9.6	12	21	532	19	15	5.7	1.1	5.1
4	1.5	12	207	8.7	8.9	20	248	15	14	18	1.1	4.6
5	1.5	8.7	235	8.2	7.0	17	98	13	12	11	1.2	4.6
6	1.6	7.2	174	8.6	6.1	33	85	13	15	4.9	1.1	36
7	2.1	6.3	83	8.8	6.0	105	67	26	13	3.7	1.0	12
8	1.6	5.9	55	8.2	5.6	69	48	38	11	3.2	1.0	6.2
9	25	39	37	8.1	5.5	51	264	17	9.2	2.7	1.3	5.9
10	7.0	59	28	9.1	5.4	37	220	15	8.0	2.6	26	7.3
11	3.3	42	20	9.8	5.3	29	88	13	7.7	2.3	36	9.1
12	2.9	121	15	8.0	5.0	27	58	12	6.8	2.1	9.5	6.3
13	2.6	56	14	7.6	5.3	27	82	12	6.2	2.0	3.7	5.4
14	2.6	23	14	7.4	7.2	23	113	66	7.8	2.1	2.4	5.0
15	2.8	16	15	6.6	12	19	58	44	13	2.1	2.1	7.5
16	2.7	14	16	5.9	42	18	41	20	10	1.9	2.5	11
17	2.5	12	15	5.0	75	17	35	15	6.7	1.8	378	8.2
18	2.7	11	16	4.3	59	71	26	14	5.4	1.6	115	6.0
19	50	13	16	4.2	80	190	21	89	4.7	3.4	19	5.3
20	16	46	15	4.2	133	92	17	86	4.2	8.5	12	11
21	8.0	37	15	4.3	121	41	16	49	3.7	6.0	11	13
22	5.0	21	13	5.3	93	40	15	187	3.5	2.4	9.6	7.6
23	4.4	40	22	8.0	71	34	15	163	3.2	1.9	7.9	5.8
24	4.0	26	43	8.1	55	30	14	66	2.9	1.5	6.8	5.1
25	3.8	16	54	7.2	34	28	13	36	2.8	1.4	15	8.7
26	3.8	14	33	5.4	22	28	12	23	2.8	1.3	12	9.8
27	3.8	12	23	5.1	19	66	11	16	7.9	1.3	7.6	6.9
28	3.7	24	44	4.2	20	108	13	15	15	1.3	6.1	5.9
29	3.5	32	27	4.3	---	99	12	42	10	1.3	5.5	5.4
30	3.4	21	15	6.8	---	111	11	25	7.1	1.2	5.9	5.3
31	3.7	---	14	5.9	---	119	---	22	---	1.2	6.8	---
TOTAL	179.7	898.1	2024	220.9	933.4	1610	2798	1225	263.6	123.4	710.4	241.3
MEAN	5.80	29.9	65.3	7.13	33.3	51.9	93.3	39.5	8.79	3.98	22.9	8.04
MAX	50	121	512	13	133	190	532	187	20	18	378	36
MIN	1.3	5.9	13	4.2	5.0	17	11	12	2.8	1.2	1.0	4.6
CFSM	.23	1.20	2.61	.29	1.33	2.08	3.73	1.58	.35	.16	.92	.32
IN.	.27	1.34	3.01	.33	1.39	2.40	4.16	1.82	.39	.18	1.06	.36

CAL YR 1982	TOTAL	9379.6	MEAN	25.7	MAX	512	MIN	1.3	CFSM	1.03	IN	13.96
WTR YR 1983	TOTAL	11227.8	MEAN	30.8	MAX	532	MIN	1.0	CFSM	1.23	IN	16.71

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 upstream from State Highway 100, 2.1 mi upstream from Root River Canal, 2.4 mi southeast of Franklin, 5.5 mi southeast of Hales Corners, and about 24 mi upstream from mouth.

DRAINAGE AREA.--49.2 mi².

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--20 years, 43.9 ft³/s, 12.12 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft³/s Apr. 21, 1973, gage height, 9.31 ft; minimum, 0.38 ft³/s Aug. 10, 1971, gage height, 1.45 ft.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 3	0330	970	*8.60	Apr. 3	0015	*1,080	8.54
Dec. 6	0015	436	6.96	Apr. 9	2300	471	7.12
				Aug. 17	2300	473	7.13

minimum daily discharge, 4.3 ft³/s Aug. 7 and 9.

REVISIONS.--Revised maximum discharges for water year 1981, revised daily discharges, in cubic feet per second, for high-water periods during the year, revised monthly and yearly discharges are given below. These figures supersede those published in the report for 1981.

Peak discharges above base of 350 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 7	2030	406	6.80	Apr. 11	1445	*474	*7.33
Feb. 18	0830	466	7.27	Apr. 14	1715	457	7.21
Feb. 23	0445	418	6.90	aSept. 30	2330	459	7.22

a Not independent of peak of Oct. 1, 1981.

Daily discharges:

Dec. 7	353	Feb. 19	359	Apr. 9	265	Apr. 14	396
Dec. 8	301	Feb. 22	256	Apr. 11	423	Apr. 15	266
Feb. 18	447	Feb. 23	354	Apr. 12	289	Sept. 30	377

MONTH	TOTAL	MEAN	MAX	MIN	CFSM	IN.
December 1980	1574.2	50.8	352	9.2	1.03	1.19
February 1981	2411.8	86.1	447	9.0	1.75	1.82
April 1981	2705	90.2	423	12	1.83	2.04
September 1981	1024.8	34.2	377	3.5	0.70	0.77
Cal Year 1980	12982.5	35.5	777	4.1	0.72	9.81
Wtr Year 1981	11601.9	31.8	447	2.0	0.65	8.77

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087220 ROOT RIVER NEAR FRANKLIN, WI--CONTINUED

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 20 to Apr. 4; stage-discharge relation
affected by ice Dec. 12, 13, Jan. 1-4, 6-8, 12, 13, 15-20, 23-27, Jan. 31,
Feb. 3-13.)

1.6	3.0	2.2	26	6.0	270
1.7	4.5	2.5	43	7.0	446
1.8	6.5	3.0	65	8.0	740
1.9	9.5	4.0	106	9.0	1,150
2.0	14	5.0	167		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	116	36	23	11	35	315	23	44	15	4.5	7.2
2	16	214	311	21	14	33	784	51	33	16	4.7	6.7
3	16	69	821	19	13	35	869	39	29	9.2	4.5	6.0
4	16	36	405	18	11	37	423	31	27	40	4.6	5.8
5	16	28	354	17	10	36	181	27	23	18	4.8	6.1
6	16	25	381	16	10	50	142	26	28	9.5	4.5	36
7	16	24	182	16	10	249	118	34	26	7.6	4.3	15
8	15	22	126	15	10	164	88	87	21	7.2	4.5	8.1
9	36	47	93	15	10	114	275	38	19	6.6	4.3	6.6
10	37	132	77	18	10	78	376	30	17	6.3	7.1	6.3
11	18	78	62	18	10	54	155	28	15	6.1	5.5	18
12	16	247	50	18	11	47	101	26	14	6.0	12	7.5
13	15	146	40	19	11	43	152	25	13	5.8	7.3	6.2
14	15	73	33	19	12	39	238	41	12	5.2	5.9	5.7
15	15	44	30	18	19	35	126	36	33	5.3	5.9	5.8
16	14	33	30	17	45	34	84	27	20	5.6	5.8	17
17	14	29	28	16	122	32	71	25	12	5.9	285	9.3
18	14	27	29	14	101	77	58	23	10	5.7	287	8.0
19	36	26	33	12	107	292	49	76	9.1	5.7	33	7.5
20	172	70	30	10	234	180	46	81	9.1	23	17	26
21	52	81	25	9.8	247	123	42	52	8.8	12	13	32
22	24	48	22	10	200	95	38	171	8.4	6.2	17	11
23	19	75	26	10	157	67	35	205	7.6	5.7	11	8.6
24	17	65	51	10	129	53	31	84	6.8	5.3	9.1	7.5
25	16	37	77	10	84	47	29	52	6.7	5.1	9.8	13
26	16	30	54	10	55	44	28	37	6.7	5.3	15	19
27	16	27	38	10	37	62	25	31	7.4	6.1	9.9	9.5
28	16	35	71	11	35	123	26	28	23	5.9	8.3	8.4
29	17	69	63	11	---	119	27	76	14	4.8	7.6	7.4
30	16	45	50	11	---	160	25	59	9.4	4.6	7.8	6.5
31	16	---	26	11	---	244	---	51	---	4.5	7.9	---
TOTAL	753	1998	3654	452.8	1725	2801	4957	1620	513.0	275.2	878.1	337.7
MEAN	24.3	66.6	118	14.6	61.6	90.4	165	52.3	17.1	8.88	28.3	11.3
MAX	172	247	821	23	247	292	869	205	44	40	287	36
MIN	14	22	22	9.8	10	32	25	23	6.7	4.5	4.3	5.7
CFSM	.49	1.35	2.40	.30	1.25	1.84	3.35	1.06	.35	.18	.58	.23
IN.	.57	1.51	2.76	.34	1.30	2.12	3.75	1.22	.39	.21	.66	.26
CAL YR 1982	TOTAL	19954.7	MEAN	54.7	MAX	821	MIN	6.0	CFSM	1.11	IN	15.09
WTR YR 1983	TOTAL	19964.8	MEAN	54.7	MAX	869	MIN	4.3	CFSM	1.11	IN	15.09

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 downstream from highway bridge 3.5 mi upstream from mouth, 5.5 mi southeast of intersection U.S. 45 and State Highway 100 in Franklin, and 8.7 mi southeast of Hales Corners.

DRAINAGE AREA.--57.0 mi².

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, from topographic map.

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

AVERAGE DISCHARGE.--20 years, 46.3 ft³/s, 11.03 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 4	0415	836	9.49	Apr. 10	0515	563	8.37
Apr. 3	1015	*1,140	*10.00				

minimum discharge, 0.5 ft³/s Sept. 10, gage height, 0.85 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Dec. 2-7, Sept. 23-30; stage-discharge relation affected by ice Jan. 1-11, 15-17, 21-25, 28-30, Feb. 2-12.)

1.8	0.63	4.0	113
1.85	0.89	5.0	180
1.9	1.3	6.0	251
2.0	2.6	7.0	338
2.1	4.9	8.0	489
2.4	17	9.0	795
3.0	50	10.0	1,140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	51	56	35	8.7	73	262	27	38	9.2	1.1	.96
2	4.1	92	242	29	8.6	73	704	40	33	10	1.2	.91
3	4.3	55	773	26	8.6	72	1120	34	32	6.4	1.2	.90
4	4.0	34	818	23	8.6	67	949	29	31	17	1.4	.82
5	4.4	25	784	21	8.6	57	697	25	27	13	1.3	.81
6	4.4	19	719	20	8.2	69	402	25	28	8.0	1.3	8.8
7	7.4	17	576	18	8.2	246	241	28	24	5.9	1.2	3.4
8	10	15	336	18	8.2	219	183	42	21	4.8	.96	1.1
9	19	28	196	18	8.2	159	344	32	19	4.3	1.0	.84
10	13	101	151	19	8.2	115	544	28	17	3.8	1.2	.88
11	6.2	91	117	19	8.8	87	348	26	16	3.6	1.3	1.6
12	4.9	252	90	19	9.6	79	200	25	13	3.2	1.4	1.1
13	4.1	221	75	19	11	76	184	24	12	2.4	1.1	1.0
14	4.4	115	65	18	13	67	274	103	11	2.3	1.1	.94
15	6.4	70	59	17	16	55	189	80	15	2.3	1.1	1.1
16	6.8	51	55	14	29	48	137	53	12	2.5	1.0	2.3
17	5.8	41	48	12	84	43	114	42	10	2.0	28	1.9
18	6.1	36	49	12	104	77	94	36	8.6	2.3	12	1.6
19	9.7	35	64	12	108	301	82	82	7.8	2.9	2.9	1.6
20	71	95	57	12	244	258	72	89	6.5	4.2	1.7	2.3
21	33	110	45	11	297	151	65	63	6.1	3.3	1.1	5.2
22	18	74	39	11	305	115	58	222	5.6	2.4	3.5	2.5
23	13	79	51	11	259	90	52	373	5.1	2.2	1.8	1.6
24	9.5	69	107	10	224	71	46	191	4.8	2.4	1.2	1.3
25	7.8	50	155	10	149	65	40	112	4.5	1.9	1.2	2.0
26	7.1	42	119	9.8	99	65	38	77	4.3	1.8	2.8	2.5
27	6.7	35	84	9.1	81	110	35	60	4.5	1.7	2.1	2.1
28	7.3	42	101	9.0	75	241	33	51	9.3	1.7	1.6	2.2
29	8.4	61	78	9.0	---	256	31	58	8.1	1.6	.94	2.5
30	8.6	61	55	9.0	---	278	29	49	6.6	1.6	1.1	2.5
31	8.0	---	44	9.2	---	295	---	44	---	1.4	1.0	---
TOTAL	327.1	2067	6208	489.1	2200.5	3978	7567	2170	440.8	132.1	81.80	59.26
MEAN	10.6	68.9	200	15.8	78.6	128	252	70.0	14.7	4.26	2.64	1.98
MAX	71	252	818	35	305	301	1120	373	38	17	28	8.8
MIN	3.7	15	39	9.0	8.2	43	29	24	4.3	1.4	.94	.81
CFSM	.19	1.21	3.51	.28	1.38	2.25	4.42	1.23	.26	.08	.05	.04
IN.	.21	1.35	4.05	.32	1.44	2.60	4.94	1.42	.29	.09	.05	.04
CAL YR 1982 TOTAL	25313.60			MEAN 69.4	MAX 818	MIN 2.2	CFSM 1.22	IN 16.52				
WTR YR 1983 TOTAL	25720.66			MEAN 70.5	MAX 1120	MIN .81	CFSM 1.24	IN 16.79				

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 downstream from State Highway 38 bridge in Racine, 350 ft downstream from Horlick Dam, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--190 mi².

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, from topographic map. Prior to Feb. 5, 1964, nonrecording gage on bridge 30 ft upstream.

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

AVERAGE DISCHARGE.--20 years, 152 ft³/s, 11.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s Mar. 5, 1974, gage height, 8.54 ft; minimum, 0.90 ft³/s Jan. 17, 1977; minimum daily, 1.0 ft³/s July 17, 1977.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 14	0400	551	3.96	Apr. 4	--	*3,480	*7.5
Dec. 4	1730	2,370	6.28	Apr. 11	0445	1,430	5.28
Feb. 22	1545	856	4.41	May 24	--	unknown	unknown
Mar. 8	2230	666	4.14	Aug. 18	--	unknown	unknown
Mar. 20	2100	815	4.35				

minimum daily, 2.9 ft³/s probably on Aug. 10.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 5-30, June 7-21; stage-discharge relation affected by ice Dec. 19-21, Dec. 31 to Jan. 2, Jan. 4-9, 14, 16, 17, 22-26, Jan. 28 to Feb. 13.)

2.1	1.0	3.1	153
2.2	3.1	3.5	305
2.3	7.3	4.0	576
2.4	16	6.0	2,120
2.8	80	8.0	3,930

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	55	167	120	27	216	832	94	160	30	4.5	16
2	15	210	410	100	28	209	1470	88	130	32	4.2	12
3	18	287	1390	86	28	203	2800	160	110	39	4.5	11
4	24	159	2210	80	28	204	3300	130	100	36	4.3	11
5	24	103	2190	74	27	192	2330	110	96	61	4.5	8.6
6	24	82	1840	70	27	189	1560	90	88	51	4.8	13
7	19	70	1590	68	27	374	1070	90	92	32	4.2	41
8	18	64	1260	68	27	586	729	110	85	25	3.7	49
9	23	66	890	68	28	620	905	230	76	20	3.3	21
10	41	161	612	76	28	465	1200	120	66	16	2.9	16
11	73	275	454	79	28	316	1380	100	62	15	12	27
12	45	350	301	74	29	260	1010	94	58	14	88	26
13	36	490	261	58	30	250	683	90	53	11	25	21
14	32	527	213	56	33	231	745	86	46	9.6	17	14
15	22	306	192	53	42	196	785	250	46	7.6	15	10
16	24	174	188	50	66	173	639	200	68	6.1	14	9.7
17	21	138	182	47	145	155	434	140	52	5.4	70	10
18	16	118	175	44	286	187	356	120	40	4.6	520	16
19	16	109	170	44	325	605	305	100	33	5.0	480	16
20	82	136	160	36	509	763	232	280	28	6.3	44	15
21	208	267	160	34	728	736	208	300	24	9.5	27	22
22	104	248	157	33	826	473	187	200	25	19	18	52
23	62	200	157	32	816	353	162	700	23	16	30	38
24	47	230	246	31	710	289	145	1000	20	10	20	27
25	40	182	393	30	563	246	133	470	19	6.8	16	22
26	30	142	402	28	372	225	119	280	16	6.0	16	16
27	30	119	304	25	267	280	112	200	14	5.2	27	22
28	30	114	272	25	230	509	105	150	14	5.4	21	24
29	27	152	298	25	---	657	103	140	27	5.4	17	19
30	27	184	202	26	---	737	101	230	39	5.0	16	14
31	27	---	160	26	---	788	---	190	---	4.8	15	---
TOTAL	1223	5718	17606	1666	6280	11687	24140	6542	1710	519.7	1548.9	619.3
MEAN	39.5	191	568	53.7	224	377	805	211	57.0	16.8	50.0	20.6
MAX	208	527	2210	120	826	788	3300	1000	160	61	520	52
MIN	15	55	157	25	27	155	101	86	14	4.6	2.9	8.6
CFSM	.21	1.01	2.99	.28	1.18	1.98	4.24	1.11	.30	.09	.26	.11
IN.	.24	1.12	3.45	.33	1.23	2.29	4.73	1.28	.33	.10	.30	.12

CAL YR 1982 TOTAL 80437.0 MEAN 220 MAX 2210 MIN 15 CFSM 1.16 IN 15.75
WTR YR 1983 TOTAL 79259.9 MEAN 217 MAX 3300 MIN 2.9 CFSM 1.14 IN 15.52

NOTE.--No gage-height record May 1 to June 7, July 26 to Aug. 31, and Sept. 14-30.

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 downstream from Pike Creek, 6.8 mi southwest of Racine Post Office and 9.0 mi upstream from mouth.

DRAINAGE AREA.--38.5 mi².

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 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 upstream.

AVERAGE DISCHARGE.--12 years, 36.1 ft³/s, 12.73 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 959 ft³/s Apr. 2, gage height, 7.46 ft; minimum discharge, 1.9 ft³/s, gage height, 1.73 ft July 31.

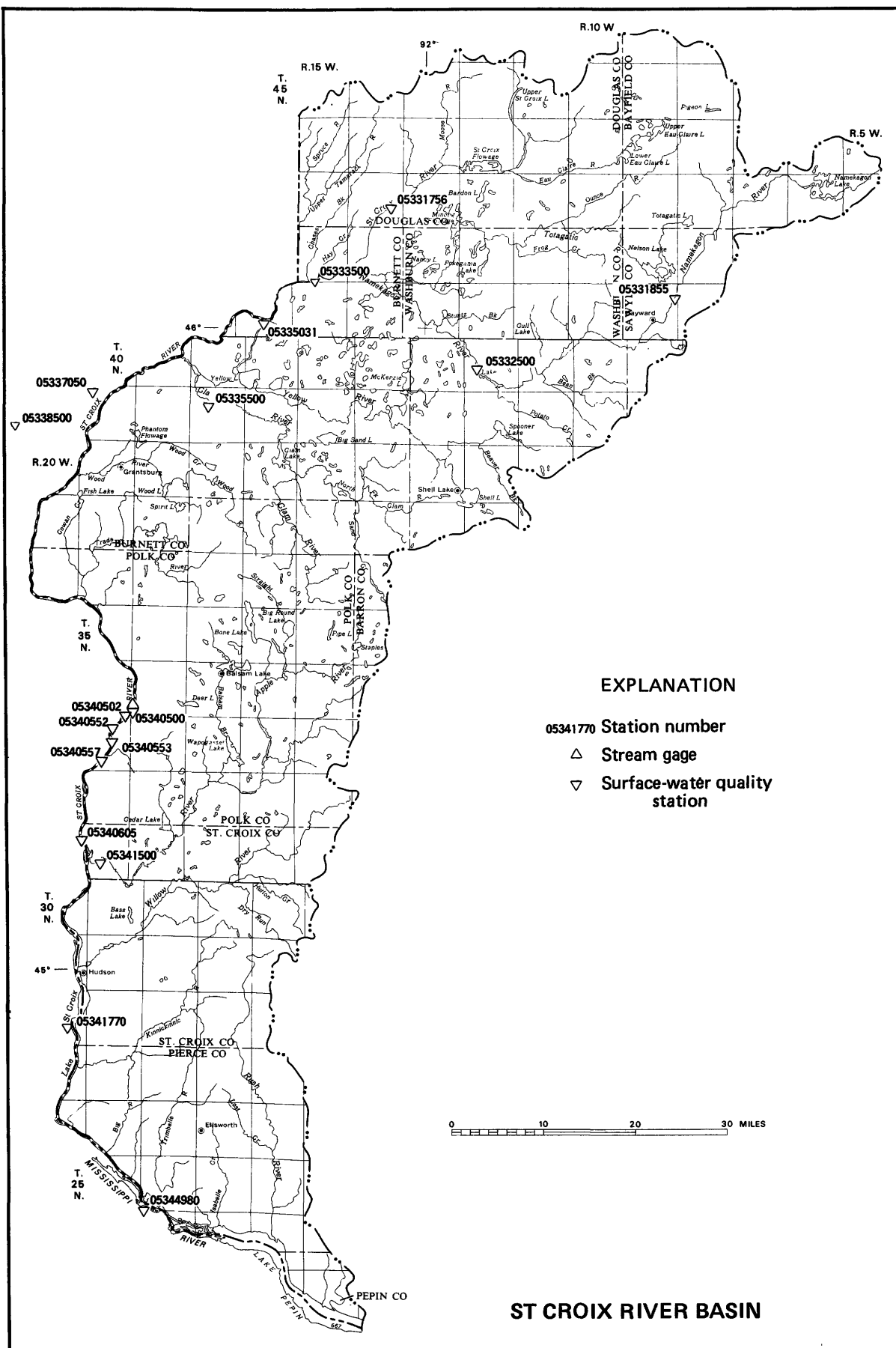
RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 3 to June 13, Aug. 25 to Sept. 15; stage-discharge relation affected by ice Dec. 19-21, Jan. 1-8, 13, 14, Jan. 16 to Feb. 12.)

1.7	2.0	3.0	86
1.8	3.6	3.5	145
1.9	7.0	4.0	214
2.0	11	5.0	379
2.3	27	6.0	594
2.6	49	7.0	842

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	51	33	26	7.8	37	90	17	17	17	3.4	5.0
2	4.4	39	269	24	13	35	624	77	34	9.7	5.1	4.2
3	4.4	32	609	22	10	33	594	35	21	6.1	5.4	4.4
4	4.4	17	271	21	8.0	31	281	24	19	7.2	6.3	3.5
5	4.4	12	355	20	7.6	28	165	21	19	8.3	6.5	2.3
6	4.7	6.1	250	19	7.4	36	148	21	19	8.5	5.0	3.8
7	5.4	3.5	163	18	7.2	98	120	26	21	8.2	2.4	5.5
8	5.7	3.7	124	17	7.2	73	87	46	13	7.5	3.5	6.5
9	28	32	92	17	7.2	60	364	23	22	7.1	5.4	6.5
10	7.3	36	72	19	7.2	49	267	20	13	4.9	5.8	6.7
11	4.3	58	55	20	7.2	41	152	21	8.1	5.5	7.2	8.4
12	3.3	115	43	16	7.4	39	102	21	9.6	6.2	8.1	7.9
13	3.3	58	39	15	8.7	41	107	21	9.4	5.5	6.9	7.7
14	3.3	38	35	13	11	38	236	24	12	5.8	3.8	7.7
15	3.6	29	33	12	16	33	129	25	20	6.3	3.4	8.2
16	3.6	25	32	12	33	30	88	24	16	4.9	4.1	12
17	3.4	21	29	11	66	29	69	21	11	3.0	129	14
18	3.4	19	29	10	67	56	56	19	6.2	13	28	13
19	4.3	20	28	9.6	100	197	49	91	6.2	18	12	13
20	51	35	28	9.4	143	113	43	66	6.2	16	6.0	32
21	10	31	27	8.8	146	66	33	45	6.3	16	7.8	22
22	5.6	26	27	8.8	128	59	32	162	6.8	14	49	9.8
23	5.6	38	33	9.0	106	52	31	125	7.6	9.1	13	7.0
24	4.3	32	52	9.4	87	46	28	69	7.7	4.2	10	3.4
25	3.1	25	98	8.6	61	41	17	50	7.7	3.6	21	5.4
26	3.2	23	70	8.2	45	43	30	39	7.7	4.9	29	6.1
27	3.4	19	54	8.0	40	117	16	33	7.0	5.3	25	8.1
28	3.7	30	61	8.0	38	210	18	17	7.6	5.4	16	6.9
29	5.9	38	45	8.2	---	167	19	43	7.7	5.3	9.6	5.0
30	6.2	35	37	8.6	---	141	17	41	20	4.3	9.3	5.4
31	6.1	---	31	8.0	---	117	---	31	---	2.6	7.9	---
TOTAL	213.7	947.3	3124	424.6	1192.9	2156	4012	1298	388.8	243.4	454.9	251.4
MEAN	6.89	31.6	101	13.7	42.6	69.5	134	41.9	13.0	7.85	14.7	8.38
MAX	51	115	609	26	146	210	624	162	34	18	129	32
MIN	3.1	3.5	27	8.0	7.2	28	16	17	6.2	2.6	2.4	2.3
CFSM	.18	.82	2.62	.36	1.11	1.81	3.48	1.09	.34	.20	.38	.22
IN.	.21	.92	3.02	.41	1.15	2.08	3.88	1.25	.38	.24	.44	.24
CAL YR 1982	TOTAL	13194.8	MEAN	36.2	MAX	609	MIN	3.1	CFSM	.94	IN	12.75
WTR YR 1983	TOTAL	14707.0	MEAN	40.3	MAX	624	MIN	2.3	CFSM	1.05	IN	14.21

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 southeast of Dairyland.

DRAINAGE AREA.--463 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	ALKA- LITY LAB (MG/L AS CAC03)
APR , 1983												
18...	1545	754	80	7.5	3.5	3.5	12.5	--	--	<2	38	31
AUG												
25...	0900	278	100	7.8	25.0	22.0	8.1	739	96	25	1500	50

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983											
18...	1.3	<.010	<.10	.060	.30	.010	.010	9.0	1	2.0	90
AUG											
25...	1.4	<.010	<.10	.020	.40	.040	.020	10	1	.75	83

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 northeast of Hayward.

DRAINAGE AREA.--169 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)	
APR , 1983												
11...	1100	289	128	7.8	--	5.5	12.2	--	--	<2	220	
AUG												
22...	1500	184	140	8.6	22.0	22.0	10.6	734	126	52	340	
DATE		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)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1983												
11...	58	3	16	4.4	2.3	8	.1	.7	55	10	2.1	
AUG												
22...	73	3	20	5.5	2.6	7	.1	.6	70	7.6	2.1	
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 CONSTITU- ENTS, 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, 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)
APR , 1983												
11...	<.10	12	94	80	.13	73.3	<.010	.10	.020	.18	.20	
AUG												
22...	<.10	14	111	94	.15	55.1	.050	<.10	.010	.19	.20	
DATE		PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
APR , 1983												
11...	.020	.030	--	--	--	--	--	--	--	--	--	--
AUG												
22...	.030	.030	2	100	40	1	10	2	4	310	4	
DATE		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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983												
11...	--	--	--	--	--	--	--	6.8	--	1	.78	88
AUG												
22...	70	<.1	3	<1	<1	10	4.9	<.01	3	1.5	76	

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 northwest of Trego.

DRAINAGE AREA.--488 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)
APR , 1983											
11...	1240	660	133	7.8	--	5.0	12.7	--	--	K12	58
AUG											
22...	1210	477	152	7.7	22.0	22.0	7.0	738	83	K5	890

DATE	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)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1983											
11...	59	0	16	4.6	2.5	8	.1	.7	59	10	2.9
AUG											
22...	77	3	21	6.0	2.9	7	.1	.6	74	9.2	2.5

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 CONSTITU- ENTS, 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, 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)
APR , 1983											
11...	<.10	12	95	84	.13	169	<.010	.10	<.010	--	.30
AUG											
22...	<.10	15	121	102	.16	156	.030	<.10	.090	.41	.50

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
APR , 1983											
11...	.020	<.010	--	--	--	--	--	--	--	--	--
AUG											
22...	.040	.720	2	<100	40	1	10	1	6	560	4

DATE	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983											
11...	--	--	--	--	--	--	8.0	--	1	1.8	100
AUG											
22...	90	.1	2	<1	<1	40	7.7	<.01	4	5.2	96

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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
DATE	TIME										
APR , 1983											
18...	1410	2990	92	7.6	3.5	3.5	11.8	--	--	<2	77
AUG											
24...	1500	1160	120	8.3	28.0	22.5	9.7	743	115	K11	690
DATE	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)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1983											
18...	41	3	11	3.3	2.3	11	.2	.6	38	10	1.3
AUG											
24...	62	3	17	4.7	2.4	8	.1	.4	59	10	1.8
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, 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)
APR , 1983											
18...	<.10	10	72	61	.09	581	<.010	<.10	.050	.25	.30
AUG											
24...	.10	13	95	85	.13	298	.060	<.10	.060	.24	.30
DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
APR , 1983											
18...	.020	<.010	--	--	--	--	--	--	--	--	--
AUG											
24...	.040	.040	2	100	20	1	20	2	5	460	6
DATE	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983											
18...	--	--	--	--	--	--	9.3	--	14	113	4
AUG											
24...	40	<.1	4	<1	<1	10	8.5	<.01	2	6.3	91

K RESULTS BASED ON COUNT OUTSIDE OF THF ACCEPABLE 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 northeast of Danbury.

DRAINAGE AREA.--374 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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- LITY LAB (MG/L AS CAC03)
APR , 1983												
13...	1540	496	156	7.8	--	3.0	12.3	--	--	K3	510	69
AUG												
24...	1115	331	125	8.0	24.0	23.5	7.8	744	94	24	K1900	74

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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, DIS- SOLVED (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 , 1983										
13...	2.4	<.010	.20	.020	.30	.030	<.010	5.3	1	1.3
AUG										
24...	2.1	<.010	.20	.050	.60	.070	.030	7.2	6	5.4

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 downstream from Black Brook, and 6.0 mi west of Webster.

DRAINAGE AREA.--361 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	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- LITY LAB (MG/L AS CAC03)
APR , 1983												
18...	1200	656	130	7.7	3.5	4.0	12.0	--	--	K11	K290	58
AUG												
24...	0825	192	185	8.0	22.0	21.0	7.0	742	81	40	1900	96

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983											
18...	1.8	<.010	<.10	.060	.50	.040	.010	7.2	21	37	17
AUG											
24...	1.7	<.010	.20	.060	.60	.070	<.010	8.5	11	5.7	69

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 west of town road, 8.0 mi south of Cloverdale, Minnesota and 9.0 mi northwest of Grantsburg, Wisconsin.

DRAINAGE AREA.--1,050 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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- LITY LAB (MG/L AS CAC03)
APR , 1983												
13...	1140	4160	77	7.3	--	3.0	12.3	--	--	50	260	28
AUG												
23...	1740	319	150	8.3	27.5	25.0	8.5	742	106	K16	K1500	72

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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, DIS- SOLVED TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
APR , 1983											
13...	2.3	<.010	.10	.060	.60	.040	.030	13	4	45	96
AUG											
23...	4.4	<.010	.20	.080	.50	.120	.040	16	3	2.6	95

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 downstream from Cross Lake, and 1.5 mi northeast of Pine City.

DRAINAGE AREA.--958 mi².

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
DATE	TIME										
APR , 1983											
12...	1515	2410	110	7.3	--	4.5	11.1	--	--	K9	160
AUG											
23...	1315	197	190	8.2	26.0	26.0	7.9	742	100	K13	K5100
	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)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DATE											
APR , 1983											
12...	47	1	12	4.2	2.4	10	.2	1.5	46	10	2.5
AUG											
23...	99	5	25	8.8	3.6	7	.2	1.3	94	10	3.3
	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, 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)
DATE											
APR , 1983											
12...	<.10	7.9	86	68	.12	560	.020	<.10	.020	.68	.70
AUG											
23...	<.10	9.5	155	118	.21	82.4	.040	<.10	.060	1.2	1.30
	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	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)
DATE											
APR , 1983											
12...	.050	.020	--	--	--	--	--	--	--	--	--
AUG											
23...	.050	1.00	2	200	70	1	20	4	760	3	150
	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
DATE											
APR , 1983											
12...	--	--	--	--	--	14	--	4	26	96	
AUG											
23...	<.1	3	<1	<1	20	17	<.01	6	3.2	86	

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 downstream from powerplant of Northern States Power Co., in St. Croix Falls, and at mile 52.2.

DRAINAGE AREA.--6,240 mi².

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. WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 689.94 ft 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 downstream at same datum.

REMARKS.--Records are good. Diurnal fluctuation caused by St. Croix Falls Powerplant 1,500 ft upstream.

AVERAGE DISCHARGE.--81 years, 4,235 ft³/s, 9.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,900 ft³/s May 8, 1950, gage height, 25.19 ft; minimum daily, 75 ft³/s July 17, 1910.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,700 ft³/s Mar. 9, gage height, 11.30 ft; minimum daily, 2,510 ft³/s Aug. 28.

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

3.0	2,350	9.0	18,200
4.0	4,950	12.0	25,400
6.0	10,700		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3000	5630	8180	3910	2880	3890	6060	10900	4470	4570	3130	3430
2	2970	5800	10900	3620	3150	4860	8230	9740	4790	4300	2990	3520
3	3500	5580	10700	3650	3080	5130	10000	9080	4780	4720	3540	3370
4	4290	5350	9340	3530	2950	6620	11700	8410	5020	9080	6030	2980
5	4660	5680	9170	3970	3020	8190	12200	7900	4830	15700	6890	2990
6	4870	5630	9380	3940	2710	12400	13000	7420	5030	18700	9040	3830
7	5980	5160	5650	3770	2820	18400	13800	7240	5100	19000	8840	4890
8	9630	5340	4070	3650	2720	22200	13800	6390	4830	16700	7180	4440
9	13000	5290	3210	3650	3040	23300	14000	6260	4380	12800	5640	4250
10	14400	5170	3480	3700	2710	22400	13700	4990	4190	9840	4430	4210
11	15200	5200	3360	3800	2810	20900	14000	5300	3850	8440	4410	4160
12	15500	6520	3600	3670	2830	19400	14200	4840	3650	7440	4890	5410
13	15400	5460	3320	3360	2860	17800	15100	4970	3700	6420	4360	5200
14	14200	4230	3760	3450	2750	15900	16400	5620	3900	5990	4400	6190
15	12900	3830	3790	3330	3080	14300	17100	6110	4630	5020	4090	6150
16	11500	4280	4250	3500	2970	13400	16700	5930	4280	4480	4120	6070
17	10200	4530	4090	3040	2940	12800	16500	6030	4380	4160	4240	6390
18	9430	5490	4030	3470	3040	11800	16400	5740	3910	3980	3910	7650
19	8990	6220	3720	3160	3120	11000	15800	5260	3830	4070	3990	7600
20	9130	8050	3610	3480	3080	9930	15500	5350	3440	4960	4040	7300
21	9060	11500	3740	3100	3430	9220	15300	5000	3540	4550	3340	6450
22	8970	14900	3430	3240	3200	8580	15300	5050	3850	4360	3460	5990
23	8840	15700	3660	3190	3850	8250	15900	4950	4180	4010	3550	5280
24	8350	11800	3720	3100	3720	7990	16200	4920	4030	3580	3130	5010
25	7890	9290	3960	3190	3540	6380	16300	4780	3990	3360	3100	4640
26	7390	8570	3950	3080	3650	5250	15900	4430	4260	2990	3090	4600
27	6670	7590	3780	2920	3480	4930	15000	4530	3900	3210	2600	3790
28	6680	6950	3430	2800	3360	5320	14000	4360	3850	2910	2510	3930
29	6350	6960	3150	2800	---	5900	12400	3880	3480	3100	3140	3950
30	6440	7520	3280	2990	---	5640	12000	4430	3970	3070	3990	3970
31	6300	---	4430	2970	---	5940	---	4400	---	3160	3820	---
TOTAL	271690	209220	152140	105030	86790	348020	422490	184210	126040	208670	135890	147640
MEAN	8764	6974	4908	3388	3100	11230	14080	5942	4201	6731	4384	4921
MAX	15500	15700	10900	3970	3850	23300	17100	10900	5100	19000	9040	7650
MIN	2970	3830	3150	2800	2710	3890	6060	3880	3440	2910	2510	2980
CFSM	1.40	1.12	.79	.54	.50	1.80	2.26	.95	.67	1.08	.70	.79
IN.	1.62	1.25	.91	.63	.52	2.07	2.52	1.10	.75	1.24	.81	.88

CAL YR 1982 TOTAL 2108300 MEAN 5776 MAX 29400 MIN 1650 CFSM .93 IN 12.57
WTR YR 1983 TOTAL 2397830 MEAN 6569 MAX 23300 MIN 2510 CFSM 1.05 IN 14.29

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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
NOV , 1982												
02...	1030	6350	137	7.6	--	7.5	3.0	11.1	--	--	K11	95
APR , 1983												
12...	1150	13900	105	7.6	--	5.0	3.0	11.8	--	--	K21	230
MAY												
24...	1100	6320	146	7.9	22.0	14.0	2.4	9.5	--	--	24	140
JUL												
06...	0745	18600	93	7.2	18.5	19.5	4.6	7.4	741	83	420	1700

DATE	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)	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 , 1982												
02...	62	0	16	5.4	2.5	8	.1	.3	62	5.0	3.3	<.10
APR , 1983												
12...	43	0	11	3.8	2.3	10	.2	1.1	43	10	2.4	<.10
MAY												
24...	69	3	18	5.8	2.8	8	.2	.9	66	4.0	3.0	<.10
JUL												
06...	49	6	13	4.1	2.0	8	.1	1.0	43	11	2.4	.10

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 , 1982											
02...	11	102	81	.14	1750	.12	.020	.60	.050	.060	<.010
APR , 1983											
12...	9.2	80	66	.11	3000	.11	<.010	.40	.040	.020	<.010
MAY											
24...	7.6	125	82	.17	2130	<.10	.020	.60	.010	<.010	<.010
JUL											
06...	7.6	91	68	.12	4570	.15	.050	1.00	.060	.050	.020

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
NOV , 1982											
02...	1030	6350	20	1	21	1	1	2	3	6	430
APR , 1983											
12...	1150	13900	40	1	46	<1	<1	3	<3	2	480
MAY											
24...	1100	6320	10	1	23	<1	<1	<1	<3	5	320
JUL											
06...	0745	18600	20	1	47	<1	1	<1	<3	1	700

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1982											
02...	<1	4	18	<.1	10	<1	<1	<1	33	6.0	4
APR , 1983											
12...	6	<4	16	.1	<10	3	<1	<1	26	<6.0	4
MAY											
24...	<1	<4	26	<.1	10	<1	<1	<1	36	<6.0	<3
JUL											
06...	2	5	36	.1	<10	2	<1	<1	29	<6.0	4

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1982							
04...	1200	5600	160	13.5	--	--	--
NOV							
02...	1030	6350	137	7.5	5	86	84
JAN , 1983							
05...	1145	5240	155	.5	--	--	--
FEB							
25...	1050	6480	205	.5	--	--	--
MAR							
23...	0950	8050	180	1.0	--	--	--
APR							
12...	1150	13900	105	5.0	4	150	96
MAY							
24...	1100	6320	146	14.0	5	85	97
JUN							
22...	1045	4150	155	21.5	--	--	--
JUL							
06...	0745	18600	93	19.5	24	1210	96

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 downstream from bridge on U. S. Highway 8 at Taylors Falls.

DRAINAGE AREA.--6,240 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT , 1982										
20...	1415	111	--	--	7.0	10.7	--	--	--	--
JUL , 1983										
20...	1220	160	7.8	29.0	24.5	7.1	740	88	530	850

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	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)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)
OCT , 1982										
20...	--	--	--	--	--	--	--	1	200	<1
JUL , 1983										
20...	.18	.020	.20	.070	.53	.60	.060	2	<100	1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	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)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT , 1982										
20...	10	4	790	<1	60	<.1	<1	--	10	--
JUL , 1983										
20...	20	4	120	13	100	.1	<1	<1	10	15

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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JUL , 1983							
21...	1150	174	7.6	34.0	25.5	7.1	170

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)
JUL , 1983							
21...	320	<.010	.30	.040	.80	.070	11

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 north of Osceola.

DRAINAGE AREA.--Not determined.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
JUL , 1983 21...	1020	405	8.1	23.5	16.5	10.4	740	110	100

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	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)
JUL , 1983 21...	490	2.1	.050	2.1	.070	.40	.030	6.0

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 downstream from bridge on State Highway 243 at Osceola.

DRAINAGE AREA.--6,300 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	BAROMETRIC PRES-SURE (MM HG)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	COLIFORM, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
JUL , 1983										
21...	1215	177	7.7	35.5	25.0	7.0	740	87	K1000	K1100

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	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, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
JUL , 1983										
21...	.48	.020	.50	.020	.88	.90	.040	2	<100	1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUL , 1983										
21...	20	3	930	10	90	.1	<1	<1	10	13

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

ST. CROIX RIVER BASIN

05340605 ST. CROIX RIVER AT MARINE ON ST. CROIX, MN

LOCATION.--Lat 45°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 north of south corporate limit of and
1.1 mi south of Marine on St. Croix.

DRAINAGE AREA.--Not determined.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUL , 1983								
20...	1015	176	7.5	30.0	24.5	6.9	150	780

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	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)
JUL , 1983							
20...	.29	.010	.30	.070	.80	.030	12

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 powerplant
3.1 mi northwest of Somerset.

DRAINAGE AREA.--579 mi², approximately.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	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)
APR , 1983											
08...	1210	715	210	7.9	--	5.0	11.7	--	--	K5	150
AUG 23...	1030	655	245	8.0	23.0	21.5	7.6	748	88	59	630

DATE	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)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR , 1983											
08...	92	0	23	8.4	3.2	7	.2	1.6	92	8.0	4.4
AUG 23...	130	8	31	12	3.6	6	.1	1.1	119	7.0	4.6

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, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
APR , 1983											
08...	<.10	12	145	116	.20	280	--	<.010	.40	<.010	--
AUG 23...	.10	18	171	149	.23	302	.46	.040	.50	.060	.44

DATE	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)	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)
APR , 1983										
08...	.40	.040	<.010	--	--	--	--	--	--	--
AUG 23...	.50	.090	.030	2	100	50	1	10	1	2

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)	CARBON, TOTAL ORGANIC (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)
APR , 1983										
08...	--	--	--	--	--	--	--	--	5.5	--
AUG 23...	170	3	50	<.1	3	<1	<1	10	6.1	<.01

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

MISSISSIPPI RIVER MAIN STEM

05344500 MISSISSIPPI RIVER AT PRESCOTT, WI

LOCATION.--Lat 44°44'45", long 92°48'00", in sec.9, T.26 N., R.20 W., Pierce County, Hydrologic Unit 07010206, on left bank at Prescott, 200 ft downstream from St. Croix River, 300 ft south of Chicago, Burlington & Quincy Railroad bridge, 800 ft south of bridge on U.S. Highway 10, and at mile 811.4 upstream from Ohio River.

DRAINAGE AREA.--44,800 mi², approximately.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 1508: 1941. WDR MN-74: 1973.

GAGE.--Water-stage recorder. Datum of gage is 649.50 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 2, 1932, nonrecording gage at railroad bridge 300 ft upstream at following datums: June 3, 1928, to Sept. 30, 1929, 19.27 ft higher; Oct. 1, 1929, to Sept. 30, 1930, 17.68 ft higher; Oct. 1, 1930, to Aug. 1, 1932, 19.28 ft higher. Aug. 2, 1932, to Oct. 30, 1938, water-stage recorder at present site at datum 19.28 ft higher; Nov. 1, 1938, to Sept. 7, 1971, water-stage recorder at present site at datum 50.00 ft lower. Auxiliary water-stage recorder 10.7 mi downstream from base gage.

REMARKS.--Records good. Some regulation by reservoirs, navigation dam, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

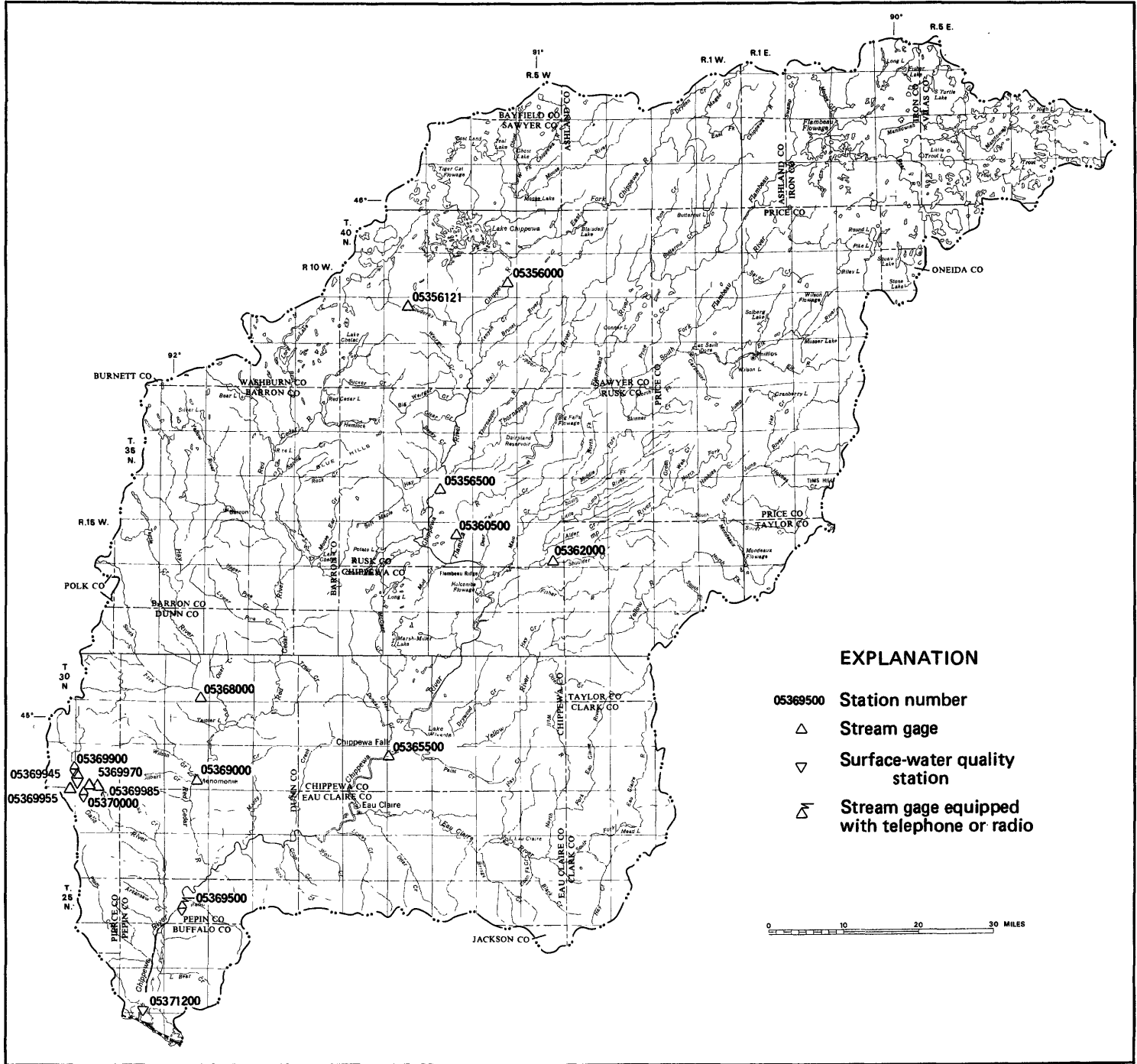
AVERAGE DISCHARGE.--55 years, 16,660 ft³/s, 5.03 in/yr; median of yearly mean discharges, 14,700 ft³/s, 4.46 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 228,000 ft³/s Apr. 18, 1965, gage height, 43.11 ft; minimum daily, 1,380 ft³/s July 13, 1940; minimum gage height, 15.08 ft Aug. 29, 1934, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 84,200 ft³/s Mar. 12, gage height, 34.34 ft; minimum daily, 10,600 ft³/s Oct. 4 and Aug. 26; minimum gage height, 24.76 ft Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10700	23900	28400	16200	14200	27100	32000	51400	22600	41900	18200	12900
2	10700	22800	29700	16900	13200	28400	32900	50100	22100	43200	18500	13200
3	11100	22600	31000	17600	13400	31900	34100	46800	22800	42800	17400	13500
4	10600	21900	31700	17100	12100	36400	36200	43000	22900	45800	17400	13300
5	11700	20400	31600	17000	11800	46000	39100	40400	22300	51700	18800	12600
6	13400	20100	30900	18000	11900	51700	42600	39200	20800	62100	19500	12800
7	16800	20100	30000	18200	11900	56400	45500	38700	20200	67300	21400	13600
8	18200	19800	27500	18200	12000	65800	49000	36900	20000	73300	21600	13100
9	20900	19300	25200	17600	11800	75600	53400	35600	19300	74100	20300	12800
10	25900	20000	21100	16400	12000	80500	57400	35300	17500	68400	18400	13300
11	28800	20800	17700	16200	12900	82800	59900	34400	16800	63500	16900	12500
12	30900	21100	17600	16800	12300	84000	61400	33800	16300	58600	16200	12700
13	33300	21900	15400	16500	12400	83900	63500	34600	15600	54100	15300	13900
14	34400	23500	14000	15400	12400	82400	65900	35400	16000	49300	14900	13700
15	35100	23800	16200	15100	12500	79500	66700	35800	16900	44800	14000	15000
16	34600	23300	19200	16400	12700	75900	68100	36900	17200	41900	14200	16000
17	33900	23600	20700	16800	13600	71700	68800	37500	22800	38700	14500	14900
18	33100	24000	20600	16900	13000	67800	70200	37900	25700	35200	15200	16000
19	32200	24800	19300	17000	12500	63800	71700	37800	28000	31900	14900	17300
20	31600	26600	18400	16300	13000	59600	73000	36900	29200	29800	14300	18300
21	31100	27900	18000	15900	13100	55800	74300	35500	30400	28600	13600	17600
22	30000	30000	18100	15800	14800	51800	74600	34300	30900	26900	12800	16600
23	29300	33500	17900	15500	15100	48400	74400	32800	34300	25600	12600	16400
24	29700	35000	18000	14700	17800	45500	72700	31400	36000	24500	12500	15200
25	30000	33100	20500	14800	20400	43400	70800	30100	36400	22700	11300	13900
26	29900	30500	21400	14800	22300	39900	68200	28500	36800	20900	10600	13300
27	29300	27600	20000	15000	23900	37300	65200	27300	38400	20500	11900	13200
28	27800	25700	18600	14100	25400	35100	61300	25900	43400	19800	11400	13500
29	26500	25300	16600	12900	---	33500	58700	25300	43400	18900	11500	12300
30	26000	26600	14700	13400	---	32400	55400	24200	41300	18100	13000	11400
31	25200	---	15200	14300	---	31100	---	23300	---	18400	13300	---
TOTAL	792700	739500	665200	497800	404400	1705400	1767000	1097000	786300	1263300	476400	424800
MEAN	25570	24650	21460	16060	14440	55010	58900	35390	26210	40750	15370	14160
MAX	35100	35000	31700	18200	25400	84000	74600	51400	43400	74100	21600	18300
MIN	10600	19300	14000	12900	11800	27100	32000	23300	15600	18100	10600	11400
CFSM	.57	.55	.48	.36	.32	1.23	1.32	.79	.59	.91	.34	.32
IN.	.66	.61	.55	.41	.34	1.42	1.47	.91	.65	1.05	.40	.35
CAL YR 1982	TOTAL	8674660	MEAN	23770	MAX	86300	MIN	7250	CFSM	.53	IN	7.20
WTR YR 1983	TOTAL	10619800	MEAN	29100	MAX	84000	MIN	10600	CFSM	.65	IN	8.82



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

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 upstream from highway bridge on County Trunk Highway G, 3.2 mi downstream from Lake Chippewa Dam, and 3.7 mi northwest of Winter.

DRAINAGE AREA.--790 mi².

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 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.--71 years, 718 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,520 ft³/s Sept. 4, 5, 1941, gage height, 11.05 ft; minimum, 14 ft³/s Apr. 17-20, 1925, gage height, 3.25 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,080 ft³/s Oct. 30, gage height, 6.70 ft; minimum discharge, 140 ft³/s Sept. 21, gage height 4.02 ft.

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	7.0	2,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	2050	1370	1880	1640	378	196	973	614	622	439	573
2	1020	2050	1380	1870	1630	184	196	1150	613	617	383	572
3	1020	2050	1380	1870	1620	187	197	1150	707	657	456	572
4	1020	2060	1370	1860	1620	194	197	852	833	656	405	633
5	1010	2060	1770	1850	1600	222	198	851	1570	630	397	1120
6	1050	2060	2050	1850	1590	343	201	855	1570	856	391	1370
7	1110	2050	2040	1840	1580	405	201	854	1560	1030	391	1590
8	1050	2040	2040	1840	1570	272	207	854	1600	1030	386	1590
9	1230	2040	2040	1830	1560	214	209	853	2000	1030	419	1540
10	1690	1840	2030	1820	1550	222	210	855	1970	1030	480	1060
11	2010	1280	2020	1810	1540	262	217	834	1520	1030	465	793
12	2010	1100	2020	1810	1530	226	218	723	1120	1020	459	809
13	2000	1480	2010	1800	1520	194	268	728	1010	1020	455	799
14	1990	1480	1990	1790	1510	198	260	723	951	1010	525	795
15	1980	1470	1990	1780	1500	194	232	722	947	1010	591	805
16	1980	1470	1980	1780	1390	192	225	719	944	1010	590	1210
17	1980	1290	1980	1770	920	190	220	719	941	1010	590	1550
18	1980	837	1970	1760	609	188	219	716	851	993	589	1370
19	1980	864	1960	1750	608	193	222	720	794	673	589	336
20	2040	919	1950	1740	608	309	226	718	793	619	586	278
21	2020	1020	1950	1730	608	296	227	718	798	616	589	214
22	2000	1380	1940	1720	609	262	225	715	689	615	581	242
23	1900	1370	1930	1710	609	234	219	712	619	614	580	226
24	1800	1380	1920	1700	592	228	215	710	620	612	577	216
25	1800	1370	1930	1700	578	218	667	709	621	612	577	212
26	1800	1370	1920	1690	579	184	966	695	618	559	576	212
27	1610	1380	1910	1680	578	184	968	613	617	513	575	212
28	1500	1370	1900	1670	578	184	969	617	616	511	576	775
29	1530	1370	1900	1670	---	187	972	618	617	509	574	1090
30	1830	1370	1900	1660	---	188	973	618	623	511	579	1090
31	2060	---	1890	1650	---	190	---	615	---	509	574	---
TOTAL	51010	45870	58430	54880	32426	7122	10720	23909	29346	23734	15944	23854
MEAN	1645	1529	1885	1770	1158	230	357	771	978	766	514	795
MAX	2060	2060	2050	1880	1640	405	973	1150	2000	1030	591	1590
MIN	1010	837	1370	1650	578	184	196	613	613	509	383	212
CAL YR 1982	TOTAL	334087	MEAN	915	MAX	2390	MIN	164				
WTR YR 1983	TOTAL	377245	MEAN	1034	MAX	2060	MIN	184				

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 downstream from bridge on CTH "C" and 2.3 mi west of Couderay.

DRAINAGE AREA.--169 mi².

PERIOD OF RECORD.--June 1981 to September 1983 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,260 ft, from topographic map.

REMARKS.--Records good except for periods of ice affect, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 757 ft³/s Mar. 7, 1983, gage height, 6.12 ft; minimum discharge, 38 ft³/s Nov. 21, 22, 1981, gage height, 3.75 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 757 ft³/s Mar. 7, gage height, 6.12 ft; minimum discharge, 88 ft³/s Oct. 2, gage height, 3.98 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24-29, and Dec. 7 to Feb. 23.)

3.8	48	5.0	374
4.0	93	6.0	714
4.5	224		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	171	163	150	160	129	171	195	151	141	110	108
2	94	166	175	150	150	132	212	191	145	135	108	97
3	107	159	191	140	150	144	213	187	237	187	166	89
4	103	163	184	140	150	173	206	193	336	282	162	88
5	96	164	175	140	150	231	202	187	252	224	136	151
6	158	156	167	140	140	416	206	186	201	169	122	145
7	279	151	160	140	140	709	206	194	174	146	114	125
8	275	154	150	140	140	552	209	184	160	137	109	110
9	218	151	140	140	140	337	220	177	154	132	105	115
10	204	156	140	140	140	246	224	174	147	125	152	124
11	193	171	130	140	130	208	240	176	142	121	179	120
12	187	212	130	140	130	188	252	178	140	118	151	146
13	169	205	130	140	140	183	303	190	142	113	129	151
14	154	188	120	140	150	191	347	174	140	109	119	136
15	143	181	120	140	150	184	307	169	140	123	110	132
16	134	163	120	140	150	176	275	165	140	126	106	175
17	129	158	120	140	140	167	257	158	136	136	105	177
18	131	151	120	140	140	165	247	154	131	162	105	151
19	141	181	120	140	130	164	244	158	128	164	110	141
20	275	313	120	140	130	158	250	160	124	180	110	171
21	301	373	120	140	130	154	272	159	124	160	108	167
22	245	294	120	140	130	154	287	158	124	141	105	164
23	214	237	120	140	128	145	276	158	125	130	100	149
24	201	200	130	140	127	140	255	157	124	124	97	135
25	195	180	200	140	129	138	239	153	124	119	95	129
26	182	160	190	140	123	136	229	146	122	115	93	125
27	167	170	170	140	118	145	224	143	122	115	90	122
28	158	170	160	140	123	144	211	147	133	124	98	123
29	182	160	160	150	---	140	205	154	129	121	108	127
30	196	158	160	150	---	138	200	159	128	119	115	126
31	181	---	150	160	---	141	---	161	---	112	120	---
TOTAL	5504	5616	4555	4400	3858	6428	7189	5245	4575	4410	3637	4019
MEAN	178	187	147	142	138	207	240	169	153	142	117	134
MAX	301	373	200	160	160	709	347	195	336	282	179	177
MIN	92	151	120	140	118	129	171	143	122	109	90	88
CFSM	1.05	1.11	.87	.84	.82	1.23	1.42	1.00	.91	.84	.69	.79
IN.	1.21	1.24	1.00	.97	.85	1.41	1.58	1.15	1.01	.97	.80	.88
CAL YR 1982	TOTAL	46688	MEAN 128	MAX 544	MIN 57	CFSM .76	IN 10.28					
WTR YR 1983	TOTAL	59436	MEAN 163	MAX 709	MIN 88	CFSM .96	IN 13.08					

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 east of Bruce and 1.0 mi downstream from Thornapple River.

DRAINAGE AREA.--1,650 mi².

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 National Geodetic Vertical Datum of 1929. Prior to May 28, 1935, nonrecording gage at railroad bridge 0.8 mi upstream at datum 2.30 ft higher.

REMARKS.--Records good except those for period of no gage-height record, Dec. 21 to Jan. 25 and those for winter period, which are fair. Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa.

AVERAGE DISCHARGE.--69 years, 1,469 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,800 ft³/s Sept. 1, 1941, gage height, 20.46 ft, from floodmarks, from rating curve extended above 20,000 ft³/s; minimum, 155 ft³/s June 10, 1932, gage height, 0.9 ft, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,600 ft³/s Mar. 7, gage height, 12.90 ft; minimum, 761 ft³/s Mar. 27, gage height, 2.03 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 16 to Mar. 1.)

2.0	740	9.0	7,920
4.0	2,320	11.0	10,700
6.0	4,300	13.0	13,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	3500	2500	2500	1800	1000	1100	1750	1140	1000	833	1370
2	1580	3380	2500	2500	1800	1020	1390	1810	1110	990	801	1180
3	1680	3270	2500	2400	1800	1120	1510	1960	1250	1080	1260	1090
4	1710	3210	2500	2400	1700	1710	1490	1790	3340	2200	1710	1060
5	1640	3140	2500	2400	1700	3480	1380	1450	3600	2180	1330	1500
6	2020	3030	3300	2300	1700	7220	1480	1450	3320	1580	1210	2220
7	4220	2920	3200	2300	1700	12400	1440	1850	2820	1560	1200	2350
8	5170	2920	3100	2200	1700	12500	1540	2330	2440	1520	1040	2290
9	4280	2890	3000	2200	1700	8050	1780	1970	2460	1430	860	2200
10	3930	2990	3000	2200	1600	4750	1790	1750	2650	1430	1020	2070
11	4180	2920	2900	2200	1600	3070	1930	1580	2360	1310	1510	1650
12	4110	3410	2900	2200	1600	2350	2270	1520	1890	1370	1390	1540
13	3900	3720	2900	2100	1600	1950	2970	1680	1560	1320	1210	1740
14	3700	3470	2800	2100	1600	2100	5310	1770	1380	1240	1060	1670
15	3440	3120	2800	2100	1600	2070	4440	1600	1370	1320	1070	1500
16	3170	2800	2800	2100	1500	1810	3670	1490	1360	1240	1090	1990
17	2980	2400	2700	2100	1500	1630	2990	1390	1290	1460	1080	2880
18	2970	2200	2700	2000	1400	1450	2590	1340	1290	1650	1050	2830
19	2910	2100	2700	2000	1300	1340	2430	1330	1180	1450	1030	2270
20	4630	2400	2600	2000	1200	1210	2260	1370	1090	1390	1020	3190
21	6490	2900	2600	1900	1200	1110	2270	1350	1090	1260	1070	3820
22	5520	2800	2600	1900	1200	1020	2270	1320	1090	1130	1090	2700
23	4680	2800	2500	1900	1200	1020	2210	1280	968	1030	1040	2020
24	4190	2700	2500	1900	1200	885	1980	1280	924	991	1000	1720
25	3890	2700	2700	1900	1200	853	1780	1210	924	972	984	1530
26	3620	2700	2800	1900	1200	850	2280	1150	877	949	975	1140
27	3250	2600	2700	1800	1200	805	2280	1080	900	932	960	889
28	2750	2600	2600	1800	1100	830	2120	1090	894	874	955	888
29	2980	2600	2600	1800	---	844	1970	1120	884	848	965	1480
30	3450	2600	2600	1800	---	862	1890	1150	901	871	1620	1630
31	3670	---	2500	1800	---	872	---	1160	---	872	1880	---
TOTAL	108340	86790	84600	64700	41600	82181	66810	46370	48352	39449	35313	56407
MEAN	3495	2893	2729	2087	1486	2651	2227	1496	1612	1273	1139	1880
MAX	6490	3720	3300	2500	1800	12500	5310	2330	3600	2200	1880	3820
MIN	1580	2100	2500	1800	1100	805	1100	1080	877	848	801	888
CFSM	2.12	1.75	1.65	1.27	.90	1.61	1.35	.91	.98	.77	.69	1.14
IN.	2.44	1.96	1.91	1.46	.94	1.85	1.51	1.05	1.09	.89	.80	1.27
CAL YR 1982	TOTAL	745315	MEAN	2042	MAX	10600	MIN	696	CFSM	1.24	IN	16.80
WTR YR 1983	TOTAL	760912	MEAN	2085	MAX	12500	MIN	801	CFSM	1.26	IN	17.16

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 downstream from Thornapple Powerplant, 6.0 mi upstream from mouth, and 7.0 mi southeast of Bruce.

DRAINAGE AREA.--1,860 mi².

PERIOD OF RECORD.--August 1951 to current year.

REVISED RECORDS.--WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,056.34 ft 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.--32 years, 1,850 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft³/s May 1, 1954, gage height, 10.90 ft; minimum, about 100 ft³/s Aug. 7, 9, 1957, gage height, 2.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,900 ft³/s Mar. 7, gage height, 8.76 ft; minimum, 543 ft³/s July 25, gage height, 2.61 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Apr. 7.)

3.0	840	7.0	7,610
4.0	1,940	9.0	12,500
5.0	3,480		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2170	3390	2400	2300	1700	2100	1800	3160	2260	1270	1100	1530
2	2210	3100	2800	2100	1700	2200	2440	3120	2000	1420	1160	1240
3	2330	2810	2770	2000	1700	2400	3350	2410	2280	1740	1580	975
4	2520	3140	2860	2000	1700	2800	2540	2460	2410	3180	1960	975
5	2530	2670	3210	2200	1700	4960	2480	2380	2570	3950	2740	1070
6	3090	2750	3340	2300	1700	7270	2430	2190	2720	3300	2030	1000
7	3580	2630	3300	2200	1700	11500	2210	2700	2470	2470	1700	1240
8	3870	2640	2830	2300	1700	11200	2710	4030	2480	2190	1660	1380
9	4920	2430	1860	2000	1700	9320	2420	4080	1890	1740	1450	1240
10	5240	2730	1700	2200	1700	7080	2860	3200	1860	1390	1390	1380
11	4980	2820	1500	2100	1800	5320	2710	3360	1740	1430	2000	1220
12	4490	4230	1600	2000	1800	3840	2960	2800	1650	1270	2410	1360
13	3670	4370	1800	1900	1800	2950	3550	2620	1480	1120	2310	1840
14	3340	4400	2000	1900	1800	3350	4760	2500	1370	1100	1960	1680
15	3400	4300	2200	1900	1800	3370	5530	2860	1640	1050	1540	1620
16	2730	3740	2400	1900	1800	3370	4820	2640	1260	1020	1470	1650
17	2680	2140	2300	1900	1800	3570	3750	2650	1280	1520	1410	1770
18	2110	2910	2000	1900	1800	3040	3100	2600	1310	1400	1190	2550
19	2250	3080	1800	1900	1800	2710	3200	2330	1330	1340	1410	1890
20	3370	3560	1700	1900	1800	2600	3290	2270	1350	1410	1250	3840
21	4240	6290	1700	1900	1800	2830	3090	2040	1320	1540	1270	5680
22	4590	6210	1700	1900	1800	2090	3100	2190	1490	1360	1420	4880
23	4120	6050	1800	1900	1800	1930	3140	2220	1290	1310	1150	3160
24	4500	4880	1900	1900	1800	1890	3540	2110	1080	967	1410	3180
25	3990	3810	2100	1800	1900	1630	4020	2130	1190	868	1300	2710
26	4160	2600	2500	1800	1900	1640	2950	1950	1230	1040	1010	2650
27	4290	2770	3000	1800	1900	1460	3150	2080	1130	957	903	2590
28	3650	2620	2700	1800	2000	1750	3390	1810	1200	1020	1030	1880
29	3730	2750	2800	1700	---	1790	3360	1800	926	1170	1100	1710
30	3470	2460	2400	1700	---	1710	3180	1940	880	1100	1970	1860
31	3650	---	2100	1700	---	1840	---	2260	---	1140	1780	---
TOTAL	109870	104280	71070	60800	49900	115510	95830	78890	49086	47782	48063	61750
MEAN	3544	3476	2293	1961	1782	3726	3194	2545	1636	1541	1550	2058
MAX	5240	6290	3340	2300	2000	11500	5530	4080	2720	3950	2740	5680
MIN	2110	2140	1500	1700	1700	1460	1800	1800	880	868	903	975
CAL YR 1982	TOTAL	928320	MEAN	2543	MAX	15600	MIN	960				
WTR YR 1983	TOTAL	892831	MEAN	2446	MAX	11500	MIN	868				

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 upstream from Shoulder Creek and 11 mi upstream from mouth.

DRAINAGE AREA.--576 mi².

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 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 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.--68 years, 518 ft³/s, 12.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 46,000 ft³/s Aug. 31, 1941, gage height, 18.8 ft from floodmark, from rating curve extended above 13,000 ft³/s on basis of contracted-opening measurement of peak flow; minimum observed, 11 ft³/s Dec. 18, 1943, gage height, 3.99 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 21	1900	4,310	8.53	Mar. 7	0700	*10,600	*11.45
Nov. 12	2300	5,120	9.01	Sept. 20	2200	4,860	8.86

minimum discharge, 61 ft³/s July 27, gage height 3.23 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 30; stage-discharge relation affected by ice Nov. 15-16, Dec. 7 to Mar. 5, and Mar. 20-26.)

Oct. 1 to Mar. 5

Mar. 6 to Sept. 30

3.9	201	6.0	1,280	3.2	55	7.0	2,030
4.4	391	7.0	2,210	3.5	124	9.0	5,100
5.0	670	9.0	5,100	4.0	282	11.0	9,300
				5.0	730	12.0	12,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	686	1050	560	330	210	500	633	407	571	83	94	881
2	596	942	760	310	210	580	939	418	499	79	80	534
3	591	880	980	300	210	800	1070	486	474	103	113	338
4	623	864	940	290	210	1800	1040	500	518	150	159	237
5	546	836	880	280	210	4500	938	438	559	343	182	188
6	492	770	740	270	210	9460	902	396	523	332	151	173
7	941	690	580	260	210	10200	978	964	442	237	113	182
8	1760	682	500	250	210	8020	1010	2880	369	183	88	197
9	1530	687	450	250	210	4960	1030	2380	305	147	74	204
10	1550	668	430	240	210	2690	1040	1690	272	125	71	188
11	1500	1140	410	240	210	1790	1100	1200	248	111	98	170
12	1280	3830	390	240	210	1520	1110	883	227	103	158	155
13	1090	4690	390	240	220	1440	1210	937	209	94	155	155
14	953	3330	380	230	230	1470	1820	1600	186	82	120	158
15	812	1800	370	230	240	1430	2330	1490	169	73	97	152
16	692	1400	360	230	250	1260	2020	1140	155	72	84	176
17	607	1210	360	230	250	1090	1640	886	144	76	98	328
18	590	1090	350	230	250	975	1330	723	135	78	80	400
19	570	1180	350	230	260	896	1070	643	122	80	82	392
20	1430	2110	350	230	270	660	910	627	112	101	89	3310
21	3890	2970	350	220	280	560	815	613	110	144	88	4600
22	3890	2900	350	220	290	500	770	600	114	141	95	3420
23	3040	2100	360	220	300	460	763	719	123	110	100	2120
24	2610	1600	410	220	320	400	740	789	134	90	93	1530
25	2440	1300	600	220	340	360	692	707	130	77	82	1070
26	2100	1100	1100	220	380	350	644	630	116	68	77	808
27	1720	960	1200	220	400	389	592	528	104	64	69	624
28	1370	800	720	210	440	385	528	461	93	70	65	491
29	1280	860	520	210	---	416	458	468	83	73	65	404
30	1390	680	380	210	---	463	432	538	82	83	1650	344
31	1220	---	350	210	---	491	---	598	---	117	1650	---
TOTAL	43789	45119	16870	7490	7240	60815	30554	27339	7328	3689	6220	23929
MEAN	1413	1504	544	242	259	1962	1018	882	244	119	201	798
MAX	3890	4690	1200	330	440	10200	2330	2880	571	343	1650	4600
MIN	492	668	350	210	210	350	432	396	82	64	65	152
CFSM	2.45	2.61	.94	.42	.45	3.41	1.77	1.53	.42	.21	.35	1.39
IN.	2.83	2.91	1.09	.48	.47	3.93	1.97	1.77	.47	.24	.40	1.55
CAL YR 1982	TOTAL	314433	MEAN	861	MAX	12500	MIN	52	CFSM	1.50	IN	20.31
WTR YR 1983	TOTAL	280382	MEAN	768	MAX	10200	MIN	64	CFSM	1.33	IN	18.11

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 downstream from Duncan Creek.

DRAINAGE AREA.--5,650 mi².

PERIOD OF RECORD.--June 1888 to September 1983 (discontinued). 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 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 upstream at different datum. June 19, 1932, to current year, water-stage recorder at present site and datum.

REMARKS.--Records are good. Considerable regulation by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota Reservoirs. Diurnal fluctuation caused by hydroelectric plant 1.1 mi upstream.

AVERAGE DISCHARGE.--95 years, 5,134 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s Sept. 1, 1941, gage height, 24.8 ft; minimum, 22 ft³/s Apr. 2, 1934, gage height, 0.63 ft; minimum daily, 40 ft³/s Feb. 4, 1917.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--A stage of 26.94 ft occurred Sept. 10, 1884, site and datum in use June 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54,200 ft³/s Mar. 7, gage height, 18.16 ft (5.852 m); minimum daily, 814 ft³/s July 30.

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

2.0	583	11.0	20,700
3.0	1,440	12.0	24,500
5.0	4,440	15.0	37,600
8.0	11,200	18.0	53,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5710	11100	6070	6570	5050	6900	5850	6390	5230	3150	3390	9870
2	6470	9610	8760	6780	5250	7240	7380	8150	4850	1740	3490	8120
3	5720	9650	6000	6280	4850	7980	9000	5030	4900	4520	4220	4290
4	6060	8850	8910	4850	5500	4320	9030	6630	5840	5700	4080	2870
5	6210	9620	9570	5930	4590	10400	6380	5590	7850	7130	7340	3250
6	7440	6680	8900	6050	2790	40000	8750	6070	7450	6040	3520	4510
7	8460	8310	7980	6020	3920	50700	7980	7250	7800	4780	3920	4260
8	14100	8360	7330	5880	4230	50800	5710	13700	5420	4730	3950	5480
9	14400	8360	4450	5300	4550	42600	8330	13900	6460	4260	2980	5430
10	14000	8750	3830	5970	4730	25600	8990	12300	4940	1460	2560	3540
11	14000	10200	2140	6380	4450	18700	8200	8800	4750	4480	2320	2830
12	13900	18600	4700	6030	4450	12800	8730	8330	4320	2540	4890	4540
13	10700	25300	5250	5600	4990	9780	11100	9650	5130	3230	3710	4010
14	11000	19700	5910	5910	4910	9730	14000	6770	3990	2840	3220	4980
15	10700	14500	5630	4210	5750	9820	24200	8390	3770	3250	4270	4520
16	8560	11200	5670	3320	5840	9750	20400	7560	3790	2030	3280	4540
17	7470	9480	6320	5540	6440	9750	13600	7050	2270	2680	4080	5180
18	7340	9130	6490	4940	6240	9730	12400	6590	2100	3920	3970	6820
19	9060	9480	4130	4520	5990	9370	9920	6160	2780	4800	4490	8020
20	11100	11200	5090	5350	5270	5620	9540	6020	3650	4490	1690	12700
21	16700	17400	5310	5300	5380	7090	9280	4610	3720	3180	2770	25300
22	22900	21400	5160	4850	6930	5990	8610	5130	3310	3350	4410	22700
23	19600	19500	5210	4400	6890	5290	6770	5910	3810	2500	2550	13300
24	16500	14200	5600	4980	6170	4770	7820	5230	1500	1880	3170	10000
25	14000	10400	8050	4990	7010	5030	8140	5760	1610	2300	2840	9910
26	12800	9200	11000	5270	4840	3560	8120	5710	3140	1980	3420	7780
27	12200	6920	13500	4580	4020	3110	6450	4850	3990	2660	3060	5510
28	12300	5880	13300	4570	5840	4130	7660	3880	2730	3850	1860	5020
29	11000	7510	8240	4400	---	4580	6980	4450	1750	2950	3240	5320
30	9620	7030	5830	4250	---	4220	7280	3730	2440	814	6780	5590
31	10600	---	7760	4240	---	5380	---	5180	---	3000	9500	---
TOTAL	350620	347520	212090	163260	146870	404740	286600	214770	125290	106234	118970	220190
MEAN	11310	11580	6842	5266	5245	13060	9553	6928	4176	3427	3838	7340
MAX	22900	25300	13500	6780	7010	50800	24200	13900	7850	7130	9500	25300
MIN	5710	5880	2140	3320	2790	3110	5710	3730	1500	814	1690	2830
CAL YR 1982	TOTAL	2746776	MEAN	7525	MAX	53800	MIN	910				
WTR YR 1983	TOTAL	2697154	MEAN	7389	MAX	50800	MIN	814				

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 downstream from highway bridge in Wheeler, 1.8 mi upstream from Otter Creek, and 2.4 mi downstream from South Fork Hay River.

DRAINAGE AREA.--418 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1951, nonrecording gage.

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

AVERAGE DISCHARGE.--33 years, 305 ft³/s, 9.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s Mar. 31, 1967, gage height, 15.04 ft, from rating curve extended above 9,000 ft³/s; minimum, 55 ft³/s Mar. 13, 1954, gage height, 2.32 ft, result of freezeup.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Maximum stage since 1915, 16.6 ft April 1934, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,000 ft³/s Mar. 7, gage height, 10.60 ft, no other peak above base of 1,500 ft³/s; minimum discharge, 225 ft³/s Oct. 2, gage height, 3.19 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Aug. 19 to Sept. 30; stage-discharge relation affected by ice Nov. 23-30, Dec. 7-23, Dec. 29 to Feb. 16, Feb. 23-26.)

3.2	227	8.0	1,920
4.0	400	10.0	3,400
6.0	1,010	11.0	4,480

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	300	326	340	230	578	715	439	334	293	284	277
2	229	296	339	330	230	799	993	515	324	350	269	264
3	243	289	356	320	230	1480	885	545	347	319	283	255
4	239	287	341	310	230	2320	677	468	501	426	350	250
5	230	283	326	300	230	3050	579	432	466	432	371	259
6	250	279	318	290	230	3530	532	413	404	355	403	281
7	283	277	290	280	230	3840	522	586	367	317	372	270
8	282	277	280	280	230	3120	516	906	342	297	307	259
9	269	274	270	280	230	1800	516	633	328	285	283	262
10	275	318	270	270	230	999	532	467	317	276	308	261
11	279	458	270	270	230	802	622	418	309	269	246	248
12	271	680	270	270	240	704	625	401	305	261	261	249
13	265	784	260	260	250	634	677	488	331	252	256	256
14	260	541	260	260	260	606	1210	520	324	247	252	247
15	255	416	250	260	270	578	1190	439	322	243	249	255
16	249	387	250	260	280	547	939	403	308	244	263	344
17	251	354	250	260	284	516	804	381	301	304	397	326
18	251	351	240	250	282	498	724	365	297	418	347	292
19	255	371	240	250	283	485	692	374	293	434	297	289
20	475	490	240	250	291	463	741	379	289	443	275	599
21	606	745	230	250	311	438	857	370	285	510	281	587
22	429	626	230	250	338	412	919	359	308	554	301	430
23	367	450	240	250	340	399	835	348	289	504	274	378
24	334	350	283	250	340	387	680	340	281	393	263	342
25	316	340	742	240	330	375	593	331	299	337	257	320
26	305	330	1250	240	320	370	537	321	287	305	305	303
27	297	310	875	240	316	373	499	318	287	292	386	292
28	292	310	593	240	372	367	471	319	287	335	281	281
29	317	310	420	240	---	373	459	331	275	314	288	280
30	327	320	380	240	---	381	454	337	291	292	306	275
31	305	---	360	240	---	412	---	352	---	299	298	---
TOTAL	9241	11803	11249	8270	7637	31636	20995	13298	9698	10600	9313	9231
MEAN	298	393	363	267	273	1021	700	429	323	342	300	308
MAX	606	784	1250	340	372	3840	1210	906	501	554	403	599
MIN	229	274	230	240	230	367	454	318	275	243	246	247
CFSM	.71	.94	.87	.64	.65	2.44	1.68	1.03	.77	.82	.72	.74
IN.	.82	1.05	1.00	.74	.68	2.82	1.87	1.18	.86	.94	.83	.82
CAL YR 1982	TOTAL	133708	MEAN 366	MAX 5080	MIN 180	CFSM .88	IN 11.90					
WTR YR 1983	TOTAL	152971	MEAN 419	MAX 3840	MIN 229	CFSM 1.00	IN 13.61					

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 downstream from powerplant of Northern States Power Co., and 1,000 ft downstream from Wilson Creek.

DRAINAGE AREA.--1,770 mi².

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 National Geodetic Vertical Datum of 1929 (Northern States Power Co. bench mark). Prior to Sept. 3, 1908, nonrecording gage at site 1 mi downstream at different datum. May 9, 1913, to Sept. 30, 1923, water-stage recorder at same site at datum 0.42 ft lower than present datum.

REMARKS.--Records good. Flow regulated by powerplants at Menomonie and Cedar Falls.

AVERAGE DISCHARGE.--71 years, 1,264 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s Apr. 4, 1934, gage height, 16.0 ft, from floodmarks, from rating curve extended above 27,000 ft³/s on basis of computed flow over Cedar Falls Dam 6 mi upstream; minimum, 17 ft³/s Sept. 15, 1983, gage height, 0.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft³/s Mar. 5, gage height, 7.26 ft; minimum, 17 ft³/s Sept. 15, gage height, 0.63 ft; minimum daily, 804 ft³/s Dec. 11.

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

1.9	756	3.0	2,340
2.0	865	4.0	4,190
2.5	1,540	5.0	6,600
		7.0	12,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290	1980	1860	1620	1240	2070	1630	1850	1330	1200	1150	1460
2	1180	1600	1820	1650	1250	2550	2360	2220	1490	1370	1190	1160
3	1030	1690	1830	1390	1030	3190	2310	2110	1460	1650	1270	1130
4	1140	1740	1870	1410	1040	4610	2230	1950	2060	1560	1560	1150
5	1230	1700	1710	1500	1040	8350	1980	1780	2050	2070	1430	1080
6	1010	1550	1600	1600	1180	9750	2230	1820	1920	1500	1650	1150
7	1990	1670	1650	1410	1050	10300	2090	2290	1930	1420	1590	1190
8	1420	1660	1070	1550	1040	9870	2180	2700	1950	1380	1440	1220
9	1610	1600	1090	1520	1250	8370	2210	2400	1660	1410	1340	1250
10	1660	1810	915	1490	1200	6680	2140	1920	1740	1170	1120	1230
11	1760	2050	804	1490	1120	5110	2200	1860	1640	1170	1310	1190
12	2140	2930	1040	1330	1200	4450	2450	1900	1540	1260	1210	1210
13	1890	2770	1160	1140	1150	3770	2700	2210	1500	976	1130	1220
14	1790	2780	1080	1360	1280	3370	3230	2480	1490	1220	1030	1200
15	1160	1980	1350	1300	1290	3100	3500	2380	1460	949	1020	1220
16	1790	2220	1450	1190	1330	3160	3710	1900	1500	1100	1230	1580
17	1640	2210	1530	1090	1220	2660	3630	1800	1590	1290	1520	1820
18	1560	1970	1310	1180	1480	2510	3150	1780	1350	1570	1340	1540
19	1720	1960	1350	911	1300	2450	2670	1690	1510	1620	1480	1590
20	2580	2070	1370	1280	1290	2350	2670	1830	1460	1690	1230	2740
21	2680	2720	1310	1290	1610	2260	2970	1670	1570	2100	1260	2630
22	3030	2780	1230	1230	1560	2170	2940	1580	1430	1950	1170	2300
23	2360	2660	1320	1300	1640	2020	2870	1500	1220	1730	1400	2300
24	2340	2550	1730	1240	1610	1850	2430	1470	1290	1610	1320	1550
25	2300	1930	2280	1200	1430	2250	2450	1460	1320	1550	1070	1570
26	2190	2310	2720	1110	1550	2270	2320	1330	1400	1110	1210	1530
27	1930	1790	3040	1010	1440	2130	2180	1310	1120	1330	1580	1570
28	1560	1870	2620	1180	1880	1900	2140	1380	1140	1340	1550	1490
29	1890	2250	1710	1250	---	1610	2010	1210	1060	1410	1470	1480
30	1810	2110	1320	1220	---	1250	2040	1400	1200	1280	1470	1470
31	1740	---	1490	1200	---	1580	---	1450	---	1140	1510	---
TOTAL	55420	62910	48629	40641	36700	119960	75620	56630	45380	44125	41250	45220
MEAN	1788	2097	1569	1311	1311	3870	2521	1827	1513	1423	1331	1507
MAX	3030	2930	3040	1650	1880	10300	3710	2700	2060	2100	1650	2740
MIN	1010	1550	804	911	1030	1250	1630	1210	1060	949	1020	1080
CAL YR 1982	TOTAL	594217	MEAN	1628	MAX	13200	MIN	486				
WTR YR 1983	TOTAL	672485	MEAN	1842	MAX	10300	MIN	804				

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 downstream from bridge on U.S. Highway 10, and 9.5 mi downstream from Red Cedar River.

DRAINAGE AREA.--9,010 mi².

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. WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 694.59 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1930, nonrecording gage at bridge 400 ft 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.--55 years, 7,629 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft³/s Apr. 2, 1967, gage height, 16.93 ft; minimum observed, 1,020 ft³/s Nov. 24, 1950, gage height, 0.12 ft.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--A stage of 18.4 ft, from flood marks (levels by Corps of Engineers) occurred Sept. 12, 1884, and has not been exceeded since.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 73,700 ft³/s Mar. 9, gage height, 14.28 ft; minimum discharge, 2,780 ft³/s June. 26, gage height, 0.89 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 31 to Feb. 25.)

Oct. 1 to Feb. 28; Mar. 13 to Sept. 30				Mar. 1-12			
1.3	3,500	7.0	19,700	4.0	9,150	11.0	37,500
2.0	4,790	10.0	34,300	6.0	15,100	13.0	55,000
4.0	9,820			8.0	22,400	15.0	83,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7850	15400	10400	10000	6800	10500	9170	10200	8230	4590	5020	12100
2	8240	13700	10300	10000	7000	11300	11000	10300	8270	5300	5690	12100
3	9340	13200	11800	9800	7400	13400	12000	11000	8170	4790	5740	9600
4	8660	12700	9570	9200	7600	15500	13400	9190	8110	7840	6490	6980
5	8600	12500	12400	8600	7600	18300	12300	9830	9810	8120	7340	5460
6	9620	12000	12600	8200	7200	29900	11800	9250	10600	9050	8540	5910
7	9990	10700	11700	8200	6400	48800	12700	10600	11000	8350	6180	6940
8	13000	10900	10800	8800	6400	67000	11600	14100	10000	6870	6390	6750
9	16800	11800	9110	9000	6400	71500	11100	17800	8760	6780	6230	7810
10	17700	11600	7260	8200	6600	58700	12800	18000	9080	6160	5730	7760
11	16700	13000	7180	8400	6800	36700	13000	14200	8260	4700	4790	6030
12	17000	18000	6390	8600	7000	26300	12700	12500	7200	5830	4840	5290
13	16700	26500	9200	8600	7000	19200	14500	13900	7250	4750	6350	6920
14	13500	31100	8470	8200	7400	17100	17800	12800	7750	5410	5530	6190
15	14400	27900	8470	7800	7600	16200	23000	12700	6050	4410	5360	7070
16	12800	20600	8420	7000	8400	16500	31000	12300	6630	5060	6020	7180
17	11400	15900	8580	6600	8800	15400	27800	11000	6450	4610	6380	7590
18	9980	13700	8910	6800	9200	15000	20500	10500	4600	5410	6270	8220
19	11600	13400	8800	7000	9400	14800	18300	10500	4660	6510	6680	9710
20	13300	13800	6830	7200	9200	13600	14100	9850	5490	7510	6660	13500
21	17500	16700	7820	7400	8200	11600	14500	9860	5530	7350	5330	19800
22	26200	23600	7830	7800	8600	12400	13700	8670	6200	6080	5570	28200
23	31300	25200	7670	7400	9800	10800	12900	8980	5940	6510	6580	26800
24	26400	22500	8050	7600	10000	9260	12200	9500	5850	5140	5180	16900
25	22100	16700	9810	7400	9400	9150	12000	8670	4300	4570	5350	14200
26	18900	13700	13100	7600	10300	8950	12000	8630	3780	4860	5260	13300
27	17000	12400	17400	7800	8350	7900	11500	8750	5940	4260	6590	11000
28	16100	9840	19700	6800	8880	7760	10100	7530	5890	5400	5870	9240
29	15900	9750	16300	7000	---	8190	11600	7300	4850	6210	5200	8660
30	13800	10600	12100	6800	---	7680	9960	7550	4140	5520	6810	8160
31	13500	---	11000	6800	---	7580	---	7400	---	3660	9990	---
TOTAL	465880	479390	317970	246600	223730	636970	431030	333360	208790	181610	189960	315370
MEAN	15030	15980	10260	7955	7990	20550	14370	10750	6960	5858	6128	10510
MAX	31300	31100	19700	10000	10300	71500	31000	18000	11000	9050	9990	28200
MIN	7850	9750	6390	6600	6400	7580	9170	7300	3780	3660	4790	5290
CAL YR 1982	TOTAL	3938840	MEAN	10790	MAX	67500	MIN	2800				
WTR YR 1983	TOTAL	4030660	MEAN	11040	MAX	71500	MIN	3660				

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)
(NATIONAL RADIOCHEMICAL SURVEILLANCE STATION)

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	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)
NOV , 1982												
01...	1100	15100	95	7.5	--	7.5	3.8	10.9	--	--	290	280
JAN , 1983												
17...	1150	6600	188	7.3	--	.5	2.5	12.3	--	--	48	140
APR												
21...	1140	14400	110	--	--	7.0	3.2	11.6	--	--	37	160
MAY												
18...	1710	9480	102	7.6	13.5	13.0	2.5	--	--	--	210	K2500
JUL												
05...	1250	7930	120	7.7	19.0	23.0	6.0	8.7	741	104	K1100	730
AUG												
15...	1220	5400	152	8.2	--	27.0	1.5	9.4	740	122	220	K2500

DATE	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)	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 , 1982												
01...	40	7	9.9	3.6	2.1	10	.2	.9	33	14	3.0	<.10
JAN , 1983												
17...	75	11	18	7.4	4.1	10	.2	1.7	65	13	6.4	<.10
APR												
21...	45	7	11	4.3	3.1	13	.2	1.5	38	12	4.5	<.10
MAY												
18...	44	6	11	3.9	2.5	11	.2	1.2	38	10	4.1	<.10
JUL												
05...	59	8	15	5.3	3.1	10	.2	1.0	51	10	4.4	.20
AUG												
15...	59	9	15	5.1	3.6	12	.2	1.2	50	9.0	4.8	<.10

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 , 1982											
01...	9.8	80	64	.11	3260	.40	.050	.70	.150	.060	.030
JAN , 1983											
17...	13	101	103	.14	1800	.92	.140	.80	.090	.080	.060
APR											
21...	8.5	28	68	.04	1090	.45	.060	.40	.070	.030	.030
MAY											
18...	6.1	76	62	.10	1950	.29	.020	.50	.070	.020	.020
JUL											
05...	6.9	92	77	.13	1970	.51	.040	.60	.080	.070	.040
AUG											
15...	8.1	94	77	.13	1370	<.10	.020	.70	.070	.020	.030

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
NOV , 1982											
01...	1100	15100	60	1	17	1	1	--	3	5	380
APR , 1983											
21...	1140	14400	40	1	52	<1	<1	<1	<3	8	280
MAY											
18...	1710	9480	70	<1	19	1	1	<1	3	1	210
AUG											
15...	1220	5400	10	2	39	<1	<1	<1	<3	2	70

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1982											
01...	2	4	10	<.1	10	2	<1	<1	24	6.0	4
APR , 1983											
21...	4	<4	12	.1	<10	3	<1	<1	25	<6.0	5
MAY											
18...	1	4	8	.1	10	1	1	<1	25	6.0	3
AUG											
15...	3	<4	2	<.1	<10	2	<1	<1	34	<6.0	4

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)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
APR , 1983									
21...	1140	14400	<1.8	<.4	2.3	<.5	.04	<.5	.13
AUG									
15...	1220	5400	<2.3	<.4	2.0	<.4	.04	<.4	.28

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PEN- DED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PEN- DED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT , 1982							
06...	1030	8970	118	16.0	--	--	--
NOV							
01...	1100	15100	95	7.5	23	938	25
DEC							
17...	1330	9170	125	1.0	--	--	--
JAN , 1983							
17...	1150	6600	188	.5	1	18	78
MAR							
01...	1725	10600	125	1.0	--	--	--
02...	1430	11300	130	2.0	--	--	--
07...	1230	49500	--	--	173	23100	--
07...	1345	49500	112	2.0	--	--	--
08...	1300	68600	118	1.0	9	1670	--
08...	1330	67000	--	--	139	25100	--
08...	1550	--	--	--	15	--	--
08...	1555	--	--	--	16	--	--
08...	1605	--	--	--	32	--	--
09...	0800	72800	80	.5	--	--	--
09...	1245	70500	--	--	128	24400	--
11...	0810	39500	70	.5	--	--	--
11...	1000	40300	--	--	73	7940	17
APR							
21...	1140	14400	110	7.0	36	1400	15
MAY							
18...	1710	9480	102	13.0	27	691	23
JUL							
05...	1250	7930	120	23.0	111	2380	39
AUG							
03...	1200	6440	--	--	172	2990	6
03...	1315	6250	165	27.5	--	--	--
15...	1220	5400	152	27.0	23	335	34
SEP							
21...	1220	19600	--	--	81	4290	40
21...	1300	20200	125	15.5	--	--	--

CHIPPEWA RIVER BASIN

05369500 CHIPPEWA RIVER AT DURAND, WI--CONTINUED

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

(MAIN CHANNEL ONLY)

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										
07...	1230	46100	182	22700	15	27	53	92	100	--
08...	1330	55400	172	25700	13	19	49	93	100	--
09...	1245	56700	155	23700	11	15	36	80	99	100
11...	1000	40300	73	7940	17	25	48	92	99	100
AUG										
03...	1200	6440	172	2990	6	8	9	37	92	100
SEP										
21...	1220	19600	81	4290	40	58	81	96	99	100

(THOMPSON LAKE CHANNEL ONLY)

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
MAR									
07...	1230	3080	32	266	87	--	--	--	--
08...	1330	11200	16	484	95	--	--	--	--
09...	1245	11300	18	549	71	81	87	96	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

(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
MAR , 1983							
07...	1230	46100	0	2	9	50	78
08...	1330	55400	0	2	14	62	84
09...	1245	56700	2	6	20	60	84
11...	1000	40300	0	0	1	45	86
AUG							
03...	1200	6440	1	4	9	37	68
SEP							
21...	1220	19600	0	3	12	54	81

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
MAR , 1983						
07...	86	89	92	95	97	100
08...	88	92	95	99	100	--
09...	90	92	95	100	--	--
11...	96	98	99	100	--	--
AUG						
03...	83	100	--	--	--	--
SEP						
21...	90	95	97	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 downstream from bridge on County Trunk Highway N, 1.3 mi downstream from Carr Creek, and 2.9 mi south of Woodville.

DRAINAGE AREA.--39.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1978 to September 1983 (discontinued).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,508.66 ft 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, which are fair.

AVERAGE DISCHARGE.--5 years, 18.8 ft³/s, 6.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,280 ft³/s June 7, 1980, gage height, 11.07 ft, from floodmarks, from rating curve extended above 1,000 ft³/s on basis of contracted-opening measurement of peak flow; minimum discharge, 0.55 ft³/s Dec. 30, 31, 1981, result of freezeup.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	0300	787	6.92	May 7	0915	772	6.83
Mar. 3	1845	*871	*7.07				

minimum discharge, 0.97 ft³/s Oct. 1-5, gage height, 3.35 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 26 to Sept. 30; stage-discharge relation affected by ice Jan. 19-25, 27-30, and Feb. 1-10.)

Oct. 1 to Apr. 15				Apr. 15 to Sept. 30			
3.3	0.5	4.5	66	3.4	1.1	4.0	25
3.4	1.6	5.0	136	3.5	2.7	4.2	40
3.5	3.4	5.5	240	3.6	5.0	4.4	60
3.6	6.0	6.0	386	3.7	8.5	4.8	114
3.8	14	7.0	830	3.8	13	5.4	238
4.1	30						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	2.8	5.0	3.6	1.9	182	315	12	7.5	4.0	3.3	2.9
2	1.1	2.9	6.3	3.3	1.9	328	167	96	6.9	4.7	3.5	2.9
3	1.0	2.6	11	3.4	1.9	519	91	34	8.2	5.9	4.2	2.9
4	1.0	2.4	8.5	3.4	1.9	433	58	17	31	5.0	4.0	2.9
5	1.1	2.6	6.4	3.2	1.8	295	36	12	12	5.3	4.0	3.3
6	1.6	2.4	5.1	3.4	1.8	247	28	12	8.1	4.5	5.0	3.3
7	22	2.3	4.5	3.0	1.8	141	36	338	7.0	4.2	4.7	3.1
8	6.9	2.6	3.9	2.9	1.8	44	42	59	6.6	4.5	4.5	2.9
9	3.4	2.8	3.8	3.1	1.8	21	40	22	5.9	5.6	4.7	3.7
10	3.0	123	3.9	3.0	1.8	16	54	15	6.0	5.9	5.0	3.1
11	6.6	116	3.9	2.5	1.8	13	106	12	6.1	5.9	4.7	2.9
12	3.2	321	3.7	2.7	1.8	13	57	12	6.0	5.3	4.7	2.9
13	2.2	35	3.4	2.6	2.0	12	243	32	5.9	5.6	4.7	2.7
14	2.2	16	3.4	2.6	1.9	14	107	18	5.7	5.6	4.5	2.5
15	1.7	9.9	3.4	2.3	1.8	13	71	11	5.4	5.6	4.7	2.9
16	1.5	8.0	3.4	2.4	1.8	11	64	9.9	4.7	5.6	6.6	3.3
17	1.7	7.0	3.2	2.3	1.8	10	47	9.2	4.4	6.9	4.2	3.1
18	1.6	6.9	3.2	2.3	1.7	10	38	9.1	4.5	6.9	3.1	3.3
19	1.9	66	3.0	2.2	1.8	12	56	9.6	4.5	5.9	3.1	4.0
20	168	166	3.0	2.2	2.1	11	149	9.6	4.4	6.2	2.7	27
21	28	56	2.9	2.1	2.5	9.1	196	9.1	4.6	5.6	2.9	13
22	11	20	3.0	2.1	4.6	8.6	124	8.6	4.7	5.6	2.9	5.6
23	5.7	12	3.0	2.0	11	7.7	56	7.8	4.2	6.2	2.3	3.7
24	4.1	8.0	4.1	2.0	24	7.3	28	7.7	4.2	5.9	2.7	3.3
25	3.7	6.6	222	1.9	30	7.0	21	7.5	4.2	5.9	2.7	3.1
26	3.2	5.7	51	1.9	24	7.2	17	7.4	4.2	5.9	5.0	2.9
27	3.0	5.2	20	1.9	19	7.8	14	7.3	4.0	6.9	3.7	2.9
28	3.3	5.3	9.7	2.0	63	7.0	13	7.1	3.7	11	2.9	2.9
29	3.7	5.4	4.9	2.0	---	10	13	7.1	3.7	6.6	2.9	2.9
30	6.6	5.2	4.0	1.9	---	15	13	6.9	4.0	3.3	2.9	2.7
31	3.7	---	3.8	1.9	---	122	---	7.0	---	3.3	2.9	---
TOTAL	308.69	1027.6	420.4	78.1	215.0	2553.7	2300	832.9	192.3	175.3	119.7	128.6
MEAN	9.96	34.3	13.6	2.52	7.68	82.4	76.7	26.9	6.41	5.65	3.86	4.29
MAX	168	321	222	3.6	63	519	315	338	31	11	6.6	27
MIN	.99	2.3	2.9	1.9	1.7	7.0	13	6.9	3.7	3.3	2.3	2.5
CFSM	.25	.87	.35	.06	.20	2.09	1.95	.68	.16	.14	.10	.11
IN.	.29	.97	.40	.07	.20	2.41	2.17	.79	.18	.17	.11	.12

CAL YR 1982	TOTAL	7111.45	MEAN	19.5	MAX	1540	MIN	.62	CFSM	.50	IN	6.71
WTR YR 1983	TOTAL	8352.29	MEAN	22.9	MAX	519	MIN	.99	CFSM	.58	IN	7.89

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1983 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to September 1983 (discontinued).

WATER TEMPERATURES: June 1978 to September 1983 (discontinued).

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, 0.0°C Feb. 2, 3, Mar. 1-4, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum observed, 716 micromhos Jan. 1; minimum observed, 162 micromhos Nov. 20.

WATER TEMPERATURES: Maximum observed, 20.5°C July 21, 29; minimum observed, 0.0°C Feb. 2, 3, Mar. 1-4.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	331	302	310	625	335	474	---	---	---	716	603	637
2	300	287	292	606	355	442	---	---	---	---	---	---
3	307	266	286	407	351	387	618	274	349	---	---	---
4	322	256	288	416	387	401	628	286	428	686	555	626
5	418	277	341	---	---	---	661	355	514	697	555	629
6	434	340	388	---	---	---	---	---	---	---	---	---
7	365	196	233	---	---	---	---	---	---	686	475	575
8	266	231	246	---	---	---	---	---	---	---	---	---
9	315	267	290	---	---	---	---	---	---	---	---	---
10	372	316	332	---	---	---	---	---	---	---	---	---
11	330	283	300	---	---	---	---	---	---	---	---	---
12	329	290	306	---	---	---	---	---	---	---	---	---
13	359	315	331	---	---	---	---	---	---	---	---	---
14	491	331	384	343	193	248	705	606	658	---	---	---
15	423	331	367	600	336	493	---	---	---	---	---	---
16	690	340	426	618	312	529	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	672	346	443	---	---	---	---	---	---	---	---	---
19	471	338	406	---	---	---	---	---	---	---	---	---
20	---	---	---	183	162	172	---	---	---	---	---	---
21	---	---	---	267	173	206	---	---	---	---	---	---
22	535	214	329	282	231	254	---	---	---	---	---	---
23	---	---	---	523	277	380	665	572	608	---	---	---
24	668	367	516	709	301	564	---	---	---	---	---	---
25	690	351	522	651	505	574	---	---	---	---	---	---
26	---	---	---	637	423	547	---	---	---	---	---	---
27	712	369	504	637	540	595	244	184	205	---	---	---
28	661	397	534	651	555	596	473	234	327	---	---	---
29	---	---	---	---	---	---	618	459	525	---	---	---
30	483	301	383	---	---	---	641	483	588	---	---	---
31	594	322	449	---	---	---	693	566	623	---	---	---
MONTH	712	196	368	709	162	429	705	184	483	716	475	617

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	388	317	349
2	---	---	---	---	---	---	---	---	---	374	176	235
3	---	---	---	---	---	---	---	---	---	257	196	227
4	---	---	---	---	---	---	---	---	---	303	259	282
5	---	---	---	---	---	---	---	---	---	329	304	313
6	---	---	---	---	---	---	---	---	---	342	327	332
7	---	---	---	---	---	---	230	217	225	---	---	---
8	---	---	---	219	178	200	231	204	216	---	---	---
9	---	---	---	278	220	249	226	200	213	281	230	255
10	---	---	---	285	242	272	234	175	220	312	281	295
11	---	---	---	335	274	304	180	164	172	332	311	319
12	---	---	---	323	309	314	214	174	193	340	322	333
13	679	308	472	330	316	321	---	---	---	363	327	281
14	---	---	---	330	285	305	---	---	---	293	253	271
15	---	---	---	314	297	307	201	171	186	330	297	306
16	---	---	---	---	---	---	195	175	188	343	311	326
17	---	---	---	---	---	---	220	188	208	---	---	---
18	---	---	---	---	---	---	247	216	230	---	---	---
19	---	---	---	---	---	---	239	184	226	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	237	183	209	---	---	---
24	---	---	---	---	---	---	281	240	257	---	---	---
25	---	---	---	---	---	---	316	279	293	---	---	---
26	---	---	---	---	---	---	342	305	319	---	---	---
27	---	---	---	---	---	---	363	319	339	---	---	---
28	---	---	---	---	---	---	390	325	352	---	---	---
29	---	---	---	---	---	---	407	327	360	---	---	---
30	---	---	---	---	---	---	391	326	357	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	679	308	472	335	178	284	407	164	251	388	176	295
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	578	557	567	579	547	570
2	---	---	---	---	---	---	575	486	538	588	504	564
3	---	---	---	---	---	---	565	462	526	592	558	575
4	---	---	---	---	---	---	567	502	539	597	554	580
5	---	---	---	---	---	---	575	558	565	594	547	575
6	---	---	---	---	---	---	574	507	546	594	458	567
7	---	---	---	---	---	---	569	494	540	601	476	533
8	---	---	---	---	---	---	533	451	505	617	461	536
9	---	---	---	---	---	---	579	525	554	570	431	529
10	---	---	---	---	---	---	575	448	524	565	484	549
11	---	---	---	---	---	---	552	424	508	565	417	503
12	---	---	---	---	---	---	558	518	544	583	531	563
13	---	---	---	---	---	---	561	472	535	587	486	562
14	---	---	---	---	---	---	558	525	546	588	494	568
15	---	---	---	---	---	---	563	549	557	576	516	554
16	---	---	---	---	---	---	569	529	549	581	551	566
17	---	---	---	---	---	---	549	497	540	576	538	556
18	---	---	---	---	---	---	558	506	547	584	529	560
19	---	---	---	505	407	460	556	539	550	596	548	581
20	---	---	---	507	424	465	549	486	506	583	243	365
21	---	---	---	491	424	458	540	466	499	511	326	443
22	---	---	---	495	434	469	533	461	488	549	507	526
23	---	---	---	510	414	460	530	492	509	594	529	561
24	---	---	---	534	473	505	545	489	516	614	533	574
25	---	---	---	538	475	508	510	466	488	605	565	588
26	---	---	---	538	466	499	518	446	468	597	531	567
27	---	---	---	525	445	492	511	453	486	614	539	573
28	---	---	---	529	376	453	520	434	487	585	547	561
29	---	---	---	552	375	419	561	463	513	597	578	587
30	---	---	---	569	552	560	572	491	541	597	540	575
31	---	---	---	572	432	512	590	560	579	---	---	---
MONTH	---	---	---	572	375	482	590	424	528	617	243	550

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	14.0	16.0	8.0	7.5	7.5	7.0	5.0	6.0	5.0	2.0	3.0
2	18.5	16.0	17.5	8.5	6.0	7.0	8.5	7.0	7.5	4.0	1.0	2.5
3	19.5	15.0	18.0	7.5	4.0	6.0	7.5	3.5	5.0	3.0	1.0	2.0
4	20.0	14.5	17.5	4.0	2.5	3.5	4.5	3.0	3.5	3.0	1.5	2.5
5	19.0	11.0	15.5	4.0	2.5	3.0	5.0	3.0	4.0	3.0	1.5	2.5
6	14.0	11.0	12.5	5.5	2.5	4.0	4.5	2.0	3.0	3.0	1.5	2.0
7	11.5	9.0	10.5	7.5	3.5	5.5	4.5	2.0	3.0	3.0	1.0	2.0
8	10.5	8.5	9.5	6.0	3.5	5.0	4.5	1.5	3.0	3.0	1.0	2.0
9	10.0	9.0	9.5	5.5	3.5	4.5	4.5	1.0	2.5	3.0	1.0	2.0
10	10.5	8.5	9.5	3.5	2.0	2.5	4.5	1.5	2.5	3.5	2.5	3.0
11	9.5	8.5	9.0	2.5	2.0	2.5	3.0	.5	1.5	3.0	1.0	1.5
12	9.0	8.5	8.5	2.5	2.0	2.5	4.0	.5	1.5	3.5	1.0	1.5
13	9.0	8.5	8.5	1.5	1.0	1.5	3.5	1.0	2.0	3.5	1.0	2.5
14	12.0	7.5	9.5	2.5	1.5	2.0	4.5	3.0	3.5	3.5	1.0	2.5
15	10.5	8.0	9.5	4.5	1.0	2.5	4.5	3.0	4.0	4.0	.5	1.5
16	8.5	6.0	7.5	6.0	2.0	4.0	5.5	2.5	3.5	4.0	1.0	2.0
17	10.0	7.5	8.5	6.5	3.5	5.5	5.0	3.0	4.0	4.0	.5	1.5
18	11.0	7.5	9.0	7.5	5.0	6.0	4.5	3.0	3.5	4.0	.5	2.0
19	10.5	7.0	8.5	6.5	1.0	2.0	5.0	2.5	3.0	3.0	1.0	1.5
20	5.0	3.5	4.5	8.0	3.5	6.5	5.0	1.5	3.5	4.5	1.5	2.5
21	5.0	3.5	4.0	5.5	3.5	4.0	5.0	3.0	3.5	3.5	1.5	2.5
22	6.5	3.0	4.5	4.0	3.0	3.5	5.0	3.0	4.0	3.5	1.0	2.5
23	8.5	4.5	6.0	3.0	1.0	2.0	5.0	4.0	4.5	4.5	2.5	3.0
24	9.0	5.5	7.0	4.5	2.5	3.5	5.5	3.0	4.5	3.5	2.5	3.0
25	10.0	6.0	7.5	5.0	2.5	3.5	2.5	.0	.0	2.5	.5	1.5
26	10.0	6.5	8.0	5.0	2.5	4.0	1.0	.0	.0	3.0	1.0	2.0
27	8.0	7.0	7.5	4.5	2.0	3.5	1.0	.0	.5	3.5	.5	1.5
28	8.5	7.5	8.0	5.0	3.0	4.0	1.0	.0	.5	3.5	1.5	2.5
29	9.0	7.5	8.0	5.5	4.5	5.0	3.0	.5	1.5	3.5	2.5	3.0
30	8.0	7.0	7.5	6.0	5.0	5.5	3.0	1.0	2.0	3.0	1.0	2.0
31	8.0	5.5	6.5	---	---	---	5.0	2.0	3.0	3.0	1.5	2.0
MONTH	20.0	3.0	9.5	8.5	1.0	4.0	8.5	.0	3.0	5.0	.5	2.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.0	1.0	2.0	.5	.0	.5	---	---	---	11.5	7.5	9.0
2	2.5	.0	1.0	1.0	.0	.5	---	---	---	10.5	7.5	9.0
3	1.5	.0	.5	1.0	.0	.0	---	---	---	12.5	8.0	10.0
4	2.5	.5	1.0	1.0	.0	.5	---	---	---	12.0	8.0	10.0
5	---	---	---	1.5	.5	1.0	---	---	---	12.0	8.0	9.5
6	---	---	---	5.0	1.5	3.0	---	---	---	10.0	8.5	9.0
7	---	---	---	5.0	2.0	3.5	---	---	---	10.5	8.0	9.0
8	---	---	---	2.0	1.0	1.5	7.5	2.0	5.0	12.5	8.0	10.0
9	---	---	---	3.5	1.0	2.0	5.5	3.5	4.5	12.5	8.0	10.0
10	---	---	---	3.5	1.0	2.5	5.5	3.0	4.0	14.0	9.0	11.0
11	---	---	---	7.0	2.0	4.0	8.0	2.5	5.5	15.5	9.0	11.5
12	5.5	4.5	5.0	4.5	3.5	4.0	8.0	5.0	6.5	12.5	10.5	11.0
13	---	---	---	7.5	3.5	5.5	5.0	3.0	4.5	14.5	9.5	12.0
14	---	---	---	7.5	5.0	6.0	5.0	3.0	3.5	12.0	8.5	10.0
15	---	---	---	5.5	2.5	4.5	4.0	3.5	3.5	12.0	7.5	9.5
16	---	---	---	---	---	---	5.5	4.5	4.5	14.5	8.5	10.5
17	---	---	---	---	---	---	6.0	1.0	3.5	---	---	---
18	---	---	---	---	---	---	7.5	2.0	5.0	---	---	---
19	---	---	---	---	---	---	8.0	3.0	6.0	---	---	---
20	---	---	---	---	---	---	8.0	2.5	5.5	---	---	---
21	---	---	---	---	---	---	10.0	2.5	6.0	---	---	---
22	---	---	---	---	---	---	10.5	7.5	9.0	---	---	---
23	---	---	---	---	---	---	11.0	8.0	9.0	---	---	---
24	---	---	---	---	---	---	11.0	7.0	9.0	---	---	---
25	---	---	---	---	---	---	12.0	7.5	9.5	---	---	---
26	---	---	---	---	---	---	12.0	8.5	10.0	---	---	---
27	---	---	---	---	---	---	12.0	7.5	9.5	---	---	---
28	---	---	---	---	---	---	10.5	8.0	9.0	---	---	---
29	---	---	---	---	---	---	12.0	7.0	9.5	---	---	---
30	---	---	---	---	---	---	13.0	8.0	10.0	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	5.5	.0	2.0	7.5	.0	2.5	13.0	1.0	6.5	15.5	7.5	10.0

CHIPPEWA RIVER BASIN

05369900 EAU GALLE RIVER NEAR WOODVILLE, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1				---	---	---	15.0	12.0	14.0	14.5	10.5	12.5
2				---	---	---	16.5	11.5	14.0	15.5	11.0	13.0
3				---	---	---	18.5	13.5	15.5	13.5	11.5	12.5
4				---	---	---	16.0	13.0	14.5	13.5	11.0	12.0
5				---	---	---	15.0	12.0	14.0	12.5	11.0	11.5
6				---	---	---	16.0	12.5	14.5	13.0	10.0	11.5
7				---	---	---	16.0	12.0	14.0	12.0	9.5	10.5
8				---	---	---	19.0	13.0	16.0	16.0	10.0	12.5
9				---	---	---	15.0	11.5	13.0	18.5	13.0	15.0
10				---	---	---	16.5	11.5	14.0	14.5	12.0	13.5
11				---	---	---	17.5	12.0	14.0	13.5	9.5	11.0
12				---	---	---	14.5	11.0	13.0	12.5	10.0	11.0
13				---	---	---	14.5	11.0	13.0	10.5	9.0	10.0
14				---	---	---	16.5	11.5	13.5	10.5	8.5	9.5
15				---	---	---	14.0	11.5	13.0	10.0	9.0	9.5
16				---	---	---	16.5	12.0	14.0	10.5	9.0	9.5
17				---	---	---	14.5	13.0	13.5	12.0	8.5	10.0
18				---	---	---	13.5	11.5	12.5	13.5	9.5	11.0
19				20.5	12.5	15.0	16.0	12.5	14.0	10.0	8.5	9.0
20				17.5	13.5	15.5	14.0	11.5	13.0	10.0	8.5	9.5
21				20.0	13.5	16.5	13.0	12.0	12.5	9.0	8.0	8.5
22				18.5	14.5	16.0	15.0	12.0	13.5	8.5	7.5	8.0
23				20.0	13.5	16.5	14.0	11.5	13.0	10.0	6.5	8.5
24				16.0	13.0	14.5	13.5	11.5	12.5	11.5	7.5	9.0
25				15.0	12.0	14.0	15.5	12.0	13.5	10.5	8.0	9.0
26				15.5	11.5	14.0	17.0	12.5	14.5	13.5	8.5	10.0
27				15.0	12.5	13.5	15.5	13.5	14.0	13.0	9.0	10.5
28				19.5	12.5	16.0	17.5	12.0	14.0	13.0	9.5	11.0
29				20.5	17.0	18.5	16.5	12.0	13.5	11.0	9.5	10.5
30				17.0	14.0	15.5	16.5	12.5	14.0	13.0	9.5	11.0
31				18.5	13.0	15.5	13.0	11.0	12.5	---	---	---
MONTH				20.5	11.5	15.5	19.0	11.0	13.5	18.5	6.5	10.5

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 downstream from Low-Water Bridge on Coulee Road, approximately 550 ft upstream from French Creek and at Spring Valley.

DRAINAGE AREA.--47.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1981 to September 1983 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 960 ft, from topographic map.

REMARKS.--Record good, except during period of ice effect, which are fair, and discharges greater than 300 ft³/s, which are poor.

EXTREMES FOR CURRENT PERIOD.--November 1981 to September 1982: Maximum discharge during period, 2,650 ft³/s Mar. 30, gage height, 7.01 ft; minimum discharge, 5.1 ft³/s Mar. 7, gage height, 2.21 ft.

Water year 1983: Maximum discharge, 1,520 ft³/s Mar. 3, gage height, 5.61 ft; minimum discharge, 7.3 ft³/s Feb. 1, gage height, 1.95 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 24-30; stage-discharge relation affected by ice Jan. 11 to Feb. 24.)

Nov. 1 to Mar. 30, 1982				Mar. 31 to Sept. 30, 1982			
2.2	4.9	3.1	110	1.8	7.2	3.1	114
2.3	7.7	3.3	177	1.9	8.6	3.3	175
2.4	12	3.5	275	2.0	10	3.6	324
2.5	17	4.0	540	2.1	12	4.0	540
2.7	34	5.0	1,100	2.3	21	4.5	791
2.9	64	7.0	2,640	2.5	32	5.0	1,100
				2.8	60		

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		9.0	9.0	7.9	7.4	7.0	170	14	13	10	9.1	11
2		9.2	9.0	8.0	7.6	7.1	75	14	12	10	9.1	9.3
3		9.4	8.7	8.3	7.2	7.0	162	14	12	10	9.1	8.9
4		9.4	8.4	8.1	7.2	7.1	43	16	12	10	8.9	8.7
5		9.4	8.3	8.0	7.2	7.0	36	72	12	10	8.8	9.1
6		9.4	8.3	7.8	7.4	7.0	27	66	12	10	8.8	9.0
7		9.2	8.3	7.3	7.2	6.8	24	74	12	10	8.9	8.7
8		9.2	8.3	7.8	7.0	7.0	23	26	12	9.8	8.9	8.8
9		9.2	8.2	7.6	6.8	6.9	22	144	12	9.9	8.6	8.8
10		9.2	8.1	7.1	7.0	7.2	21	64	12	10	8.5	10
11		9.2	8.3	7.4	7.2	7.3	20	27	12	10	8.4	9.3
12		9.2	8.3	7.6	7.2	8.2	21	21	12	9.9	8.3	16
13		9.2	8.3	7.8	7.4	8.8	22	105	12	9.8	8.3	18
14		9.4	8.1	7.8	7.2	9.9	22	73	12	9.8	8.4	14
15		9.4	7.6	7.6	7.0	9.7	24	63	12	11	8.5	11
16		9.1	7.5	7.6	7.0	9.3	276	28	12	11	8.4	9.7
17		9.1	7.7	7.6	6.8	9.4	219	22	12	10	8.5	9.3
18		9.2	7.3	7.8	7.0	9.4	47	49	11	9.8	8.4	9.0
19		9.8	7.4	7.6	7.0	10	29	27	11	9.5	8.4	8.5
20		9.2	7.7	7.6	7.0	14	38	19	12	9.5	8.3	8.3
21		8.8	8.6	7.6	7.0	13	54	17	11	9.6	8.2	8.1
22		8.7	8.4	7.4	7.2	20	29	17	11	9.6	8.4	7.8
23		8.7	8.0	8.2	7.2	30	21	16	11	9.4	8.4	7.8
24		8.7	8.0	7.6	7.0	123	19	16	12	9.2	9.3	7.8
25		8.7	7.9	7.8	7.0	216	17	15	11	10	8.9	7.5
26		8.9	8.1	7.8	7.2	156	16	15	11	11	8.8	7.3
27		8.9	8.3	8.0	7.1	85	15	15	11	9.7	9.6	7.1
28		8.7	8.1	7.8	7.0	61	14	15	11	9.3	8.8	7.0
29		8.7	7.6	7.6	---	438	14	14	11	9.2	11	7.3
30		8.7	7.8	7.6	---	2030	14	13	10	9.1	9.6	7.2
31		---	8.3	7.4	---	904	---	14	---	9.1	9.1	---
TOTAL		272.9	251.9	239.1	199.5	4242.1	1534	1105	349	305.2	272.7	280.3
MEAN		9.10	8.13	7.71	7.13	137	51.1	35.6	11.6	9.85	8.80	9.34
MAX		9.8	9.0	8.3	7.6	2030	276	144	13	11	11	18
MIN		8.7	7.3	7.1	6.8	6.8	14	13	10	9.1	8.2	7.0
CFSM		.19	.17	.16	.15	2.86	1.07	.74	.24	.21	.18	.20
IN.		.21	.20	.19	.15	3.29	1.19	.86	.27	.24	.21	.22

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI--CONTINUED

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-7, Sept. 23-30.)

Oct. 1 to Feb. 28, June 22 to Sept. 30, 1983

Mar. 1 to June 21, 1983

1.7	7.4	3.0	127	1.9	14	3.4	248
1.9	10	3.4	248	2.1	23	3.8	424
2.1	18	3.7	374	2.4	42	4.2	633
2.4	36	4.0	540	2.7	79	4.6	847
2.7	70	4.5	790	3.0	132	5.0	1,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	14	12	11	9.0	232	437	22	19	13	10	9.8
2	8.4	13	13	10	9.2	473	240	92	18	12	10	9.9
3	8.3	13	16	10	9.3	872	122	48	20	15	12	10
4	8.1	13	16	10	9.0	726	84	26	36	14	11	10
5	8.1	13	14	10	9.0	479	52	22	23	13	10	11
6	9.3	13	13	10	9.1	350	40	22	18	12	10	10
7	37	13	12	9.9	8.9	197	49	524	17	12	9.9	9.5
8	26	12	11	9.7	9.1	72	58	87	16	13	9.7	9.6
9	18	13	11	9.8	9.1	35	59	35	16	13	9.6	12
10	15	211	11	9.9	9.1	28	55	27	16	13	9.9	10
11	18	179	10	9.6	8.9	24	135	24	15	12	9.8	9.8
12	18	617	11	9.5	8.8	22	87	24	16	12	9.6	10
13	15	57	11	9.5	8.9	22	340	41	16	12	9.7	9.8
14	14	31	11	9.5	8.7	24	168	31	16	12	9.6	9.7
15	14	20	11	9.2	8.6	23	87	24	15	12	9.7	13
16	13	17	10	9.4	8.6	22	84	22	14	13	14	14
17	13	16	10	9.2	8.6	20	66	21	14	16	14	13
18	13	15	11	9.2	8.6	21	54	21	14	15	11	19
19	15	74	10	9.2	8.6	22	63	21	14	14	10	31
20	341	238	10	9.4	8.8	22	169	21	14	13	9.9	81
21	72	90	9.9	9.3	9.1	20	235	21	14	12	11	44
22	28	31	9.9	9.4	10	19	164	20	14	12	10	29
23	20	20	10	9.5	15	18	76	19	13	11	9.7	22
24	16	16	13	9.1	28	17	41	19	14	11	9.6	17
25	14	14	355	9.0	34	17	31	19	14	11	10	15
26	14	13	82	8.9	29	18	27	18	13	10	14	13
27	13	12	29	9.1	23	19	24	19	13	12	12	11
28	14	13	18	9.3	73	18	23	19	13	15	10	11
29	15	13	12	9.4	---	20	23	19	13	15	9.8	11
30	17	12	12	9.2	---	26	22	19	14	11	10	9.7
31	15	---	11	8.9	---	139	---	19	---	11	9.8	---
TOTAL	858.0	1826	795.8	295.1	399.0	4017	3115	1366	482	392	325.3	494.8
MEAN	27.7	60.9	25.7	9.52	14.3	130	104	44.1	16.1	12.6	10.5	16.5
MAX	341	617	355	11	73	872	437	524	36	16	14	81
MIN	7.8	12	9.9	8.9	8.6	17	22	18	13	10	9.6	9.5
CFSM	.58	1.27	.54	.20	.30	2.71	2.17	.92	.34	.26	.22	.34
IN.	.67	1.42	.62	.23	.31	3.12	2.42	1.06	.37	.30	.25	.38
CAL YR 1982	TOTAL	12006.7	MEAN	32.9	MAX	2030	MIN	6.8	CFSM	.69	IN	9.32
WTR YR 1983	TOTAL	14366.0	MEAN	39.4	MAX	872	MIN	7.8	CFSM	.82	IN	11.16

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 downstream from low-water bridge on Coulee Road, approximately 550 ft upstream from French Creek at Spring Valley.

DRAINAGE AREA.--47.9 mi²

PERIOD OF RECORD.--November 1981 to September 1983 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1983 (discontinued).

WATER TEMPERATURES: November 1981 to September 1983 (discontinued).

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 693 micromhos Feb. 5, 1983; minimum 165 micromhos Apr. 11, 1983.

WATER TEMPERATURES: Maximum, 25.0°C July 9, 1983; minimum, 0.0°C Dec. 14, 1982 - Feb. 20, 1983.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	400	393	398	379	364	372	394	385	389	411	385	397
2	402	399	400	379	364	370	391	385	387	505	405	438
3	403	396	400	379	368	373	407	393	399	558	415	468
4	403	396	400	385	374	378	407	350	373	416	385	402
5	402	396	399	390	379	383	368	354	357	456	394	416
6	502	387	399	396	371	382	382	363	373	402	387	394
7	397	288	354	388	359	373	410	382	393	405	396	400
8	336	289	315	387	362	371	459	403	419	411	402	405
9	360	337	349	372	360	367	511	427	458	405	385	395
10	372	360	366	---	---	---	443	407	426	397	382	391
11	385	374	380	---	---	---	507	425	458	427	390	405
12	390	384	386	---	---	---	558	432	477	450	402	429
13	385	381	383	236	180	216	439	402	418	491	405	436
14	390	385	388	298	236	263	403	390	395	415	393	404
15	394	388	391	327	303	316	397	385	390	448	408	428
16	402	390	394	363	329	342	430	390	409	516	425	455
17	397	390	393	372	350	360	422	396	404	527	411	448
18	399	391	394	374	358	363	403	388	396	523	452	483
19	399	365	392	365	205	294	400	393	398	572	428	486
20	---	---	---	203	173	188	430	387	404	437	403	419
21	245	177	208	238	183	208	443	396	417	428	390	409
22	311	248	273	291	241	265	427	387	405	467	394	418
23	321	294	306	338	293	314	394	388	391	411	384	397
24	342	322	332	365	342	353	394	374	384	413	388	401
25	355	343	349	378	358	366	---	---	---	450	411	432
26	365	349	356	411	368	385	---	---	---	615	434	493
27	359	330	353	446	390	411	258	214	237	---	---	---
28	379	359	371	410	390	397	349	259	293	432	396	414
29	381	372	377	394	385	391	527	355	412	402	379	390
30	390	375	381	394	390	392	532	390	441	408	390	397
31	394	374	382	---	---	---	399	378	390	450	390	413
MONTH	502	177	366	446	173	340	558	214	396	615	379	422

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	516	403	444	---	---	---	---	---	---	330	312	322
2	418	397	407	---	---	---	---	---	---	325	173	250
3	485	397	426	---	---	---	---	---	---	237	187	209
4	550	405	477	---	---	---	---	---	---	271	241	256
5	693	434	527	---	---	---	223	198	206	296	275	287
6	530	403	448	---	---	---	239	224	234	310	298	305
7	---	---	---	---	---	---	235	224	231	---	---	---
8	450	407	424	245	186	213	234	208	220	---	---	---
9	418	397	407	304	247	272	228	206	215	275	224	249
10	405	388	396	319	292	303	231	200	225	302	278	288
11	403	379	390	341	319	328	190	165	174	317	293	307
12	399	379	387	351	342	347	206	172	188	330	315	321
13	393	376	382	354	337	345	---	---	---	329	255	304
14	402	372	384	356	341	349	---	---	---	286	256	264
15	391	379	384	358	329	344	197	170	186	302	283	292
16	393	381	385	346	327	332	192	169	183	319	292	307
17	399	372	384	359	346	353	219	192	203	368	317	339
18	394	379	385	367	355	361	234	211	220	385	369	378
19	394	378	385	378	350	362	250	194	224	403	388	396
20	396	376	384	416	384	399	---	---	---	410	369	392
21	397	384	389	446	379	418	---	---	---	396	356	378
22	410	393	401	413	358	381	---	---	---	391	368	382
23	425	378	397	469	403	432	227	191	200	400	362	382
24	393	331	362	473	418	442	269	231	251	397	364	382
25	350	301	319	473	375	439	303	271	287	399	365	385
26	325	310	316	415	371	399	316	301	309	397	369	385
27	345	320	329	427	394	411	322	303	314	402	381	393
28	354	171	284	454	394	424	328	314	322	407	393	400
29	---	---	---	469	394	444	331	312	323	407	391	400
30	---	---	---	394	346	364	334	311	325	405	391	399
31	---	---	---	---	---	---	---	---	---	405	375	393
MONTH	693	171	393	473	186	368	334	165	240	410	173	336
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	402	372	389	402	388	395	443	382	412	---	---	---
2	403	376	390	402	384	393	434	391	411	---	---	---
3	399	379	390	402	382	393	416	381	400	---	---	---
4	405	314	367	393	384	388	413	394	405	---	---	---
5	346	320	334	396	387	392	407	390	398	---	---	---
6	364	349	357	400	388	394	413	387	399	---	---	---
7	379	362	370	397	387	393	420	390	399	---	---	---
8	388	365	377	399	388	393	413	388	398	427	407	417
9	391	369	381	400	385	393	407	390	399	415	402	406
10	393	369	382	399	387	392	450	391	404	411	403	407
11	394	372	384	399	385	392	413	394	403	427	405	412
12	396	378	389	397	387	393	408	391	400	413	403	408
13	397	387	392	397	384	392	411	393	401	435	405	416
14	400	390	395	397	384	391	408	391	400	446	403	417
15	400	388	394	397	381	390	427	390	400	411	393	403
16	400	391	396	396	384	390	410	362	393	410	396	405
17	402	388	395	396	375	387	387	364	378	422	408	413
18	400	391	397	388	379	384	403	388	396	420	408	412
19	402	385	394	390	381	385	407	388	400	427	387	412
20	402	388	396	396	381	391	413	396	403	385	265	300
21	405	394	400	407	394	400	437	384	406	342	267	299
22	405	391	398	413	397	404	459	396	430	379	343	353
23	403	390	397	420	410	414	487	391	420	420	365	388
24	402	391	397	418	397	404	---	---	---	434	384	402
25	402	384	394	403	393	398	---	---	---	413	396	401
26	402	379	392	430	393	406	---	---	---	423	403	409
27	397	384	394	441	402	418	---	---	---	415	403	408
28	403	391	398	427	379	404	---	---	---	413	403	408
29	405	396	400	452	396	421	---	---	---	415	402	409
30	400	387	395	446	384	407	---	---	---	416	402	410
31	---	---	---	527	391	459	---	---	---	---	---	---
MONTH	405	314	388	527	375	399	487	362	402	446	265	396

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	14.5	15.0	10.0	9.0	9.5	7.5	5.5	6.5	1.5	1.5	1.5
2	14.5	13.5	14.0	9.5	8.0	9.0	9.0	7.5	8.5	3.0	1.0	1.5
3	14.0	12.5	13.5	9.0	7.0	8.0	9.0	6.0	7.5	4.5	1.0	2.0
4	13.5	12.0	13.0	6.5	5.5	5.5	6.0	5.0	5.5	1.5	1.0	1.5
5	14.5	13.0	13.5	5.5	4.5	5.0	5.5	5.0	5.0	1.5	1.5	1.5
6	15.5	14.5	15.0	5.5	4.5	5.0	4.5	3.0	3.5	1.5	1.5	1.5
7	14.0	12.0	12.5	7.0	5.0	6.0	3.0	1.5	2.0	1.5	1.5	1.5
8	12.5	11.0	11.5	6.5	5.5	6.0	1.5	1.5	1.5	1.5	1.5	1.5
9	12.5	12.0	12.5	6.5	5.5	6.0	3.0	1.5	1.5	2.5	1.5	2.0
10	12.5	12.0	12.0	5.5	3.0	4.0	1.5	1.5	1.5	3.0	2.5	3.0
11	12.5	12.0	12.0	5.0	3.5	4.5	2.0	1.5	1.5	3.0	1.5	2.0
12	11.5	11.0	11.5	4.5	1.0	2.5	4.0	1.5	2.0	1.5	1.5	1.5
13	12.0	11.0	11.5	2.0	1.0	1.5	1.5	1.0	1.5	2.0	1.5	1.5
14	12.5	10.5	11.5	2.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5
15	12.5	11.0	12.0	3.0	1.5	2.0	2.0	1.5	1.5	1.5	1.5	1.5
16	10.5	9.0	10.0	4.0	2.0	3.0	1.5	1.5	1.5	3.0	1.5	1.5
17	11.5	10.0	10.5	4.5	2.0	3.5	2.0	1.5	1.5	3.5	1.5	1.5
18	12.0	10.0	11.0	6.0	3.5	4.5	3.0	2.0	2.5	8.0	1.0	3.5
19	12.0	9.5	11.5	7.0	5.0	6.0	3.0	2.5	3.0	4.0	1.0	2.0
20	9.0	6.0	6.5	9.5	5.0	8.0	3.0	1.5	2.5	1.5	1.0	1.5
21	7.5	5.5	6.5	8.0	6.0	6.5	1.5	1.5	1.5	1.5	1.0	1.5
22	8.0	5.5	6.5	5.5	5.0	5.5	3.0	1.5	2.0	1.5	1.5	1.5
23	9.0	6.5	7.5	5.0	1.5	3.0	4.0	3.0	3.5	2.0	1.5	1.5
24	9.5	7.5	8.5	2.0	1.5	1.5	4.5	4.0	4.0	2.0	1.5	1.5
25	10.0	8.0	9.0	3.0	1.5	2.0	4.0	1.0	2.0	1.5	1.5	1.5
26	10.5	8.5	9.5	3.0	1.5	2.5	1.0	1.0	1.0	5.5	1.5	2.5
27	10.0	9.0	9.5	1.5	1.5	1.5	2.5	1.0	1.5	10.0	1.0	4.5
28	10.5	9.5	10.0	3.0	1.5	2.0	1.5	1.0	1.0	1.5	1.0	1.5
29	10.5	10.0	10.5	4.5	3.0	4.0	5.5	1.0	2.5	1.5	1.5	1.5
30	10.5	8.5	9.5	5.5	4.5	5.0	5.5	1.0	2.5	1.5	1.5	1.5
31	9.0	7.5	8.0	---	---	---	1.5	1.0	1.5	1.5	1.5	1.5
MONTH	15.5	5.5	11.0	10.0	1.0	4.5	9.0	1.0	2.5	10.0	1.0	2.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.5	1.5	2.0	2.5	1.5	1.5	3.5	2.5	3.0	14.0	10.5	12.0
2	1.5	1.0	1.5	3.5	1.5	2.0	5.0	2.5	4.0	13.0	10.5	11.5
3	2.5	1.0	1.5	3.5	1.5	2.0	5.5	4.0	5.0	15.0	9.5	12.0
4	5.0	1.5	2.5	3.5	1.5	2.0	7.0	4.5	6.0	15.0	10.5	12.5
5	7.5	1.0	3.5	3.5	2.0	3.0	7.5	5.0	6.5	14.5	10.5	12.5
6	4.5	1.0	1.5	6.5	3.5	5.0	7.0	5.5	6.0	12.5	11.5	12.5
7	8.5	1.0	3.5	6.5	4.5	5.5	6.0	5.0	5.5	12.5	10.5	11.5
8	1.5	1.0	1.5	4.0	3.0	3.0	8.0	3.5	6.0	15.0	10.0	12.5
9	1.5	1.0	1.0	3.5	1.5	2.5	7.5	5.0	6.0	15.5	10.0	12.5
10	1.5	1.0	1.5	3.5	2.0	3.0	7.0	5.0	6.0	17.0	11.5	14.0
11	1.5	1.5	1.5	5.5	2.0	4.0	9.0	4.5	7.0	17.5	12.5	15.0
12	2.5	1.5	2.0	5.0	3.5	4.5	8.0	7.0	8.0	16.0	14.0	15.0
13	3.5	2.5	3.0	7.5	4.0	6.0	7.0	5.5	6.0	16.0	13.0	14.5
14	4.5	3.0	3.5	8.5	5.5	7.0	6.5	1.0	3.0	14.5	11.5	13.0
15	4.5	4.0	4.5	6.5	2.5	5.0	7.5	1.5	4.5	14.5	9.5	12.0
16	5.0	4.5	4.5	5.0	2.0	3.5	7.5	3.0	5.0	16.0	11.0	13.0
17	5.0	4.0	4.5	6.0	5.0	5.5	8.0	3.0	5.5	16.5	10.5	13.5
18	5.0	4.0	4.5	7.0	5.5	6.0	8.0	3.5	6.5	14.0	12.0	12.5
19	5.5	5.0	5.0	6.5	5.0	5.5	9.5	5.0	7.5	12.0	11.0	11.5
20	6.0	5.0	5.5	5.0	3.5	4.5	10.0	5.0	7.5	14.5	10.5	12.5
21	6.0	5.0	5.5	5.5	2.5	4.0	11.0	5.0	8.0	18.5	11.5	14.5
22	6.0	5.0	5.5	5.5	2.0	4.0	12.5	10.0	11.5	16.5	14.0	15.0
23	5.5	3.5	4.5	5.5	1.5	4.0	13.0	9.0	11.0	18.0	11.5	14.5
24	4.5	2.5	3.5	6.0	2.0	4.0	13.5	8.5	11.0	17.5	13.5	15.5
25	2.5	1.0	2.0	7.0	3.0	5.0	15.0	9.5	12.0	17.5	12.5	15.0
26	3.0	1.0	2.0	6.0	4.0	5.0	15.0	11.5	13.5	18.0	11.5	14.5
27	5.5	2.5	4.0	6.0	3.0	4.5	15.0	10.5	12.5	15.5	14.0	15.0
28	5.0	1.5	4.0	8.0	3.5	6.0	13.5	10.5	12.0	15.0	13.0	14.0
29	---	---	---	7.5	4.5	6.0	14.0	10.0	12.0	13.5	11.5	12.5
30	---	---	---	7.0	5.5	6.5	15.5	11.0	13.0	12.5	11.0	11.5
31	---	---	---	6.5	2.5	5.0	---	---	---	16.0	10.5	13.0
MONTH	8.5	1.0	3.0	8.5	1.5	4.5	15.5	1.0	7.5	18.5	9.5	13.5

CHIPPEWA RIVER BASIN

05369945 EAU GALLE RIVER AT LOW-WATER BRIDGE AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.0	12.0	14.5	23.0	18.5	20.5	22.0	19.0	20.5	---	---	---
2	17.5	14.0	15.5	22.5	18.5	20.5	22.0	19.0	20.5	---	---	---
3	17.0	14.5	15.5	22.0	19.0	20.5	23.5	20.5	21.5	---	---	---
4	18.5	13.5	16.0	20.0	17.5	19.0	22.5	20.5	21.5	---	---	---
5	17.0	14.0	15.0	20.5	16.5	18.5	22.5	20.0	21.5	---	---	---
6	18.0	12.0	14.5	21.0	15.5	18.0	23.5	20.5	22.0	---	---	---
7	19.0	13.0	16.0	23.0	18.5	20.5	23.0	19.5	21.5	---	---	---
8	19.0	14.0	16.5	24.0	19.5	22.0	23.0	20.5	22.0	19.0	15.5	17.0
9	20.5	15.0	17.5	25.0	20.5	22.5	21.0	19.0	19.5	21.0	19.0	19.5
10	20.5	15.0	18.0	24.5	20.5	22.5	20.5	18.5	19.5	20.5	18.0	19.0
11	21.5	17.0	19.5	24.5	21.0	23.0	20.5	18.5	19.5	18.0	15.5	16.0
12	20.0	18.0	19.0	23.5	19.0	21.5	20.0	17.5	19.0	16.0	15.0	15.5
13	20.0	17.5	19.0	23.5	19.5	21.5	19.5	18.0	19.0	15.0	13.5	14.0
14	20.0	17.5	19.0	24.0	20.5	22.5	21.5	18.5	20.0	14.5	12.5	13.5
15	20.0	15.5	17.5	23.5	21.0	22.5	21.0	19.0	20.0	14.5	13.0	13.5
16	18.0	15.0	16.0	23.0	21.0	22.0	21.0	19.5	20.0	13.5	13.0	13.0
17	19.0	13.5	16.0	22.0	20.0	21.0	20.0	19.0	19.5	14.5	12.5	13.5
18	17.5	15.0	16.0	20.5	19.0	19.5	19.5	18.0	19.0	15.5	14.0	14.5
19	20.5	15.0	17.5	22.0	18.5	20.0	22.0	19.0	20.5	14.5	12.0	13.0
20	19.5	16.5	18.0	23.0	19.0	21.0	21.0	18.5	19.5	11.5	11.0	11.5
21	19.0	16.5	18.0	24.0	20.0	22.0	19.5	16.5	18.5	11.0	10.5	10.5
22	22.5	17.5	20.0	23.5	21.5	22.5	20.5	17.0	18.5	10.5	9.5	10.0
23	24.0	18.5	21.0	24.0	21.0	22.5	22.5	16.5	18.5	11.0	8.5	10.0
24	21.5	18.0	19.5	22.5	20.0	21.0	---	---	---	12.5	9.0	10.5
25	23.5	17.5	20.5	22.0	19.0	20.5	---	---	---	14.0	11.0	12.5
26	23.5	19.0	21.5	22.0	19.0	20.0	---	---	---	14.5	12.0	13.5
27	22.0	18.0	19.5	21.0	19.0	19.5	---	---	---	15.5	13.0	14.5
28	18.5	16.5	17.5	22.0	18.5	20.0	---	---	---	16.0	14.0	15.0
29	18.0	16.0	16.5	24.0	20.0	21.5	---	---	---	16.0	15.0	15.5
30	22.0	16.0	19.0	23.0	20.5	22.0	---	---	---	16.5	15.0	15.5
31	---	---	---	22.0	20.0	21.5	---	---	---	---	---	---
MONTH	24.0	12.0	17.5	25.0	15.5	21.0	23.5	16.5	20.0	21.0	8.5	14.0

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 downstream from bridge on Coulee Road, approximately 1,800 ft upstream from mouth, and 1.9 mi northwest of Spring Valley.

DRAINAGE AREA.--6.03 mi².

PERIOD OF RECORD.--November 1980 to September 1983 (discontinued).

REVISED RECORDS.--WDR WI-82-1: 1981 (M) and February monthly mean discharge.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 990 ft, from topographic map.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 338 ft³/s Mar. 30, 1982, and Mar. 3, 1983, gage height, 4.89 ft; minimum discharge, 0.28 ft³/s Sept. 5, 6, 1981, gage height, 2.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 338 ft³/s Mar. 3, gage height, 4.89 ft; minimum, 0.49 ft³/s Sept. 22, 23, gage height 2.53 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 22-30.)

Oct. 1 to Dec. 24

Dec. 25 to Sept. 30

2.4	0.32	2.9	6.3	2.4	0.40	3.1	12
2.5	.60	3.0	9.5	2.5	.80	3.4	25
2.6	1.1	3.3	20	2.6	1.5	3.7	47
2.7	2.2	3.5	31	2.7	2.8	4.0	85
2.8	3.9	3.8	57	2.9	6.6	4.3	143

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.71	.64	.70	.62	23	24	1.3	1.6	1.7	.92	.67
2	.69	.67	.69	.65	.65	71	5.5	1.6	1.6	1.7	.88	.67
3	.65	.67	.69	.65	.65	99	2.5	1.4	2.0	2.2	1.0	.65
4	.61	.64	.64	.65	.65	78	1.4	1.4	1.8	1.5	.94	.65
5	.57	.67	.64	.65	.65	39	1.3	1.3	1.6	1.2	.86	.65
6	.90	.66	.64	.70	.65	31	1.4	1.4	1.6	1.2	.86	.65
7	1.1	.67	.60	.66	.65	7.1	1.5	61	1.6	1.2	.82	.63
8	.81	.67	.57	.65	.65	1.4	1.2	2.0	1.6	1.2	.85	.67
9	.76	.68	.57	.67	.65	1.1	1.2	1.5	1.6	1.1	.76	.80
10	.75	22	.57	.70	.65	.93	1.9	1.4	1.6	1.1	.79	.69
11	.75	15	.57	.66	.65	.89	5.2	1.4	1.6	1.1	.80	.58
12	.74	47	.57	.65	.65	.92	2.2	1.5	1.7	1.1	.80	.59
13	.68	1.1	.57	.65	.68	.92	26	2.0	1.8	1.1	.77	.56
14	.72	.86	.57	.65	.70	.93	11	1.4	1.8	1.1	.75	.55
15	.80	.76	.57	.61	.70	.92	3.6	1.4	1.7	1.1	.83	.74
16	.75	.77	.54	.61	.70	.92	2.2	1.4	1.6	1.1	1.3	.68
17	.75	.72	.54	.61	.70	.92	1.6	1.4	1.5	1.5	1.1	.60
18	.77	.73	.54	.62	.70	.92	1.5	1.5	1.5	1.3	.83	.61
19	1.4	1.3	.54	.65	.71	.92	3.4	1.6	1.6	1.3	.86	.99
20	31	9.9	.53	.65	.75	.92	13	1.5	1.7	1.3	.78	1.2
21	1.4	1.2	.51	.65	.91	.87	8.9	1.6	1.7	1.2	.93	.62
22	.98	.85	.51	.65	1.1	.86	3.4	1.6	1.7	1.2	.86	.52
23	.85	.73	.51	.65	1.3	.81	1.4	1.5	1.6	1.1	.78	.51
24	.80	.67	.93	.65	1.1	.82	1.3	1.5	1.7	1.1	.75	.52
25	.76	.67	35	.65	.82	.88	1.3	1.5	1.8	1.1	.78	.53
26	.72	.67	1.6	.62	.76	.92	1.4	1.5	1.8	1.0	1.0	.54
27	.71	.64	.98	.65	1.0	.95	1.3	1.5	1.8	1.2	.82	.56
28	.72	.64	.87	.65	11	1.0	1.3	1.6	1.6	1.3	.76	.56
29	.75	.64	.71	.65	---	1.0	1.3	1.7	1.6	1.1	.70	.58
30	.72	.64	.70	.65	---	1.2	1.3	1.8	1.8	1.1	.74	.68
31	.67	---	.70	.65	---	12	---	1.8	---	1.1	.71	---
TOTAL	54.96	113.53	54.81	20.16	31.40	382.02	134.5	107.0	50.2	38.6	26.33	19.45
MEAN	1.77	3.78	1.77	.65	1.12	12.3	4.48	3.45	1.67	1.25	.85	.65
MAX	31	47	35	.70	11	99	26	61	2.0	2.2	1.3	1.2
MIN	.57	.64	.51	.61	.62	.81	1.2	1.3	1.5	1.0	.70	.51
CFSM	.29	.63	.29	.11	.19	2.04	.74	.57	.28	.21	.14	.11
IN.	.34	.70	.34	.12	.19	2.36	.83	.66	.31	.24	.16	.12
CAL YR 1982	TOTAL	784.96	MEAN	2.15	MAX	196	MIN	.32	CFSM	.36	IN	4.84
WTR YR 1983	TOTAL	1032.96	MEAN	2.83	MAX	99	MIN	.51	CFSM	.47	IN	6.37

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 upstream from bridge on County Trunk Highway NN, and 1.9 mi north of Spring Valley.

DRAINAGE AREA.--5.97 mi².

PERIOD OF RECORD.--November 1980 to September 1983 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 980 ft, from topographic map.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 280 ft³/s Mar. 30, 1982, gage height, 11.80 ft; minimum, 1.5 ft³/s Sept. 2-6, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 148 ft³/s Mar. 3, gage height, 10.75 ft; minimum, 1.8 ft³/s Jan. 17-19, 26-28, 31, Feb. 1, 2, 4-7, 11.

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

Oct. 1 to Nov. 11, Apr. 17 to Sept. 30

Nov. 12 to Apr. 16

9.1	1.8	9.5	12	9.0	1.5	9.4	10
9.2	2.6	9.7	27	9.1	2.0	9.7	27
9.3	4.4	10.0	53	9.2	4.0	10.0	52
9.4	7.3						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.0	2.4	1.9	1.8	12	9.2	3.3	2.8	2.4	2.3	2.3
2	2.1	2.0	2.5	1.9	1.9	37	3.8	3.8	2.8	2.4	2.2	2.3
3	2.1	2.0	2.5	1.9	1.9	50	2.6	3.7	3.2	2.6	2.4	2.3
4	2.1	2.0	2.4	1.9	1.9	40	2.6	3.6	3.3	3.1	2.3	2.3
5	2.1	2.0	2.4	1.9	1.8	15	2.4	3.6	2.8	3.1	2.3	2.3
6	2.3	2.0	2.4	1.9	1.8	13	2.4	3.8	2.8	3.1	2.3	2.2
7	2.4	2.0	2.2	1.9	1.9	4.1	2.4	10	2.8	2.9	2.3	2.2
8	2.2	2.0	2.2	1.9	1.9	2.5	2.4	3.2	2.8	2.9	2.3	2.2
9	2.2	2.0	2.0	1.9	1.9	2.2	2.6	2.9	2.7	2.9	2.3	2.4
10	2.2	2.3	2.1	1.9	1.9	2.2	2.6	2.9	2.6	2.9	2.3	2.2
11	2.2	2.2	2.2	1.9	1.9	2.3	2.6	2.8	2.5	2.9	2.4	2.2
12	2.1	1.5	2.2	1.9	1.9	2.2	2.6	2.9	2.6	2.8	2.3	2.2
13	2.1	3.3	2.2	1.9	1.9	2.3	9.9	2.8	2.8	2.8	2.3	2.2
14	2.1	3.0	2.2	1.9	1.9	2.3	8.9	2.6	2.9	2.8	2.3	2.2
15	2.1	2.8	2.2	1.9	2.0	2.3	3.0	2.6	2.8	2.8	2.3	2.3
16	2.1	2.8	2.2	1.9	2.0	2.4	2.8	2.6	2.6	2.6	2.6	2.3
17	2.1	2.8	2.2	1.9	2.0	2.4	2.3	2.6	2.5	2.6	2.5	2.2
18	2.1	2.8	2.2	1.8	2.0	2.3	2.6	2.6	2.4	2.6	2.3	2.2
19	2.2	2.9	2.2	1.8	2.0	2.2	2.7	2.8	2.3	2.6	2.3	2.5
20	2.9	3.1	2.2	1.9	2.0	2.2	2.8	2.7	2.3	2.5	2.2	2.6
21	2.4	2.8	2.0	1.9	2.0	2.2	2.8	2.7	2.2	2.5	2.5	2.3
22	2.2	2.8	2.1	1.9	2.0	2.2	2.9	2.7	2.3	2.5	2.4	2.1
23	2.1	2.6	2.2	1.9	2.0	2.2	2.9	2.6	2.3	2.5	2.3	2.1
24	2.1	2.6	2.5	1.9	2.0	2.2	2.9	2.6	2.3	2.5	2.3	2.0
25	2.1	2.6	2.3	1.9	2.0	2.2	2.9	2.6	2.3	2.4	2.3	2.0
26	2.1	2.5	2.2	1.9	2.0	2.2	3.0	2.7	2.3	2.4	2.5	2.1
27	2.0	2.4	2.0	1.8	2.0	2.3	3.0	2.7	2.5	2.4	2.3	2.0
28	2.0	2.4	2.0	1.9	3.2	2.4	3.0	2.8	2.4	2.4	2.3	2.0
29	2.0	2.4	1.9	1.9	---	2.4	3.1	2.9	2.4	2.3	2.3	1.9
30	2.0	2.4	1.9	1.9	---	2.4	3.2	3.0	2.4	2.3	2.5	2.0
31	2.0	---	1.9	1.9	---	3.4	---	2.9	---	2.3	2.4	---
TOTAL	66.8	86.5	88.8	58.6	55.5	227.0	102.9	98.0	77.7	81.8	72.6	66.1
MEAN	2.15	2.88	2.86	1.89	1.98	7.32	3.43	3.16	2.59	2.64	2.34	2.20
MAX	2.9	15	23	1.9	3.2	50	9.9	10	3.3	3.1	2.6	2.6
MIN	2.0	2.0	1.9	1.8	1.8	2.2	2.3	2.6	2.2	2.3	2.2	1.9
CFSM	.36	.48	.48	.32	.33	1.23	.58	.53	.43	.44	.39	.37
IN.	.42	.54	.55	.37	.35	1.41	.64	.61	.48	.51	.45	.41
CAL YR 1982	TOTAL	1030.6	MEAN 2.82	MAX 147	MIN 1.8	CFSM .47	IN 6.42					
WTR YR 1983	TOTAL	1082.3	MEAN 2.97	MAX 50	MIN 1.8	CFSM .50	IN 6.74					

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 upstream from mouth, and 1.2 mi north of Spring Valley.

DRAINAGE AREA.--2.53 mi².

PERIOD OF RECORD.--November 1980 to September 1983 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 960 ft, from topographic map.

REMARKS.--Records are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 224 ft³/s May 7, 1983, gage height, 5.59 ft; minimum discharge, 0.18 ft³/s Aug. 18, 19, 1982, gage height, 1.96 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 224 ft³/s May 7, gage height, 5.59 ft; minimum discharge, 0.22 ft³/s, May 23, 24, 26, gage height 1.88 ft.

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

Oct. 1 to Dec. 24				Dec. 25 to Sept. 30			
1.9	0.1	2.2	1.1	1.8	0.06	2.3	2.9
2.0	0.3	2.4	2.6	1.9	0.28	2.5	5.3
2.1	0.6			2.0	0.65	2.7	8.4
				2.1	1.3	3.0	14

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.46	.36	.49	.38	4.2	2.7	.43	.25	.34	.41	.34
2	.43	.46	.36	.49	.37	11	.67	.48	.25	.31	.41	.34
3	.43	.46	.35	.49	.38	13	.53	.45	.30	.50	.48	.31
4	.40	.46	.33	.48	.38	12	.46	.44	.28	.57	.44	.31
5	.36	.43	.33	.46	.37	2.1	.42	.42	.28	.49	.41	.34
6	.40	.41	.32	.44	.38	1.6	.41	.46	.28	.45	.40	.34
7	.41	.41	.28	.42	.38	.83	.41	10	.28	.45	.40	.31
8	.41	.40	.27	.41	.37	.63	.41	.50	.28	.41	.41	.31
9	.41	.38	.27	.41	.35	.55	.41	.31	.28	.38	.41	.37
10	.41	.54	.27	.43	.33	.49	.41	.31	.28	.38	.41	.34
11	.41	.57	.29	.45	.31	.45	.43	.29	.28	.38	.41	.31
12	.41	1.5	.31	.45	.31	.45	.45	.31	.30	.38	.41	.32
13	.41	.71	.31	.44	.41	.45	.98	.33	.31	.35	.41	.28
14	.41	.61	.29	.43	.43	.45	1.5	.30	.29	.34	.41	.28
15	.41	.56	.27	.43	.41	.42	.63	.28	.28	.34	.41	.34
16	.41	.51	.27	.42	.41	.41	.54	.28	.28	.41	.56	.37
17	.41	.50	.27	.41	.43	.41	.52	.26	.28	.47	.45	.34
18	.41	.47	.27	.41	.45	.41	.49	.25	.28	.42	.41	.33
19	.45	.45	.27	.41	.45	.41	.49	.25	.28	.45	.39	.48
20	.75	.46	.28	.41	.45	.41	.49	.25	.28	.48	.38	.78
21	.57	.44	.29	.42	.45	.41	.49	.25	.28	.45	.46	.49
22	.50	.43	.27	.43	.45	.41	.48	.25	.28	.41	.41	.42
23	.49	.42	.27	.44	.47	.39	.45	.23	.28	.39	.34	.38
24	.45	.37	.36	.43	.49	.38	.44	.23	.37	.38	.34	.35
25	.43	.36	14	.42	.49	.38	.42	.25	.38	.38	.34	.34
26	.43	.34	1.0	.40	.49	.38	.41	.24	.39	.39	.41	.34
27	.43	.31	.74	.39	.49	.38	.39	.25	.40	.47	.38	.34
28	.44	.32	.62	.38	2.3	.38	.39	.25	.35	.46	.38	.34
29	.47	.36	.58	.38	---	.38	.41	.25	.35	.40	.38	.34
30	.49	.36	.56	.38	---	.38	.41	.25	.37	.39	.37	---
31	.46	---	.52	.38	---	.52	---	.25	---	.44	.34	---
TOTAL	13.73	14.46	25.18	13.23	13.38	55.06	17.64	19.30	9.07	12.86	12.57	10.82
MEAN	.44	.48	.81	.43	.48	1.78	.59	.62	.30	.41	.41	.36
MAX	.75	1.5	.14	.49	2.3	13	2.7	10	.40	.57	.56	.78
MIN	.36	.31	.27	.38	.31	.38	.39	.23	.25	.31	.34	.28
CFSM	.17	.19	.32	.17	.19	.70	.23	.25	.12	.16	.16	.14
IN.	.20	.21	.37	.19	.20	.81	.26	.28	.13	.19	.18	.16
CAL YR 1982	TOTAL 212.01	MEAN .58	MAX 48	MIN .18	CFSM .23	IN 3.12						
WTR YR 1983	TOTAL 217.30	MEAN .60	MAX 14	MIN .23	CFSM .24	IN 3.19						

NOTE.--No gage-height record Dec. 19-21, Dec. 26 to Feb. 11.

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 downstream from flood control dam, 1,500 ft upstream from Mines Creek, at Spring Valley.

DRAINAGE AREA.--64.1 mi².

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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 31, 1957, nonrecording gage at site 850 ft downstream at datum of 912.45 ft National Geodetic Vertical Datum of 1929. Aug. 1, 1957, to June 6, 1966, nonrecording gage at downstream site at datum of 910.45 ft National Geodetic Vertical Datum of 1929. June 7, 1966, to Oct. 31, 1968, nonrecording gage at downstream site at datum of 909.45 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow slightly regulated and high flow completely regulated by flood-control dam 770 ft upstream.

AVERAGE DISCHARGE.--15 years (1969-83), 33.9 ft³/s, since operation of flood-control reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft³/s Apr. 15, 1954, gage height, 12.50 ft, 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 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, with datum at 909.45 ft National Geodetic Vertical Datum of 1929, from floodmarks, discharge, 33,000 ft³/s estimated by Corps of Engineers on basis of slope-area measurement by Geological Survey of peak discharge of 39,000 ft³/s at Elmwood, drainage area, 91.9 mi².

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft³/s Mar. 3, gage height, 916.74 ft; minimum discharge, 0.70 ft³/s Nov. 4, gage height, 912.10 ft.

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

912.7	4.0	914.4	90
913.0	6.9	914.8	183
913.2	9.4	915.3	373
913.5	14	916.0	660
913.8	23	917.0	1,150
914.1	44		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	60	21	20	17	191	317	32	25	21	19	18
2	16	33	21	20	18	357	317	67	25	20	18	18
3	16	4.5	22	19	19	701	155	82	27	22	20	18
4	15	6.3	23	19	18	687	104	46	34	26	20	18
5	14	12	23	19	17	532	71	36	36	22	19	19
6	17	12	22	19	17	348	56	33	29	21	19	19
7	28	12	20	20	17	260	52	336	25	20	18	18
8	31	12	20	19	17	113	61	183	23	19	18	17
9	25	12	19	19	17	55	64	63	23	19	17	20
10	22	83	19	19	17	42	59	42	22	19	18	20
11	20	180	19	19	17	36	120	36	21	19	18	19
12	20	472	19	18	17	32	117	35	22	19	18	27
13	20	116	19	18	17	31	244	42	22	18	17	38
14	18	51	19	18	17	29	262	46	23	18	17	24
15	18	34	19	18	17	31	113	37	23	18	18	17
16	17	28	19	18	17	34	100	32	22	19	21	32
17	17	25	19	18	17	29	85	30	21	21	25	34
18	17	24	19	17	17	28	68	29	21	24	20	32
19	18	41	19	17	17	27	62	29	21	23	20	25
20	192	162	18	17	17	27	112	29	21	23	19	18
21	109	142	18	17	17	26	239	29	22	21	20	35
22	47	57	18	17	18	25	217	28	22	19	20	32
23	31	37	18	17	20	24	105	27	21	19	19	26
24	25	29	20	17	29	24	63	26	22	18	18	24
25	22	25	239	17	38	23	51	25	22	18	19	22
26	20	23	138	17	42	22	42	25	21	18	21	25
27	20	22	54	16	37	24	36	25	23	19	22	25
28	20	21	39	17	48	24	34	25	22	22	20	23
29	21	21	27	18	---	23	34	27	21	23	20	21
30	20	21	22	18	---	26	33	26	22	21	20	21
31	20	---	21	18	---	67	---	26	---	21	19	---
TOTAL	912	1777.8	1013	560	593	3898	3393	1554	704	630	597	705
MEAN	29.4	59.3	32.7	18.1	21.2	126	113	50.1	23.5	20.3	19.3	23.5
MAX	192	472	239	20	48	701	317	336	36	26	25	38
MIN	14	4.5	18	16	17	22	33	25	21	18	17	17
CAL YR 1982	TOTAL	13642.4	MEAN	37.4	MAX	1540	MIN	4.5				
WTR YR 1983	TOTAL	16336.8	MEAN	44.8	MAX	701	MIN	4.5				

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, 505 micromhos May 26, 1983; 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, 505 micromhos May 26; minimum, 170 micromhos Mar. 9.

WATER TEMPERATURES: Maximum, 27.0°C July 29; minimum, 1.0°C on several days during winter months.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	327	312	320	319	303	310	283	278	281	292	284	290
2	327	316	322	---	---	---	292	276	281	297	291	293
3	327	314	319	---	---	---	278	263	269	306	296	299
4	331	321	325	---	---	---	283	270	276	303	296	299
5	336	320	329	272	248	264	283	274	279	309	303	306
6	337	318	329	281	264	271	281	275	278	311	303	308
7	321	315	318	337	271	281	288	282	286	316	307	311
8	329	320	324	350	327	337	295	287	290	320	315	318
9	332	326	330	360	334	346	300	294	297	322	316	318
10	331	323	328	342	311	322	308	298	303	328	310	316
11	329	325	327	310	283	298	317	308	312	328	315	324
12	328	323	326	296	211	245	319	312	317	331	326	328
13	331	326	328	229	222	226	319	312	316	369	325	331
14	336	325	330	234	229	231	320	315	318	371	326	332
15	341	331	333	236	230	233	322	317	319	343	328	335
16	337	330	334	241	234	237	327	321	323	374	334	351
17	345	334	339	251	241	247	328	325	326	381	331	348
18	343	331	337	261	251	255	328	320	325	382	342	349
19	341	306	336	261	243	252	342	323	329	355	342	348
20	323	300	316	296	243	258	340	325	331	359	342	350
21	310	293	305	245	231	233	336	328	332	356	336	349
22	300	285	292	246	236	242	336	329	334	371	345	353
23	301	290	296	251	242	247	335	327	333	360	338	351
24	305	295	300	248	243	246	336	325	332	362	340	351
25	308	297	302	251	245	248	331	256	293	381	347	358
26	314	298	305	259	251	255	259	250	255	388	355	363
27	315	306	310	266	259	261	274	238	246	376	358	366
28	316	310	313	270	264	267	263	248	254	384	343	357
29	321	307	313	279	270	275	279	263	271	364	340	355
30	320	303	312	282	279	281	291	280	285	369	341	355
31	320	302	310	---	---	---	290	285	288	374	347	362
MONTH	345	285	320	360	211	265	342	238	299	388	284	335

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	378	356	365	379	328	361	297	231	260	291	256	277
2	371	342	358	350	251	310	235	203	219	290	263	278
3	381	352	365	243	180	219	231	206	218	309	247	276
4	390	355	367	---	---	---	242	217	229	300	261	274
5	393	365	375	---	---	---	251	227	239	302	263	278
6	393	356	370	190	174	182	272	227	246	295	270	280
7	385	363	372	217	180	196	263	219	243	292	258	271
8	387	367	375	216	188	204	269	239	248	282	257	268
9	391	354	371	231	170	207	277	236	254	273	252	262
10	393	358	370	261	214	233	275	232	259	273	244	263
11	388	360	372	249	224	241	288	236	261	277	245	264
12	385	354	369	269	209	247	283	243	262	270	246	261
13	388	354	373	277	236	256	264	235	249	287	268	281
14	391	347	372	277	245	266	250	225	234	284	259	269
15	393	358	372	282	231	267	255	229	238	280	261	269
16	393	360	374	296	243	269	276	230	249	266	253	259
17	394	338	366	298	235	271	266	236	250	271	254	263
18	379	360	368	294	238	265	252	236	244	280	267	273
19	385	360	371	274	247	261	261	237	248	292	280	287
20	387	346	372	288	243	268	269	234	249	307	289	296
21	403	358	379	307	252	277	257	221	239	328	303	315
22	408	369	385	309	263	278	234	214	225	342	321	327
23	403	338	374	289	254	273	239	211	227	384	340	357
24	396	360	379	323	268	291	253	215	231	415	378	391
25	397	336	377	319	261	287	251	224	237	448	415	429
26	391	362	377	302	266	283	259	231	245	505	446	468
27	397	338	373	307	267	282	264	225	246	444	413	422
28	396	326	367	310	265	285	267	241	254	415	381	400
29	---	---	---	323	267	291	271	236	256	376	354	362
30	---	---	---	314	271	288	285	241	261	385	368	379
31	---	---	---	304	267	286	---	---	---	388	365	379
MONTH	408	326	372	379	170	264	297	203	244	505	244	312
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	369	319	342	341	325	333	327	314	318	---	---	---
2	347	314	327	338	320	329	331	316	324	---	---	---
3	320	307	315	332	311	324	336	306	319	---	---	---
4	318	299	309	325	309	315	317	307	312	---	---	---
5	312	302	307	334	319	325	321	310	316	---	---	---
6	318	300	310	336	322	329	322	319	320	---	---	---
7	319	297	311	340	323	332	345	325	334	---	---	---
8	319	295	311	341	323	332	352	346	350	---	---	---
9	319	301	311	336	317	328	356	350	353	352	307	327
10	319	303	313	332	318	325	349	337	341	343	310	324
11	321	303	313	331	320	326	340	331	335	345	306	325
12	320	312	317	331	320	328	342	335	337	354	314	336
13	322	312	318	334	321	329	341	323	330	347	306	333
14	325	315	319	334	316	325	332	321	326	362	309	330
15	325	310	319	331	316	325	330	317	323	365	315	340
16	323	316	320	331	316	325	320	286	308	334	305	319
17	326	312	321	322	312	317	---	---	---	334	305	321
18	327	319	324	314	306	309	---	---	---	323	292	308
19	331	314	323	322	311	315	---	---	---	326	277	307
20	331	322	327	322	311	316	---	---	---	310	288	301
21	331	327	330	326	317	322	---	---	---	312	294	302
22	338	328	333	325	319	321	---	---	---	314	296	303
23	352	334	342	321	317	319	---	---	---	319	300	308
24	350	327	340	326	320	323	---	---	---	323	297	309
25	340	321	330	328	323	326	---	---	---	322	288	306
26	340	317	327	330	321	327	---	---	---	325	302	311
27	330	319	323	330	310	326	---	---	---	321	295	310
28	336	316	326	317	303	307	---	---	---	325	294	310
29	342	327	333	317	288	299	---	---	---	322	295	307
30	340	325	332	306	297	303	---	---	---	322	289	302
31	---	---	---	314	300	306	---	---	---	---	---	---
MONTH	369	295	322	341	288	321	356	286	328	365	277	315

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	15.0	15.5	8.5	8.5	8.5	3.5	3.0	3.5	3.0	2.0	2.0
2	15.0	15.0	15.0	12.0	8.0	9.5	5.0	3.5	4.0	2.5	1.5	2.0
3	16.5	14.5	15.0	9.0	4.5	8.0	4.0	3.0	3.5	2.5	1.5	2.0
4	16.5	14.0	15.0	8.0	3.0	5.5	4.0	3.0	3.5	2.5	1.5	2.0
5	16.0	14.0	15.0	6.0	5.5	5.5	3.5	2.5	3.5	2.5	1.5	2.0
6	16.0	14.5	15.0	7.5	5.0	6.0	3.0	1.5	2.5	2.0	1.5	2.0
7	14.5	14.0	14.5	7.5	5.0	6.0	1.5	1.0	1.5	2.0	1.5	1.5
8	14.5	13.5	14.0	7.5	5.0	6.0	2.5	1.5	1.5	2.0	1.5	2.0
9	13.5	13.0	13.5	6.5	5.5	6.0	2.5	1.5	2.0	2.5	1.5	2.0
10	14.0	13.0	13.5	5.5	5.0	5.0	2.5	1.5	2.0	3.0	1.5	2.0
11	13.5	12.5	13.0	5.0	4.0	4.5	3.0	1.5	2.0	2.0	1.0	1.5
12	12.5	12.5	12.5	4.5	2.0	3.0	3.0	2.0	2.5	2.5	1.5	1.5
13	12.5	12.0	12.5	2.5	1.5	2.0	3.0	2.0	2.5	2.5	1.5	2.0
14	14.0	11.5	12.5	3.0	2.0	2.5	3.0	2.5	3.0	2.0	1.0	1.5
15	13.5	11.5	12.5	3.0	2.0	2.5	3.0	2.5	3.0	2.5	1.5	1.5
16	12.5	11.0	11.5	3.5	2.5	2.5	3.0	2.5	2.5	2.0	1.5	2.0
17	12.5	11.0	11.5	3.5	2.5	3.0	3.0	2.5	2.5	2.5	1.5	1.5
18	13.0	11.0	11.5	4.5	3.0	3.0	3.0	2.5	3.0	2.0	1.5	1.5
19	12.0	10.0	11.5	3.5	3.0	3.5	3.0	2.5	2.5	2.5	1.5	2.0
20	10.5	9.0	10.0	4.0	3.0	3.5	3.0	2.5	2.5	2.5	2.0	2.0
21	9.0	8.0	9.0	5.0	3.5	4.5	3.0	2.5	3.0	2.5	1.5	2.0
22	8.5	7.5	8.0	4.5	4.0	4.0	3.5	2.5	3.0	2.5	1.5	2.0
23	9.0	7.5	8.0	3.5	1.5	2.5	3.0	3.0	3.0	3.0	2.0	2.0
24	9.0	7.5	8.0	2.5	1.0	1.5	3.0	3.0	3.0	2.5	1.5	2.0
25	9.0	8.0	8.5	3.0	1.5	2.5	3.0	1.5	2.5	2.5	1.5	1.5
26	10.0	8.0	8.5	3.0	1.5	2.0	2.0	1.5	1.5	2.5	1.5	2.0
27	8.5	8.0	8.5	3.0	2.0	2.5	2.0	1.0	1.5	2.5	1.5	2.0
28	9.0	8.5	8.5	3.0	2.5	2.5	1.5	1.0	1.0	2.5	2.0	2.0
29	10.0	8.5	9.0	3.0	2.5	3.0	2.0	1.5	1.5	2.5	1.5	2.0
30	9.0	8.0	8.5	3.0	2.5	3.0	2.0	1.5	2.0	2.5	1.5	2.0
31	9.0	8.0	8.5	---	---	---	2.5	2.0	2.0	3.0	1.5	2.0
MONTH	16.5	7.5	11.5	12.0	1.0	4.0	5.0	1.0	2.5	3.0	1.0	2.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.5	1.5	2.0	2.5	2.0	2.5	4.5	3.0	3.5	12.5	11.0	11.5
2	2.0	1.0	1.5	2.0	1.5	1.5	3.0	3.0	3.0	13.5	11.0	12.0
3	2.0	1.0	1.5	1.5	1.0	1.0	3.5	3.0	3.0	14.0	11.5	13.0
4	2.5	1.5	2.0	1.5	1.0	1.0	4.0	3.0	3.5	14.0	11.5	13.0
5	2.0	1.5	2.0	1.5	1.0	1.0	5.0	3.5	4.0	13.5	11.5	12.0
6	2.5	1.5	2.0	2.5	1.5	2.0	4.5	4.0	4.5	12.5	11.5	12.0
7	2.5	1.5	2.0	3.0	2.5	3.0	5.0	4.0	4.5	13.0	11.5	12.0
8	2.5	2.0	2.0	3.5	3.0	3.0	6.0	4.0	5.0	12.5	11.0	11.5
9	2.5	2.0	2.0	3.5	2.5	3.0	5.0	4.5	4.5	12.0	10.5	11.5
10	2.5	2.0	2.5	3.5	2.5	3.0	5.5	4.0	5.0	13.5	11.5	12.0
11	3.0	2.0	2.5	4.5	2.5	3.5	6.0	4.5	5.5	14.0	12.0	13.0
12	3.0	2.0	2.5	3.5	3.0	3.0	5.5	5.0	5.0	14.0	13.5	13.5
13	3.0	2.0	2.5	5.5	3.0	4.0	5.5	5.5	5.5	16.5	13.5	15.0
14	4.0	2.0	2.5	5.5	3.5	4.0	5.5	4.0	4.5	15.0	12.5	14.0
15	3.0	2.5	2.5	4.5	3.0	3.5	5.5	3.5	4.5	15.0	12.5	13.5
16	3.0	2.5	3.0	4.5	3.5	4.0	6.0	4.5	5.0	15.0	13.0	14.0
17	5.0	2.0	3.0	4.5	3.5	4.0	5.5	4.5	5.0	15.5	13.0	14.0
18	3.5	2.0	2.5	5.0	3.5	4.0	8.0	5.0	6.0	14.0	13.0	13.5
19	4.0	2.5	3.0	5.0	3.5	4.0	8.0	5.5	6.5	13.5	12.5	13.0
20	4.5	2.5	3.0	4.5	3.5	4.0	8.5	5.5	7.0	14.5	12.5	13.5
21	4.5	2.5	3.5	5.0	3.0	4.0	9.0	6.5	7.5	16.0	12.5	14.0
22	4.0	2.5	3.0	6.0	3.0	4.0	10.5	7.5	9.0	15.5	14.0	14.5
23	5.0	2.5	3.0	6.5	3.0	4.5	10.0	8.5	9.0	16.0	13.5	15.0
24	3.5	2.0	2.5	6.5	3.5	4.5	11.0	8.5	10.0	16.0	14.0	15.0
25	4.0	2.0	2.5	7.0	3.5	5.0	11.5	9.0	10.0	16.5	14.0	15.0
26	2.5	2.0	2.5	5.0	4.0	4.5	12.0	10.0	11.0	17.0	13.5	15.0
27	4.0	2.0	3.0	5.5	3.5	4.5	13.5	10.0	11.5	15.5	14.5	15.0
28	3.0	2.5	3.0	7.0	3.5	4.5	11.5	10.5	11.0	15.5	14.0	15.0
29	---	---	---	6.0	3.5	4.5	13.0	10.0	11.5	15.5	14.0	14.5
30	---	---	---	5.0	4.0	4.5	13.5	11.0	12.0	15.0	13.5	14.0
31	---	---	---	5.0	4.5	4.5	---	---	---	16.0	13.5	14.5
MONTH	5.0	1.0	2.5	7.0	1.0	3.5	13.5	3.0	6.5	17.0	10.5	13.5

CHIPPEWA RIVER BASIN

05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.0	13.5	15.0	23.5	19.0	21.0	25.5	22.0	24.0	---	---	---
2	16.5	14.0	15.0	22.5	20.0	21.0	25.0	22.0	23.5	---	---	---
3	17.0	15.0	15.5	22.0	20.5	21.0	26.5	23.0	24.5	---	---	---
4	18.5	15.0	17.0	23.0	20.0	21.0	26.0	24.0	25.0	---	---	---
5	17.0	15.5	16.0	22.0	19.0	20.5	26.0	23.0	24.5	---	---	---
6	18.0	15.0	16.0	23.0	19.0	20.5	26.5	23.5	25.0	---	---	---
7	18.0	14.5	16.5	23.5	19.0	21.0	26.5	23.0	24.5	---	---	---
8	18.0	15.0	16.5	24.0	19.5	21.5	26.0	23.0	24.5	---	---	---
9	18.5	15.5	17.5	25.0	21.0	22.5	24.5	22.0	23.0	25.0	19.0	22.0
10	18.0	16.0	17.0	25.0	21.0	22.5	25.5	21.5	23.0	23.0	18.0	21.0
11	19.0	16.5	17.5	25.0	21.5	23.0	24.5	20.5	22.5	23.5	17.5	20.0
12	18.5	17.5	18.0	24.5	20.5	22.5	25.0	20.0	22.5	20.5	16.5	18.5
13	19.0	18.0	18.0	24.5	20.0	22.0	24.5	20.5	22.5	20.0	16.5	18.5
14	19.0	17.5	18.5	25.0	21.0	22.5	26.0	21.0	23.5	21.5	16.5	18.0
15	19.0	17.0	18.0	24.5	21.5	23.0	25.5	21.0	23.5	17.5	14.0	16.0
16	17.5	16.5	17.0	25.0	21.5	23.0	25.5	22.5	24.0	17.5	15.5	16.5
17	19.0	16.0	17.5	25.5	23.0	24.0	---	---	---	17.5	15.0	16.0
18	18.0	16.5	17.5	24.5	23.5	24.0	---	---	---	18.5	15.5	17.0
19	19.0	16.5	17.5	25.5	23.0	24.0	---	---	---	17.0	14.0	15.5
20	19.5	17.0	18.0	25.5	23.0	24.0	---	---	---	16.0	13.5	14.5
21	20.0	18.0	18.5	26.5	23.5	25.0	---	---	---	15.0	12.5	14.0
22	22.0	18.5	19.5	26.0	24.5	25.0	---	---	---	14.0	12.0	13.0
23	22.5	18.0	20.0	26.5	23.5	25.0	---	---	---	14.5	11.0	12.5
24	22.0	18.5	19.5	25.0	22.0	23.5	---	---	---	14.0	10.5	12.0
25	23.5	19.0	21.0	25.0	21.5	23.5	---	---	---	15.5	11.0	13.0
26	24.0	20.0	22.0	25.0	21.5	23.0	---	---	---	15.5	12.0	14.0
27	22.0	20.0	21.5	24.5	21.5	23.0	---	---	---	15.5	12.0	14.0
28	20.5	19.0	19.5	26.0	24.0	25.0	---	---	---	15.5	13.0	14.0
29	19.0	18.5	19.0	27.0	24.5	25.5	---	---	---	15.5	13.5	14.5
30	23.0	19.0	20.5	26.5	24.5	25.5	---	---	---	15.5	14.0	15.0
31	---	---	---	26.0	23.5	25.0	---	---	---	---	---	---
MONTH	24.0	13.5	18.0	27.0	19.0	23.0	26.5	20.0	24.0	25.0	10.5	16.0

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 east of Pepin.

DRAINAGE AREA.--9,410 mi².

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR , 1983										
08...	1100	54700	131	19300						
09...	1130	77000	110	22900						
10...	1000	70400	78	14800						
11...	0900	53500	56	8090						
AUG										
04...	1010	6750	45	820						
SEP										
21...	1420	16800	79	3580						
(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	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR , 1983										
08...	1100	30800	207	17200	13	22	49	94	100	--
09...	1130	33700	173	15700	12	17	38	62	96	100
10...	1000	33000	154	13700	10	16	63	98	100	--
11...	0900	29500	96	7650	13	20	64	98	100	--
AUG										
04...	1010	6750	45	820	65	75	86	96	100	--
SEP										
21...	1420	16800	79	3580	49	64	78	98	100	--
(WEST 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	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR , 1983										
08...	1100	4300	114	1320	11	13	18	51	98	100
09...	1130	4340	100	1170	29	43	65	82	100	--
10...	1000	4400	29	345	28	30	36	62	100	--
11...	0900	4200	12	136	47	52	54	74	100	--
(AVERAGE OF SIX CHANNELS EAST OF MAIN)										
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	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR , 1983										
08...	1100	19600	16	847	83					
09...	1130	39000	57	6000	66					
10...	1000	33000	8	713	89					
11...	0900	19800	6	321	78					

CHIPPEWA RIVER BASIN

05371200 CHIPPEWA RIVER NEAR PEPIN, WI--CONTINUED

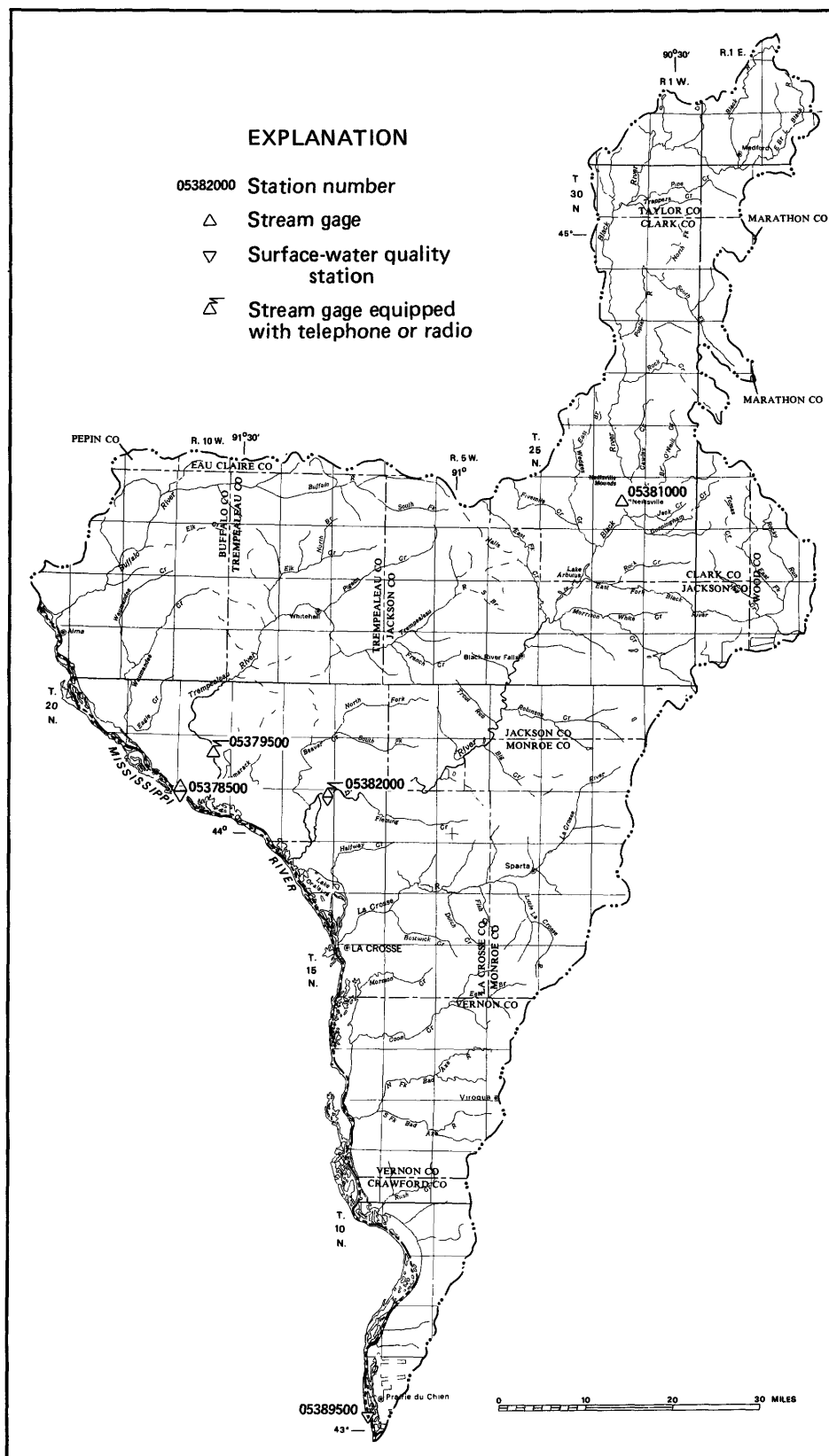
PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

(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
MAR , 1983											
08...	1100	30800	0	1	8	58	90	97	99	100	--
09...	1130	33700	0	3	10	52	85	93	96	99	100
10...	1000	33000	0	2	10	52	75	91	95	97	100
11...	0900	29500	0	3	20	62	80	97	99	100	--
AUG											
04...	1010	6750	0	2	9	45	83	94	100	--	--
SEP											
21...	1420	16800	--	0	6	56	88	95	98	100	--

(WEST 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
MAR , 1983										
08...	1100	4300	--	1	4	50	93	99	100	--
09...	1130	4340	1	2	5	41	90	98	99	100
10...	1000	4400	--	--	3	32	76	90	93	100
11...	0900	4200	--	1	3	43	82	93	98	100



TREMPEALEAU-BLACK RIVER BASIN

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN

LOCATION.--Lat 44°03'21", long 91°38'16", 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 upstream from Trempealeau River, and at mile 725.7 upstream from the Ohio River.

DRAINAGE AREA.--59,200 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1928 to current year. Gage-height records collected in this vicinity since 1878 are contained in reports of Mississippi River Commission.

GAGE.--Water-stage recorder. Datum of gage is 639.64 ft National Geodetic Vertical Datum of 1929. June 10, 1928, to Apr. 15, 1931, nonrecording gage at site 800 ft upstream. Prior to Oct. 1, 1929, at datum 0.20 ft higher and Oct. 1, 1929, to Apr. 15, 1931, at datum 0.12 ft lower. Apr. 16, 1931, to Nov. 12, 1934, nonrecording gage at present site and datum. Since Mar. 31, 1937, auxiliary water-stage recorder 2.7 mi upstream at tailwater of Navigation Dam 5A.

REMARKS.--Records good. Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

AVERAGE DISCHARGE.--55 years, 26,900 ft³/s, 6.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 268,000 ft³/s Apr. 19, 1965, gage height, 20.77 ft, from floodmark; minimum, 1,940 ft³/s Dec. 12, 1980, gage height, 3.96 ft result of ice jam; minimum gage height, -3.38 ft Aug. 31, 1934 (prior to dam construction in 1936); minimum gage height since 1938, after completion of dam, 1.95 ft Jan. 27, 1944.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of June 18, 1880, reached an elevation of 657.14 ft, discharge, 172,000 ft³/s, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 138,000 ft³/s Mar. 12, gage height, 14.53 ft; minimum daily, 17,700 ft³/s Jan. 18, Aug. 25; minimum recorded gage height, 5.08 ft Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26700	52500	47500	34300	23200	39500	53100	82900	39600	50800	27300	25600
2	28500	48100	45900	35200	23200	46500	54400	78900	37400	52000	24400	26900
3	27000	47500	46700	33900	22900	53200	57300	75900	37400	52200	23100	29500
4	25500	46100	48600	29300	22900	61600	59400	74300	37900	56100	25800	31900
5	22000	45000	49400	28800	22300	67900	61400	72000	37800	59400	26100	31300
6	21500	44600	50800	34900	21200	72400	62200	68100	37500	62300	25800	28100
7	23700	41000	52000	42900	21300	76400	62900	67300	37400	64100	26300	24300
8	27900	39200	52300	45900	21200	85600	64000	66900	37500	64500	26600	20800
9	30900	38500	47900	42300	21200	104000	66400	67300	36400	66700	26400	19400
10	37200	38100	42400	40000	21300	123000	69000	68100	35300	68900	25600	20000
11	40300	41800	36000	38200	21200	134000	71600	68000	33900	71000	24900	25600
12	41000	42500	32000	35500	21600	137000	76100	67600	31900	72500	23700	24900
13	43400	46800	22800	32300	21900	132000	79400	66000	29100	72400	22400	25300
14	52600	49200	21000	27100	22100	126000	85300	64700	27600	71000	20900	25300
15	54800	51200	18100	28600	23400	118000	91000	62500	28200	68500	21600	24000
16	55200	54300	23900	26000	24500	113000	96700	61100	28800	66200	21000	22600
17	54700	56300	34900	18400	25400	110000	101000	61900	28500	64700	22300	23800
18	54000	55400	39300	17700	25700	106000	106000	62000	28500	62700	24000	25200
19	54000	53000	42100	22200	26900	101000	107000	61700	30500	58600	26700	27900
20	53700	48300	42900	28300	27100	96600	106000	60400	32900	54600	27100	33400
21	55800	48400	40300	30100	27000	91300	104000	60500	34200	52800	26100	37900
22	55000	50700	36000	30200	26900	86400	102000	60500	35700	51400	25200	39100
23	55900	51600	34100	30200	31600	81000	103000	59600	38500	48700	23600	43300
24	57600	53400	32300	30100	34400	76400	103000	56500	41100	42100	19700	46400
25	55800	57300	30700	30200	35600	72000	102000	54300	42400	36800	17700	45200
26	61000	60500	33900	29100	35900	68600	99800	53800	42600	35400	19600	40000
27	60700	60500	39700	29100	36100	66100	98000	51200	43000	33200	22500	34200
28	51000	57000	43400	26400	36200	64200	94900	47500	44400	31000	23100	31500
29	55500	53800	36700	23300	---	59300	90600	47200	45700	30700	23400	29900
30	57600	50000	36300	22100	---	56000	87000	45300	48000	30400	23400	28200
31	55100	---	34800	22400	---	54100	---	42500	---	29300	23800	---
TOTAL	1395600	1482600	1194700	945000	724200	2679100	2514500	1936500	1089700	1681000	740100	891500
MEAN	45020	49420	38540	30480	25860	86420	83820	62470	36320	54230	23870	29720
MAX	61000	60500	52300	45900	36200	137000	107000	82900	48000	72500	27300	46400
MIN	21500	38100	18100	17700	21200	39500	53100	42500	27600	29300	17700	19400
CFSM	.76	.84	.65	.52	.44	1.46	1.42	1.06	.61	.92	.40	.50
IN.	.88	.93	.75	.59	.46	1.68	1.58	1.22	.68	1.06	.47	.56
CAL YR 1982	TOTAL	14354700	MEAN	39330	MAX	137000	MIN	12100	CFSM	.66	IN	9.02
WTR YR 1983	TOTAL	17274500	MEAN	47330	MAX	137000	MIN	17700	CFSM	.80	IN	10.85

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 upstream from Trempealeau River, and at mile 725.7 upstream from the Ohio River.

DRAINAGE AREA.--59,200 mi², approximately.

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

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.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 393 mg/l July 2, 1978; minimum daily mean, 1 mg/l on many days.

SEDIMENT DISCHARGE: Maximum daily 65,300 tons July 2, 1978; minimum daily, 19 tons Dec. 12, 1980.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 83 mg/l Mar. 9; minimum daily mean, 1 mg/l Jan. 19, 20.

SEDIMENT DISCHARGE: Maximum daily, 26,400 tons Mar. 11; minimum daily, 60 tons Jan. 19.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)
OCT , 1982										
13...	1430	43400	--	330	8.1	11.0	13.0	6.6	9.1	748
JAN , 1983										
10...	1600	--	39600	340	8.1	2.0	.5	4.4	13.2	740
APR										
06...	1330	--	62000	495	8.2	5.0	4.0	7.0	13.2	750
AUG										
02...	1530	--	24200	390	8.8	29.5	27.5	6.7	9.4	745

DATE	TIME	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- 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
OCT , 1982											
13...	88	120	140	150	25	36	14	8.9	11	.3	
JAN , 1983											
10...	94	24	440	220	65	53	22	12	10	.4	
APR											
06...	102	K6	480	240	83	60	21	8.7	7	.3	
AUG											
02...	122	K14	210	210	44	53	20	8.9	8	.3	

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
OCT , 1982									
13...	2.0	123	1.9	26	12	.20	12	221	186
JAN , 1983									
10...	2.3	158	2.4	51	14	.20	15	283	265
APR									
06...	3.1	154	1.9	62	16	.20	12	294	276
AUG									
02...	2.6	171	.5	45	15	.30	13	316	261

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 1982 TO SEPTEMBER 1983

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,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)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT , 1982									
13...	.30	25900	1.1	.060	.60	.150	.110	.100	.31
JAN , 1983									
10...	.38	30300	2.7	.340	.90	.140	.110	.100	.31
APR									
06...	.40	49200	3.3	.100	.90	.100	.050	.040	.12
AUG									
02...	.43	20600	1.1	.020	1.50	.150	.120	.080	.25

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
OCT , 1982												
13...	1430	43400	--	60	3	50	<1.0	<1.0	6	<3.0	--	100
JAN , 1983												
10...	1600	--	39600	90	2	56	<1.0	<1.0	<1	<3.0	11	100
APR												
06...	1330	--	62000	10	1	55	<1.0	<1.0	<1	<3.0	2.0	76
AUG												
02...	1530	--	24200	<10	2	62	<1.0	<1.0	<1	<3.0	8.0	10

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT , 1982											
13...	--	5.0	8	<.0	<10	--	<1	<1	90	<6.0	5.0
JAN , 1983											
10...	2	9.0	28	<.0	<10	1	1	1	140	<6.0	5.0
APR											
06...	2	18	11	.0	<10	5	1	<1	150	<6.0	<3.0
AUG											
02...	3	10	2	.0	20	5	1	<1	140	<6.0	6.0

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SOLVED (MG/L)
OCT , 1982											
13...	1430	43400	--	24	2860	86					
JAN , 1983											
10...	1600	--	39600	7	748	--					
APR											
06...	1330	--	62000	18	3010	70					
06...	1428	--	--	25	--	70					
AUG											
02...	1530	--	24200	15	980	96					

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
AUG , 1983									
02...	1530	24200	0	1	30	77	90	94	97

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	320	470	---	---	---	480	460	480	460	400	340
2	330	330	460	---	425	410	490	460	485	470	400	320
3	340	320	440	---	---	410	500	460	480	470	400	300
4	340	330	440	---	---	390	490	455	460	460	400	285
5	340	350	430	425	---	390	480	460	460	450	390	310
6	340	360	440	---	---	390	480	460	460	440	380	310
7	330	360	430	---	---	370	480	460	450	435	380	320
8	320	360	440	---	---	335	485	450	440	440	380	325
9	320	360	460	---	430	315	490	430	420	440	370	325
10	330	360	480	340	---	300	490	420	420	440	370	320
11	320	340	470	---	---	320	485	420	425	410	380	320
12	320	350	470	445	---	360	480	420	420	410	380	320
13	335	360	460	---	---	350	460	420	420	400	390	320
14	340	360	460	---	---	370	450	425	420	400	390	320
15	360	310	460	---	---	370	450	420	420	400	380	320
16	370	280	---	---	425	380	460	430	410	400	370	320
17	380	300	---	---	---	380	450	440	410	415	380	320
18	370	340	---	---	---	385	440	440	420	---	370	320
19	370	350	---	435	---	390	450	450	420	---	360	320
20	360	370	---	---	---	390	460	460	440	430	360	320
21	340	370	---	---	---	400	460	460	440	---	360	300
22	330	360	440	---	---	410	460	460	440	420	360	300
23	320	360	---	---	390	420	465	470	430	---	360	280
24	310	350	---	---	---	425	470	470	430	440	360	240
25	290	360	---	---	---	430	470	460	440	---	350	240
26	290	390	---	430	---	445	470	470	440	---	340	280
27	290	440	---	---	---	450	470	470	460	440	340	290
28	310	450	---	---	---	460	470	470	460	---	340	290
29	310	470	410	---	---	470	460	470	450	---	330	290
30	310	480	---	---	---	480	460	480	460	400	330	300
31	310	---	---	---	---	475	---	490	---	---	330	---
MEAN	331	361	451	415	418	396	470	452	440	430	369	306

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	8.5	2.5	---	---	---	4.0	11.0	15.0	22.0	26.0	24.0
2	15.0	8.0	5.0	---	.0	2.0	5.0	11.0	16.0	23.0	26.0	25.0
3	15.0	8.0	4.0	---	---	3.0	4.0	11.0	16.0	23.0	26.0	25.0
4	15.0	6.0	2.0	---	---	3.0	4.0	11.0	16.0	22.0	25.0	25.0
5	15.0	5.0	2.0	.0	---	3.0	4.0	11.0	16.0	21.0	26.0	23.0
6	17.0	5.0	1.0	---	---	3.0	4.0	12.0	16.0	20.0	26.0	22.0
7	15.0	5.0	1.0	---	---	3.0	4.0	12.0	16.0	21.0	26.0	22.0
8	14.0	5.0	1.0	---	---	2.0	4.0	12.0	18.0	23.0	26.0	22.0
9	13.0	6.0	1.0	---	.0	1.0	5.0	12.0	19.0	24.0	25.0	23.0
10	13.0	5.5	1.0	.5	---	1.0	4.0	12.0	19.0	25.0	25.0	24.0
11	12.0	5.5	.5	---	---	2.0	4.0	14.0	21.0	25.0	24.0	22.0
12	12.0	4.0	.5	1.0	---	2.0	5.0	14.0	21.0	24.0	24.0	20.0
13	13.0	3.0	1.0	---	---	2.0	5.0	15.0	21.0	25.0	24.0	19.0
14	12.0	2.0	1.0	---	---	2.0	5.0	14.0	21.0	26.0	24.0	18.0
15	12.0	2.0	.5	---	---	2.0	4.0	13.0	20.0	26.0	24.0	18.0
16	11.0	2.0	---	---	.0	3.0	5.0	12.0	19.0	26.0	25.0	17.0
17	10.0	2.0	---	---	---	3.0	4.0	12.0	19.5	26.0	25.0	17.0
18	10.0	3.5	---	---	---	3.0	5.0	13.0	19.0	---	25.0	17.0
19	12.0	5.0	---	.0	---	2.0	5.0	13.0	19.0	---	26.0	16.0
20	10.0	7.0	---	---	---	2.0	6.0	13.5	21.0	27.0	26.0	15.0
21	8.0	5.0	---	---	---	1.0	7.0	15.0	22.0	---	25.0	13.0
22	7.5	5.0	.5	---	---	1.0	9.0	15.0	24.0	27.0	24.0	12.0
23	8.0	2.0	---	---	1.0	2.0	9.0	15.0	24.0	---	23.0	12.0
24	9.0	1.0	---	---	---	2.0	9.0	16.0	24.0	27.0	23.5	12.0
25	9.0	1.0	---	---	---	2.0	10.0	15.0	24.0	---	24.0	13.0
26	9.0	2.0	---	.0	---	2.0	11.0	15.0	24.0	---	24.0	15.0
27	9.0	1.0	---	---	---	2.0	11.0	16.0	23.0	26.0	25.0	16.0
28	9.0	1.0	---	---	---	3.0	11.0	16.0	20.0	---	25.0	17.0
29	8.5	2.0	.0	---	---	3.0	11.0	16.0	20.0	---	25.0	17.5
30	9.0	2.0	---	---	---	3.0	11.0	15.0	21.0	27.0	25.0	18.0
31	8.0	---	---	---	---	4.0	---	13.0	---	---	24.0	---
MEAN	11.5	4.0	1.5	.5	.5	2.5	6.5	13.5	20.0	24.5	25.0	18.5

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)
	(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)	
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12	865	14	1980	8	1030	11	1020	2	125	5	533
2	17	1310	14	1820	9	1120	9	855	2	125	7	879
3	16	1170	18	2310	10	1260	7	641	2	124	18	2590
4	12	826	20	2490	9	1180	6	475	2	124	40	6650
5	13	772	19	2310	9	1200	4	311	2	120	58	10600
6	14	813	14	1690	7	960	5	471	2	114	57	11100
7	17	1090	13	1440	6	842	5	579	2	115	49	10100
8	20	1510	11	1160	8	1130	6	744	2	114	55	12700
9	19	1590	12	1250	10	1290	7	799	2	114	83	23300
10	23	2310	13	1340	9	1030	7	756	3	173	78	25900
11	17	1850	16	1810	17	1650	5	516	5	286	73	26400
12	16	1770	46	5280	7	605	3	288	6	350	62	22900
13	22	2580	46	5810	4	246	3	262	8	473	54	19200
14	25	3550	43	5710	3	170	2	146	10	597	33	11200
15	27	3990	25	3460	4	195	2	154	11	695	31	9880
16	34	5070	26	3810	4	258	2	140	13	860	32	9760
17	27	3990	20	3040	4	377	2	99	11	754	27	8020
18	20	2920	16	2390	4	424	2	96	10	694	29	8300
19	22	3210	15	2150	4	455	1	60	8	581	30	8180
20	58	8410	13	1700	4	463	1	76	7	512	24	6260
21	31	4670	14	1830	4	435	2	163	5	364	21	5180
22	29	4310	18	2460	4	389	2	163	3	218	18	4200
23	42	6340	24	3340	6	552	2	163	2	171	18	3940
24	25	3890	17	2450	8	698	2	163	2	186	13	2680
25	27	4070	18	2780	9	746	2	163	3	288	12	2330
26	27	4450	20	3270	11	1010	2	157	4	388	16	2960
27	27	4430	16	2610	12	1290	2	157	4	390	18	3210
28	22	3030	13	2000	14	1640	2	143	5	489	14	2430
29	22	3300	9	1310	15	1490	2	126	---	---	13	2080
30	21	3270	8	1080	14	1370	2	119	---	---	13	1970
31	17	2530	---	---	12	1130	2	121	---	---	13	1900
TOTAL	---	93886	---	76080	---	26635	---	10126	---	9544	---	267332

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)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)
	(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)	
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	11	1580	19	4250	17	1820	25	3430	14	1030	13	899
2	12	1760	20	4260	17	1720	24	3370	15	988	15	1090
3	15	2320	18	3690	18	1820	27	3810	15	936	16	1270
4	19	3050	25	5020	14	1430	51	7720	16	1110	17	1460
5	18	2980	22	4280	14	1430	55	8820	16	1130	19	1610
6	15	2520	20	3680	15	1520	53	8920	15	1040	17	1290
7	16	2720	22	4000	17	1720	46	7960	15	1070	15	984
8	14	2420	28	5060	15	1520	41	7140	16	1150	14	786
9	16	2870	37	6720	15	1470	36	6480	16	1140	12	629
10	16	2980	36	6620	15	1430	37	6880	15	1040	12	648
11	16	3090	25	4590	15	1370	35	6710	16	1080	16	1110
12	18	3700	23	4200	14	1210	34	6660	14	896	15	1010
13	21	4500	23	4100	16	1260	25	4890	14	847	14	956
14	24	5530	25	4370	17	1270	22	4220	13	734	14	956
15	40	9830	25	4220	19	1450	22	4070	13	758	15	972
16	30	7830	23	3790	16	1240	26	4650	14	794	13	793
17	28	7640	23	3840	16	1230	35	6110	15	903	13	835
18	32	9160	24	4020	14	1080	37	6260	16	1040	15	1020
19	25	7220	26	4330	18	1480	32	5060	16	1150	17	1280
20	19	5440	25	4080	20	1780	27	3980	13	951	23	2070
21	21	5900	22	3590	16	1480	23	3280	12	846	31	3170
22	25	6880	22	3590	17	1640	21	2910	11	748	31	3270
23	22	6120	23	3700	19	1980	22	2890	11	701	29	3390
24	20	5560	24	3660	15	1660	23	2610	12	638	31	3880
25	28	7710	24	3520	19	2180	21	2090	12	573	31	3780
26	22	5930	24	3490	24	2760	19	1820	11	582	16	1730
27	22	5820	23	3180	18	2090	16	1430	12	729	13	1200
28	20	5120	24	3080	20	2400	15	1260	16	998	13	1110
29	19	4650	22	2800	26	3210	15	1240	15	948	13	1050
30	20	4700	21	2570	25	3240	14	1150	14	885	14	1070
31	---	---	20	2300	---	---	14	1110	13	835	---	---
TOTAL	---	147530	---	124600	---	51890	---	138930	---	28270	---	45318

TOTAL LOAD FOR YEAR: 1020141 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 upstream from mouth.

DRAINAGE AREA.--643 mi².

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 and crest-stage gage. Datum of gage is 661.42 ft 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 higher.

REMARKS.--Records are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (1915-19, 1935-83), 420 ft³/s, 8.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,400 ft³/s Apr. 4, 1956, gage height, 10.35 ft; minimum daily, 98 ft³/s Jan. 10, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 23	1100	2,220	8.08	Mar. 6	1200	2,900	9.49
Nov. 14	1800	2,010	7.74	Apr. 16	1800	1,550	6.77
Dec. 31	0100	*4,410	*10.10	Sept. 23	0300	2,290	8.34
Feb. 24	0200	1,440	6.58				

minimum daily, 308 ft³/s Aug. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Feb. 21 to Mar. 14, Apr. 27 to May 20, and
July 14 to Sept. 30; stage-discharge relation affected by ice Dec. 9-26 and
Jan. 1 to Feb. 20.)

3.1	288	7.0	1,630
4.0	530	8.0	2,170
5.0	850	9.0	2,910
6.0	1,200	10.0	4,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	656	614	655	1700	400	981	719	629	663	529	382	526
2	686	590	677	1300	400	1070	744	655	627	573	348	501
3	622	569	713	1000	390	1190	799	673	611	518	349	446
4	549	555	687	800	380	1420	845	643	620	757	381	412
5	496	543	687	700	380	2010	821	610	616	740	366	465
6	471	528	847	660	380	2800	777	686	593	590	352	551
7	540	518	846	620	380	2550	776	1030	567	490	343	507
8	666	512	728	580	380	2350	764	1220	543	440	336	441
9	629	511	700	540	380	2070	734	1080	530	413	325	415
10	627	842	660	520	380	1470	823	876	516	394	319	403
11	571	1190	620	490	380	1030	968	744	504	386	319	386
12	509	1500	600	470	380	868	989	756	502	371	315	383
13	480	1670	580	460	380	807	980	1030	502	358	312	384
14	463	1900	580	450	390	814	1160	1130	502	351	308	383
15	456	1690	560	440	400	843	1360	986	475	346	313	396
16	452	1100	560	430	410	813	1510	820	459	343	321	494
17	424	825	560	420	420	785	1440	725	443	387	386	513
18	418	741	560	420	440	876	1180	686	441	571	459	473
19	424	733	540	410	500	979	980	739	448	554	418	531
20	1020	788	540	410	560	975	872	881	444	653	380	1330
21	1410	831	540	410	649	864	811	876	438	616	414	1640
22	1700	785	540	410	803	760	770	810	428	516	745	2050
23	2130	704	580	400	1130	702	740	779	421	452	652	2140
24	1630	641	700	400	1180	665	709	731	407	415	533	1460
25	1010	623	900	400	957	652	688	735	406	391	487	867
26	785	581	1100	400	717	648	676	691	406	374	612	688
27	692	565	1330	400	582	657	663	640	419	375	846	624
28	654	580	1500	400	688	648	647	624	458	363	741	580
29	694	621	1940	400	---	661	636	636	452	363	597	569
30	708	659	3620	400	---	652	634	638	455	363	559	535
31	659	---	3880	400	---	658	---	660	---	394	527	---
TOTAL	23231	24509	29530	17240	14816	34268	26215	24419	14896	14386	13745	21093
MEAN	749	817	953	556	529	1105	874	788	497	464	443	703
MAX	2130	1900	3880	1700	1180	2800	1510	1220	663	757	846	2140
MIN	418	511	540	400	380	648	634	610	406	343	308	383
CFSM	1.17	1.27	1.48	.87	.82	1.72	1.36	1.23	.77	.72	.69	1.09
IN.	1.34	1.42	1.71	1.00	.86	1.98	1.52	1.41	.86	.83	.80	1.22
CAL YR 1982	TOTAL	207086	MEAN	567	MAX	3880	MIN	260	CFSM	.88	IN	11.98
WTR YR 1983	TOTAL	258348	MEAN	708	MAX	3880	MIN	308	CFSM	1.10	IN	14.95

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 downstream from O'Neill Creek, and 2.6 mi upstream from Cunningham Creek.

DRAINAGE AREA.--749 mi².

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 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 downstream at datum 1.58 ft lower.

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

AVERAGE DISCHARGE.--73 years (1906-8, 1914-83), 593 ft³/s, 10.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,800 ft³/s Sept. 10, 1938, gage height, 23.8 ft; minimum, 0.6 ft³/s Aug. 15, 1936, gage height, 1.84 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 20	1300	13,900	14.00	Apr. 14	1900	6,130	10.09
Nov. 12	1100	10,300	12.36	Sept. 20	1000	6,880	10.54
Mar. 7	0100	*18,300	*15.73				

minimum, 46 ft³/s July 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 12 to July 22, July 24-28, and Aug. 2-4, 15, 16, 29; stage-discharge relation affected by ice Dec. 10-29, Jan. 3 to Mar. 4.)

2.6	41	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	16.0	19,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	920	450	812	98	140	589	344	402	82	165	2130
2	1070	789	559	591	96	300	923	387	370	80	124	1370
3	975	687	828	340	96	700	1240	430	345	82	114	905
4	854	640	997	300	96	2000	1280	448	337	103	114	585
5	752	601	1130	270	96	10300	1310	416	315	99	208	415
6	704	562	1590	250	94	16700	1240	421	304	94	285	357
7	2320	527	1090	230	92	16300	1400	1750	283	97	150	527
8	2410	495	703	220	90	10800	1370	2680	253	98	130	502
9	2060	471	497	210	90	7200	1230	1890	228	91	110	419
10	2470	2190	330	200	90	4300	1470	1280	198	82	98	328
11	2010	3420	280	190	90	2400	2170	910	174	72	88	256
12	1680	8460	260	180	90	1460	1820	683	157	66	80	240
13	1360	6630	250	170	90	1400	1660	695	145	60	74	237
14	1100	4010	240	170	90	1560	3960	803	132	54	66	211
15	929	2230	220	160	92	1480	5090	852	118	51	64	210
16	770	1470	210	150	94	1270	3340	773	105	49	104	259
17	659	1040	200	150	94	1090	2110	638	97	58	986	272
18	588	820	190	140	96	1340	1420	535	96	81	1030	372
19	569	845	180	140	98	1580	1040	670	97	83	625	772
20	10700	1280	180	130	100	1270	817	764	93	91	384	5570
21	10100	2230	180	130	110	945	679	752	89	88	463	4640
22	6440	2020	180	120	130	721	607	926	85	96	553	3460
23	3690	1610	170	120	150	593	566	1380	80	147	339	2420
24	2220	1220	180	120	160	523	533	1230	78	124	250	1660
25	1590	867	880	110	150	449	514	1000	81	101	200	1140
26	1150	589	1600	110	140	403	483	744	82	84	185	766
27	915	427	1500	110	130	367	446	572	83	74	322	570
28	789	346	3700	100	130	352	413	497	86	69	205	451
29	1030	403	2000	100	---	357	394	456	85	220	154	381
30	1140	418	1300	100	---	378	366	433	81	262	658	328
31	1050	---	1110	100	---	439	---	434	---	214	1960	---
TOTAL	65124	48217	23184	6223	2972	89117	40480	25793	5079	3052	10288	31753
MEAN	2101	1607	748	201	106	2875	1349	832	169	98.5	332	1058
MAX	10700	8460	3700	812	160	16700	5090	2680	402	262	1960	5570
MIN	569	346	170	100	90	140	366	344	78	49	64	210
CFSM	2.81	2.15	1.00	.27	.14	3.84	1.80	1.11	.23	.13	.44	1.41
IN.	3.23	2.39	1.15	.31	.15	4.43	2.01	1.28	.25	.15	.51	1.58

CAL YR 1982	TOTAL	361310	MEAN 990	MAX 13400	MIN 39	CFSM 1.32	IN 17.94
WTR YR 1983	TOTAL	351282	MEAN 962	MAX 16700	MIN 49	CFSM 1.28	IN 17.45

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 upstream from bridge on U.S. Highway 53, 4.5 mi southeast of Galesville, and 4.8 mi downstream from Fleming Creek.

DRAINAGE AREA.--2,080 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Apr. 2, 1941, nonrecording gage on bridge 1,000 ft downstream at same datum. Apr. 3, 1941, to Oct. 1, 1971, water-stage recorder at site 1,100 ft 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 and storage capacity is 272,000,000 ft³. Water diverted periodically from basin into Lemonweir River basin for cranberry culture. Gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 1,730 ft³/s, 11.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,500 ft³/s Apr. 1, 1967, gage height, 14.63 ft; maximum gage height, 15.46 ft Sept. 23, 1980; minimum observed, 180 ft³/s Dec. 20, 1931

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 23	1000	18,200	12.72	Mar. 8	1200	*37,900	*14.84
Nov. 14	2000	18,900	12.92				

minimum discharge, 362 ft³/s Aug. 15, gage height, 1.28 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 16 to May 12, and July 3 to Sept. 19; stage-discharge relation affected by ice Dec. 10 -28 and Jan. 2 to Mar. 4)

Oct. 1 to Oct. 23		Oct. 24 to Mar. 7		Mar. 8 to Sept. 30	
3.5	1,950	2.2	729	1.4	355
4.0	2,400	3.0	1,260	2.0	760
5.0	3,300	4.0	2,030	3.0	1,520
7.0	5,300	6.0	4,020	4.0	2,400
9.0	8,000	8.0	6,670	5.0	3,300
11.0	12,100	10.0	9,880	6.0	4,300
13.0	19,600	12.0	15,300	7.0	5,300
		14.0	24,500	8.0	6,500
				9.0	8,000
				10.0	9,700
				11.0	12,100
				12.0	15,100
				13.0	20,100
				14.0	28,100
				15.0	41,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1990	2710	1960	9690	840	1100	1780	1470	1960	806	545	1810
2	3300	2490	1890	6000	840	1500	1910	1520	1730	864	493	2920
3	2240	2280	1980	4000	800	2000	2560	1540	1500	817	724	2640
4	2300	2170	2120	2500	780	3000	3300	1560	1380	886	755	1930
5	2410	2050	2380	1800	760	4810	3770	1670	1400	898	627	1790
6	2270	1960	3160	1600	740	7260	3930	1630	1400	905	658	1700
7	2270	1870	3820	1500	740	19700	4000	2120	1400	797	631	1210
8	3170	1790	4280	1400	740	33100	4010	2660	1300	725	442	1150
9	4390	1780	3150	1300	740	28100	4320	4620	1300	751	427	1090
10	4160	2060	2700	1200	740	19600	3920	5730	1300	695	530	1420
11	4030	2930	2400	1200	740	13100	3760	4940	1300	564	652	1140
12	4380	5620	2100	1100	740	8600	4530	3740	1110	533	532	999
13	3990	8760	1900	1100	740	5720	5350	3050	1010	562	600	940
14	3220	16400	1800	1100	740	4530	5260	2790	968	522	589	916
15	2970	15500	1700	1000	760	4470	5330	3220	976	490	414	873
16	2490	10600	1700	1000	760	4560	7500	3220	962	585	433	931
17	2290	6920	1600	980	780	4340	9690	3040	884	533	531	952
18	2140	4560	1600	980	780	4030	7750	2610	865	686	585	890
19	2090	3090	1500	960	800	4000	5410	2500	833	646	933	825
20	2540	3070	1500	960	820	4190	4080	2530	668	978	1310	1770
21	4230	3360	1500	940	860	4420	3300	3400	668	851	1110	4150
22	9470	3870	1400	920	900	4060	2680	3490	797	761	1000	6500
23	17300	4310	1400	920	1000	3350	2620	3450	790	708	1120	8770
24	12200	3910	1400	900	1100	2680	2340	3590	761	721	1430	6930
25	8070	3220	1400	900	1200	2500	2220	3430	669	556	1220	5200
26	5350	2390	1400	900	1200	2660	2130	3100	685	520	1230	3610
27	3480	2180	2000	900	1100	2810	1990	2760	642	582	1260	2660
28	2870	2070	3500	880	1000	2520	1930	2460	641	614	1020	2360
29	2580	2060	4860	860	---	2270	1920	2260	774	711	776	2100
30	2580	1980	7760	860	---	2030	1850	2150	715	705	809	1890
31	2910	---	10700	840	---	1970	---	2030	---	710	1150	---
TOTAL	129680	127960	82560	51190	23740	208980	115140	88280	31388	21682	24536	72066
MEAN	4183	4265	2663	1651	848	6741	3838	2848	1046	699	791	2402
MAX	17300	16400	10700	9690	1200	33100	9690	5730	1960	978	1430	8770
MIN	1990	1780	1400	840	740	1100	1780	1470	641	490	414	825
CFSM	2.01	2.05	1.28	.79	.41	3.24	1.85	1.37	.50	.34	.38	1.16
IN.	2.32	2.29	1.48	.92	.42	3.74	2.06	1.58	.56	.39	.44	1.29

CAL YR 1982	TOTAL	972161	MEAN	2663	MAX	23200	MIN	498	CFSM	1.28	IN	17.39
WTR YR 1983	TOTAL	977202	MEAN	2677	MAX	33100	MIN	414	CFSM	1.29	IN	17.48

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 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC , 1982												
02...	1240	1970	120	7.5	--	5.5	4.0	11.6	--	--	73	380
JAN , 1983												
27...	1400	867	128	8.1	--	.0	2.7	11.2	--	--	K12	K19
MAR												
08...	1415	34000	46	7.5	--	1.0	15	12.5	--	--	--	--
APR												
29...	1410	1880	77	7.4	15.5	13.5	4.0	10.0	--	--	41	320
JUL												
19...	1250	624	160	7.8	32.0	26.5	--	8.5	744	109	--	--
SEP												
08...	0815	1100	108	7.0	26.5	19.5	6.2	7.4	744	83	470	200

DATE	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)	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)
DEC , 1982												
02...	44	11	10	4.5	2.6	11	.2	2.2	33	7.0	6.5	<.10
JAN , 1983												
27...	51	8	12	5.2	3.2	12	.2	1.5	43	11	4.7	<.10
MAR												
08...	19	5	4.6	1.9	1.5	12	.2	3.3	14	10	3.8	<.10
APR												
29...	42	10	10	4.2	2.9	12	.2	1.9	32	10	4.5	<.10
JUL												
19...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
08...	54	10	13	5.2	3.5	12	.2	3.1	44	9.2	5.7	.10

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)
DEC , 1982											
02...	10	88	64	.12	468	.63	.090	.60	.110	.060	.060
JAN , 1983											
27...	13	71	77	.10	166	.91	.100	.30	.120	.070	.080
MAR											
08...	4.7	49	40	.07	4500	.40	.340	.90	.200	.090	.070
APR											
29...	6.6	70	60	.10	355	.38	<.010	.40	.090	.050	.030
JUL											
19...	--	--	--	--	--	.54	.020	.60	.190	.100	.070
SEP											
08...	7.5	88	74	.12	261	--	--	--	--	--	--

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

BLACK RIVER BASIN
05382000 BLACK RIVER NEAR GALESVILLE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
DEC , 1982											
02...	1240	1970	100	1	27	<1	3	3	<3	5	420
MAR , 1983											
08...	1415	34000	60	1	23	<1	2	--	<3	4	450
APR											
29...	1410	1880	50	1	61	<1	1	<1	<3	2	280
SEP											
08...	0815	1100	20	1	44	<1	2	<1	<3	28	420

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1982											
02...	2	<4	23	.1	<10	3	<1	2	31	<6.0	17
MAR , 1983											
08...	6	<4	71	.2	<10	1	<1	<1	15	<6.0	29
APR											
29...	6	<4	16	.1	<10	3	<1	<1	28	<6.0	30
SEP											
08...	1	8	19	.1	<10	1	<1	<1	40	<6.0	59

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 , 1982							
27...	1310	3570	90	7.5	--	--	--
DEC							
02...	1240	1970	120	5.5	13	69	67
JAN , 1983							
27...	1400	867	128	.0	6	14	87
MAR							
08...	1415	34000	46	1.0	194	17800	18
08...	1500	34000	46	1.0	--	--	--
09...	1500	27800	10	1.0	--	--	--
18...	1230	3950	78	5.0	--	--	--
APR							
29...	1410	1880	77	13.5	14	71	92
JUN							
09...	1640	1350	115	20.0	--	--	--
JUL							
19...	1250	624	160	26.5	--	--	--
20...	1030	--	--	--	167	--	97
SEP							
08...	0815	1100	108	19.5	28	83	91

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 upstream from Wisconsin River, 4.3 mi downstream from Yellow River, and at mile 633.4 upstream from Ohio River.

DRAINAGE AREA.--67,500 mi², 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 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 upstream in tailwater of dam 9, at datum 5.30 ft 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.--47 years, 34,410 ft³/s, 6.92 in/yr, 24,930,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 276,000 ft³/s Apr. 24, 1965; maximum gage height, 25.38 ft Apr. 24, 1965; minimum daily discharge, 6,200 ft³/s Dec. 9, 1936; minimum gage height, -0.86 ft 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, 145,000 ft³/s Mar. 16; maximum gage height, 19.02 ft Mar. 15; minimum daily discharge, 21,000 ft³/s Feb. 4; minimum gage height, 6.85 ft Aug. 16-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28300	70000	60000	40500	27000	45500	72100	105000	57300	52000	37500	28100
2	30800	65700	57500	40300	25000	48500	68600	102000	53000	56200	34500	30000
3	34100	61600	55500	40500	23200	52000	66900	98100	50100	64500	31800	33700
4	35200	58000	54000	40300	21000	63000	66800	94700	47500	70000	29500	34700
5	33300	54200	54000	40000	22700	74000	69900	91700	46400	72000	28800	35800
6	29900	49500	55000	40000	24500	80000	73300	89400	45800	72500	29000	37800
7	28900	47400	59500	40000	26000	88300	75500	87900	45600	72500	30800	34900
8	29700	45800	60500	39800	25500	95500	76600	85200	45900	72500	32500	28800
9	33300	44900	58000	41000	25000	104000	77900	83000	46200	73500	33000	24800
10	38100	45600	53000	45000	24500	113000	79400	82000	45100	74200	33100	24300
11	42300	46600	48500	48000	24400	125000	81100	81600	43100	74500	32700	25300
12	45700	56300	42000	50000	24400	132000	83200	82800	41000	76000	32000	27300
13	48000	61600	35000	49500	24800	139000	87000	84900	38600	76500	30100	30400
14	49700	67100	31700	43500	25400	142000	92300	85700	37200	78200	27800	31900
15	52600	73500	32000	37000	26700	143000	96900	84800	36600	79300	25800	31600
16	57400	75600	32000	28500	28000	145000	102000	82400	36400	78400	24100	31000
17	59200	79700	31000	26500	29000	144000	106000	79700	35900	76500	24300	30000
18	60200	82200	32000	23500	30200	139000	110000	77600	35700	72000	28400	29200
19	59800	82300	36000	22500	31500	133000	114000	77500	36900	74000	30400	31400
20	62100	80600	40500	23500	32600	127000	117000	76700	37700	67500	31500	38500
21	62400	76700	43500	26000	33700	123000	118000	76500	38200	64000	32100	44800
22	64100	72000	45000	30500	35800	118000	119000	76400	38200	60000	31600	51900
23	67000	67200	44000	33500	38000	113000	119000	76300	39400	57000	29800	55600
24	70200	64800	42500	33600	40500	108000	117000	75700	42600	53500	26000	56900
25	74700	65100	41500	33800	42500	103000	116000	75700	44700	51000	27200	58500
26	78900	67600	41000	33800	43500	97300	115000	73200	46100	45000	29200	60200
27	81800	71500	41000	33500	44000	92700	113000	70600	48100	37500	32000	59900
28	82900	73700	41000	33000	44500	88600	112000	68100	49800	31000	33600	55800
29	82300	74000	40900	31000	---	83900	110000	66900	51200	35800	32700	49200
30	78800	64500	40800	29500	---	80800	108000	63900	51800	40500	30000	40500
31	74500	---	40700	28500	---	77200	---	60900	---	38800	28500	---
TOTAL	1676200	1945300	1389600	1106600	843900	3218300	2863500	2516900	1312100	1946900	940300	1152800
MEAN	54070	64840	44830	35700	30140	103800	95450	81190	43740	62800	30330	38430
MAX	82900	82300	60500	50000	44500	145000	119000	105000	57300	79300	37500	60200
MIN	28300	44900	31000	22500	21000	45500	66800	60900	35700	31000	24100	24300
CFSM	.80	.96	.66	.53	.45	1.54	1.41	1.20	.65	.93	.45	.57
IN.	.92	1.07	.77	.61	.47	1.77	1.58	1.39	.72	1.07	.52	.64
CAL YR 1982	TOTAL	17311900	MEAN	47430	MAX	139000	MIN	15300	CFSM	.70	IN	9.54
WTR YR 1983	TOTAL	20912400	MEAN	57290	MAX	145000	MIN	21000	CFSM	.85	IN	11.53

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Samples collected from boat 1.5 mi downstream from discharge station. Prior to April 1981, at Bridge on U.S. Highway 18, 1.2 mi 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 Mar. 31, 1979; minimum daily, 31 tons Dec. 25, 1976.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 248 mg/l July 1; minimum daily mean, 2 mg/l Nov. 24.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 34,800 tons July 1; minimum daily, 227 tons Feb. 4.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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
OCT , 1982					
19...	1200	57600	36	5610	97
APR , 1983					
06...	1130	64300	36	6250	95
JUN					
22...	1245	40300	48	5220	91

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 , 1983											
06...	1230	64300	3	6	46	88	95	97	97	99	100

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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 , 1982				APR , 1983			
04...	35200	350	15.0	11...	81100	505	6.0
07...	28900	335	12.0	14...	92300	515	6.0
12...	45700	330	14.0	18...	110000	480	5.0
16...	57400	370	9.0	21...	118000	470	5.0
19...	59800	350	10.0	25...	116000	505	6.0
22...	64100	--	9.0	28...	112000	525	13.0
26...	78900	300	8.0	MAY			
30...	78800	330	9.0	02...	102000	525	14.0
NOV				07...	87900	550	14.0
03...	61600	--	6.0	10...	82000	530	12.0
06...	49500	--	6.0	11...	81600	490	--
10...	45600	--	7.0	13...	84900	--	15.0
12...	56300	--	1.0	14...	85700	455	--
16...	75600	340	5.0	16...	82400	--	15.0
18...	82200	--	4.0	19...	77500	500	15.0
22...	72000	--	4.0	23...	76300	520	18.0
24...	64800	--	4.0	27...	70600	535	14.0
26...	67600	360	1.0	31...	60900	540	14.0
29...	74000	--	1.0	JUNE			
DEC				03...	50100	555	17.0
04...	54000	--	1.0	08...	45900	510	22.0
08...	60500	--	6.0	11...	43100	500	24.0
12...	42000	460	--	14...	37200	500	24.0
16...	32000	450	--	17...	35900	500	24.0
20...	40500	460	--	21...	38200	500	24.0
24...	42500	430	--	22...	38200	460	--
27...	41000	430	--	24...	42600	500	27.0
29...	40900	530	--	28...	49800	500	23.0
JAN , 1983				JULY			
01...	40500	390	--	01...	52000	500	24.0
05...	40000	385	--	06...	72500	500	24.0
09...	41000	380	--	09...	73500	500	24.0
13...	49500	370	--	12...	76000	520	28.0
16...	28500	390	--	15...	79300	520	28.0
19...	22500	395	--	18...	72000	520	28.0
23...	33500	385	--	21...	64000	520	28.0
27...	33500	430	--	24...	53500	520	28.0
30...	29500	420	--	27...	37500	520	28.0
FEB				AUG			
04...	21000	430	--	01...	37500	520	28.0
08...	25500	410	--	05...	28800	520	28.0
12...	24400	390	--	07...	30800	520	26.0
17...	29000	310	--	08...	32500	520	28.0
21...	33700	210	--	11...	32700	480	27.0
25...	42500	510	--	14...	27800	400	28.0
28...	44500	510	--	18...	28400	400	29.0
MAR				23...	29800	400	26.0
04...	63000	465	--	28...	33600	--	28.0
07...	88300	450	--	31...	28500	360	29.0
11...	125000	430	--	SEPT			
14...	142000	370	--	04...	34700	--	25.5
17...	144000	370	--	07...	34900	--	26.0
22...	118000	490	--	10...	24300	--	24.0
26...	97300	475	--	16...	31000	350	18.0
29...	83900	495	--	19...	31400	350	20.0
30...	80800	475	3.0	22...	51900	335	16.0
APR				27...	59900	--	18.0
04...	66800	510	6.0	30...	40500	--	14.0
08...	76600	510	6.0				

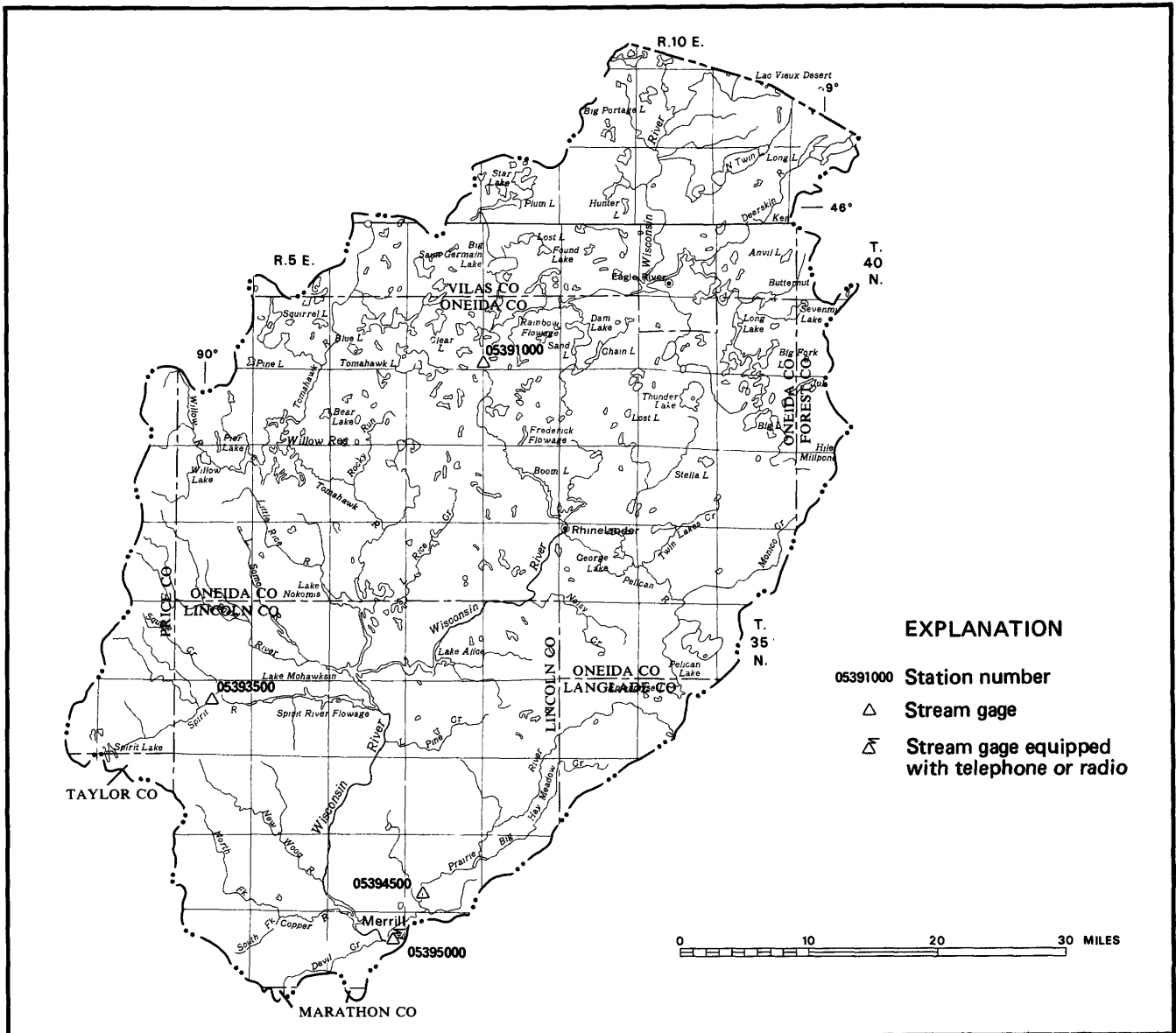
MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IOWA--CONTINUED

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)
	(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)	
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	21	1600	30	5670	10	1620	3	328	7	510	28	3440
2	27	2250	30	5320	10	1550	4	435	7	472	34	4450
3	57	5250	28	4660	10	1500	5	547	6	376	35	4910
4	82	7790	31	4850	34	4960	11	1200	4	227	40	6800
5	98	8810	34	4980	73	10600	11	1190	5	306	36	7190
6	58	4680	38	5080	89	13200	10	1080	10	661	31	6700
7	27	2110	36	4610	94	15100	9	972	12	842	28	6680
8	26	2080	34	4200	85	13900	13	1400	13	895	32	8250
9	33	2970	32	3880	64	10000	30	3320	29	1960	36	10100
10	36	3700	29	3570	45	6440	37	4500	48	3180	39	11900
11	35	4000	29	3650	26	3400	44	5700	67	4410	43	14500
12	33	4070	50	7600	13	1470	53	7150	83	5470	41	14600
13	39	5050	87	14500	27	2550	60	8020	83	5560	28	10500
14	47	6310	96	17400	50	4280	66	7750	74	5070	17	6520
15	54	7670	74	14700	38	3280	62	6190	65	4690	17	6560
16	58	8990	41	8370	17	1470	54	4160	55	4160	21	8220
17	56	8950	31	6670	17	1420	58	4150	48	3760	23	8940
18	48	7800	24	5330	16	1380	110	6980	70	5710	21	7880
19	37	5970	24	5330	14	1360	163	9900	132	11200	20	7180
20	30	5030	29	6310	12	1310	150	9520	198	17400	18	6170
21	28	4720	35	7250	11	1290	117	8210	214	19500	17	5650
22	26	4500	40	7780	9	1090	77	6340	205	19800	16	5100
23	24	4340	25	4540	6	713	40	3620	187	19200	18	5490
24	25	4740	2	350	4	459	19	1720	173	18900	18	5250
25	26	5240	3	527	4	448	11	1000	153	17600	17	4730
26	27	5750	11	2010	3	332	10	913	117	13700	18	4730
27	30	6630	15	2900	3	332	7	633	73	8670	23	5760
28	33	7390	13	2590	12	1330	7	624	26	3120	28	6700
29	34	7560	11	2200	23	2540	6	502	---	---	30	6800
30	32	6810	10	1740	24	2640	5	398	---	---	26	5670
31	31	6240	---	---	10	1100	6	462	---	---	24	5000
TOTAL	---	169000	---	168567	---	113064	---	108914	---	197349	---	222370

	MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION				
DAY	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)			
APRIL			MAY			JUNE			JULY			AUGUST		SEPTEMBER	
1	24	4670	30	8500	32	4950	248	34800	34	3440	27	2050			
2	26	4820	30	8260	31	4440	215	32600	33	3070	25	2030			
3	28	5060	29	7680	31	4190	178	31000	32	2750	26	2370			
4	30	5410	30	7670	34	4360	167	31600	29	2310	28	2620			
5	33	6230	30	7430	37	4640	158	30700	25	1940	34	3290			
6	33	6530	30	7240	39	4820	149	29200	24	1880	40	4080			
7	29	5910	29	6880	41	5050	125	24500	24	2000	40	3770			
8	25	5170	28	6440	45	5580	85	16600	22	1930	34	2640			
9	24	5050	26	5830	62	7730	62	12300	20	1780	30	2010			
10	24	5150	25	5530	65	7920	56	11200	20	1790	25	1640			
11	24	5260	26	5730	47	5470	55	11100	21	1850	25	1710			
12	25	5620	28	6260	38	4210	54	11100	24	2070	38	2800			
13	25	5870	29	6650	37	3860	50	10300	28	2280	39	3200			
14	26	6480	30	6940	38	3820	43	9080	30	2250	39	3360			
15	27	7060	30	6870	37	3660	36	7710	22	1530	33	2820			
16	27	7440	30	6670	35	3440	34	7200	18	1170	25	2090			
17	26	7440	31	6670	32	3100	30	6200	18	1180	24	1940			
18	26	7720	31	6500	31	2990	27	5250	31	2380	24	1890			
19	27	8310	33	6910	45	4480	27	5390	47	3860	30	2540			
20	27	8530	34	7040	58	5900	28	5100	53	4510	33	3430			
21	27	8600	35	7230	43	4440	30	5180	58	5030	37	4480			
22	26	8350	34	7010	44	4540	29	4700	52	4440	47	6590			
23	25	8030	34	7000	58	6170	30	4620	30	2410	61	9160			
24	23	7270	38	7770	52	5980	31	4480	17	1190	67	10300			
25	21	6580	41	8380	46	5550	31	4270	65	4770	65	10300			
26	22	6830	44	8700	45	5600	31	3770	73	5760	47	7640			
27	24	7320	46	8770	58	7530	30	3040	40	3460	27	4370			
28	26	7860	43	7910	55	7400	29	2430	40	3630	25	3770			
29	28	8320	40	7230	45	6220	28	2710	47	4150	26	3450			
30	29	8460	36	6210	94	13100	38	4160	36	2920	25	2730			
31	---	---	32	5260	---	---	41	4300	30	2310	---	---			
TOTAL	---	201350	---	219170	---	161140	---	376590	---	86040	---	115070			
TOTAL LOAD FOR YEAR:			2138624		TONS.										



Base from U.S. Geological Survey
State base map, 1868

UPPER WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05391000 WISCONSIN RIVER AT RAINBOW LAKE, NEAR LAKE TOMAHAWK, WI

LOCATION.--Lat 45°49'50", long 89°33'08", in NE 1/4 NE 1/4 sec.36, T.39 N., R.7 E., Oneida County, Hydrologic Unit 07070001, on right bank 500 ft downstream from Gilmore Creek, 0.4 mi downstream from Rainbow Lake, and 2.3 mi northeast of Lake Tomahawk.

DRAINAGE AREA.--757 mi² (revised).

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, 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.--47 years, 703 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft³/s Sept. 5, 1941, gage height, 7.59 ft; minimum, 17 ft³/s Oct. 10-12, 1940; minimum daily, 35 ft³/s Apr. 6, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,660 ft³/s June 5, gage height, 4.50; minimum daily, 349 ft³/s Apr. 18.

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

1.3	340	4.0	1,400
2.0	545	5.0	1,960
3.0	923		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	1020	1210	1030	1100	1100	608	726	1120	843	674	699
2	1100	1020	1150	1020	1090	1090	607	713	1110	852	677	703
3	1030	953	1140	1040	1100	1080	604	740	1150	854	635	706
4	987	905	1080	1060	1110	1100	604	764	1360	889	596	702
5	913	904	1030	1050	1160	1180	604	711	1530	892	596	702
6	949	830	1030	1040	1140	1230	605	694	1450	903	592	659
7	1050	776	1010	1030	1140	952	604	880	1390	878	583	642
8	1070	776	1010	1040	1130	663	531	1090	1320	880	613	685
9	1070	776	1020	1040	1120	580	482	1030	1300	880	632	704
10	1140	776	1010	1040	1130	580	482	1010	1330	882	522	655
11	1190	776	1010	1030	1120	575	482	974	1190	874	440	621
12	1290	909	1010	1040	1120	569	485	979	964	856	554	682
13	1410	999	959	1040	1120	569	491	1090	813	799	638	720
14	1440	1190	904	1080	1100	569	497	1120	769	768	654	715
15	1440	1260	904	1140	1130	570	418	950	765	767	649	713
16	1430	1190	898	1140	1150	575	364	822	760	792	615	608
17	1420	1110	937	1130	1200	578	364	748	757	808	599	535
18	1220	1080	965	1130	1240	588	349	722	793	779	600	641
19	944	1230	965	1130	1220	597	361	769	818	757	601	728
20	1110	1440	965	1130	1210	612	358	820	836	753	606	574
21	1140	1430	967	1140	1200	625	354	816	855	749	610	425
22	1050	1320	969	1130	1190	623	363	816	864	763	627	410
23	1130	1230	969	1120	1170	621	372	992	817	776	643	390
24	1230	1200	971	1120	1180	617	372	1110	771	768	671	360
25	1250	1180	977	1130	1160	614	372	1120	770	762	693	370
26	1230	1240	973	1130	1150	610	379	1130	772	744	693	500
27	1230	1220	973	1120	1130	608	396	1120	836	730	688	660
28	1120	1280	1070	1120	1110	607	482	1080	872	695	688	753
29	1000	1270	1120	1100	---	609	591	1050	862	671	693	760
30	1000	1270	849	1100	---	608	688	1050	828	673	683	760
31	1020	---	1030	1100	---	608	---	1090	---	672	708	---
TOTAL	35683	32560	31075	33690	32120	22107	14269	28726	29772	24709	19473	18782
MEAN	1151	1085	1002	1087	1147	713	476	927	992	797	628	626
MAX	1440	1440	1210	1140	1240	1230	688	1130	1530	903	708	760
MIN	913	776	849	1020	1090	569	349	694	757	671	440	360
CAL YR 1982	TOTAL	280521	MEAN	769	MAX	1540	MIN	173				
WTR YR 1983	TOTAL	322966	MEAN	885	MAX	1530	MIN	349				

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, on right bank 40 ft downstream of bridge 0.2 mi south of Spirit Falls, 0.6 mi upstream from Squaw Creek, and 2.0 mi downstream from Richie Creek.

DRAINAGE AREA.--81.6 mi².

PERIOD OF RECORD.--April 1942 to current year.

REVISED RECORDS.--WSP 1308: 1943(M), 1948-50(M). WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,461.63 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1982, nonrecording gage 40 ft upstream at same datum.

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

AVERAGE DISCHARGE.--41 years, 86.0 ft³/s, 14.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,180 ft³/s Sept. 18, 1942, gage height, 10.00 ft, from rating curve extended above 2,500 ft³/s; minimum observed, 1.0 ft³/s Aug. 11, 1964, gage height, 0.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,110 ft³/s Mar. 7, gage height, 6.94 ft; minimum daily, 6.7 ft³/s July 16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 15-24, 26-30, and Dec. 5 to Mar. 7.)

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	119	92	94	42	50	84	98	129	13	9.9	18
2	70	110	139	86	42	62	116	102	108	14	8.6	15
3	79	99	221	82	43	86	130	138	100	14	16	13
4	73	99	191	80	43	150	116	113	110	28	22	12
5	70	93	140	76	43	360	120	94	111	24	15	13
6	84	82	120	72	42	1100	152	80	89	19	13	26
7	166	73	100	70	42	1800	150	170	76	16	13	23
8	157	74	88	70	42	1330	176	493	63	13	11	19
9	123	73	82	68	41	551	230	330	58	12	9.1	16
10	214	57	76	68	41	391	188	190	49	11	20	15
11	197	176	70	68	41	367	190	136	42	11	37	15
12	158	660	64	62	41	306	194	110	38	9.7	23	15
13	131	764	60	60	41	282	299	148	34	8.8	17	17
14	117	374	56	58	42	245	525	235	30	8.1	14	16
15	100	240	54	56	43	202	610	175	26	7.4	13	14
16	85	200	52	54	44	173	396	132	27	7.1	11	56
17	75	160	49	54	44	146	258	110	24	7.5	11	69
18	72	150	49	52	44	131	196	94	22	9.3	11	75
19	69	150	52	50	43	123	166	102	19	12	11	66
20	405	190	49	50	43	131	160	120	17	16	9.7	264
21	706	280	48	49	44	145	185	113	17	14	10	348
22	432	250	46	48	46	125	223	197	26	13	13	209
23	305	200	46	47	48	117	242	431	21	12	11	150
24	274	150	52	47	50	89	225	288	22	10	11	112
25	243	125	90	46	48	78	201	216	17	9.6	11	88
26	199	120	220	45	46	65	180	166	16	8.4	12	71
27	163	110	230	45	44	61	161	123	15	8.1	11	61
28	142	100	190	44	45	63	138	109	14	10	9.8	54
29	166	110	150	43	---	62	122	155	12	10	9.2	48
30	172	100	120	43	---	63	113	178	12	9.2	23	44
31	138	---	110	42	---	62	---	169	---	10	27	---
TOTAL	5464	5488	3106	1829	1218	8916	6246	5315	1344	375.2	443.3	1962
MEAN	176	183	100	59.0	43.5	288	208	171	44.8	12.1	14.3	65.4
MAX	706	764	230	94	50	1800	610	493	129	28	37	348
MIN	69	57	46	42	41	50	84	80	12	7.1	8.6	12
CFSM	2.16	2.24	1.23	.72	.53	3.53	2.55	2.10	.55	.15	.18	.80
IN.	2.49	2.50	1.42	.83	.56	4.06	2.85	2.42	.61	.17	.20	.89

CAL YR 1982 TOTAL 49463.3 MEAN 136 MAX 1680 MIN 8.3 CFSM 1.67 IN 22.55
WTR YR 1983 TOTAL 41706.5 MEAN 114 MAX 1800 MIN 7.1 CFSM 1.40 IN 19.01

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 upstream from bridge on County Trunk Highway C, 1.5 mi upstream from Meadow Creek, 4.5 mi northeast of Merrill, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--184 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 9, 1968, nonrecording gage 40 ft downstream at same datum.

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

AVERAGE DISCHARGE.--61 years (1914-31, 1939-83), 180 ft³/s, 13.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft³/s Aug. 31, 1941, gage height, 9.45 ft, from flood marks, based on rating curve extended above 2,200 ft³/s; minimum observed, 34 ft³/s Oct. 26, 1947, gage height, 1.39 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 710 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 13	0200	890	4.64	Apr. 15	0700	726	4.24
Mar. 7	1400	*1,470	*5.70	May 23	1700	718	4.22

minimum daily, 80 ft³/s Sept. 4 and 8.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 5 to Feb. 28.)

2.0	75	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 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	201	180	160	120	132	167	150	314	115	97	85
2	211	190	225	150	110	141	195	170	287	136	92	82
3	206	191	289	150	100	167	199	200	271	132	112	82
4	195	203	287	140	110	243	197	180	308	179	118	80
5	174	191	260	140	110	538	195	170	344	203	110	84
6	160	175	220	140	110	1110	224	200	315	177	103	86
7	190	170	190	140	110	1410	221	270	260	141	97	83
8	243	174	160	140	120	1320	227	470	220	124	92	80
9	233	175	150	140	120	821	253	350	210	117	87	82
10	245	195	140	150	120	468	257	290	195	113	113	84
11	271	304	130	140	130	420	269	250	175	110	145	88
12	258	703	120	140	120	381	285	230	165	105	137	97
13	232	815	130	140	120	375	334	260	153	99	128	96
14	216	594	130	140	120	360	532	332	144	96	118	97
15	200	417	140	130	130	318	717	290	153	95	105	102
16	177	362	130	140	130	302	616	264	165	93	97	114
17	161	305	120	140	130	265	490	253	158	94	102	114
18	159	274	120	120	120	255	388	226	143	94	97	157
19	151	277	130	120	120	244	321	238	132	102	96	172
20	398	344	130	120	130	214	284	247	122	124	92	329
21	540	419	130	120	130	205	270	236	124	105	93	362
22	489	393	130	120	130	203	281	381	163	101	94	324
23	402	336	130	130	130	194	300	677	184	103	88	268
24	348	256	140	130	130	174	310	648	158	109	85	216
25	306	229	200	120	130	158	286	542	129	102	85	172
26	275	219	300	110	120	152	269	464	118	95	84	145
27	237	164	270	110	120	152	250	355	112	106	83	139
28	221	199	250	110	120	156	220	285	109	124	82	127
29	219	193	220	120	---	152	190	303	105	122	88	115
30	233	178	200	120	---	154	170	333	105	113	98	109
31	210	---	180	120	---	148	---	347	---	104	89	---
TOTAL	7782	8846	5531	4090	3390	11332	8917	9611	5541	3633	3107	4171
MEAN	251	295	178	132	121	366	297	310	185	117	100	139
MAX	540	815	300	160	130	1410	717	677	344	203	145	362
MIN	151	164	120	110	100	132	167	150	105	93	82	80
CFSM	1.36	1.60	.97	.72	.66	1.99	1.61	1.69	1.01	.64	.54	.76
IN.	1.57	1.79	1.12	.83	.69	2.29	1.80	1.94	1.12	.73	.63	.84

CAL YR 1982	TOTAL	70926	MEAN 194	MAX 1270	MIN 70	CFSM 1.05	IN 14.34
WTR YR 1983	TOTAL	75951	MEAN 208	MAX 1410	MIN 80	CFSM 1.13	IN 15.36

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 downstream from U.S. Highway 51 bridge at east end of Merrill, and 0.5 mi downstream from Prairie River.

DRAINAGE AREA.--2,760 mi².

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 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.--80 years, 2,681 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,400 ft³/s Aug. 31, 1941, gage height, 18.26 ft from rating curve extended above 20,000 ft³/s; minimum, about 90 ft³/s Sept. 26, 1908, gage height, 2.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,200 ft³/s Mar. 8, gage height, 11.40 ft; minimum daily, 1,380 ft³/s Aug. 14.

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

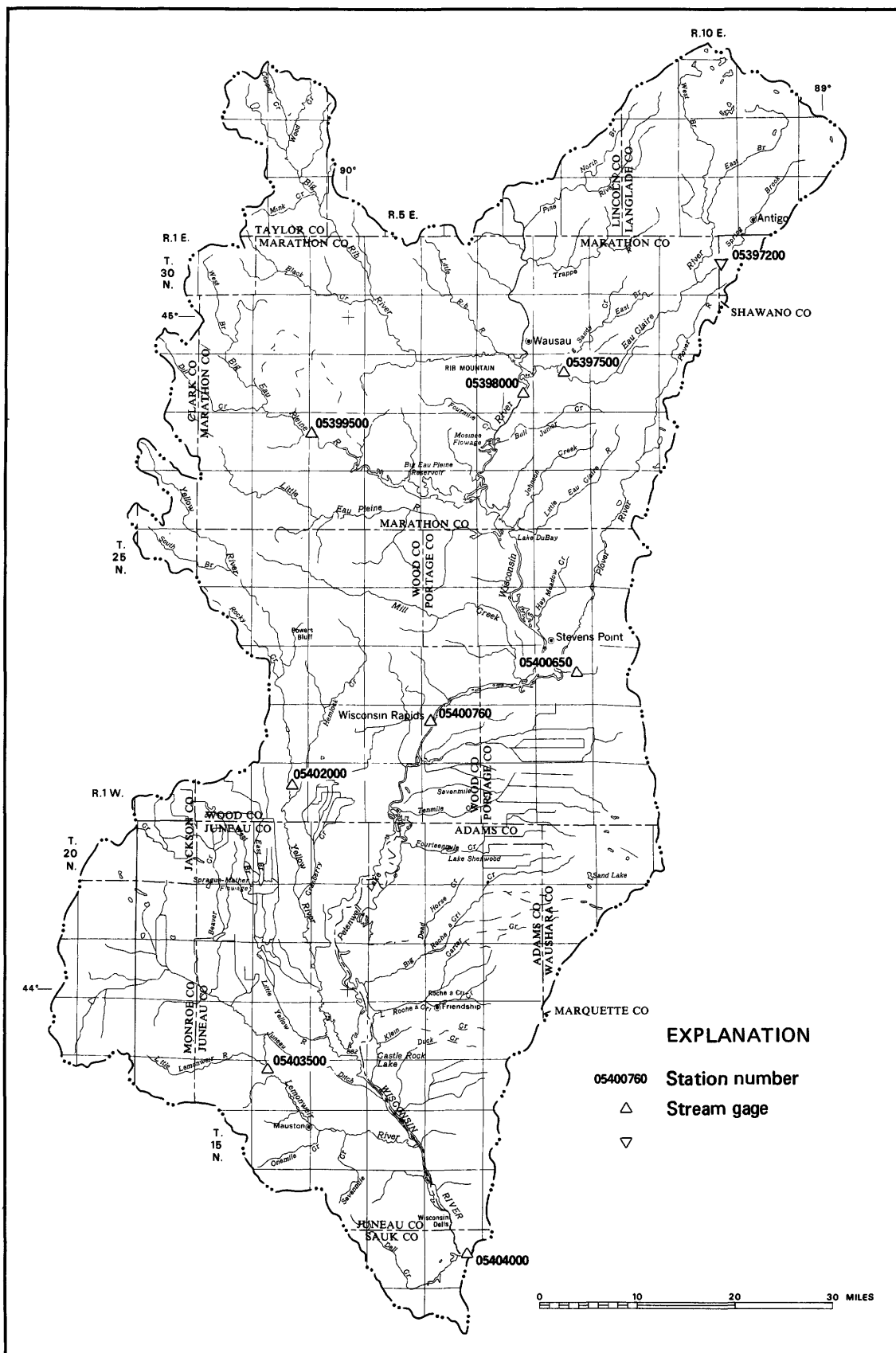
4.3	1,340	8.0	7,640
5.0	2,120	10.0	12,900
6.0	3,640	12.0	19,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3500	3340	3610	3450	3100	3100	2510	2850	4150	2520	1880	1750
2	3000	3600	3530	3790	3200	3100	2760	2850	4130	2420	1940	1650
3	2800	3440	3920	3200	3100	3200	2860	2890	3880	2310	2070	1800
4	2800	3340	4490	3000	2900	3600	2910	2600	4520	2570	2110	1640
5	2760	3310	4500	2900	2900	7000	2950	2290	5510	2670	1760	1720
6	2820	3110	4010	2900	2700	10800	3010	2480	4320	2550	1830	2200
7	3610	2640	3510	2900	2800	14200	3030	4150	4190	2070	1520	2230
8	3960	2980	3450	3000	3000	15700	3080	5830	3800	2110	1860	2020
9	3970	2410	2790	3000	3100	9790	3000	6190	4180	2240	1670	1770
10	4090	2910	2920	2900	3100	5920	3230	4660	3560	1890	1720	1880
11	4360	3600	2430	3000	3100	4150	3490	3860	3320	2200	2080	1820
12	4990	7150	2950	3000	3100	4270	3480	3890	3180	2360	1720	1570
13	4160	8490	3010	2900	3000	5130	3530	4000	2590	1800	1640	1560
14	4380	6400	2660	2900	2800	4290	6740	4330	2600	2210	1380	1960
15	4190	5550	3010	2900	2900	4560	7530	4120	2290	2050	2010	1700
16	4070	4700	2790	3000	3000	3790	6880	3980	2010	2010	1930	1750
17	3450	4820	2710	3100	3100	3480	5740	3190	2100	1990	1840	2070
18	3100	4550	2820	3100	3100	3450	4100	3410	2340	2180	1920	2360
19	3350	4340	2400	3100	3200	3370	3520	2330	1780	2040	1820	2020
20	6210	5460	2730	3000	3100	2700	3890	2960	2010	2180	1500	4170
21	7710	7060	2480	2900	3100	2770	3530	3420	2260	2010	1810	4450
22	7390	7430	2700	2900	3300	3020	3230	3830	2700	1780	2030	3650
23	5630	6560	2750	2900	3100	3230	3690	7070	2570	1840	1710	2810
24	5450	4750	3060	2900	3000	2980	3830	7060	2190	1820	1770	2190
25	4890	4230	3200	3000	3000	2290	3450	6020	1930	1890	1620	2520
26	4730	4090	3690	2900	3000	2800	4460	4750	1860	1870	1470	2980
27	4940	3700	3780	2900	3000	2640	3460	5000	2030	1950	1770	2720
28	4190	3330	4000	3100	3100	2740	3190	4400	2110	2080	1530	2650
29	4200	3790	3760	3000	---	2630	3040	4320	2260	2130	1590	2040
30	4170	3650	3820	3100	---	2440	3150	4260	2130	1740	2140	2140
31	3920	---	3520	3100	---	2610	---	4540	---	1620	1960	---
TOTAL	132790	134730	101000	93740	84900	145750	113270	127530	88500	65100	55600	67790
MEAN	4284	4491	3258	3024	3032	4702	3776	4114	2950	2100	1794	2260
MAX	7710	8490	4500	3790	3300	15700	7530	7070	5510	2670	2140	4450
MIN	2760	2410	2400	2900	2700	2290	2510	2290	1780	1620	1380	1560

CAL YR 1982 TOTAL 1111190 MEAN 3044 MAX 15500 MIN 1270
WTR YR 1983 TOTAL 1210700 MEAN 3317 MAX 15700 MIN 1380

NOTE.--No gage-height record Dec. 4 to Jan. 5 and Sept. 15-30.



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

CENTRAL WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05397200 SPRING BROOK NEAR ANTIGO, WI

LOCATION.--LAT 45°04'18", LONG 89°13'26", in NW 1/4 NW 1/4 sec. 19, T.30 N., R.11 E., 50 ft above culvert on County Trunk Highway HH 5.9 mi southwest of Antigo.

DRAINAGE AREA.--79.22

PERIOD OF RECORD.--October 1982 to September 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	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)
MAY , 1983 05...	1400	20	420	9.0	12.0	4.0	180	45	42	19
DATE	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)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
MAY , 1983 05...	18	17	.6	3.2	138	.3	31	26	.20	5.6
DATE	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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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)
MAY , 1983 05...	251	240	.34	3.67	.030	3.70	.030	.27	.30	.560
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)		
MAY , 1983 05...	1400	20	1	<100	3	20	5	60		
DATE	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)			
MAY , 1983 05...	10	30	.2	9	<1	<1	40			

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 downstream from County Highway SS bridge, 0.7 mi northeast of Kelly, 1.3 mi upstream from Big Sandy Creek, 4.5 mi upstream from mouth, and 5.0 mi southeast of Wausau.

DRAINAGE AREA.--375 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 17, 1953, nonrecording gage at same site at datum 1.00 ft higher.

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

AVERAGE DISCHARGE.--56 years, 251 ft³/s, 9.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,300 ft³/s Aug. 21, 1926, gage height, 8.4 ft from graph based on gage readings, from rating curve extended above 6,000 ft³/s; maximum gage height, 9.45 ft Mar. 24, 1979, ice jam; minimum observed, 8.0 ft³/s July 17, 1944, gage height, 0.17 ft, probably result of temporary regulation.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	1700	2,240	5.28	May 23	0100	2,120	4.89
Mar. 8	0700	*3,600	*6.95				

minimum daily discharge, 86 ft³/s Aug. 29.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25 to Dec. 2 and Dec. 8 to Mar. 6.)

Oct. 1 to Mar. 6				Mar. 7 to Sept. 30			
1.1	100	4.0	1,440	1.0	82	3.0	930
1.5	207	5.0	2,160	1.2	127	4.0	1,540
2.0	397	7.0	3,530	1.5	216	5.0	2,200
3.0	880			2.0	395	7.0	3,640

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	331	270	360	120	160	232	220	472	134	101	133
2	298	312	340	330	120	170	281	270	391	140	95	107
3	310	306	394	310	120	220	307	350	348	147	104	94
4	322	297	427	280	120	450	324	299	424	157	140	89
5	282	289	412	260	120	800	328	260	701	184	144	90
6	243	271	499	240	120	1700	358	246	726	169	128	99
7	314	251	446	230	120	2950	406	312	474	145	111	108
8	412	243	390	210	120	3450	393	439	355	130	102	106
9	404	234	340	200	120	2440	414	390	320	121	95	98
10	463	309	300	190	120	1160	443	321	300	115	100	94
11	560	662	270	180	120	645	478	277	267	110	142	90
12	539	1760	250	170	120	589	474	250	238	104	175	90
13	462	1680	230	160	120	573	574	274	215	100	153	91
14	408	1510	210	150	120	582	869	431	203	96	130	102
15	354	909	190	150	120	556	982	401	225	93	116	93
16	302	542	180	140	120	487	858	334	261	90	112	119
17	261	446	170	140	120	441	658	301	235	89	134	137
18	239	388	160	130	130	417	498	272	207	92	132	166
19	225	379	160	130	130	404	408	309	188	98	116	230
20	860	486	150	130	130	361	352	416	174	162	106	810
21	1130	558	150	130	130	316	330	375	169	132	109	645
22	915	537	160	120	130	324	370	972	191	130	119	546
23	761	473	170	120	130	275	420	1930	208	162	116	462
24	556	393	180	120	140	250	390	1910	191	137	106	347
25	453	360	250	120	140	229	360	1390	166	117	97	280
26	386	330	450	120	140	213	320	774	153	101	93	235
27	338	250	400	120	150	206	290	554	147	97	90	205
28	312	300	560	120	150	203	270	423	149	141	87	180
29	357	290	500	120	---	205	240	442	139	155	86	163
30	408	270	450	120	---	206	230	480	130	131	324	151
31	376	---	400	120	---	213	---	517	---	114	225	---
TOTAL	13564	15366	9458	5420	3540	21195	12857	16139	8367	3893	3888	6160
MEAN	438	512	305	175	126	684	429	521	279	126	125	205
MAX	1130	1760	560	360	150	3450	982	1930	726	184	324	810
MIN	225	234	150	120	120	160	230	220	130	89	86	89
CFSM	1.17	1.37	.81	.47	.34	1.82	1.14	1.39	.74	.34	.33	.55
IN.	1.35	1.52	.94	.54	.35	2.10	1.28	1.60	.83	.39	.39	.61

CAL YR 1982	TOTAL	97864	MEAN	268	MAX	1860	MIN	62	CFSM	.72	IN	9.71
WTR YR 1983	TOTAL	119847	MEAN	328	MAX	3450	MIN	86	CFSM	.88	IN	11.89

WISCONSIN RIVER BASIN

05398000 WISCONSIN RIVER AT ROTHSCILD, 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 downstream from Rothschild Dam, 1.7 mi north of bridge on U.S. Highway 51, 2.0 mi downstream from Eau Claire River, and 5.0 mi upstream from Black Creek.

DRAINAGE AREA.--4,020 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at datum 10.00 ft higher. Auxiliary water-stage recorder in Mosinee Pond 8 mi 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.--39 years, 3,513 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft³/s Apr. 12, 1965, Mar. 31, 1967, gage height, 18.46 ft, datum then in use; minimum daily, 670 ft³/s Dec. 9, 1976.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of Sept. 1, 1941, reached stage of 22.3 ft, datum then in use, from tailwater data at Rothschild dam, discharge, 75,000 ft³/s from rating curve extended above 45,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39,400 ft³/s Mar. 7, gage height, 26.42 ft, from highwater mark in well; minimum daily, 1,520 ft³/s Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5800	4980	5220	4820	3600	3800	3580	3930	6140	3100	1840	2740
2	5200	5060	5640	4510	3900	3900	4260	4090	5450	2850	1930	2350
3	4800	4930	6240	4140	4200	4250	4580	4850	5690	2570	2140	1910
4	4500	4940	6840	3790	3700	6070	4500	4040	6290	3130	2290	2220
5	4430	4660	6800	3730	3700	12600	4890	3630	7150	3200	2380	2190
6	3890	4490	6930	4270	3600	27000	5190	3470	6650	3270	2020	2520
7	5210	3920	5900	3740	3300	38200	5230	4580	5690	2780	1670	2640
8	6510	3880	4340	3640	3500	34700	5410	7610	4880	2450	1750	2600
9	5880	3880	3990	3670	3600	21500	5460	7630	5410	2430	2000	2290
10	6580	4170	3310	3770	3600	11400	5430	7040	4850	2430	1980	2030
11	6950	7250	3080	3890	3500	7430	6710	5150	4290	2420	2440	2110
12	7300	14600	2490	3970	3400	7440	6870	4830	4060	2720	2200	2140
13	6450	20600	3280	3600	3400	7340	6680	5530	3570	2430	1930	1830
14	6270	13200	3500	3200	3400	7530	10200	6020	3140	2370	1610	1890
15	5860	9760	3540	3200	3500	7250	14400	6180	3260	2470	2230	2320
16	5600	7490	3720	3200	3400	6600	11600	5630	2560	2080	1890	2420
17	4990	7030	3300	3300	3500	5870	8930	4750	2330	2090	2820	2070
18	4420	6980	3350	3400	3600	5660	6970	4770	2650	2430	2110	3110
19	4530	6300	3200	3300	3700	5910	5940	3930	2550	2670	2140	3510
20	10800	7720	3230	3200	3800	4760	5710	4560	2500	2830	1810	7270
21	20100	10200	2680	3100	3800	4140	5340	4920	3050	2520	1740	9600
22	14100	10600	3070	3400	3900	4090	4960	6510	3630	2460	2360	6920
23	10100	9350	3380	3500	4000	4660	5370	13200	3560	1970	2200	5150
24	8810	7350	3560	3600	3800	4250	5420	11500	2990	1910	2220	3770
25	7430	5780	5060	3600	3800	3760	5060	9440	2430	2220	1840	3360
26	6920	5850	7410	3600	3800	3410	5530	7340	2240	2230	1650	4120
27	6750	5070	6520	3700	3700	3510	5270	7100	2510	2280	1730	3630
28	6170	4360	7390	3600	3700	3600	4450	6130	2880	2570	1520	3490
29	6180	5090	7480	3500	---	3490	4420	6300	2500	2680	1750	2920
30	6330	5260	5760	3200	---	3260	4020	6090	2620	2520	3880	2730
31	5710	---	5040	3300	---	3590	---	6030	---	1830	3620	---
TOTAL	214570	214750	145250	112440	102400	270970	182380	186780	117520	77910	65690	97850
MEAN	6922	7158	4685	3627	3657	8741	6079	6025	3917	2513	2119	3262
MAX	20100	20600	7480	4820	4200	38200	14400	13200	7150	3270	3880	9600
MIN	3890	3880	2490	3100	3300	3260	3580	3470	2240	1830	1520	1830
CAL YR 1982	TOTAL	1651780	MEAN	4525	MAX	26500	MIN	1340				
WTR YR 1983	TOTAL	1788510	MEAN	4900	MAX	38200	MIN	1520				

NOTE: No gage-height record Mar. 6-7.

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 upstream from bridge on State Highway 97, 1.0 mi north of Stratford, and 1.4 mi downstream from small tributary.

DRAINAGE AREA.--224 mi².

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 National Geodetic Vertical Datum of 1929. July 24, 1914, to Dec. 31, 1925, nonrecording gage at site 0.5 mi 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 period, which are fair.

AVERAGE DISCHARGE.--57 years (1914-25, 1937-83), 175 ft³/s, 10.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s Sept. 9, 1938, gage height, 24.5 ft, from floodmarks, based on rating curve extended above 24,000 ft³/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, from floodmarks; discharge, 40,000 ft³/s, former site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 20	0915	7,380	14.32	Apr. 14	1915	3,390	10.67
Nov. 12	0715	6,720	13.81	Sept. 20	1400	3,390	10.65
Mar. 6	0530	*10,400	*16.36				

minimum discharge, 2.0 ft³/s, July 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Rate of change in stage used as factor, Oct. 7-8, 11, 19-23, Nov. 10, 13-14, 20, 22, Mar. 8-9, 14, Apr. 10, 12-16, Aug. 30-31, Sept. 20-22; shifting-control method used Mar. 25-29, May 18; stage-discharge relation affected by ice Nov. 24 to Mar. 5.)

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	17.0	11,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	159	58	120	35	52	156	46	62	14	21	168
2	307	135	64	80	35	70	287	78	53	12	16	92
3	308	112	100	72	36	170	262	110	48	12	18	58
4	259	102	120	60	36	600	257	100	53	22	19	38
5	155	95	120	50	36	3000	421	75	55	21	30	28
6	132	86	300	45	36	9660	447	71	45	22	31	23
7	583	76	210	42	37	5790	575	131	37	19	21	20
8	479	71	150	40	37	1780	553	288	31	15	15	23
9	324	68	110	38	38	680	419	174	28	13	12	22
10	754	663	84	36	38	378	714	117	25	10	11	16
11	511	1960	54	36	38	281	1160	86	21	13	10	13
12	398	5130	42	35	38	232	653	68	18	7.1	8.8	13
13	295	1490	37	34	39	294	778	148	16	3.8	7.3	13
14	241	646	34	33	39	542	2350	333	14	3.7	18	14
15	195	327	32	32	39	513	1710	188	13	4.4	33	15
16	136	217	31	31	39	325	644	120	12	4.0	23	21
17	106	146	30	30	39	240	374	92	11	5.2	128	40
18	98	121	29	29	39	354	231	73	10	9.7	170	55
19	128	149	29	29	39	472	168	118	9.2	12	72	95
20	6070	510	29	29	39	316	134	216	8.3	24	34	2670
21	2700	931	28	30	40	199	114	163	9.5	21	27	1250
22	895	445	28	31	46	150	103	234	16	20	29	527
23	468	276	29	32	54	121	96	386	28	16	25	289
24	309	140	40	31	62	92	85	227	23	12	29	166
25	215	90	800	32	62	77	76	143	16	10	29	107
26	179	70	700	30	58	69	68	99	13	7.9	20	74
27	150	60	360	27	54	64	61	76	20	7.2	15	56
28	136	54	1200	30	50	62	55	66	25	40	9.8	45
29	180	50	500	32	---	67	53	69	25	136	9.6	36
30	308	48	230	33	---	68	52	69	16	60	236	31
31	197	---	160	34	---	72	---	69	---	32	490	---
TOTAL	17637	14427	5738	1243	1178	26790	13056	4233	761.0	609.0	1617.5	6018
MEAN	569	481	185	40.1	42.1	864	435	137	25.4	19.6	52.2	201
MAX	6070	5130	1200	120	62	9660	2350	386	62	136	490	2670
MIN	98	48	28	27	35	52	52	46	8.3	3.7	7.3	13
CFSM	2.54	2.15	.83	.18	.19	3.86	1.94	.61	.11	.09	.23	.90
IN.	2.93	2.40	.95	.21	.20	4.45	2.17	.70	.13	.10	.27	1.00
CAL YR 1982	TOTAL	90195.8	MEAN	247	MAX	7070	MIN	3.2	CFSM	1.10	IN	14.98
WTR YR 1983	TOTAL	93307.5	MEAN	256	MAX	9660	MIN	3.7	CFSM	1.14	IN	15.50

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 northeast of Plover and 1.2 mi upstream from mouth.

DRAINAGE AREA.--19.0 mi², of which 7.33 mi² probably is noncontributing.

PERIOD OF RECORD.--July 1959 to current year.

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

GAGE.--Water-stage recorder and parshall flume. Datum of gage is 1,068.34 ft National Geodetic Vertical Datum of 1929. Prior to May 1960, nonrecording gage at same site and datum 0.88 ft lower.

REMARKS.--Records good.

AVERAGE DISCHARGE.--24 years, 10.2 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 99 ft³/s Mar. 7, 1973; minimum, 1.4 ft³/s Nov. 16, 1974, gage height, 0.28 ft, result of temporary dam at flume entrance.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 22 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	1115	25	1.74	May 22	2030	22	1.58
Mar. 4	1800	*48	*2.38	Sept.20	1030	37	2.16

minimum daily discharge, 6.1 ft³/s Aug. 14-15.

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

0.7	5.9	1.5	20
1.0	10	2.0	32
		2.5	54

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	8.2	11	11	9.3	11	15	13	16	11	7.4	9.7
2	7.6	8.9	12	11	8.8	14	16	15	15	10	7.2	9.3
3	7.6	8.6	12	10	9.8	23	16	14	15	10	7.6	9.0
4	7.6	8.2	12	11	9.1	37	16	13	15	12	7.5	8.7
5	7.6	8.0	13	10	8.8	34	16	13	14	10	7.2	9.3
6	7.6	7.9	15	10	9.4	30	16	15	14	10	7.0	9.3
7	7.8	7.9	13	11	8.8	24	15	18	14	9.9	6.7	8.8
8	7.6	7.9	12	10	9.0	19	15	16	13	9.8	6.5	8.5
9	7.7	7.9	11	10	9.3	17	15	14	13	9.7	6.5	8.5
10	7.9	11	12	11	9.3	16	16	14	13	9.3	6.9	8.5
11	7.8	13	11	11	9.1	16	16	14	13	9.2	6.9	8.4
12	7.7	22	11	10	9.1	16	15	14	12	8.7	6.4	8.6
13	7.8	16	11	10	9.1	16	16	16	12	8.5	6.4	8.5
14	7.8	13	11	10	9.3	16	18	17	12	8.5	6.1	8.2
15	7.6	13	11	9.6	9.2	16	16	15	12	8.3	6.1	8.4
16	7.6	12	11	9.6	9.4	15	15	15	12	8.3	6.5	9.7
17	7.6	12	11	9.9	9.1	15	15	14	12	8.4	11	9.0
18	7.6	12	11	8.9	9.1	16	15	14	11	8.2	8.2	8.7
19	7.8	13	11	9.2	9.1	17	14	16	11	8.3	7.7	11
20	9.3	13	11	9.5	9.3	16	14	16	11	8.7	7.3	29
21	8.6	13	11	9.6	9.2	15	14	15	11	8.3	8.8	17
22	8.2	12	10	9.6	11	14	14	19	11	8.3	10	15
23	8.2	12	11	9.8	11	14	14	19	11	8.3	8.7	14
24	8.1	11	11	9.8	10	14	14	17	11	8.0	8.2	13
25	7.9	11	14	9.5	10	14	14	17	10	8.0	8.3	13
26	7.9	11	13	8.9	9.8	14	14	16	10	7.7	8.2	12
27	7.9	11	12	8.9	9.8	14	13	16	11	7.6	8.2	12
28	8.1	11	13	9.3	10	14	13	15	11	7.7	8.1	11
29	9.0	11	15	9.8	---	13	13	15	10	9.0	8.0	11
30	8.5	11	12	9.6	---	14	13	16	10	8.0	12	11
31	8.2	---	12	9.3	---	14	---	16	---	7.6	11	---
TOTAL	245.9	337.5	367	306.8	264.2	538	446	477	366	275.3	242.6	328.1
MEAN	7.93	11.3	11.8	9.90	9.44	17.4	14.9	15.4	12.2	8.88	7.83	10.9
MAX	9.3	22	15	11	11	37	18	19	16	12	12	29
MIN	7.6	7.9	10	8.9	8.8	11	13	13	10	7.6	6.1	8.2
CAL YR 1982	TOTAL	3424.2	MEAN	9.38	MAX	24	MIN	4.8				
WTR YR 1983	TOTAL	4194.4	MEAN	11.5	MAX	37	MIN	6.1				

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 upstream from U.S. Highway 13 bridge in Wisconsin Rapids.

DRAINAGE AREA.--5,420 mi².

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 and datum of powerplant gages is 0.00 ft National Geodetic Vertical Datum of 1929 (levels by Wisconsin Valley Improvement Co.). May 1914 to March 1950, at site 9.6 mi downstream at different datum. March 1950 to Sept. 30, 1981, at Centralia Powerplant at Nekoosa Papers, Inc., 2.6 mi downstream. March 1950 to Dec. 31, 1973, datum was 887.83 ft 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 1982 to September 1983, were as follows:

Oct. 1	49	July 27	100	Aug. 4	100	Aug. 11	100	Aug. 19	100
2	50	28	100	5	100	12	100	20	100
3	50	29	100	6	100	13	100	21	100
4	50	30	100	7	100	14	100	22	100
5	50	31	100	8	100	15	100	23	100
July 25	50	Aug. 2	92	9	100	16	100	24	100
26	50	3	100	10	100	17	100	25	100
						18	100	26	1

AVERAGE DISCHARGE.--61 years (1914-50, 1957-83), 4,972 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,400 ft³/s Sept. 12, 1938, gage height, 19.10 ft, from rating curve extended above 58,000 ft³/s; minimum, 26 ft³/s Sept. 7, 1942; minimum daily, 165 ft³/s Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 58,600 ft³/s Mar. 7; minimum daily, 2,070 ft³/s Aug. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4850	6580	6120	6770	4170	5010	4100	5320	7220	3090	2510	3140
2	5370	5580	6400	6410	4220	4980	3010	5020	6360	2800	2290	3030
3	5350	5310	7330	5480	4170	5090	5590	5010	6560	3360	2350	2670
4	4910	4920	8060	4900	4190	8530	6260	5010	6710	3840	2390	2100
5	4830	5950	9850	4350	4090	18600	6180	5090	7420	2840	2570	2270
6	4910	5970	10700	4460	4190	35200	6620	5100	7650	3210	2710	2600
7	5300	5350	9270	4360	4180	55600	7520	6010	7310	3540	2740	2640
8	6670	4860	6830	4360	4240	53200	7630	7650	6270	3260	2530	2630
9	6860	4490	5440	4290	4390	39800	7700	8530	4980	3000	2350	2590
10	6850	6640	4640	4430	4600	23800	8360	9290	4860	2700	2200	2340
11	7760	11800	3780	4510	4570	12600	9140	8170	4600	2890	2300	2360
12	7940	27800	3970	4530	4510	9200	9880	6150	4630	2840	2290	2420
13	7800	32100	3710	4560	4550	9140	10700	6390	4580	2860	2150	2510
14	7040	24700	3600	4830	4530	8980	15900	6280	4690	2940	2070	2440
15	6660	13600	3700	4760	4510	8970	22300	5960	4610	2900	2200	2440
16	5800	11600	4580	4720	4580	8950	19100	6210	3890	2890	2310	2810
17	5430	9120	4480	4660	4450	8950	14600	6130	3170	2940	3200	2670
18	5090	7960	4440	4680	4540	8460	10900	5990	2760	2920	2990	3010
19	4590	7760	4180	4610	4560	8160	8430	5940	3030	2830	2980	4760
20	17200	9290	3950	4640	4580	8040	6660	5540	2900	2720	2700	9260
21	26500	12600	3940	4600	4600	6920	6760	5080	2800	2940	2510	9980
22	19100	13700	3840	4580	4740	5900	6500	8930	3530	2920	2970	9940
23	15700	14400	3820	4470	5280	5320	6130	16700	3990	2620	2940	7980
24	13100	9890	3380	4180	5370	5230	6200	17700	3440	2560	2920	5440
25	9420	6390	5820	4100	5420	5480	5990	15000	2980	2470	2720	3740
26	8530	7000	10000	4190	5340	5340	5920	11000	2770	2500	2700	4590
27	7720	5860	11500	4150	5140	5220	6610	7830	3050	2390	2630	4780
28	7410	5010	12700	4120	5040	4900	6060	6600	3100	2240	2600	4120
29	6900	4530	10400	4190	---	4720	5130	7210	3030	2940	2720	3810
30	7580	5640	9290	4210	---	4000	4820	7690	3170	2800	3600	3240
31	7210	---	8040	4150	---	4220	---	7100	---	2500	3280	---
TOTAL	260380	296400	197760	143250	128750	398510	250700	235630	136060	89250	81420	118310
MEAN	8399	9880	6379	4621	4598	12860	8357	7601	4535	2879	2626	3944
MAX	26500	32100	12700	6770	5420	55600	22300	17700	7650	3840	3600	9980
MIN	4590	4490	3380	4100	4090	4000	3010	5010	2760	2240	2070	2100
CAL YR 1982	TOTAL	2242910	MEAN	6145	MAX	37200	MIN	2000				
WTR YR 1983	TOTAL	2336420	MEAN	6401	MAX	55600	MIN	2070				

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 upstream from Hemlock Creek.

DRAINAGE AREA.--215 mi².

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. WDR WI-82-1: 1981 (P).

GAGE.--Water-stage recorder. Datum of gage is 954.75 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, Nov. 16 to Dec. 5, Dec. 12-25. Jan. 1 to Mar. 5, which are fair. There is a large recreation dam about 5.0 mi upstream.

AVERAGE DISCHARGE.--39 years, 154 ft³/s, 9.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s Apr. 2, 1952, gage height, 17.38 ft; minimum observed, 1.0 ft³/s Oct. 1, 1948, gage height, 1.22 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 20	--	Unknown	Unknown	Apr. 11	2200	1,290	--
Nov. 13	0045	4,500	13.29	Apr. 12	0215	--	8.60
Dec. 29	1115	2,060	9.87	Apr. 15	0915	2,020	10.23
Mar. 7	Unknown	*7,740	*15.40	Sept. 21	1800	1,480	9.16

minimum daily discharge, 2.2 ft³/s July 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	181	66	360	25	70	126	47	94	14	2.9	88
2	260	162	84	210	25	80	212	52	96	13	3.1	90
3	210	150	110	150	24	110	373	61	79	14	3.7	72
4	180	142	140	90	24	240	453	94	66	17	3.6	56
5	160	132	270	70	24	1200	564	84	57	18	3.8	47
6	140	118	665	56	24	5400	580	80	49	18	3.9	43
7	620	106	874	47	24	7200	611	180	46	15	3.1	34
8	540	93	583	43	24	3800	712	818	41	13	3.4	28
9	500	84	510	39	24	1620	495	749	33	12	3.2	26
10	740	135	411	37	24	780	523	529	29	11	4.3	24
11	600	1780	257	35	24	620	781	238	28	11	4.3	23
12	460	3020	130	33	24	481	1050	161	27	9.9	5.2	21
13	320	3700	80	31	24	410	951	133	26	9.4	5.9	20
14	250	1900	62	29	24	504	1120	210	24	8.1	6.9	19
15	190	840	52	28	24	675	1840	349	23	7.3	8.0	19
16	140	400	47	26	24	695	1350	275	20	6.5	12	23
17	120	250	44	26	24	369	831	180	19	6.3	21	29
18	110	180	42	25	24	470	450	124	17	5.9	23	33
19	200	140	41	24	25	705	359	119	16	5.3	23	45
20	3600	120	39	25	25	785	263	329	15	6.8	28	282
21	2500	250	38	26	26	617	200	474	15	5.5	55	1260
22	1820	400	36	26	28	388	158	413	15	4.7	66	1370
23	859	280	33	26	30	257	132	615	15	3.1	63	866
24	617	220	36	25	34	207	114	602	14	2.7	65	440
25	385	120	42	24	43	151	96	586	15	3.5	55	311
26	251	80	366	24	60	115	83	408	14	3.0	46	198
27	175	72	580	24	72	119	73	259	15	2.6	41	135
28	134	64	713	24	68	106	62	170	15	2.2	35	102
29	123	60	1450	24	---	101	56	137	16	4.5	31	80
30	142	58	760	24	---	102	51	84	15	3.5	41	68
31	179	---	520	24	---	107	---	62	---	2.6	52	---
TOTAL	16805	15237	9081	1655	845	28484	14669	8622	954	259.4	722.3	5852
MEAN	542	508	293	53.4	30.2	919	489	278	31.8	8.37	23.3	195
MAX	3600	3700	1450	360	72	7200	1840	818	96	18	66	1370
MIN	110	58	33	24	24	70	51	47	14	2.2	2.9	19
CFSM	2.52	2.36	1.36	.25	.14	4.27	2.27	1.29	.15	.04	.11	.91
IN.	2.91	2.64	1.57	.29	.15	4.93	2.54	1.49	.17	.04	.12	1.01

CAL YR 1982 TOTAL 94154.0 MEAN 258 MAX 3720 MIN 15 CFSM 1.20 IN 16.29
WTR YR 1983 TOTAL 103185.7 MEAN 283 MAX 7200 MIN 2.2 CFSM 1.32 IN 17.85

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 downstream from recreation dam and 1.2 mi upstream from Webster Creek.

DRAINAGE AREA.--507 mi².

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 National Geodetic Vertical Datum of 1929. Prior to May 5, 1948, nonrecording gage at site 100 ft downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation by dam 200 ft upstream. Water diverted periodically into the basin from the Yellow and Black River basins for cranberry culture.

AVERAGE DISCHARGE.--39 years, 369 ft³/s, 9.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,880 ft³/s May 8, 1960, gage height, 12.94 ft from graph based on gage readings; minimum observed, 29 ft³/s June 9, 1976, gage height, 0.47 ft during period of dam repair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft³/s Mar. 8, gage height, 11.22 ft; minimum daily, 75 ft³/s Aug. 14-16.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 8 to Nov. 12, Aug. 14 to Sept. 30; stage-discharge relation affected by ice Dec. 10-22, Dec. 31 to Jan. 21, and Jan. 27 to Feb. 20.)

1.3	69	5.0	549	9.0	1,740
2.0	129	6.0	745	10.0	2,420
3.0	245	7.0	1,020	11.0	3,310
4.0	385	8.0	1,330	12.0	4,390

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	230	474	600	200	641	641	281	775	155	140	388
2	106	244	495	540	200	707	697	314	725	161	122	415
3	115	241	520	500	200	780	822	344	685	157	112	450
4	118	258	533	450	190	1050	967	360	637	200	107	421
5	122	274	569	410	180	1420	1020	360	581	225	104	375
6	123	277	741	380	180	2000	1040	365	531	241	99	325
7	138	274	842	360	180	2980	1050	437	479	242	109	297
8	131	255	943	350	180	3460	1020	576	437	205	91	281
9	148	239	928	340	190	3140	979	785	393	170	83	242
10	158	326	740	330	200	2610	997	1050	332	153	83	205
11	168	413	640	310	200	2070	1020	1110	269	140	78	181
12	194	1030	540	270	210	1670	1030	961	237	142	76	170
13	206	1280	450	240	220	1480	1040	812	183	112	77	166
14	216	1680	400	230	230	1360	1080	762	180	110	75	164
15	211	1820	350	220	240	1240	1150	760	181	106	75	174
16	185	1750	320	220	250	1180	1200	815	170	103	75	191
17	175	1520	300	220	260	1160	1180	872	161	104	82	198
18	174	1240	300	210	280	1230	1130	852	159	115	86	228
19	170	1060	310	210	300	1310	1070	820	157	116	99	248
20	182	919	310	220	330	1320	1040	775	150	129	101	578
21	192	820	290	240	379	1270	961	775	144	132	116	1240
22	220	750	290	245	432	1170	820	875	136	134	116	1780
23	258	713	298	245	508	1070	723	1020	130	124	117	2110
24	284	677	312	244	585	937	669	1060	125	117	114	1900
25	290	637	350	244	613	775	613	1140	120	111	134	1510
26	280	593	413	237	597	733	554	1140	118	106	167	1200
27	239	540	458	200	621	683	491	1040	125	103	258	943
28	209	486	629	190	595	651	410	979	144	102	326	745
29	204	416	733	200	---	645	346	922	141	112	333	593
30	207	447	685	200	---	663	281	855	143	145	326	407
31	215	---	640	200	---	637	---	815	---	159	340	---
TOTAL	5736	21409	15803	9055	8750	42042	26041	24032	8748	4431	4221	18125
MEAN	185	714	510	292	313	1356	868	775	292	143	136	604
MAX	290	1820	943	600	621	3460	1200	1140	775	242	340	2110
MIN	98	230	290	190	180	637	281	281	118	102	75	164
CFSM	.37	1.41	1.01	.58	.62	2.68	1.71	1.53	.58	.28	.27	1.19
IN.	.42	1.57	1.16	.66	.64	3.08	1.91	1.76	.64	.33	.31	1.33

CAL YR 1982 TOTAL 141887 MEAN 389 MAX 1820 MIN 78 CFSM .77 IN 10.41
WTR YR 1983 TOTAL 188393 MEAN 516 MAX 3460 MIN 75 CFSM 1.02 IN 13.82

WISCONSIN RIVER BASIN

191

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 downstream from Dell Creek and 1.8 mi southeast of Wisconsin Dells.

DRAINAGE AREA.--8,090 mi².

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 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 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.--49 years, 6,808 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,200 ft³/s Sept. 14, 1938, gage height, 23.83 ft, present datum; minimum daily, 1,060 ft³/s Aug. 19, 1936.

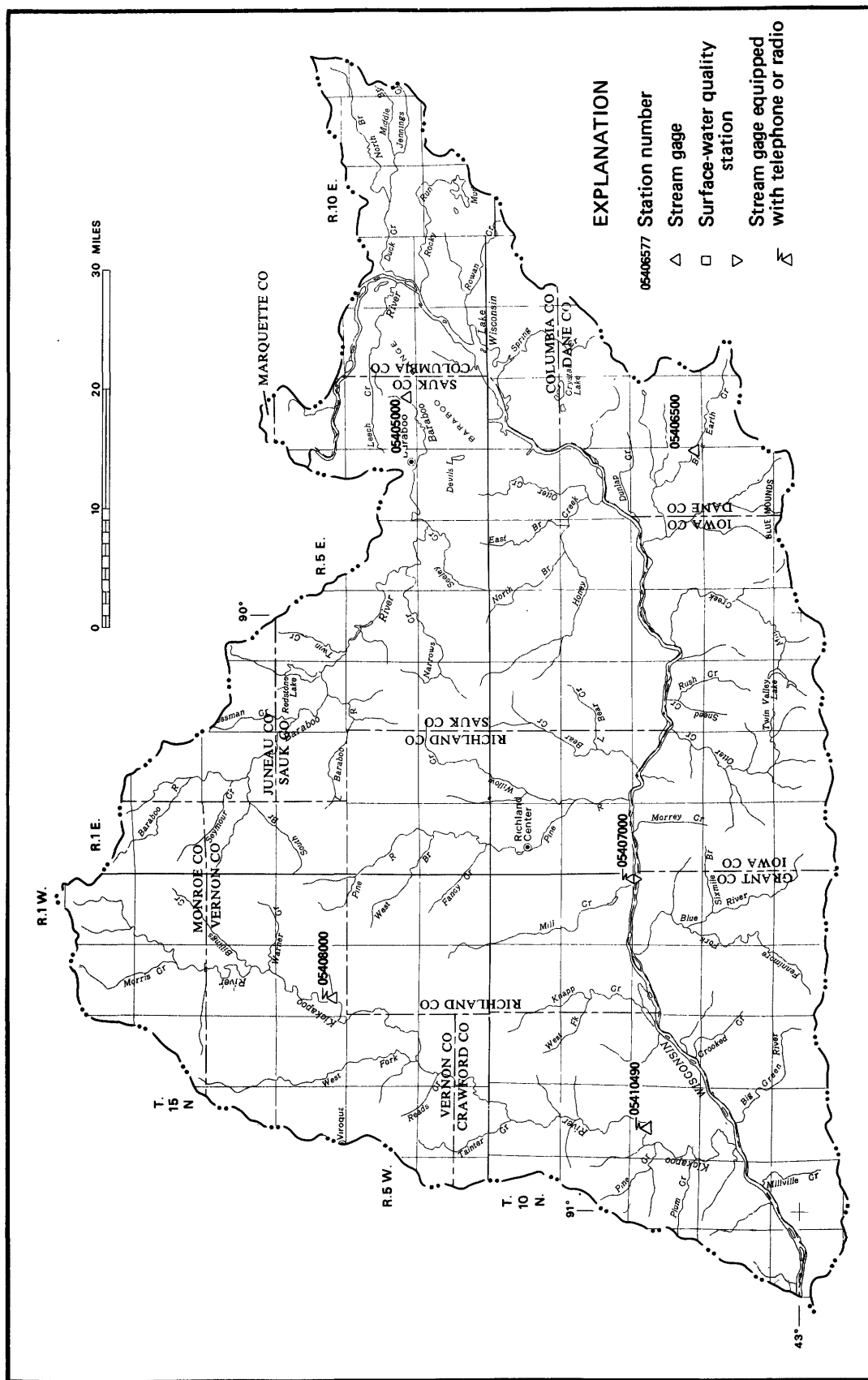
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,400 ft³/s Mar. 10, gage height, 17.74 ft; minimum daily, 3,480 ft³/s Aug. 13.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4 to Mar. 6.)

Oct. 1 to Mar. 8				Mar. 9 to Sept. 30			
5.1	4,920	10.0	17,600	4.4	3,480	11.0	21,000
5.5	5,760	12.0	24,600	5.0	4,710	13.0	28,500
6.0	6,870	14.0	32,600	7.0	9,270	15.0	36,800
8.0	11,800	16.0	41,300	9.0	14,500	18.0	50,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6440	9400	7200	10600	6400	8000	8570	8420	10400	4740	3730	5530
2	6270	9600	7200	9780	6600	8400	8780	7620	10100	4600	3690	5160
3	5700	9020	7330	8970	6800	8600	8520	7850	10100	4620	3630	4870
4	5780	8060	7610	8400	7000	9000	8460	7910	10100	4560	3670	4410
5	6510	7330	8840	8400	7000	9400	8550	7920	10500	4720	3520	3960
6	6770	6870	15000	8400	7200	11000	8550	8040	11100	5020	3690	3970
7	7090	6670	13000	8200	7200	28100	8970	8230	11100	4910	3710	4160
8	7050	6200	11200	7600	7400	40700	9980	10100	10600	4470	3610	4210
9	8020	6800	12400	6800	7600	47000	10500	9550	9880	4580	3670	4210
10	8020	7200	10200	6600	7600	49000	12200	9020	9200	4500	3830	3920
11	7870	13000	8960	6600	7800	45400	12800	10500	8810	4510	3600	3510
12	8230	29000	7920	6800	8000	32600	14100	11200	8340	4390	3490	3680
13	8060	33000	7690	7000	8000	13700	14200	11300	8240	4120	3480	3850
14	7890	34000	6940	6800	8000	13000	14200	11400	7560	4060	3530	3890
15	7870	29000	6460	6800	7800	10900	19600	10500	7620	4090	3520	3880
16	8030	22000	6450	6800	7600	10200	24900	9240	7830	3870	3630	4000
17	7690	19000	6820	7000	7400	12300	24400	9050	7460	3950	3810	4220
18	7420	14000	7100	7200	7200	12700	19500	8740	5610	4420	3880	4220
19	7070	13000	6300	6600	7000	12700	15500	8800	4920	4200	4000	3930
20	6820	14000	6020	6400	7000	12500	13900	9450	4860	4800	4080	5930
21	12400	14000	6640	6400	6800	11300	12500	9120	4510	4600	3930	11400
22	24100	14000	6070	6400	6600	10300	10400	9560	4600	4390	3950	13600
23	22400	16000	6410	6200	6800	12300	9730	13000	4660	4490	4130	14400
24	16400	17000	6120	6000	7200	12900	9530	20000	5140	4080	4150	12600
25	14700	13000	5270	5800	8600	12200	9440	20000	4530	4000	4110	9510
26	13400	9800	6260	5800	8600	11500	9230	21300	4480	4040	4570	7190
27	9740	11000	9600	5800	8200	11400	8960	16400	4810	3700	4750	8210
28	9310	10000	13300	5800	7800	11200	8670	12700	5150	3660	4850	8710
29	10200	8000	17400	5800	---	9880	8750	12300	5380	3710	4910	8080
30	9570	7000	14700	5800	---	9440	8650	10700	4860	3920	4710	7210
31	9800	---	11300	6000	---	8580	---	10400	---	4040	5080	---
TOTAL	296620	416950	273710	217550	207200	516200	362040	340320	222450	133760	122910	186420
MEAN	9568	13900	8829	7018	7400	16650	12070	10980	7415	4315	3965	6214
MAX	24100	34000	17400	10600	8600	49000	24900	21300	11100	5020	5080	14400
MIN	5700	6200	5270	5800	6400	8000	8460	7620	4480	3660	3480	3510
CAL YR 1982	TOTAL	3032950	MEAN	8309	MAX	40000	MIN	2700				
WTR YR 1983	TOTAL	3296130	MEAN	9030	MAX	49000	MIN	3480				



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

LOWER WISCONSIN RIVER BASIN

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 downstream from highway bridge, 0.3 mi downstream from Rowley Creek and 5.3 mi east of Baraboo.

DRAINAGE AREA.--609 mi².

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 National Geodetic Vertical Datum of 1929. Dec. 18, 1913, to Mar. 31, 1922, nonrecording gage at bridge 2.3 mi upstream at datum 7.6 ft 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.--48 (water years 1915-21, 1943-83), 372 ft³/s, 8.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,900 ft³/s Mar. 26, 1917, gage height, 17.5 ft, estimated, site and datum then in use, from rating curve extended above 6,000 ft³/s; minimum observed, 9.0 ft³/s Feb. 17, 1944, gage height, 5.08 ft; minimum daily, 26 ft³/s Oct. 6, 1950.

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Flood of Aug. 6, 1935, reached a stage of 15.8 ft from floodmarks, site and datum in use in 1922, discharge, 5,100 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s Mar. 7, gage height, 13.34 ft; minimum, 157 ft³/s Oct. 4, 5.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-23, Dec. 31 to Jan. 20 and Jan. 26 to Feb. 16.)

6.7	150	10.0	980
7.0	216	12.0	1,500
8.0	460	14.0	2,060

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	308	388	554	200	828	592	292	448	748	626	386
2	169	345	492	500	200	1040	888	373	416	648	451	320
3	169	395	614	369	200	1190	1170	416	385	551	282	288
4	162	400	636	293	250	1360	1160	414	370	560	235	271
5	163	340	654	315	247	1490	1090	390	330	509	225	255
6	180	277	976	306	200	1570	1080	366	307	449	224	260
7	191	243	1040	279	200	1830	1040	380	288	411	216	390
8	190	226	922	266	200	1820	928	523	277	320	231	538
9	222	228	834	259	200	1820	840	540	263	262	219	479
10	254	338	589	262	200	1740	917	448	251	240	218	351
11	238	569	395	267	200	1520	921	380	248	229	201	280
12	219	1220	409	253	221	1140	867	334	237	221	195	256
13	246	1600	445	236	223	770	930	327	227	217	194	250
14	233	1480	345	245	210	615	913	361	218	204	184	250
15	208	1410	304	277	220	578	856	402	216	197	184	254
16	193	1480	289	264	240	567	812	466	211	193	189	304
17	190	1470	285	235	287	602	788	442	207	198	419	284
18	189	1210	278	257	335	653	705	376	201	272	586	310
19	193	752	293	248	378	719	597	425	196	342	711	328
20	201	510	292	220	522	778	523	523	195	426	701	372
21	203	475	278	216	721	790	472	570	197	591	557	414
22	214	470	274	214	933	696	427	834	199	593	338	534
23	212	447	284	219	1060	572	398	1010	196	491	257	595
24	212	396	294	223	1160	487	382	905	191	357	256	544
25	208	347	310	229	1110	441	364	812	184	269	287	405
26	197	314	331	241	1020	418	357	680	195	239	319	315
27	194	285	367	348	860	418	327	529	319	226	625	284
28	192	296	491	209	678	417	315	476	597	213	970	273
29	199	301	579	200	---	420	311	524	695	227	957	263
30	213	333	513	200	---	441	304	482	752	241	805	253
31	251	---	519	200	---	483	---	462	---	485	546	---
TOTAL	6276	18465	14720	8404	12475	28213	21274	15462	9016	11129	12408	10306
MEAN	202	616	475	271	446	910	709	499	301	359	400	344
MAX	254	1600	1040	554	1160	1830	1170	1010	752	748	970	595
MIN	162	226	274	200	200	417	304	292	184	193	184	250
CFSM	.33	1.01	.78	.45	.73	1.49	1.16	.82	.49	.59	.66	.57
IN.	.38	1.13	.90	.51	.76	1.72	1.30	.94	.55	.68	.76	.63

CAL YR 1982 TOTAL 141739 MEAN 388 MAX 2070 MIN 151 CFSM .64 IN 8.66
WTR YR 1983 TOTAL 168148 MEAN 461 MAX 1830 MIN 162 CFSM .76 IN 10.27

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 east of Black Earth and 2.1 mi upstream from Vermont Creek.

DRAINAGE AREA.--45.6 mi², of which 2.8 mi² 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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--29 years, 31.9 ft³/s, 9.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s July 3, 1954, gage height, 6.58 ft; minimum, 4.8 ft³/s Nov. 29, 1958, gage height, 1.39 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 194 ft³/s Dec. 2, gage height, 3.15 ft; no peak above base of 200 ft³/s; minimum discharge, 23 ft³/s Jan. 27, gage height 1.74 ft, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 28 to Sept. 30; stage-discharge relation affected by ice Jan. 12-18, Jan. 31 to Feb. 12.)

1.7	18	2.5	96
2.0	43	3.0	169

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	41	32	32	27	40	50	38	41	40	30	30
2	27	63	135	31	27	40	101	42	38	36	30	28
3	27	45	79	30	26	43	89	42	37	34	30	32
4	25	40	55	30	25	44	66	41	37	39	31	32
5	26	37	58	30	25	44	60	42	36	32	30	31
6	27	34	71	30	26	52	58	43	36	30	30	66
7	27	34	58	30	26	63	54	47	39	29	29	42
8	26	33	51	30	26	50	51	46	38	29	29	35
9	27	38	46	29	26	44	52	42	37	28	29	32
10	27	44	43	30	27	42	52	40	36	28	28	31
11	28	45	40	29	27	40	50	39	34	27	28	30
12	31	61	38	29	27	41	51	38	34	26	28	29
13	29	44	37	29	28	40	59	40	33	26	28	29
14	29	39	37	29	28	38	56	40	33	29	28	28
15	28	35	37	29	28	37	51	39	33	28	28	30
16	27	33	36	28	32	38	49	37	31	28	28	35
17	27	33	34	27	35	36	48	37	31	29	32	32
18	27	32	35	27	39	37	46	37	31	28	30	33
19	28	32	35	27	46	45	45	42	29	28	29	33
20	30	35	35	27	69	39	44	40	29	35	28	34
21	28	33	34	28	74	37	44	38	29	28	29	33
22	28	33	33	28	64	36	40	55	26	30	30	31
23	28	36	34	28	68	39	40	47	26	30	29	30
24	28	34	35	28	54	37	40	43	26	30	29	30
25	28	32	36	28	41	36	40	43	27	30	40	30
26	28	32	35	27	38	38	42	40	28	28	42	30
27	27	31	34	26	38	38	42	40	31	27	46	29
28	27	33	44	27	40	37	41	40	32	28	37	28
29	27	34	38	27	---	37	40	45	31	30	34	28
30	26	33	34	27	---	40	37	43	36	31	35	27
31	25	---	33	27	---	43	---	42	---	30	34	---
TOTAL	850	1129	1382	884	1037	1271	1538	1288	985	931	968	968
MEAN	27.4	37.6	44.6	28.5	37.0	41.0	51.3	41.5	32.8	30.0	31.2	32.3
MAX	31	63	135	32	74	63	101	55	41	40	46	66
MIN	25	31	32	26	25	36	37	37	26	26	28	27
CFSM	.60	.83	.98	.63	.81	.90	1.13	.91	.72	.66	.68	.71
IN.	.69	.92	1.13	.72	.85	1.04	1.25	1.05	.80	.76	.79	.79
CAL YR 1982	TOTAL	13718	MEAN 37.6	MAX 235	MIN 24	CFSM .83	IN 11.19					
WTR YR 1983	TOTAL	13231	MEAN 36.2	MAX 135	MIN 25	CFSM .79	IN 10.79					

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 upstream from Eagle Mill Creek and 1.0 mi north of Muscoda.

DRAINAGE AREA.--10,400 mi².

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 666.77 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1929, nonrecording gage on bridge 200 ft 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 and Mar. 30 to Apr. 21, 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 10 ft³/s was diverted out of basin through Portage Canal to Fox River throughout the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--70 years (1913-83), 8,662 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,800 ft³/s Sept. 16, 1938, gage height, 11.48 ft; minimum daily, 2,000 ft³/s Feb. 11, 1918.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,100 ft³/s Mar. 13, gage height, 9.28 ft; minimum discharge, 4,130 ft³/s Aug. 15, gage height, 0.98 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 14 to Feb. 24.)

Oct. 1 to Feb. 28				Mar. 1 to Sept. 30			
1.8	6,580	4.0	15,300	0.9	3,910	4.0	15,300
2.0	7,260	6.0	25,800	1.0	4,180	6.0	26,100
3.0	11,100	8.0	41,400	2.0	7,260	8.0	40,000
				3.0	11,100	10.0	57,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6960	12000	10300	17800	8400	11700	12400	10500	13600	7610	5170	6570
2	6820	12700	9920	14600	8000	11500	13100	10600	13000	7760	5100	6270
3	7380	13500	11400	14000	9000	11800	13600	10400	12600	7410	5070	6870
4	7900	11400	10800	12200	8200	12600	13000	9690	11900	6840	5080	6480
5	7160	11200	11500	10800	8000	13000	13000	9470	11200	6570	5100	5860
6	7140	10000	13600	11400	9000	13700	12600	9540	12600	6850	4770	6290
7	8660	9330	14200	12200	10000	15400	12100	10700	12300	6670	4680	6340
8	8000	8870	18500	12100	10000	18000	11200	10900	13000	6470	4650	5570
9	9360	8730	15600	11900	10000	23600	13300	9890	12400	6130	4640	5310
10	8590	8770	13600	9940	10000	32600	13700	12100	11900	6070	4680	5920
11	9420	9160	13400	9400	10000	44300	13700	11500	11000	5990	4360	5760
12	9680	13100	11300	9500	10000	49600	14800	10800	10500	5620	4380	5410
13	9300	16000	7640	8890	10000	50400	16500	12600	10200	5370	4300	5040
14	10300	19900	8490	6600	11000	43600	16700	12800	9550	5590	4150	4780
15	9590	24300	9170	8400	11000	27300	17300	13000	9100	5610	4220	4950
16	9490	29900	10300	8800	12000	19500	17600	13000	8970	5480	4590	5630
17	8990	33800	8980	7400	11000	16300	20100	11900	8880	4850	4560	5810
18	9840	31200	8280	8800	11000	15100	23400	10100	8870	4850	4860	5830
19	9210	24400	8350	8600	11000	15900	25400	11300	8640	5780	4920	5720
20	9710	19600	10100	9200	10000	16100	22000	10900	6830	6250	4820	5940
21	9290	16400	9480	8600	11000	16000	18000	10800	6140	6100	5490	6260
22	9210	15000	8170	8800	12000	15700	15300	12200	6260	7030	5160	8380
23	13600	15900	8370	10000	12000	14600	14500	12500	5680	6640	5440	12700
24	19400	16300	8690	9600	12000	13700	12400	12900	5460	5390	5360	15000
25	21600	17400	9030	9200	11100	14700	11300	16000	5950	5830	5390	15300
26	18500	18300	8000	9200	12000	15400	11600	19800	6400	5300	6340	14100
27	16300	14800	7050	9400	12100	15100	11700	22000	6430	5450	7050	10700
28	14500	12800	9850	8000	12100	14400	10000	22200	7800	4840	7030	9760
29	12400	13600	12800	6800	---	14000	10600	19600	7590	5240	7140	10200
30	11400	11900	16400	8200	---	13500	10600	15400	7370	5440	6630	10200
31	12200	---	18900	9000	---	12800	---	15000	---	5390	7750	---
TOTAL	331900	480260	342170	309330	291900	621900	441500	400090	282120	186420	162880	228950
MEAN	10710	16010	11040	9978	10430	20060	14720	12910	9404	6014	5254	7632
MAX	21600	33800	18900	17800	12100	50400	25400	22200	13600	7760	7750	15300
MIN	6820	8730	7050	6600	8000	11500	10000	9470	5460	4840	4150	4780
CAL YR 1982	TOTAL	3754660	MEAN	10290	MAX	42200	MIN	4100				
WTR YR 1983	TOTAL	4079420	MEAN	11180	MAX	50400	MIN	4150				

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1971, 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM HG)	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)
NOV , 1982												
16...	1015	29400	175	7.3	--	1.5	7.0	--	--	--	490	>3300
JAN , 1983												
31...	1000	9000	215	7.9	--	.0	2.7	11.7	--	--	K16	62
MAR												
14...	1030	45000	120	7.4	--	2.5	3.4	11.4	--	--	K14	270
MAY												
27...	1020	22600	160	8.2	13.5	16.0	6.0	8.2	746	85	--	--
JUL												
21...	1030	6000	230	8.3	33.0	27.5	4.4	6.8	--	--	--	--
SEP												
15...	1120	4760	260	8.3	--	19.0	4.0	8.0	--	--	--	--

DATE	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)	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 , 1982												
16...	75	21	18	7.3	7.0	16	.4	2.5	54	14	9.5	.10
JAN , 1983												
31...	90	12	21	9.2	6.1	--	.3	<.1	78	16	10	<.10
MAR												
14...	66	18	16	6.2	7.0	18	.4	2.0	48	15	11	<.10
MAY												
27...	75	16	17	7.9	5.7	14	.3	1.6	59	13	8.9	<.10
JUL												
21...	110	15	25	12	5.6	10	.2	1.8	97	14	8.6	.20
SEP												
15...	110	13	26	12	6.1	10	.3	1.6	102	13	11	.10

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 , 1982											
16...	5.3	116	97	.16	9210	.51	.030	.80	.020	.040	.030
JAN , 1983											
31...	9.7	137	119	.19	3330	.97	.100	.40	.070	.060	.060
MAR											
14...	10	126	97	.17	15300	.71	.220	.60	.100	.060	.050
MAY											
27...	.3	107	90	.15	6530	<.10	<.010	.80	.070	.030	.020
JUL											
21...	5.0	154	130	.21	2490	.35	.020	1.10	.120	.090	<.010
SEP											
15...	5.1	152	136	.21	1950	<.10	.030	.90	.100	.030	.030

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

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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)	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, DIS- SOLVED (UG/L AS FE)
NOV , 1982											
16...	1015	29400	40	1	24	<1	4	--	<3	5	530
MAR , 1983											
14...	1030	45000	30	1	28	<1	2	2	<3	6	590
MAY											
27...	1020	22600	100	1	22	1	<1	<1	<3	2	290
SEP											
15...	1120	4760	<10	1	31	<1	2	11	<3	18	15

DATE	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)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1982											
16...	<1	<4	38	<.1	<10	<1	<1	<1	33	<6.0	21
MAR , 1983											
14...	2	<4	18	<.1	<10	1	<1	<1	31	<6.0	27
MAY											
27...	6	<4	5	.1	<10	<1	<1	<1	35	<6.0	4
SEP											
15...	3	<4	2	.1	<10	<1	<1	<1	43	<6.0	11

WISCONSIN RIVER BASIN

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1982							
16...	0910	30000	--	--	92	7450	20
MAR , 1983							
12...	1330	49500	--	--	189	25300	6
14...	1020	45200	--	--	161	19600	4
17...	1030	15100	--	--	19	775	59
JUL							
21...	1030	6000	230	27.5	29	470	93
SEP							
15...	1100	4990	--	--	27	364	--

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. 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
NOV , 1982										
16...	0910	30000	92	7450	20	23	44	92	100	--
MAR , 1983										
12...	1330	49500	189	25300	6	8	38	93	99	100
14...	1020	45200	161	19600	4	5	32	98	100	--
17...	1030	15100	19	775	59	63	85	99	100	--
JUL										
21...	1030	6000	29	470	93	97	98	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
NOV , 1982										
16...	0910	30000	0	7	66	92	97	99	100	--
MAR , 1983										
12...	1330	49500	0	12	76	97	100	--	--	--
14...	1020	45200	0	7	63	90	96	99	100	--
17...	1030	15100	0	6	66	90	95	98	99	100
MAY										
27...	1020	22600	0	4	65	94	98	99	100	--
JUL										
21...	1030	6000	0	7	70	94	98	100	--	--
SEP										
15...	1100	4990	0	7	78	96	99	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 upstream from bridge on State Highway 82, in La Farge, 0.3 mi upstream from Otter Creek, and 1.3 mi downstream from powerplant.

DRAINAGE AREA.--266 mi².

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 and crest-stage gage. Datum of gage is 781.54 ft 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.--45 years, 175 ft³/s, 8.93 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s July 1, 1978, gage height, 14.92 ft; minimum, 1.8 ft³/s Mar. 24, 1951; minimum daily, 36 ft³/s Nov. 3, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges, above base of 1,700 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	1600	*2,900	11.33	Sept. 21	0600	2,580	*11.62
Mar. 5	0900	1,800	9.13				

minimum daily discharge, 137 ft³/s Aug. 15.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 17 to Nov. 9, Sept. 20, 21; stage-discharge relation affected by ice Dec. 9-22, Dec. 30 to Feb. 18.)

2.5	126	7.0	1,100
3.0	192	9.0	1,750
5.0	580	11.0	2,620

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	159	220	200	150	579	283	197	243	311	160	204
2	142	178	239	190	150	401	310	233	222	275	153	184
3	144	173	247	180	150	719	446	230	216	208	153	177
4	142	157	215	180	140	1300	357	205	220	319	162	171
5	139	153	281	180	140	1450	306	195	206	210	158	193
6	142	149	623	180	140	929	294	213	203	180	153	284
7	151	147	319	180	150	717	300	259	194	172	148	214
8	149	146	249	170	150	424	272	251	187	165	144	186
9	148	149	220	170	150	326	274	210	186	162	141	177
10	174	472	210	160	150	274	367	198	181	158	140	172
11	158	572	210	160	150	253	347	192	178	155	143	172
12	150	2400	200	150	160	243	299	193	175	151	140	167
13	147	1190	200	160	160	242	356	300	174	146	139	169
14	145	391	200	160	160	248	419	394	171	145	138	162
15	146	301	190	160	160	236	405	272	170	143	137	163
16	146	273	180	150	170	284	311	240	166	145	141	205
17	141	251	180	150	170	428	296	227	162	224	746	190
18	140	236	170	150	180	536	287	220	162	293	232	190
19	142	237	170	150	198	376	266	348	166	195	178	197
20	165	248	160	150	292	314	254	330	161	499	162	1230
21	197	243	150	160	327	279	246	262	160	305	319	1720
22	158	218	170	160	366	257	239	276	157	200	295	395
23	150	212	172	160	471	245	235	355	152	186	192	302
24	146	191	186	160	373	238	226	269	149	174	170	261
25	143	189	222	160	247	235	220	274	150	166	237	243
26	141	192	246	150	203	231	215	240	155	161	415	229
27	139	176	190	150	202	233	212	229	244	155	438	222
28	147	202	755	160	348	230	204	233	269	162	290	212
29	214	270	389	160	---	237	202	241	204	229	301	205
30	187	226	260	150	---	226	198	243	190	227	225	199
31	158	---	240	150	---	233	---	254	---	172	225	---
TOTAL	4729	10101	7663	5050	5807	12923	8646	7783	5573	6393	6775	8795
MEAN	153	337	247	163	207	417	288	251	186	206	219	293
MAX	214	2400	755	200	471	1450	446	394	269	499	746	1720
MIN	138	146	150	150	140	226	198	192	149	143	137	162
CFSM	.58	1.27	.93	.61	.78	1.57	1.08	.94	.70	.77	.82	1.10
IN.	.66	1.41	1.07	.71	.81	1.81	1.21	1.09	.78	.89	.95	1.23

CAL YR 1982	TOTAL	77502	MEAN	212	MAX	2400	MIN	126	CFSM	.80	IN	10.84
WTR YR 1983	TOTAL	90238	MEAN	247	MAX	2400	MIN	137	CFSM	.93	IN	12.62

WISCONSIN RIVER BASIN

05410490 KICKAPOO RIVER AT STEUBEN, WI

LOCATION.--Lat 43°10'58", long 90°51'30", in NE 1/4 SW 1/4 sec.9, T.8 N., R.4 W., Crawford County, Hydrologic Unit 07070006, on right bank at upstream corner of town road bridge at Steuben and 18.6 mi upstream from mouth.

DRAINAGE AREA.--687 mi².

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 657.00 ft National Geodetic Vertical Datum of 1929. May 1933 to Oct. 19, 1938, nonrecording gage at same site at datum 1.7 ft higher. Oct. 20, 1938 to September 1982, recording gage at site 1.2 mi downstream at datum 0.36 ft higher.

REMARKS.--Records good except for period of ice effect, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 476 ft³/s, 9.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s July 3, 1978, gage height, 14.81 ft; minimum observed, 161 ft³/s Aug. 9, 1936, gage height, 0.76 ft site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,390 ft³/s Nov. 16, gage height, 12.49 ft, no other peaks above base of 1,900 ft³/s; minimum discharge, 424 ft³/s Oct. 19, gage height, 6.68 ft, minimum gage height, 6.57 ft Aug. 19.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1 to Nov. 10, Nov. 18; stage-discharge relation affected by ice Dec. 12-17, Jan. 1-8, and Jan. 12 to Feb. 16.)

6.4	414	10.0	1,120
7.0	511	11.0	1,400
8.0	690	12.0	1,890
9.0	882	12.5	2,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	532	682	660	450	1060	681	600	675	697	554	624
2	427	545	671	600	450	1230	755	625	663	778	510	609
3	430	530	686	560	450	1250	849	649	634	787	493	578
4	433	521	695	540	450	1290	958	655	615	716	490	558
5	430	499	705	560	440	1380	923	619	611	738	494	569
6	431	480	808	560	430	1470	842	610	605	688	493	641
7	440	470	1000	560	430	1540	805	637	590	597	484	692
8	447	462	976	540	430	1620	788	670	575	564	477	671
9	455	468	765	547	430	1700	778	669	563	547	467	599
10	457	605	624	535	430	1540	818	622	554	533	460	567
11	458	792	623	553	440	1040	882	591	546	523	454	555
12	465	1430	620	540	450	824	897	586	535	514	454	547
13	450	1560	620	500	460	768	863	625	530	502	452	541
14	440	1710	600	490	470	744	913	735	523	494	448	533
15	437	2120	600	480	490	729	990	857	519	489	445	529
16	434	2290	580	470	540	742	989	756	512	486	443	551
17	433	1670	580	460	592	810	879	682	505	484	448	575
18	429	993	558	460	631	928	815	652	499	558	583	599
19	425	814	582	460	672	1050	795	690	500	678	780	579
20	436	763	582	460	842	987	760	801	500	648	542	665
21	453	742	568	460	1030	858	729	859	499	620	494	969
22	473	715	548	470	1160	786	709	773	492	782	526	1170
23	479	683	537	480	1180	742	691	765	487	611	672	1270
24	450	648	567	470	1190	709	674	790	478	546	571	1330
25	439	622	577	470	1070	690	659	792	494	524	1090	1040
26	435	596	605	460	811	678	644	734	479	506	903	762
27	431	592	649	450	683	677	635	692	583	494	941	688
28	438	593	760	460	731	678	624	666	903	488	1000	652
29	491	620	1020	460	---	677	615	660	821	598	851	627
30	523	681	1050	450	---	674	605	664	674	624	733	607
31	540	---	772	450	---	670	---	668	---	623	689	---
TOTAL	13937	25746	21210	15615	17832	30541	23565	21394	17164	18437	18441	20897
MEAN	450	858	684	504	637	985	786	690	572	595	595	697
MAX	540	2290	1050	660	1190	1700	990	859	903	787	1090	1330
MIN	425	462	537	450	430	670	605	586	478	484	443	529
CFSM	.66	1.25	1.00	.73	.93	1.43	1.14	1.00	.83	.87	.87	1.02
IN.	.75	1.39	1.15	.85	.97	1.65	1.28	1.16	.93	1.00	1.00	1.13

CAL YR 1982	TOTAL	210192	MEAN	576	MAX	2290	MIN	350	CFSM	.84	IN	11.39
WTR YR 1983	TOTAL	244779	MEAN	671	MAX	2290	MIN	425	CFSM	.98	IN	13.25

RESERVOIRS IN WISCONSIN RIVER BASIN

The 24 reservoirs listed below are used to stabilize the flow of the Wisconsin and Tomahawk Rivers for power generation and are also used for recreational purposes. The first 21 reservoirs are owned and operated by the Wisconsin Valley Improvement Co., which furnishes the gage heights and capacity tables. Revised capacity tables for all 21 reservoirs were received from the Company in April 1957 and were used to compute month-end usable contents beginning Sept. 30, 1955. Another revised capacity table for Burnt Rollways Reservoir was used to compute month-end usable contents beginning Sept. 30, 1964. Lake Dubay is owned by the Consolidated Water Power Co. Petenwell and Castle Rock are owned and operated by the Wisconsin River Power Co., which furnished the gage heights and capacity tables for those two reservoirs. Month-end contents are computed by the U.S. Geological Survey. The usable capacity of these reservoirs is usually less in summer than in winter because the allowable summer drawdown is limited by the Department of Natural Resources in the interest of riparian property owners. There are occasionally formal or informal changes in capacity and in minimum drawdown levels. Usable capacity figures listed below are for winter regulation.

- 05390100 Lac Vieux Desert on Wisconsin River, lat 46°07'18", long 89°09'07", in SE 1/4 NW 1/4 sec.17, T.42 N., R.11 E., Vilas County, 4.8 mi northwest of Phelps, used as a reservoir since 1908, has a usable capacity of 652,000,000 ft³. Drainage area, 34.4 mi².
- 05390150 Twin Lakes on Twin River, lat 46°01'20", long 89°10'05", in SW 1/4 NE 1/4 sec.19, T.41 N., R.11 E., Vilas County, 5.0 mi southwest of Phelps, used as a reservoir since 1908, has a usable capacity of 313,000,000 ft³. Drainage area, 26 mi².
- 05390200 Buckatabon Lakes on Buckatabon Creek, lat 46°01'18", long 89°18'40", in SE 1/4 NE 1/4 sec.24, T.41 N., R.9 E., Vilas County, 3.3 mi southwest of Conover, used as a reservoir since 1908, has a usable capacity of 130,000,000 ft³. Drainage area, 16.9 mi².
- 05390250 Sevenmile Lake on Sevenmile Creek, lat 45°52'30", long 89°04'07", in SE 1/4 NE 1/4 sec.11, T.39 N., R.11 E., Oneida County, 9.1 mi southeast of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 93,000,000 ft³. Drainage area, 12.1 mi².
- 05390300 Lower Ninemile Lake on Ninemile Creek, lat 45°53'37", long 89°07'15", in NE 1/4 NW 1/4 sec.4, T.39 N., R.11 E., Oneida County, 6.6 mi southeast of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 121,000,000 ft³. Drainage area, 28.8 mi².
- 05390350 Burnt Rollways Reservoir on Eagle River, lat 45°53'40", long 89°08'28", in NE 1/4 NW 1/4 sec.5, T.39 N., R.11 E., Oneida County, 5.3 mi southeast of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 779,000,000 ft³. This reservoir includes 18 lakes controlled by the same dam. Drainage area, 142 mi².
- 05390400 Long Lake on Deerskin River, lat 46°02'37", long 89°02'44", in NW 1/4 SE 1/4 sec.7, T.41 N., R.12 E., Vilas County, 3.5 mi southeast of Phelps, used as a reservoir since 1908, has a usable capacity of 400,000,000 ft³. Drainage area, 22.9 mi².
- 05390600 Deerskin Lake on Little Deerskin River, lat 45°59'07", long 89°09'40", in SE 1/4 sec.31, T.41 N., R.11 E., Vilas County, 6.3 mi northeast of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 22,000,000 ft³. Drainage area, 2.47 mi².
- 05390650 Sugar Camp Reservoir on Sugar Camp Creek, lat 45°52'19", long 89°23'40", in NE 1/4 sec.17, T.39 N., R.9 E., Oneida County, 7.6 mi southwest of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 471,000,000 ft³. Drainage area, 48.4 mi².
- 05390700 Little St. Germain Lake on Little St. Germain Creek, lat 45°53'57", long 89°27'08", in SE 1/4 sec.35, T.40 N., R.8 E., Vilas County, 9.6 mi west of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 79,000,000 ft³. Drainage area, 19 mi².
- 05390750 Big St. Germain Lake on St. Germain River, lat 45°55'06", long 89°31'55", in SE 1/4 sec.30, T.40 N., R.8 E., Vilas County, 5.0 mi south of Sayner, used as a reservoir since 1908, has a usable capacity of 202,000,000 ft³. Drainage area, 73.1 mi².
- 05390800 Pickerel Lake on St. Germain River, lat 45°52'22", long 89°31'47", in NE 1/4 sec.18, T.39 N., R.8 E., Oneida County, 5.0 mi northeast of town of Lake Tomahawk, used as a reservoir since 1935, has a usable capacity of 338,000,000 ft³. Drainage area, 86.2 mi².
- 05390900 Rainbow Lake on Wisconsin River, lat 45°50'02", long 89°32'42", in SW 1/4 sec.30, T.39 N., R.8 E., Oneida County, 800 ft upstream from U.S. Geological Survey river gaging station, 2.7 mi northeast of town of Lake Tomahawk, used as a reservoir since 1935, has a usable capacity of 2,181,000,000 ft³. Drainage area, 744 mi².
- 05391100 South Pelican Lake on Pelican River, lat 45°31'37", long 89°12'24", in S 1/2 sec.11, T.35 N., R.10 E., Oneida County, 2.8 mi northwest of town of Pelican Lake, used as a reservoir since 1909, has a usable capacity of 305,000,000 ft³. Drainage area, 19.8 mi².
- 05391300 North Pelican Lake (includes Moen Lakes) on North Branch Pelican River, lat 45°38'05", long 89°14'38", in SE 1/4 sec.4, T.36 N., R.10 E., Oneida County, 0.2 mi below Twin Lakes Creek and 8.0 mi east of Rhinelander city limits, used as a reservoir since 1908, has a usable capacity of 218,000,000 ft³. Drainage area, 95 mi².
- 05392100 Minocqua Lake on Tomahawk River, lat 45°52'35", long 89°43'38", on line between secs.10 and 15, T.39 N., R.6 E., Oneida County, 1.0 mi west of Minocqua, used as a reservoir since 1910, has a usable capacity of 628,000,000 ft³. Drainage area, 72.5 mi².
- 05392200 Squirrel Lake on Squirrel River, lat 45°50'37", long 89°54'13", in NE 1/4 sec.30, T.39 N., R.5 E., Oneida County, 9.4 mi west of Minocqua, used as a reservoir since 1908, has a usable capacity of 182,000,000 ft³. Drainage area, 15.2 mi².
- 05392300 Willow Reservoir on Tomahawk River, lat 45°42'45", long 89°50'38", in NE 1/4 sec.10, T.37 N., R.5 E., Oneida County, 8.8 mi southwest of Hazelhurst, used as a reservoir since 1927, has a usable capacity of 3,302,000,000 ft³. Drainage area, 310 mi².
- 05392500 Lake Nokomis on Tomahawk River, lat 45°32'20", long 89°44'48", in NW 1/4 sec.9, T.35 N., R.6 E., Lincoln County, at U.S. Geological Survey river gaging station, 0.5 mi east of Bradley, used as a reservoir since 1912, has a usable capacity of 1,808,000,000 ft³. Drainage area, 544 mi².
- 05393600 Spirit River Flowage on Spirit River, lat 45°26'18", long 89°44'30", in NE 1/4 sec.16, T.34 N., R.6 E., Lincoln County, 2.0 mi south of Tomahawk, used as a reservoir since 1923, has a usable capacity of 756,000,000 ft³. Drainage area, 158 mi².

WISCONSIN RIVER BASIN

RESERVOIRS IN WISCONSIN RIVER BASIN--CONTINUED

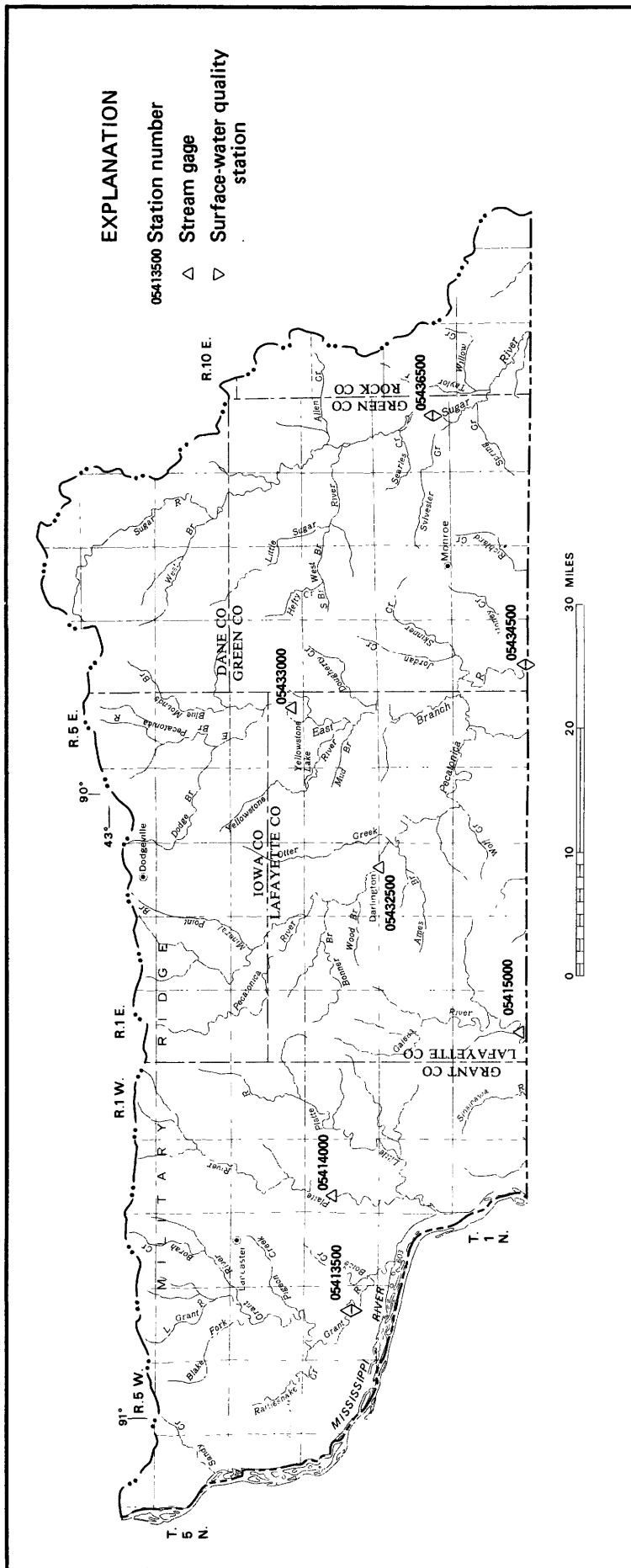
- 05399600 Big Eau Pleine Reservoir on Big Eau Pleine River, lat 44°43'52", long 89°45'35", in SW 1/4 sec.14, T.26 N., R.6 E., Marathon County, 3.0 mi northeast of Dancy, used as a reservoir since 1937, has a capacity of 4,457,000,000 ft³. Drainage area, 363 mi².
- 05400295 Lake Dubay on Wisconsin River, lat 44°39'54", long 89°39'03", in sec.10, T.25 N., R.7 E., Wood County, 1.5 mi downstream of Little Eau Pleine River and 10.5 mi northwest of Stevens Point, has a usable capacity of 2,117,000,000 ft³. Drainage area, 4,900 mi².
- 05401400 Petenwell Flowage on Wisconsin River, lat 44°03'26", long 90°01'18", in SE 1/4 sec.4, T.18 N., R.4 E., Adams County, 5.2 mi upstream from Roche a Cri Creek, 2.4 mi west of Strongs Prairie, and 3.5 mi northeast of, Necedah, used as a reservoir since 1950, has a total capacity of 19,880,000,000 ft³. Drainage area, 5,970 mi².
- 05403200 Castle Rock Flowage on Wisconsin River, lat 43°51'48", long 89°57'38", in sec.13, T.16 N., R.4 E., Adams County, 4.5 mi upstream from Duck Creek, and 2.0 mi south of Germantown, and 7.0 mi northeast of Mauston, used as a reservoir since 1950, has a total capacity of 7,630,000,000 ft³. Drainage area, 7,056 mi².

MONTH-END CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1982 to SEPTEMBER 1983

	LAC VIEUX DESERT	TWIN LAKES	BUCKATABON LAKE	SEVENMILE LAKE	LOWER NINEMILE LAKE	BURNT ROLLWAYS RESERVOIR	LONG LAKE	DEERSKIN LAKE
SEPT. 30.....	392	289	116	63	100	555	247	15
OCT. 31.....	384	280	116	63	103	568	244	14
NOV. 30.....	330	244	100	58	87	472	208	6
DEC. 31.....	244	181	56	25	38	273	140	6
JAN. 31.....	147	42	26	0	16	0	58	6
FEB. 28.....	79	8	21	0	2	0	0	6
MAR. 31.....	161	86	63	23	84	301	80	10
APR. 30.....	268	150	106	41	103	568	215	15
MAY 31.....	361	244	117	66	104	562	264	16
JUNE 30.....	446	281	115	66	98	542	246	15
JULY 31.....	390	266	116	62	91	555	238	12
AUG. 31.....	373	264	115	61	102	546	237	14
SEPT. 30.....	406	274	115	64	103	565	254	18

	SUGAR CAMP RESERVOIR	LITTLE ST. GERMAIN LAKE	BIG ST. GERMAIN LAKE	PICKEREL LAKE	RAINBOW LAKE	SOUTH PELICAN LAKE	NORTH PELICAN LAKE	MINOCQUA LAKE
SEPT. 30.....	413	74	161	267	2,134	300	137	536
OCT. 31.....	424	72	160	263	2,147	305	136	556
NOV. 30.....	406	60	135	266	2,121	290	120	519
DEC. 31.....	379	43	129	263	2,128	238	99	282
JAN. 31.....	324	21	72	223	1,913	208	52	90
FEB. 28.....	240	13	32	166	1,113	173	48	15
MAR. 31.....	284	49	102	254	1,210	255	81	159
APR. 30.....	410	72	134	263	1,855	295	138	315
MAY 31.....	411	72	159	267	2,136	300	135	499
JUNE 30.....	404	71	158	266	2,083	284	140	496
JULY 31.....	401	66	158	261	1,428	255	136	511
AUG. 31.....	395	72	159	268	1,352	232	132	550
SEPT. 30.....	416	71	158	265	1,915	264	124	556

	SQUIRREL LAKE	WILLOW RESERVOIR	LAKE NOKOMIS	SPIRIT RIVER FLOWAGE	BIG EAU PLEINE RESERVOIR	LAKE DUBAY	PETENWELL FLOWAGE	CASTLE ROCK FLOWAGE
SEPT. 30.....	167	2,891	1,764	724	3,668	4,110	17,650	5,684
OCT. 31.....	168	3,232	1,775	741	4,418	4,201	17,747	5,890
NOV. 30.....	158	3,202	1,758	705	4,382	4,132	17,712	5,748
DEC. 31.....	84	3,154	1,739	717	4,292	4,144	17,606	5,942
JAN. 31.....	23	2,535	1,347	460	3,344	4,125	16,746	5,890
FEB. 28.....	16	1,666	810	222	2,492	4,014	15,402	4,112
MAR. 31.....	94	2,080	1,309	485	4,154	4,261	17,668	6,452
APR. 30.....	166	2,749	1,750	662	4,220	4,386	18,152	6,486
MAY 31.....	167	3,283	1,775	731	4,370	4,515	18,539	6,398
JUNE 30.....	166	3,108	1,663	662	3,886	4,233	17,615	5,837
JULY 31.....	162	2,469	1,481	511	3,236	4,245	17,703	5,812
AUG. 31.....	164	1,806	1,248	377	2,913	4,160	17,703	5,916
SEPT. 30.....	170	2,197	1,457	542	3,445	4,204	17,738	5,818



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 northwest of Potosi and 9.5 mi upstream from mouth.

DRAINAGE AREA.--269 mi².

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 National Geodetic Vertical Datum of 1929. Oct. 17, 1934, to Sept. 30, 1947, nonrecording gage at site 6 mi upstream at datum 33.18 ft 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.--49 years, 167 ft³/s, 8.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s July 16, 1950, gage height, 24.82 ft, from rating curve extended above 18,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 21 ft³/s Mar. 4, 1954, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,830 ft³/s Feb. 21, gage height, 15.66 ft, no peak above base of 2,400 ft³/s; minimum discharge, 121 ft³/s Jan. 27, gage height, 5.19 ft, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Nov. 13 to Dec. 21; stage-discharge relation affected by ice Dec. 10-16, Dec. 30 to Jan. 5, Jan. 13 to Feb. 18.)

5.4	138	9.0	616
6.0	202	11.0	936
7.0	322	13.0	1,260
8.0	456		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	261	208	200	150	264	240	226	247	739	183	161
2	141	310	250	200	150	242	350	289	235	567	174	159
3	143	219	268	190	140	240	460	259	232	396	170	158
4	143	185	234	190	140	250	396	234	229	402	174	157
5	142	176	270	180	140	252	346	223	222	309	171	158
6	147	168	381	180	140	312	341	240	230	272	166	389
7	204	166	306	179	140	321	320	255	216	256	163	226
8	160	163	282	171	140	270	294	255	210	247	165	170
9	209	174	245	169	140	251	314	220	206	241	164	164
10	189	242	250	176	140	233	404	215	201	233	163	159
11	161	254	250	177	150	226	349	213	194	226	163	159
12	153	1190	250	147	150	221	329	220	193	219	161	156
13	150	485	240	160	150	220	353	294	194	209	160	154
14	149	356	240	170	160	223	364	297	192	207	159	151
15	147	304	230	170	170	216	352	248	192	205	157	159
16	143	280	220	170	180	250	315	234	188	203	156	220
17	141	262	209	160	210	261	308	227	185	199	155	217
18	144	246	210	160	300	236	294	243	187	198	154	302
19	144	243	213	160	416	229	284	441	189	224	153	190
20	154	246	203	160	1250	224	275	351	186	221	149	224
21	151	232	194	160	1260	225	267	315	186	203	151	236
22	146	219	194	160	1010	215	261	327	181	192	158	184
23	144	218	200	160	581	206	257	318	177	190	154	174
24	142	204	212	160	384	205	247	284	173	190	149	170
25	141	201	215	160	264	202	244	278	175	187	285	168
26	140	202	209	150	237	201	242	260	179	182	424	167
27	140	197	194	150	225	214	237	258	325	179	206	164
28	150	208	257	160	257	211	230	260	366	175	190	161
29	238	234	219	160	---	208	228	267	233	220	173	158
30	176	213	210	150	---	208	226	279	243	200	169	156
31	154	---	210	150	---	216	---	258	---	183	167	---
TOTAL	4829	8058	7273	5189	8774	7252	9127	8288	6366	7874	5486	5571
MEAN	156	269	235	167	313	234	304	267	212	254	177	186
MAX	238	1190	381	200	1260	321	460	441	366	739	424	389
MIN	140	163	194	147	140	201	226	213	173	175	149	151
CFSM	.58	1.00	.87	.62	1.16	.87	1.13	.99	.79	.94	.66	.69
IN.	.67	1.11	1.01	.72	1.21	1.00	1.26	1.15	.88	1.09	.76	.77
CAL YR 1982	TOTAL	78782	MEAN	216	MAX	2230	MIN	110	CFSM	.80	IN	10.89
WTR YR 1983	TOTAL	84087	MEAN	230	MAX	1260	MIN	140	CFSM	.86	IN	11.63

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 September 1982 (discontinued).

PERIOD OF MONTHLY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1983 to September 1983.

REMARKS.--Sediment records are good. The total load value includes estimates for the period October 1982 through March 1983, during which there was no sediment sampling. Loading for this period was estimated using sediment-discharge versus water-discharge rating curves that were based on data from previous and subsequent monitoring.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,080 mg/l July 1, minimum daily mean, 17 mg/l May 23. Maximum observed, 474 mg/l Sept. 6; minimum observed, 14 mg/l May 23.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,890 tons July 1; minimum daily, 15 tons May 23, Aug. 16.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)
OCT , 1982				
20...	1730	158	610	10.0
DEC				
06...	1630	370	640	4.5
JAN , 1983				
10...	1430	174	680	2.0
APR				
07...	1015	318	840	5.5
JUN				
27...	1605	370	760	22.5
AUG				
08...	1155	170	615	24.0
SEP				
21...	1500	220	590	12.5

SUSPENDED-SEDIMENT DISCHARGE

MONTH	SEDIMENT LOADS (TONS)	MONTH	SEDIMENT LOADS (TONS)
APRIL	2,023	JULY	7,333
MAY	1,883	AUGUST	2,481
JUNE	2,686	SEPTEMBER	2,461
		YEARLY TOTAL	40,030

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 upstream from Blakely Branch, 2.2 mi east of Rockville, 4.5 mi northeast of Potosi, and 15.2 mi upstream from mouth.

DRAINAGE AREA.--142 mi².

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 and crest-stage gage. Datum of gage is 642.50 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1941, nonrecording gage at site 1.3 mi upstream at datum 12.55 ft higher. Oct. 1, 1941, to June 29, 1949, nonrecording gage at present site and datum.

REMARKS.--Records good except for period December to February, which is fair.

COOPERATION.--Five discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--49 years, 99.3 ft³/s, 9.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,500 ft³/s July 16, 1950, gage height, 17.26 ft, from rating curve extended above 7,000 ft³/s on basis of slope-area measurement of peak flow; no flow Nov. 24, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s Feb. 19, gage height, 7.27 ft, no peak above base of 2,100 ft³/s; minimum daily, 80 ft³/s Feb. 4-6.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11-13, Jan. 4, 13-23, and Jan. 27 to Feb. 12.)

Oct. 1 to Feb. 19				Feb. 19 to Sept. 30			
3.7	69	5.0	639	3.7	85	5.0	370
4.0	117	6.0	628	4.0	140	6.0	650

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	185	126	122	94	163	157	162	158	266	105	100
2	96	194	166	121	90	155	242	225	153	243	104	98
3	96	136	166	119	84	158	280	184	150	193	104	97
4	96	122	157	120	80	163	264	171	148	202	106	97
5	96	115	180	119	80	167	236	166	143	159	105	99
6	103	110	235	119	80	200	230	176	145	147	103	249
7	129	108	209	119	82	192	216	193	139	139	102	125
8	105	106	190	113	82	174	201	190	136	134	101	108
9	118	119	170	112	84	165	219	177	135	132	98	104
10	121	138	168	117	84	156	232	177	131	129	97	101
11	107	172	160	117	86	152	214	173	129	127	99	100
12	103	505	150	108	86	147	210	178	127	124	99	98
13	101	260	150	110	88	148	214	211	127	123	97	96
14	100	213	149	110	89	146	225	202	127	123	96	94
15	99	182	145	100	93	144	210	187	127	123	95	100
16	97	168	138	100	159	159	201	177	123	123	95	129
17	96	157	133	94	199	158	198	153	123	119	95	124
18	97	150	135	92	232	152	193	161	125	119	95	126
19	95	148	136	92	400	151	189	232	125	130	95	110
20	106	149	130	94	620	149	185	205	125	133	93	126
21	97	142	124	98	520	148	182	208	125	120	92	120
22	93	135	125	100	390	141	179	232	122	117	95	108
23	93	133	129	100	280	138	176	223	121	116	95	103
24	92	125	134	104	217	139	171	202	122	116	93	99
25	91	123	135	103	172	137	169	194	122	116	201	98
26	91	121	127	97	159	138	168	181	123	115	156	99
27	91	118	125	92	155	145	162	177	152	111	139	98
28	97	127	158	90	161	142	159	176	187	110	117	96
29	126	134	131	94	---	140	157	183	140	112	108	95
30	105	128	128	96	---	143	156	184	146	112	106	95
31	99	---	126	94	---	148	---	170	---	108	103	---
TOTAL	3134	4723	4635	3266	4946	4758	5995	5830	4056	4241	3289	3292
MEAN	101	157	150	105	177	153	200	188	135	137	106	110
MAX	129	505	235	122	620	200	280	232	187	266	201	249
MIN	91	106	124	90	80	137	156	153	121	108	92	94
CFSM	.71	1.11	1.06	.74	1.25	1.08	1.41	1.32	.95	.97	.75	.78
IN.	.82	1.24	1.21	.86	1.30	1.25	1.57	1.53	1.06	1.11	.86	.86

CAL YR 1982 TOTAL 55784 MEAN 153 MAX 1360 MIN 74 CFSM 1.08 IN 14.61
WTR YR 1983 TOTAL 52165 MEAN 143 MAX 620 MIN 80 CFSM 1.01 IN 13.67

NOTE.--No gage-height record Feb. 19-22.

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 upstream from Coon Branch, 1.5 mi upstream from Scrabble Branch, 2.0 mi upstream from Wisconsin-Illinois State line, and 3.5 mi southeast of Hazel Green.

DRAINAGE AREA.--125 mi².

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 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.--44 years, 77.7 ft³/s, 8.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,700 ft³/s June 29, 1969, gage height, 19.57 ft from rating curve extended above 8,100 ft³/s on basis of slope-area measurements at gage heights 15.68 ft and 19.57 ft; minimum discharge, 0.8 ft³/s Mar. 3, 1954.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of February 1937 reached a stage of about 17.1 ft, from information by local resident, discharge, 18,000 ft³/s.

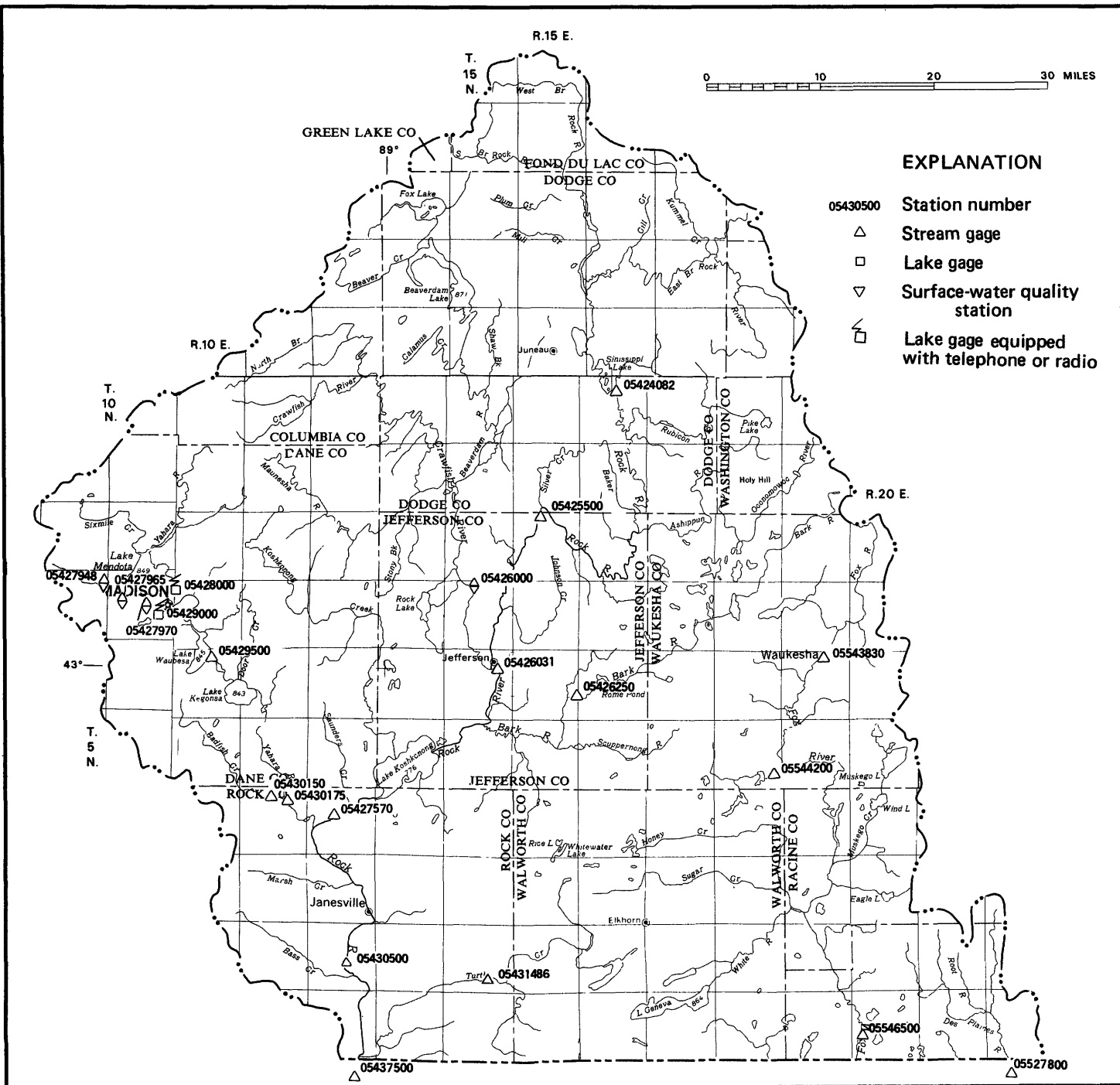
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s Dec. 2, gage height, 8.14 ft; no peaks above base of 3,000 ft³/s; minimum, 55 ft³/s Aug. 21, gage height, 2.87 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12, 13, 30, 31, Jan. 1, 3, 4, 9, and Jan. 12 to Feb. 12.)

2.8	48	4.5	332
3.0	69	5.0	456
3.5	144	6.0	796
4.0	234	7.0	1,230

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	140	90	110	74	107	138	113	112	211	66	61
2	71	230	804	109	74	105	381	159	106	145	65	60
3	71	115	330	110	72	107	347	145	105	117	65	60
4	70	97	240	110	68	112	263	124	103	140	66	59
5	71	90	262	109	68	117	225	115	99	103	65	59
6	75	85	302	106	68	153	216	118	100	94	64	101
7	98	83	224	106	68	150	195	134	95	92	64	70
8	77	80	201	99	68	129	177	124	93	89	63	63
9	88	105	181	100	68	120	204	111	92	87	61	62
10	86	120	180	106	68	110	220	108	90	85	61	61
11	77	122	166	102	70	107	188	106	88	85	68	61
12	74	228	160	100	74	103	177	107	88	84	63	60
13	73	139	150	100	81	105	195	120	87	84	62	59
14	71	123	149	98	87	103	196	116	87	81	61	58
15	71	109	144	98	94	99	175	108	89	77	61	63
16	69	105	137	96	556	104	164	103	85	77	61	82
17	68	100	129	96	540	103	160	101	84	75	61	93
18	70	97	135	94	381	98	153	110	84	78	60	109
19	73	100	135	94	595	98	148	135	84	94	58	79
20	85	105	126	94	510	96	144	114	83	97	56	84
21	73	97	118	92	291	94	140	108	84	80	57	78
22	70	91	119	92	198	94	136	191	82	76	59	70
23	69	90	125	92	163	90	132	159	80	75	58	66
24	68	82	134	88	145	90	128	134	79	75	57	64
25	68	93	134	82	121	89	124	129	78	74	122	69
26	68	84	120	76	116	91	124	117	78	72	101	69
27	68	82	117	76	110	99	119	114	85	70	78	66
28	72	92	167	78	109	98	116	114	100	69	72	64
29	87	99	123	78	---	95	115	126	89	69	66	62
30	75	91	120	76	---	101	116	125	124	68	65	62
31	72	---	120	74	---	109	---	118	---	67	63	---
TOTAL	2299	3274	5642	2941	4937	3276	5316	3806	2733	2790	2049	2074
MEAN	74.2	109	182	94.9	176	106	177	123	91.1	90.0	66.1	69.1
MAX	98	230	804	110	595	153	381	191	124	211	122	109
MIN	68	80	90	74	68	89	115	101	78	67	56	58
CFSM	.59	.87	1.46	.76	1.41	.85	1.42	.98	.73	.72	.53	.55
IN.	.68	.97	1.68	.88	1.47	.97	1.58	1.13	.81	.83	.61	.62
CAL YR 1982	TOTAL	43310	MEAN	119	MAX	1200	MIN	43	CFSM	.95	IN	12.89
WTR YR 1983	TOTAL	41137	MEAN	113	MAX	804	MIN	56	CFSM	.90	IN	12.24



EXPLANATION

- 05430500 Station number
- △ Stream gage
- Lake gage
- ▽ Surface-water quality station
- Lake gage equipped with telephone or radio

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 downstream from State Highway 106 bridge, 40 ft downstream from the Hustisford dam, at Hustisford.

DRAINAGE AREA.--511 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 845.67 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for Oct. 1-19, June 30 to July 9, and July 26 to Aug. 17, which are poor. Some regulation caused by manipulation of gates at dams on Horicon Marsh and Lake Sinissippi.

AVERAGE DISCHARGE.--5 years, 374 ft³/s, 9.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft³/s Apr. 4, 1979, gage height, 6.80 ft; minimum daily, 0.10 ft³/s Aug. 1, 1979, and for several days in 1980, 1982, and 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft³/s Dec. 9, gage height, 4.84 ft; minimum daily, 0.1 ft³/s Oct. 1-6, 8-9, 17, 18, July 26, 28, Aug. 2-10, 12-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	53	701	509	72	692	773	642	698	60	3.7	60
2	.10	84	713	502	90	715	807	660	675	90	.10	59
3	.10	97	737	491	110	744	853	659	661	130	.10	61
4	.10	113	767	476	197	814	877	657	650	150	.10	63
5	.10	141	841	463	260	842	899	534	619	170	.10	65
6	.10	143	920	444	248	833	946	488	622	160	.10	94
7	1.6	160	995	413	235	866	983	527	513	150	.10	91
8	.10	188	1100	389	221	998	991	505	455	60	.10	82
9	.10	294	1070	376	211	1090	979	340	328	42	.10	78
10	.12	372	970	314	202	1100	1000	284	245	39	.10	87
11	.84	455	952	277	194	1020	1020	279	229	34	1.7	89
12	1.0	838	926	246	187	1000	982	284	211	34	.10	86
13	2.0	992	895	224	180	985	995	301	88	28	.10	86
14	1.5	979	857	228	177	984	971	342	36	25	.10	82
15	7.6	930	723	233	253	959	1020	342	46	23	.10	69
16	3.7	891	509	233	303	844	1010	382	51	21	.10	88
17	.10	895	509	233	390	836	1020	371	47	20	18	77
18	.10	884	505	233	428	911	1030	359	39	20	50	85
19	.87	875	493	101	428	976	1020	373	37	19	166	82
20	24	855	439	40	435	1100	1020	383	35	20	214	169
21	19	870	352	41	436	1040	1010	372	33	17	206	234
22	17	854	352	42	447	946	990	402	32	13	210	218
23	25	867	286	44	534	939	975	645	32	16	109	93
24	32	829	244	45	589	849	962	751	31	12	45	23
25	40	762	277	46	569	791	933	698	28	5.6	41	31
26	45	750	307	47	562	783	851	640	28	.10	44	37
27	45	741	340	48	544	816	860	611	29	.47	43	40
28	46	729	484	50	647	849	703	607	31	.10	42	40
29	46	717	574	55	---	803	666	683	33	5.1	42	42
30	45	711	534	62	---	779	675	677	40	4.0	52	45
31	44	---	517	67	---	765	---	694	---	5.0	58	---
TOTAL	448.23	18069	19889	6972	9149	27669	27821	15492	6602	1373.37	1346.80	2456
MEAN	14.5	602	642	225	327	893	927	500	220	44.3	43.4	81.9
MAX	46	992	1100	509	647	1100	1030	751	698	170	214	234
MIN	.10	53	244	40	72	692	666	279	28	.10	.10	23
CFSM	.03	1.18	1.26	.44	.64	1.75	1.81	.98	.43	.09	.09	.16
IN.	.03	1.32	1.45	.51	.67	2.01	2.03	1.13	.48	.10	.10	.18

CAL YR 1982	TOTAL	135231.62	MEAN	370	MAX	1660	MIN	.10	CFSM	.72	IN	9.84
WTR YR 1983	TOTAL	137287.40	MEAN	376	MAX	1100	MIN	.10	CFSM	.74	IN	9.99

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 downstream from Milwaukee Street bridge, 1.1 mi downstream from Silver Creek, at Watertown.

DRAINAGE AREA.--969 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1933, nonrecording gage at site 700 ft 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.--46 years, (water years 1931-70, 1977-83), 444 ft³/s, 6.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s Mar. 31, 1979, gage height, 6.19 ft; maximum gage height, 6.32 ft Apr. 4, 1959; minimum daily discharge, 0.9 ft³/s Oct. 15, 1939, Sept. 9, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s Apr. 4, gage height, 4.03 ft; no other peak above the base of 1,100 ft³/s; minimum daily, 28 ft³/s Aug. 6.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 7 to Feb. 14.)

0.8	24	2.0	343
1.0	44	2.5	631
1.2	75	3.0	998
1.5	140	4.0	1,960

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	324	1140	640	120	1200	1730	1390	1170	199	77	144
2	74	699	1320	640	120	1200	1870	1380	1180	223	76	140
3	64	859	1560	640	120	1230	1920	1340	1190	255	156	135
4	60	827	1510	640	140	1270	1900	1280	1200	291	80	121
5	55	785	1530	620	170	1300	1830	1250	1190	319	30	118
6	75	711	1690	620	230	1340	1820	1220	1180	350	28	147
7	115	627	1500	600	270	1490	1800	1260	1160	411	47	151
8	126	559	1400	600	300	1560	1800	1280	1130	438	51	160
9	159	551	1300	580	280	1550	1840	1230	1090	401	47	154
10	156	626	1200	560	270	1540	1910	1170	1050	305	51	148
11	150	744	1000	540	260	1550	1890	1110	998	217	52	148
12	136	1040	900	540	250	1580	1880	1040	922	161	58	161
13	127	1130	960	470	240	1600	1910	945	741	121	51	174
14	116	1050	980	450	280	1610	1940	863	610	104	45	177
15	108	1050	1000	420	324	1620	1910	808	443	97	40	169
16												
17	104	1070	1100	390	367	1640	1890	715	416	107	39	162
18	100	1090	1000	370	485	1640	1880	697	392	86	65	162
19	94	1110	980	350	625	1650	1870	692	330	95	74	169
20	124	1140	960	310	749	1730	1850	702	290	84	137	173
21	169	1170	960	260	1030	1750	1820	710	252	88	226	184
22	242	1180	980	210	1260	1680	1790	715	235	89	321	209
23	280	1190	1000	200	1350	1670	1760	748	179	91	339	282
24	291	1180	1000	180	1380	1650	1740	826	172	89	340	343
25	267	1170	1100	160	1330	1630	1700	857	158	82	326	333
26	243	1130	1100	150	1270	1620	1670	869	149	77	260	279
27	232	1130	1100	140	1200	1630	1630	888	139	76	191	211
28	236	1110	1000	140	1200	1630	1570	906	143	75	168	199
29	233	1120	980	140	1200	1610	1530	914	145	77	190	199
30	227	1140	900	130	---	1600	1490	976	160	81	179	192
31	222	1140	700	130	---	1590	1450	1070	168	82	165	180
IN.	216	---	660	120	---	1640	---	1130	---	79	153	---
TOTAL	4881	28652	34510	11940	16820	48000	53590	30981	18582	5250	4062	5524
MEAN	157	955	1113	385	601	1548	1786	999	619	169	131	184
MAX	291	1190	1690	640	1380	1750	1940	1390	1200	438	340	343
MIN	55	324	660	120	120	1200	1450	692	139	75	28	118
CFSM	.16	.99	1.15	.40	.62	1.60	1.84	1.03	.64	.17	.14	.19
IN.	.19	1.10	1.32	.46	.65	1.84	2.06	1.19	.71	.20	.16	.21
CAL YR 1982	TOTAL	269906	MEAN	739	MAX	2940	MIN	26	CFSM	.76	IN	10.36
WTR YR 1983	TOTAL	262792	MEAN	720	MAX	1940	MIN	28	CFSM	.74	IN	10.09

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 downstream from Rock Creek and 9.8 mi upstream from mouth.

DRAINAGE AREA.--762 mi².

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 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.--52 years, 373 ft³/s, 6.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft³/s Apr. 6, 1959, gage height, 11.15 ft; minimum observed, 0.2 ft³/s Sept. 15, 1958, gage height, 1.11 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,250 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 8	2200	1,520	5.12	Apr. 17	0400	1,660	5.41
Mar. 10	1300	*1,730	*5.57				

minimum daily discharge, 77 ft³/s Aug. 14.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23, 24, 26 and Dec. 12 to Feb. 28.)

1.8	66	3.0	515
1.9	86	4.0	1,020
2.2	155	6.0	1,920
2.5	260		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	233	724	680	120	1260	1050	724	895	192	122	141
2	95	429	795	660	110	1350	1220	698	938	227	105	128
3	103	546	968	640	90	1360	1330	669	961	210	93	116
4	95	634	1070	620	86	1380	1410	638	962	276	109	108
5	93	709	1190	600	86	1400	1510	580	946	322	110	96
6	78	681	1320	580	84	1420	1570	563	917	304	105	135
7	82	664	1400	540	90	1510	1590	623	861	278	101	139
8	103	680	1490	508	92	1590	1600	594	799	254	96	132
9	98	661	1460	480	98	1670	1620	546	738	246	95	124
10	106	660	1470	440	100	1720	1620	533	690	219	81	136
11	115	695	1410	440	110	1700	1630	529	627	184	118	147
12	121	830	1400	430	130	1660	1600	524	555	181	97	147
13	130	911	1400	420	150	1620	1590	517	514	164	84	142
14	112	976	1300	391	190	1600	1530	534	483	150	77	130
15	133	983	1300	380	250	1570	1610	517	492	145	80	112
16	127	1000	1300	370	300	1540	1630	507	485	136	84	136
17	98	1010	1200	347	350	1510	1640	488	455	133	92	131
18	88	991	1150	330	400	1500	1600	479	402	146	116	139
19	108	950	1100	310	450	1490	1530	485	362	147	113	161
20	146	912	1020	287	520	1490	1470	493	322	167	114	170
21	191	951	977	276	600	1450	1410	501	292	172	109	163
22	218	952	911	264	700	1330	1340	566	267	185	129	163
23	222	960	810	258	800	1290	1290	634	263	199	127	162
24	213	900	776	251	900	1240	1220	664	232	199	121	128
25	214	854	741	238	1060	1200	1140	750	202	186	120	145
26	198	860	767	220	1100	1160	1040	724	176	168	129	157
27	174	817	773	200	1180	1160	1020	661	184	143	137	158
28	161	811	716	180	1190	1110	955	616	184	134	142	150
29	150	780	700	160	---	1030	885	624	170	148	141	153
30	171	740	700	140	---	1000	818	680	170	141	141	148
31	193	---	680	130	---	999	---	801	---	130	147	---
TOTAL	4253	23780	33018	11770	11336	43309	41468	18462	15544	5886	3435	4197
MEAN	137	793	1065	380	405	1397	1382	596	518	190	111	140
MAX	222	1010	1490	680	1190	1720	1640	801	962	322	147	170
MIN	78	233	680	130	84	999	818	479	170	130	77	96
CFSM	.18	1.04	1.40	.50	.53	1.83	1.81	.78	.68	.25	.15	.18
IN.	.21	1.16	1.61	.57	.55	2.11	2.02	.90	.76	.29	.17	.20
CAL YR 1982	TOTAL	215140	MEAN 589	MAX 2370	MIN 74	CFSM .77	IN 10.50					
WTR YR 1983	TOTAL	216458	MEAN 593	MAX 1720	MIN 77	CFSM .78	IN 10.57					

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 downstream from bridge on State Highway 26, in Jefferson.

DRAINAGE AREA.--1,850 mi².

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

GAGE.--Water-stage recorder. Datum of gage 774.97 ft National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Natural Resources). Auxiliary water-stage recorder 6.9 mi downstream from base gage to provide slope data.

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

AVERAGE DISCHARGE.--5 years, 1,403 ft³/s, 10.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s Apr. 1, 1979, gage height, 10.79 ft; maximum gage height, 10.84 ft Apr. 2, 1979; minimum daily discharge, 166 ft³/s July 13, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft³/s Apr. 14, gage height, 6.36 ft; maximum independent gage height, 6.38 ft Apr. 14; minimum daily discharge, 213 ft³/s Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	261	548	1970	1500	280	2640	2800	2280	2040	429	260	322
2	250	1260	2130	1400	270	2690	3100	2240	2100	469	257	310
3	244	1650	2500	1400	250	2730	3300	2190	2120	476	256	298
4	255	1780	2670	1300	240	2730	3400	2150	2140	585	275	282
5	248	1780	2780	1300	230	2750	3500	2080	2110	647	250	279
6	244	1730	3080	1300	270	2780	3500	2020	2110	642	227	330
7	279	1640	3180	1300	340	2950	3550	2020	2070	649	213	326
8	283	1540	3140	1200	390	3120	3500	2050	2010	679	221	321
9	308	1480	3110	1200	410	3210	3390	1990	1960	685	220	327
10	307	1460	2910	1100	410	3270	3460	1800	1820	608	244	342
11	322	1530	2700	1100	400	3300	3470	1710	1730	512	226	341
12	332	1960	2600	1000	400	3300	3450	1690	1660	431	225	334
13	320	2220	2600	1000	480	3270	3460	1650	1540	380	220	331
14	313	2220	2500	960	580	3230	3460	1600	1410	345	221	329
15	301	2240	2600	920	700	3210	3500	1540	1280	328	219	331
16	295	2240	2600	860	900	3180	3500	1470	1040	323	219	326
17	279	2230	2500	820	1190	3150	3460	1400	917	302	235	335
18	268	2210	2400	780	1440	3140	3370	1320	812	345	224	347
19	293	2200	2300	720	1650	3240	3290	1330	717	326	259	358
20	429	2190	2200	660	1870	3270	3230	1350	491	358	279	381
21	490	2180	2100	600	2430	3280	3150	1330	443	362	340	420
22	540	2200	2100	560	2770	3160	3040	1450	462	351	402	490
23	560	2200	2000	520	3010	3050	2930	1580	454	356	407	560
24	540	2180	2000	480	2880	2950	2850	1650	429	351	404	580
25	520	2160	2000	450	3000	2900	2790	1690	399	333	409	500
26	490	2120	1900	430	3000	2870	2720	1700	378	318	390	450
27	470	2020	1900	390	2810	2900	2650	1670	386	318	366	410
28	450	1980	1800	360	2660	2880	2570	1640	379	300	349	390
29	430	1970	1800	340	---	2760	2480	1650	369	285	347	380
30	420	1980	1700	320	---	2730	2380	1700	385	277	344	370
31	450	---	1600	290	---	2700	---	1880	---	273	334	---
TOTAL	11191	57098	73370	26560	35260	93340	95250	53820	36161	13043	8842	11100
MEAN	361	1903	2367	857	1259	3011	3175	1736	1205	421	285	370
MAX	560	2240	3180	1500	3010	3300	3550	2280	2140	685	409	580
MIN	244	548	1600	290	230	2640	2380	1320	369	273	213	279
CFSM	.20	1.03	1.28	.46	.68	1.63	1.72	.94	.65	.23	.15	.20
IN.	.23	1.15	1.48	.53	.71	1.88	1.92	1.08	.73	.26	.18	.22
CAL YR 1982	TOTAL	540575	MEAN	1481	MAX	5300	MIN	229	CFSM	.80	IN	10.87
WTR YR 1983	TOTAL	515035	MEAN	1411	MAX	3550	MIN	213	CFSM	.76	IN	10.36

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 southwest of Rome.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--November 1979 to September 1982. October 1982 to September 1983 (fragmentary).

GAGE.--Water-stage recorder. Altitude of gage is 810 ft, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 443 ft³/s Apr. 6, 1982, gage height, 2.39 ft; minimum, 12 ft³/s July 7, 8, 11, 1980, July 11, 12, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum recorded discharge, 258 ft³/s Apr. 5, 6, gage height, 1.87 ft, may have been higher during period of no gage-height record, Nov. 15 to Jan. 17; minimum daily, 24 ft³/s Oct. 3, 5.

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

0.6	23	1.4	137
0.7	33	1.9	267
1.0	69		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	80			---	103	144	112	141	71	54	---
2	26	117			---	104	186	115	141	78	50	---
3	24	105			---	104	200	114	135	76	46	---
4	25	96			---	113	213	103	124	83	49	---
5	24	90			---	122	232	100	108	80	51	---
6	27	89			---	128	255	109	100	80	51	---
7	32	90			---	146	230	114	91	80	51	---
8	27	85			---	151	216	116	94	78	49	---
9	35	89			---	158	209	118	90	75	47	---
10	37	101			---	165	195	115	87	75	47	---
11	38	97			---	153	183	116	86	72	47	---
12	51	121			---	175	190	119	81	70	44	---
13	50	109			---	163	200	120	78	67	42	---
14	49	110			---	145	190	115	75	62	42	---
15	46	---			---	142	180	115	83	56	42	---
16	46	---			63	141	191	112	81	58	43	---
17	46	---			68	134	189	110	79	60	55	---
18	47	---			73	135	181	110	77	67	52	---
19	50	---			78	150	176	114	74	65	49	---
20	60	---			93	157	168	106	72	69	46	---
21	56	---			106	154	156	109	68	71	41	---
22	62	---			115	157	140	112	62	82	40	---
23	62	---			121	151	137	112	61	77	40	---
24	60	---			126	145	131	116	56	69	40	---
25	59	---			123	138	128	117	50	66	---	---
26	59	---			116	132	126	116	50	68	---	59
27	59	---			109	133	122	115	52	66	---	57
28	59	---			104	121	119	117	56	63	---	52
29	57	---			---	124	113	120	60	61	---	50
30	55	---			---	126	108	124	65	60	---	52
31	56	---			---	132	---	132	---	57	---	---
TOTAL	1410	---			---	4302	5208	3543	2477	2162	---	---
MEAN	45.5	---			---	139	174	114	82.6	69.7	---	---
MAX	62	---			---	175	255	132	141	83	---	---
MIN	24	---			---	103	108	100	50	56	---	---
CFSM	.37	---			---	1.14	1.43	.93	.68	.57	---	---
IN.	.43	---			---	1.31	1.59	1.08	.76	.66	---	---

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 upstream from bridge on County Trunk Highways F and M, 250 ft upstream from dam in Indianford, and 1.8 mi upstream from Yahara River.

DRAINAGE AREA.--2,630 mi².

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Natural flow of stream affected by dam in Indianford. Discharge is adjusted for flow through wicket gates.

AVERAGE DISCHARGE.--8 years, 1,669 ft³/s, 8.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s Apr. 5, 1979, gage height, 16.23 ft; minimum daily, 69 ft³/s May 13, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,670 ft³/s Apr. 9, gage height, 13.98 ft; minimum daily discharge, 265 ft³/s Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	475	891	2850	2750	868	3700	3970	3930	2410	747	433	594
2	386	1110	2910	2730	894	3720	4450	3580	2340	791	406	557
3	396	1240	3060	2650	826	3720	4380	3530	2390	711	368	556
4	400	1400	3270	2490	800	3710	4540	3320	2390	805	438	524
5	393	1800	3500	2440	796	3770	4880	3260	2460	969	407	459
6	359	2070	3650	2380	816	3810	5020	3130	2480	927	393	489
7	346	2160	3980	2340	816	3870	5020	3220	2480	901	386	512
8	485	2280	4210	2320	831	3950	5210	3130	2460	866	350	571
9	536	2400	4250	2260	926	4120	5380	2990	2360	901	370	499
10	438	2310	4240	2160	965	4330	5190	2930	2410	711	265	480
11	431	2260	3900	2060	970	4330	5280	2850	2310	701	362	575
12	474	2260	3530	1980	968	4320	5400	2750	2210	776	321	624
13	519	2590	3730	1920	955	4330	5300	2650	2130	747	294	592
14	429	2730	3850	1850	964	4340	4880	2620	2020	718	280	563
15	548	2780	3890	1760	1020	4440	5220	2590	1970	720	289	538
16	547	2890	3790	1690	1240	4410	5320	2510	1910	666	277	541
17	514	2970	3650	1640	1470	4370	5340	2340	1950	556	315	538
18	474	3000	3550	1530	1520	4350	5310	2300	2070	537	350	495
19	517	3000	3510	1530	1630	4340	5200	2130	1950	550	308	606
20	468	2980	3450	1510	1760	4510	5070	2120	1670	540	385	577
21	679	3050	3390	1470	2160	4460	4990	2130	1400	540	347	550
22	687	3080	3300	1400	2450	4290	4910	2120	1290	540	428	669
23	710	3080	3200	1240	2740	4250	4850	2180	1260	520	448	743
24	729	3000	3170	932	3060	4220	4680	2190	1040	520	438	696
25	797	2920	3060	849	3280	4160	4510	2390	879	520	613	733
26	773	2980	3120	864	3390	4180	4260	2340	807	520	775	772
27	737	2960	3120	870	3500	4190	4210	2310	746	458	748	791
28	686	2940	2670	842	3630	4000	4150	2340	706	429	730	734
29	605	2890	2970	829	---	3920	3970	2340	701	470	680	696
30	687	2870	2850	813	---	3840	3910	2340	658	479	673	687
31	757	---	2830	811	---	3820	---	2410	---	435	650	---
TOTAL	16982	74891	106450	52910	45245	127770	144800	82970	53857	20271	13527	17961
MEAN	548	2496	3434	1707	1616	4122	4827	2676	1795	654	436	599
MAX	797	3080	4250	2750	3630	4510	5400	3930	2480	969	775	791
MIN	346	891	2670	811	796	3700	3910	2120	658	429	265	459
CFSM	.21	.95	1.31	.65	.61	1.57	1.84	1.02	.68	.25	.17	.23
IN.	.24	1.06	1.51	.75	.64	1.81	2.05	1.17	.76	.29	.19	.25
CAL YR 1982	TOTAL	770204	MEAN	2110	MAX	6780	MIN	346	CFSM	.80	IN	10.89
WTR YR 1983	TOTAL	757634	MEAN	2076	MAX	5400	MIN	265	CFSM	.79	IN	10.72

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 upstream from Lake Mendota, at Middleton.

DRAINAGE AREA.--18.3 mi², of which 1.22 mi² is noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder, parshall flume, and concrete control. Datum of gage is 901.5 ft, National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except Oct. 1-13, when debris obstructed the flume, and period of missing record, Nov. 14-25 and Dec. 2, 3, which are fair.

AVERAGE DISCHARGE.--9 years, 4.03 ft³/s, 2.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 516 ft³/s, Mar. 21, 1975, gage height, 7.54 ft; maximum gage height, 8.54 ft Mar. 12, 1976; minimum discharge, 0.29 ft³/s Jan. 26, 1978, gage height, 3.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 112 ft³/s Dec. 2, gage height, 5.85 ft; no other peaks above base of 100 ft³/s; minimum discharge, 0.61 ft³/s Aug. 25, gage height, 3.69 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by debris in flume Oct. 1-13 and ice in flume Feb. 2, 3.)

3.7	0.64	4.5	5.3
3.8	.94	4.6	9.6
4.0	1.6	4.8	20
4.2	2.4	5.0	33
4.4	3.8	5.3	56

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	5.7	1.9	2.3	1.2	5.2	9.2	2.2	2.4	2.6	.84	1.1
2	.84	11	54	2.0	1.2	4.1	25	2.9	2.2	1.6	.84	1.0
3	.84	3.0	13	1.9	1.2	4.4	22	2.2	2.1	1.5	.84	.96
4	.84	2.2	5.5	1.8	1.2	5.0	11	2.0	2.0	2.7	.90	.91
5	.84	1.8	6.8	1.7	1.1	6.0	5.3	2.0	1.9	1.5	.91	1.4
6	1.5	1.6	11	1.8	1.2	10	4.9	2.6	1.9	1.4	.94	6.3
7	1.3	1.5	4.5	1.7	1.1	13	4.3	4.3	1.7	1.3	.92	2.0
8	1.2	1.4	3.5	1.6	1.1	5.1	3.7	2.8	1.6	1.2	.84	1.5
9	1.5	2.9	3.0	1.6	1.2	3.7	4.5	2.5	1.6	1.2	.79	1.3
10	1.3	3.6	2.8	1.7	1.2	3.1	4.9	2.3	1.5	1.2	.74	1.4
11	1.1	5.6	2.5	1.5	1.2	2.9	3.9	2.2	1.5	1.1	.72	1.2
12	1.1	11	2.3	1.5	1.2	2.8	3.8	2.1	1.5	1.1	.77	1.2
13	1.3	3.5	2.2	1.4	1.3	2.9	6.7	2.3	1.5	1.1	.78	1.2
14	1.0	2.9	2.1	1.4	1.4	2.8	4.6	2.2	1.5	1.1	.83	1.1
15	1.1	2.8	2.1	1.3	1.5	2.8	3.6	2.0	1.5	1.1	.76	1.8
16	1.2	2.6	2.0	1.3	2.8	3.1	3.3	1.9	1.3	1.1	.75	2.0
17	.97	2.4	1.8	1.3	3.3	3.0	3.1	1.9	1.3	1.1	1.8	1.6
18	.94	2.2	2.0	1.1	5.5	3.3	2.9	2.1	1.4	1.1	.80	1.5
19	1.1	3.2	1.9	1.1	15	4.5	2.8	3.0	1.4	1.1	.77	1.4
20	1.7	2.8	1.9	1.2	47	3.7	2.7	2.5	1.4	1.5	.74	1.7
21	1.2	2.3	1.8	1.3	42	3.0	2.6	2.2	1.4	.99	1.3	1.5
22	1.1	2.1	1.8	1.3	33	2.8	2.5	6.2	1.3	.92	.98	1.3
23	.91	2.0	1.8	1.4	35	2.5	2.5	3.1	1.3	.88	.77	1.2
24	.94	1.9	2.4	1.4	14	2.5	2.4	2.8	1.3	.86	.67	1.2
25	.94	1.7	2.6	1.3	3.5	2.4	2.3	2.6	1.3	.90	2.8	1.7
26	.94	1.7	2.7	1.2	2.9	2.5	2.4	2.3	1.2	.89	4.4	1.3
27	.94	1.6	2.7	1.2	3.3	2.6	2.3	2.3	2.0	.87	8.0	1.2
28	1.1	2.2	6.1	1.2	7.3	2.6	2.1	2.6	1.7	.86	2.3	1.1
29	1.4	2.0	3.3	1.2	---	2.6	2.2	3.0	1.3	1.1	1.6	1.1
30	1.0	1.8	2.7	1.2	---	2.9	2.1	2.6	1.7	.93	1.3	1.1
31	1.0	---	2.5	1.2	---	4.8	---	2.7	---	.90	1.2	---
TOTAL	33.98	93.0	157.2	45.1	232.9	122.6	155.6	80.4	47.7	37.70	42.60	45.27
MEAN	1.10	3.10	5.07	1.45	8.32	3.95	5.19	2.59	1.59	1.22	1.37	1.51
MAX	1.7	11	54	2.3	47	13	25	6.2	2.4	2.7	8.0	6.3
MIN	.84	1.4	1.8	1.1	1.1	2.4	2.1	1.9	1.2	.86	.67	.91
CFSM	.06	.17	.28	.08	.46	.22	.28	.14	.09	.07	.08	.08
IN.	.07	.19	.32	.09	.47	.25	.32	.16	.10	.08	.09	.09
CAL YR 1982	TOTAL	1416.78	MEAN	3.88	MAX	195	MIN	.67	CFSM	.21	IN	2.88
WTR YR 1983	TOTAL	1094.05	MEAN	3.00	MAX	54	MIN	.67	CFSM	.16	IN	2.22

ROCK RIVER BASIN
05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)		
FEB , 1983													
19...	1900	32	3.3	7.70	12	20.0	23	100	4.90	15	1.70		
19...	2400	42	4.4	7.10	15	22.0	26	120	4.00	12	1.40		
20...	0730	28	2.7	4.70	6.3	11.0	14	61	3.20	9.8	1.40		
23...	1430	23	1.9	1.40	1.7	3.10	5.0	22	.040	.12	<.010		
23...	2000	64	1.5	1.60	3.1	4.70	6.2	27	5.40	17	1.40		
24...	0400	22	2.6	1.60	2.3	3.90	6.5	29	.250	.77	1.10		
SEP													
06...	0130	3.4	1.4	.750	1.5	2.20	3.6	16	.450	1.4	.360		
06...	0230	30	1.1	.600	2.0	2.60	3.8	17	.410	1.3	.290		
06...	1000	4.6	10	.270	1.3	1.60	12	51	.440	1.4	.370		
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)				
DEC , 1982					MAR , 1983								
02...	0656	73	989	195	16...	0830	249	5540	3720				
02...	0750	73	1280	252	16...	1000	294	3970	3150				
02...	0804	76	1370	281	16...	1200	348	5280	4960				
02...	0810	79	1370	292	16...	1415	316	1630	1390				
02...	0950	104	2490	699	16...	1600	213	1450	834				
02...	1115	114	1560	480	16...	1830	110	1470	437				
FEB , 1983					17...	0900	19	184	9.4				
19...	1830	30	73	5.9	20...	1445	22	142	8.4				
19...	2100	39	64	6.7	20...	1815	78	1020	215				
20...	0030	42	55	6.2	21...	0345	25	191	13				
20...	0700	29	60	4.7	APR								
22...	1420	20	91	4.9	02...	1115	26	137	9.6				
22...	1900	34	133	12	02...	1315	28	169	13				
22...	2300	55	303	45	02...	1515	29	138	11				
23...	0230	44	159	19	02...	2115	29	87	6.8				
23...	0824	17	55	2.5	03...	0015	26	80	5.6				
23...	1500	26	87	6.1	03...	1115	20	69	3.7				
23...	1700	41	198	22	03...	1315	23	54	3.4				
23...	1930	63	495	84	03...	1715	23	27	1.7				
23...	2200	55	412	61	AUG								
24...	0330	23	131	8.1	25...	0945	4.3	63	.73				
MAR					25...	1015	12	85	2.8				
12...	2200	39	277	29	25...	1045	12	137	4.4				
12...	2300	152	1640	673	25...	1345	3.5	67	.63				
13...	0030	232	1450	905	SEP								
13...	0130	246	1540	1020	05...	1915	5.3	56	.80				
13...	0530	150	372	151	05...	2115	2.7	128	.93				
13...	0830	85	225	52	06...	0200	28	406	31				
13...	1200	237	379	243	06...	0400	12	205	6.6				
13...	1300	278	1100	826	06...	1030	4.6	26	.32				
13...	1430	295	3860	3070	06...	1315	5.7	52	.80				
13...	2030	176	1110	527	06...	2345	2.7	34	.25				
14...	0530	24	186	12	15...	1845	3.0	41	.33				
16...	0430	27	633	46	15...	2245	3.8	25	.26				
16...	0700	132	2870	1020	16...	0115	2.8	22	.17				

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.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records are good except those for winter periods and flow less than 0.3 ft³/s, which are poor.

AVERAGE DISCHARGE.--7 years (1976-83), 1.41 ft³/s, 5.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 706 ft³/s Aug. 31, 1981, gage height, 4.04 ft; no flow many days during period of record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 318 ft³/s Sept. 6, gage height, 2.91 ft; 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	1.3	42

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	28	.00	.00	.00	.31	2.9	1.4	.17	7.3	.00	.00
2	.00	7.8	40	.00	.00	.27	12	2.9	.03	.02	.00	.00
3	.00	.39	1.4	.00	.00	.38	3.1	.17	.00	3.6	.00	.00
4	.00	.04	.07	.00	.00	.27	.77	.00	.03	2.8	.00	.00
5	.00	.00	7.0	.00	.00	.25	.16	.21	1.2	.00	.00	2.9
6	1.7	.00	2.6	.18	.00	3.2	1.2	.65	.36	.00	.02	22
7	.63	.00	.23	.12	.00	2.6	.14	10	.10	.00	.05	.00
8	.00	.00	.04	.00	.00	.16	.13	.30	.00	.00	.00	.00
9	1.7	7.8	.00	.00	.00	.17	3.1	.57	.00	.00	.00	.00
10	.25	1.0	.00	.24	.00	.01	.29	.07	.00	.00	.00	.68
11	.00	10	.00	.00	.16	.01	.14	.05	.00	.00	.00	.06
12	.06	4.2	.00	.00	.14	.06	1.5	.01	.00	.06	.00	.43
13	.06	.00	.00	.00	.40	.12	4.1	.38	.00	.00	.00	.00
14	.00	.00	.00	.00	1.1	.18	.81	.19	.48	.00	.00	.00
15	.00	.00	.00	.00	.77	.43	.04	.14	.14	.00	.00	4.5
16	.00	.00	.00	.00	8.0	1.2	.38	.01	.05	.00	5.0	.70
17	.00	.00	.00	.00	4.8	.12	.18	.00	.00	2.2	4.1	1.3
18	.00	.00	.47	.00	1.9	.92	.05	1.3	.00	1.2	.00	.10
19	1.7	1.1	.06	.00	6.1	2.8	.02	3.4	.00	.92	.00	.46
20	1.3	1.2	.00	.00	11	.31	.01	.26	.00	4.1	.00	1.8
21	.83	.10	.00	.00	4.7	.31	.00	.14	.00	.06	3.7	.00
22	.00	.00	.00	.00	4.7	.37	.00	13	.00	.00	.08	.00
23	.00	.00	.09	.49	3.6	.18	.00	.50	.00	.00	.00	.00
24	.00	.00	1.6	.06	.48	.18	.00	1.5	.00	.00	.00	.09
25	.09	.00	.18	.00	.00	.20	.00	.40	.00	.00	16	3.2
26	.05	.00	.00	.00	.07	.35	.00	.05	.00	.00	10	.02
27	.00	.00	.74	.00	.44	.77	.00	1.8	12	.00	6.2	.00
28	.97	3.6	4.9	.00	1.1	1.2	.00	1.1	1.0	.00	1.0	.00
29	1.1	.12	.00	.00	---	.51	.30	1.3	.14	.17	.04	.00
30	.27	.00	.00	.00	---	.55	.06	.51	2.7	.00	.00	.00
31	.12	---	.00	.00	---	2.0	---	1.0	---	.00	.00	---
TOTAL	10.83	65.35	59.38	1.09	49.46	20.39	31.38	43.31	18.40	22.43	46.19	38.24
MEAN	.35	2.18	1.92	.035	1.77	.66	1.05	1.40	.61	.72	1.49	1.27
MAX	1.7	28	40	.49	11	3.2	12	13	12	7.3	16	22
MIN	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
CFSM	.11	.66	.58	.01	.54	.20	.32	.43	.19	.22	.45	.39
IN.	.12	.74	.67	.01	.56	.23	.35	.49	.21	.25	.52	.43

CAL YR 1982 TOTAL 522.95 MEAN 1.43 MAX 42 MIN .00 CFSM .44 IN 5.91
WTR YR 1983 TOTAL 406.45 MEAN 1.11 MAX 40 MIN .00 CFSM .34 IN 4.59

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 1982 TO SEPTEMBER 1983

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)
NOV , 1982					MAY , 1983				
01...	0345	26	241	17	22...	0255	90	1140	277
01...	0400	39	569	60	22...	0355	57	575	88
01...	0430	37	195	30	22...	0525	25	262	18
01...	0500	68	237	44	JUL				
01...	0630	49	70	9.3	03...	2150	42	423	48
01...	0815	30	48	3.9	03...	2210	19	904	46
01...	1430	56	579	88	03...	2220	55	733	109
01...	1500	120	981	318	03...	2240	41	593	66
01...	1600	54	241	35	03...	2340	32	117	10
01...	1715	28	141	11	04...	0210	7.7	39	.81
01...	2220	26	74	5.2	AUG				
01...	2250	96	294	76	16...	2215	38	251	26
01...	2320	126	211	72	16...	2220	60	439	71
02...	0020	80	181	39	16...	2230	41	345	38
02...	0205	39	67	7.1	16...	2240	54	301	44
11...	1435	40	160	17	16...	2250	100	583	157
11...	1450	57	350	54	16...	2320	75	358	72
11...	1605	38	128	13	17...	0100	52	152	21
11...	1650	23	81	5.0	17...	0240	7.2	40	.78
11...	2345	30	70	5.7	25...	0800	7.7	596	12
12...	0015	34	136	12	25...	0820	9.2	295	7.30
12...	0030	37	119	12	25...	0840	12	56	1.80
12...	0100	31	89	7.4	25...	0850	33	60	5.30
12...	0130	23	61	3.8	25...	0900	96	62	16
FEB , 1983					25...	0920	138	286	107
16...	1140	22	350	21	25...	0950	89	352	85
16...	1225	24	443	29	25...	1010	81	299	65
16...	1240	28	437	33	25...	1200	47	129	16
16...	1325	28	820	62	25...	1440	8.7	64	1.50
16...	1340	34	328	30	SEP				
16...	1425	26	256	18	05...	1925	8.7	104	2.40
MAY					06...	0045	25	129	8.70
07...	0935	26	1510	106	06...	0055	87	432	101
07...	0940	35	1120	106	06...	0105	174	455	214
07...	1010	30	588	48	06...	0115	188	1010	513
07...	1025	40	754	81	06...	0125	300	1270	1030
07...	1040	46	1240	154	06...	0155	113	557	170
07...	1125	44	485	58	06...	0235	71	345	66
07...	1155	50	694	94	20...	0855	8.7	58	1.40
07...	1310	37	315	31	20...	0955	11	48	1.40
07...	1455	21	143	8.1	20...	1105	7.2	26	.51
22...	0150	31	842	70	25...	0725	16	98	4.20
22...	0155	48	946	123	25...	0745	22	171	10
22...	0210	106	1050	301	25...	0805	25	249	17
22...	0225	125	1950	658	25...	0915	9.6	49	1.30

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 upstream from Observatory Drive on the University of Wisconsin Campus, 200 ft downstream from storm sewer outlet and 0.3 mi upstream from mouth.

DRAINAGE AREA.--3.15 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to December 1983 (discontinued).

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair. Stage-discharge rating based on indirect measurements.

AVERAGE DISCHARGE.--10 years (1974-83), 2.37 ft³/s, 10.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 754 ft³/s June 15, and Aug. 31, 1981, gage height, 6.42 ft; no flow Apr. 26, 27, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 511 ft³/s Sept. 6, gage height, 5.81 ft; no flow Apr. 26, 27.

EXTREMES FOR OCTOBER TO DECEMBER 1983.--Maximum discharge, 263 ft³/s Oct. 11, gage height, 4.98 ft; minimum daily, 0.45 ft³/s Dec. 17.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by pumpage from city well Apr. 28 and 29.)

2.48	0	2.9	5.5
2.5	0.2	3.1	11
2.6	1.2	3.3	20
2.7	2.3	3.6	41
2.8	3.7		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	26	1.0	.66	1.0	1.4	3.4	4.9	1.2	9.5	1.8	1.5
2	1.2	9.8	37	.69	.99	1.5	16	4.6	1.1	1.4	1.9	1.6
3	1.3	.84	5.0	.75	.97	1.7	2.5	1.4	1.3	5.9	1.9	1.3
4	1.5	1.0	1.5	.85	.97	1.8	1.0	2.0	1.1	2.9	1.9	1.1
5	1.5	.92	8.0	.84	.85	1.3	.93	1.4	2.6	1.3	1.8	5.6
6	7.2	1.1	2.0	1.4	.83	6.2	2.2	1.7	.95	1.3	1.7	22
7	1.5	1.2	1.0	1.0	.94	3.4	1.0	11	.96	1.5	1.6	1.5
8	1.1	.78	.90	.90	.93	1.2	.83	.98	1.1	1.5	1.9	1.6
9	3.3	9.5	.80	1.0	.99	1.3	4.6	.94	1.3	1.5	1.6	1.9
10	.95	1.7	.78	1.4	1.0	1.0	1.0	1.0	1.5	1.3	1.4	4.6
11	1.7	11	.80	.86	1.4	1.0	.99	1.1	1.6	1.7	1.3	1.1
12	1.1	4.1	.80	.84	1.4	.93	4.1	1.2	1.5	1.6	1.3	2.1
13	1.4	.80	.84	.89	1.9	.85	7.2	1.9	1.6	1.6	1.2	1.0
14	1.9	.89	.93	.83	3.3	.94	2.1	1.2	2.8	1.8	1.2	1.0
15	1.2	.90	.94	.90	2.4	1.6	.96	.93	2.0	1.8	1.5	7.9
16	1.3	.87	.97	.90	11	3.0	1.7	1.1	1.4	1.6	10	1.6
17	1.4	.97	.84	.98	5.2	.89	.86	1.3	1.4	5.2	3.8	3.0
18	1.1	.91	1.5	.98	2.4	4.1	.82	3.9	1.3	2.0	1.7	1.3
19	4.0	2.8	.90	.93	7.9	4.2	.88	6.0	1.2	3.1	1.8	1.6
20	2.3	2.8	.81	1.0	6.2	.93	.88	1.2	1.5	4.1	1.5	3.5
21	1.0	1.0	.81	1.0	2.8	1.3	.98	1.2	1.6	1.8	4.6	.93
22	.96	1.0	.81	1.4	2.6	1.6	.99	17	1.6	1.9	1.5	.95
23	.81	1.1	.86	2.4	2.6	1.4	.79	1.4	1.6	1.7	1.4	.91
24	.80	1.0	2.0	1.5	1.1	1.2	.70	3.7	1.7	1.5	1.4	1.2
25	.95	.95	.86	1.1	.83	1.1	.20	1.4	1.5	1.6	15	5.8
26	.98	.99	.71	.93	.95	1.3	.00	1.2	1.3	1.6	10	.99
27	1.1	1.0	3.1	.94	1.3	2.0	.00	3.3	13	1.6	8.6	1.0
28	3.2	3.8	5.1	.91	1.7	2.6	4.3	3.2	2.0	1.7	5.6	1.3
29	1.6	2.0	.75	.91	---	1.5	5.7	2.0	1.5	2.2	1.6	1.3
30	.90	1.0	.66	1.1	---	1.5	.89	1.8	4.6	1.7	1.7	1.3
31	.90	---	.70	1.1	---	2.9	---	1.3	---	1.7	1.6	---
TOTAL	51.35	92.72	83.67	31.89	66.45	57.64	68.50	87.25	59.81	71.6	95.8	82.48
MEAN	1.66	3.09	2.70	1.03	2.37	1.86	2.28	2.81	1.99	2.31	3.09	2.75
MAX	7.2	26	37	2.4	11	6.2	16	17	13	9.5	15	22
MIN	.80	.78	.66	.66	.83	.85	.00	.93	.95	1.3	1.2	.91
CFSM	.53	.98	.86	.33	.75	.59	.72	.89	.63	.73	.98	.87
IN.	.61	1.09	.99	.38	.78	.68	.81	1.03	.71	.85	1.13	.97
CAL YR 1982	TOTAL 884.54	MEAN 2.42	MAX 37	MIN .40	CFSM .77	IN 10.44						
WTR YR 1983	TOTAL 849.16	MEAN 2.33	MAX 37	MIN .00	CFSM .74	IN 10.02						

ROCK RIVER BASIN

05427970 WILLOW CREEK AT MADISON, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.5	.74									
2	1.1	.93	.97									
3	7.1	.91	.72									
4	1.2	.91	.81									
5	1.3	1.0	.99									
6	1.5	1.1	.79									
7	2.1	1.1	.66									
8	1.2	1.2	.53									
9	.86	2.9	.68									
10	.96	6.9	.61									
11	17	.52	8.4									
12	7.3	.56	1.6									
13	1.2	.64	.77									
14	1.1	2.1	.88									
15	1.1	.68	.91									
16	1.2	.61	.72									
17	1.3	.70	.45									
18	1.4	.65	.73									
19	1.3	7.7	2.4									
20	1.7	4.8	.64									
21	.75	.90	.97									
22	4.0	1.0	.65									
23	1.1	6.8	.65									
24	2.1	.83	.64									
25	1.6	.80	.64									
26	1.8	.76	1.1									
27	1.6	9.2	.77									
28	1.5	9.7	.66									
29	1.6	1.1	.83									
30	1.3	.77	.59									
31	1.1	---	.51									
TOTAL	71.57	70.27	33.01									
MEAN	2.31	2.34	1.06									
MAX	17	9.7	8.4									
MIN	.75	.52	.45									
CFSM	.73	.74	.34									
IN.	.84	.83	.39									

CAL YR 1983 TOTAL 796.27 MEAN 2.18 MAX 22 MIN .00 CFSM .69 IN 9.40

ROCK RIVER BASIN

05427970 WILLOW CREEK AT MADISON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to December 1983 (discontinued).

INSTRUMENTATION.--Sediment pumping sampler since October 1, 1974.

WATER-QUALITY DATA, OCTOBER 1982 TO DECEMBER 1983

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)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
NOV , 1982											
01...	1440	15	.40	.110	2.4	2.50	2.9	13	.470	1.4	.190
01...	1505	202	.20	.120	2.2	2.30	2.5	11	.280	.86	.110
01...	1535	56	<.10	.060	2.0	2.10	--	--	.500	1.5	.230
01...	1536	56	<.10	.110	1.5	1.60	--	--	.690	2.1	.230
FEB , 1983											
16...	1035	13	1.8	.610	1.3	1.90	3.7	16	.280	.86	.030
16...	1305	34	2.0	.750	2.6	3.30	5.3	23	.640	2.0	.120
16...	1605	14	1.6	.670	1.0	1.70	3.3	15	.290	.89	.110
MAY											
22...	0220	476	.50	.460	5.2	5.70	6.2	27	.960	2.9	.080
22...	0230	131	.30	.270	3.1	3.40	3.7	16	.730	2.2	.080
JUN											
27...	1455	22	.90	.800	2.3	3.10	4.0	18	.130	.40	.200
27...	1540	159	.50	.390	1.5	1.90	2.4	11	.200	.61	.150
27...	1725	12	.50	.230	.97	1.20	1.7	7.5	.160	.49	.140
AUG											
16...	2210	3.6	2.7	.250	1.1	1.40	4.1	18	.720	2.2	.160
16...	2220	99	.60	.550	2.3	2.80	3.4	15	.580	1.8	.440
16...	2235	226	1.1	.550	2.1	2.60	3.7	16	.780	2.4	.130
16...	2335	73	.70	.330	.77	1.10	1.8	8.0	.400	1.1	.230
17...	0120	73	.90	.330	.77	1.10	2.0	8.9	.250	.77	.170
25...	0815	33	1.3	.110	2.2	2.30	3.6	16	.390	1.1	.140
25...	0845	38	.90	.200	1.4	1.60	2.5	11	.340	1.0	.130
25...	0930	185	.60	.300	.60	.90	1.5	6.6	.310	.95	.100
25...	0945	132	.50	.280	1.1	1.50	2.0	8.9	.420	1.3	.110
25...	0950	121	.50	.320	.48	.80	1.3	5.8	.260	.80	.100
25...	1230	14	.40	.110	.29	.40	.80	3.5	.160	.49	.080
SEP											
06...	0020	49	1.0	.500	5.0	5.50	6.5	29	.200	.61	.090
06...	0050	162	.50	.520	2.0	2.50	3.0	13	.160	.49	.090
06...	0120	483	.30	.440	2.1	2.50	2.8	12	.130	.40	.080
06...	0220	62	.30	.250	1.1	1.40	1.7	7.5	.150	.46	.120
06...	0350	12	.40	.200	.40	.60	1.0	4.4	.130	.40	.110
OCT											
11...	2015	16	2.0	.370	2.0	2.40	4.4	19	.420	1.3	.200
11...	2040	78	1.0	.750	2.0	2.70	3.7	16	.500	1.5	.180
11...	2155	235	.80	.850	1.9	2.70	3.5	15	.390	1.19	.190
11...	2255	162	.70	.890	.81	1.70	2.4	11	.270	.83	.160
12...	0055	41	.60	.570	.33	.90	1.5	6.6	.210	.64	.190
12...	0600	11	.40	.160	.34	.50	.90	4.0	.240	.74	.220

ROCK RIVER BASIN

05427970 WILLOW CREEK AT MADISON, WI--CONTINUED

SEDIMENT LOADS, FOR SELECTED DAYS, OCTOBER 1982 TO DECEMBER 1983

DATE	DIS- CHARGE, IN CUBIC FEET PER SECOND	MEAN CONCEN- TRATION (MG/L)	SEDIMENT LOAD (TONS)	DATE	DIS- CHARGE, IN CUBIC FEET PER SECOND	MEAN CONCEN- TRATION (MG/L)	SEDIMENT LOAD (TONS)
FEB , 1983				AUG , 1983			
14...	3.3	43	.71	16...	10	36	11
15...	2.4	25	.19	17...	3.8	14	.28
16...	11	91	4.6	24...	1.4	7	.03
17...	5.2	36	.80	25...	15	47	11
18...	2.4	36	.27	26...	10	20	1.8
19...	7.9	42	1.6	27...	8.6	19	1.9
20...	6.2	22	.48	SEP			
MAR				05...	5.6	111	6.9
05...	1.3	24	.08	06...	22	85	60
06...	6.2	90	4.8	10...	4.8	19	1.1
07...	3.4	16	.25	11...	1.2	9	.03
16...	3.0	48	1.6	12...	2.1	21	.15
17...	.89	9	.02	15...	8.1	17	.73
18...	4.1	28	.70	16...	1.7	10	.05
19...	4.2	35	.48	17...	3.2	14	.37
APR				18...	1.4	9	.03
02...	16	42	2.2	19...	1.7	8	.04
MAY				20...	3.5	15	.21
06...	1.7	26	.11	24...	1.2	3	.06
07...	11	161	24	25...	5.8	28	1.2
18...	3.9	19	.63	OCT			
19...	6.0	115	4.8	03...	7.1	41	3.5
20...	1.2	41	.14	20...	1.7	5	.03
21...	1.2	17	.06	21...	.75	2	.00
22...	17	114	42	22...	4.0	10	.10
23...	1.4	12	.04	NOV			
24...	3.7	14	.39	01...	2.5	12	.07
25...	1.4	16	.06	09...	2.9	5	.08
26...	1.2	7	.02	10...	6.9	18	.42
27...	3.3	11	.30	23...	6.8	14	.27
28...	3.2	19	.71	27...	9.2	20	.87
JUN				28...	9.7	28	.97
05...	2.6	21	.41	DEC			
14...	3.5	21	.31	05...	.99	12	.03
27...	13	59	7.4	11...	8.4	22	.48
JUL				12...	1.6	33	.15
01...	9.5	40	3.2				
02...	1.4	10	.04				
03...	5.9	29	3.3				
17...	5.2	50	4.6				
18...	2.0	20	.11				
19...	3.1	7	.23				
20...	4.1	16	.44				

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.

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 National Geodetic Vertical Datum of 1929, or 5.60 ft below city of Madison datum. Prior to Oct. 1, 1979, at datum 7.82 ft 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 Apr. 5, 1959; minimum observed, 8.02 ft Feb. 24 to Mar. 10, 1920, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 10.27 ft Apr. 14; minimum, 9.08 ft Feb. 1, 14, and 15.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.71	9.72	9.76	9.87	9.12	9.32	9.71	9.93	10.03	9.83	9.67	9.79
2	9.70	9.85	9.89	9.84	9.17	9.33	9.83	9.97	10.02	9.84	9.64	9.78
3	9.70	9.89	10.03	9.81	9.21	9.33	9.93	9.97	10.01	9.83	9.63	9.77
4	9.69	9.88	10.06	9.78	9.20	9.34	9.97	9.96	10.01	9.90	9.63	9.76
5	9.70	9.87	10.13	9.75	9.19	9.35	9.99	9.93	10.01	9.88	9.63	9.75
6	9.70	9.83	10.20	9.73	9.19	9.38	10.02	9.94	10.00	9.86	9.62	9.87
7	9.73	9.82	10.21	9.70	9.19	9.44	10.03	9.98	9.98	9.84	9.61	9.86
8	9.72	9.82	10.21	9.66	9.18	9.46	10.03	9.99	9.97	9.83	9.61	9.85
9	9.72	9.86	10.18	9.63	9.17	9.49	10.05	9.95	9.95	9.82	9.58	9.84
10	9.74	9.89	10.18	9.62	9.16	9.50	10.08	9.94	9.93	9.82	9.55	9.84
11	9.74	9.95	10.15	9.60	9.15	9.50	10.09	9.93	9.91	9.82	9.54	9.85
12	9.72	10.08	10.13	9.56	9.14	9.50	10.08	9.91	9.90	9.81	9.51	9.83
13	9.72	10.02	10.10	9.53	9.12	9.50	10.13	9.91	9.88	9.80	9.49	9.81
14	9.71	10.04	10.08	9.51	9.12	9.51	10.18	9.91	9.86	9.80	9.48	9.80
15	9.71	10.01	10.07	9.47	9.11	9.51	10.17	9.89	9.87	9.78	9.47	9.78
16	9.68	9.98	10.06	9.44	9.14	9.53	10.15	9.86	9.86	9.78	9.48	9.83
17	9.66	9.96	10.03	9.41	9.14	9.54	10.14	9.84	9.83	9.77	9.53	9.81
18	9.66	9.94	10.02	9.37	9.15	9.57	10.14	9.83	9.80	9.80	9.55	9.82
19	9.66	9.93	10.02	9.33	9.16	9.61	10.11	9.87	9.77	9.80	9.55	9.83
20	9.74	9.95	10.00	9.30	9.17	9.61	10.10	9.87	9.75	9.80	9.54	9.86
21	9.68	9.95	9.97	9.27	9.21	9.63	10.08	9.87	9.74	9.81	9.53	9.84
22	9.68	9.94	9.95	9.24	9.24	9.63	10.07	9.96	9.74	9.80	9.55	9.81
23	9.67	9.94	9.93	9.22	9.27	9.62	10.06	10.00	9.74	9.80	9.54	9.79
24	9.67	9.89	9.94	9.20	9.31	9.62	10.04	9.99	9.73	9.77	9.53	9.76
25	9.65	9.83	9.95	9.19	9.32	9.61	10.02	10.01	9.73	9.76	9.57	9.78
26	9.65	9.82	9.92	9.18	9.32	9.61	10.01	9.99	9.72	9.74	9.65	9.80
27	9.63	9.78	9.91	9.16	9.31	9.66	9.99	9.96	9.74	9.71	9.73	9.80
28	9.63	9.78	9.98	9.15	9.32	9.67	9.97	9.97	9.77	9.70	9.77	9.81
29	9.64	9.78	9.95	9.14	---	9.66	9.96	10.03	9.76	9.70	9.79	9.82
30	9.63	9.77	9.92	9.14	---	9.67	9.95	10.04	9.78	9.70	9.79	9.82
31	9.63	---	9.90	9.13	---	9.68	---	10.03	---	9.70	9.79	---
MEAN	9.69	9.89	10.03	9.45	9.20	9.53	10.04	9.94	9.86	9.79	9.60	9.81
MAX	9.74	10.08	10.21	9.87	9.32	9.68	10.18	10.04	10.03	9.90	9.79	9.87
MIN	9.63	9.72	9.76	9.13	9.11	9.32</						

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. Area of Lake Monona, 5.3 mi².

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, National Geodetic Vertical Datum of 1929, or 5.60 ft below city of Madison datum. Prior to Oct. 1, 1979, datum 3.61 ft higher; prior to Nov. 15, 1971, non-recording 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. Dane County Public Works provided 33 readings between Jan. 14 and Mar. 1. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.27 ft July 28, 1929; minimum observed, 3.22 ft Jan. 20, 1965, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.47 ft Dec. 6, 7; minimum, 4.53 ft Feb. 15 (telemark reading).

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.75	4.93	5.03	5.02	4.66	4.68	4.69	4.89	5.04	5.08	4.65	5.08
2	4.74	5.12	5.21	5.01	4.66	---	4.86	4.92	5.04	5.08	4.65	5.07
3	4.73	5.12	5.31	5.00	4.73	4.70	4.95	4.91	5.04	5.07	4.65	5.06
4	4.73	5.08	5.31	5.00	4.72	4.72	5.00	4.89	5.03	5.10	4.66	5.05
5	4.73	5.04	5.36	5.00	---	4.75	5.03	4.89	5.03	5.07	4.66	5.04
6	4.75	5.02	5.46	5.00	---	4.81	5.04	4.91	5.03	5.04	4.66	5.23
7	4.79	5.00	5.47	4.99	4.67	4.86	5.01	4.93	5.03	5.01	4.67	5.19
8	4.78	4.98	5.43	4.99	4.65	4.87	5.01	4.93	5.04	4.98	4.67	5.16
9	4.84	5.02	5.39	4.99	4.63	4.84	5.03	4.93	5.04	4.97	4.67	5.14
10	4.82	5.05	5.36	4.99	4.61	4.79	5.01	4.93	5.06	4.95	4.66	5.13
11	4.80	5.05	5.31	4.99	4.59	4.74	4.98	4.92	5.07	4.93	4.63	5.12
12	4.78	5.11	5.27	5.00	4.56	4.72	5.02	4.92	5.08	4.91	4.63	5.10
13	4.77	5.08	5.25	4.99	---	4.69	5.09	4.92	5.10	4.88	4.64	5.06
14	4.75	5.05	5.22	4.97	4.54	4.66	5.08	4.91	5.11	4.86	4.64	5.03
15	4.74	5.01	5.19	---	4.53	4.65	5.05	4.90	5.11	4.85	4.65	5.04
16	4.71	5.02	5.16	---	4.57	4.64	5.04	4.90	5.09	4.83	4.66	5.07
17	4.73	5.02	5.14	4.96	4.57	4.62	5.03	4.89	5.10	4.81	4.80	5.06
18	4.73	5.02	5.12	4.95	---	4.61	5.00	4.89	5.11	4.83	4.80	5.06
19	4.75	5.04	5.08	4.95	---	4.67	4.98	4.92	5.09	4.81	4.80	5.04
20	4.74	5.08	5.05	4.95	---	4.70	4.96	4.92	5.09	4.81	4.80	5.02
21	4.73	5.07	5.02	4.94	4.65	4.69	4.95	4.93	5.09	4.79	4.81	4.98
22	4.73	5.06	5.00	---	4.67	4.65	4.94	5.03	5.07	4.79	4.84	4.94
23	4.72	5.03	4.99	---	4.68	4.62	4.93	5.03	5.05	4.76	4.84	4.91
24	4.73	5.00	4.98	4.96	4.69	4.60	4.90	5.04	5.04	4.73	4.83	4.90
25	4.74	5.01	4.97	4.90	4.70	4.60	4.89	5.05	5.02	4.72	4.90	4.92
26	4.74	5.01	4.96	4.86	---	4.61	4.88	5.03	5.00	4.71	4.99	4.91
27	4.76	5.00	4.96	4.82	---	4.63	4.87	5.02	5.03	4.70	5.06	4.89
28	4.78	5.03	4.99	4.79	4.69	4.60	4.87	5.03	5.05	4.69	5.09	4.89
29	4.80	5.04	4.98	---	---	4.62	4.87	5.03	5.04	4.70	5.10	4.88
30	4.80	5.04	4.98	---	---	4.62	4.86	5.02	5.03	4.70	5.11	4.87
31	4.80	---	5.01	4.70	---	4.64	---	5.02	---	4.68	5.10	---
MEAN	4.76	5.04	5.16	---	---	---	4.96	4.95	5.06	4.87	4.78	5.03
MAX	4.84	5.12	5.47	---	---	---	5.09	5.05	5.11	5.10	5.11	5.23
MIN	4.71	4.93	4.96	---	---	---	4.69	4.89	5.00	4.68	4.63	4.87
CAL YR 1982	MEAN	4.92	MAX 5.58	MIN 4.16								

ROCK RIVER BASIN

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 southwest of McFarland.

DRAINAGE AREA.--327 mi².

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 840.00 ft National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Natural Resources). September 1930 to Dec. 22, 1934, nonrecording gage at same site at datum 0.40 ft higher. Dec. 23, 1934 to Sept. 30, 1982, recording gage at same site at datum 0.40 ft higher.

REMARKS.--Records fair. Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 53 ft³/s of effluent into the Badfish Creek basin during 1983 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.--53 years, 153 ft³/s, 6.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft³/s Apr. 10, 1959, gage height, 5.82 ft; maximum gage height, 6.33 ft July 23, 24, 1950, backwater from aquatic vegetation; minimum discharge, 1.0 ft³/s Oct. 18, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 366 ft³/s Dec. 11, gage height, 4.93 ft; maximum gage height, 4.93 ft Dec. 6, 7, 9, 11; minimum, 6.4 ft³/s Aug. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	103	227	266	234	219	157	219	201	145	45	93
2	51	196	276	263	230	221	195	229	188	141	47	82
3	52	245	319	261	230	223	227	234	178	136	23	68
4	53	236	320	260	220	230	254	233	180	150	8.6	56
5	53	225	332	260	220	236	276	230	177	144	19	40
6	57	215	362	261	220	250	273	229	179	138	12	105
7	55	204	361	262	220	264	271	233	174	130	15	141
8	58	197	355	262	220	271	265	239	167	124	17	133
9	67	205	354	263	220	272	268	233	160	125	16	122
10	65	211	339	287	215	268	265	231	157	126	13	118
11	63	212	335	302	209	258	273	226	155	125	9.6	122
12	60	249	340	296	204	248	282	226	150	125	9.9	115
13	58	270	317	291	200	241	286	225	150	120	10	110
14	59	258	304	288	197	233	291	229	150	116	10	105
15	55	248	299	290	196	229	292	228	158	114	12	102
16	54	236	295	288	203	227	292	220	165	115	14	110
17	53	232	289	286	205	222	290	194	163	115	35	111
18	51	230	281	285	208	227	301	169	161	118	47	113
19	60	232	280	284	211	241	277	178	159	115	50	116
20	62	239	276	280	218	243	273	186	159	108	50	119
21	59	241	270	280	228	251	268	188	160	96	48	115
22	60	240	263	286	231	242	266	208	160	92	54	105
23	59	238	262	292	234	180	263	238	156	95	56	99
24	60	238	262	291	236	137	261	237	156	95	52	87
25	61	229	262	284	233	133	257	230	151	65	62	84
26	65	224	260	276	228	134	249	222	144	37	83	83
27	68	222	260	267	223	148	222	214	144	36	103	89
28	65	225	265	259	220	148	213	211	152	33	125	87
29	69	230	243	252	---	142	214	209	148	39	127	87
30	67	228	295	249	---	144	220	207	143	45	111	92
31	68	---	268	240	---	148	---	204	---	47	101	---
TOTAL	1839	6758	9171	8511	6113	6630	7741	6759	4845	3210	1385.1	3009
MEAN	59.3	225	296	275	218	214	258	218	162	104	44.7	100
MAX	69	270	362	302	236	272	301	239	201	150	127	141
MIN	51	103	227	240	196	133	157	169	143	33	8.6	40
CFSM	.18	.69	.91	.84	.67	.65	.79	.67	.50	.32	.14	.31
IN.	.21	.77	1.04	.97	.70	.75	.88	.77	.55	.37	.16	.34
CAL YR 1982	TOTAL	65530.0	MEAN	180	MAX	418	MIN	15	CFSM	.55	IN	7.45
WTR YR 1983	TOTAL	65971.1	MEAN	181	MAX	362	MIN	8.6	CFSM	.55	IN	7.50

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 upstream from bridge on State Highway 59, 2.2 mi east of Cooksville, and 2.2 mi above the mouth.

DRAINAGE AREA.--82.6 mi².

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

GAGE.--Water-stage recorder. Altitude of gage is 810 ft, from topographic map.

REMARKS.--Records good. Approximately 50 per cent of flow is effluent from Nine Springs treatment plant. (Data provided by Madison Metropolitan Sewerage District.)

AVERAGE DISCHARGE.--6 years, 97.8 ft³/s, 16.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 870 ft³/s Sept. 1, 1981, gage height, 8.11 ft; minimum daily, 35 ft³/s Aug. 1, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 440 ft³/s Dec. 2, gage height, 6.55 ft; minimum daily, 62 ft³/s July 25.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 1 to Aug. 16.)

4.5	52	6.0	330
5.0	136	7.0	538

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	186	106	100	86	111	184	106	99	112	63	82
2	83	253	261	93	93	113	351	132	93	109	72	81
3	77	142	232	97	91	116	279	122	92	96	72	80
4	75	119	155	93	88	124	193	119	90	112	75	72
5	84	110	165	96	82	123	162	116	90	94	77	71
6	86	104	258	97	84	136	159	116	93	93	74	102
7	93	98	167	97	86	154	150	127	92	91	67	92
8	84	97	143	91	87	129	140	121	87	93	63	85
9	100	124	127	89	86	115	146	115	86	92	72	88
10	83	137	124	94	86	107	151	117	85	88	73	88
11	80	134	113	96	86	102	140	115	82	84	77	85
12	86	209	104	90	80	98	135	115	77	93	77	82
13	85	135	105	91	79	95	165	117	77	85	78	88
14	83	115	108	91	86	101	154	115	88	77	72	91
15	85	106	106	85	89	100	140	107	91	75	74	94
16	83	110	106	83	122	98	131	108	90	74	80	109
17	79	104	103	86	140	100	129	110	88	65	114	94
18	80	100	101	87	144	110	127	109	86	64	86	94
19	102	109	99	86	142	132	125	122	82	73	83	90
20	121	117	99	85	237	120	122	118	82	81	80	101
21	99	113	100	87	206	109	121	112	91	79	76	99
22	93	104	100	86	164	106	119	159	92	77	83	95
23	89	105	105	85	161	103	114	134	93	74	85	93
24	83	100	114	89	142	100	111	116	95	67	84	88
25	84	95	120	89	116	99	114	112	95	62	102	87
26	86	87	106	89	105	94	115	105	88	68	113	87
27	87	85	107	87	104	99	114	105	96	73	105	88
28	88	96	147	88	107	98	114	107	111	74	90	86
29	93	103	116	85	---	103	113	109	104	77	84	86
30	87	107	107	84	---	110	109	104	102	75	88	88
31	83	---	108	84	---	132	---	104	---	68	86	---
TOTAL	2708	3604	4012	2780	3179	3437	4427	3594	2717	2545	2525	2666
MEAN	87.4	120	129	89.7	114	111	148	116	90.6	82.1	81.5	88.9
MAX	121	253	261	100	237	154	351	159	111	112	114	109
MIN	75	85	99	83	79	94	109	104	77	62	63	71
CAL YR 1982	TOTAL	39444	MEAN	108	MAX	667	MIN	67				
WTR YR 1983	TOTAL	38194	MEAN	105	MAX	351	MIN	62				

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 downstream from Badfish Creek, 2,000 ft upstream from bridge on State Highway 59, and 2.8 mi northwest of Fulton.

DRAINAGE AREA.--517 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 792.7 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diurnal fluctuation caused by powerplant at Stebbensville 1.5 mi upstream, and additional regulation from other dams and powerplants upstream.

AVERAGE DISCHARGE.--6 years, 346 ft³/s, 9.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft³/s Sept. 1, 1981, gage height, 8.36 ft; minimum daily, 60 ft³/s Aug. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,070 ft³/s Dec. 2, gage height, 5.38 ft; minimum daily, 116 ft³/s Aug. 15.

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

3.1	108	4.5	536
3.5	206	5.0	840
4.0	365	6.0	1,440

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	341	465	475	442	445	517	471	412	280	118	233
2	176	569	694	456	435	460	836	499	377	294	124	123
3	181	501	779	456	426	465	811	491	393	292	144	123
4	118	485	613	359	439	490	631	479	372	306	127	117
5	146	495	643	470	449	490	580	478	392	295	126	189
6	181	515	858	467	434	517	589	477	397	263	214	222
7	137	424	698	440	429	550	598	501	327	469	139	137
8	169	387	665	440	438	506	588	470	252	349	170	202
9	207	420	640	444	436	486	592	440	283	286	158	128
10	159	493	637	463	434	510	615	467	275	145	120	177
11	186	518	607	448	433	538	576	458	305	161	119	160
12	206	626	592	460	432	570	578	448	325	269	117	181
13	154	555	590	440	416	532	638	466	273	257	119	240
14	138	537	573	387	408	542	626	465	298	251	143	255
15	197	521	456	452	434	490	601	449	296	202	116	266
16	264	503	425	448	443	459	595	438	327	214	121	238
17	123	491	487	448	514	478	611	426	244	293	215	275
18	118	443	508	452	498	495	608	441	299	229	123	252
19	202	465	483	440	489	542	592	406	247	169	123	250
20	313	497	463	425	628	517	585	363	310	273	184	243
21	212	480	483	429	607	498	598	348	306	248	120	261
22	224	473	479	448	544	482	635	441	236	229	123	260
23	220	467	491	448	530	460	633	433	262	220	147	234
24	163	457	504	456	508	451	554	412	286	198	209	160
25	207	449	504	444	477	353	575	407	315	205	132	179
26	149	424	479	443	467	298	540	400	262	205	163	251
27	173	445	471	458	459	334	466	368	265	204	220	260
28	248	445	533	442	453	246	405	362	277	167	128	241
29	252	458	512	436	---	398	474	379	262	131	135	239
30	223	467	479	444	---	392	444	425	210	128	128	254
31	267	---	479	444	---	384	---	415	---	122	173	---
TOTAL	5884	14351	17290	13762	13102	14378	17691	13523	9085	7354	4498	6350
MEAN	190	478	558	444	468	464	590	436	303	237	145	212
MAX	313	626	858	475	628	570	836	501	412	469	220	275
MIN	118	341	425	359	408	246	405	348	210	122	116	117
CFSM	.37	.93	1.08	.86	.91	.90	1.14	.84	.59	.46	.28	.41
IN.	.42	1.03	1.24	.99	.94	1.03	1.27	.97	.65	.53	.32	.46
CAL YR 1982	TOTAL	140377	MEAN 385	MAX 1510	MIN 118	CFSM .75	IN 10.10					
WTR YR 1983	TOTAL	137268	MEAN 376	MAX 858	MIN 116	CFSM .73	IN 9.88					

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 downstream from highway bridge and 1.1 mi upstream from Bass Creek.

DRAINAGE AREA.--3,340 mi².

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 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 higher.

REMARKS.--Records good except those for winter periods and discharge below 800 ft³/s, which are fair. Diurnal fluctuation caused by powerplants above station.

AVERAGE DISCHARGE.--69 years, 1,801 ft³/s, 7.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Mar. 23, 24, 1929, gage height, 11.81 ft present datum; maximum gage height observed, 13.05 ft Feb. 5, 1916, present datum (backwater from ice); minimum discharge, 22 ft³/s Sept. 9, 1964; minimum daily, 42 ft³/s Aug. 25, 26, 1934; minimum gage height, 0.09 ft Aug. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,230 ft³/s Apr. 13, gage height, 8.56 ft; minimum daily, 193 ft³/s Aug. 3.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 25 to Feb. 7.)

2.0	167	5.0	2,220
2.5	420	7.0	4,210
3.0	740	9.0	6,860
4.0	1,440		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	763	1600	3360	3400	1400	4000	4460	4200	2780	1400	860	1200
2	1060	1870	3500	3300	1400	4060	5330	4160	2930	1410	796	1070
3	900	2200	3960	3250	1400	4080	5610	3960	2970	1310	193	759
4	884	2170	3960	3150	1400	4170	5390	3770	3000	1420	762	782
5	613	2360	4170	2900	1400	4240	5540	3660	3020	1410	607	798
6	452	2730	4460	2970	1400	4330	5770	3590	3130	1420	419	965
7	881	2830	4670	2840	1400	4430	5750	3620	3010	1460	734	876
8	630	2740	4880	2820	1560	4480	5840	3690	2970	1500	657	786
9	726	3160	4970	2740	1550	4550	6130	3420	2800	1310	605	838
10	884	3060	4920	2710	1550	4830	5990	3360	2830	1050	684	678
11	1050	3000	4660	2620	1570	4920	5920	3270	2830	840	445	860
12	905	3170	4220	2510	1560	4930	5990	3180	2730	998	526	914
13	704	3310	4530	2420	1550	4940	6120	3120	2650	1060	523	1040
14	737	3410	4570	2480	1540	4940	5830	3110	2520	1020	524	909
15	721	3450	4550	2290	1600	4970	5700	3010	2480	1070	464	963
16	964	3500	4290	2230	1760	4940	5950	2890	2410	926	522	927
17	891	3600	4170	2250	2020	4900	6010	2790	2370	923	691	886
18	719	3610	4140	2140	2090	4950	5970	2710	2090	930	706	919
19	1050	3570	4070	2230	2110	5060	5830	2660	2030	843	574	1060
20	1090	3610	3960	2130	2410	5100	5700	2500	1740	1060	499	1030
21	1140	3590	3910	2030	2800	5210	5590	2530	1790	990	674	981
22	1130	3600	3830	1980	3010	4940	5510	2690	1640	1040	657	942
23	1140	3600	3760	1910	3170	4840	5430	2630	1540	992	630	1140
24	1130	3500	3770	1700	3430	4800	5330	2610	1410	946	863	1160
25	1090	3370	3710	1400	3620	4690	5050	2660	1270	983	936	1120
26	1260	3400	3630	1400	3720	4610	4790	2670	1260	888	1370	1140
27	1250	3410	3650	1400	3850	4730	4640	2610	1300	651	1400	1260
28	1260	3450	3460	1400	3930	4540	4410	2640	1210	1030	1310	1080
29	1190	3390	3470	1400	---	4330	4330	2680	1240	903	1200	1100
30	1240	3370	3360	1400	---	4390	4230	2640	1370	497	1200	1070
31	1230	---	3440	1400	---	4340	---	2710	---	663	1160	---
TOTAL	29684	93630	126000	70800	60200	144240	164140	95740	67320	32943	23191	29253
MEAN	958	3121	4065	2284	2150	4653	5471	3088	2244	1063	748	975
MAX	1260	3610	4970	3400	3930	5210	6130	4200	3130	1500	1400	1260
MIN	452	1600	3360	1400	1400	4000	4230	2500	1210	497	193	678
CFSM	.29	.93	1.22	.68	.64	1.39	1.64	.93	.67	.32	.22	.29
IN.	.33	1.04	1.40	.79	.67	1.61	1.83	1.07	.75	.37	.26	.33
CAL YR 1982	TOTAL	961357	MEAN	2634	MAX	8030	MIN	452	CFSM	.79	IN	10.71
WTR YR 1983	TOTAL	937141	MEAN	2568	MAX	6130	MIN	193	CFSM	.77	IN	10.44

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 downstream from bridge on Carvers Rock Road, 3.3 mi northeast of Clinton, 13 mi northeast of Beloit, and 17.8 mi upstream from mouth.

DRAINAGE AREA.--199 mi³.

PERIOD OF RECORD.--September 1939 to current year.

REVISED RECORDS.--WSP 955: 1940. WSP 1308: 1950(M). WDR WI-71-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 823 ft, from topographic map. September 1939 to December 1979, water-stage recorder at site 1.8 mi 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.--44 years, 121 ft³/s, 8.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s Apr. 21, 1973, gage height, 12.85 ft, from rating curve extended above 6,500 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 8.0 ft³/s Dec. 29, 1956, gage height, 2.04 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft³/s Apr. 2, gage height, 7.01 ft; no peak above base of 1,200 ft³/s; minimum discharge, 69.0 ft³/s Aug. 20 and 21, gage height, 3.63 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12, 13, 30, Jan. 3, 4, 12, 13, 18-22, 27, 28, and Feb. 2-12.)

Oct. 1 to Dec. 2				Dec. 3 to Sept. 30			
3.9	108	5.0	370	3.6	64	5.0	374
4.0	126	6.0	726	4.0	134	6.0	726
				4.5	246	7.0	1,180

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	282	159	207	111	194	336	151	172	166	83	87
2	149	315	306	198	110	198	812	170	156	196	83	107
3	162	263	886	190	110	194	898	164	151	228	83	129
4	167	233	583	190	100	218	607	156	151	362	85	95
5	162	213	559	182	100	271	536	151	141	268	85	81
6	137	197	643	179	100	331	475	152	151	218	87	101
7	123	186	491	178	100	431	418	151	145	192	83	96
8	120	168	437	172	100	412	373	137	178	178	80	85
9	185	168	397	170	110	359	436	155	165	150	75	79
10	198	233	369	175	110	321	472	150	171	122	77	79
11	167	246	344	176	110	297	405	145	171	112	94	86
12	150	540	320	160	110	283	375	143	168	107	85	82
13	139	390	300	160	113	273	374	145	152	104	80	79
14	133	295	290	162	115	265	373	174	145	104	78	93
15	128	249	283	153	120	246	339	160	228	100	76	83
16	127	224	281	163	191	241	313	148	173	100	76	97
17	121	207	270	152	266	235	310	145	154	97	122	91
18	119	198	269	140	265	251	297	141	143	99	93	96
19	193	199	270	130	311	338	286	152	136	102	77	90
20	442	211	258	130	580	319	270	154	127	122	73	96
21	290	216	246	130	522	283	261	148	113	120	72	110
22	230	204	237	120	373	267	246	317	109	107	76	100
23	201	208	240	120	308	246	239	310	106	106	76	115
24	180	190	298	120	276	236	234	230	104	102	74	93
25	167	187	343	118	237	232	227	202	102	99	96	90
26	159	162	297	114	211	229	176	182	97	95	139	95
27	152	167	271	110	200	250	156	169	118	90	169	90
28	148	175	283	110	195	277	156	217	124	87	123	84
29	157	194	250	111	---	275	154	275	127	83	104	83
30	167	170	230	113	---	284	153	278	124	82	94	86
31	166	---	215	111	---	304	---	237	---	85	90	---
TOTAL	5272	6890	10625	4644	5554	8560	10707	5650	4261	4183	2788	2778
MEAN	170	230	343	150	198	276	357	182	142	135	89.9	92.6
MAX	442	540	886	207	580	431	898	317	228	362	169	129
MIN	119	162	159	110	100	194	153	141	97	82	72	79
CFSM	.85	1.16	1.72	.75	1.00	1.39	1.79	.92	.71	.68	.45	.47
IN.	.99	1.29	1.99	.87	1.04	1.60	2.00	1.06	.80	.78	.52	.52

CAL YR 1982 TOTAL 76195 MEAN 209 MAX 2300 MIN 66 CFSM 1.05 IN 14.24
WTR YR 1983 TOTAL 71912 MEAN 197 MAX 898 MIN 72 CFSM .99 IN 13.44

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 downstream from Vinegar Branch, and 3.6 mi upstream from Otter Creek.

DRAINAGE AREA.--273 mi².

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--44 years, 186 ft³/s, 9.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s July 16, 1950, gage height, 20.71 ft, from rating curve extended above 11,000 ft³/s basis of slope-area determination of peak flow; minimum, 17 ft³/s Nov. 29, 1966, gage height, 2.09 ft, result of freezeup; minimum gage height, 1.07 ft Dec. 6, 1968, result of freezeup.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of Feb. 21, 1937, reached a stage of 17.6 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft³/s Feb. 20, gage height, 10.57 ft; no peaks above base of 1,500 ft³/s; minimum discharge, 119 ft³/s Aug. 21, gage height, 2.20 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13-16, Dec. 31 to Jan. 19, Jan. 26 to Feb. 10.)

2.2	119	7.0	700
3.0	191	9.0	1,040
5.0	422	11.0	1,580

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	213	194	240	160	271	289	250	273	347	142	144
2	150	488	636	230	150	265	493	327	254	450	140	139
3	151	302	659	210	150	267	758	354	244	324	138	136
4	151	212	444	210	150	282	613	282	245	310	143	134
5	149	193	434	210	160	297	509	259	235	298	143	137
6	153	182	670	210	160	389	476	258	239	227	139	204
7	208	176	540	200	170	468	452	282	234	211	136	320
8	192	173	440	190	170	388	406	315	218	201	134	165
9	176	187	361	180	170	331	406	270	212	195	131	151
10	196	237	357	180	170	300	461	248	206	189	130	145
11	177	235	316	170	168	276	415	241	200	185	133	146
12	163	460	289	150	166	266	379	239	196	180	133	142
13	158	407	290	200	167	264	398	258	194	173	132	140
14	156	278	280	190	175	263	403	297	190	171	131	135
15	154	245	280	180	186	253	395	258	191	169	130	137
16	151	227	270	190	457	258	353	240	187	168	128	188
17	147	218	254	190	776	300	350	232	183	165	127	186
18	149	209	271	190	773	270	335	235	180	162	127	176
19	152	213	269	190	593	263	322	279	180	186	126	164
20	165	231	258	186	1320	253	312	296	179	201	122	167
21	161	225	233	184	1340	247	303	254	177	184	121	183
22	151	205	242	184	849	238	295	343	174	167	124	160
23	149	197	250	188	543	228	289	421	170	162	125	149
24	148	185	277	187	438	224	279	324	167	162	122	142
25	147	168	283	179	339	222	271	298	167	160	175	143
26	146	187	272	170	290	222	268	283	167	156	404	149
27	145	173	249	170	272	237	265	262	180	152	321	143
28	148	180	324	170	269	241	254	264	267	150	208	139
29	175	204	310	160	---	236	252	286	225	153	169	136
30	177	198	266	160	---	245	254	328	261	156	155	132
31	158	---	250	160	---	255	---	287	---	148	151	---
TOTAL	4953	7008	10468	5808	10731	8519	11255	8770	6195	6262	4740	4732
MEAN	160	234	338	187	383	275	375	283	207	202	153	158
MAX	208	488	670	240	1340	468	758	421	273	450	404	320
MIN	145	168	194	150	150	222	252	232	167	148	121	132
CFSM	.59	.86	1.24	.69	1.40	1.01	1.37	1.04	.76	.74	.56	.58
IN.	.67	.95	1.43	.79	1.46	1.16	1.53	1.20	.84	.85	.65	.64
CAL YR 1982	TOTAL	100184	MEAN 274	MAX 2390	MIN 120	CFSM 1.00	IN 13.65					
WTR YR 1983	TOTAL	89441	MEAN 245	MAX 1340	MIN 121	CFSM .90	IN 12.19					

ROCK RIVER BASIN

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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 south of Blanchardville and 4.5 mi upstream from Sawmill Creek.

DRAINAGE AREA.--221 mi².

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 796.8 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge 50 ft upstream at same datum. Auxiliary nonrecording gage 2.7 mi upstream at same datum read during high flows.

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

AVERAGE DISCHARGE.--44 years, 142 ft³/s, 8.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s Feb. 28, 1948, gage height, 15.74 ft; minimum, 18 ft³/s Nov. 29, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,190 ft³/s Dec. 3, gage height, 10.84 ft, no peak above base of 1,300 ft³/s; minimum discharge, 109 ft³/s Aug. 21, gage height, 3.73 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13-16 and Dec. 31 to Feb. 15.)

3.7	107	7.0	438
4.0	131	8.0	563
5.0	224	9.0	704
6.0	324	10.0	932

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	191	146	170	130	215	256	206	209	258	123	134
2	121	424	725	160	120	209	484	249	197	240	121	131
3	122	225	817	150	120	218	656	248	193	182	121	129
4	122	161	360	160	120	233	437	218	195	246	125	128
5	122	149	339	160	130	240	360	207	188	198	124	127
6	122	142	607	160	130	287	348	209	198	167	122	200
7	138	140	396	150	130	384	338	229	186	160	121	199
8	134	138	320	150	130	288	306	258	179	156	120	143
9	131	145	275	140	130	245	301	211	175	153	118	137
10	141	191	265	140	130	228	338	202	172	150	119	133
11	132	173	250	140	130	215	302	197	168	147	122	135
12	129	331	219	140	130	209	281	195	165	144	121	131
13	127	222	220	140	130	210	345	209	163	141	119	129
14	126	175	210	140	140	209	338	219	163	140	118	127
15	126	162	210	140	140	200	312	201	166	140	117	128
16	123	155	200	130	186	205	280	192	161	140	116	166
17	122	153	202	130	285	235	285	186	157	137	122	152
18	122	148	203	130	364	208	273	187	155	136	120	149
19	123	152	208	140	279	219	263	217	155	145	115	143
20	134	167	199	140	742	209	256	213	154	147	111	147
21	128	163	190	140	701	202	250	194	154	148	111	153
22	122	150	184	140	479	195	244	262	151	137	117	140
23	121	147	191	140	363	189	238	278	148	135	113	135
24	121	140	210	140	311	187	231	215	149	135	111	131
25	120	132	217	140	233	186	226	210	154	132	261	133
26	120	138	209	130	210	187	224	198	148	129	554	137
27	120	134	193	130	203	197	220	192	154	129	348	134
28	122	136	267	130	209	196	212	215	163	128	196	131
29	136	152	234	130	---	192	211	231	161	129	157	128
30	133	147	173	130	---	202	212	243	257	131	145	127
31	126	---	170	130	---	213	---	218	---	126	140	---
TOTAL	3908	5183	8609	4390	6505	6812	9027	6709	5138	4786	4648	4217
MEAN	126	173	278	142	232	220	301	216	171	154	150	141
MAX	141	424	817	170	742	384	656	278	257	258	554	200
MIN	120	132	146	130	120	186	211	186	148	126	111	127
CFSM	.57	.78	1.26	.64	1.05	1.00	1.36	.98	.77	.70	.68	.64
IN.	.66	.87	1.45	.74	1.09	1.15	1.52	1.13	.86	.81	.78	.71
CAL YR 1982	TOTAL	74242	MEAN 203	MAX 1390	MIN 110	CFSM .92	IN 12.50					
WTR YR 1983	TOTAL	69932	MEAN 192	MAX 817	MIN 111	CFSM .87	IN 11.77					

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 downstream from highway bridge in Martintown, 0.3 mi upstream from Wisconsin-Illinois State line and 8.8 mi downstream from Skinner Creek.

DRAINAGE AREA.--1,034 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Jan. 6, 1940, nonrecording gage at same site and datum. Auxiliary recording gage 1.2 mi downstream, at same datum, which records stage above 7.4 ft.

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

AVERAGE DISCHARGE.--44 years, 714 ft³/s, 9.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s July 1, 1969, gage height, 21.46 ft; no flow for part of Dec. 14, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,860 ft³/s Feb. 23, gage height, 12.47 ft, no peak above base of 4,000 ft³/s; minimum daily discharge, 490 ft³/s Aug. 21 and 22.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14-17 and Jan. 12 to Feb. 15.)

Oct. 1 to Dec. 6				Dec. 7 to Sept. 30			
4.8	591	9.0	1,650	4.3	468	9.0	1,710
5.0	643	11.0	2,180	5.0	643	11.0	2,280
7.0	1,140	13.0	2,940	7.0	1,160	13.0	3,170

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	611	832	843	1090	600	1170	1220	1100	1190	1180	596	606
2	602	1330	1260	1070	580	1150	1740	1140	1120	1370	579	582
3	596	1550	2060	1020	560	1140	2260	1230	1070	1340	569	562
4	598	1380	2260	928	560	1160	2450	1270	1040	1270	569	548
5	600	1040	2420	990	560	1190	2540	1170	1020	1180	572	542
6	600	893	2550	1010	560	1300	2400	1110	1010	1080	573	586
7	630	829	2570	985	560	1580	2180	1120	993	935	564	682
8	684	788	2430	963	560	1680	1970	1210	970	860	554	806
9	739	818	2180	937	560	1550	1840	1220	937	821	544	690
10	743	990	1880	920	560	1360	1840	1130	921	794	533	597
11	734	1060	1660	900	560	1240	1830	1060	889	772	531	573
12	704	1330	1440	800	580	1170	1740	1030	862	751	537	564
13	667	1450	1290	740	600	1130	1710	1030	844	730	536	555
14	645	1360	1300	700	660	1110	1790	1090	832	711	529	544
15	635	1150	1300	700	740	1090	1780	1110	829	699	524	544
16	626	1020	1200	700	1010	1060	1690	1060	822	694	521	600
17	617	952	1200	680	1850	1050	1590	1010	803	686	513	675
18	609	916	1190	680	2180	1080	1520	994	786	676	513	736
19	630	899	1180	660	2320	1110	1460	1060	772	677	512	702
20	703	919	1170	660	2540	1070	1410	1120	768	705	499	677
21	720	946	1140	660	2620	1030	1370	1120	763	739	490	698
22	688	926	1080	660	2750	1000	1330	1320	752	718	490	709
23	648	880	1080	660	2850	979	1290	1520	738	680	502	683
24	628	841	1150	640	2760	958	1260	1490	723	660	500	643
25	619	808	1230	640	2270	937	1220	1330	714	653	551	625
26	613	771	1230	620	1680	941	1200	1210	715	643	837	633
27	609	766	1170	620	1340	963	1180	1140	725	632	1190	639
28	607	776	1200	620	1210	997	1150	1120	745	617	1130	631
29	632	808	1280	600	---	1010	1120	1150	792	610	884	613
30	679	839	1240	600	---	1030	1110	1220	983	608	712	599
31	693	---	1070	600	---	1090	---	1240	---	608	640	---
TOTAL	20109	29867	46253	24053	36180	35325	49190	36124	26128	25099	18794	18844
MEAN	649	996	1492	776	1292	1140	1640	1165	871	810	606	628
MAX	743	1550	2570	1090	2850	1680	2540	1520	1190	1370	1190	806
MIN	596	766	843	600	560	937	1110	994	714	608	490	542
CFSM	.63	.96	1.44	.75	1.25	1.10	1.59	1.13	.84	.78	.59	.61
IN.	.72	1.07	1.66	.87	1.30	1.27	1.77	1.30	.94	.90	.68	.68

CAL YR 1982 TOTAL 394502 MEAN 1081 MAX 5750 MIN 490 CFMS 1.05 IN 14.19
WTR YR 1983 TOTAL 365966 MEAN 1003 MAX 2850 MIN 490 CFMS .97 IN 13.17

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 southwest of Brodhead, and 1.9 mi upstream from Sylvester Creek.

DRAINAGE AREA.--523 mi².

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 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 and no gage-height record, which are fair. Some regulation from dam and powerplant upstream.

AVERAGE DISCHARGE.--69 years, 345 ft³/s, 8.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s Sept. 13, 1915, gage height, 11.4 ft from floodmarks, from rating curve extended above 7,500 ft³/s; minimum, 35 ft³/s Sept. 19, 1959, gage height, -0.16 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Feb. 22	1300	1,520	4.28	Apr. 4	0800	*1,880	*5.19

minimum discharge, 200 ft³/s Feb. 3, gage height, 0.55 ft, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Feb. 20-25; stage-discharge relation affected
by ice Dec. 14-17, Jan. 1 to Feb. 15.)

0.6	210	4.0	1,280
1.0	296	6.0	2,320
2.0	572		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	383	392	420	270	489	616	451	499	442	250	300
2	259	548	557	380	260	494	1060	488	467	497	244	290
3	253	702	927	360	230	498	1600	501	447	503	239	280
4	253	819	1130	340	290	516	1820	503	436	504	240	280
5	258	655	1220	340	270	544	1490	474	434	486	245	280
6	260	457	1100	340	270	587	1120	458	430	443	243	300
7	265	394	962	320	270	656	901	466	425	385	238	350
8	275	370	957	320	270	709	795	482	408	353	231	380
9	310	380	758	320	270	739	750	508	393	337	225	360
10	324	445	613	310	270	629	742	488	381	327	222	310
11	352	520	538	300	280	535	748	451	367	317	220	290
12	313	647	451	300	280	473	752	434	356	308	230	280
13	305	690	453	290	280	454	731	434	356	298	230	280
14	320	695	440	290	290	449	756	450	350	296	220	270
15	275	565	430	290	300	443	785	440	355	286	220	270
16	273	450	430	280	359	432	750	435	353	283	220	300
17	271	412	420	280	512	429	680	421	342	279	230	330
18	272	375	423	280	686	446	637	419	334	266	220	310
19	297	383	421	290	733	509	611	432	329	269	220	300
20	346	405	420	300	970	580	579	462	325	303	210	293
21	364	432	407	300	1190	579	560	473	323	340	210	289
22	333	430	396	300	1450	506	511	531	320	345	220	292
23	306	416	402	300	1270	468	519	644	312	310	210	282
24	295	385	443	300	1050	443	508	666	306	290	210	271
25	293	358	505	290	847	429	495	595	303	281	300	269
26	290	352	532	280	670	429	485	498	300	274	600	273
27	287	343	518	270	540	450	461	448	313	268	1100	278
28	286	345	523	270	495	458	442	454	340	263	660	272
29	291	375	545	270	---	463	458	499	360	257	500	266
30	298	394	491	270	---	492	455	541	385	256	400	259
31	298	---	461	270	---	541	---	541	---	253	330	---
TOTAL	9080	14125	18265	9470	14872	15869	22817	15087	11049	10319	9337	8804
MEAN	293	471	589	305	531	512	761	487	368	333	301	293
MAX	364	819	1220	420	1450	739	1820	666	499	504	1100	380
MIN	253	343	392	270	230	429	442	419	300	253	210	259
CFSM	.56	.90	1.13	.58	1.02	.98	1.46	.93	.70	.64	.58	.56
IN.	.65	1.00	1.30	.67	1.06	1.13	1.62	1.07	.79	.73	.66	.63

CAL YR 1982 TOTAL 172179 MEAN 472 MAX 3680 MIN 230 CFSM .90 IN 12.25
WTR YR 1983 TOTAL 159094 MEAN 436 MAX 1820 MIN 210 CFSM .83 IN 11.32

NOTE.--No gage-height record Aug. 11 to Sept. 19.

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 September 1982 (discontinued).

PERIOD OF MONTHLY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1983 to September 1983.

REMARKS.--Sediment records are fair. The total load value includes estimates for the period October 1982 through March 1983, during which there was no sediment sampling. Loading for this period was estimated using sediment-discharge versus water-discharge rating curves that were based on data from previous and subsequent monitoring.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 131 mg/l July 8; minimum daily mean, 16 mg/l Apr. 8.

Maximum observed, 131 mg/l July 8; minimum observed, 16 mg/l Apr. 8.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 461 tons Apr. 3; minimum daily, 34 tons Aug. 20-24 and Sept. 29, 30.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
OCT , 1982						
19...	1015	286	550	12.0	--	--
NOV						
29...	1005	371	560	3.5	--	--
JAN , 1983						
13...	1030	300	550	.0	--	--
APR						
04...	1245	1840	330	4.0	--	--
04...	1515	1850	--	--	47	235
MAY						
16...	1030	454	520	14.5	--	--
JUN						
30...	1420	393	600	23.0	--	--
AUG						
10...	0950	225	580	24.5	--	--
SEP						
20...	0950	307	780	17.0	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE 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
APR , 1983											
04...	1515	1850	.00	11.00	41.00	53.00	59.00	70.00	86.00	97.00	100

SUSPENDED-SEDIMENT DISCHARGE

MONTH	SEDIMENT LOADS (TONS)	MONTH	SEDIMENT LOADS (TONS)
APRIL	2,558	JULY	2,693
MAY	3,649	AUGUST	1,735
JUNE	2,046	SEPTEMBER	1,645
		YEARLY TOTAL	21,980

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 downstream from State Highway 75 in Rockton, 1.0 mi downstream from Pecatonica River, and at mile 156.1.

DRAINAGE AREA.--6,363 mi².

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 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 higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at same site at datum about 2 ft higher. July 30, 1914, to Apr. 30, 1919, nonrecording gage at site at Rockford about 21 mi downstream, at different datum. Oct. 1, 1939, to Aug. 10, 1973, at site 800 ft upstream at same datum.

REMARKS.--Water-discharge records good. Low flow regulated by powerplant above station.

AVERAGE DISCHARGE.--51 years (water years 1904-5, 1915-19, 1940-83), 3,980 ft³/s, 8.49 in/yr, discharge for site at Rockford adjusted for difference in drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s Mar. 30, 1916, gage height, 13.06 ft, site and datum then in use; minimum daily, 501 ft³/s Sept. 14, 1958.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood in February 1937 reached a stage of 14.6 ft, backwater from ice, from painted floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft³/s Apr. 7, gage height, 9.44 ft; minimum daily, 1,900 ft³/s Aug. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2820	4070	6340	7190	3750	9240	8600	7860	6780	4420	2680	3130
2	2880	6200	6720	6830	3920	8640	10600	8120	6740	5340	2430	3090
3	3120	6680	9200	6290	3670	8260	13100	7840	6780	5640	2190	2820
4	2930	6680	9980	6620	3110	8140	13300	7720	6740	6130	2170	2450
5	2730	6590	10400	6060	3270	8160	13500	7420	6550	6220	2210	2450
6	2500	6960	11500	6060	3570	8400	14200	7460	6640	5950	2020	2780
7	2640	6780	11800	5820	3600	8970	14400	7350	6640	5480	2080	2740
8	2440	6160	11900	5980	3720	9200	14100	7440	6380	5180	2150	2620
9	2410	6290	12000	5720	3920	9340	14100	7140	6220	4530	2080	2680
10	3480	7060	12000	5570	3900	9530	14100	7000	6020	3850	2110	2640
11	3250	7350	11600	5570	3870	9690	13500	6890	5980	3530	2080	2590
12	3390	8660	10300	5300	3850	9440	13200	6700	5950	3310	2020	2780
13	3030	9180	10300	4990	3820	9140	13400	6590	5820	3360	1990	2650
14	2750	9100	10100	5290	3750	8870	13300	6940	5750	3260	1970	2610
15	2640	8930	9670	4880	3950	8580	12700	7190	5630	3140	1900	2560
16	2810	8620	9090	4590	4280	8470	12500	6940	5450	3010	1920	2720
17	2800	8130	8600	4450	5840	8370	12500	6510	5390	2980	2030	2600
18	2340	7650	8440	4180	6840	8360	12200	6270	4880	3100	2270	2780
19	3110	7290	8240	4080	7270	8880	11800	6380	4700	2680	2060	2870
20	4230	7170	8000	4660	8560	9110	11400	6020	4420	3120	2060	3210
21	4200	7190	7740	4490	9380	9180	11000	6090	4300	3040	1990	2860
22	4020	7060	7620	4640	9670	8950	10600	6850	4210	3170	2150	2990
23	3750	6960	7440	4640	9730	8570	10300	8040	3780	3000	2080	2880
24	3590	6810	7720	4510	9960	8330	9910	8040	3870	2960	2160	3020
25	3460	6400	8000	4000	10200	8150	9570	8060	3330	3130	2530	2970
26	3270	6310	7980	3920	10100	7950	9300	7800	3570	2850	3120	2900
27	3410	6240	7880	3560	9980	8140	8900	7290	3520	2220	3550	3050
28	3300	6260	7880	3820	9770	8310	8600	6980	3770	2750	3640	3000
29	3200	6400	7480	3680	---	8140	8400	6830	3900	2570	3760	2780
30	3160	6380	7250	3700	---	8320	8170	6830	4180	2200	3670	2850
31	3250	---	7350	3750	---	8350	---	6790	---	2320	3580	---
TOTAL	96910	211560	280520	154840	167250	269180	351250	221380	157890	114440	74650	84070
MEAN	3126	7052	9049	4995	5973	8683	11710	7141	5263	3692	2408	2802
MAX	4230	9180	12000	7190	10200	9690	14400	8120	6780	6220	3760	3210
MIN	2340	4070	6340	3560	3110	7950	8170	6020	3330	2200	1900	2450
CFSM	.49	1.11	1.42	.79	.94	1.37	1.84	1.12	.83	.58	.38	.44
IN.	.57	1.24	1.64	.91	.98	1.57	2.05	1.29	.92	.67	.44	.49
CAL YR 1982	TOTAL	2269530	MEAN	6218	MAX	16800	MIN	2050	CFSM	.98	IN	13.27
WTR YR 1983	TOTAL	2183940	MEAN	5983	MAX	14400	MIN	1900	CFSM	.94	IN	12.77

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 west of Russell, 7.2 mi upstream from Mill Creek, and at mile 109.3.

DRAINAGE AREA.--123 mi².

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 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 higher.

REMARKS.--Water-discharge records fair except those for winter periods and those for period of no gage-height record, Aug. 9 to Sept. 30, which are poor.

AVERAGE DISCHARGE.--16 years, 97.5 ft³/s, 10.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s Mar. 21, 1979, gage height, 9.69 ft; maximum gage height, 10.75 ft Mar. 6, 1976; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,630 ft³/s Apr. 4, gage height, 9.89 ft; minimum daily, 1.9 ft³/s Aug. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	26	101	175	31	260	404	75	148	15	5.1	12
2	4.8	91	128	141	45	229	611	97	122	18	4.2	10
3	5.0	120	274	116	90	201	1160	134	101	19	3.8	8.2
4	4.6	122	393	92	108	176	1590	146	87	18	3.0	5.2
5	5.0	96	666	88	101	157	1520	130	77	20	3.0	4.4
6	4.8	64	1030	77	82	147	1270	110	71	18	2.8	4.6
7	4.0	48	1170	72	67	165	1030	98	69	14	2.8	4.1
8	5.5	39	1080	68	61	194	827	101	63	12	2.2	3.4
9	9.3	38	889	63	54	219	750	113	52	11	2.0	2.7
10	18	66	789	65	52	234	791	112	44	9.3	2.2	2.2
11	19	111	629	70	49	239	786	98	39	7.8	5.2	2.3
12	13	167	530	71	47	233	741	82	34	6.8	2.4	2.2
13	9.3	197	428	62	45	220	674	76	29	6.1	1.9	2.2
14	8.0	214	361	59	43	203	653	75	26	5.4	1.9	2.0
15	6.8	223	307	55	46	184	617	83	26	4.9	2.0	2.0
16	6.1	222	262	54	59	163	555	80	27	4.8	3.0	2.4
17	5.9	202	224	48	100	141	479	67	25	4.4	18	2.7
18	5.9	166	193	44	147	131	404	59	20	4.5	17	8.8
19	5.2	127	168	36	185	189	338	72	18	12	12	10
20	11	107	152	34	224	239	286	113	16	16	9.4	12
21	34	106	140	33	260	278	245	135	15	17	8.0	13
22	30	117	127	34	302	305	214	153	14	14	5.6	12
23	21	124	122	37	342	309	183	196	13	11	4.7	10
24	19	124	142	39	368	292	154	229	12	10	5.8	8.4
25	19	119	184	39	397	262	133	252	11	9.1	8.6	5.6
26	22	105	213	37	359	236	118	262	11	7.4	11	3.9
27	20	89	227	33	329	224	105	257	11	5.5	13	3.3
28	18	78	241	31	293	251	95	238	11	4.9	14	2.8
29	17	85	239	30	---	293	87	213	13	4.9	15	2.6
30	13	96	224	32	---	345	80	190	15	4.9	14	2.4
31	12	---	203	35	---	386	---	172	---	6.1	13	---
TOTAL	380.6	3489	11836	1870	4286	7105	16900	4218	1220	321.8	216.6	167.4
MEAN	12.3	116	382	60.3	153	229	563	136	40.7	10.4	6.99	5.58
MAX	34	223	1170	175	397	386	1590	262	148	20	18	13
MIN	4.0	26	101	30	31	131	80	59	11	4.4	1.9	2.0
CFSM	.10	.94	3.11	.49	1.24	1.86	4.58	1.11	.33	.09	.06	.05
IN.	.12	1.06	3.58	.57	1.30	2.15	5.11	1.28	.37	.10	.07	.05
CAL YR 1982	TOTAL	46468.3	MEAN	127	MAX	1170	MIN	3.7	CFSM	1.03	IN	14.05
WTR YR 1983	TOTAL	52010.4	MEAN	142	MAX	1590	MIN	1.9	CFSM	1.15	IN	15.73

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 downstream from Prairie Street bridge in Waukesha, 1.0 mi downstream from dam and 3.2 mi downstream from Pewaukee River.

DRAINAGE AREA.--126 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 793.04 ft National Geodetic Vertical Datum of 1929 (levels by city of Waukesha).

REMARKS.--Records good except for period of no gage-height record, Jan. 19 to Mar. 23, which are poor.

AVERAGE DISCHARGE.--20 years, 93.5 ft³/s, 10.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,260 ft³/s Apr. 22, 1973, gage height, 7.42 ft; minimum, 3.0 ft³/s Jan. 1, 1964, gage height, 1.52 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft³/s Apr. 4, gage height, 5.98 ft; minimum, 16 ft³/s Aug. 2, gage height, 1.96 ft.

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

1.9	14	3.0	167
2.1	31	4.0	393
2.4	67	5.0	720
		6.0	1,220

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	132	100	101	43	170	269	149	174	51	21	30
2	25	196	156	91	43	160	518	165	155	49	18	31
3	31	170	347	78	43	170	896	177	134	46	22	30
4	29	122	392	80	43	170	1050	168	122	90	23	28
5	31	97	410	77	42	180	921	152	117	73	25	28
6	37	79	426	77	42	250	766	142	114	52	23	113
7	36	68	408	75	42	310	654	144	111	41	22	82
8	38	62	358	73	42	380	565	171	94	35	23	57
9	50	75	300	72	42	390	571	158	68	34	23	47
10	54	110	259	78	42	350	636	141	62	33	48	48
11	46	120	216	82	45	300	589	129	62	33	40	47
12	41	166	185	67	47	260	521	122	57	33	32	46
13	38	187	155	77	52	220	468	122	51	29	22	41
14	37	162	125	70	56	190	443	130	63	28	20	38
15	37	128	108	61	60	180	405	138	82	27	20	40
16	35	103	104	62	86	170	342	131	84	26	23	46
17	31	87	101	61	110	180	297	120	71	24	152	49
18	35	84	100	54	130	220	264	113	64	70	173	44
19	61	83	104	49	140	280	237	132	60	31	130	50
20	103	103	104	49	170	320	214	153	58	42	89	69
21	92	124	102	50	230	280	197	144	53	42	53	85
22	58	118	95	49	290	250	183	208	44	31	42	83
23	47	122	94	49	330	220	168	264	39	28	40	77
24	43	121	120	49	310	204	156	241	37	26	36	67
25	40	100	154	47	270	189	145	200	34	25	36	78
26	38	94	160	47	240	172	135	170	32	25	36	88
27	39	78	151	47	210	172	124	143	37	22	37	79
28	38	91	154	45	190	176	115	121	39	22	34	74
29	39	103	142	45	---	177	112	167	41	22	32	74
30	37	104	115	45	---	181	131	177	40	23	31	71
31	37	---	117	45	---	206	---	179	---	22	30	---
TOTAL	1321	3389	5862	1952	3390	7077	12092	4871	2199	1135	1356	1740
MEAN	42.6	113	189	63.0	121	228	403	157	73.3	36.6	43.7	58.0
MAX	103	196	426	101	330	390	1050	264	174	90	173	113
MIN	18	62	94	45	42	160	112	113	32	22	18	28
CFSM	.34	.90	1.50	.50	.96	1.81	3.20	1.25	.58	.29	.35	.46
IN.	.39	1.00	1.73	.58	1.00	2.09	3.57	1.44	.65	.34	.40	.51
CAL YR 1982	TOTAL	44744	MEAN 123	MAX 930	MIN 14	CFSM .98	IN 13.21					
WTR YR 1983	TOTAL	46384	MEAN 127	MAX 1050	MIN 18	CFSM 1.01	IN 13.69					

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 upstream from bridge on State Highway 83 in Mukwonago, 100 ft downstream from railroad bridge, and 800 ft downstream from dam.

DRAINAGE AREA.--74.1 mi².

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 National Geodetic Vertical Datum of 1929 (Southeastern Wisconsin Regional Planning Commission bench mark). Prior to Oct. 19, 1981, at datum 0.85 ft higher.

REMARKS.--Records good, except those for period of no gage-height, July 9 to Aug. 15, Aug. 22 to Sept. 29, which are poor. Discharge affected by manipulation of gates at dams 800 ft and 11.4 mi upstream.

AVERAGE DISCHARGE.--10 years, 58.7 ft³/s, 10.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 300 ft³/s Mar. 5, 1976, gage height, 2.50 ft; minimum daily, 1.8 ft³/s Dec. 23, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 140 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 12	1000	155	2.99	Mar. 21	1045	144	2.93
Dec. 3	0945	153	2.98	Apr. 5	0800	*173	*3.09
Dec. 6	1030	171	3.08	Apr. 11	1500	150	2.96
Dec. 30	0830	148	2.95				

minimum daily discharge, 7.0 ft³/s June 22.

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

1.8	5.0	2.2	27
1.9	8.0	2.5	70
2.0	12	2.8	121
2.1	18	3.2	193

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	52	82	71	43	75	80	58	46	40	18	17
2	29	62	160	64	44	58	133	78	49	29	18	17
3	27	74	151	57	47	50	148	98	51	32	19	16
4	26	93	126	53	48	53	149	93	54	39	21	16
5	26	99	121	50	50	57	165	56	53	40	21	16
6	25	91	156	49	52	64	156	43	52	71	20	52
7	29	67	159	49	53	99	134	48	53	63	19	48
8	28	55	147	49	53	125	100	50	53	33	20	47
9	33	53	135	49	53	117	72	52	51	33	22	45
10	39	61	107	48	52	114	87	54	50	31	26	42
11	43	70	82	47	49	109	116	56	47	30	24	37
12	46	125	78	46	47	101	139	56	47	28	21	34
13	62	93	49	46	45	95	131	57	47	27	19	34
14	73	76	40	47	45	61	125	59	46	26	17	32
15	62	80	43	47	45	48	102	57	44	25	16	34
16	54	78	46	47	48	49	75	58	43	24	15	39
17	49	72	46	45	51	49	80	56	43	24	21	39
18	48	67	47	42	54	53	81	56	43	34	24	40
19	51	64	50	42	58	69	79	55	41	33	28	42
20	63	67	51	40	63	75	67	64	40	30	31	44
21	60	69	52	40	67	115	61	67	19	26	31	43
22	63	68	52	42	90	130	58	70	7.0	24	28	42
23	65	72	52	43	97	118	56	70	8.9	23	24	39
24	65	72	56	44	92	90	56	70	11	21	22	37
25	62	70	63	45	89	63	66	70	14	20	21	37
26	59	66	65	45	85	40	63	74	15	20	20	39
27	54	66	65	43	81	46	62	82	16	19	20	37
28	52	70	76	42	78	51	60	83	18	19	22	36
29	51	80	72	42	---	52	60	84	39	19	21	35
30	48	82	96	42	---	53	60	84	50	20	19	35
31	45	---	71	43	---	58	---	60	---	19	18	---
TOTAL	1468	2214	2596	1459	1679	2337	2821	2018	1150.9	922	666	1071
MEAN	47.4	73.8	83.7	47.1	60.0	75.4	94.0	65.1	38.4	29.7	21.5	35.7
MAX	73	125	160	71	97	130	165	98	54	71	31	52
MIN	25	52	40	40	43	40	56	43	7.0	19	15	16
CFSM	.64	1.00	1.13	.64	.81	1.02	1.27	.88	.52	.40	.29	.48
IN.	.74	1.11	1.30	.73	.84	1.17	1.42	1.01	.58	.46	.33	.54
CAL YR 1982	TOTAL	21764.0	MEAN	59.6	MAX	201	MIN	10	CFSM	.80	IN	10.93
WTR YR 1983	TOTAL	20401.9	MEAN	55.9	MAX	165	MIN	7.0	CFSM	.75	IN	10.24

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 downstream from bridge on County Trunk Highway C, 300 ft upstream from Wilmot Dam, 1.0 mi north of Wisconsin-Illinois State line, and 6.0 mi upstream from Fox Chain of Lakes.

DRAINAGE AREA.--868 mi².

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1956, nonrecording gage and concrete dam.

REMARKS.--Records good, except for periods of missing record which are fair. Three 6-ft 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.--44 years, 528 ft³/s, 8.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,520 ft³/s Mar. 31, 1960, gage height, 9.25 ft, from graph based on gage readings; no flow part of day Oct. 26, 1945; minimum daily discharge, 35 ft³/s Sept. 9, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,020 ft³/s Apr. 4, gage height, 8.08 ft; minimum daily, 202 ft³/s July 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	507	890	1020	360	2000	1440	880	1020	270	251	301
2	222	920	1010	952	350	1900	1850	901	943	330	265	276
3	218	1000	1960	848	350	2000	3070	931	900	310	241	256
4	212	934	3040	748	350	2100	3920	920	860	410	224	239
5	211	835	3290	775	350	2200	3920	872	840	540	225	227
6	211	879	3330	746	340	2300	3620	860	800	470	236	262
7	211	794	3270	677	340	2500	3260	891	740	450	230	308
8	212	757	3050	650	340	2700	2990	1040	620	433	221	305
9	305	745	2770	625	340	2900	2940	1050	560	376	210	290
10	429	851	2490	614	340	2800	3170	966	540	399	207	290
11	473	960	2260	584	350	2500	3290	916	520	411	222	309
12	494	1240	2120	514	380	2200	3090	892	470	360	218	304
13	337	1520	2040	553	420	1900	2880	880	380	338	223	306
14	305	1540	1720	637	480	1700	2750	911	400	302	222	285
15	279	1420	1590	563	540	1500	2700	942	430	303	216	258
16	323	1290	1500	506	660	1300	2590	927	470	242	209	330
17	323	1100	1410	508	840	1200	2380	888	480	276	286	220
18	318	1020	1260	454	1000	1160	2160	837	470	380	361	275
19	334	977	1210	438	1200	1310	1980	818	430	383	346	327
20	665	1030	1180	428	1400	1490	1810	811	370	472	340	292
21	971	1140	1090	432	1800	1500	1650	852	320	489	338	361
22	911	1130	965	428	2200	1430	1490	953	300	449	344	364
23	725	1090	854	429	2400	1340	1450	1190	270	385	316	365
24	617	1060	1040	429	2500	1290	1330	1200	260	415	280	294
25	462	983	1270	427	2500	1240	1230	1110	250	422	285	324
26	429	891	1390	374	2400	1190	1140	1030	240	354	353	397
27	444	851	1380	370	2200	1170	990	977	260	302	425	363
28	421	817	1320	370	2100	1210	948	960	280	202	450	291
29	408	819	1290	370	---	1240	897	967	290	239	366	399
30	389	878	1160	360	---	1270	894	1000	280	251	319	343
31	401	---	1250	360	---	1330	---	1000	---	258	318	---
TOTAL	12482	29978	54399	17189	28830	53870	67829	29372	14993	11221	8747	9161
MEAN	403	999	1755	554	1030	1738	2261	947	500	362	282	305
MAX	971	1540	3330	1020	2500	2900	3920	1200	1020	540	450	399
MIN	211	507	854	360	340	1160	894	811	240	202	207	220
CFSM	.46	1.15	2.02	.64	1.19	2.00	2.61	1.09	.58	.42	.33	.35
IN.	.53	1.28	2.33	.74	1.24	2.31	2.91	1.26	.64	.48	.37	.39

CAL YR 1982 TOTAL 311020 MEAN 852 MAX 3330 MIN 211 CFSM .98 IN 13.33
WTR YR 1983 TOTAL 338071 MEAN 926 MAX 3920 MIN 202 CFSM 1.07 IN 14.49

NOTE.--No gage-height record Jan. 27 to Mar. 17, and June 3 to July 7.

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO OCTOBER 1983

QUALITY OF PRECIPITATION

Chemical-quality data for precipitation, surface-, and ground-water stations for acid deposition investigations in northern Wisconsin.

DATE	PRECIP- ITATION ACCUM- ULATED (IN)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
453048089343303 - LAKE CLARA BULK PRECIP COLL NR TOMAHAWK, WI (LAT 45 30 48 LONG 089 34 33)										
1983										
JUN 30 - JUL 26	3.58	--	--	.1	.4	.1	<.2	.1	2.0	1.4
JUL 26 - AUG 29	3.63	19	4.7	.1	.6	.2	.2	.1	1.0	3.0
AUG 29 - SEP 29	5.10	20	4.6	<.1	.5	.1	.2	.0	4.0	2.5
SEP 29 - OCT 28	4.20	14	4.7	<.1	.4	.1	.3	.1	4.0	2.2
455911089405903 - VANDERCOOK LK BULK PRECIP COLL NR WOODRUFF, WI (LAT 45 59 11 LONG 089 40 59)										
1983										
JUL 05 - JUL 26	.32	--	--	.2	--	--	--	1.0	16	4.6
JUL 26 - AUG 30	6.79	13	4.8	.1	.5	.1	.3	.1	1.0	1.8
AUG 30 - SEP 30	6.33	10	4.9	<.1	.3	.1	<.2	.0	5.0	1.3
SEP 30 - OCT 28	3.50	15	4.6	<.1	.3	.1	.4	.0	4.0	1.6
460307089391203 - TROUT LK BULK PRECIP COLL NR BOULDER JCT, WI (LAT 46 03 07 LONG 089 39 12)										
1983										
JUL 05 - JUL 26	.48	--	--	.1	1.3	.2	<.2	.2	2.0	2.9
JUL 26 - AUG 30	2.70	16	4.7	.1	.4	.1	.2	.1	1.0	2.2
AUG 30 - SEP 30	5.80	11	4.9	<.1	.4	.1	.2	.0	5.0	1.5
SEP 30 - OCT 28	3.02	12	4.7	<.1	.3	.1	.3	.0	4.0	1.7
461337091560903 - ROUND LAKE PRECIPITATION-COMPOSITE OF RP1&RP3 (LAT 46 13 37 LONG 091 56 09)										
1982										
FEB 18 - MAR 23	1.59	31	4.3	.2	.5	.1	.2	.1	<1.0	2.1
FEB 18 - MAR 23	1.59	31	4.3	.2	.5	.1	.2	.1	<1.0	2.3
462500091272003 - E EIGHTMILE THROUGHFALL COLLECTOR #1 (LAT 46 25 00 LONG 091 27 20)										
1981										
SEP 08 - OCT 10	2.60	22	4.8	--	1.0	.4	.1	1.9	3.0	3.4
SEP 08 - OCT 10	2.60	22	4.8	--	.9	.4	.1	1.9	5.0	3.4

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO OCTOBER 1983

QUALITY OF PRECIPITATION

DATE	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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
453048089343303 - LAKE CLARA BULK PRECIP COLL NR TOMAHAWK, WI (LAT 45 30 48 LONG 089 34 33)										
1983										
JUN 30 - JUL 26	<.2	<.01	<.10	<.01	.28	.319	<.001	10	<3	5
JUL 26 - AUG 29	<.2	<.01	<.10	<.01	.44	.501	<.001	40	10	7
AUG 29 - SEP 29	<.2	<.01	<.10	.03	.33	.404	.003	10	10	4
SEP 29 - OCT 28	<.2	<.01	<.10	.01	.40	.421	<.001	<10	6	3
455911089405903 - VANDERCOOK LK BULK PRECIP COLL NR WOODRUFF, WI (LAT 45 59 11 LONG 089 40 59)										
1983										
JUL 05 - JUL 26	.7	<.01	<.10	--	<.05	--	.220	--	--	--
JUL 26 - AUG 30	<.2	<.01	<.10	<.01	.26	.357	<.001	80	13	6
AUG 30 - SEP 30	<.2	<.01	<.10	<.01	.24	.260	.052	<10	8	3
SEP 30 - OCT 28	<.2	<.01	<.10	<.01	.29	.286	.004	<10	5	3
460307089391203 - TROUT LK BULK PRECIP COLL NR BOULDER JCT, WI (LAT 46 03 07 LONG 089 39 12)										
1983										
JUL 05 - JUL 26	.3	<.01	<.10	.05	.75	.536	<.001	40	<3	2
JUL 26 - AUG 30	<.2	<.01	<.10	<.01	.32	.379	<.001	100	17	5
AUG 30 - SEP 30	<.2	<.01	<.10	.02	.27	.269	.013	<10	9	4
SEP 30 - OCT 28	<.2	<.01	<.10	<.01	.27	.270	<.001	10	5	2
461337091560903 - ROUND LAKE PRECIPITATION-COMPOSITE OF RP1&RP3 (LAT 46 13 37 LONG 091 56 09)										
1982										
FEB 18 - MAR 23	.4	<.10	--	<.01	.59	.497	--	20	18	8
FEB 18 - MAR 23	.2	<.10	--	<.01	--	.504	--	20	15	7
462500091272003 - E EIGHTMILE THROUGHFALL COLLECTOR #1 (LAT 46 25 00 LONG 091 27 20)										
1981										
SEP 08 - OCT 10	.5	<.10	--	.18	--	.060	--	50	9	110
SEP 08 - OCT 10	.5	<.10	--	.16	--	.104	--	50	9	110

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1983

QUALITY OF PRECIPITATION

STATION NUMBER	STATION NAME	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
461329091562203	ROUND LAKE SNOW COURSE NO 2	82-03-02	1500	13	4.8	.4	.0
461337091561003	ROUND LAKE SNOW COURSE NO 3	82-03-02	1535	12	5.1	.5	.2
461346091560703	ROUND LAKE SNOW COURSE NO 1	82-03-02	1645	16	4.8	.3	.1
461347091560003	ROUND LAKE SNOW COURSE NO 4	82-03-02	1615	14	4.8	.1	.2
462457091274903	EAST EIGHTMILE LAKE SNOW COURSE NO 1	82-03-02	1110	14	4.8	.4	.2
462458091275303	EAST EIGHTMILE LAKE SNOW COURSE NO 2	82-03-02	1145	15	4.8	.6	.2
462501091273203	EAST EIGHTMILE LAKE SNOW COURSE NO 4	82-03-02	1017	16	4.7	.5	.2
462504091274203	EAST EIGHTMILE LAKE SNOW COURSE NO 3	82-03-02	1247	9	6.0	.8	.1

QUALITY OF GROUND WATER

STATION	NUMBER	LOCAL IDENT- I- FIER	AQUI- FER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
BAYFIELD										
462453091274313		BA-45/09W/02-0197	100SDGV	110QRNR	82-11-09	94	110	8.8	7.0	--
462456091274111		BA-45/09W/02-0191	100SDGV	110QRNR	82-03-10	17	85	9.1	6.5	--
462456091274113		BA-45/09W/02-0190	100SDGV	110QRNR	82-05-11	17	73	9.1	5.5	11.4
				110QRNR	82-03-10	99	96	9.2	7.0	--
				110QRNR	82-05-11	99	90	9.1	7.0	11.9
462506091273311		BA-46/09W/35-0192	100SDGV	110QRNR	82-03-10	20	54	6.5	6.0	--
462506091273313	BA-46/09W/35-0195	100SDGV	110QRNR	82-05-11	20	57	6.4	7.0	1.4	
			110QRNR	82-05-11	90	75	9.2	7.0	10.6	
			110QRNR	82-03-10	17	54	6.7	7.5	--	
462507091274811		BA-46/09W/35-0189	100SDGV	110QRNR	82-05-11	17	57	6.9	6.5	.8
462507091274813		BA-46/09W/35-0194	100SDGV	110QRNR	82-05-11	100	110	8.7	8.5	5.7
462514091273811	BA-46/09W/35-0188	100SDGV	110QRNR	82-03-10	16	62	6.8	7.5	--	
			110QRNR	82-05-11	16	59	6.9	7.0	1.6	
			110QRNR	82-05-11	102	95	8.8	9.0	9.7	
DOUGLAS										
461330091560411		DS-43/13W/12-0370	100SDGV	110QRNR	82-03-09	23	50	6.5	6.5	--
461333091562011	DS-43/13W/12-0369	100SDGV	110QRNR	82-05-03	23	48	6.4	7.5	8.2	
			110QRNR	82-03-09	22	31	6.3	8.0	--	
			110QRNR	82-05-03	22	31	6.2	8.5	1.3	
461333091562013		DS-43/13W/12-0375	100SDGV	110QRNR	82-05-03	102	133	8.4	9.5	1.2
461340091561811		DS-43/13W/12-0368	100SDGV	110QRNR	82-03-09	19	41	6.5	7.0	--
461340091561813	DS-43/13W/12-0372	100SDGV	110QRNR	82-05-03	19	38	6.5	8.5	2.2	
			110QRNR	82-04-13	89	78	9.2	8.5	--	
			110QRNR	82-04-13	89	78	9.2	8.5	--	
			110QRNR	82-05-03	89	75	9.1	9.0	9.2	
461341091560111		DS-43/13W/12-0371	100SDGV	110QRNR	82-03-09	21	29	6.4	8.5	--
461341091560113	DS-43/13W/12-0373	100SDGV	110QRNR	82-05-04	21	29	6.2	9.0	2.4	
			110QRNR	82-05-04	101	59	7.2	9.5	1.2	
LINCOLN										
453026089335720	LN-35/07E/24-0082	100SDGV	110QRNR	83-07-25	21	46	5.7	10.0	--	
			110QRNR	83-08-29	21	46	5.5	9.5	1.8	

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1983

QUALITY OF GROUND WATER

STATION	NUMBER	DATE OF SAMPLE	ACIDITY (MG/L AS H)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	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)	BROMIDE DIS- SOLVED (MG/L AS BR)
BAYFIELD												
462453091274313	82-11-09	--	--	14	4.1	1.2	.4	47	7.0	.4	<.10	--
462456091274111	82-03-10	--	--	--	--	--	--	--	4.1	.4	--	--
	82-05-11	--	--	--	--	--	--	--	6.0	.4	--	--
462456091274113	82-03-10	--	--	--	--	--	--	--	3.5	.2	--	--
	82-05-11	--	--	--	--	--	--	--	4.0	.3	--	--
462506091273311	82-03-10	--	--	--	--	--	--	--	5.3	.4	--	--
	82-05-11	--	--	--	--	--	--	--	4.0	.3	--	--
462506091273313	82-05-11	--	--	--	--	--	--	--	4.0	.3	--	--
462507091274811	82-03-10	--	--	--	--	--	--	--	.1	.4	--	--
	82-05-11	--	--	--	--	--	--	--	2.0	.4	--	--
462507091274813	82-05-11	--	--	--	--	--	--	--	2.0	.3	--	--
462514091273811	82-03-10	--	--	--	--	--	--	--	2.0	.7	--	--
	82-05-11	--	--	--	--	--	--	--	3.0	.4	--	--
462514091273813	82-05-11	--	--	--	--	--	--	--	4.0	.4	--	--
DOUGLAS												
461330091560411	82-03-09	--	--	--	--	--	--	--	7.0	.4	--	--
	82-05-03	--	--	--	--	--	--	--	7.0	.5	--	--
461333091562011	82-03-09	--	--	--	--	--	--	--	1.2	.4	--	--
	82-05-03	--	--	--	--	--	--	--	2.0	.5	--	--
461333091562013	82-05-03	--	--	--	--	--	--	--	3.0	.3	--	--
461340091561811	82-03-09	--	--	--	--	--	--	--	1.5	.7	--	--
	82-05-03	--	--	--	--	--	--	--	<1.0	.5	--	--
461340091561813	82-04-13	--	--	5.8	2.5	1.2	.4	18	5.0	.2	<.10	--
	82-04-13	--	--	6.1	2.5	1.1	.4	31	5.0	.2	<.10	--
	82-05-03	--	--	--	--	--	--	--	4.0	.4	--	--
461341091560111	82-03-09	--	--	--	--	--	--	--	.8	.6	--	--
	82-05-04	--	--	--	--	--	--	--	1.0	.4	--	--
461341091560113	82-05-04	--	--	--	--	--	--	--	<1.0	.4	--	--
LINCOLN												
453026089335720	83-07-25	.3	2.1	.5	1.8	.7	17	<.2	2.7	<.01	<.10	--
	83-08-29	.1	2.0	.5	1.3	.6	16	<.2	2.3	<.01	<.10	--

STATION	NUMBER	DATE OF SAMPLE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
BAYFIELD											
462453091274313	82-11-09	13	68	--	.015	--	20	7	1	--	--
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	--	--	--	--	--	--	--	--	--	--
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	11	37	.019	--	<10	9	21	--	--	--
	82-04-13	11	45	.024	--	<10	4	21	--	--	--
	82-05-03	--	--	--	--	--	--	--	--	--	--
461341091560111	82-03-09	--	--	--	--	--	--	--	--	--	--
	82-05-04	--	--	--	--	--	--	--	--	--	--
461341091560113	82-05-04	--	--	--	--	--	--	--	--	--	--
LINCOLN											
453026089335720	83-07-25	8.6	--	<.05	3.30	<.001	80	650	16	6.7	--
	83-08-29	8.4	--	<.05	2.10	<.001	80	640	16	5.6	--

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1983

		QUALITY OF GROUND WATER			DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	
STATION	NUMBER	LOCAL IDENT- I- FIER	AQUI- FER	GEO- LOGIC UNIT						DATE OF SAMPLE
LINCOLN										
453036089341520	LN-35/07E/23-0067	100SDGV	110QRNR	82-07-07	17	37	5.8	10.0	--	
			110QRNR	82-07-07	17	37	5.8	10.0	--	
			110QRNR	83-07-25	17	35	5.9	9.0	--	
			110QRNR	83-08-29	17	35	5.9	11.0	3.6	
453047089340421	LN-35/07E/13-0064	100SDGV	110QRNR	81-09-01	11	38	5.9	13.0	--	
			110QRNR	81-09-01	11	38	5.8	13.0	--	
			110QRNR	83-07-25	11	49	5.9	11.5	--	
			110QRNR	83-08-29	11	50	5.9	13.5	1.2	
453047089340423	LN-35/07E/13-0091	100SDGV	110QRNR	83-08-29	11	50	5.9	13.5	3.5	
			110QRNR	83-07-25	33	48	5.8	10.5	--	
			110QRNR	83-08-29	33	56	5.8	11.0	2.3	
			110QRNR	82-07-07	13	150	5.9	11.0	--	
453055089343120	LN-35/07E/14-0066	100SDGV	110QRNR	82-07-07	13	150	5.9	11.0	--	
			110QRNR	82-07-07	13	150	5.9	11.0	--	
			110QRNR	83-07-25	13	150	5.9	12.5	--	
			110QRNR	83-08-29	13	153	6.0	15.0	4.9	
VILAS										
455842089411420	VI-40/06E/01-0749	100SDGV	110QRNR	81-09-02	11	21	5.9	17.5	--	
			110QRNR	81-09-02	11	21	5.9	17.5	--	
			110QRNR	83-07-26	11	17	6.5	18.0	--	
			110QRNR	83-08-30	11	17	5.7	21.0	.5	
455842089411423	VI-40/06E/01-0878	100SDGV	110QRNR	83-08-30	82	98	8.0	10.0	.7	
			110QRNR	82-07-08	11	22	6.0	14.5	--	
			110QRNR	82-07-08	11	22	6.0	14.5	--	
			110QRNR	83-07-26	11	23	6.3	13.0	--	
455846089405920	VI-40/06E/01-0873	100SDGV	110QRNR	83-08-30	11	26	5.9	15.8	3.5	
			110QRNR	83-07-26	11	23	6.2	11.0	--	
			110QRNR	83-08-30	11	22	5.7	19.0	1.1	
			110QRNR	83-08-30	11	23	5.7	19.0	1.1	
455901089412020	VI-41/06E/36-0875	100SDGV	110QRNR	82-07-08	8	53	6.5	10.0	--	
			110QRNR	82-07-08	8	53	6.5	10.0	--	
			110QRNR	83-07-26	8	61	6.9	9.5	--	
			110QRNR	83-08-30	8	61	6.6	12.0	4.4	
455903089404720	VI-41/06E/36-0872	100SDGV	110QRNR	83-08-30	80	107	8.1	11.0	3.6	
			110QRNR	83-07-26	11	39	6.0	10.0	--	
			110QRNR	83-08-30	11	44	5.7	11.0	2.6	
			110QRNR	83-08-30	11	44	5.7	11.0	2.6	
455903089404723	VI-41/06E/36-0877	100SDGV	110QRNR	83-08-30	80	107	8.1	11.0	3.6	
			110QRNR	83-07-26	11	39	6.0	10.0	--	
455910089410120	VI-41/06E/36-0876	100SDGV	110QRNR	83-08-30	11	44	5.7	11.0	2.6	
			110QRNR	83-08-30	11	44	5.7	11.0	2.6	

STATION NUMBER	DATE OF SAMPLE	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)
LINCOLN											
453036089341520	82-07-07	--	2.3	.6	2.9	1.0	5.0	6.0	4.9	<.10	--
	82-07-07	--	2.3	.6	3.0	1.0	4.0	6.0	4.8	<.10	--
	83-07-25	.1	2.1	.6	3.0	.9	4.0	4.8	5.9	<.01	<.10
	83-08-29	<.1	2.1	.7	2.6	.8	4.0	4.8	5.8	<.01	<.10
453047089340421	81-09-01	--	3.1	1.2	2.9	1.4	14	.9	.1	<.10	--
	81-09-01	--	3.1	1.3	2.9	1.4	17	.9	.1	<.10	--
	83-07-25	.1	3.3	1.3	3.3	1.2	15	.5	6.5	<.01	<.10
	83-08-29	.3	3.3	1.3	2.8	1.3	15	.5	6.3	<.01	<.10
453047089340423	83-08-29	.2	3.3	1.3	2.9	1.3	15	<.2	6.2	<.01	<.10
	83-07-25	<.1	3.1	.7	2.7	.4	8.0	1.4	6.7	<.01	<.10
453055089343120	83-08-29	.1	3.5	.8	2.2	.3	7.0	2.3	7.8	<.01	<.10
	82-07-07	--	12	2.9	11	1.3	17	16	23	<.10	--
	82-07-07	--	12	2.7	9.9	1.3	17	16	23	<.10	--
	83-07-25	.1	11	2.7	11	1.2	16	14	31	<.01	<.10
455842089411420	83-08-29	<.1	12	2.7	11	1.3	16	14	31	<.01	<.10
	81-09-02	--	1.4	.5	.7	.5	16	1.2	.0	<.10	--
	81-09-02	--	1.0	.2	.7	.6	10	1.9	.0	<.10	--
	83-07-26	.4	1.3	.4	1.0	.7	6.0	1.1	.4	<.01	<.10
455842089411423	83-08-30	.3	1.2	.3	.7	.6	5.0	1.1	.3	<.01	<.10
	83-08-30	<.1	13	3.2	2.5	1.3	52	2.4	.4	<.01	<.10
455846089405920	82-07-08	--	1.5	.4	.7	.6	8.0	2.0	.3	<.10	--
	82-07-08	--	1.5	.4	.8	.6	8.0	2.0	.7	<.10	--
	83-07-26	.1	1.7	.5	1.4	.6	8.0	1.2	.2	<.01	<.10
	83-08-30	.2	1.6	.5	.9	.7	9.0	1.1	.3	<.01	<.10
455901089412020	83-07-26	.1	2.2	.6	1.1	.5	9.0	.9	.3	<.01	<.10
	83-08-30	<.1	1.9	.5	.7	.6	8.0	.7	.3	<.01	<.10
	83-08-30	.1	1.9	.4	.8	.6	8.0	.8	.3	<.01	<.10
	82-07-08	--	5.8	1.9	2.1	.5	20	8.0	.4	<.10	--
455903089404720	82-07-08	--	5.8	1.5	2.1	.5	20	8.0	.3	<.10	--
	83-07-26	.2	6.6	2.3	2.7	.5	23	8.7	.3	.07	<.10
455903089404723	83-08-30	.1	6.4	2.3	2.3	.5	23	8.4	.3	<.01	<.10
	83-08-30	--	15	3.8	2.3	1.1	53	5.6	.3	<.01	<.10
	83-07-26	1.6	1.9	.8	1.9	.3	12	<.2	.4	<.01	<.10
	83-08-30	.2	2.3	.9	1.5	.5	10	.7	.5	<.01	<.10

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, SEPTEMBER 1981 TO SEPTEMBER 1983

QUALITY OF GROUND WATER

STATION	NUMBER	DATE OF SAMPLE	SILICA, DIS- SOLVED (MG/L AS SIO ₂)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
LINCOLN											
453036089341520		82-07-07	.4	21	--	.084	--	40	180	9	--
		82-07-07	.4	21	--	.109	--	40	190	10	--
		83-07-25	.5	20	<.05	.056	<.001	10	3	12	2.0
		83-08-29	.5	20	<.05	.073	<.001	70	200	11	1.9
453047089340421		81-09-01	2.7	23	--	.351	--	200	1200	60	--
		81-09-01	2.6	24	--	.355	--	300	1200	70	--
		83-07-25	1.8	29	<.05	.360	.007	90	1100	61	3.7
		83-08-29	2.1	28	<.05	.390	<.001	20	1200	66	4.2
		83-08-29	2.1	--	<.05	.393	<.001	20	1200	66	3.8
453047089340423		83-07-25	13	33	<.05	.121	.005	100	5	36	3.2
		83-08-29	12	39	<.05	.090	<.001	300	5800	39	11
453055089343120		82-07-07	19	95	--	.048	--	20	<3	1	--
		82-07-07	19	94	--	.061	--	20	<3	<1	--
		83-07-25	18	100	.33	.019	.005	10	26	2	1.4
		83-08-29	19	102	.29	.066	<.001	40	31	1	1.8
VILAS											
455842089411420		81-09-02	2.6	18	--	.204	--	100	830	30	--
		81-09-02	2.8	15	--	.206	--	200	820	30	--
		83-07-26	2.1	12	<.05	.307	.005	100	740	16	12
		83-08-30	2.0	10	<.05	.407	<.001	100	600	11	4.3
455842089411423		83-08-30	13	67	<.05	.066	.027	60	28	53	4.0
455846089405920		82-07-08	3.7	17	--	.391	--	40	1900	33	--
		82-07-08	3.8	17	--	.389	--	30	1900	33	--
		83-07-26	3.5	16	<.05	.356	<.001	100	1200	32	4.6
		83-08-30	3.5	16	<.05	.495	<.001	100	1700	32	3.0
455901089412020		83-07-26	1.8	14	<.05	.255	.004	100	880	23	3.8
		83-08-30	2.1	13	<.05	.252	<.001	400	840	21	4.2
		83-08-30	2.1	13	<.05	.319	<.001	200	890	20	4.5
455903089404720		82-07-08	17	48	--	.048	--	<10	580	28	--
		82-07-08	18	49	--	.047	--	<10	580	27	--
		83-07-26	18	53	.07	.020	<.001	100	38	6	1.0
		83-08-30	19	54	.10	.033	<.001	100	19	3	1.0
455903089404723		83-08-30	17	78	.12	.029	.004	80	4	<1	1.9
455910089410120		83-07-26	18	--	<.05	1.90	.066	500	4600	23	19
		83-08-30	18	38	<.05	1.10	.079	90	5800	27	26

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, OCTOBER 1981 TO SEPTEMBER 1983

QUALITY OF SURFACE WATER

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ACIDITY (MG/L AS H)
453100089343002 - LAKE CLARA NEAR TOMAHAWK, WI (LAT 45 31 00 LONG 089 34 30)								
JUL , 1982								
07...	1000	3.00	31	6.4	--	23.0	--	--
07...	1001	3.00	31	6.4	--	23.0	--	--
JUL , 1983								
25...	1000	3.00	33	6.4	21.5	26.0	7.3	<.1
25...	1005	27.0	32	6.2	21.5	11.0	.2	.1
AUG								
29...	1000	3.00	32	6.5	26.0	25.0	7.7	<.1
29...	1015	27.0	34	5.9	26.0	12.0	.3	.2
455903089405402 - NE BASIN VANDERCOOK LAKE NR WOODRUFF, WI (LAT 45 59 03 LONG 089 40 54)								
AUG , 1983								
30...	0955	3.00	15	6.5	21.0	24.5	--	.1
455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)								
JUL , 1982								
08...	1020	3.00	14	6.4	--	22.5	--	--
08...	1021	3.00	14	6.4	--	22.5	--	--
JUL , 1983								
26...	1040	3.00	14	6.4	--	25.0	7.4	.1
26...	1100	19.0	18	6.8	--	21.0	10.4	<.1
AUG								
30...	1026	3.00	14	6.6	26.5	24.5	7.9	<.1
461342091561002 - ROUND LAKE NEAR GORDON, WI (LAT 46 13 42 LONG 091 56 10)								
MAR , 1982								
09...	1145	.00	30	7.0	--	.5	--	--
09...	1148	20.0	24	6.4	--	4.0	--	--
09...	1150	40.0	25	6.3	--	4.0	--	--
09...	1157	65.0	30	6.5	--	4.5	--	--
NOV								
09...	0745	1.00	19	6.7	--	7.0	--	--
09...	0746	1.00	19	6.7	--	7.0	--	--
462458091274402 - EAST EIGHTMILE LAKE NEAR IRON RIVER, WI (LAT 46 24 58 LONG 091 27 44)								
OCT , 1981								
07...	1100	1.00	64	6.9	--	10.0	--	--
07...	1101	1.00	64	6.9	--	10.0	--	--
MAR , 1982								
10...	0955	.00	67	7.4	--	1.5	--	--
10...	1000	10.0	63	7.2	--	4.5	--	--
10...	1005	20.0	96	7.2	--	5.5	--	--
10...	1020	.00	64	7.4	--	.5	--	--

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, OCTOBER 1981 TO SEPTEMBER 1983

QUALITY OF SURFACE WATER

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	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)	BROMIDE DIS- SOLVED (MG/L AS BR)
------	--	--	--	---	---	---	---	--	--

453100089343002 - LAKE CLARA NEAR TOMAHAWK, WI (LAT 45 31 00 LONG 089 34 30)

JUL , 1982									
07...	1.9	.6	2.6	.9	3.0	7.0	4.7	<.10	--
07...	1.8	.6	2.6	.9	4.0	5.0	4.5	<.10	--
JUL , 1983									
25...	1.9	.7	3.2	.7	3.0	5.0	5.8	<.01	<.10
25...	2.4	.6	3.2	.7	5.0	4.1	5.8	<.01	<.10
AUG									
29...	1.9	.6	2.8	.6	3.0	4.6	5.7	<.01	<.10
29...	2.3	.6	2.6	.7	5.0	3.7	5.6	<.01	<.10

455903089405402 - NE BASIN VANDERCOOK LAKE NR WOODRUFF, WI (LAT 45 59 03 LONG 089 40 54)

AUG , 1983									
30...	1.4	.4	.6	.3	3.0	3.9	.3	<.01	<.10

455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)

JUL , 1982									
08...	1.5	.4	.4	.4	3.0	5.0	.3	<.10	--
08...	1.5	.4	.4	.4	3.0	4.0	.2	<.10	--
JUL , 1983									
26...	1.3	.4	1.0	.4	2.0	4.1	.3	<.01	.10
26...	1.5	.5	.9	.3	3.0	4.0	.3	<.01	<.10
AUG									
30...	1.4	.4	.7	.2	3.0	3.9	.2	<.01	<.10

461342091561002 - ROUND LAKE NEAR GORDON, WI (LAT 46 13 42 LONG 091 56 10)

MAR , 1982									
09...	--	--	--	--	--	1.7	.5	--	--
09...	--	--	--	--	--	2.5	.4	--	--
09...	--	--	--	--	--	2.1	.5	--	--
09...	--	--	--	--	--	2.0	.8	--	--
NOV									
09...	1.9	.5	.6	.6	7.0	4.0	.7	<.10	--
09...	1.9	.5	.5	.6	7.0	2.0	.4	<.10	--

462458091274402 - EAST EIGHTMILE LAKE NEAR IRON RIVER, WI (LAT 46 24 58 LONG 091 27 44)

OCT , 1981									
07...	4.9	1.7	.9	.2	19	5.2	.4	<.10	--
07...	5.0	1.7	.9	.2	18	2.4	.4	<.10	--
MAR , 1982									
10...	--	--	--	--	--	3.3	.6	--	--
10...	--	--	--	--	--	2.0	.4	--	--
10...	--	--	--	--	--	1.5	.6	--	--
10...	--	--	--	--	--	3.6	.6	--	--

ACID DEPOSITION WATER QUALITY

WATER-QUALITY DATA, OCTOBER 1981 TO SEPTEMBER 1983

QUALITY OF SURFACE WATER

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
453100089343002 - LAKE CLARA NEAR TOMAHAWK, WI (LAT 45 31 00 LONG 089 34 30)								
JUL , 1982								
07...	.0	20	--	.052	--	20	<3	1
07...	.0	18	--	.042	--	20	<3	<1
JUL , 1983								
25...	.1	19	<.05	.015	<.001	10	20	2
25...	.0	20	<.05	.064	<.001	10	83	66
AUG								
29...	.1	18	<.05	.040	<.001	30	87	2
29...	.1	19	<.05	.028	<.001	70	110	100
455903089405402 - NE BASIN VANDERCOOK LAKE NR WOODRUFF, WI (LAT 45 59 03 LONG 089 40 54)								
AUG , 1983								
30...	.0	9	<.05	.046	<.001	100	37	2
455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)								
JUL , 1982								
08...	.0	10	--	.056	--	20	<3	<1
08...	.0	9	--	.070	--	<10	<3	<1
JUL , 1983								
26...	.0	9	<.05	.045	<.001	80	22	3
26...	.1	10	<.05	.062	<.001	80	33	5
AUG								
30...	.0	9	<.05	.142	<.001	30	17	<1
461342091561002 - ROUND LAKE NEAR GORDON, WI (LAT 46 13 42 LONG 091 56 10)								
MAR , 1982								
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
NOV								
09...	.0	13	--	.073	--	50	<3	5
09...	.0	10	--	.060	--	20	18	4
462458091274402 - EAST EIGHTMILE LAKE NEAR IRON RIVER, WI (LAT 46 24 58 LONG 091 27 44)								
OCT , 1981								
07...	.7	25	--	.055	--	20	<3	2
07...	.7	22	--	.018	--	30	<3	1
MAR , 1982								
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--

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 1983								
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 NORTH OF 24TH AVENUE, AND 0.5 MI DOWNSTREAM FROM CENTRAL PARK, AT SUPERIOR.	4.90	1982-83	1983	C	+	
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 SOUTH OF TOLL BRIDGE ON U.S. HIGHWAYS 2 AND 35 AT ST. LOUIS RIVER AT SUPERIOR.	2.20	1959-83	03-06-83	16.63	255	
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 NORTH OF MAPLE.	4.01	1957-83	03-06-83	11.97	205	
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 NORTHWEST OF RED CLIFF.	1.14	1959-83	04-13-83	12.64	218	
*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 WEST OF WASHBURN.	35.2	1959-65 1966# 1967-83	04-13-83 09-10-82	12.62 12.83	550 E 580	
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 DOWNSTREAM FROM BRIDGE ON U.S. FOREST SERVICE ROAD, 4.4 MI SOUTHEAST OF MELLE.	83.4	1971-75# 1976-83	1983	C	+	
*04027200	PEARL CREEK AT GRANDVIEW, WIS.	LAT 46°22'05", LONG 91°05'17", 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 EAST OF GRANDVIEW.	16.9	1960-83	07-03-83	11.57	165	
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 SOUTHEAST OF ALVIN.	1.24	1960-83	05-22-83	11.38	23	
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 UPSTREAM FROM CONFLUENCE OF NORTH AND SOUTH FORKS, 4.0 MI SOUTHWEST OF ALVIN.	27.8	1967-68# 1970-83	05-22-83	2.62	72	
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 EAST OF NEWALD.	9.47	1970-83	05-22-83	12.05	52	
*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 NORTH OF FENCE.	41.40	1958-83	05-22-83	11.25	195	
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 WEST OF AURORA.	35.0	1970-83	05-22-83	13.04	380	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983							
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							
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 NORTHWEST OF CAVOUR.	150	1970-83	05-22-83	13.49	960
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 NORTHWEST OF ARMSTRONG CREEK.	23.2	1958-83	05-23-83	10.14	98
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 EAST OF INTERSECTION WITH STATE HIGHWAY 32 AT WABENO.	34.1	1970-83	05-23-83	12.48	230
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 SOUTH OF COLEMAN.	21.4	1958-83	03-27-83	12.45	190
*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 NORTH OF PULASKI.	41.80	1961-83	08-28-83	13.26	545
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	1978-83	08-21-83	10.88	214
*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 WEST OF WAUTOMA.	3.59	1959-83	11-10-82	12.18	107
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 NORTH OF NASHVILLE.	10.0	1970-83	05-23-83	12.80	50
*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 SOUTH OF ELCHO.	9.00	1958-83	05-23-83	11.72	65
*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 NORTH FROM JUNCTION OF STATE HIGHWAYS 55 AND 52 AT LILY.	52.4	1970-83	05-22-83	10.86	134
*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 SOUTHWEST OF LANGLADE.	8.00	1959-65 1966-72# 1973-83	04-04-83	10.90	48
*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 NORTH OF BIG FALLS.	4.90	1959-65 1966# 1967-83	08-30-83	11.10	56
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 SOUTHWEST OF BRIDGE ON ALGOMA STREET AT FOX RIVER, AT OSHKOSH.	15.3	1961-83	11-10-82	11.06	170
*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 NORTH OF KAUKAUNA.	15.0	1960-83	05-28-83	13.53	450
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 NORTH OF LIBERTY STREET, AT GREEN BAY.	1.59	1979-83	08-21-83	15.18	182

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983							
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							
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 SOUTHEAST OF JUNCTION WITH CASS STREET, AT GREEN BAY.	0.34	1979-83	1983	C	+
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 NORTHWEST OF DENMARK.	3.08	1959-83	11-11-82	12.32	60
*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 NORTHEAST OF CHILTON.	29.5	1961-83	05-22-83	11.0	350
*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 SOUTH OF FREISTADT.	8.00	1958-83	04-02-83	11.68	190
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 UPSTREAM FROM BRIDGE ON S. 68TH STREET, 6.0 MI SOUTHWEST OF MOUTH OF MILWAUKEE RIVER, AT MILWAUKEE.	3.26	1959-83	12-02-82	22.60	1,050
*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 SOUTHWEST OF SOUTH MILWAUKEE.	13.8	1958-83	12-02-82	16.54	570
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 SOUTHEAST OF NORTH CAPE.	3.92	1962-83	04-02-83	12.52	155
*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 NORTHWEST OF KENOSHA.	7.25	1960-83	04-02-83	16.36	140
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 EAST OF MINONG.	13.0	1961-83	04-22-83	14.34	190
*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 NORTHWEST OF SHELL LAKE.	24.9	1959-65 1966# 1967-83	03-04-83	14.16	375
*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 SOUTHWEST OF FREDERIC.	6.34	1958-83	10-20-82	11.27	95
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 SOUTHWEST OF RIVER FALLS.	7.26	1959-83	10-20-82	13.35	1,430
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 WEST OF POWELL.	118	1970-83	04-04-83	12.19	470
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 NORTHEAST OF MERCER.	5.86	1970-83	04-04-83	11.10	70

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)
CHIPPEWA RIVER BASIN--CONTINUED							
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 NORTHWEST OF PARK FALLS.	9.11	1970-83	04-04-83	12.58	172
*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 WEST OF PHILLIPS.	16.9	1958-65 1966# 1967-83	04-04-83	12.30	145
*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 WEST OF PRENTICE.	21.9	1961-83	03-05-83	12.47	520
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 SOUTHEAST OF INTERSECTION WITH STATE HIGHWAY 13 AT PRENTICE.	24.6	1970-83	10-20-82	13.75	640
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 SOUTH OF PHILLIPS.	10.4	1970-83	10-20-82	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# 1962-83	03-04-83 03-21-82	11.86 11.42	6,800 E6,000
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 NORTH OF CADOTT.	3.04	1962-83	09-19-83	13.57	300
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 BELOW BLOOMER DAM, AT BLOOMER.	49.2	1945-51# 1958-83	03-04-83	5.94	620
*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 NORTH OF THORP.	6.70	1958-83	03-04-83	13.37	440
*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 EAST OF COUNTY TRUNK HIGHWAY K, 3.2 MI NORTH OF FALL CREEK.	758	1943-55# 1958-83	03-04-83	13.66	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 SOUTH OF EAU CLAIRE.	4.38	1958-83	1983	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 NORTH OF DALLAS.	3.85	1960-83	03-04-83	12.52	155
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	1958-83	03-04-83	11.08	475
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 NORTHWEST OF ARKANSAW.	2.56	1959-83	10-20-82	12.50	220
*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 SOUTH OF BRIDGE ON CHIPPEWA RIVER AT DURAND.	6.49	1962-83	10-20-82	11.71	87

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983								
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)	
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 EAST OF OSSEO.	1.44	1960-83	10-20-82	11.62	87	
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 SOUTH OF MONDOVI.	280	1974-83	07-17-83	13.76	2,130	
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 NORTH OF FOUNTAIN CITY.	26.8	1961-83	09-20-83	14.54	1,010	
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 SOUTH OF WHITTLESEY.	2.12	1960-83	10-20-82	11.41	108	
*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 SOUTH OF OWEN.	157	1958-65 1966# 1967-83	1983	C	+	
*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 NORTH OF NEILLSVILLE.	38.6	1961-83	10-20-82	17.47	3,840	
*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., TREMPLEAU COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAYS D AND T, 2.5 MI WEST OF ETTRICK.	14.3	1960-83	12-28-82	12.50	980	
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 UPSTREAM FROM MOUTH, 1.5 MI NORTHWEST OF LEON.	77.1	1934-61# 1962-83	1983	C	+	
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 SOUTHEAST OF LA CROSSE.	25.5	1961-83	09-19-83	14.71	2,100	
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 SOUTHEAST OF GENOA.	80.9	1959-65 1966# 1967-83	1983	B	<500	
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 NORTH OF CONOVER.	10.2	1970-83	07-04-83	12.00	66	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
WISCONSIN RIVER BASIN--CONTINUED							
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 NORTHEAST OF THREE LAKES.	10.3	1970-83	09-22-83	11.25	55
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 NORTHWEST OF STARKS.	14.0	1970-83	05-07-83	11.63	54
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 NORTHEAST OF HARRISON.	3.23	1970-83	05-23-83	11.24	30
*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 NORTHWEST OF WOODRUFF.	17.6	1958-83	04-13-83	10.89	95
*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 SOUTHWEST OF HARSHAW.	31.1	1958-65 1966# 1967-83	09-20-83	9.60	75
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 NORTH OF IRMA.	22.0	1970-83	03-07-83	12.77	118
*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 SOUTHWEST OF MERRILL.	9.58	1961-83	04-03-83	13.71	360
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 EAST OF DOERING.	7.80	1970-83	05-22-83	13.22	310
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 SOUTHEAST OF MERRILL.	1.58	1959-83	03-17-83	12.42	112
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 NORTHEAST OF EDGAR.	6.86	1962-83	03-27-83	15.59	950
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 EAST OF U.S. HIGHWAY 51, AT WAUSAU.	1.10	1982-83	07-19-83	5.52	117
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 NORTHEAST OF WAUSAU.	11.5	1959-83	03-17-83	12.35	460
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 EAST OF KNOWLTON.	25.1	1973-83	03-04-83	14.86	940
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 NORTH OF PITTSVILLE.	7.23	1959-83	11-12-82	12.83	530
*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 SOUTH OF NEW LISBON.	11.8	1961-83	11-12-82	13.74	265

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1963				ANNUAL MAXIMUM			
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /3)
WISCONSIN RIVER BASIN--CONTINUED							
*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 SOUTH OF MAUSTON.	30.2	1958-83	03-02-83	13.39	290
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 UPSTREAM FROM MOUTH, AND 2.0 MI WEST OF WISCONSIN DELLS.	11.2	1971-77# 1978-83	11-11-82	3.36	72
05403700	DELL CREEK NEAR LAKE DELTON, WIS.	LAT 43°33'05", LONG 89°51'55", IN NW 1/4 SEC.2, T.12 N., R.5 E., SAUK COUNTY, ON RIGHT BANK 50 FT UPSTREAM FROM HIGHWAY BRIDGE, 6.0 MI SOUTHWEST OF LAKE DELTON, AND 7.0 MI UPSTREAM FROM MOUTH.	44.9	1957-65# 1966-70 1971-80# 1983	06-27-83	6.47	360
*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 NORTH OF LOGANVILLE.	40.1	1958-65 1966# 1967-83	11-12-82	13.36	925
*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	1961-83	12-02-82	10.83	75
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 SOUTH OF RICHLAND CENTER.	1.68	1960-83	11-12-82	13.65	245
*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 SOUTH OF PLUGTOWN.	19.2	1958-83	08-25-83	17.86	3,100
*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 SOUTH OF BOSCOBEL.	12.9	1959-83	08-25-83	11.38	340
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 SOUTH OF LANCASTER.	6.93	1960-65 1966# 1967-83	11-12-82	11.15	183
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 NORTHWEST OF PLATTEVILLE.	2.80	1958-83	02-16-83	11.5	190
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 SOUTHEAST OF PLATTEVILLE.	8.49	1960-83	02-16-83	11.61	218
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 NORTHWEST OF SLINGER.	4.42	1960-83	08-17-83	12.56	250
*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	1960-83	12-02-82	10.82	88

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1983							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM 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 NORTHEAST OF SUN PRAIRIE.	26.0	1973-83	12-02-82	11.43	240
*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 SOUTHWEST OF FORT ATKINSON.	10.2	1958-83	03-07-83	11.25	172
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 NORTHEAST OF STATE CAPITOL IN MADISON.	24.3	1961-65 1966# 1967-75 1976-81# 1982-83	04-02-83	10.6	85
05430403	FISHER CREEK TRIBUTARY AT JANESVILLE, WI	LAT 42°40'18", LONG 89°03'31", IN SW 1/4 SEC.34, T.3 N., R.12 E., ROCK COUNTY, AT CULVERT ON ROCKPORT ROAD, 0.4 MI WEST OF SOUTH CROSBY AVENUE, AND 0.6 MI UPSTREAM FROM COUNTY TRUNK HIGHWAY D, AT JANESVILLE.	1.95	1982-83	11-01-82	6.09	222
*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 SOUTH OF ALLENS GROVE.	41.8	1962-83	1983	B	<200
*05432300	ROCK BRANCH NEAR MINERAL POINT, WIS.	LAT 42°50'02", 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 SOUTH OF MINERAL POINT.	4.83	1959-83	02-10-83	11.41	161
*05433500	YELLOWSTONE RIVER NEAR BLANCHARD- VILLE, 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 UPSTREAM FROM BRIDGE ON COUNTY TRUNK HIGHWAY F, 7.0 MI WEST-SOUTHWEST OF BLANCHARDVILLE.	28.5	1954-65# 1966-83	02-16-83	7.17	680
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 SOUTHEAST OF PINE BLUFF.	7.42	1961-83	11-01-82	11.48	75
*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 WEST OF BROOKLYN.	3.34	1961-83	11-01-82	12.40	65
*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 WEST OF BELOIT.	4.64	1958-83	10-09-82	12.17	145
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 NORTHEAST OF ELKHORN.	6.68	1962-83	04-02-83	12.95	220
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 WEST OF BURLINGTON.	2.42	1958-83	12-02-82	12.67	170
*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 WEST OF GENOA CITY.	13.8	1962-83	12-03-82	12.64	328

+ 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 1983

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Measurements	
					Date	Discharge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN						
Rat River	Peshtigo River	Lat 45°28'50", long 88°26'44", in NW 1/4 SW 1/4 SW 1/4 sec.25, T.35 N., R.16 E., Forest County, at Valley Lake Road.	--	--	5-24-83	3.69
Otter Creek	Peshtigo River	Lat 45°27'53", long 88°34'56", in SE 1/4 SE 1/4 SW 1/4 sec.35, T.35 N., R.15 E., Forest County, at Indian Market Road near Waubeno.	--	--	5-24-83	3.85
Otter Creek	Peshtigo River	Lat 45°25'32", long 88°28'03", in NE 1/4 SE 1/4 sec.15, T.34 N., R.16 E., Forest County, at town road, and 10.6 miles east of Wabeno.	20.8	--	5-23-83	74.9
North Branch Oconto River	Lake Michigan	Lat 45°26'12", long 88°37'10", in SW 1/4 SE 1/4 NW 1/4 sec.10, T.34 N., R.15 E., Forest County, at Indian Market Road and County Highway C, near Wabeno.	--	--	5-24-83	77.0
Torpee Creek	North Branch Oconto River	Lat 45°24'45", long 88°38'10", in SE 1/4 NE 1/4 SE 1/4 sec.20, T.34 N., R.15 E., Forest County, at Highway 32 bridge 1.7 miles south of Wabeno.	--	--	5-23-83	39.2
South Branch Oconto River	Oconto River	Lat 45°03'40", long 88°31'50", in SW 1/4 SW 1/4 sec.23, T.30 N., R.16 E., Menominee County, at town road and 4.9 miles west of Breed.	143	1969	5-19-83	173.9
Portage Canal	Fox River	Lat 43°32'19", long 89°27'32", in NE 1/4 NW 1/4 sec.8, T.12 N., R.9 E., Columbia County, at bridge on U.S. Highway 51, at Portage.	0.05	1965-66 1969-71 1974	10-28-82 4-27-83	16.8 14.5
Evergreen River	Wolf River	Lat 45°04'23", long 88°42'30", in NW 1/4 NW 1/4 sec.20, T.30 N., R.15 E., Menominee County, at County Trunk Highway WW, 8.2 miles south of Langlade.	54.6	1966	5-18-83	97
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 miles northeast of Neopit.	41.8	1982	5-18-83	71.8
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 miles west of Neopit.	--	1982	5-18-83	37.05
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 miles northwest of Neopit.	17.0	1969-70 1982	5-18-83	10.34
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 miles northwest of Keshena.	163	1966 1982	5-17-83	214.1
West Branch Red River	Red River	Lat 45°03'41", long 89°06'08", in SE 1/4 SE 1/4 sec.24, T.30 N., R.11 E., Langlade County, at town road and 11.2 miles west of Phlox.	--	--	5-19-83	7.55
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 miles southeast of Dairyland.	463	1976-78 1980-82	4-18-83 8-25-83	754 278

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge Measurements Made at Miscellaneous Sites During Water Year 1983

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Measurements	
					Date	Discharge (ft ³ /s)
ST. CROIX RIVER BASIN--Continued						
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 miles northeast of Hayward.	169	1975-78 1980-82	4-11-83 8-22-83	289 184
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., Burnett County, St. Croix National Scenic Riverway, at bridge on State Highway 35, 0.7 mile northeast of Danbury.	374	1976-78 1980-82	4-13-83 8-24-83	496 331
Clam River	St. Croix River	Lat 45°52'50", long 92°29'15", in SW 1/4 NW 1/4 sec.8, T.39 N., R.17 W., Burnett County, St. Croix National Scenic Riverway, at ice-house bridge, 2.5 miles downstream from Black Brook, and 6.0 miles west of Webster.	361	1968-69 1976-78 1980-82	4-18-83 8-24-83	656 192
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 feet west of town road, 8.0 miles south of Cloverdale, MN, and 9.0 miles northwest of Grantsburg.	1,050	1981-82	4-13-83 8-23-83	4,160 319
CHIPPEWA RIVER BASIN						
Bear River	Manitowish River	Lat 46°01'35", long 89°57'45", in SE 1/4 SW 1/4, sec.14, T.41 N., R.4E., Iron County, at town road, and 8.5 miles south of Manitowish Waters.	65.0	--	8-12-83	49.0
ROCK RIVER BASIN						
Yahara River	Rock River	Lat 43°05'46", long 89°22'10", in NW 1/4 SE 1/4 sec.12, T.7 N., R.9 E., Dane County, at lockwall at outlet, at Madison.	--	-	4-25-83	7.23

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 1982 TO SEPTEMBER 1983

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)									
OCT , 1982					MAR , 1983				
04... 1930	722	97	12.5		16... 1640	1470	85	1.0	
NOV 04... 0840	923	86	4.0		APR 20... 1100	1710	95	3.0	
DEC 16... 1420	320	144	.0		MAY 26... 1210	399	112	13.0	
JAN , 1983					JUL 07... 1055	806	75	20.5	
19... 1330	318	130	.0						
04027500 - WHITE RIVER NEAR ASHLAND, WI (LAT 46 29 50 LONG 090 54 15)									
OCT , 1982					APR , 1983				
05... 0945	274	152	12.0		20... 0830	352	130	3.5	
NOV 03... 1520	277	160	6.0		MAY 26... 0900	324	168	13.5	
DEC 16... 1050	119	192	.5		JUL 07... 0710	450	115	18.0	
JAN , 1983					AUG 17... 1540	195	171	20.0	
19... 1430	135	183	.5						
MAR 17... 0820	419	135	1.5						

LAKE SUPERIOR

DATE	TIME	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)	OIL AND GREASE, TOT. IN BOT MAT GRAVI- METRIC (MG/KG)
465449090330601 - PRESQUE ISLE DOCK AT STOCKTON ISLAND (LAT 46 54 49 LONG 090 33 06)					
JUL , 1983					
29... 1420	4.5	160	11	<1000	
AUG 31... 1400	4.5	200	38	<1000	

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
04026216 - OAK ISLAND STREAM #5 (LAT 46 57 32 LONG 090 43 55)								
JUN , 1983								
23... 1510	.02	53	6.4	14.5	9.4	--	--	
04026217 - OAK ISLAND STREAM #6 (LAT 46 57 29 LONG 090 43 39)								
JUN , 1983								
23... 0955	.29	111	7.0	11.5	10.1	745	95	
04026218 - OAK ISLAND STREAM #7 (LAT 46 57 29 LONG 090 43 32)								
JUN , 1983								
23... 1420	.08	84	6.7	14.0	9.8	750	97	
040262188 - OAK ISLAND STREAM #1 (LAT 46 54 58 LONG 090 42 48)								
JUN , 1983								
23... 1550	.04	21	5.8	13.0	9.8	750	94	

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

LAKE SUPERIOR--CONTINUED

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L 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)
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04026216 - OAK ISLAND STREAM #5 (LAT 46 57 32 LONG 090 43 55)

JUN , 1983 23...	32	6	8.8	2.4	1.3	8	.1	.90	26
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04026217 - OAK ISLAND STREAM #6 (LAT 46 57 29 LONG 090 43 39)

JUN , 1983 23...	66	5	19	4.6	1.8	5	.0	.80	61
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04026218 - OAK ISLAND STREAM #7 (LAT 46 57 29 LONG 090 43 32)

JUN , 1983 23...	46	6	13	3.4	1.6	7	.1	.90	41
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040262188 - OAK ISLAND STREAM #1 (LAT 46 54 58 LONG 090 42 48)

JUN , 1983 23...	14	3	3.7	1.1	1.1	14	.1	.70	11
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DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
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04026216 - OAK ISLAND STREAM #5 (LAT 46 57 32 LONG 090 43 55)

JUN , 1983 23...	20	10	1.3	<.10	11	58	51	.08
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04026217 - OAK ISLAND STREAM #6 (LAT 46 57 29 LONG 090 43 39)

JUN , 1983 23...	12	11	.50	<.10	13	84	87	.11
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04026218 - OAK ISLAND STREAM #7 (LAT 46 57 29 LONG 090 43 32)

JUN , 1983 23...	16	10	.90	.10	13	77	67	.10
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040262188 - OAK ISLAND STREAM #1 (LAT 46 54 58 LONG 090 42 48)

JUN , 1983 23...	34	8.9	.80	.20	8.8	36	32	.05
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WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

LAKE SUPERIOR--CONTINUED

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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)
470010090274201 - S LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 10 LONG 090 27 42)									
JUL , 1983									
28...	1030	20	5.8	26.0	7.6	8	3	2.1	.66
470024090273301 - N LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 24 LONG 090 27 33)									
JUL , 1983									
28...	1130	19	6.2	26.0	7.9	8	3	2.2	.69
AUG									
31...	1310	25	6.8	25.0	--	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
470010090274201 - S LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 10 LONG 090 27 42)									
JUL , 1983									
28...	.60	13	.0	.80	--	5.0	15	9.0	.80
470024090273301 - N LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 24 LONG 090 27 33)									
JUL , 1983									
28...	.60	12	.0	.70	--	5.0	6.1	9.0	.80
AUG									
31...	--	--	--	--	4	--	1.1	--	--

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)	NITRO- GEN, NO2+NO3 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)
470010090274201 - S LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 10 LONG 090 27 42)								
JUL , 1983								
28...	.2	36	17	.05	--	--	--	--
470024090273301 - N LOBE OF LAGOON AT SW SIDE OF OUTER IS., WI (LAT 47 00 24 LONG 090 27 33)								
JUL , 1983								
28...	.2	41	17	.06	--	--	--	--
AUG								
31...	--	--	--	--	<.100	.50	.020	12

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

LAKE SUPERIOR--CONTINUED

DATE	TIME	SAM- PLING DEPTH (FEET)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	PHOS- PHORUS, TOTAL (MG/L AS P)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	CARBON, ORGANIC TOTAL (MG/L AS C)
470136090394801 - LK SUPERIOR SITE 1 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 39 48)									
JUL , 1983 25...	0930	.00	97	7.6	17.0	10.2	<.010	--	3.1
470136090403001 - LK SUPERIOR SITE 9 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 40 30)									
JUL , 1983 25...	1340	.00	95	7.6	17.5	9.2	.010	--	2.6
470142090391201 - LK SUPERIOR SITE 2 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 42 LONG 090 39 12)									
JUL , 1983 25...	1005	.00	90	7.5	17.5	10.2	<.010	--	3.0
470154090401801 - LK SUPERIOR SITE 8 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 54 LONG 090 40 18)									
JUL , 1983 25...	1315	.00	96	7.6	17.5	9.0	<.010	--	2.6
470200090391201 - LK SUPERIOR SITE 3 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 12)									
JUL , 1983 25...	1035	.00	87	7.5	17.5	10.1	<.010	--	3.2
470200090394201 - LK SUPERIOR SITE 7 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 42)									
JUL , 1983 25...	1250	.00	96	7.5	18.0	9.0	.010	<.1	2.8
470218090400001 - LK SUPERIOR SITE 6 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 18 LONG 090 40 00)									
JUL , 1983 25...	1145	.00	95	7.5	18.0	9.0	<.010	--	2.3
470224090391201 - LK SUPERIOR SITE 4 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 12)									
JUL , 1983 25...	1100	.00	92	7.5	18.0	10.0	.010	--	3.0
470224090393601 - LK SUPERIOR SITE 5 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 36)									
JUL , 1983 25...	1120	.00	95	7.5	18.0	9.2	.010	--	2.3

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	MERCURY RECOV. FM BOT- TOMCMA- TERIAL (UG/L AS HG)	CARBON, ORGANIC TOT. IN BOTOM MAT. (G/KG AS C)	CARBON, INOR- GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)
470136090394801 - LK SUPERIOR SITE 1 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 39 48)									
JUL , 1983 25...	0930	85.0	8.6	4100	44	--	1.7	.1	1.8
470136090403001 - LK SUPERIOR SITE 9 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 40 30)									
JUL , 1983 25...	1340	16.0	3.5	570	850	--	--	<.1	12
470142090391201 - LK SUPERIOR SITE 2 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 42 LONG 090 39 12)									
JUL , 1983 25...	1005	52.0	3.6	540	44	--	--	<.1	5.3
470154090401801 - LK SUPERIOR SITE 8 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 54 LONG 090 40 18)									
JUL , 1983 25...	1315	23.0	1.1	810	27	--	--	<.1	2.7
470200090391201 - LK SUPERIOR SITE 3 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 12)									
JUL , 1983 25...	1035	43.0	7.3	1700	90	--	--	<.1	9.4
470200090394201 - LK SUPERIOR SITE 7 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 42)									
JUL , 1983 25...	1250	59.0	7.0	5200	410	.02	17	.1	17
470218090400001 - LK SUPERIOR SITE 6 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 18 LONG 090 40 00)									
JUL , 1983 25...	1145	33.0	3.1	1200	200	--	--	<.1	3.1
470224090391201 - LK SUPERIOR SITE 4 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 12)									
JUL , 1983 25...	1100	10.0	<.4	190	59	--	--	<.1	.7
470224090393601 - LK SUPERIOR SITE 5 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 36)									
JUL , 1983 25...	1120	52.0	4.1	1300	220	--	--	<.1	4.3

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

LAKE SUPERIOR--CONTINUED

DATE	SAM- PLING DEPTH (FEET)	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
470136090394801 - LK SUPERIOR SITE 1 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 39 48)											
JUL , 1983	25...	85.0	7	26	45	76	88	89	89	89	100
470136090403001 - LK SUPERIOR SITE 9 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 36 LONG 090 40 30)											
JUL , 1983	25...	16.0	2	9	27	84	96	99	100	--	--
470142090391201 - LK SUPERIOR SITE 2 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 42 LONG 090 39 12)											
JUL , 1983	25...	52.0	10	20	35	59	80	88	100	--	--
470154090401801 - LK SUPERIOR SITE 8 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 01 54 LONG 090 40 18)											
JUL , 1983	25...	23.0	4	24	54	93	98	100	--	--	--
470200090391201 - LK SUPERIOR SITE 3 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 12)											
JUL , 1983	25...	43.0	7	29	61	83	91	95	100	--	--
470200090394201 - LK SUPERIOR SITE 7 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 00 LONG 090 39 42)											
JUL , 1983	25...	59.0	10	26	46	75	92	97	100	--	--
470218090400001 - LK SUPERIOR SITE 6 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 18 LONG 090 40 00)											
JUL , 1983	25...	33.0	12	46	92	98	99	99	100	--	--
470224090391201 - LK SUPERIOR SITE 4 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 12)											
JUL , 1983	25...	10.0	0	0	2	70	89	95	100	--	--
470224090393601 - LK SUPERIOR SITE 5 NR ROCKY & S TWIN ISLANDS, WI (LAT 47 02 24 LONG 090 39 36)											
JUL , 1983	25...	52.0	7	35	67	92	98	99	100	--	--

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
04069500 - PESHTIGO RIVER AT PESHTIGO, WI (LAT 45 02 49 LONG 087 44 40)									
JUN , 1983					JUL , 1983				
16...	0950	820	210	21.5	28...	1155	187	250	26.0
04071000 - OCONTO RIVER NEAR GILLET, WI (LAT 44 51 53 LONG 088 18 00)									
OCT , 1982					JUN , 1983				
15...	1025	512	--	7.0	21...	1500	543	250	23.0
JAN , 1983					AUG				
11...	1645	439	310	.0	04...	0935	327	290	23.0
MAR					SEP				
09...	1235	1660	170	3.0	21...	1440	1140	240	12.5
APR									
27...	1250	734	250	8.5					
04071858 - PENSANKEE RIVER NEAR PENSANKEE, WI (LAT 44 49 08 LONG 087 57 12)									
OCT , 1982					APR , 1983				
14...	1110	22	--	8.0	27...	1440	61	620	8.0
JAN , 1983					JUN				
11...	1355	39	600	.5	22...	1040	22	460	24.5
FEB					AUG				
23...	0950	136	460	1.0	03...	1230	9.0	400	27.5
MAR					SEP				
30...	1455	153	520	4.5	21...	1115	935	270	14.0
04073500 - FOX RIVER AT BERLIN, WI (LAT 43 57 14 LONG 088 57 08)									
OCT , 1982					MAY , 1983				
05...	1050	682	360	65.0	24...	1330	1940	290	18.0
DEC					JUN				
02...	0955	682	240	7.0	10...	0830	515	100	19.0
20...	1500	1600	400	.5	JUL				
JAN , 1983					15...	1210	856	370	28.0
28...	0915	378	305	.0	20...	0915	632	270	23.0
MAR					AUG				
02...	1200	2000	100	2.0	26...	1228	932	350	24.0
09...	1655	1980	145	3.0	SEP				
18...	0910	887	175	5.5	08...	1315	437	190	20.0
APR									
12...	1125	2480	340	4.5					
29	0955	639	240	12.0					
04078500 - EMBARRASS RIVER NEAR EMBARRASS, WI (LAT 44 43 29 LONG 088 44 10)									
OCT , 1982					APR , 1983				
15...	1425	299	--	7.0	28...	1325	407	320	14.0
JAN , 1983					JUN				
12...	1125	224	450	1.0	21...	1105	194	360	24.0
FEB					AUG				
23...	1410	325	340	2.5	04...	1140	179	370	22.5
MAR					SEP				
30...	1210	301	305	4.0	22...	0405	1880	140	12.0
04079000 - WOLF RIVER AT NEW LONDON, WI (LAT 44 23 32 LONG 088 44 25)									
OCT , 1982					JUN , 1983				
13...	1250	1720	--	8.5	23...	1000	1590	360	23.5
JAN , 1983					AUG				
12...	1530	1250	270	.0	02...	1330	1210	320	27.5
MAR					SEP				
31...	1205	2540	400	4.5	27...	1440	4900	350	11.5
MAY									
11...	1000	3110	315	12.5					
04080000 - LITTLE WOLF RIVER AT ROYALTON, WI (LAT 44 24 45 LONG 088 51 55)									
OCT , 1982					APR , 1983				
26...	1545	426	380	8.5	05...	1450	679	400	5.0
DEC					JUN				
07...	1505	1180	280	1.5	14...	1319	327	410	22.5
JAN , 1983					JUL				
13...	1010	333	260	1.0	12...	1240	217	440	24.0
FEB					AUG				
22...	1325	693	335	3.0	31...	1045	822	345	21.0
MAR									
21...	1345	647	395	2.5					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
04081000 - WAUPACA RIVER NEAR WAUPACA, WI (LAT 44 19 50 LONG 088 59 45)									
OCT , 1982					APR , 1983				
26...	1320	205	420	8.5	05...	1235	284	365	6.0
DEC					MAY				
07...	1305	357	250	1.0	18...	1320	275	390	13.0
JAN , 1983					JUN				
13...	1130	237	360	1.0	14...	1105	222	390	21.5
FEB					JUL				
22...	1215	235	260	4.0	12...	1100	177	320	24.0
MAR					AUG				
21...	1135	289	355	2.0	31...	1240	344	400	20.0

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	PHOS- PHORUS, TOTAL (MG/L AS P)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)
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440802089092800 - HILLS LAKE NEAR WILD ROSE, WI (LAT 44 08 02 LONG 089 09 28)

JUN , 1983										
30...	1430	--	--	--	--	.038	2.40	<.100	--	--
JUL										
25...	1520	--	--	--	--	--	1.30	<.100	--	--
AUG										
25...	--	180	8.5	27.0	8.3	.009	2.90	.100	2.90	.100

CHIPPEWA 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)
05356000 - CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WI (LAT 45 50 57 LONG 091 04 44)									
OCT , 1982					FEB , 1983				
04...	1230	937	65	14.5	23...	1105	610	90	1.5
NOV					APR				
04...	1300	2040	60	6.0	20...	1040	222	50	6.0
DEC					JUN				
16...	1315	1990	64	1.5	02...	1115	617	70	14.5
JAN , 1983					JUL				
17...	1115	1770	60	.5	25...	1450	596	75	25.0

05356121 - COUDERAY RIVER NEAR COUDERAY, WI (LAT 45 47 43 LONG 091 21 07)

OCT , 1982					APR , 1983				
04...	1130	102	101	12.5	20...	1350	248	80	8.0
NOV					JUN				
04...	1150	165	80	3.5	02...	0930	145	100	14.5
DEC					JUL				
16...	1000	122	122	.5	25...	1110	119	103	23.5
JAN , 1983					SEP				
17...	1240	136	90	.5	16...	1120	176	90	13.5
FEB									
23...	1330	128	105	1.0					

05356500 - CHIPPEWA RIVER NEAR BRUCE, WI (LAT 45 27 08 LONG 091 15 39)

OCT , 1982					MAY , 1983				
06...	1015	1820	110	14.5	19...	1130	1360	95	13.0
NOV					JUN				
16...	1005	3010	72	.5	21...	1250	1140	110	24.0
JAN , 1983					JUL				
25...	1600	1910	90	.0	26...	1315	964	90	25.0
FEB					SEP				
22...	1330	1180	126	.5	06...	1120	2130	80	19.5
APR									
07...	1110	1430	120	2.5					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
05360500 - FLAMBEAU RIVER NEAR BRUCE, WI (LAT 45 22 21 LONG 091 12 34)									
OCT , 1982					MAY , 1983				
06... 1145	2350	120	14.0		19... 1000	1680	90	12.5	
NOV					JUN				
16... 1130	4270	83	2.0		21... 0950	1130	103	14.5	
JAN , 1983					JUL				
25... 1345	1400	112	.0		26... 1200	909	100	27.0	
FEB					SEP				
22... 1240	1800	123	1.0		06... 1350	859	105	22.5	
APR									
07... 1100	1430	95	3.0						
05362000 - JUMP RIVER AT SHELDON, WI (LAT 45 18 29 LONG 090 57 23)									
OCT , 1982					MAY , 1983				
06... 1345	476	115	11.5		23... 1040	680	50	14.5	
NOV					JUN				
16... 1325	1400	60	.5		21... 1150	105	120	14.0	
JAN , 1983					JUL				
25... 0950	215	142	.0		28... 1055	69	163	25.0	
FEB					SEP				
22... 1000	291	125	.5		09... 1156	202	120	23.0	
APR									
05... 1000	942	75	3.0						
05365500 - CHIPPEWA RIVER AT CHIPPEWA FALLS, WI (LAT 44 55 37 LONG 091 24 33)									
OCT , 1982					MAY , 1983				
05... 1000	7570	105	13.5		18... 1110	8150	100	13.0	
DEC					JUN				
17... 1015	6400	105	1.0		20... 1020	5340	94	19.0	
MAR , 1983					JUL				
04... 1220	679	200	6.0		28 .. 0930	291	125	24.0	
APR					AUG				
05... 1310	8180	110	4.5		02... 0630	274	120	23.5	
05368000 - HAY RIVER AT WHEELER, WI (LAT 45 02 52 LONG 091 54 39)									
OCT , 1982					APR , 1983				
06... 1230	243	360	14.5		05... 1130	582	200	5.5	
NOV					MAY				
15... 1535	400	280	1.0		18... 1230	364	325	12.0	
DEC					JUN				
21... 1355	233	350	.0		21... 1345	272	345	17.0	
FEB , 1983					AUG				
14... 1500	267	362	2.0		02... 1315	268	344	21.0	
28... 1020	350	348	4.0		SEP				
MAR					06... 1400	280	335	18.0	
03... 1000	1330	175	1.0						
04... 1400	2400	120	1.0						
05369000 - RED CEDAR RIVER AT MENOMONIE, WI (LAT 44 53 02 LONG 091 55 57)									
OCT , 1982					MAY , 1983				
06... 1125	2620	210	15.5		18... 0900	2590	185	15.0	
NOV					JUN				
15... 1500	2190	197	1.5		21... 1145	2090	165	21.0	
DEC					AUG				
20... 1510	983	224	1.5		01... 1650	2500	200	24.5	
JAN , 1983					02... 1200	1420	195	24.0	
18... 1655	437	165	.0		SEP				
MAR					06... 1040	1460	205	24.0	
02... 1600	2500	200	1.5						
APR									
07... 1400	2970	205	4.5						

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
05369955 - FRENCH CREEK NEAR SPRING VALLEY, WI (LAT 44 52 05 LONG 092 15 37)									
OCT , 1982					APR , 1983				
05...	1130	.52	480	10.5	06...	0900	1.4	375	3.0
NOV					MAY				
15...	1330	.80	378	3.0	16...	1605	1.3	415	14.0
DEC					JUN				
20...	1230	.54	466	2.0	20...	1500	1.6	472	16.0
JAN , 1983					JUL				
18...	1520	.65	430	.5	29...	1120	1.0	485	16.0
FEB					SEP				
28...	1510	3.1	242	2.0	07...	1350	.63	465	14.5
MAR									
01...	1050	16	185	.0					
03...	1400	51	118	.5					

05369970 - LOUSY CREEK NEAR SPRING VALLEY, WI (LAT 44 52 21 LONG 092 14 21)									
OCT , 1982					APR , 1983				
05...	0830	2.1	360	9.0	05...	1520	2.4	370	7.0
NOV					MAY				
16...	1240	2.8	400	5.0	16...	1500	2.6	365	12.5
DEC					JUN				
21...	1150	2.0	352	3.0	20...	1220	2.3	365	12.0
JAN , 1983					AUG				
19...	1055	1.8	320	2.0	01...	1300	2.3	350	15.0
MAR					SEP				
01...	0800	8.0	200	2.0	07...	1200	2.5	355	13.0
03...	1615	110	155	.5					

05369985 - LOHN CREEK NEAR SPRING VALLEY, WI (LAT 44 51 42 LONG 092 14 00)									
OCT , 1982					APR , 1983				
04...	1550	.36	430	11.0	05...	1400	.41	405	6.5
NOV					MAY				
16...	1135	.46	455	7.0	16...	1300	.28	415	12.0
DEC					JUN				
21...	1230	.27	426	5.0	20...	1115	.28	375	11.0
JAN , 1983					AUG				
19...	0950	.42	385	3.5	01...	1100	.40	430	15.5
MAR					SEP				
01...	0900	.78	365	3.0	07...	1255	.28	410	16.0

WISCONSIN RIVER BASIN

05391000 - WISCONSIN R AT RAINBOW LK NEAR LAKE TOMAHAWK, WI (LAT 45 49 58 LONG 089 32 51)									
OCT , 1982					APR , 1983				
25...	1420	1180	70	8.0	26...	1635	375	70	8.0
DEC					JUL				
07...	1355	999	80	4.0	19...	1315	726	60	25.0
FEB , 1983					SEP				
10...	1615	1130	80	1.0	28...	1400	739	75	16.0
APR									
06...	1555	601	75	3.5					

05393500 - SPIRIT RIVER AT SPIRIT FALLS, WI (LAT 45 26 58 LONG 089 58 47)									
OCT , 1982					APR , 1983				
26...	1110	204	50	5.0	05...	1425	108	70	3.5
DEC					JUN				
08...	1250	91	--	.5	02...	1335	111	60	15.0
JAN , 1983					JUL				
19...	1620	51	70	.5	19...	1000	11	140	23.0
FEB					AUG				
28...	1325	44	105	1.0	29...	1330	9.1	160	22.5

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
05394500 - PRAIRIE RIVER NEAR MERRILL, WI (LAT 45 14 09 LONG 089 38 59)									
OCT , 1982					APR , 1983				
26...	1255	267	105	5.5	05...	1225	192	140	5.0
DEC 08...	1500	170	105	.5	JUN 02...	1105	284	90	12.5
JAN , 1983					JUL 19...	0755	92	190	20.5
17...	1535	139	145	.5	AUG 29...	1100	84	195	19.0
FEB 28...	1530	122	165	2.0					
05395000 - WISCONSIN RIVER AT MERRILL, WI (LAT 45 10 41 LONG 089 40 52)									
MAR , 1983					JUN , 1983				
31...	1135	2710	115	3.5	23...	1445	1760	105	25.0
05397500 - EAU CLAIRE RIVER AT KELLY, WI (LAT 44 55 06 LONG 089 33 00)									
OCT , 1982					MAY , 1983				
26...	1445	375	160	6.5	18...	1355	270	145	14.0
DEC 21...	1525	142	145	.5	JUN 28...	1320	149	220	19.0
JAN , 1983					AUG 09...	1000	92	255	22.0
20...	1525	129	--	.0	SEP 30...	1255	628	130	10.0
MAR 07...	1550	3200	65	2.0					
APR 12...	1455	486	115	4.0					
05398000 - WISCONSIN RIVER AT ROTHSCILD, WI (LAT 44 53 09 LONG 089 38 05)									
MAR , 1983					AUG , 1983				
31...	1545	3670	130	4.0	09...	1425	2140	145	25.0
05399500 - BIG EAU PLEINE RIVER NEAR STRATFORD, WI (LAT 44 49 19 LONG 090 04 46)									
OCT , 1982					APR , 1983				
19...	1200	93	--	6.5	01...	1240	154	--	--
DEC 10...	1200	84	210	.5	MAY 20...	1125	234	125	10.5
FEB , 1983					JUN 28...	1400	19	180	23.0
10...	1250	36	200	.0	AUG 28...	1330	8.9	140	19.0
MAR 29...	1310	68	165	5.0					
05400650 - LITTLE PLOVER RIVER AT PLOVER, WI (LAT 44 28 26 LONG 089 31 44)									
OCT , 1982					MAY , 1983				
20...	1615	9.3	--	4.5	11...	1330	14	380	14.0
DEC 21...	1300	10	320	3.0	JUN 23...	1345	11	360	17.5
FEB , 1983					AUG 11...	1140	7.0	360	14.0
01...	1220	9.2	330	2.0	SEP 28...	1320	11	390	13.0
MAR 30...	1540	14	325	6.0					
05400760 - WISCONSIN RIVER AT WISCONSIN RAPIDS, WI (LAT 44 23 41 LONG 089 49 31)									
MAR , 1983					AUG , 1983				
08...	1325	57300	100	2.0	11...	1400	2590	140	23.0
05402000 - YELLOW RIVER AT BABCOCK, WI (LAT 44 18 05 LONG 090 07 15)									
DEC , 1982					MAY , 1983				
20...	1440	39	150	.5	11...	1530	196	130	12.5
FEB , 1983					JUN 28...	1210	15	100	25.0
01...	1420	25	130	.0	AUG 12...	1015	5.1	95	24.5
MAR 29...	1540	100	115	4.0	SEP 28...	1525	98	130	12.0
APR 01...	1430	126	125	5.0					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
05403500 - LEMONWEIR RIVER AT NEW LISBON, WI (LAT 43 52 47 LONG 090 09 40)									
OCT , 1982					APR , 1983				
29...	1040	204	140	8.5	26...	1005	543	123	13.0
DEC					JUN				
08...	1100	938	160	.5	15...	1030	189	152	21.0
JAN , 1983					JUL				
26...	1130	229	125	.5	22...	1145	139	180	26.5
MAR					AUG				
23...	1110	1040	80	2.5	31...	1430	333	155	23.5
05404000 - WISCONSIN RIVER NEAR WISCONSIN DELLS, WI (LAT 43 36 22 LONG 089 45 25)									
NOV , 1982					APR , 1983				
03...	1210	9140	120	9.0	27...	1405	8910	150	14.0
DEC					JUN				
07...	1415	12400	105	2.0	08...	1510	9690	180	21.0
MAR , 1983					AUG				
10...	1335	48800	150	2.5	01...	1310	4210	190	27.5
APR					30...	1230	4620	190	25.5
07...	1425	8850	110	4.0					
05405000 - BARABOO RIVER NEAR BARABOO, WI (LAT 43 28 51 LONG 089 38 09)									
OCT , 1982					JUN , 1983				
28...	1300	191	390	9.0	08...	1100	290	380	17.0
JAN , 1983					JUL				
24...	1145	224	440	1.0	21...	0910	622	330	26.5
MAR					AUG				
16...	1120	591	260	4.0	29...	1245	907	250	21.5
APR									
25...	1345	373	300	13.5					
05406500 - BLACK EARTH CREEK AT BLACK EARTH, WI (LAT 43 08 03 LONG 089 43 56)									
OCT , 1982					JUN , 1983				
26...	1122	28	560	8.5	07...	1200	40	490	14.5
DEC					JUL				
06...	1150	69	400	5.5	21...	1500	27	520	23.0
JAN , 1983					AUG				
24...	0930	28	630	5.0	30...	1530	35	610	18.0
APR									
25...	1050	40	600	10.0					
05408000 - KICKAPOO RIVER AT LAFARGE, WI (LAT 43 34 27 LONG 090 38 35)									
NOV , 1982					JUN , 1983				
01...	1100	157	340	9.5	09...	1130	182	410	18.5
30...	1250	225	310	4.0	JUL				
JAN , 1983					22...	1015	198	460	24.5
25...	1150	157	450	.5	AUG				
MAR					16...	1050	138	470	22.0
07...	1230	737	250	8.0	SEP				
APR					20...	1540	1500	170	14.5
28...	1040	199	350	13.5	21...	1210	3000	210	12.5
05410490 - KICKAPOO RIVER AT STEUBEN, WI (LAT 43 10 58 LONG 090 51 30)									
OCT , 1982					APR , 1983				
20...	1420	439	480	10.0	06...	1442	830	530	5.5
NOV					MAY				
18...	1153	955	425	9.0	17...	1210	688	490	13.5
DEC					JUN				
06...	1245	802	490	5.5	27...	1300	575	940	21.5
JAN , 1983					AUG				
10...	1053	533	505	2.0	11...	1220	468	520	21.0
FEB					SEP				
22...	1225	1170	320	4.0	21...	1140	976	860	12.0
MAR									
07...	1314	1530	280	7.5					

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PLATTE 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)
05414000 - PLATTE RIVER NEAR ROCKVILLE, WI (LAT 42 43 52 LONG 090 38 25)									
OCT , 1982					MAY , 1983				
21...	0904	97	740	6.5	17...	1840	145	630	14.5
DEC					JUN				
07...	0908	212	620	3.5	27...	1910	155	595	21.0
JAN , 1983					AUG				
10...	1615	125	790	3.5	11...	1805	96	572	22.5
25...	1130	107	680	.0	SEP				
FEB					21...	1800	110	610	11.5
23...	0935	288	510	4.0					
APR									
06...	1726	233	573	6.5					

GALENA RIVER BASIN

05415000 - GALENA RIVER AT BUNCOMBE, WI (LAT 42 30 49 LONG 090 22 40)									
OCT , 1982					MAY , 1983				
21...	1138	71	577	7.5	18...	1000	106	650	14.5
DEC					JUN				
07...	1312	212	580	4.0	28...	0845	123	720	21.0
JAN , 1983					AUG				
11...	0938	102	590	1.0	12...	1035	66	950	20.5
FEB					SEP				
23...	1330	160	680	5.5	22...	1048	69	780	10.0
APR									
07...	1345	200	900	7.0					

ROCK RIVER BASIN

05427570 - ROCK RIVER AT INDIANFORD, WI (LAT 42 48 15 LONG 089 05 25)									
OCT , 1982					APR , 1983				
22...	1230	684	580	9.0	12...	1025	5430	470	6.0
NOV					JUL				
17...	1355	2970	585	2.0	05...	1320	1000	480	24.5
DEC					26...	1315	523	450	28.5
07...	1410	4020	595	4.0	AUG				
JAN , 1983					16...	0950	263	480	25.5
18...	1313	1530	655	1.0	SEP				
MAR					09...	1345	412	505	24.0
04...	1033	3690	520	5.0	28...	1315	669	520	16.5
31...	1415	3830	440	4.0					

05429500 - YAHARA RIVER NEAR MC FARLAND, WI (LAT 43 00 32 LONG 089 18 18)

OCT , 1982					MAY , 1983				
25...	0956	60	430	10.0	23...	1140	247	450	17.0
NOV					JUN				
29...	1455	229	440	3.0	13...	0940	143	455	21.5
JAN , 1983					JUL				
11...	1122	301	445	1.0	05...	0950	143	460	23.5
MAR					26...	0935	34	430	26.5
02...	1241	220	470	5.0	AUG				
31...	0955	146	425	4.0	15...	0845	11	415	24.0
APR					SEP				
11...	0852	261	435	4.5	09...	1018	116	400	25.0
MAY					28...	0930	82	400	17.0
03...	1415	234	425	13.5					

05430150 - BADFISH CREEK NEAR COOKSVILLE, WI (LAT 42 50 00 LONG 089 11 48)

OCT , 1982					MAY , 1983				
22...	1441	90	1140	12.0	23...	1425	119	1000	17.5
DEC					JUL				
08...	1240	136	965	5.5	07...	1050	94	1180	19.5
JAN , 1983					AUG				
19...	1022	87	1150	2.0	16...	1425	82	1180	26.0
MAR					24...	1345	93	1190	23.0
04...	1610	105	1010	12.5	SEP				
APR					27...	1007	94	1160	15.5
12...	1500	124	1020	11.0					

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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)
05430175 - YAHARA RIVER NEAR FULTON, WI (LAT 42 49 50 LONG 089 10 09)									
OCT , 1982					MAY , 1983				
25...	1328	121	1140	12.0	24...	1055	433	840	17.0
DEC					JUL				
08...	0910	654	825	4.5	07...	1315	481	1100	23.5
JAN , 1983					AUG				
19...	1211	414	1030	.5	16...	1225	127	1170	24.5
MAR					24...	1150	131	1180	22.0
04...	1207	485	955	11.0	SEP				
APR					27...	1225	127	1180	17.5
12...	1320	573	805	9.0					
05430500 - ROCK RIVER AT AFTON, WI (LAT 42 36 33 LONG 089 04 14)									
OCT , 1982					APR , 1983				
22...	0842	1140	650	9.0	11...	1520	5990	515	6.5
DEC					JUL				
07...	0900	4630	590	5.0	06...	1230	1390	585	23.5
JAN , 1983					AUG				
17...	1400	2190	670	2.0	15...	1400	399	675	24.0
MAR					SEP				
03...	1440	4100	560	6.5	29...	1325	1110	600	18.0
05431486 - TURTLE CREEK AT CARVERS ROCK ROAD NR CLINTON, WI (LAT 42 35 50 LONG 088 49 45)									
OCT , 1982					MAY , 1983				
21...	1327	288	580	9.0	25...	1040	208	690	15.0
DEC					JUL				
06...	1242	633	505	6.0	06...	0930	219	620	18.0
JAN , 1983					AUG				
17...	1018	147	700	.5	15...	1215	74	690	23.0
MAR					SEP				
03...	1245	194	625	10.0	29...	1035	83	670	16.5
APR									
11...	1305	406	560	7.0					
05432500 - PECATONICA RIVER AT DARLINGTON, WI (LAT 42 40 40 LONG 090 07 07)									
OCT , 1982					JUN , 1983				
18...	1203	149	670	11.0	29...	1145	271	940	20.5
NOV					JUL				
30...	1350	197	760	5.0	01...	1215	333	900	22.0
JAN , 1983					AUG				
12...	1335	128	780	.0	09...	1400	133	760	24.5
25...	1335	176	730	.5	SEP				
MAR					19...	1250	160	780	17.0
01...	1332	262	690	5.5					
APR									
05...	1558	513	670	5.5					
05433000 - EAST BR PECATONICA R NR BLANCHARDVILLE, WI (LAT 42 47 10 LONG 089 51 40)									
OCT , 1982					MAY , 1983				
18...	0954	121	550	10.5	20...	0930	218	580	13.5
NOV					JUL				
30...	1055	150	580	4.5	01...	0940	234	1000	20.0
JAN , 1983					AUG				
12...	1020	142	550	.0	09...	1045	120	620	22.0
MAR					SEP				
01...	1040	228	540	5.0	19...	1012	144	650	15.0
05434500 - PECATONICA RIVER AT MARTINTOWN, WI (LAT 42 30 34 LONG 089 47 58)									
OCT , 1982					JUN , 1983				
19...	1355	613	630	12.0	30...	1135	970	690	20.0
NOV					AUG				
29...	1358	787	640	2.5	10...	1405	540	720	24.5
APR , 1983					SEP				
04...	1130	2610	490	5.0	20...	1405	683	910	16.5
MAY									
16...	1445	1060	620	14.5					

GROUND-WATER RECORDS

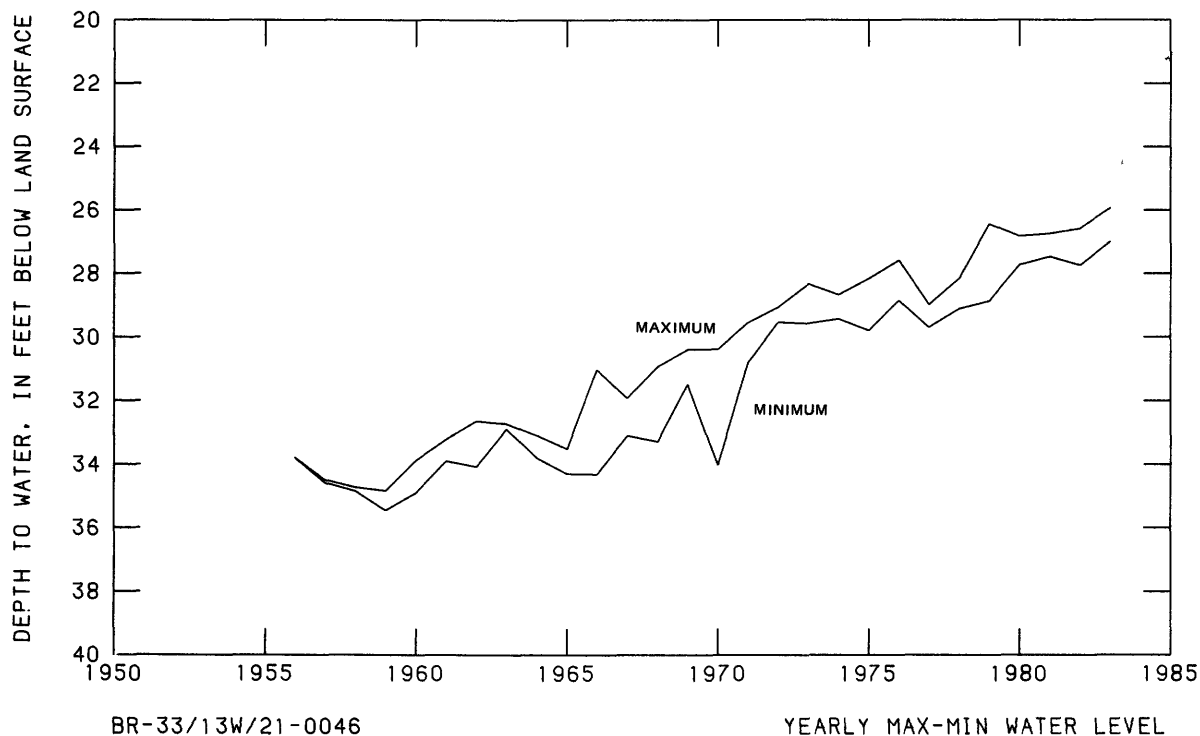


Figure 5. Location of observation wells and ground-water-quality sites in Wisconsin.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	27.10	DEC 17	26.58	FEB 11	26.93	APR 4	26.60	JUN 17	26.10	AUG 4	26.15
15	27.16	21	26.68	18	26.80	18	26.46	21	26.07	15	26.08
20	27.23	30	26.80	25	27.00	MAY 4	26.08	JUL 1	26.05	25	26.14
29	27.02	JAN 5	26.67	28	26.86	12	26.00	5	26.21	29	26.09
NOV 1	27.00	14	26.76	MAR 17	26.60	18	25.98	14	26.10	SEP 7	26.20
11	26.93	18	26.70	22	26.60	24	25.94	18	26.09	18	26.12
16	26.99	28	26.61	31	26.37	31	25.95	28	26.02	29	26.15
DEC 7	27.05	FEB 4	26.92								

GROUND-WATER LEVELS

BARRON COUNTY



BROWN COUNTY

84/2 /25

443228088003101. Local number, BN-24/20E/24-0676.

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, depth 500 ft, cased to 150 ft, open end.

DATUM.--Altitude of land-surface is 590 ft National Geodetic Vertical Datum of 1929. Measuring point: top of 3 in pipe, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.24 ft below land-surface datum, May 3, 1961; lowest water level measured, 248.97 ft below land-surface datum, Aug. 30, 1955.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	88.57	DEC 8	82.80	FEB 8	76.80	APR 12	74.64	JUN 14	78.09	AUG 10	97.97
12	88.10	14	81.80	15	76.46	19	74.10	22	80.08	16	98.21
19	88.07	21	81.40	22	76.80	26	74.40	28	83.29	23	98.00
26	88.18	28	80.90	MAR 1	76.86	MAY 3	75.25	JUL 5	83.93	30	97.13
NOV 2	86.40	JAN 4	79.90	8	76.65	10	76.10	12	85.07	SEP 6	96.78
9	86.00	11	79.30	14	76.48	17	76.98	19	93.07	13	95.27
17	85.90	18	78.80	22	75.80	31	77.10	26	96.25	20	95.58
22	85.45	25	77.70	29	75.50	JUN 7	77.54	AUG 2	99.50	27	94.83
30	82.80	FEB 1	77.30	APR 5	74.75						

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: Wl. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 46 ft, cased to 46 ft, perforated 44 1/2-46 ft.

DATUM.--Altitude of land-surface is 981 ft National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.87 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.33 ft below land-surface datum, June 28, 1968; lowest water level measured, 37.32 ft below land-surface datum, Mar. 3, 1938.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	33.79	DEC 3	33.67	FEB 4	33.61	APR 8	33.60	JUN 10	33.48	AUG 12	33.35
8	33.72	10	33.56	11	33.69	15	33.63	17	33.47	19	33.33
15	33.73	17	33.60	18	33.65	22	33.62	24	33.47	26	33.35
22	33.83	24	33.77	25	33.71	29	33.55	JUL 1	33.36	SEP 2	33.81
29	33.61	31	33.78	MAR 4	33.60	MAY 6	33.53	8	33.49	9	33.80
NOV 5	33.75	JAN 7	33.57	11	33.71	13	33.50	15	33.41	16	33.74
12	33.51	14	33.69	18	33.64	20	33.47	22	33.38	23	33.82
19	33.67	21	33.75	25	33.67	27	33.50	29	33.40	30	33.88
26	33.77	28	33.64	APR 1	33.53	JUN 3	33.46	AUG 5	33.38		

CHIPPEWA COUNTY

445544091155701. Local number, CH-28/07W/17-0142.

LOCATION.--Lat 44°55'44", long 91°15'57", Hydrologic Unit 07050005. Owner Wl. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 60 ft, cased to 39 ft, open end.

DATUM.--Altitude of land-surface is 965 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 2.20 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.72 ft below land-surface datum, July 10, 1973; lowest water level measured, 33.46 ft below land-surface datum, Jan. 10, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	29.63	DEC 6	29.24	FEB 8	29.18	APR 11	28.95	JUN 13	28.01	AUG 9	28.30
11	29.73	13	28.80	15	29.15	19	28.54	21	28.22	16	28.19
18	29.40	20	29.19	22	29.14	26	28.08	28	28.25	22	28.34
27	29.55	27	29.26	28	29.07	MAY 3	28.15	JUL 5	28.45	29	28.14
NOV 1	29.54	JAN 3	29.28	MAR 7	28.57	10	28.52	12	28.31	SEP 6	27.98
8	30.02	11	29.02	15	28.99	17	28.42	19	28.22	13	28.44
15	29.41	17	29.40	22	28.93	24	27.96	26	28.30	20	28.10
24	29.70	24	29.18	29	29.11	30	28.27	AUG 2	28.21	27	28.14
30	29.03	31	29.31	APR 5	28.95	JUN 6	27.99				

CLARK COUNTY

444525090443201. Local number, CK-26/03W/04-0001.

LOCATION.--Lat 44°45'25", long 90°44'32", Hydrologic Unit 07050006. Owner: Wl. Dept. of Natural Resources.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 150 ft cased to 53 ft, open end.

DATUM.--Altitude of land-surface is 1,210 ft 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, 53.54 ft July 20, 1983; lowest water level measured, 70.64 ft below land-surface datum, Sept. 17, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	56.10	DEC 6	55.60	JAN 31	56.25	JUN 21	56.70	AUG 9	55.58	SEP 28	57.43
NOV 2	55.60	JAN 10	55.50	MAR 29	57.20	JUL 20	53.54				

GROUND-WATER LEVELS

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, depth 346 ft, cased to 265 ft, open end.

DATUM.--Altitude of land-surface is 930 ft National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 3.50 ft 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 below land-surface datum, Jan. 2, 1961; lowest water level measured, 120.27 ft below land-surface datum, July 30, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	92.00	DEC 6	90.80	JAN 31	91.10	APR 5	92.95	JUN 6	90.95	AUG 8	101.80
11	94.10	13	91.00	FEB 7	95.90	11	90.35	13	92.00	15	103.95
18	92.40	20	90.85	14	91.30	18	92.05	20	97.00	22	111.00
25	90.50	27	87.90	21	90.85	25	93.60	27	98.35	29	101.35
NOV 1	90.75	30	92.32	28	91.25	MAY 2	94.20	JUL 5	96.50	SEP 6	103.05
8	93.55	JAN 3	89.85	MAR 7	94.25	9	92.25	11	99.80	13	99.35
15	92.80	10	91.25	14	93.00	16	92.70	18	102.65	19	98.40
22	92.60	17	97.40	21	93.15	23	90.20	25	105.20	26	98.50
29	91.40	24	91.25	28	92.15	31	88.70	AUG 1	114.50		

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, depth 380 ft, cased to 85 ft, open end.

DATUM.--Altitude of land-surface is 870 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.00 ft below land-surface datum, Nov. 24, 1980; lowest water level measured, 32.76 ft below land-surface datum, June 30, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5		24.34	23.84	24.48	24.61	23.60	21.42	22.74	22.89	24.07	26.47	25.23
10		24.62	23.58	24.11	24.51	23.93	21.88	23.16	24.81	24.64	28.29	25.27
15		23.93	23.61	24.89	24.37	23.63	22.24	23.13	24.27	26.98	28.54	25.07
20		24.65	23.82	24.18	24.26	23.66	23.91	23.74	24.88	25.48	27.01	25.18
25	25.12	24.77	23.54	24.27	24.26	23.59	22.65	23.44	26.39	27.31	26.39	25.45
EOM	25.18	24.43	24.02	24.64	24.03	23.47	23.66	23.63	23.99	27.47	25.69	26.08

WTR YEAR 1983 MAX 20.22 APR 5 MIN 28.56 AUG 16

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, depth 125 ft, cased to 57 ft, open end.

DATUM.--Altitude of land-surface is 880 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in side of casing, 1.30 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.22 ft below land-surface datum, Mar. 30, 1979; lowest water level measured, 26.67 ft below land-surface datum, Feb. 3, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 16	17.78	DEC 16	17.60	FEB 15	18.84	MAR 30	18.18	JUN 30	19.03	AUG 31	21.60
30	17.99	JAN 25	18.81	18	18.74	APR 29	17.79	JUL 29	19.28	SEP 30	20.39

GROUND-WATER LEVELS

279

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, depth 111 ft.

DATUM.--Altitude of land-surface is 725 ft National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.00 ft below land-surface datum, Mar. 22, 1979; lowest water level measured, 56.12 ft below land-surface datum, Feb. 21, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	38.91	FEB 24	23.18	MAR 28	32.87	AUG 2	46.29

445055087213801. Local number, DR-27/26E/05-0265

LOCATION.--Lat 44°50'55", long 87°21'38", Hydrologic Unit 04030102. Owner: U.S. Geol. Survey.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled observation, diameter 6 in, depth 442 ft, cased to 170 ft, open end.

DATUM.--Altitude of land-surface is 616 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.57 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.57 ft above land-surface datum, June 18, 1974; lowest water level, 35.33 ft below land-surface datum, Feb. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.84	26.66	9.70	10.93	15.77	4.80	4.57	6.17	5.30	12.91		
10	24.54	25.90	6.76	11.87	17.27	2.51	1.47	2.75	8.02			
15	26.30	13.60	8.21	12.48	18.10	3.33	1.32	3.40	8.93			
20	26.42	12.51	9.97	14.42	17.73	4.17	2.36	4.65	11.93			
25	25.77	12.05	10.03	14.74	10.86	5.43	3.70	3.60	11.50			
EOM	26.13	14.83	10.84	15.80	9.96	6.04	5.01	4.10	12.38			

WTR YEAR 1983 MAX 0.88 APR 13 MIN 27.16 OCT 19

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, depth 40 ft, cased to 40 ft, perforated 37-40 ft.

DATUM.--Altitude of land-surface is 980 ft National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.33 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.81 ft above land-surface datum, Apr. 28, 1978; lowest water level measured, 29.59 ft below land-surface datum, July 29, 1939.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	5.33	DEC 7	0.63	FEB 7	2.49	APR 11	+0.32	JUN 6	1.63	AUG 1	3.77
11	0.69	13	1.33	16	2.53	18	0.20	13	2.23	15	4.52
18	1.17	20	1.89	21	2.35	26	+0.07	20	2.55	22	4.87
25	0.29	27	2.08	28	2.26	MAY 3	0.62	27	3.01	29	5.35
NOV 1	0.87	JAN 3	2.24	MAR 7	+0.33	9	1.45	JUL 4	2.69	SEP 6	5.80
8	0.18	10	2.16	14	+0.05	16	1.00	12	2.50	12	6.11
15	0.08	19	2.39	23	1.07	25	1.75	18	2.88	19	6.43
23	+0.05	24	2.32	28	1.33	31	+0.95	25	3.32	26	6.83
29	0.50	FEB 2	2.43	APR 4	+0.11						

GROUND-WATER LEVELS

FOND DU LAC COUNTY

434358088301001. Local number. FL-15/17E/30-0374.

LOCATION.--Lat 43°43'58", long 88°30'46", Hydrologic Unit 04030203. Owner: Wi. Dept. of Transportation.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 120 ft, cased to 63 ft, open end.

DATUM.--Altitude of land-surface is 835 ft National Geodetic Vertical Datum of 1928. Measuring point:
hole in pump base, 1.50 ft 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 below land-surface datum, May 23, 1968;
lowest water level measured, 34.99 ft below land-surface datum, Mar. 21, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	25.75	DEC 27	19.78	MAR 4	20.24	MAY 11	16.63	JUN 26	18.76	SEP 1	22.08
NOV 16	24.29	JAN 10	18.82	APR 7	15.53	JUN 6	16.33	JUL 31	21.73	SEP 22	22.67
30	22.48	FEB 16	20.42								

FOREST COUNTY

460156088474901. Local number, FR-41/14E/18-0002.

LOCATION.--Lat 46°01'56", long 88°47'49", Hydrologic Unit 04030106. Owner: Wi. Dept. of Transportation.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in, depth 18 ft, cased to 15 ft,
well point 15-18 ft.DATUM.--Land-surface datum is 1,552 ft National Geodetic Vertical Datum of 1929. Measuring point: top of
casing, 1.70 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.96 ft below land-surface datum,
Apr. 29, 1954; lowest water level measured, 11.89 ft below land-surface datum, Aug. 13, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	10.60	DEC 31	10.53	FEB 28	10.51	MAY 2	9.89	SEP 2	11.19	SEP 28	10.79
DEC 1	10.76	FEB 1	10.51	MAR 30	10.91	AUG 1	11.27				

GRANT COUNTY

425551090391301. Local number, GR-05/02W/06-0005.

LOCATION.--Lat 42°55'51", long 90°39'13", Hydrologic Unit 07060003. Owner: Ralph Shackelford.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in, depth 35 ft, cased to 5 ft, open end.

DATUM.--Altitude of land-surface is 980 ft National Geodetic Vertical Datum of 1929. Measuring point:
edge of pump base, 0.50 ft above land-surface datum.

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

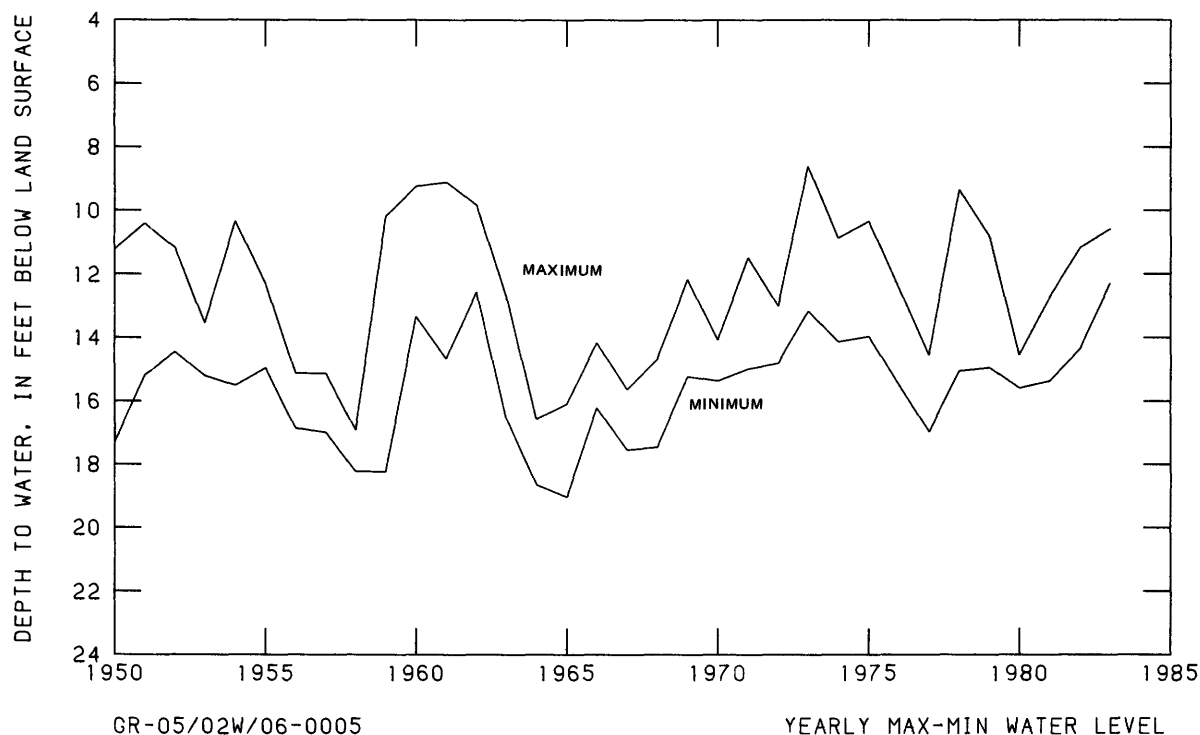
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.60 ft below land-surface datum,
May 22, 1973; lowest water level measured, 19.03 ft below land-surface datum, Aug. 17, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	12.51	DEC 14	11.68	FEB 25	11.53	APR 19	11.15	JUN 21	10.78	AUG 12	11.75
NOV 15	11.83	JAN 26	11.87	MAR 22	11.93	MAY 24	10.59	JUL 21	11.26	SEP 14	12.30

GROUND-WATER LEVELS

GRANT COUNTY



84/2 /25

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, depth 75 ft.

DATUM.--Altitude of land-surface is 995 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 4.50 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.96 ft below land-surface datum, Apr. 13, 1966; lowest water level measured, 69.72 ft below land-surface datum, Feb. 17, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	56.25	JAN 13	53.19	FEB 26	52.83	APR 18	49.60	MAY 30	50.75	AUG 22	58.23
NOV 30	57.88	JAN 22	53.99	MAR 5	52.08	APR 23	50.01	JUL 6	52.57	SEP 5	58.10
DEC 20	51.36	JAN 29	54.99	MAR 12	52.83	MAY 3	50.00	JUL 23	55.02	SEP 13	58.61
DEC 27	51.84	FEB 10	57.49	MAR 19	53.57	MAY 9	51.40	JUL 30	56.22	SEP 25	58.98
JAN 4	49.95	FEB 19	52.50	MAR 27	54.60	MAY 16	51.00				

[illegible]

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: Wi. Dept. of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in, depth 71 ft, cased to 42 ft, open end.

DATUM.--Altitude of land-surface is 930 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.86 ft below land-surface datum, May 24, 1973; lowest water level measured, 13.90 ft below land-surface datum, Jan. 10, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	12.58	DEC 28	11.54	FEB 24	11.64	APR 30	11.07	JUN 17	11.46	AUG 19	12.14
NOV 30	12.04	JAN 28	12.05	MAR 30	11.35	MAY 31	11.11	JUL 21	11.71	SEP 30	12.84

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, depth 190 ft.

DATUM.--Altitude of land-surface is 730 ft 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 below land-surface datum, Apr. 16, 1952; lowest water level, 97.57 ft below land-surface datum, June 9, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL
JAN 7	88.59

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, depth 1,751 ft, cased to 492 ft, open end.

DATUM.--Altitude of land-surface is 639 ft National Geodetic Vertical Datum of 1929. Measuring point: bottom of breather pipe, 1.35 ft 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 below land-surface datum, Dec. 3, 1947; lowest water level measured, 191.68 ft below land-surface datum, Sept. 30, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	187.96	JAN 7	184.44	APR 7	185.60	JUN 17	186.22	AUG 9	188.63	SEP 30	191.68
DEC 9	184.99	MAR 17	185.02	MAY 25	186.15	JUL 21	186.55				

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, depth 265 ft, cased to 16 ft, open end.

DATUM.--Altitude of land-surface is 1,000 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 3.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.39 ft below land-surface datum, Sept. 5, 1983; lowest water level, 130.99 ft below land-surface datum, Nov. 6, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	65.62	64.68	63.82	59.22	57.67	56.20	54.80	49.15	47.19	46.26	45.12	44.49
10	65.25	64.54	62.01	58.38	57.25	56.49	52.89	49.07	47.16	45.82	44.97	44.91
15	65.26	64.50	61.11	58.80	56.95	55.87	51.92	48.53	46.73	45.50	44.96	45.04
20	65.30	63.88	60.59	58.66	56.93	55.75	51.01	48.23	46.67	45.30	44.97	44.92
25	65.24	64.07	60.17	58.10	57.15	55.91		47.95	46.49	45.21	45.11	45.08
EOM	64.66	63.32	60.24	57.83	56.80	55.38		47.37	46.11	45.05	44.92	45.19

WTR YEAR 1983 MAX 44.39 SEP 5 MIN 65.90 OCT 1

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 3/4 in, depth 29 ft, cased to 16 ft, open end.

DATUM.--Altitude of land-surface is 850 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.20 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.89 ft below land-surface datum, May 23, 1974; lowest water level measured, 19.81 ft below land-surface datum, Mar. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	14.80	MAR 1	10.68	APR 28	9.98	MAY 20	12.04	JUN 28	12.84	AUG 9	13.61
NOV 30	14.19	APR 5	6.39	MAY 3	10.88	24	11.36	JUL 28	13.17	SEP 19	14.18
JAN 12	13.11										

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, depth 237 ft, cased to 20 ft, open end.

DATUM.--Altitude of land-surface is 1,030 ft National Geodetic Vertical Datum of 1929. Measuring point: top of south side of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.16 ft below land-surface datum, July 27, 1983; lowest water level measured, 78.72 ft below land-surface datum, Apr. 14, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	58.68	JAN 11	54.63	APR 7	55.07	JUN 28	53.25	AUG 12	54.11	SEP 22	56.33
DEC 7	57.42	FEB 23	56.55	MAY 18	53.52	JUL 27	53.16				

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, depth 21 ft, cased to 19 ft, well point 19-21 ft.

DATUM.--Land-surface datum is 1,510 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.09 ft below land-surface datum, May 18, 1973; lowest water level measured, 13.84 ft below land-surface datum, Feb. 28, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	9.05	JAN 27	9.14	MAR 28	8.44	MAY 27	8.14	JUL 28	8.80	SEP 1	9.41
NOV 29	8.45	FEB 28	8.12	APR 29	8.55	JUN 27	8.10	AUG 27	9.44	30	9.64
DEC 27	8.63										

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, depth 22 ft, cased to 20 ft, well point 20-22 ft.

DATUM.--Altitude of land-surface is 1,435 ft National Geodetic Vertical Datum of 1929. Measuring point: top of pipe, 3.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.38 ft below land-surface datum, May 15, 1960; lowest water level measured, 10.38 ft below land-surface datum, Jan. 17, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	8.14	DEC 14	7.89	FEB 16	8.39	APR 13	7.40	JUN 8	7.51	AUG 2	8.80
12	7.78	21	8.05	23	8.29	20	7.41	14	7.81	9	8.80
19	7.89	28	7.75	MAR 2	8.27	27	7.22	21	8.02	17	8.78
26	7.57	JAN 4	7.89	7	7.06	MAY 10	7.54	28	8.15	23	8.99
NOV 10	7.45	12	8.10	15	7.19	17	7.68	JUL 5	8.17	30	9.40
16	8.50	18	7.20	22	7.40	24	7.56	12	8.44	SEP 7	9.17
23	8.40	25	8.29	29	7.60	27	7.58	19	8.50	12	9.15
30	7.65	FEB 2	8.40	APR 6	7.59	JUN 1	7.51	26	8.70	27	8.49
DEC 7	7.74	9	8.39								

MANITOWOC COUNTY

440430087420401. Local number, MN-19/23E/35-0028.

LOCATION.--Lat 44°04'30", long 87°42'04", Hydrologic Unit 04030101. Owner: Wi. Dept. of Transportation.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 147 ft, cased to 133 ft, open end.

DATUM.--Altitude of land-surface is 670 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 1.00 ft above land-surface datum.

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

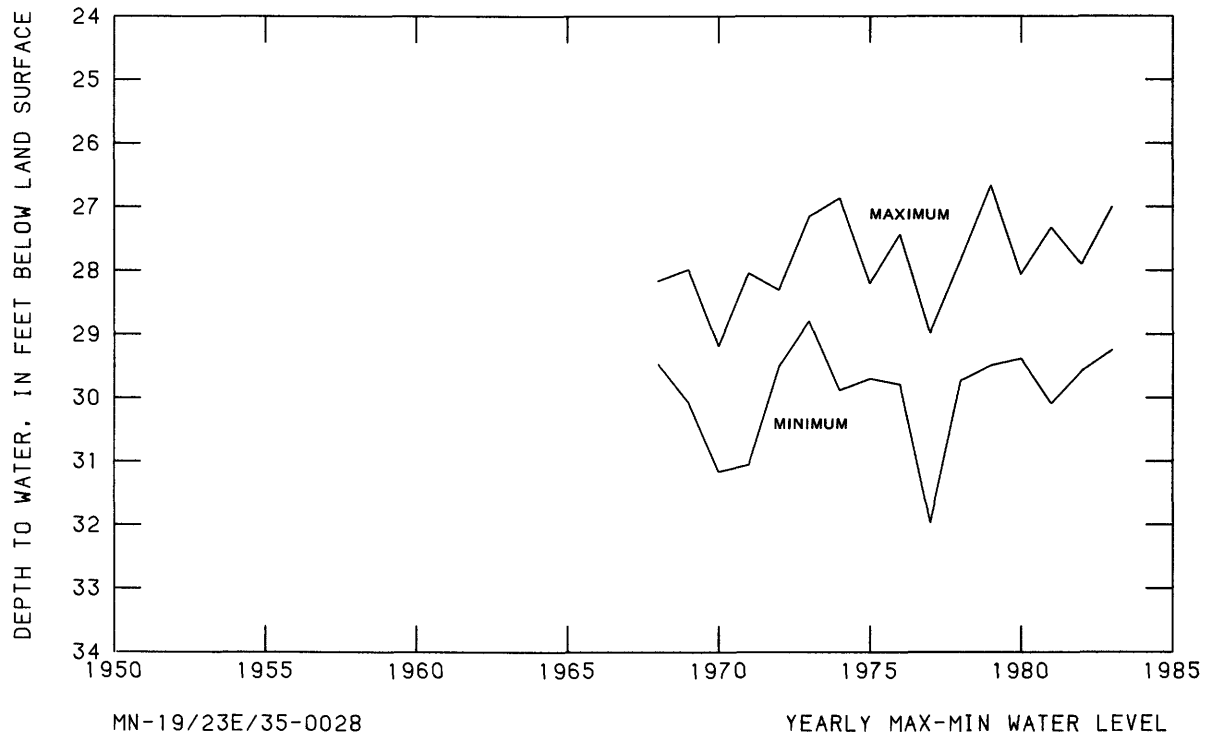
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.66 ft below land-surface datum, June 11, 1979; lowest water level measured, 31.97 ft below land-surface datum, Jan. 26, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	29.58	DEC 27	28.44	MAY 2	27.50	JUL 18	29.25	AUG 15	28.92	SEP 13	28.83
26	29.49	JAN 24	28.47	JUN 2	27.26	25	28.75	23	28.75	19	28.66
NOV 5	29.50	MAR 16	28.02	JUL 11	28.75	AUG 2	28.67	SEP 1	28.75	26	28.58
DEC 2	28.75	APR 21	27.01	13	28.91	9	29.00	6	28.75		

GROUND-WATER LEVELS

MANITOWOC COUNTY



84/2 /25

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, depth 49 ft, cased to 30 ft, screened 30-49 ft.

DATUM.--Altitude of land-surface is 1,190 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft 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, 1.16 ft below land-surface datum, Nov. 12, 1982; lowest water level, 38.96 ft) below land-surface datum, Jan. 9, 1975.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	4.60	OCT 25	3.47	NOV 25	2.84	DEC 20	4.70	JAN 25	9.54	SEP 8	7.50
10	3.58	NOV 5	4.57	DEC 1	5.85	JAN 11	8.57	31	10.27	12	8.80
15	4.85	10	5.37	6	3.47	15	8.90	JUL 20	23.37	19	4.45
20	2.10	15	3.85	13	3.77	20	9.14	SEP 1	6.53	25	5.95

GROUND-WATER LEVELS

287

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, depth 27 ft, cased to 25 ft, well point 25-27 ft.

DATUM.--Altitude of land-surface is 1,229 ft National Geodetic Vertical Datum of 1929. Measuring point: top of pipe, 0.80 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.77 ft below land-surface datum, July 21, 1973; lowest water level measured, 26.09 ft below land-surface datum, Mar. 30, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	18.42	DEC 5	18.27	FEB 6	17.49	APR 10	16.85	JUN 12	16.74	AUG 7	16.84
10	18.45	12	18.26	13	17.48	17	16.87	19	16.75	14	16.85
17	18.51	19	18.06	20	17.62	24	16.79	27	16.73	21	16.90
24	18.54	26	17.97	27	17.66	30	16.80	JUL 3	16.73	28	16.92
31	18.55	JAN 2	17.59	MAR 6	16.72	MAY 8	16.83	10	16.74	SEP 4	16.90
NOV 6	18.58	9	17.56	13	16.65	15	16.81	17	16.80	11	16.88
14	18.50	16	17.53	20	16.74	22	16.75	24	16.78	18	17.00
21	18.39	23	17.52	27	16.69	29	16.74	30	16.83	25	17.02
28	18.32	30	17.51	APR 3	16.67	JUN 5	16.75				

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, depth 33 ft, cased to 33 ft, open end.

DATUM.--Altitude of land-surface is 980 ft National Geodetic Vertical Datum of 1929. Measuring point: pointer on float gage, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1939 to current year.

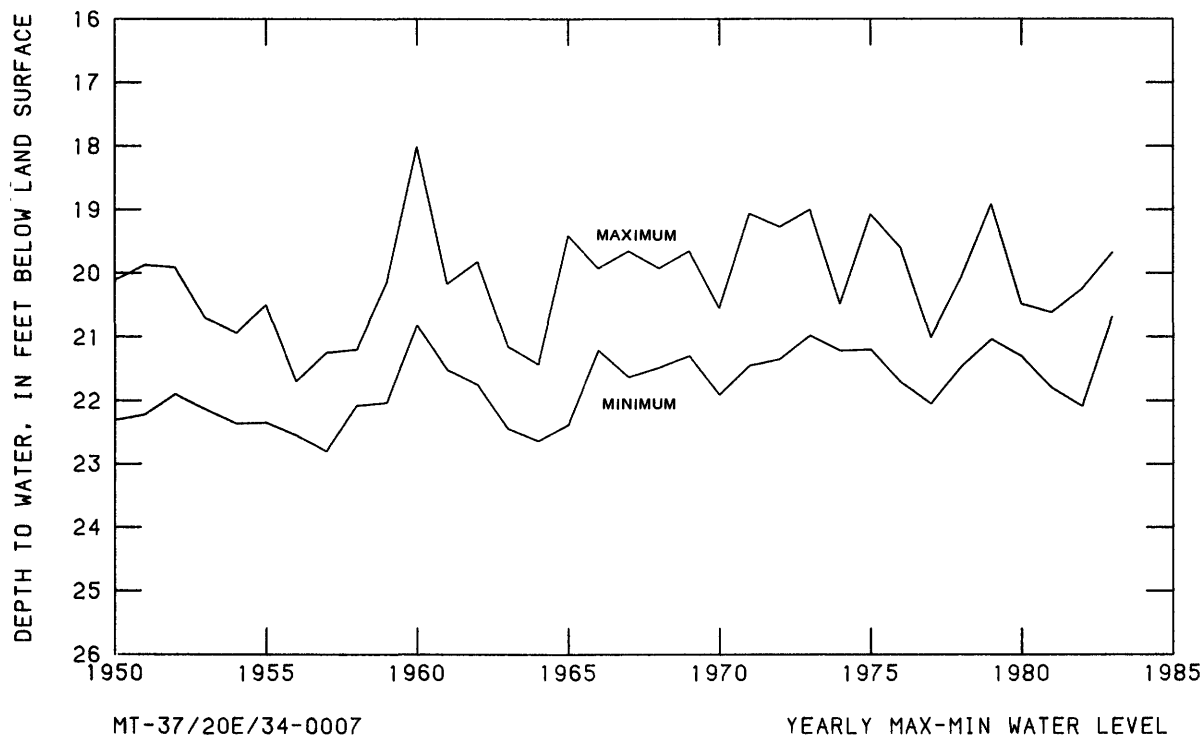
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.01 ft below land-surface datum, May 17, 1960; lowest water level measured, 23.26 ft below land-surface datum, Nov. 2, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	20.79	DEC 7	20.30	FEB 8	20.33	APR 12	20.10	JUN 14	19.74	AUG 9	20.35
12	20.74	14	20.29	15	20.51	19	19.88	21	19.84	16	20.39
19	20.68	21	20.36	22	20.54	26	19.80	28	19.97	23	20.47
26	20.56	28	20.25	MAR 1	20.56	MAY 3	19.80	JUL 5	20.02	30	20.50
NOV 2	20.52	JAN 4	20.18	8	20.20	10	19.80	12	20.10	SEP 6	20.58
9	20.56	11	20.21	15	19.95	17	19.84	19	20.17	13	20.69
16	20.48	18	20.30	22	19.96	24	19.83	26	20.27	20	20.69
23	20.37	25	20.32	29	20.07	31	19.72	AUG 2	20.34	27	20.62
30	20.31	FEB 1	20.38	APR 5	20.15	JUN 7	19.68				

GROUND-WATER LEVELS

MARINETTE COUNTY



84/2 /25

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, depth 274 ft.

DATUM.--Altitude of land-surface is 880 ft 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, 13.77 ft below land-surface datum, Mar. 23, 1983; lowest water level measured, 18.21 ft below land-surface datum, Feb. 18, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	15.07	DEC 20	14.94	FEB 23	14.65	APR 19	14.21	JUN 23	14.36	AUG 13	14.71
NOV 23	14.98	JAN 20	14.69	MAR 23	13.77	MAY 20	14.35	JUL 20	14.11	SEP 23	14.59

GROUND-WATER LEVELS

289

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, depth 170 ft, cased to 145 ft, open end.

DATUM.--Altitude of land-surface is 800 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.80 ft below land-surface datum, Apr. 2, 1973; lowest water level measured, 19.22 ft below land-surface datum, Feb. 22, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	16.73	DEC 20	15.28	FEB 23	15.39	APR 19	14.39	JUN 23	15.17	AUG 13	16.34
NOV 23	15.46	JAN 20	15.49	MAR 23	14.97	MAY 20	14.64	JUL 20	15.51	SEP 23	16.36

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, depth 1,834 ft, cased to 705 ft, open end.

DATUM.--Altitude of land-surface is 705 ft National Geodetic Vertical Datum of 1929. Measuring point: hole in cover on casing, 6.00 ft 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 below land-surface datum, 1938; lowest water level, 288.29 ft below land-surface datum, Oct. 14, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	283.59	283.77	281.79	280.25		278.45	277.80	276.74	277.07	278.96	281.75	283.73
10	283.59	283.53	281.92	279.73		278.46	276.99	277.09	277.45	279.25	282.00	283.96
15	283.90	283.33	281.58	280.15		278.29	276.85	277.02	277.54	279.59	282.46	284.11
20	284.11	282.71	281.41	280.26	278.75	277.90	276.84	277.01	278.05	280.06	282.90	283.40
25	284.25	282.70	281.26	279.50	278.93	278.20	276.75	277.06	278.43	280.71	283.37	283.22
EOM	283.98	281.94	281.09	278.91	278.82	278.15	276.80	276.87	278.55	281.20	283.69	282.87

WTR YEAR 1983 MAX 276.17 MAY 2 MIN 284.35 OCT 24

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, depth 400 ft, cased to 215 ft, open end.

DATUM.--Altitude of land-surface is 685 ft National Geodetic Vertical Datum of 1929. Measuring point: top of concrete, 8.75 ft 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 below land-surface datum, Apr. 3, 1982; lowest water level, 107.95 ft below land-surface datum, Feb. 28, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	58.70	58.54	58.20	58.21	58.15	57.70	57.69			57.40	58.06	57.75
10	58.45	58.72	58.65	57.96	58.21	57.91	57.35		57.30	57.60	57.94	57.89
15	58.53	58.69	58.27	58.22	58.05	57.80	57.40		57.14	57.56	57.98	58.13
20	58.60	58.38	58.08	58.60	58.11	57.58	57.48		57.31	57.66	58.00	57.71
25	58.97	58.66	58.08	58.37	58.22	58.03	57.42		57.35	57.79	58.14	58.00
EOM	58.52	58.26	58.37	58.21	58.10	57.79	57.41		57.14	57.77	57.95	58.01

WTR YEAR 1983 MAX 56.93 MAY 2 MIN 58.97 OCT 25

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, depth 180 ft, cased to 43 ft, open end.

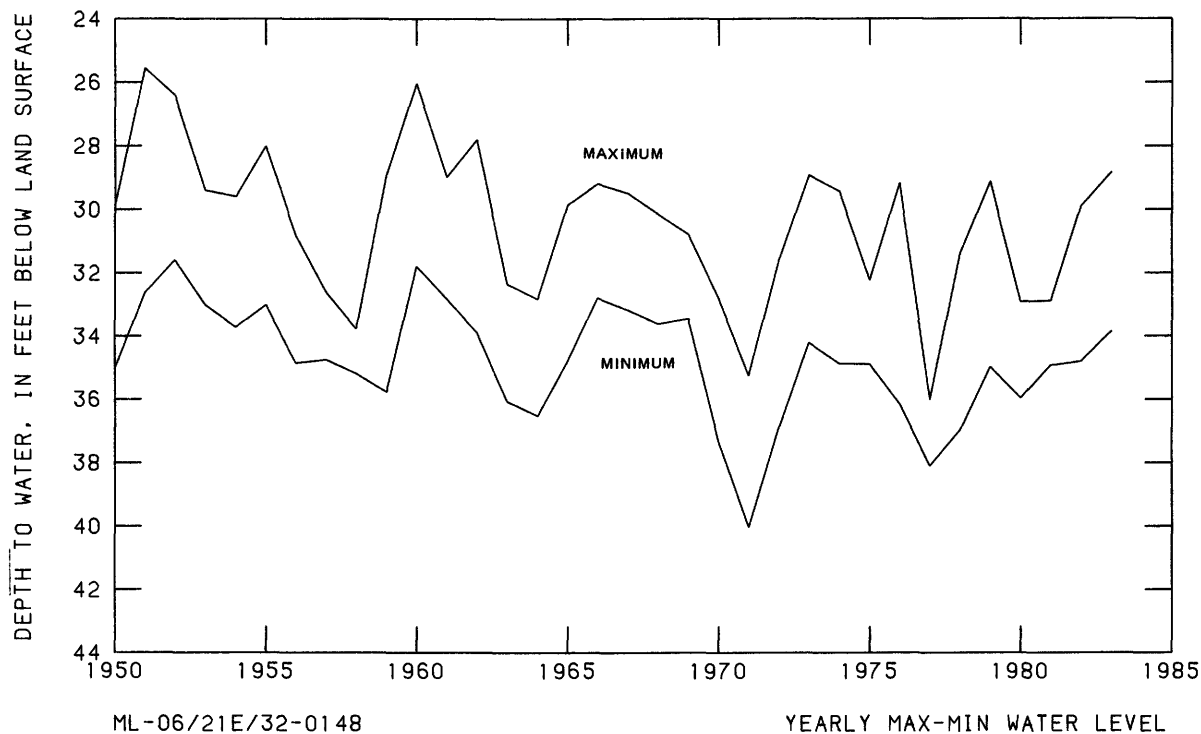
DATUM.--Altitude of land-surface is 774 ft National Geodetic Vertical Datum of 1929. Measuring point: top of 1/4 in pipe, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.44 ft below land-surface datum, May 3, 1951; lowest water level measured, 40.03 ft below land-surface datum, Aug. 13, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 3	33.76	JAN 4	31.40	MAR 1	31.85	MAY 4	29.09	JUL 6	31.46	SEP 7	32.83
DEC 2	33.24	FEB 1	31.81	APR 27	28.84	JUN 7	30.24	AUG 2	33.86		



434342090495601. Local number, MO-15/04W/34-0002.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in, depth 44 ft.

DATUM.--Altitude of land-surface is 1,100 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.50 ft 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 below land-surface datum, Apr. 10, 1976;
lowest water level measured, 18.23 ft below land-surface datum, Mar. 27, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	6.80	NOV 1	6.96	DEC 25	6.50

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, depth 192 ft, cased to 109 ft, open end.

DATUM.--Altitude of land-surface is 909 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.43 ft below land-surface datum, May 8, 1973; lowest water level, 7.75 ft below land-surface datum, Mar. 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.44	6.59	5.45	5.33	5.85	5.34	4.73	4.68	4.32	5.10	5.71	4.76
10	6.49	6.59	5.14	5.44	5.93	4.98	4.64	4.54	4.54	5.20	5.87	5.04
15	6.55	5.36	5.15	5.55	6.00	4.90	4.56	4.39	4.71	5.35	6.01	5.21
20	6.59	5.17	5.26	5.65	6.05	4.85	4.40	4.29	4.87	5.41	6.10	5.02
25	6.60	5.22	5.40	5.71	5.84	4.71	4.38	4.20	5.00	5.47	6.17	4.35
EOM	6.57	5.35	5.32	5.79	5.80	4.74	4.53	4.20	5.10	5.58	5.08	4.59

WTR YEAR 1983 MAX 4.17 MAY 30 MIN 6.60 OCT 25

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, depth 100 ft, cased to 88 ft, open end.

DATUM.--Altitude of land-surface is 640 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 2.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.07 ft below land-surface datum, June 20, 1969; lowest water level measured, 13.52 ft below land-surface datum, Aug. 27, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	10.02	DEC 29	9.93	MAR 31	9.83	MAY 31	9.67	JUN 22	9.82	SEP 14	10.33
29	10.02	JAN 18	10.10	APR 29	9.70	JUN 8	9.39	AUG 9	10.21	23	10.01
NOV 23	9.86	FEB 28	9.69								

GROUND-WATER LEVELS

ONEIDA COUNTY

455213089323501. Local number, ON-39/08E/18-0022.

LOCATION.--Lat 45°52'13", long 89°32'35", Hydrologic Unit 07070001. Owner: Wisconsin Valley Improvement Co.
 AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jetted unused water-table well, diameter 6 in, depth 27 ft, cased to 27 ft, open end.

DATUM.--Altitude of land-surface is 1,607 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 6.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.29 ft below land-surface datum, May 28, 1973; lowest water level, 19.29 ft below land-surface datum, Apr. 9, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
 LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.80	15.49	15.10	14.97	15.14	15.48	15.30	14.83	14.21	14.37	14.96	15.38
10	15.77	15.44	15.06	14.93	15.13		15.21	14.70	14.20	14.38	15.05	15.44
15	15.74	15.33	15.04	15.02	15.25	15.51	15.21	14.58	14.17	14.52	15.05	15.49
20	15.74	15.29	15.03		15.34	15.45	15.11	14.49	14.19	14.64	15.16	15.52
25	15.65	15.21	15.03	15.06	15.40	15.40	15.03	14.39	14.18	14.75	15.22	15.42
EOM	15.56	15.15	15.00	15.10	15.42	15.31	14.93	14.31	14.21	14.87	15.34	15.45

WTR YEAR 1983 MAX 14.15 JUN 26 MIN 15.81 OCT 1

454026089425301. Local number, ON-37/06E/27-0023.

LOCATION.--Lat 45°40'26", long 89°42'53", Hydrologic Unit 07070001. Owner: U.S. Geol. Survey.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 1/4 in, depth 37 ft, cased to 35 ft, well point 35-37 ft.

DATUM.--Altitude of land-surface is 1,529 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.35 ft below land-surface datum, July 22, 1973; lowest water level measured, 33.67 ft below land-surface datum, Apr. 15, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	28.97	DEC 5	28.75	FEB 8	28.60	APR 11	28.42	JUN 12	27.70	AUG 7	27.53
10	29.02	12	28.72	13	28.66	18	28.37	20	27.60	14	27.62
17	29.10	19	28.65	20	28.70	25	28.27	27	27.68	21	27.64
24	29.06	26	28.60	28	28.82	MAY 2	28.21	JUL 4	27.47	28	27.65
31	29.10	JAN 2	28.62	MAR 6	28.80	9	28.18	10	27.50	SEP 4	27.47
NOV 7	29.02	9	28.52	13	28.75	15	28.13	17	27.44	11	27.24
15	28.95	17	28.50	21	28.66	22	28.08	24	27.43	18	27.84
21	29.07	23	28.54	27	28.60	30	28.02	31	27.47	25	27.72
28	28.77	FEB 1	28.82	APR 4	28.53	JUN 6	27.97				

OUTAGAMIE COUNTY

441734088251101. Local number, OU-21/17E/15-0029.

LOCATION.--Lat 44°17'34", long 88°25'11", Hydrologic Unit 04030204. Owner: Highland Memorial Park.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled irrigation artesian well, diameter 10 in, depth 300 ft.

DATUM.--Altitude of land-surface is 839 ft National Geodetic Vertical Datum of 1929. Measuring point: top of breather hole, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.84 ft below land-surface datum, Nov. 24, 1955; lowest water level measured, 64.48 ft below land-surface datum, Dec. 30, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	61.00	DEC 3	59.28	FEB 4	59.41	APR 4	58.26	JUN 1	57.76	AUG 3	60.25
NOV 5	60.57	JAN 5	58.91	MAR 7	60.86	MAY 17	58.20	JUL 5	59.24	SEP 2	58.18

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, depth 52 ft.

DATUM.--Altitude of land-surface is 1,250 ft 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 below land-surface datum, Oct. 1, 1975, Apr. 27, 1976; lowest water level measured, 41.38 ft below land-surface datum, July 22, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	33.89	JAN 5	33.73	MAR 23	33.72	MAY 24	32.79	JUL 6	32.36	AUG 19	32.35
NOV 2	33.85	FEB 25	34.13	APR 4	33.65	JUN 22	32.28	JUL 20	32.40	SEP 8	32.09
DEC 7	33.83										

452352092332001. Local number, PK-34/18W/26-0093.

LOCATION.--Lat 45°23'52", long 92°33'20", Hydrologic Unit 07030005. Owner: Wl. Dept. of Transportation.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 64 ft, cased to 60 ft, open end.

DATUM.--Altitude of land-surface is 1,140 ft National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--March 10, 1966 to current year.

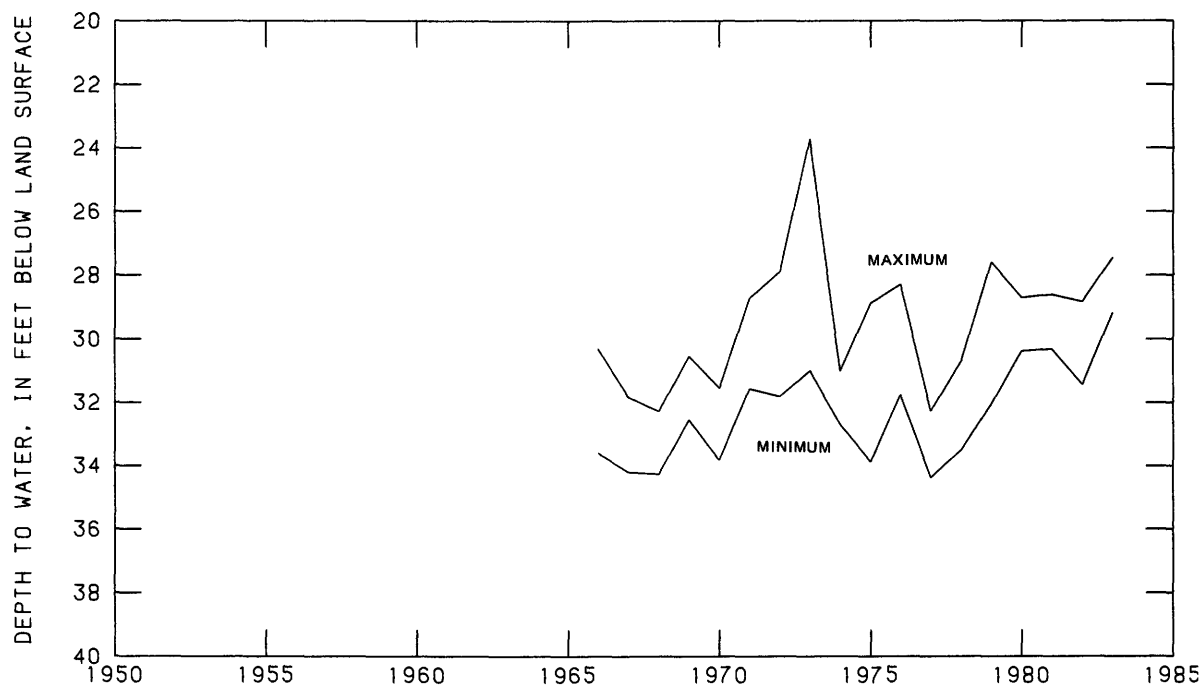
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.72 ft below land-surface datum, June 20, 1973; lowest water level measured, 34.37 ft below land-surface datum, Sept. 6, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	29.42	DEC 1	28.95	JAN 26	28.91	MAR 30	28.09	MAY 23	27.49	JUL 27	28.17
13	29.41	8	28.94	FEB 2	28.92	APR 6	28.01	JUN 2	27.52	AUG 17	28.38
20	29.38	15	28.87	8	29.06	13	27.89	9	27.58	24	28.47
27	29.27	22	28.84	16	29.13	20	27.77	15	27.63	31	28.34
NOV 3	29.24	29	28.83	23	29.19	27	27.65	22	27.71	SEP 7	28.59
10	29.17	JAN 5	28.75	MAR 9	28.52	MAY 4	27.50	29	27.83	14	28.68
17	29.14	12	28.74	16	28.30	11	27.50	JUL 13	28.22	21	28.73
24	29.06	19	29.06	23	28.48	18	27.47	20	28.10	28	28.78

GROUND-WATER LEVELS

POLK COUNTY



PK-34/18W/26-0093

YEARLY MAX-MIN WATER LEVEL

84/2 /25

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, depth 52 ft, cased to 50 ft, screened 50-52 ft.

DATUM.--Altitude of land-surface is 1,133 ft National Geodetic Vertical Datum of 1929. Measuring point: rim of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.50 ft below land-surface datum, Aug. 4, 1973; lowest water level measured, 38.81 ft below land-surface datum, Nov. 12, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	32.68	DEC 11	32.72	FEB 19	32.58	APR 16	32.27	JUN 11	32.05	AUG 6	31.70
16	32.69	25	32.70	MAR 5	32.55	30	32.22	25	31.97	20	31.58
30	32.70	JAN 8	32.68	19	32.44	MAY 14	32.17	JUL 9	31.88	3	31.31
NOV 13	32.72	22	32.65	APR 2	32.34	28	32.12	23	31.79	17	31.25
27	32.72	FEB 5	32.62								

GROUND-WATER LEVELS

295

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, depth 36 ft, cased to 34 ft, well point 34-36 ft.

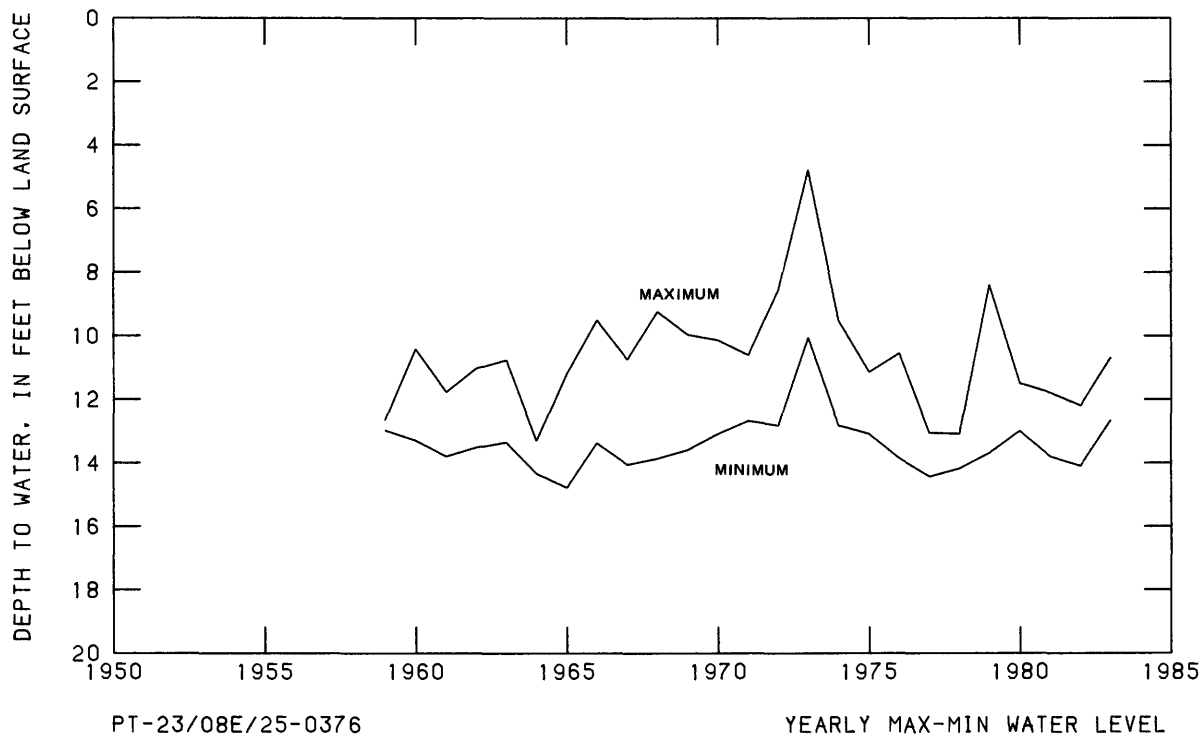
DATUM.--Altitude of land-surface is 1,099 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 4.20 ft above land-surface datum.

PERIOD OF RECORD.--December 1, 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.77 ft below land-surface datum, June 5, 1973; lowest water level measured, 14.78 ft below sand-surface datum. Feb. 28, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 30	12.40	JAN 31	12.05	MAR 31	11.26	MAY 31	10.70	JUL 14	11.36	AUG 29	12.17
DEC 30	12.30	FEB 28	12.68	APR 30	10.81	JUN 30	10.91	JUL 31	11.25	SEP 26	11.58



84/2 /25

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.--Jettied unused water-table well, diameter 8 in, depth 13 ft, cased to 13 ft.

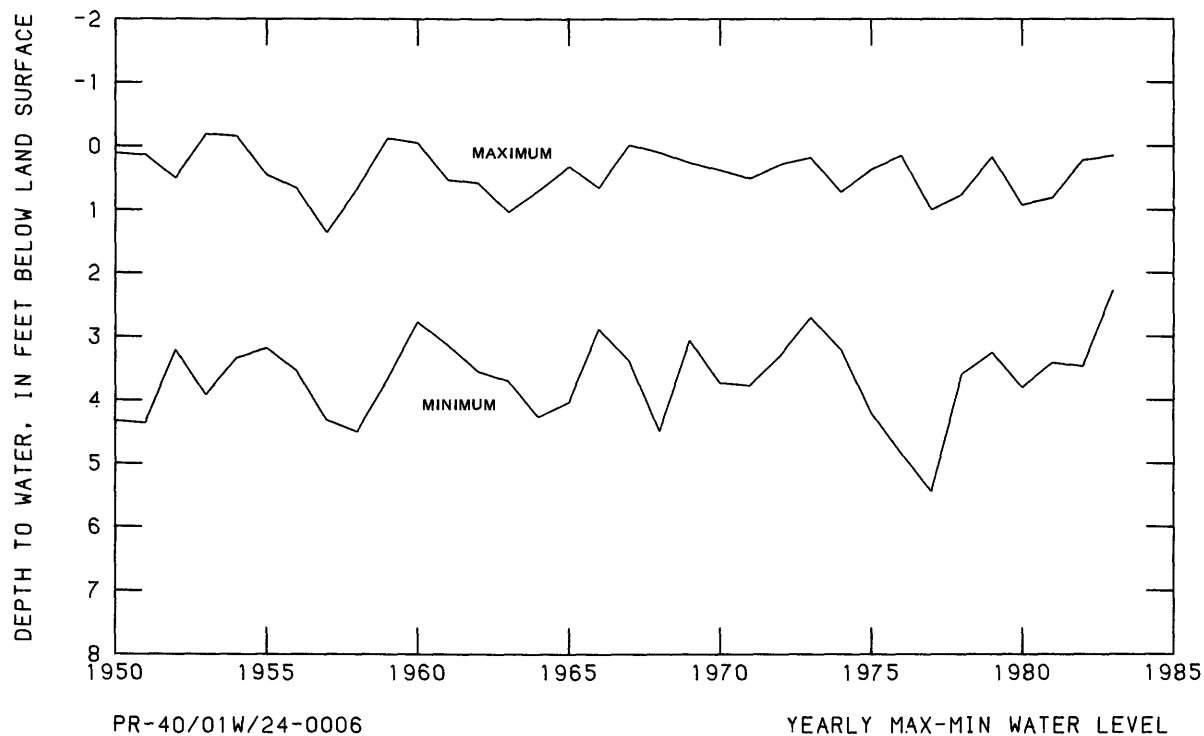
DATUM.--Altitude of land-surface is 1,510 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 5.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.41 ft above land-surface datum, June 29, 1946; lowest water level measured, 5.67 ft below land-surface datum, Oct. 31, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	0.80	DEC 3	0.75	FEB 4	1.51	APR 15	0.40	JUN 17	1.11	AUG 19	1.67
8	0.61	10	0.90	11	1.60	29	0.68	24	1.43	26	1.92
15	0.70	17	1.05	21	1.10	MAY 6	0.81	JUL 1	1.61	31	2.09
22	0.40	24	1.00	28	0.60	13	0.60	9	1.27	SEP 2	2.18
29	0.47	31	0.95	MAR 11	0.25	20	0.88	15	1.88	9	1.96
NOV 5	0.59	JAN 7	1.07	18	0.28	28	0.95	29	2.28	16	0.96
12	0.60	14	1.10	25	0.59	JUN 3	0.75	AUG 5	1.18	23	1.13
19	0.22	20	1.27	APR 1	0.15	10	0.97	12	1.30	30	1.42
26	0.70	28	1.35	8	0.30						



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, depth 1,176 ft, cased to 586 ft, 10 in liner 976-1,083 ft.

DATUM.--Altitude of land-surface is 730 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

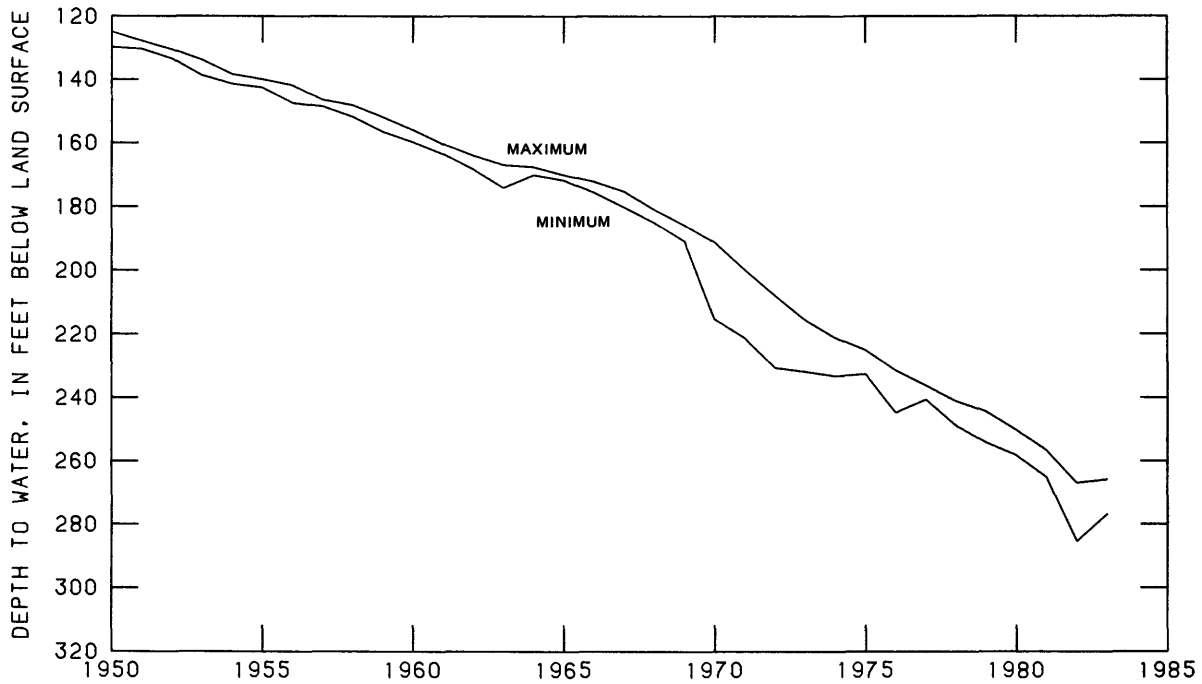
REMARKS.--Water level affected by regional pumping of wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 109.00 ft below land-surface datum, July 29, 1946; lowest water level measured, 276.90 ft below land-surface datum, July 21, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 6	266.90	MAR 23	265.84	JUL 21	276.90



RA-03/22E/21-0005

YEARLY MAX-MIN WATER LEVEL

84/2 /25

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, depth 160 ft, cased to 135 ft, open end.

DATUM.--Altitude of land-surface is 725 ft National Geodetic Vertical Datum of 1929. Measuring point: top of 1 in breather pipe, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.11 ft below land-surface datum, May 22, 1973; lowest water level measured, 15.70 ft below land-surface datum, Dec. 13, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	13.41	JAN 13	12.56	APR 20	12.04	MAY 12	11.66	JUL 14	11.89	AUG 24	11.19
NOV 30	12.55	FEB 16	12.65	26	11.61	JUN 16	11.86	20	11.47	SEP 15	12.02
DEC 16	12.34	MAR 17	12.25								

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, depth 470 ft, cased to 113 ft, open end.

DATUM.--Altitude of land-surface is 824 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole cap of casing, 1.50 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.75 ft below land-surface datum, June 3, 1983; lowest water level measured, 59.43 ft below land-surface datum, Aug. 5, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	51.75	DEC 15	50.70	FEB 10	50.89	APR 6	50.26	JUN 3	49.75	JUL 27	51.05
13	51.72	21	50.75	16	50.72	13	50.00	8	50.24	AUG 3	51.15
20	51.79	29	50.77	23	50.75	20	50.10	24	51.90	10	51.19
NOV 3	51.35	JAN 5	50.74	MAR 3	50.61	27	50.07	29	51.10	17	51.22
16	51.10	12	50.70	9	50.40	MAY 4	50.04	JUL 6	51.06	SEP 7	51.14
24	51.21	19	50.97	16	50.55	11	50.30	13	50.85	14	51.61
DEC 1	50.86	26	50.89	23	50.57	17	50.32	20	50.93	28	51.07
8	51.08	FEB 2	50.52	31	50.35	26	50.00				

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, depth 25 ft.

DATUM.--Altitude of land-surface is 1,380 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.44 ft below land-surface datum, Apr. 4, 1983; lowest water level measured, 23.50 ft below land-surface datum, Mar. 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 8	10.45	APR 4	10.44	SEP 26	12.03

450812092223601. Local number, SC-31/16W/29-0094.

AQUIFER.--Sandstone.

DATUM.--Altitude of land-surface is 1,059 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.90 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.29 ft below land-surface datum, Sept. 24, 1973; lowest water level measured, 36.04 ft below land-surface datum, Sept. 13, 1961.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 12	31.18	MAR 25	30.84	JUN 1	29.98	AUG 17	30.12

432201089460101. Local number, SK-10/06E/03-0001.

AQUIFER.--Sandstone.

DATUM.--Altitude of land-surface is 865 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.43 ft 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 below land-surface datum, May 20, 1953; lowest water level, 93.25 ft below land-surface datum, June 4, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	65.84	68.08	66.77	67.10	67.16	66.93	67.56	67.34	67.05	67.21	66.76	66.84
10	65.38	66.90	67.06	66.82	67.15	67.19	66.94	67.42	67.65	67.78	67.07	66.81
15	65.35	67.53	67.13	67.05	67.10	67.43	66.81	67.39	67.94	68.26	68.30	66.81
20	65.92	66.82	67.35	67.65	67.15	67.29	66.71	66.87	68.01	68.60	67.18	66.55
25	68.03	67.13	66.95	67.49	67.21	67.27	66.83	66.80		66.90	66.96	66.69
EOM	66.93	66.85	62.03	67.21	67.08	66.79	67.20	66.64	67.26	66.75	66.64	67.24

WTR YEAR 1983 MAX 65.03 OCT 15 MIN 68.53 OCT 26

444203088214601. Local number, SH-26/18E/30-0001.

AQUIFER.--Prairie du Chien.

DATUM.--Altitude of land-surface is 917 ft National Geodetic Vertical Datum of 1929. Measuring point:
hole in pump base, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.86 ft below land-surface datum, Apr. 25, 1973; lowest water level measured, 64.60 ft below land-surface datum, Jan. 11, 1956.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

[illegible]

GROUND-WATER LEVELS

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, depth 26 ft, cased to 16 ft, screened 16-26 ft.

DATUM.--Altitude of land-surface is 1,200 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft 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 below land-surface datum, Apr. 18, 1982; lowest water level, 13.11 ft below land-surface datum, Oct. 15, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.67	8.45	8.49	8.90	9.15	7.77	8.45	9.14	9.20	10.15	9.14	8.68
10	7.93	8.65	8.06	9.10	9.17	6.38	8.40	7.86	9.41	10.23	9.54	9.06
15	8.30	7.17	7.15	9.17	9.44	7.68	7.33	8.38	9.70	10.38	9.86	9.29
20	8.43	7.78	6.85	8.96	9.45	8.23	8.19	8.71	9.91	10.16	9.26	7.68
25	7.08	8.24	8.44	9.34	9.22	8.74	8.69	8.69	10.01	10.03	9.49	7.67
EOM	7.90	8.74	8.42	9.20	9.21	8.80	9.01	9.06	10.08	9.13	8.20	8.72

WTR YEAR 1983 MAX 6.39 NOV 13 MIN 10.40 JUL 16

450830090215201. Local number, TA-31/01E/28-0006.

LOCATION.--Lat 45°08'30", long 90°21'52", hydrologic unit 07040007. Owner: P. J. Ziehlke.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Dug domestic water table well, diameter 3.00 ft, depth 35 ft, open end.

DATUM.--Altitude of land-surface is 1,460 ft National Geodetic Vertical Datum of 1929. Measuring point: top of curb, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--August 20, 1957 to current year.

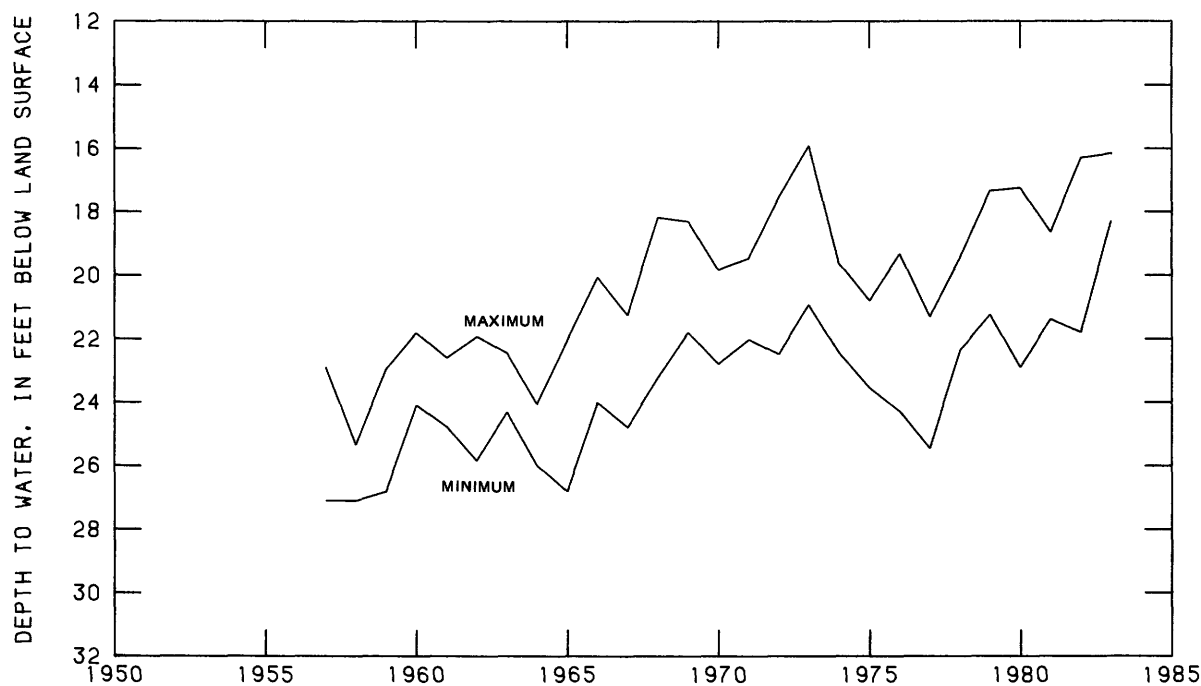
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.91 ft below sand-surface datum, May 31, 1973; lowest water level measured, 27.10 ft below land-surface datum, March 13, 1958.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	17.82	DEC 8	16.71	FEB 7	18.32	APR 8	16.55	JUN 8	16.16	AUG 16	18.16
29	16.30	JAN 4	16.95	MAR 7	16.71	MAY 16	16.81	JUL 5	17.56		

GROUND-WATER LEVELS

TAYLOR COUNTY



TA-31/01E/28-0006

YEARLY MAX-MIN WATER LEVEL

84/2 /25

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, depth 160 ft, cased to 155 ft, open end.

DATUM.--Altitude of land-surface is 1,591 ft National Geodetic Vertical Datum of 1929. Measuring point: 1/4 in hole in pump base, 0.50 ft above land-surface datum.

PERIOD OF RECORD.--December 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.30 ft below land-surface datum, July 19, 1979; lowest water level measured, 35.35 ft below land-surface datum, June 2, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	30.25	DEC 6	30.41	FEB 7	29.89	MAR 29	30.22	JUN 6	30.95	AUG 5	31.61
28	29.41	JAN 4	31.27	MAR 5	30.13	MAY 4	31.29	JUL 5	30.49	30	30.89

GROUND-WATER LEVELS

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, depth 195 ft.

DATUM.--Altitude of land-surface is 820 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 133.18 ft below land-surface datum, Jan. 13, 1955; lowest water level measured, 144.95 ft below land-surface datum, Oct. 27, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	136.18	DEC 30	135.66	JAN 27	136.46	MAR 31	135.39	MAY 31	135.08	AUG 31	135.79
NOV 26	137.08	JAN 19	135.02	FEB 22	136.92	APR 26	134.26	JUN 27	135.67		

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, depth 71 ft, cased to 66 ft, screened 66-71 ft.

DATUM.--Altitude of land-surface is 740 ft 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 below land-surface datum, June 18, 1975; lowest water level measured, 57.11 ft below land-surface datum, Mar. 16, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	48.98	JAN 4	48.92	FEB 8	47.96	APR 4	47.53	JUN 8	47.04	AUG 8	46.79
NOV 5	48.96	19	48.07	MAR 15	47.41	MAY 7	47.23	JUL 19	46.49	SEP 12	46.58
DEC 3	48.94										

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, depth 27 ft, cased to 25 ft, well point 25-27 ft.

DATUM.--Altitude of land-surface is 1,640 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.38 ft below land-surface datum, May 21, 1973; lowest water level measured, 16.86 ft below land-surface datum, Mar. 21, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	13.49	DEC 6	13.53	FEB 7	13.60	APR 11	13.53	JUN 13	13.10	AUG 9	13.12
11	13.50	13	13.54	14	13.60	18	13.53	20	13.10	18	13.11
18	13.49	20	13.55	21	13.60	25	13.52	27	13.08	22	13.11
25	13.50	27	13.55	28	13.59	MAY 2	13.52	JUL 4	13.08	29	13.12
NOV 1	13.51	JAN 4	13.55	MAR 7	13.58	9	13.51	11	13.09	SEP 5	13.15
8	13.51	10	13.56	14	13.57	16	13.51	18	13.10	12	13.15
15	13.52	17	13.57	21	13.57	23	13.50	25	13.10	19	13.16
22	13.52	24	13.57	28	13.55	30	13.50	AUG 1	13.11	26	13.16
29	13.53	31	13.58	APR 4	13.54	JUN 6	13.30				

GROUND-WATER LEVELS

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, depth 820 ft, cased to 10 in 0-214 ft, 8 in 214-227 ft, open end.

DATUM.--Altitude of land-surface is 860 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 129.48 ft below land-surface datum, Feb. 14, 1962; lowest water level measured, 201.55 ft below land-surface datum, June 8, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	198.84	DEC 7	198.41	FEB 25	197.56	APR 4	197.22	JUN 8	201.55	AUG 9	200.24
NOV 18	198.66	JAN 19	198.32	MAR 28	197.63	MAY 26	197.60	JUL 26	199.06	SEP 8	201.15

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, depth 1,300 ft.

DATUM.--Altitude of land-surface is 875 ft 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 below land-surface datum, July 6, 1947; lowest water level, 469.40 ft below land-surface datum, July 23, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	448.42	449.66	441.22	434.73	440.55	440.20	425.16	435.30	434.63	430.22		
10	451.80	444.80	444.15		438.70	439.40	421.48	436.78	427.02	433.35		
15	449.80	444.77	441.90		436.10	436.08	430.62	431.78	426.20	452.20		
20	449.60	444.80	441.52	436.53	439.57	439.05	429.96	430.37	426.42	457.20		457.70
25	452.00		434.19	436.08	437.40	437.42	431.58	431.41	429.33	461.20		456.38
EOM	451.17		426.30	439.45	436.38	432.44	436.56	437.42	431.18	456.20		459.43

WTR YEAR 1983 MAX 421.10 APR 10 MIN 465.70 SEP 22

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, depth 508 ft, cased to 434 ft, open end.

DATUM.--Altitude of land-surface is 962 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 126.28 ft below land-surface datum, June 10, 1974; lowest water level, 138.14 ft below land-surface datum, Feb. 2, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	132.47	132.44		131.65	131.81	131.51		129.75		130.25	131.19	131.01
10	132.37	132.47		131.59	131.83	131.51		129.84	130.00	130.31	131.30	131.09
15	132.42	132.44			131.83	131.42		129.78	130.16	131.01	131.07	131.12
20	132.44	132.33	131.64		131.89		129.98	129.74	130.38	131.19	131.00	131.00
25	132.53	132.40	131.57	131.81	131.74		129.85		130.79	131.03	130.98	131.12
EOM	132.50	132.26	131.63	131.77	131.63		129.85		130.42	131.20	130.96	

WTR YEAR 1983 MAX 129.57 MAY 7 MIN 132.55 NOV 9

GROUND WATER-LEVELS

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, depth 205 ft, cased to 109 ft, open end.

DATUM.--Altitude of land-surface is 764 ft National Geodetic Vertical Datum of 1929. Measuring point: hole in cap, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.65 ft below land-surface datum, Apr. 7, 1979; lowest water level measured, 15.91 ft below land-surface datum, Feb. 23, 1954.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	13.86	DEC 4	12.79	FEB 5	13.90	APR 9	12.90	JUN 4	12.02	AUG 6	13.75
9	13.87	11	12.42	12	14.05	16	12.72	11	12.24	13	13.84
16	13.85	18	12.71	19	14.12	23	12.61	18	12.66	20	13.57
23	13.74	24	13.02	26	13.69	30	12.66	25	13.05	27	13.47
30	13.67	31	13.00	MAR 5	13.38	MAY 7	12.61	JUL 2	13.13	SEP 3	13.51
NOV 6	13.70	JAN 8	13.14	12	12.62	14	12.43	9	13.28	10	13.37
13	13.32	15	13.40	19	12.36	17	12.46	16	13.52	17	13.44
20	12.69	22	13.58	26	12.50	21	12.34	23	13.50	24	12.80
27	12.80	29	13.81	APR 2	12.88	28	12.16	30	13.67		

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.--Jettied observation water-table well, diameter 4 in, depth 18 ft, cased to 18 ft.

DATUM.--Altitude of land-surface is 1,080 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.88 ft below land-surface datum, July 5, 1973; lowest water level, 15.71 ft below land-surface datum, June 10, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.13	10.38	9.87	9.69	9.88	9.68	9.18	8.77	8.28	8.40	9.01	8.95
10	10.15	10.43	9.86	9.69	9.92	9.37	9.08	8.74	8.37	8.42	9.08	8.92
15	10.20	10.12	9.78	9.77	9.95	9.30	9.04	8.70	8.16	8.52	9.26	8.90
20	10.23	9.99	9.76	9.79	9.99		8.96	8.67	8.52	8.66	9.10	8.79
25	10.29	9.93	9.71	9.79	10.01		8.89	8.59	8.46	8.91	8.99	8.43
EOM	10.34	9.87	9.73	9.83	10.01	9.24	8.82	8.39	8.30	8.89	8.97	8.30

WTR YEAR 1983 MAX 8.16 JUN 15 MIN 10.43 NOV 10

GROUND-WATER LEVELS

WAUSHARA COUNTY

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, depth 177 ft, cased to 172 ft, screened 172-177 ft.

DATUM.--Altitude of land-surface is 923 ft National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.97 ft below land-surface datum, June 26, 1973; lowest water level measured, 40.41 ft below land-surface datum, Mar. 4, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	37.35	DEC 14	36.84	FEB 16	36.95	APR 15	36.10	JUN 20	37.88	AUG 15	35.83
NOV 16	37.14	JAN 13	36.58	MAR 14	36.43	MAY 16	35.68	JUL 18	37.57	SEP 16	35.89

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, depth 200 ft.

DATUM.--Altitude of land-surface is 765 ft 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 below land-surface datum, Apr. 26, 1979; lowest water level measured, 39.75 ft below land-surface datum, Sept. 1, 1960.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	19.62	MAR 24	18.29	MAY 25	18.27	JUL 26	20.72	AUG 26	20.90	SEP 26	19.90
FEB 28	18.95	APR 28	18.03	JUN 16	18.96						

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

AQUIFER.--100SDGV, sand-and-gravel aquifer, includes deposits of the Holocene and Pleistocene Series of the Quaternary System. 350SLDL, 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. 362MQKS, Maquoketa Shale aquifer, includes rocks of the Cincinnati Series of the Ordovician System. 300SND, sandstone aquifer, includes rocks of the Champlainian and Canadian Series of the Ordovician System and the St. Croix Series of the Cambrian System. 400BCPX, basement complex aquifer, includes other rocks of the Precambrian Erameth.

GEOLOGIC UNIT.--110QRNR, rocks of the Quaternary System of the Cenozoic Erameth. 350SLRN, rocks of the Cayuga, Niagara, and Alexandrian Series of the Silurian System. 300SODV, rocks of the Silurian-Ordovician System of the Paleozoic Erameth. 360ODVC, rocks of the Ordovician System of the Paleozoic Erameth. 365CMPL, rocks of the Champlainian Series of the Ordovician System. 365SNNP, rocks of the Sinnipee Group of the Champlainian Series. 365STPR, St. Peter Sandstone. 368PRDC, Prairie du Chien Group of the Ordovician System. 3600VCB, rocks of the Ordovician-Cambrian System of the Paleozoic Erameth. 372SCRX, rocks of the St. Croix Series of the Cambrian System of the Paleozoic Erameth. 372TNLC, Tunnel City Group of the Cambrian System. 372EKMD, Elk Mound Group of Cambrian System. 372JRDN, Jordan Sandstone. 372SLRC, St. Lawrence Formation. 372WNWC, Woneewoc Formation. 372ECLR, Eau Claire Sandstone. 372MNSN, Mount Simon Sandstone. 400PCMB, rocks of the Precambrian Erameth.

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	NITROGEN DIS-SOLVED (MG/L AS N)
ADAMS									
440145089365701	AD-18/07E/13-0231	100SDGV	110QRNR	83-06-01	19	540	7.4	8.0	29
440146089364401	AD-18/07E/13-0223	100SDGV	110QRNR	83-09-02	19	480	--	12.5	3.5
440146089364402	AD-18/07E/13-0224	100SDGV	110QRNR	83-06-01	70	600	7.9	9.0	13
			110QRNR	83-09-02	70	590	--	10.5	1.9
			110QRNR	83-06-01	28	460	8.1	8.0	12
440151089363001	AD-18/07E/13-0225	100SDGV	110QRNR	83-09-02	28	540	--	9.0	2.8
			110QRNR	83-05-31	71	240	--	9.5	--
			110QRNR	83-09-01	71	240	--	10.0	1.2
440151089363002	AD-18/07E/13-0226	100SDGV	110QRNR	83-05-31	28	240	--	8.0	--
			110QRNR	83-09-01	28	250	--	10.0	.46
440159089370501	AD-18/07E/13-0221	100SDGV	110QRNR	83-05-31	63	340	--	8.0	--
			110QRNR	83-08-30	63	380	--	10.5	--
440159089370502	AD-18/07E/13-0222	100SDGV	110QRNR	83-05-31	28	320	--	10.0	15
			110QRNR	83-08-30	28	420	--	11.5	5.4
440207089363001	AD-18/07E/13-0227	100SDGV	110QRNR	83-05-31	71	280	--	9.5	--
			110QRNR	83-09-01	71	280	--	11.0	3.2
440207089363002	AD-18/07E/13-0228	100SDGV	110QRNR	83-05-31	21	260	--	7.5	11
			110QRNR	83-09-01	21	245	--	10.5	1.9
440211089365101	AD-18/07E/13-0229	100SDGV	110QRNR	83-05-31	70	240	--	10.5	--
			110QRNR	83-09-01	70	260	--	11.0	--
440211089365102	AD-18/07E/13-0230	100SDGV	110QRNR	83-05-31	30	180	--	9.5	--
			110QRNR	83-09-01	30	145	--	10.0	1.9

STATION NUMBER	DATE OF SAMPLE	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	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)
ADAMS									
440145089365701	83-06-01	2.4	1.2	17	<.010	28	.050	.45	.50
	83-09-02	2.2	1.3	15	<.010	3.2	.030	.27	.30
440146089364401	83-06-01	2.2	.6	45	<.010	13	.030	.17	.20
	83-09-02	2.0	.6	53	<.010	1.5	.080	.32	.40
440146089364402	83-06-01	2.0	.8	37	<.010	12	.030	.37	.40
	83-09-02	2.2	.8	26	<.010	2.7	.020	.08	.10
440151089363001	83-05-31	1.0	.3	1.2	<.010	.76	<.010	--	<.10
	83-09-01	1.0	.2	1.0	<.010	.82	<.010	--	.40
440151089363002	83-05-31	1.1	.5	.7	<.010	.22	<.010	--	<.10
	83-09-01	1.1	.5	.9	<.010	.16	<.010	--	.30
440159089370501	83-05-31	1.9	1.1	31	<.010	9.1	<.010	--	<.10
	83-08-30	1.5	.4	34	<.010	17	<.010	--	<.10
440159089370502	83-05-31	1.4	.4	34	<.010	14	<.010	--	.50
	83-08-30	2.2	1.2	52	<.010	5.2	<.010	--	.20
440207089363001	83-05-31	1.0	.3	.7	<.010	2.2	<.010	--	<.10
	83-09-01	1.0	.3	1.0	<.010	2.3	.050	.85	.90
440207089363002	83-05-31	1.6	.6	11	<.010	11	<.010	--	.30
	83-09-01	1.6	.6	9.8	<.010	1.5	<.010	--	.40
440211089365101	83-05-31	1.4	.4	1.2	<.010	3.6	<.010	--	<.10
	83-09-01	1.0	.4	2.5	<.010	3.1	<.010	--	<.10
440211089365102	83-05-31	.8	.4	.6	<.010	.37	<.010	--	<.10
	83-09-01	.8	.3	.8	<.010	.55	.030	1.3	1.3

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)
ADAMS									
450158089364701	AD-18/07E/13-0138	100SDGV	110QRNR	83-06-01	100	--	--	--	--
			110QRNR	83-09-06	100	--	--	--	--
ASHLAND									
470030090273601	AS-52/01W/02-0175	100SDGV	110QRNR	83-07-28	12	--	--	--	--
470030090273701	AS-52/01W/02-0176	100SDGV	110QRNR	83-08-31	12	--	--	--	--
470030090273702	AS-52/01W/02-0177	100SDGV	110QRNR	83-07-28	11	--	--	--	--
			110QRNR	83-08-31	15	--	--	--	--
BAYFIELD									
462453091274313	BA-45/09W/02-0197	100SDGV	110QRNR	82-11-09	94	--	--	--	--
CRAWFORD									
430128091100801	CR-06/07W/02-0177	300SNDS	372SCRX	83-06-22	437	--	--	--	--
430544091081601	CR-07/06W/07-0165	300SNDS	372JRDN	83-06-22	132	--	--	--	--
DANE									
425444089213001	DN-05/10E/07-0655	100SDGV	110QRNR	83-08-18	110	--	--	--	--
DODGE									
433623088544501	DG-13/13E/11-0128	300SNDS	360OVCB	83-06-07	254	--	--	--	--
EAU CLAIRE									
444735090593001	EC-27/05W/28-0014	300SNDS	372MNSN	83-06-10	125	--	--	--	--
FOND DU LAC									
433559088104401	FL-13/19E/13-0064	100SDGV	110QRNR	83-09-02	62	--	--	--	--
434600088153401	FL-15/19E/17-0413	100SDGV	110QRNR	83-09-02	120	--	--	--	--
GRANT									
425837090375701	GR-06/02W/20-0149	300SNDS	368PRDC	83-06-01	991	500	310	240	71
			372SLRC	83-06-02	991	650	550	195	72
			372TNLC	83-06-03	991	750	650	120	22
			372WNWC	83-06-07	991	850	750	280	32
			372ECLR	83-06-08	991	991	860	295	34
			372JRDN	83-06-09	991	600	500	290	73
GREEN LAKE									
435011089045701	GL-16/12E/21-0047	300SNDS	372TNLC	83-06-07	65	--	--	--	--
JACKSON									
441417090343601	JA-20/02W/02-0053	300SNDS	372WNWC	83-06-09	140	--	--	--	--
441758090431101	JA-21/03W/14-0027	300SNDS	372MNSN	83-06-21	91	--	--	--	--
JEFFERSON									
430224088353401	JE-07/16E/27-0307	300SNDS	365CMPL	83-07-15	355	355	150	>100	400
JUNEAU									
435515090152901	JU-17/02E/28-0098	300SNDS	372MNSN	83-06-08	71	--	--	--	--
KENOSHA									
422956087524601	KE-01/22E/34-0301	300SNDS	360OVCB	83-02-15	1962	1962	620	--	--
			360OVCB	83-07-18	1962	1962	620	>60	>1000
423055088020301	KE-01/21E/29-0288	100SDGV	110QRNR	83-08-25	232	--	--	--	--
423055088105701	KE-01/20E/30-0057	350SLDL	350SLRN	83-08-26	185	--	--	--	--
423102087515301	KE-01/22E/26-0087	100SDGV	110QRNR	83-08-24	116	--	--	--	--
423149088071501	KE-01/20E/22-0266	100SDGV	110QRNR	83-08-26	116	--	--	--	--
423248087533201	KE-01/22E/15-0063	100SDGV	110QRNR	83-08-24	45	--	--	--	--
423329088084001	KE-01/20E/09-0299	300SNDS	360OVCB	83-02-15	1300	1300	485	--	--
			360OVCB	83-07-18	1300	1300	485	>100	>60
423334087551401	KE-01/22E/08-0274	300SNDS	360OVCB	83-02-15	1644	1644	587	--	--
			360OVCB	83-07-18	1644	1644	587	--	--
423343088104601	KE-01/20E/07-0154	100SDGV	110QRNR	83-08-25	227	--	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	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)
ADAMS											
450158089364701	83-06-01	330	8.1	10.0	--	--	160	63	35	18	2.0
	83-09-06	360	8.2	10.0	--	--	170	71	38	19	1.8
ASHLAND											
470030090273601	83-07-28	88	6.0	18.0	--	--	33	1	8.4	3.0	.6
	83-08-31	125	6.7	18.0	--	--	--	--	--	--	--
	83-07-28	69	5.8	19.0	--	--	31	2	7.9	2.7	.6
	83-08-31	158	6.3	15.5	--	--	--	--	--	--	--
BAYFIELD											
462453091274313	82-11-09	110	8.8	7.0	--	--	52	5	14	4.1	1.2
CRAWFORD											
430128091100801	83-06-22	990	7.4	11.0	--	--	300	99	71	30	84
	83-06-22	515	7.6	11.0	--	.78	260	64	62	26	2.4
DANE											
425444089213001	83-08-18	525	7.7	12.0	--	4.8	310	106	67	34	7.3
DODGE											
433623088544501	83-06-07	495	7.3	9.5	--	--	280	70	62	31	2.9
EAU CLAIRE											
444735090593001	83-06-10	55	5.9	10.0	--	.91	15	5	3.5	1.4	1.9
FOND DU LAC											
433559088104401	83-09-02	--	7.7	11.0	--	--	310	54	67	35	2.0
	83-09-02	--	7.8	12.0	--	--	350	141	70	42	3.4
GRANT											
425837090375701	83-06-01	455	7.6	12.0	--	.36	260	6	59	27	3.5
	83-06-02	440	7.6	12.0	--	--	260	7	53	32	2.4
	83-06-03	450	7.6	12.0	--	--	270	8	55	32	2.5
	83-06-07	470	7.6	12.0	--	--	260	11	61	26	2.6
	83-06-08	470	7.6	12.0	--	--	250	3	58	26	2.6
	83-06-09	470	7.6	12.0	--	.39	270	12	55	31	2.4
GREEN LAKE											
435011089045701	83-06-07	965	7.3	10.0	--	4.0	550	48	110	68	9.3
JACKSON											
441417090343601	83-06-09	43	6.4	10.0	--	.35	10	4	1.9	1.2	.7
	83-06-21	75	5.9	10.0	--	--	16	10	3.3	1.9	.9
JEFFERSON											
430224088353401	83-07-15	700	7.2	11.0	.3	--	370	4	77	42	4.4
JUNEAU											
435515090152901	83-06-08	1310	6.4	10.0	--	.51	430	366	96	45	61
KENOSHA											
422956087524601	83-02-15	1670	7.6	13.5	--	--	590	352	190	25	88
	83-07-18	1690	7.0	18.5	.0	--	--	--	--	--	--
	83-08-25	485	8.5	10.0	--	--	96	0	15	14	68
	83-08-26	650	7.7	11.0	--	--	360	27	73	42	6.9
423102087515301	83-08-24	620	7.9	10.5	--	--	270	0	35	43	32
	83-08-26	820	7.6	9.5	--	--	450	260	100	49	4.3
423248087533201	83-08-24	422	8.1	10.5	--	--	130	0	27	15	46
	83-02-15	1100	8.8	12.5	--	--	10	0	2.4	.8	330
423329088084001	83-07-18	1060	8.4	14.0	.0	--	--	--	--	--	--
	83-02-15	760	7.3	17.0	--	--	350	94	110	16	21
42334087551401	83-07-18	800	7.1	18.0	--	--	--	--	--	--	--
	83-08-25	535	8.0	11.0	--	--	110	0	24	13	85

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	ALKALINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
ADAMS											
450158089364701	83-06-01	3	.0	.5	--	99	1.5	--	16	14	--
	83-09-06	2	.0	.7	--	102	1.2	--	17	15	--
ASHLAND											
470030090273601	83-07-28	4	.0	1.4	--	32	62	--	.6	1.3	<.10
	83-08-31	--	--	--	58	--	22	--	--	--	--
470030090273701	83-07-28	4	.0	1.3	--	29	89	--	9.0	.8	<.10
470030090273702	83-08-31	--	--	--	82	--	80	--	--	--	--
BAYFIELD											
462453091274313	82-11-09	5	.0	.4	--	47	.1	--	7.0	.4	<.10
CRAWFORD											
430128091100801	83-06-22	37	2.2	6.1	--	203	16	--	77	120	.50
430544091081601	83-06-22	2	.0	1.0	--	198	9.6	--	20	3.9	.20
DANE											
425444089213001	83-08-18	5	.2	1.5	--	202	7.8	--	22	20	<.10
DODGE											
433623088544501	83-06-07	2	.0	.9	--	213	21	--	4.7	1.5	.20
EAU CLAIRE											
444735090593001	83-06-10	20	.2	1.4	--	10	24	--	5.6	4.7	<.10
FOND DU LAC											
433559088104401	83-09-02	1	.0	.9	--	258	9.9	--	15	3.9	.10
434600088153401	83-09-02	2	.0	1.2	--	207	6.3	--	25	3.0	.10
GRANT											
425837090375701	83-06-01	3	.0	1.1	253	205	12	--	23	3.5	.10
	83-06-02	2	.0	.8	257	252	12	--	18	1.4	.10
	83-06-03	2	.0	.9	261	207	13	--	18	1.1	<.10
	83-06-07	2	.0	1.1	249	247	12	--	23	2.7	.20
	83-06-08	2	.0	1.1	249	246	12	--	22	2.5	.20
	83-06-09	2	.0	.8	253	250	12	--	18	1.1	<.10
GREEN LAKE											
435011089045701	83-06-07	4	.2	1.8	--	507	49	--	33	21	<.10
JACKSON											
441417090343601	83-06-09	12	.1	1.2	--	6.0	4.6	--	9.4	.5	<.10
441758090431101	83-06-21	8	.1	4.7	--	6.0	15	--	16	1.5	<.10
JEFFERSON											
430224088353401	83-07-15	3	.1	2.0	362	311	44	<.5	18	11	.30
JUNEAU											
435515090152901	83-06-08	23	1.3	8.8	--	60	46	--	20	360	<.10
KENOSHA											
422956087524601	83-02-15	24	1.7	19	234	213	11	<.5	340	150	1.0
	83-07-18	--	--	--	234	--	45	--	--	--	--
423055088020301	83-08-25	60	3.1	1.6	--	119	.7	--	120	4.4	1.2
423055088105701	83-08-26	4	.2	1.3	--	329	13	--	26	3.4	.40
423102087515301	83-08-24	21	.9	1.3	--	278	6.8	--	51	3.8	1.0
423149088071501	83-08-26	2	.0	1.1	--	192	9.3	--	76	16	.20
423248087533201	83-08-24	43	1.8	.8	--	197	3.0	--	18	9.7	.90
423329088084001	83-02-15	98	48	1.9	459	474	1.4	<.5	76	73	7.5
	83-07-18	--	--	--	407	--	3.1	--	--	--	--
423334087551401	83-02-15	11	.5	12	258	260	28	<.5	140	11	1.4
	83-07-18	--	--	--	262	--	40	--	--	--	--
423343088104601	83-08-25	61	3.6	2.2	--	277	5.3	--	13	11	.90

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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)
ADAMS												
450158089364701		83-06-01	--	--	230	--	.31	--	<.010	8.0	<.010	--
		83-09-06	--	--	203	--	.28	--	<.010	1.8	.030	--
ASHLAND												
470030090273601		83-07-28	--	7.6	89	42	.12	--	--	--	--	--
		83-08-31	--	--	--	--	--	--	--	<.10	--	--
470030090273701		83-07-28	--	5.8	58	45	.08	--	--	--	--	--
470030090273702		83-08-31	--	--	--	--	--	--	--	<.10	--	--
BAYFIELD												
462453091274313		82-11-09	--	13	64	68	.09	--	<.010	<.01	.015	.09
CRAWFORD												
430128091100801		83-06-22	--	7.9	507	520	.69	--	<.010	<.10	.300	.10
430544091081601		83-06-22	--	13	282	247	.38	--	<.010	.48	.040	.26
DANE												
425444089213001		83-08-18	--	16	375	310	.51	4.63	.070	4.7	.060	.04
DODGE												
433623088544501		83-06-07	--	13	267	245	.36	--	<.010	<.10	.080	.12
EAU CLAIRE												
444735090593001		83-06-10	--	17	52	44	.07	.60	.010	.61	.020	.28
FOND DU LAC												
433559088104401		83-09-02	--	16	325	299	.44	--	<.010	<.10	.150	.55
434600088153401		83-09-02	--	20	370	291	.50	--	<.010	<.10	.070	.23
GRANT												
425837090375701		83-06-01	--	9.5	289	279	.39	--	<.010	.16	<.010	--
		83-06-02	--	11	265	273	.36	--	.030	<.10	<.010	--
		83-06-03	--	9.9	286	276	.39	--	<.010	<.10	<.010	--
		83-06-07	--	9.4	283	276	.38	--	.020	<.10	<.010	--
		83-06-08	--	9.0	273	271	.37	--	.020	<.10	<.010	--
		83-06-09	--	11	256	271	.35	--	<.010	.19	<.010	--
GREEN LAKE												
435011089045701		83-06-07	--	22	553	569	.75	--	<.010	3.5	.050	.45
JACKSON												
441417090343601		83-06-09	--	6.6	31	26	.04	.14	.010	.15	.030	.17
441758090431101		83-06-21	--	19	57	55	.08	--	<.010	<.10	.050	.15
JEFFERSON												
430224088353401		83-07-15	.04	14	412	390	.56	--	<.010	<.10	.280	.12
JUNEAU												
435515090152901		83-06-08	--	4.0	891	635	1.2	.29	.020	.31	.100	.10
KENOSHA												
422956087524601		83-02-15	.89	7.5	1170	985	1.6	--	<.010	<.10	.090	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423055088020301		83-08-25	--	8.7	297	305	.40	--	<.010	<.10	.080	.02
423055088105701		83-08-26	--	24	362	375	.49	--	.010	<.10	.150	.25
423102087515301		83-08-24	--	23	344	360	.47	--	.020	<.10	.290	.11
423149088071501		83-08-26	--	19	487	383	.66	--	<.010	<.10	.200	.30
423248087533201		83-08-24	--	15	259	254	.35	--	.040	<.10	.090	.11
423329088084001		83-02-15	.19	6.4	760	778	1.0	--	<.010	<.10	.540	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423334087551401		83-02-15	.06	7.9	539	487	.73	--	<.010	<.10	.210	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423343088104601		83-08-25	--	10	332	326	.45	--	<.010	<.10	.100	.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, HYDRO. + ORTHO DIS. (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)	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)
ADAMS												
450158089364701	83-06-01		<.10	.02	--	1	36	--	20	<1	--	--
	83-09-06		<.10	.02	--	2	17	--	<20	<1	--	--
ASHLAND												
470030090273601	83-07-28		--	--	--	--	--	--	--	--	--	--
	83-08-31		--	--	--	--	--	--	--	--	--	--
470030090273701	83-07-28		--	--	--	--	--	--	--	--	--	--
470030090273702	83-08-31		--	--	--	--	--	--	--	--	--	--
BAYFIELD												
462453091274313	82-11-09		.10	--	20	--	--	--	--	--	--	--
CRAWFORD												
430128091100801	83-06-22		.40	--	--	--	110	--	--	--	--	--
430544091081601	83-06-22		.30	--	--	--	100	--	--	--	--	--
DANE												
425444089213001	83-08-18		.10	--	--	--	63	--	--	--	--	--
DODGE												
433623088544501	83-06-07		.20	--	--	--	220	--	--	--	--	--
EAU CLAIRE												
444735090593001	83-06-10		.30	--	--	--	25	--	--	--	--	--
FOND DU LAC												
433559088104401	83-09-02		.70	--	--	--	62	--	--	--	--	--
434600088153401	83-09-02		.30	--	--	--	58	--	--	--	--	--
GRANT												
425837090375701	83-06-01		.20	--	--	--	34	--	--	--	--	--
	83-06-02		<.10	--	--	--	14	--	--	--	--	--
	83-06-03		.10	--	--	--	38	--	--	--	--	--
	83-06-07		.30	--	--	--	29	--	--	--	--	--
	83-06-08		<.10	--	--	--	29	--	--	--	--	--
	83-06-09		.20	--	--	--	17	--	--	--	--	--
GREEN LAKE												
435011089045701	83-06-07		.50	--	--	--	58	--	--	--	--	--
JACKSON												
441417090343601	83-06-09		.20	--	--	--	75	--	--	--	--	--
441758090431101	83-06-21		.20	--	--	--	56	--	--	--	--	--
JEFFERSON												
430224088353401	83-07-15		.40	--	80	3	1800	<1	60	<1	--	3
JUNEAU												
435515090152901	83-06-08		.20	--	--	--	430	--	--	--	--	--
KENOSHA												
422956087524601	83-02-15		<.10	--	<10	1	11	<1	580	3	--	<3
	83-07-18		--	--	--	--	--	--	--	--	--	--
423055088020301	83-08-25		.10	--	--	--	35	--	--	--	--	--
423055088105701	83-08-26		.40	--	--	--	100	--	--	--	--	--
423102087515301	83-08-24		.40	--	--	--	120	--	--	--	--	--
423149088071501	83-08-26		.50	--	--	--	84	--	--	--	--	--
423248087533201	83-08-24		.20	--	--	--	130	--	--	--	--	--
423329088084001	83-02-15		<.10	--	<10	1	18	<1	3300	<1	--	<3
	83-07-18		--	--	--	--	--	--	--	--	--	--
423334087551401	83-02-15		<.10	--	<10	1	21	<1	220	<1	--	<3
	83-07-18		--	--	--	--	--	--	--	--	--	--
423343088104601	83-08-25		.20	--	--	--	59	--	--	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	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, 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)	NICKEL, DIS- SOLVED (UG/L AS NI)
ADAMS												
450158089364701		83-06-01	1	--	--	4	8	--	<1	.1	1	--
		83-09-06	1	--	--	<3	<1	--	<1	<.1	3	--
ASHLAND												
470030090273601		83-07-28	--	--	--	--	--	--	--	--	--	--
		83-08-31	--	--	--	--	--	--	--	--	--	--
470030090273701		83-07-28	--	--	--	--	--	--	--	--	--	--
470030090273702		83-08-31	--	--	--	--	--	--	--	--	--	--
BAYFIELD												
462453091274313		82-11-09	1	--	--	7	1	--	1	.3	--	--
CRAWFORD												
430128091100801		83-06-22	--	--	--	260	--	18	17	--	--	--
430544091081601		83-06-22	--	--	--	8	--	<4	<1	--	--	--
DANE												
425444089213001		83-08-18	--	--	--	8	--	<4	3	--	--	--
DODGE												
433623088544501		83-06-07	--	--	--	320	--	4	290	--	--	--
EAU CLAIRE												
444735090593001		83-06-10	--	--	--	96	--	4	12	--	--	--
FOND DU LAC												
433559088104401		83-09-02	--	--	--	3700	--	10	63	--	--	--
434600088153401		83-09-02	--	--	--	1700	--	8	29	--	--	--
GRANT												
425837090375701		83-06-01	--	--	--	50	--	<4	13	--	--	--
		83-06-02	--	--	--	120	--	<4	4	--	--	--
		83-06-03	--	--	--	260	--	<4	11	--	--	--
		83-06-07	--	--	--	260	--	<4	15	--	--	--
		83-06-08	--	--	--	230	--	<4	17	--	--	--
		83-06-09	--	--	--	48	--	4	3	--	--	--
GREEN LAKE												
435011089045701		83-06-07	--	--	--	39	--	4	11	--	--	--
JACKSON												
441417090343601		83-06-09	--	--	--	16	--	4	23	--	--	--
441758090431101		83-06-21	--	--	--	4200	--	<4	34	--	--	--
JEFFERSON												
430224088353401		83-07-15	<10	1200	310	890	<10	5	8	--	<10	--
JUNEAU												
435515090152901		83-06-08	--	--	--	2100	--	7	290	--	--	--
KENOSHA												
422956087524601		83-02-15	<10	16000	1000	15000	<10	62	230	--	<10	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423055088020301		83-08-25	--	--	--	24	--	6	19	--	--	--
423055088105701		83-08-26	--	--	--	530	--	12	8	--	--	--
423102087515301		83-08-24	--	--	--	240	--	16	6	--	--	--
423149088071501		83-08-26	--	--	--	1800	--	15	37	--	--	--
423248087533201		83-08-24	--	--	--	100	--	6	7	--	--	--
423329088084001		83-02-15	<10	350	310	36	<10	92	<1	--	<10	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423334087551401		83-02-15	<10	900	0	1200	<10	16	24	--	<10	--
		83-07-18	--	--	--	--	--	--	--	--	--	--
423343088104601		83-08-25	--	--	--	120	--	24	3	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	RADIUM 228 DIS-SOLVED (PCI/L AS RA-228)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	CARBON 14 PERCENT MODERN	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
ADAMS											
450158089364701	83-06-01	--	--	--	--	22	--	--	--	--	.9
	83-09-06	--	--	--	--	12	--	--	--	--	.8
ASHLAND											
470030090273601	83-07-28	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--
470030090273701	83-07-28	--	--	--	--	--	--	--	--	--	--
470030090273702	83-08-31	--	--	--	--	--	--	--	--	--	--
BAYFIELD											
462453091274313	82-11-09	--	--	--	--	<4	--	--	--	--	--
CRAWFORD											
430128091100801	83-06-22	--	--	760	--	--	--	--	--	--	.5
430544091081601	83-06-22	--	--	64	--	--	--	--	--	--	.5
DANE											
425444089213001	83-08-18	--	--	48	--	--	--	--	--	--	--
DODGE											
433623088544501	83-06-07	--	--	370	--	--	--	--	--	--	.7
EAU CLAIRE											
444735090593001	83-06-10	--	--	11	--	--	--	--	--	--	1.9
FOND DU LAC											
433559088104401	83-09-02	--	--	150	--	--	--	--	--	--	--
434600088153401	83-09-02	--	--	79	--	--	--	--	--	--	--
GRANT											
425837090375701	83-06-01	--	--	61	--	--	--	--	--	--	.8
	83-06-02	--	--	56	--	--	--	--	--	--	.5
	83-06-03	--	--	61	--	--	--	--	--	--	1.4
	83-06-07	--	--	55	--	--	--	--	--	--	.4
	83-06-08	--	--	58	--	--	--	--	--	--	.4
	83-06-09	--	--	57	--	--	--	--	--	--	.2
GREEN LAKE											
435011089045701	83-06-07	--	--	77	--	--	--	--	--	--	.8
JACKSON											
441417090343601	83-06-09	--	--	21	--	--	--	--	--	--	2.3
441758090431101	83-06-21	--	--	18	--	--	--	--	--	--	1.3
JEFFERSON											
430224088353401	83-07-15	<1	--	520	<6.0	16	1.1	<3.0	<.4	46.2	1.8
JUNEAU											
435515090152901	83-06-08	--	--	340	--	--	--	--	--	--	2.6
KENOSHA											
422956087524601	83-02-15	<1	--	7700	<6.0	9	7.6	--	.7	--	2.0
	83-07-18	--	--	--	--	--	--	--	--	1.0	--
423055088020301	83-08-25	--	--	580	--	--	--	--	--	--	2.3
423055088105701	83-08-26	--	--	310	--	--	--	--	--	--	1.3
423102087515301	83-08-24	--	--	2900	--	--	--	--	--	--	1.4
423149088071501	83-08-26	--	--	130	--	--	--	--	--	--	1.0
423248087533201	83-08-24	--	--	3200	--	--	--	--	--	--	3.2
423329088084001	83-02-15	<1	--	160	<6.0	10	<.1	--	.9	--	.9
	83-07-18	--	--	--	--	--	--	--	--	2.0	--
423334087551401	83-02-15	<1	--	11000	<6.0	7	4.2	--	.7	--	.9
	83-07-18	--	--	--	--	--	--	--	--	--	--
423343088104601	83-08-25	--	--	320	--	--	--	--	--	--	.7

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL	DEPTH TO BOTTOM OF SAMPLE INTERVAL	DEPTH TO TOP OF SAMPLE INTERVAL	PUMP OR FLOW PERIOD PRIOR TO SAMPLING	FLOW RATE, INSTANTANEOUS
KENOSHA									
423421087592101	KE-01/21E/02-0295	300SND	3600VCB	83-05-25	1175	1175	567	--	--
423424087560601	KE-01/22E/06-0089	100SDGV	110QRNR	83-08-23	177	--	--	--	--
423454088055002	KE-01/20E/02-0260	100SDGV	110QRNR	83-08-25	141	--	--	--	--
423647087545801	KE-02/22E/20-0235	100SDGV	110QRNR	83-08-23	113	--	--	--	--
423704087582101	KE-02/21E/24-0195	100SDGV	110QRNR	83-08-25	303	--	--	--	--
423721088024601	KE-02/21E/20-0312	350SLDL	350SLRN	83-07-16	307	307	177	--	--
423743088030801	KE-02/21E/18-0093	100SDGV	110QRNR	83-08-23	96	--	--	--	--
423800088101001	KE-02/20E/18-0349	100SDGV	110QRNR	83-08-23	89	--	--	--	--
423819088090301	KE-02/20E/17-0021	300SND	365STPR	83-09-01	1893	728	603	315	51
			372ECLR	83-09-07	1893	1013	889	285	40
			372MNSN	83-09-13	1893	1893	1014	310	52
			372MNSN	83-09-14	1893	1138	1014	370	42
			372MNSN	83-09-15	1893	1893	1344	335	45
			372SCRX	83-09-21	1893	811	729	290	36
			372WNWC	83-09-22	1893	901	819	285	47
LA CROSSE									
435420091060001	LC-17/06W/33-0040	300SND	372MNSN	83-06-21	385	--	--	--	--
LANGLADE									
452601088560401	LA-34/12E/13-0859	400BCPX	400PCMB	83-05-16	163	--	--	--	--
452625088563401	LA-34/12E/12-0762	100SDGV	110QRNR	83-05-16	25	--	--	--	--
MARQUETTE									
433956089275601	MQ-14/09E/30-0026	300SND	372EKMD	83-06-07	170	--	--	--	--
434251089165801	MQ-14/10E/11-0027	300SND	372EKMD	83-06-08	295	--	--	--	--
434650089330501	MQ-15/08E/16-0067	300SND	372MNSN	83-06-08	238	--	--	--	--
434756089193801	MQ-15/10E/08-0012	300SND	372EKMD	83-06-07	288	--	--	--	--
435141089190601	MQ-16/10E/09-0033	300SND	372EKMD	83-06-08	250	--	--	--	--
435235089292301	MQ-16/08E/12-0040	300SND	372EKMD	83-06-08	200	--	--	--	--
MILWAUKEE									
425723087591401	ML-06/21E/26-0440	300SND	365STPR	83-06-22	1401	905	786	325	51
			365STPR	83-06-23	1401	989	870	240	50
425723087591401	ML-06/21E/26-0440	300SND	372MNSN	83-06-28	1401	1401	1105	365	50
			372MNSN	83-06-29	1401	1224	1105	270	51
430028087575101	ML-06/21E/01-0300	300SND	3600VCB	83-06-17	1890	1890	625	--	--
430046088035101	ML-06/21E/06-0130	350SLDL	350SLRN	83-07-11	500	500	100	608	>50
430133088030001	ML-07/21E/31-0321	300SND	3600VCB	83-03-02	1750	1750	525	--	--
430226087551901	ML-07/22E/02-0496	300SND	365CMPL	83-03-03	1200	1200	725	--	--
			365CMPL	83-07-08	1200	1200	725	--	--
			365CMPL	83-07-08	1200	1200	725	1440	--
OUTAGAMIE									
442240088435001	OU-22/15E/18-0349	100SDGV	110QRNR	83-08-31	128	--	--	--	--
442249088433401	OU-22/15E/18-0320	100SDGV	110QRNR	83-08-31	152	--	--	--	--
442638088344101	OU-23/16E/29-0318	100SDGV	110QRNR	83-08-31	265	--	--	--	--
442829088265201	OU-23/17E/09-0071	100SDGV	110QRNR	83-08-31	158	--	--	--	--
442851088162401	OU-23/17E/09-0325	100SDGV	110QRNR	83-08-31	141	--	--	--	--
443151088434801	OU-24/15E/30-0228	100SDGV	110QRNR	83-08-31	137	--	--	--	--
OZAUKEE									
431753087591101	OZ-10/21E/27-0016	300SND	365CMPL	83-03-03	1000	1000	718	--	--
PEPIN									
443046092170401	PP-24/16W/26-0039	300SND	372TNLC	83-06-10	140	--	--	--	--
443745092020001	PP-25/14W/24-0044	300SND	372ECLR	83-06-10	176	--	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
KENOSHA												
423421087592101		83-05-25	580	7.7	16.0	--	--	270	0	71	20	32
423424087560601		83-08-23	740	8.2	12.0	--	--	160	77	34	18	90
423454088055002		83-08-25	560	8.1	11.5	--	--	250	0	35	38	26
423647087545801		83-08-23	985	8.3	10.0	--	--	220	146	43	26	130
423704087582101		83-08-25	860	8.5	10.0	--	--	120	14	24	15	130
423721088024601		83-07-16	695	7.7	11.0	.1	--	260	56	44	35	53
423743088030801		83-08-23	640	8.2	12.0	--	--	230	55	38	32	51
423800088101001		83-08-23	535	7.3	9.5	--	--	300	43	67	33	2.4
423819088090301		83-09-01	525	7.6	14.5	--	--	220	0	58	18	19
		83-09-07	510	7.5	14.5	--	--	260	1	68	18	9.0
		83-09-13	516	7.6	15.5	--	--	240	0	61	17	16
		83-09-14	516	7.5	15.0	--	--	240	0	61	18	17
		83-09-15	545	7.7	16.0	--	--	240	0	63	18	22
		83-09-21	519	6.7	14.0	--	--	230	0	59	17	14
		83-09-22	480	7.4	14.5	--	--	240	0	61	18	6.3
LA CROSSE												
435420091060001		83-06-21	460	7.6	12.0	--	--	240	69	61	21	2.2
LANGLADE												
452601088560401		83-05-16	235	8.0	5.0	--	.50	130	2	30	14	3.5
452625088563401		83-05-16	250	7.6	5.0	--	--	140	2	33	14	2.8
MARQUETTE												
433956089275601		83-06-07	465	7.6	10.0	--	--	260	0	56	30	3.0
434251089165801		83-06-08	460	7.7	11.0	--	5.0	260	30	51	31	2.0
434650089330501		83-06-08	290	7.8	11.0	--	--	160	5	35	18	2.8
434756089193801		83-06-07	380	7.9	11.5	--	2.3	200	20	41	23	3.1
435141089190601		83-06-08	400	7.7	10.0	--	.44	220	8	47	26	1.7
435235089292301		83-06-08	430	7.9	10.0	--	3.2	230	58	50	26	2.6
MILWAUKEE												
425723087591401		83-06-22	710	7.9	15.0	--	--	340	101	85	23	19
		83-06-23	710	7.7	15.0	--	--	330	102	82	21	15
425723087591401		83-06-28	730	7.9	15.5	--	--	360	125	88	24	17
		83-06-29	730	7.8	15.5	--	--	360	130	87	24	16
430028087575101		83-06-17	1540	7.4	14.5	--	--	790	609	260	28	17
430046088035101		83-07-11	625	7.6	12.0	.1	--	290	47	46	41	27
430133088030001		83-03-02	850	7.4	14.5	--	.87	440	270	120	25	14
430226087551901		83-03-03	965	7.8	14.5	--	--	510	289	140	32	18
		83-07-08	925	7.2	18.0	.6	--	--	--	--	--	--
		83-07-08	925	7.2	18.0	.6	--	--	--	--	--	--
OUTAGAMIE												
442240088435001		83-08-31	--	7.6	12.0	--	--	320	73	67	36	5.9
442249088433401		83-08-31	--	7.6	11.0	--	--	360	153	76	42	13
442638088344101		83-08-31	--	8.0	11.0	--	--	230	0	33	36	7.8
442829088265201		83-08-31	325	8.5	15.0	--	--	140	0	21	20	25
442851088162401		83-08-31	--	8.0	10.0	--	--	190	4	30	29	15
443151088434801		83-08-31	600	7.6	11.0	--	--	290	89	52	40	6.6
OZAUKEE												
431753087591101		83-03-03	600	7.4	11.0	--	.75	330	49	72	36	5.6
PEPIN												
443046092170401		83-06-10	530	7.6	11.5	--	1.2	260	0	62	25	1.6
443745092020001		83-06-10	450	7.4	11.0	--	--	230	11	54	23	2.0

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
KENOSHA												
423421087592101	83-05-25	20	.9	11	275	197	11	<.5	55	4.5	1.6	
423424087560601	83-08-23	55	3.2	1.9	--	84	1.0	--	260	10	.90	
423454088055002	83-08-25	19	.7	1.6	--	256	3.9	--	28	2.0	.80	
423647087545801	83-08-23	57	4.0	1.5	--	71	.7	--	410	11	.80	
423704087582101	83-08-25	70	5.3	1.8	--	109	.7	--	290	16	1.3	
423721088024601	83-07-16	31	1.5	1.9	199	204	7.7	<.5	160	2.4	.90	
423743088030801	83-08-23	33	1.5	1.6	--	173	2.1	--	150	2.4	1.0	
423800088101001	83-08-23	2	.0	.7	--	261	25	--	44	2.1	.20	
423819088090301	83-09-01	15	.6	8.4	259	254	13	<.5	18	3.7	1.4	
	83-09-07	7	.3	9.3	253	227	15	<.5	12	1.7	1.4	
	83-09-13	13	.5	7.4	253	237	12	--	21	5.6	1.1	
	83-09-14	14	.5	7.1	249	238	15	<.5	20	7.1	1.0	
	83-09-15	17	.7	7.7	252	159	9.7	<.5	28	13	1.2	
	83-09-21	12	.4	7.3	249	238	96	<.5	14	3.3	1.4	
	83-09-22	6	.2	6.8	240	238	18	<.5	17	2.9	1.0	
LA CROSSE												
435420091060001	83-06-21	2	.0	1.9	--	170	8.3	--	25	1.5	.20	
LANGLADE												
452601088560401	83-05-16	5	.1	1.0	--	131	2.5	--	6.6	2.0	.10	
452625088563401	83-05-16	4	.1	.8	--	138	6.7	--	7.3	1.2	.10	
MARQUETTE												
433956089275601	83-06-07	2	.0	.8	--	263	13	--	3.0	1.0	<.10	
434251089165801	83-06-08	2	.0	.8	--	225	8.7	--	14	2.4	<.10	
434650089330501	83-06-08	4	.0	.7	--	157	4.8	--	5.3	.8	<.10	
434756089193801	83-06-07	3	.0	1.0	--	177	4.3	--	11	7.5	<.10	
435141089190601	83-06-08	2	.0	.8	--	217	8.4	--	14	7.7	<.10	
435235089292301	83-06-08	2	.0	.8	--	174	4.2	--	7.3	4.0	.10	
MILWAUKEE												
425723087591401	83-06-22	12	.5	4.8	236	215	5.7	<.5	130	9.4	.60	
	83-06-23	10	.4	4.5	228	194	8.8	<.5	150	9.4	.50	
425723087591401	83-06-28	10	.4	4.3	230	207	5.6	<.5	150	11	.40	
	83-06-29	10	.4	4.1	223	220	6.8	<.5	150	10	.40	
430028087575101	83-06-17	5	.3	4.9	180	150	14	--	650	25	.40	
430046088035101	83-07-11	17	.7	1.4	239	234	12	<.5	16	15	1.0	
430133088030001	83-03-02	7	.3	3.4	170	176	13	<.5	310	12	.40	
430226087551901	83-03-03	7	.4	5.0	222	187	7.1	<.5	330	18	.40	
	83-07-08	--	--	--	239	--	29	--	--	--	--	
	83-07-08	--	--	--	239	--	29	--	--	--	--	
OUTAGAMIE												
442240088435001	83-08-31	4	.1	.8	--	243	12	--	40	11	.10	
442249088433401	83-08-31	7	.3	1.1	--	210	10	--	67	21	.10	
442638088344101	83-08-31	7	.2	1.8	--	233	4.5	--	--	1.2	--	
442829088265201	83-08-31	29	1.0	1.2	--	172	1.0	--	12	3.1	.30	
442851088162401	83-08-31	14	.5	1.5	--	191	3.7	--	16	5.2	.20	
443151088434801	83-08-31	5	.2	2.5	--	206	10	--	41	36	.10	
OZAUKEE												
431753087591101	83-03-03	4	.1	1.2	280	297	24	<.5	37	8.8	.30	
PEPIN												
443046092170401	83-06-10	1	.0	1.2	--	261	13	--	17	2.9	.20	
443745092020001	83-06-10	2	.0	1.2	--	219	17	--	15	8.6	.20	

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	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)
KENOSHA											
423421087592101	83-05-25	.04	7.8	373	380	.51	--	<.010	<.10	.210	.29
423424087560601	83-08-23	--	10	489	477	.67	--	.040	<.10	.250	.15
423454088055002	83-08-25	--	24	320	311	.44	--	.010	<.10	.380	.02
423647087545801	83-08-23	--	11	691	678	.94	--	.030	<.10	.290	.21
423704087582101	83-08-25	--	11	558	556	.76	--	.020	<.10	.210	.00
423721088024601	83-07-16	.05	19	446	438	.61	--	<.010	<.10	.380	.22
423743088030801	83-08-23	--	17	397	399	.54	--	.040	<.10	.160	.14
423800088101001	83-08-23	--	11	324	322	.44	--	.020	<.10	<.010	--
423819088090301	83-09-01	<.01	7.5	280	290	.38	--	.020	<.10	.140	.26
	83-09-07	.11	7.8	311	290	.42	--	<.010	<.10	.120	--
	83-09-13	--	7.5	295	301	.40	--	<.010	<.10	.150	.75
	83-09-14	.02	7.6	276	300	.38	--	.020	<.10	.130	.77
	83-09-15	.04	7.6	308	324	.42	--	<.010	<.10	.160	.04
	83-09-21	.01	7.5	272	286	.37	--	<.010	<.10	.090	.11
	83-09-22	.01	7.3	247	275	.34	--	<.010	<.10	.100	.10
LA CROSSE											
435420091060001	83-06-21	--	11	246	227	.33	--	<.010	<.10	.030	.17
LANGLADE											
452601088560401	83-05-16	--	13	134	149	.18	--	<.010	.30	<.010	--
452625088563401	83-05-16	--	16	146	158	.20	--	<.010	.11	<.010	--
MARQUETTE											
433956089275601	83-06-07	--	13	244	265	.33	--	<.010	<.10	.050	.35
434251089165801	83-06-08	--	16	277	252	.38	--	<.010	4.5	.040	.46
434650089330501	83-06-08	--	13	158	170	.21	--	<.010	<.10	.040	.26
434756089193801	83-06-07	--	14	227	207	.31	--	<.010	1.6	.030	.67
435141089190601	83-06-08	--	12	210	239	.29	--	<.010	.14	.050	.25
435235089292301	83-06-08	--	4.4	242	212	.33	2.79	.010	2.8	.010	.39
MILWAUKEE											
425723087591401	83-06-22	.06	7.4	511	451	.70	--	<.010	<.10	.050	.25
	83-06-23	.06	7.3	464	465	.63	--	<.010	<.10	.040	.26
425723087591401	83-06-28	.09	7.5	517	477	.70	--	--	--	--	--
	83-06-29	.06	7.4	503	470	.68	--	<.010	<.10	.030	.17
430028087575101	83-06-17	.09	7.4	1420	1130	1.9	--	<.010	<.10	.130	.07
430046088035101	83-07-11	.05	25	385	319	.52	--	<.010	<.10	.120	.28
430133088030001	83-03-02	.06	7.9	647	633	.88	--	<.010	.37	.270	.23
430226087551901	83-03-03	.06	8.3	673	716	.92	--	<.010	<.10	.150	.25
	83-07-08	--	--	--	--	--	--	--	--	--	--
	83-07-08	--	--	--	--	--	--	--	--	--	--
OUTAGAMIE											
442240088435001	83-08-31	--	16	391	339	.53	3.55	.050	3.6	.080	--
442249088433401	83-08-31	--	17	433	363	.59	--	<.010	2.3	.020	--
442638088344101	83-08-31	--	26	248	--	.34	--	<.010	<.10	.080	--
442829088265201	83-08-31	--	20	204	206	.28	--	<.010	<.10	.260	.84
442851088162401	83-08-31	--	23	235	235	.32	--	.020	<.10	.140	.06
443151088434801	83-08-31	--	14	360	345	.49	6.63	.070	6.7	.010	--
OZAUKEE											
431753087591101	83-03-03	.02	15	329	345	.45	--	<.010	.65	.040	.06
PEPIN											
443046092170401	83-06-10	--	15	301	285	.41	.88	.010	.89	.030	.27
443745092020001	83-06-10	--	14	268	251	.36	--	.010	<.10	.020	.38

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, HYDRO. + ORTHO DIS. (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)	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)
KENOSHA												
423421087592101	83-05-25		.50	--	100	1	46	1	230	1	--	3
423424087560601	83-08-23		.40	--	--	--	33	--	--	--	--	--
423454088055002	83-08-25		.40	--	--	--	120	--	--	--	--	--
423647087545801	83-08-23		.50	--	--	--	47	--	--	--	--	--
423704087582101	83-08-25		.20	--	--	--	38	--	--	--	--	--
423721088024601	83-07-16		.60	--	10	4	28	<1	360	<1	--	<3
423743088030801	83-08-23		.30	--	--	--	39	--	--	--	--	--
423800088101001	83-08-23		<.10	--	--	--	30	--	--	--	--	--
423819088090301	83-09-01		.40	--	<10	1	110	1	200	2	--	<3
	83-09-07		<.10	--	10	3	160	<1	160	<1	--	<3
	83-09-13		.90	--	--	--	160	--	--	--	--	--
	83-09-14		.90	--	10	1	150	<1	150	<1	--	<3
	83-09-15		.20	--	<10	1	150	<1	240	<1	--	<3
	83-09-21		.20	--	<10	1	120	<1	180	<1	--	<3
	83-09-22		.20	--	10	1	170	<1	120	<1	--	<3
LA CROSSE												
435420091060001	83-06-21		.20	--	--	--	40	--	--	--	--	--
LANGLADE												
452601088560401	83-05-16		.20	--	--	1	42	--	--	2	<1	--
452625088563401	83-05-16		<.10	--	--	1	47	--	--	<1	<1	--
MARQUETTE												
433956089275601	83-06-07		.40	--	--	--	57	--	--	--	--	--
434251089165801	83-06-08		.50	--	--	--	34	--	--	--	--	--
434650089330501	83-06-08		.30	--	--	--	35	--	--	--	--	--
434756089193801	83-06-07		.70	--	--	--	25	--	--	--	--	--
435141089190601	83-06-08		.30	--	--	--	61	--	--	--	--	--
435235089292301	83-06-08		.40	--	--	--	51	--	--	--	--	--
MILWAUKEE												
425723087591401	83-06-22		.30	--	10	1	42	<1	90	<1	--	<3
	83-06-23		.30	--	<10	1	26	<1	60	<1	--	<3
425723087591401	83-06-28		--	--	<100	1	42	<1	70	<1	--	4
	83-06-29		.20	--	<100	1	47	<1	60	<1	--	<3
430028087575101	83-06-17		.20	--	--	1	14	<1	90	2	--	14
430046088035101	83-07-11		.40	--	<10	3	130	<1	250	2	--	5
430133088030001	83-03-02		.50	--	<10	1	19	<1	60	<1	--	<3
430226087551901	83-03-03		.40	--	10	1	29	<1	60	<1	--	<3
	83-07-08		--	--	--	--	--	--	--	--	--	--
	83-07-08		--	--	--	--	--	--	--	--	--	--
OUTAGAMIE												
442240088435001	83-08-31		<.10	--	--	--	39	--	--	--	--	--
442249088433401	83-08-31		<.10	--	--	--	48	--	--	--	--	--
442638088344101	83-08-31		<.10	--	--	--	86	--	--	--	--	--
442829088265201	83-08-31		1.1	--	--	--	110	--	--	--	--	--
442851088162401	83-08-31		.20	--	--	--	150	--	--	--	--	--
443151088434801	83-08-31		<.10	--	--	--	100	--	--	--	--	--
OZAUKEE												
431753087591101	83-03-03		.10	--	<10	1	78	<1	30	<1	--	<3
PEPIN												
443046092170401	83-06-10		.30	--	--	--	32	--	--	--	--	--
443745092020001	83-06-10		.40	--	--	--	16	--	--	--	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	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)	NICKEL, DIS-SOLVED (UG/L AS NI)
KENOSHA											
423421087592101	83-05-25	10	380	180	200	10	21	10	--	10	--
423424087560601	83-08-23	--	--	--	150	--	10	12	--	--	--
423454088055002	83-08-25	--	--	--	12	--	11	5	--	--	--
423647087545801	83-08-23	--	--	--	120	--	11	7	--	--	--
423704087582101	83-08-25	--	--	--	65	--	15	9	--	--	--
423721088024601	83-07-16	<10	320	30	290	<10	19	9	--	50	--
423743088030801	83-08-23	--	--	--	260	--	14	6	--	--	--
423800088101001	83-08-23	--	--	--	4800	--	<4	82	--	--	--
423819088090301	83-09-01	<10	270	0	270	<10	28	11	--	<10	--
	83-09-07	<10	190	180	7	<10	<4	8	--	<10	--
	83-09-13	--	--	--	1000	--	21	15	--	--	--
	83-09-14	<10	700	180	520	<10	19	10	--	<10	--
	83-09-15	<10	1300	470	830	<10	15	18	--	<10	--
	83-09-21	<10	430	90	340	<10	17	11	--	<10	--
	83-09-22	<10	400	10	390	<10	10	8	--	<10	--
LA CROSSE											
435420091060001	83-06-21	--	--	--	1200	--	<4	110	--	--	--
LANGLADE											
452601088560401	83-05-16	--	--	--	<3	2	--	6	<.1	--	7
452625088563401	83-05-16	--	--	--	4	4	--	<1	<.1	--	7
MARQUETTE											
433956089275601	83-06-07	--	--	--	18	--	4	27	--	--	--
434251089165801	83-06-08	--	--	--	8	--	4	1	--	--	--
434650089330501	83-06-08	--	--	--	3	--	4	1	--	--	--
434756089193801	83-06-07	--	--	--	3	--	4	1	--	--	--
435141089190601	83-06-08	--	--	--	3	--	4	1	--	--	--
435235089292301	83-06-08	--	--	--	240	--	10	31	--	--	--
MILWAUKEE											
425723087591401	83-06-22	<10	20	0	240	20	19	22	--	<10	--
	83-06-23	<10	790	390	400	<10	8	25	--	20	--
425723087591401	83-06-28	<10	940	120	820	20	19	35	--	<10	--
	83-06-29	<10	840	50	790	20	19	20	--	<10	--
430028087575101	83-06-17	<10	1000	0	1200	30	12	80	--	<10	--
430046088035101	83-07-11	<10	360	0	370	30	30	5	--	10	--
430133088030001	83-03-02	<10	570	0	610	<10	10	28	--	<10	--
430226087551901	83-03-03	<10	2800	1500	1300	<10	11	36	--	<10	--
	83-07-08	--	--	--	--	--	--	--	--	--	--
	83-07-08	--	--	--	--	--	--	--	--	--	--
OUTAGAMIE											
442240088435001	83-08-31	--	--	--	4	--	6	6	--	--	--
442249088433401	83-08-31	--	--	--	28	--	5	18	--	--	--
442638088344101	83-08-31	--	--	--	45	--	7	7	--	--	--
442829088265201	83-08-31	--	--	--	54	--	5	4	--	--	--
442851088162401	83-08-31	--	--	--	160	--	8	8	--	--	--
443151088434801	83-08-31	--	--	--	30	--	10	60	--	--	--
OZAUKEE											
431753087591101	83-03-03	<10	40	30	11	<10	7	<1	--	20	--
PEPIN											
443046092170401	83-06-10	--	--	--	43	--	5	3	--	--	--
443745092020001	83-06-10	--	--	--	1100	--	4	130	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	RA-226, DIS- SOLVED, PLAN- CHET COUNT (PCI/L)	RADIUM 228 DIS- SOLVED (PCI/L AS RA-228)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	CARBON 14 PERCENT MODERN	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
KENOSHA												
423421087592101	83-05-25	<1	--	11000	6.0	--	1.4	--	--	.5	--	.6
423424087560601	83-08-23	--	--	1400	--	--	--	--	--	--	--	2.2
423454088055002	83-08-25	--	--	1700	--	--	--	--	--	--	--	2.2
423647087545801	83-08-23	--	--	1900	--	--	--	--	--	--	--	2.4
423704087582101	83-08-25	--	--	1000	--	--	--	--	--	--	--	3.2
423721088024601	83-07-16	<1	--	1400	<6.0	<3	.2	<2.0	<.4	44.8	--	2.7
423743088030801	83-08-23	--	--	1200	--	--	--	--	--	--	--	2.0
423800088101001	83-08-23	--	--	64	--	--	--	--	--	--	--	1.1
423819088090301	83-09-01	<1	--	12	<6.0	18	1.4	<3.0	.5	--	--	--
	83-09-07	<1	--	10000	<6.0	23	2.5	<3.0	.7	--	--	2.0
	83-09-13	--	--	11000	--	--	--	--	--	--	--	1.1
	83-09-14	<1	--	11000	<6.0	20	4.2	<3.0	.7	--	--	.9
	83-09-15	<1	--	11000	<6.0	13	3.4	<3.0	.8	--	--	1.3
	83-09-21	<1	--	12000	<6.0	20	2.5	<3.0	<.5	--	--	1.0
	83-09-22	<1	--	10000	<6.0	17	6.7	<3.0	.8	--	--	1.8
LA CROSSE												
435420091060001	83-06-21	--	--	43	--	--	--	--	--	--	--	.2
LANGLADE												
452601088560401	83-05-16	--	<1	61	--	--	--	--	--	--	--	1.4
452625088563401	83-05-16	--	<1	37	--	--	--	--	--	--	--	3.0
MARQUETTE												
433956089275601	83-06-07	--	--	47	--	--	--	--	--	--	--	.4
434251089165801	83-06-08	--	--	34	--	--	--	--	--	--	--	.5
434650089330501	83-06-08	--	--	40	--	--	--	--	--	--	--	.9
434756089193801	83-06-07	--	--	28	--	--	--	--	--	--	--	.8
435141089190601	83-06-08	--	--	31	--	--	--	--	--	--	--	.4
435235089292301	83-06-08	--	--	45	--	--	--	--	--	--	--	1.7
MILWAUKEE												
425723087591401	83-06-22	<1	--	30000	<6.0	21	1.4	<3.0	.6	--	--	.7
	83-06-23	<1	--	38000	<6.0	24	1.5	<3.0	.4	--	--	1.5
425723087591401	83-06-28	<1	--	36000	<6.0	28	1.3	<3.0	.4	--	--	--
	83-06-29	<1	--	36000	<6.0	43	3.8	<3.0	.4	--	--	1.3
430028087575101	83-06-17	<1	--	24000	<6.0	7	1.7	--	.9	--	--	.7
430046088035101	83-07-11	<1	--	2100	<6.0	12	.3	<2.0	<.4	55.4	--	1.6
430133088030001	83-03-02	<1	--	37000	<6.0	13	1.5	--	<.4	--	--	1.7
430226087551901	83-03-03	<1	--	29000	<6.0	81	1.9	--	<.4	--	--	1.0
	83-07-08	--	--	--	--	--	--	--	--	12.2	--	--
	83-07-08	--	--	--	--	--	--	--	--	8.8	--	--
OUTAGAMIE												
442240088435001	83-08-31	--	--	53	--	--	--	--	--	--	--	--
442249088433401	83-08-31	--	--	71	--	--	--	--	--	--	--	--
442638088344101	83-08-31	--	--	460	--	--	--	--	--	--	--	--
442829088265201	83-08-31	--	--	150	--	--	--	--	--	--	--	--
442851088162401	83-08-31	--	--	280	--	--	--	--	--	--	--	--
443151088434801	83-08-31	--	--	100	--	--	--	--	--	--	--	--
OZAUKEE												
431753087591101	83-03-03	<1	--	960	<6.0	11	.3	--	.4	--	--	1.9
PEPIN												
443046092170401	83-06-10	--	--	56	--	--	--	--	--	--	--	1.7
443745092020001	83-06-10	--	--	53	--	--	--	--	--	--	--	1.8

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	NITROGEN DIS-SOLVED (MG/L AS N)
PORTAGE									
441650089305001	PT-21/08E/23-1003	100SDGV	110QRNR	83-06-01	55	82	6.4	10.0	--
			110QRNR	83-09-01	55	65	--	10.0	1.3
441650089305002	PT-21/08E/23-1004	100SDGV	110QRNR	83-06-01	20	205	8.4	8.0	3.2
			110QRNR	83-09-01	20	145	--	10.0	2.4
441651089311101	PT-21/08E/23-1001	100SDGV	110QRNR	83-06-01	49	140	8.6	8.5	--
			110QRNR	83-09-01	49	130	--	9.0	.41
441651089311102	PT-21/08E/23-1002	100SDGV	110QRNR	83-06-01	21	270	8.2	7.0	9.0
			110QRNR	83-09-01	21	195	--	10.0	--
441702089310401	PT-21/08E/23-0403	100SDGV	110QRNR	83-06-01	85	305	7.6	10.0	--
			110QRNR	83-09-01	85	400	8.1	10.5	15
441704089304101	PT-21/08E/23-1009	100SDGV	110QRNR	83-06-01	49	700	8.0	9.0	41
			110QRNR	83-09-01	49	690	--	10.0	--
441704089304102	PT-21/08E/23-1010	100SDGV	110QRNR	83-06-01	15	280	8.0	7.5	10
			110QRNR	83-09-01	15	480	--	12.0	28
441706089312301	PT-21/08E/23-1005	100SDGV	110QRNR	83-06-01	49	660	8.2	9.0	37
			110QRNR	83-09-01	49	480	--	10.0	--
441706089312302	PT-21/08E/23-1006	100SDGV	110QRNR	83-06-01	16	320	8.6	7.0	15
			110QRNR	83-09-01	16	250	--	12.0	--
441714089310601	PT-21/08E/23-1007	100SDGV	110QRNR	83-06-01	50	670	8.1	9.0	38
			110QRNR	83-09-01	50	580	--	11.0	3.2
441714089310602	PT-21/08E/23-1008	100SDGV	110QRNR	83-06-01	20	720	8.2	7.0	38
			110QRNR	83-09-01	20	625	--	11.0	--
442317089415301	PT-22/07E/17-1024	100SDGV	110QRNR	83-06-02	34	160	6.9	9.0	4.6
			110QRNR	83-08-31	34	160	--	9.0	--
442317089415302	PT-22/07E/17-1025	100SDGV	110QRNR	83-06-02	13	120	5.5	7.0	4.6
			110QRNR	83-08-31	13	120	--	12.0	--
442318089404401	PT-22/07E/16-1015	100SDGV	110QRNR	83-06-02	40	130	7.1	9.0	.27
			110QRNR	83-08-31	40	125	--	9.0	--
442318089404402	PT-22/07E/16-1016	100SDGV	110QRNR	83-06-02	18	200	5.5	7.0	12
			110QRNR	83-08-31	18	250	--	11.0	13
442318089411601	PT-22/07E/16-1017	100SDGV	110QRNR	83-06-02	18	80	5.7	7.0	2.4
			110QRNR	83-08-31	18	60	--	10.0	--
442329089411801	PT-22/07E/17-1021	100SDGV	110QRNR	83-06-02	42	140	6.9	8.5	.42
			110QRNR	83-08-31	42	150	--	9.5	--
442329089411802	PT-22/07E/17-1022	100SDGV	110QRNR	83-06-02	13	<50	6.4	6.0	.91
			110QRNR	83-08-31	13	92	--	13.0	--
442329089411802	PT-22/07E/17-1022	100SDGV	110QRNR	83-06-02	10	80	5.7	8.0	.87
442329089415301	PT-22/07E/17-1023	100SDGV	110QRNR	83-06-02	10	90	--	15.5	.26
442330089405801	PT-22/07E/16-1018	100SDGV	110QRNR	83-06-02	64	225	7.0	9.0	2.6
			110QRNR	83-08-31	64	250	6.7	10.0	6.9
442330089413601	PT-22/07E/17-1026	100SDGV	110QRNR	83-06-02	49	145	6.9	9.0	1.9
			110QRNR	83-08-31	49	190	6.7	9.5	8.9
442342089415101	PT-22/07E/17-1019	100SDGV	110QRNR	83-06-02	36	200	7.0	8.0	.62
			110QRNR	83-08-31	36	200	--	8.0	--
442342089415102	PT-22/07E/17-1020	100SDGV	110QRNR	83-06-02	10	<50	5.4	7.0	--
			110QRNR	83-08-31	10	<50	--	12.0	--
442343089404501	PT-22/07E/09-1011	100SDGV	110QRNR	83-06-02	42	150	7.4	8.0	.33
			110QRNR	83-08-31	42	150	--	8.5	.42
442343089404502	PT-22/07E/09-1012	100SDGV	110QRNR	83-06-02	20	55	5.8	7.0	--
			110QRNR	83-08-31	20	52	--	8.0	--
442343089411501	PT-22/07E/09-1013	100SDGV	110QRNR	83-06-02	20	<50	6.1	7.0	--
			110QRNR	83-08-31	20	<50	--	9.0	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L 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- LITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
PORTAGE												
441650089305001		83-06-01	--	--	--	--	.9	--	--	.5	--	--
		83-09-01	--	--	--	--	.7	--	--	.4	--	--
441650089305002		83-06-01	--	--	--	--	1.7	--	--	.5	--	--
		83-09-01	--	--	--	--	1.5	--	--	.4	--	--
441651089311101		83-06-01	--	--	--	--	.7	--	--	.4	--	--
		83-09-01	--	--	--	--	.7	--	--	.4	--	--
441651089311102		83-06-01	--	--	--	--	2.2	--	--	.7	--	--
		83-09-01	--	--	--	--	2.0	--	--	.7	--	--
441702089310401		83-06-01	140	66	32	14	2.6	4	.0	2.7	72	3.5
		83-09-01	170	111	42	16	2.8	3	.0	3.4	60	.9
441704089304101		83-06-01	--	--	--	--	3.2	--	--	.6	--	--
		83-09-01	--	--	--	--	3.2	--	--	.6	--	--
441704089304102		83-06-01	--	--	--	--	2.0	--	--	3.0	--	--
		83-09-01	--	--	--	--	2.5	--	--	4.3	--	--
441706089312301		83-06-01	--	--	--	--	3.4	--	--	.8	--	--
		83-09-01	--	--	--	--	3.1	--	--	.7	--	--
441706089312302		83-06-01	--	--	--	--	2.1	--	--	1.2	--	--
		83-09-01	--	--	--	--	2.1	--	--	1.3	--	--
441714089310601		83-06-01	--	--	--	--	3.6	--	--	.7	--	--
		83-09-01	--	--	--	--	3.3	--	--	.6	--	--
441714089310602		83-06-01	--	--	--	--	3.3	--	--	19	--	--
		83-09-01	--	--	--	--	3.2	--	--	21	--	--
442317089415301		83-06-02	--	--	--	--	2.1	--	--	.3	--	--
		83-08-31	--	--	--	--	2.1	--	--	.3	--	--
442317089415302		83-06-02	--	--	--	--	2.2	--	--	.7	--	--
		83-08-31	--	--	--	--	2.2	--	--	.8	--	--
442318089404401		83-06-02	--	--	--	--	1.9	--	--	.4	--	--
		83-08-31	--	--	--	--	1.9	--	--	.4	--	--
442318089404402		83-06-02	--	--	--	--	1.0	--	--	7.4	--	--
		83-08-31	--	--	--	--	1.1	--	--	8.0	--	--
442318089411601		83-06-02	--	--	--	--	.8	--	--	1.7	--	--
		83-08-31	--	--	--	--	.6	--	--	1.8	--	--
442329089411801		83-06-02	--	--	--	--	2.3	--	--	.3	--	--
		83-08-31	--	--	--	--	2.2	--	--	.3	--	--
442329089411802		83-06-02	--	--	--	--	.4	--	--	1.4	--	--
442329089411802		83-08-31	--	--	--	--	.4	--	--	2.9	--	--
442329089415301		83-06-02	--	--	--	--	1.6	--	--	.5	--	--
		83-08-31	--	--	--	--	1.7	--	--	.6	--	--
442330089405801		83-06-02	91	35	20	10	2.7	6	.1	1.2	56	11
		83-08-31	98	59	21	11	2.2	4	.0	3.7	39	15
442330089413601		83-06-02	50	20	12	4.8	2.4	9	.2	.7	30	7.3
		83-08-31	64	56	16	5.8	2.3	7	.1	1.2	8.0	3.1
442342089415101		83-06-02	--	--	--	--	2.6	--	--	.6	--	--
		83-08-31	--	--	--	--	2.4	--	--	.6	--	--
442342089415102		83-06-02	--	--	--	--	1.3	--	--	.9	--	--
		83-08-31	--	--	--	--	1.2	--	--	1.0	--	--
442343089404501		83-06-02	--	--	--	--	1.8	--	--	.6	--	--
		83-08-31	--	--	--	--	1.7	--	--	.6	--	--
442343089404502		83-06-02	--	--	--	--	1.5	--	--	.8	--	--
		83-08-31	--	--	--	--	1.5	--	--	.9	--	--
442343089411501		83-06-02	--	--	--	--	1.1	--	--	.5	--	--
		83-08-31	--	--	--	--	1.0	--	--	.6	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	SULFATE DIS-SOLVED (MG/L AS SO ₄)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO ₂ +NO ₃ 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, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)
PORTAGE											
441650089305001	83-06-01	--	.5	--	--	--	<.010	1.2	<.010	--	<.10
	83-09-01	--	.8	--	--	--	<.010	.94	<.010	--	.40
441650089305002	83-06-01	--	2.8	--	--	--	<.010	2.9	.010	.29	.30
	83-09-01	--	1.2	--	--	--	<.010	2.0	.020	.38	.40
441651089311101	83-06-01	--	.6	--	--	--	<.010	.30	.030	--	<.10
	83-09-01	--	.6	--	--	--	<.010	.11	.030	.27	.30
441651089311102	83-06-01	--	5.9	--	--	--	<.010	8.7	<.010	--	.30
	83-09-01	--	2.8	--	--	--	<.010	1.5	.060	--	<.10
441702089310401	83-06-01	10	15	229	.31	--	<.010	12	.020	--	<.10
	83-09-01	16	26	291	.40	--	<.010	15	.150	.00	.10
441704089304101	83-06-01	--	64	--	--	--	<.010	41	<.010	--	.10
	83-09-01	--	70	--	--	--	<.010	40	.010	--	<.10
441704089304102	83-06-01	--	15	--	--	--	<.010	10	.030	.37	.40
	83-09-01	--	42	--	--	28.0	.010	28	.020	.18	.20
441706089312301	83-06-01	--	59	--	--	--	<.010	37	.010	.19	.20
	83-09-01	--	37	--	--	--	<.010	2.3	.020	--	<.10
441706089312302	83-06-01	--	19	--	--	--	<.010	15	<.010	--	.40
	83-09-01	--	14	--	--	--	<.010	1.3	<.010	--	<.10
441714089310601	83-06-01	--	64	--	--	--	<.010	37	.020	.48	.50
	83-09-01	--	53	--	--	--	<.010	3.0	<.010	--	.20
441714089310602	83-06-01	--	46	--	--	--	<.010	38	.030	.37	.40
	83-09-01	--	46	--	--	--	<.010	35	.040	--	<.10
442317089415301	83-06-02	--	430	--	--	--	<.010	4.4	.150	.05	.20
	83-08-31	--	2.4	--	--	--	.010	<.10	.150	.05	.20
442317089415302	83-06-02	--	6.9	--	--	--	<.010	4.4	.030	.17	.20
	83-08-31	--	8.5	--	--	--	<.010	6.5	<.010	--	<.10
442318089404401	83-06-02	--	.9	--	--	--	<.010	.17	.090	.01	.10
	83-08-31	--	1.4	--	--	--	<.010	<.10	<.010	--	<.10
442318089404402	83-06-02	--	10	--	--	--	<.010	12	.020	.08	.10
	83-08-31	--	20	--	--	--	<.010	13	<.010	--	.30
442318089411601	83-06-02	--	2.5	--	--	--	<.010	2.2	.010	.19	.20
	83-08-31	--	1.9	--	--	--	<.010	1.7	<.010	--	<.10
442329089411801	83-06-02	--	1.1	--	--	--	<.010	.12	.200	.10	.30
	83-08-31	--	1.6	--	--	--	<.010	<.10	.040	.16	.20
442329089411802	83-06-02	--	.5	--	--	--	<.010	.71	.030	.17	.20
442329089411802	83-08-31	--	.9	--	--	7.06	.040	7.1	<.010	--	<.10
442329089415301	83-06-02	--	2.0	--	--	--	<.010	.67	<.010	--	.20
	83-08-31	--	2.4	--	--	--	<.010	.16	<.010	--	.10
442330089405801	83-06-02	23	6.3	166	.23	--	<.010	2.4	.090	.11	.20
	83-08-31	26	1.8	189	.26	6.58	.020	6.6	<.010	--	.30
442330089413601	83-06-02	21	7.0	123	.17	--	<.010	1.5	.060	.34	.40
	83-08-31	12	13	151	.21	5.58	.020	5.6	1.40	1.9	3.3
442342089415101	83-06-02	--	4.0	--	--	--	<.010	.22	.150	.25	.40
	83-08-31	--	4.2	--	--	--	<.010	<.10	.030	.07	.10
442342089415102	83-06-02	--	.6	--	--	--	<.010	<.10	<.010	--	<.10
	83-08-31	--	1.0	--	--	--	<.010	<.10	<.010	--	<.10
442343089404501	83-06-02	--	.9	--	--	--	<.010	.13	.120	.08	.20
	83-08-31	--	1.3	--	--	.20	.020	.22	.080	.12	.20
442343089404502	83-06-02	--	.7	--	--	--	<.010	<.10	.040	.16	.20
	83-08-31	--	.8	--	--	--	.030	<.10	.030	.87	.90
442343089411501	83-06-02	--	27	--	--	--	<.010	<.10	.040	--	<.10
	83-08-31	--	.7	--	--	--	<.010	<.10	.030	--	<.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	PHOS-	PHOS-	PHOS-	PHOS-	PHOS-	PHOS-	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)
			PHORUS, DIS- SOLVED (MG/L AS P)	PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	PHORUS, HYDRO- LYZABLE DIS. (MG/L AS P)	PHORUS, HYDRO. + ORTHO DIS. (MG/L AS P)	PHORUS, ORGANIC DIS- SOLVED (MG/L AS P)				
PORTAGE												
441650089305001	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441650089305002	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441651089311101	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441651089311102	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441702089310401	83-06-01	.030	.030	.09	<.01	.03	<.01	1	50	20	<1	<1
	83-09-01	.030	.040	.12	<.01	.03	<.01	2	33	<20	<1	<1
441704089304101	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441704089304102	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441706089312301	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441706089312302	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441714089310601	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
441714089310602	83-06-01	--	--	--	--	--	--	--	--	--	--	--
	83-09-01	--	--	--	--	--	--	--	--	--	--	--
442317089415301	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442317089415302	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442318089404401	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442318089404402	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442318089411601	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442329089411801	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442329089411802	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442329089411802	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442329089415301	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442330089405801	83-06-02	.090	.070	.21	.01	.08	.01	1	74	20	<1	<1
	83-08-31	.020	.060	.18	<.01	.05	<.01	2	120	<20	<1	<1
442330089413601	83-06-02	.030	.030	.09	.01	.04	<.01	1	59	20	<1	<1
	83-08-31	.030	.040	.12	<.01	.04	<.01	2	91	20	<1	<1
442342089415101	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442342089415102	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--
442343089404501	83-08-31	--	--	--	--	--	--	--	--	--	--	--
	83-06-02	--	--	--	--	--	--	--	--	--	--	--
442343089404502	83-08-31	--	--	--	--	--	--	--	--	--	--	--
	83-06-02	--	--	--	--	--	--	--	--	--	--	--
442343089411501	83-06-02	--	--	--	--	--	--	--	--	--	--	--
	83-08-31	--	--	--	--	--	--	--	--	--	--	--

[illegible]

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)
RACINE									
424007088171701	RA-02/19E/06-0339	300SNDS	3600VCB	83-02-15	1474	1474	356	--	--
424119088081801	RA-03/20E/28-0062	100SDGV	3600VCB	83-07-19	1474	1474	356	>120	>800
424125088020501	RA-03/21E/29-0381	100SDGV	110QRNR	83-08-17	104	--	--	--	--
424159088123901	RA-03/21E/29-0381	100SDGV	110QRNR	83-08-18	102	--	--	--	--
	RA-03/19E/23-0322	100SDGV	110QRNR	83-08-26	70	--	--	--	--
424246087524601	RA-03/22E/15-0269	100SDGV	110QRNR	83-08-17	102	--	--	--	--
424310087561201	RA-03/22E/18-0254	100SDGV	110QRNR	83-08-17	192	--	--	--	--
424342088050201	RA-03/20E/12-0216	100SDGV	110QRNR	83-08-18	18	--	--	--	--
424432088064101	RA-03/20E/02-0250	100SDGV	110QRNR	83-08-18	107	--	--	--	--
424631087534301	RA-04/22E/28-0041	100SDGV	110QRNR	83-08-17	98	--	--	--	--
424649088090901	RA-04/20E/29-0361	100SDGV	110QRNR	83-08-19	119	--	--	--	--
424728088083201	RA-04/20E/21-0051	100SDGV	110QRNR	83-08-19	104	--	--	--	--
424806088022601	RA-04/21E/17-0133	100SDGV	110QRNR	83-08-18	175	--	--	--	--
424840087563001	RA-04/22E/18-0043	100SDGV	110QRNR	83-08-17	108	--	--	--	--
424952088094801	RA-04/20E/05-0156	100SDGV	110QRNR	83-08-19	193	--	--	--	--
ROCK									
423839089091901	RO-02/11E/11-0352	100SDGV	110QRNR	83-08-18	116	--	--	--	--
424202088472701	RO-03/14E/24-0531	300SNDS	3600VCB	83-05-24	710	710	101	--	--
424550088123501	RO-04/11E/33-0461	100SDGV	110QRNR	83-08-18	50	--	--	--	--
424623088561901	RO-04/13E/27-0008	300SNDS	372SCRX	83-02-14	722	722	276	--	--
			372SCRX	83-07-20	722	722	276	>120	--
SHEBOYGAN									
434024088034201	SB-14/20E/23-0180	100SDGV	110QRNR	83-09-01	230	--	--	--	--
434428088082301	SB-15/20E/29-0185	100SDGV	110QRNR	83-09-01	210	--	--	--	--
435034087493101	SB-16/22E/23-0071	100SDGV	110QRNR	83-09-01	204	--	--	--	--
VILAS									
455535089424302	VI-40/06E/26-0756	100SDGV	110QRNR	83-08-24	64	--	--	--	--
455630089160501	VI-40/10E/20-0786	100SDGV	110QRNR	83-08-25	48	--	--	--	--
455806089033701	VI-40/11E/01-0798	100SDGV	110QRNR	83-08-25	33	--	--	--	--
460113089042701	VI-41/11E/24-0794	100SDGV	110QRNR	83-08-25	20	--	--	--	--
460130089121101	VI-41/10E/23-0788	100SDGV	110QRNR	83-08-25	18	--	--	--	--
460540089542802	VI-42/05E/29-0762	100SDGV	110QRNR	83-08-24	37	--	--	--	--
460619089045301	VI-42/11E/23-0793	100SDGV	110QRNR	83-08-25	34	--	--	--	--
461042089471401	VI-43/06E/30-0767	100SDGV	110QRNR	83-08-24	38	--	--	--	--
461154089345501	VI-43/07E/23-0771	100SDGV	110QRNR	83-08-25	33	--	--	--	--
461436089501301	VI-44/05E/35-0765	100SDGV	110QRNR	83-08-24	43	--	--	--	--
WALWORTH									
423902088235801	WW-02/18E/08-0743	300SNDS	3600VCB	83-02-15	1400	1400	348	--	--
			3600VCB	83-07-19	1400	1400	348	>120	>600
423942088293501	WW-02/17E/04-0024	300SNDS	3600VCB	83-02-14	1702	1702	435	--	--
			3600VCB	83-07-16	1702	1702	435	>60	--
423942088293701	WW-02/17E/04-0075	350SLDL	350SLRN	83-07-16	208	208	140	>240	--
423956088331901	WW-02/16E/01-0735	300SNDS	3600VCB	83-02-14	1500	1500	350	--	--
			3600VCB	83-07-19	1500	1500	350	>90	>800
WASHBURN									
455820091394701	WB-40/11W/01-0042	300SNDS	372EKMD	83-06-22	140	--	--	--	--
WASHINGTON									
432322088093601	WN-11/20E/30-0056	300SNDS	3600DVC	83-05-24	899	899	583	--	--
432529088202501	WN-11/18E/15-0143	362MQKS	300SODV	83-03-02	766	766	418	--	--
432613088072901	WN-11/20E/08-0602	300SNDS	3600DVC	83-03-02	813	813	609	--	--
WAUKESHA									
425153088195501	WK-05/18E/26-0036	300SNDS	365STPR	82-10-21	1438	674	573	140	52
			365SNNP	82-10-26	1438	568	340	61	35
			372MNSN	82-11-03	1438	1438	966	285	54
			372WNNC	82-11-16	1438	797	745	210	27
			365STPR	82-11-17	1438	678	626	61	44
425913088134101	WK-06/19E/15-0125	300SNDS	3600VCB	83-05-24	2120	2120	505	--	--
			3600VCB	83-07-12	2120	2120	505	>40	--
430024088064301	WK-06/20E/03-0350	300SNDS	3600VCB	83-02-16	1800	1800	542	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	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)
RACINE											
424007088171701	83-02-15	398	7.3	12.5	--	--	250	13	57	24	8.1
	83-07-19	535	7.2	14.0	.1	--	--	--	--	--	--
424119088081801	83-08-17	680	7.4	10.5	--	--	350	0	67	44	12
424125088020501	83-08-18	645	8.5	10.5	--	--	160	43	31	20	66
424159088123901	83-08-26	1020	7.3	9.0	--	8.1	520	270	110	59	13
424246087524601	83-08-17	710	8.2	11.0	--	--	170	71	34	19	84
424310087561201	83-08-17	1080	8.4	11.0	--	--	270	212	60	29	110
424342088050201	83-08-18	975	8.2	11.5	--	--	280	198	59	31	95
424432088064101	83-08-18	1080	7.2	11.5	--	--	400	155	78	50	61
424631087534301	83-08-17	452	8.0	10.5	--	--	180	0	30	26	30
424649088090901	83-08-19	433	8.0	10.0	--	--	160	0	27	23	38
424728088083201	83-08-19	635	7.6	9.0	--	--	300	44	52	40	9.4
424806088022601	83-08-18	1130	8.5	10.5	--	--	270	215	58	31	120
424840087563001	83-08-17	635	8.0	10.0	--	--	270	45	36	44	39
424952088094801	83-08-19	680	8.0	11.0	--	--	330	51	49	49	13
ROCK											
423839089091901	83-08-18	560	7.5	12.0	--	2.4	310	120	69	33	4.5
424202088472701	83-05-24	560	7.3	16.0	--	2.3	290	0	65	32	5.0
424550088123501	83-08-18	516	7.7	11.5	--	--	330	41	71	36	2.8
424623088561901	83-02-14	--	7.4	13.5	--	--	320	7	64	40	2.4
	83-07-20	625	7.4	12.0	.9	--	--	--	--	--	--
SHEBOYGAN											
434024088034201	83-09-01	--	7.8	10.0	--	--	270	26	54	32	9.8
434428088082301	83-09-01	430	7.7	13.0	--	--	330	16	69	37	4.3
435034087493101	83-09-01	--	8.0	10.0	--	--	170	0	26	25	18
VILAS											
455535089424302	83-08-24	910	6.9	13.0	--	--	--	--	--	--	--
455630089160501	83-08-25	240	6.2	18.0	--	--	--	--	--	--	--
455806089033701	83-08-25	76	6.6	12.0	--	--	--	--	--	--	--
460113089042701	83-08-25	46	5.6	18.0	--	--	17	8	5.4	.9	1.1
460130089121101	83-08-25	48	5.8	18.0	--	--	--	--	--	--	--
460540089542802	83-08-24	390	6.9	15.0	--	--	--	--	--	--	--
460619089045301	83-08-25	44	6.2	11.0	--	--	--	--	3.3	--	--
461042089471401	83-08-24	128	6.7	13.0	--	--	--	--	--	--	--
461154089345501	83-08-25	197	7.4	12.5	--	--	--	--	--	--	--
461436089501301	83-08-24	172	6.8	15.0	--	--	--	--	--	--	--
WALWORTH											
423902088235801	83-02-15	405	7.6	12.5	--	--	260	0	53	30	12
	83-07-19	540	7.0	14.0	.0	--	--	--	--	--	--
423942088293501	83-02-14	460	7.4	12.0	--	--	280	0	57	33	16
	83-07-16	600	7.1	14.0	.0	--	--	--	--	--	--
423942088293701	83-07-16	680	7.3	12.0	.0	--	350	12	74	40	7.2
423956088331901	83-02-14	476	7.4	12.0	--	--	290	0	62	33	16
	83-07-19	640	7.2	13.5	.3	--	--	--	--	--	--
WASHBURN											
455820091394701	83-06-22	205	6.8	9.5	--	--	75	0	20	6.1	2.8
WASHINGTON											
432322088093601	83-05-24	800	7.7	14.0	--	--	390	69	87	39	82
432529088202501	83-03-02	680	7.5	11.5	--	--	380	94	72	31	7.8
432613088072901	83-03-02	615	7.7	11.5	--	--	350	34	76	35	6.8
WAUKESHA											
425153088195501	82-10-21	440	7.6	12.5	--	--	220	6	53	22	7.0
	82-10-26	355	7.8	14.0	--	--	190	0	45	19	5.7
	82-11-03	430	7.7	13.0	--	--	230	0	54	23	6.7
	82-11-16	430	7.7	13.5	--	--	220	0	52	22	6.8
	82-11-17	444	--	--	--	--	--	--	--	--	--
425913088134101	83-05-24	780	7.5	15.5	--	--	390	161	110	22	9.8
	83-07-12	675	7.2	15.0	.1	--	--	--	--	--	--
430024088064301	83-02-16	787	7.4	14.5	--	--	380	130	96	23	18

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
RACINE												
424007088171701	83-02-15	7	.2	5.6	234	249	23	<.5	28	3.0	.60	
	83-07-19	--	--	--	252	--	31	--	--	--	--	--
424119088081801	83-08-17	7	.3	1.4	--	359	28	--	29	2.2	.50	
424125088020501	83-08-18	47	2.3	1.0	--	118	.7	--	190	3.6	1.0	
424159088123901	83-08-26	5	.3	7.3	--	248	24	--	92	30	.20	
424246087524601	83-08-17	53	2.9	1.4	--	94	1.1	--	250	6.5	1.0	
424310087561201	83-08-17	47	3.0	1.6	--	60	.5	--	450	7.1	.90	
424342088050201	83-08-18	43	2.6	1.7	--	79	1.0	--	390	6.2	1.0	
424432088064101	83-08-18	25	1.4	2.0	--	246	30	--	91	120	.50	
424631087534301	83-08-17	26	1.0	1.5	--	263	5.1	--	1.2	2.2	1.2	
424649088090901	83-08-19	34	1.3	1.1	--	245	4.7	--	9.0	2.8	1.0	
424728088083201	83-08-19	6	.2	1.5	--	251	12	--	27	4.5	.60	
424806088022601	83-08-18	49	3.3	1.8	--	59	.4	--	490	9.3	.90	
424840087563001	83-08-17	24	1.0	1.1	--	229	4.4	--	130	2.6	1.0	
424952088094801	83-08-19	8	.3	1.6	--	275	5.3	--	29	5.6	1.0	
ROCK												
423839089091901	83-08-18	3	.1	.6	--	189	12	--	38	17	.20	
424202088472701	83-05-24	4	.1	1.2	303	295	29	<.5	6.4	2.0	.20	
424550088123501	83-08-18	2	.0	1.2	--	285	11	--	23	8.3	.10	
424623088561901	83-02-14	2	.0	1.3	318	325	25	<.5	12	1.6	.20	
	83-07-20	--	--	--	335	--	26	--	--	--	--	--
SHEBOYGAN												
434024088034201	83-09-01	7	.3	1.2	--	242	7.4	--	1.3	1.1	.30	
434428088082301	83-09-01	3	.1	1.4	--	310	12	--	2.8	2.1	.20	
435034087493101	83-09-01	19	.6	1.0	--	174	3.4	--	31	2.3	.30	
VILAS												
455535089424302	83-08-24	--	--	--	--	--	--	--	--	--	--	--
455630089160501	83-08-25	--	--	--	--	23	28	--	--	--	--	--
455806089033701	83-08-25	--	--	--	--	--	--	--	--	--	--	--
460113089042701	83-08-25	11	.1	.9	--	9.0	44	--	4.1	.4	<.10	
460130089121101	83-08-25	--	--	--	--	--	--	--	--	--	--	--
460540089542802	83-08-24	--	--	--	--	--	--	--	--	--	--	--
460619089045301	83-08-25	--	--	--	--	15	18	--	--	--	--	--
461042089471401	83-08-24	--	--	--	--	--	--	--	--	--	--	--
461154089345501	83-08-25	--	--	--	--	--	--	--	--	--	--	--
461436089501301	83-08-24	--	--	--	--	--	--	--	--	--	--	--
WALWORTH												
423902088235801	83-02-15	9	.3	4.4	279	287	14	<.5	<5.0	2.4	.50	
	83-07-19	--	--	--	288	--	56	--	--	--	--	--
423942088293501	83-02-14	11	.4	5.4	328	333	28	<.5	<5.0	1.3	.30	
	83-07-16	--	--	--	366	--	56	--	--	--	--	--
423942088293701	83-07-16	4	.2	1.3	338	342	33	<.5	13	7.5	.40	
423956088331901	83-02-14	11	.4	2.5	344	351	25	<.5	<5.0	1.1	.30	
	83-07-19	--	--	--	348	--	43	--	--	--	--	--
WASHBURN												
455820091394701	83-06-22	7	.1	.4	--	80	25	--	30	2.0	.10	
WASHINGTON												
432322088093601	83-05-24	32	1.9	3.9	318	319	12	<.5	160	32	.30	
432529088202501	83-03-02	5	.2	2.5	275	207	19	<.5	99	4.0	.30	
432613088072901	83-03-02	4	.2	1.5	313	316	12	<.5	54	1.4	.20	
WAUKESHA												
425153088195501	82-10-21	6	.2	1.6	218	189	11	--	19	1.7	.30	
	82-10-26	6	.2	2.2	195	168	6.0	--	32	3.4	.40	
	82-11-03	6	.2	1.6	244	228	9.4	--	21	2.3	.30	
	82-11-16	6	.2	1.8	233	203	9.0	--	18	1.8	.30	
	82-11-17	--	--	--	--	--	--	--	--	--	--	--
425913088134101	83-05-24	5	.2	4.5	227	202	14	<.5	180	3.8	.60	
	83-07-12	--	--	--	230	--	28	--	--	--	--	--
430024088064301	83-02-16	10	.4	4.7	242	250	18	<.5	170	11	.40	

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	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 CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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, AMMONIA DIS- SOLVED (MG/L AS NH4)
RACINE												
424007088171701	83-02-15		.03	7.2	287	280	.39	--	<.010	<.10	.110	.14
	83-07-19		--	--	--	--	--	--	--	--	--	--
424119088081801	83-08-17		--	26	401	400	.55	--	.020	<.10	.030	.04
424125088020501	83-08-18		--	13	427	398	.58	--	<.010	<.10	.280	.36
424159088123901	83-08-26		--	14	578	510	.79	7.95	.050	8.0	.030	.04
424246087524601	83-08-17		--	11	469	465	.64	--	.030	<.10	.040	.05
424310087561201	83-08-17		--	9.9	765	707	1.0	--	.030	<.10	.130	.17
424342088050201	83-08-18		--	11	703	645	.96	--	.040	<.10	.330	.43
424432088064101	83-08-18		--	7.9	689	559	.94	--	.010	<.10	.240	.31
424631087534301	83-08-17		--	17	265	270	.36	--	.020	<.10	.690	.89
424649088090901	83-08-19		--	16	286	267	.39	--	.020	<.10	.300	.39
424728088083201	83-08-19		--	25	357	312	.49	--	.020	<.10	.240	.31
424806088022601	83-08-18		--	9.0	829	758	1.1	--	.020	<.10	.390	.50
424840087563001	83-08-17		--	21	399	416	.54	--	.030	<.10	.050	.06
424952088094801	83-08-19		--	26	401	343	.55	--	.020	<.10	.200	.26
ROCK												
423839089091901	83-08-18		--	12	376	288	.51	--	<.010	2.2	.010	.01
424202088472701	83-05-24		.03	12	287	307	.39	--	<.010	1.4	.400	.52
424550088123501	83-08-18		--	19	373	332	.51	--	--	--	--	--
424623088561901	83-02-14		.02	13	313	326	.43	--	<.010	.34	.060	.08
	83-07-20		--	--	--	--	--	--	--	--	--	--
SHEBOYGAN												
434024088034201	83-09-01		--	19	286	268	.39	--	<.010	<.10	2.20	2.8
434428088082301	83-09-01		--	18	330	323	.45	--	<.010	<.10	.290	.37
435034087493101	83-09-01		--	21	221	230	.30	--	<.010	<.10	.210	.27
VILAS												
455535089424302	83-08-24		--	--	--	--	--	--	--	--	--	--
455630089160501	83-08-25		--	--	--	--	--	--	--	--	--	--
455806089033701	83-08-25		--	--	--	--	--	--	--	--	--	--
460113089042701	83-08-25		--	11	50	29	.07	--	--	--	--	--
460130089121101	83-08-25		--	--	--	--	--	--	--	--	--	--
460540089542802	83-08-24		--	--	--	--	--	--	--	--	--	--
460619089045301	83-08-25		--	--	--	--	--	--	--	--	--	--
461042089471401	83-08-24		--	--	--	--	--	--	--	--	--	--
461154089345501	83-08-25		--	--	--	--	--	--	--	--	--	--
461436089501301	83-08-24		--	--	--	--	--	--	--	--	--	--
WALWORTH												
423902088235801	83-02-15		.02	7.3	271	--	.37	--	<.010	<.10	.180	.23
	83-07-19		--	--	--	--	--	--	--	--	--	--
423942088293501	83-02-14		.02	7.5	311	--	.42	--	<.010	<.10	1.20	1.5
	83-07-16		--	--	--	--	--	--	--	--	--	--
423942088293701	83-07-16		.04	21	345	369	.47	--	<.010	<.10	.370	.48
423956088331901	83-02-14		.02	10	319	--	.43	--	<.010	<.10	3.00	3.9
	83-07-19		--	--	--	--	--	--	--	--	--	--
WASHBURN												
455820091394701	83-06-22		--	29	143	156	.19	--	<.010	<.10	.310	.40
WASHINGTON												
432322088093601	83-05-24		.10	11	587	621	.80	--	<.010	<.10	.120	.15
432529088202501	83-03-02		.03	8.6	393	453	.53	--	<.010	<.10	.090	.12
432613088072901	83-03-02		.02	11	372	395	.51	--	<.010	<.10	.120	.15
WAUKESHA												
425153088195501	82-10-21		--	10	260	247	.35	--	<.010	<.10	.090	.12
	82-10-26		--	7.3	217	234	.30	--	<.010	<.10	.110	.14
	82-11-03		--	10	251	267	.34	--	.010	<.10	.130	.17
	82-11-16		--	10	245	254	.33	--	--	--	--	--
	82-11-17		--	--	--	--	--	--	--	--	--	--
425913088134101	83-05-24		.04	8.3	519	498	.71	--	--	--	--	--
	83-07-12		--	--	--	--	--	--	--	--	--	--
430024088064301	83-02-16		.09	7.1	542	513	.74	--	<.010	<.10	.080	.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	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)
RACINE												
424007088171701	83-02-15	--	<.10	<10	1	140	<1	90	<1	--	--	<3
	83-07-19	--	--	--	--	--	--	--	--	--	--	--
424119088081801	83-08-17	.27	.30	--	--	98	--	--	--	--	--	--
424125088020501	83-08-18	.02	.30	--	--	32	--	--	--	--	--	--
424159088123901	83-08-26	.07	.10	--	--	90	--	--	--	--	--	--
424246087524601	83-08-17	.16	.20	--	--	37	--	--	--	--	--	--
424310087561201	83-08-17	.07	.20	--	--	35	--	--	--	--	--	--
424342088050201	83-08-18	.17	.50	--	--	28	--	--	--	--	--	--
424432088064101	83-08-18	.96	1.2	--	--	77	--	--	--	--	--	--
424631087534301	83-08-17	.11	.80	--	--	73	--	--	--	--	--	--
424649088090901	83-08-19	.20	.50	--	--	71	--	--	--	--	--	--
424728088083201	83-08-19	.16	.40	--	--	84	--	--	--	--	--	--
424806088022601	83-08-18	.01	.40	--	--	38	--	--	--	--	--	--
424840087563001	83-08-17	.15	.20	--	--	65	--	--	--	--	--	--
424952088094801	83-08-19	.10	.30	--	--	120	--	--	--	--	--	--
ROCK												
423839089091901	83-08-18	.19	.20	--	--	53	--	--	--	--	--	--
424202088472701	83-05-24	.50	.90	<10	4	130	1	40	1	--	--	3
424550088123501	83-08-18	--	--	--	--	67	--	--	--	--	--	--
424623088561901	83-02-14	--	<.10	<10	1	41	<1	10	<1	--	--	<3
	83-07-20	--	--	--	--	--	--	--	--	--	--	--
SHEBOYGAN												
434024088034201	83-09-01	.80	3.0	--	--	84	--	--	--	--	--	--
434428088082301	83-09-01	.61	.90	--	--	70	--	--	--	--	--	--
435034087493101	83-09-01	1.2	1.4	--	--	54	--	--	--	--	--	--
VILAS												
455535089424302	83-08-24	--	--	--	--	--	--	--	--	--	--	--
455630089160501	83-08-25	--	--	--	--	--	--	--	--	--	--	--
455806089033701	83-08-25	--	--	--	--	--	--	--	--	4	--	--
460113089042701	83-08-25	--	--	--	1	48	--	--	<1	<1	--	--
460130089121101	83-08-25	--	--	--	--	--	--	--	--	--	--	--
460540089542802	83-08-24	--	--	--	--	--	--	--	--	--	--	--
460619089045301	83-08-25	--	--	--	--	--	--	--	--	--	--	--
461042089471401	83-08-24	--	--	--	--	--	--	--	--	--	--	--
461154089345501	83-08-25	--	--	--	--	--	--	--	--	--	--	--
461436089501301	83-08-24	--	--	--	--	--	--	--	--	--	--	--
WALWORTH												
423902088235801	83-02-15	--	<.10	<10	1	1600	<1	80	<1	--	--	<3
	83-07-19	--	--	--	--	--	--	--	--	--	--	--
423942088293501	83-02-14	.00	1.0	<10	12	640	<1	60	<1	--	--	<3
	83-07-16	--	--	--	--	--	--	--	--	--	--	--
423942088293701	83-07-16	.03	.40	10	1	55	<1	40	<1	--	--	4
423956088331901	83-02-14	.00	2.6	<10	4	750	<1	70	<1	--	--	<3
	83-07-19	--	--	--	--	--	--	--	--	--	--	--
WASHBURN												
455820091394701	83-06-22	.49	.80	--	--	77	--	--	--	--	--	--
WASHINGTON												
432322088093601	83-05-24	.08	.20	<10	1	94	1	220	1	--	--	15
432529088202501	83-03-02	.11	.20	<10	2	38	<1	40	<1	--	--	<3
432613088072901	83-03-02	.28	.40	<10	3	55	<1	50	<1	--	--	<3
WAUKESHA												
425153088195501	82-10-21	1.0	1.1	--	--	150	--	--	--	--	--	--
	82-10-26	.79	.90	--	--	88	--	--	--	--	--	--
	82-11-03	.67	.80	--	--	140	--	--	--	--	--	--
	82-11-16	--	--	--	--	150	--	--	--	--	--	--
	82-11-17	--	--	--	--	--	--	--	--	--	--	--
425913088134101	83-05-24	--	--	<10	1	69	1	90	2	--	--	3
	83-07-12	--	--	--	--	--	--	--	--	--	--	--
430024088064301	83-02-16	.12	.20	20	1	35	<1	90	1	--	--	<3

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	DATE OF SAMPLE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	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)
RACINE											
424007088171701	83-02-15	<10	310	250	65	<10	7	6	--	<10	<1
	83-07-19	--	--	--	--	--	--	--	--	--	--
424119088081801	83-08-17	--	--	--	2300	--	16	34	--	--	--
424125088020501	83-08-18	--	--	--	110	--	6	5	--	--	--
424159088123901	83-08-26	--	--	--	33	--	12	44	--	--	--
424246087524601	83-08-17	--	--	--	150	--	11	6	--	--	--
424310087561201	83-08-17	--	--	--	54	--	9	21	--	--	--
424342088050201	83-08-18	--	--	--	120	--	9	12	--	--	--
424432088064101	83-08-18	--	--	--	170	--	11	56	--	--	--
424631087534301	83-08-17	--	--	--	260	--	6	13	--	--	--
424649088090901	83-08-19	--	--	--	350	--	6	5	--	--	--
424728088083201	83-08-19	--	--	--	550	--	12	5	--	--	--
424806088022601	83-08-18	--	--	--	120	--	8	12	--	--	--
424840087563001	83-08-17	--	--	--	320	--	16	6	--	--	--
424952088094801	83-08-19	--	--	--	2500	--	10	37	--	--	--
ROCK											
423839089091901	83-08-18	--	--	--	19	--	5	2	--	--	--
424202088472701	83-05-24	10	7700	7600	120	10	4	30	--	10	<1
424550088123501	83-08-18	--	--	--	10	--	4	1	--	--	--
424623088561901	83-02-14	<10	170	160	11	<10	4	24	--	<10	<1
	83-07-20	--	--	--	--	--	--	--	--	--	--
SHEBOYGAN											
434024088034201	83-09-01	--	--	--	960	--	<4	35	--	--	--
434428088082301	83-09-01	--	--	--	840	--	7	610	--	--	--
435034087493101	83-09-01	--	--	--	130	--	7	8	--	--	--
VILAS											
455535089424302	83-08-24	--	--	--	7900	--	--	--	--	--	--
455630089160501	83-08-25	--	--	--	60	--	--	57	--	--	--
455806089033701	83-08-25	--	--	--	69	--	--	--	--	--	--
460113089042701	83-08-25	--	--	--	96	2	--	37	<.1	--	--
460130089121101	83-08-25	--	--	--	--	--	--	--	--	--	--
460540089542802	83-08-24	--	--	--	20000	--	--	--	--	--	--
460619089045301	83-08-25	--	--	--	350	--	--	--	--	--	--
461042089471401	83-08-24	--	--	--	1500	--	--	--	--	--	--
461154089345501	83-08-25	--	--	--	130	--	--	23	--	--	--
461436089501301	83-08-24	--	--	--	16000	--	--	220	--	--	--
WALWORTH											
423902088235801	83-02-15	<10	600	360	240	<10	4	2	--	<10	<1
	83-07-19	--	--	--	--	--	--	--	--	--	--
423942088293501	83-02-14	<10	200	50	150	<10	7	2	--	<10	<1
	83-07-16	--	--	--	--	--	--	--	--	--	--
423942088293701	83-07-16	<10	1100	0	1100	<10	5	21	--	10	<1
423956088331901	83-02-14	<10	690	260	430	<10	5	11	--	<10	<1
	83-07-19	--	--	--	--	--	--	--	--	--	--
WASHBURN											
455820091394701	83-06-22	--	--	--	17000	--	5	280	--	--	--
WASHINGTON											
432322088093601	83-05-24	10	5600	100	5500	10	53	43	--	10	<1
432529088202501	83-03-02	<10	470	100	370	<10	8	66	--	10	<1
432613088072901	83-03-02	<10	9700	1500	8200	<10	4	68	--	10	<1
WAUKESHA											
425153088195501	82-10-21	--	--	--	120	--	4	21	--	--	--
	82-10-26	--	--	--	6	--	11	25	--	--	--
	82-11-03	--	--	--	260	--	4	21	--	--	--
	82-11-16	--	--	--	340	--	4	22	--	--	--
	82-11-17	--	--	--	--	--	--	--	--	--	--
425913088134101	83-05-24	10	440	90	350	10	9	27	--	10	<1
	83-07-12	--	--	--	--	--	--	--	--	--	--
430024088064301	83-02-16	<10	700	200	500	<10	12	21	--	10	<1

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	RA-226, DIS- SOLVED, PLAN- CHET COUNT (PCI/L)	RADIUM 228 DIS- SOLVED (PCI/L AS RA-228)	RADON 222 DISSOLV (PC/L)	URANIUM NATURAL DIS- SOLVED (UG/L AS U)	CARBON 14 PERCENT MODERN	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
RACINE											
424007088171701		83-02-15	5500	<6.0	23	2.0	--	--	.7	--	1.5
		83-07-19	--	--	--	--	--	--	--	.70	--
424119088081801		83-08-17	590	--	--	--	--	--	--	--	.8
424125088020501		83-08-18	1200	--	--	--	--	--	--	--	1.7
424159088123901		83-08-26	200	--	--	--	--	--	--	--	1.3
424246087524601		83-08-17	1700	--	--	--	--	--	--	--	2.6
424310087561201		83-08-17	2200	--	--	--	--	--	--	--	1.8
424342088050201		83-08-18	1600	--	--	--	--	--	--	--	1.7
424432088064101		83-08-18	260	--	--	--	--	--	--	--	4.5
424631087534301		83-08-17	2100	--	--	--	--	--	--	--	2.3
424649088090901		83-08-19	950	--	--	--	--	--	--	--	1.5
424728088083201		83-08-19	590	--	--	--	--	--	--	--	1.1
424806088022601		83-08-18	1500	--	--	--	--	--	--	--	--
424840087563001		83-08-17	3100	--	--	--	--	--	--	--	1.3
424952088094801		83-08-19	1300	--	--	--	--	--	--	--	1.6
ROCK											
423839089091901		83-08-18	70	--	--	--	--	--	--	--	--
424202088472701		83-05-24	130	6.0	45	.7	--	--	<.4	--	3.2
424550088123501		83-08-18	51	--	--	--	--	--	--	--	--
424623088561901		83-02-14	65	<6.0	10	.2	--	--	1.0	--	2.4
		83-07-20	--	--	--	--	--	--	--	47.5	--
SHEBOYGAN											
434024088034201		83-09-01	740	--	--	--	--	--	--	--	--
434428088082301		83-09-01	840	--	--	--	--	--	--	--	--
435034087493101		83-09-01	870	--	--	--	--	--	--	--	--
VILAS											
455535089424302		83-08-24	--	--	750	--	--	--	--	--	--
455630089160501		83-08-25	--	--	59	--	--	--	--	--	--
455806089033701		83-08-25	--	--	49	--	--	--	--	--	--
460113089042701		83-08-25	28	--	--	--	--	--	--	--	--
460130089121101		83-08-25	--	--	180	--	--	--	--	--	--
460540089542802		83-08-24	--	--	7200	--	--	--	--	--	--
460619089045301		83-08-25	--	--	5800	--	--	--	--	--	--
461042089471401		83-08-24	--	--	500	--	--	--	--	--	--
461154089345501		83-08-25	--	--	750	--	--	--	--	--	--
461436089501301		83-08-24	--	--	190	--	--	--	--	--	--
WALWORTH											
423902088235801		83-02-15	1600	<6.0	16	3.0	--	--	<.4	--	2.6
		83-07-19	--	--	--	--	--	--	--	6.2	--
423942088293501		83-02-14	500	<6.0	4	2.7	--	--	<.4	--	3.2
		83-07-16	--	--	--	--	--	--	--	15.2	--
423942088293701		83-07-16	220	<6.0	<3	.3	<2.0	--	<.4	65.5	2.9
423956088331901		83-02-14	480	<6.0	<3	3.9	--	--	.4	--	3.9
		83-07-19	--	--	--	--	3.0	--	--	24.5	--
WASHBURN											
455820091394701		83-06-22	30	--	--	--	--	--	--	--	9.1
WASHINGTON											
432322088093601		83-05-24	8500	6.0	10	2.5	<3.0	--	<.4	--	.4
432529088202501		83-03-02	62000	<6.0	6	1.9	--	--	<.4	--	.8
432613088072901		83-03-02	13000	<6.0	45	1.0	--	--	<.4	--	1.1
WAUKESHA											
425153088195501		82-10-21	1200	--	--	--	--	--	--	--	.8
		82-10-26	1400	--	--	1.2	--	--	--	--	1.4
		82-11-03	1400	--	--	--	--	--	--	--	.9
		82-11-16	1100	--	--	--	--	--	--	--	.9
		82-11-17	--	--	--	3.0	--	--	--	--	--
425913088134101		83-05-24	22000	6.0	33	3.3	--	--	<.4	--	--
		83-07-12	--	--	--	--	--	--	--	7.1	--
430024088064301		83-02-16	37000	<6.0	5	2.7	--	--	.9	--	1.4

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENTIFIER	AQUIFER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTER-VAL (FT)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	FLOW RATE, INSTANTANEOUS (GPM)
WAUKESHA									
430024088064301	WK-06/20E/03-0350	300SND	360OVCB	83-07-13	1800	1800	542	>120	--
430029088163001	WK-06/19E/05-0887	300SND	360OVCB	83-02-17	2266	2266	500	--	--
			360OVCB	83-07-12	2266	2266	500	>60	--
430031088274501	WK-06/17E/02-1517	300SND	365SNNP	83-07-21	1086	398	202	285	120
			365STPR	83-07-26	1086	503	406	315	123
			372ECLR	83-07-28	1086	753	656	275	121
			372MNSN	83-08-02	1086	1086	766	264	122
			372MNSN	83-08-03	1086	863	766	250	101
			372MNSN	83-08-09	1086	1086	866	300	112
			372WNWC	83-08-11	1086	658	561	300	124
430046088282001	WK-06/17E/03-0862	300SND	360OVCB	83-02-16	1142	1142	415	--	--
			360OVCB	83-07-14	1142	1142	415	>45	--
430048088114001	WK-06/19E/01-0718	350SLDL	350SLRN	83-07-11	380	380	162	>120	--
430049088140701	WK-06/19E/03-0008	300SND	360OVCB	83-02-17	1907	1907	402	--	--
			360OVCB	83-07-12	1907	1907	402	>60	--
430054088265901	WK-06/17E/02-0714	300SND	365SNNP	83-07-14	395	395	210	>120	--
430135088232501	WK-07/18E/32-0724	300SND	360OVCB	83-02-16	1140	1140	1015	--	--
			360OVCB	83-07-13	1140	1140	483	>45	--
WOOD									
441807090064401	WD-21/03E/14-0456	300SND	372MNSN	83-06-09	80	--	--	--	--

STATION NUMBER	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	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)
WAUKESHA											
430024088064301	83-07-13	800	7.2	15.0	.0	--	--	--	--	--	--
430029088163001	83-02-17	740	7.3	15.0	--	--	360	120	85	29	8.7
	83-07-12	750	7.1	17.0	.1	--	--	--	--	--	--
430031088274501	83-07-21	700	7.9	12.0	--	--	350	0	77	39	6.1
	83-07-26	570	7.8	12.0	--	--	310	0	69	34	2.6
	83-07-28	490	7.7	12.5	--	--	260	0	56	29	3.9
	83-08-02	610	7.7	12.0	--	--	320	25	69	36	4.4
	83-08-03	580	7.8	12.0	--	--	310	21	68	35	4.0
	83-08-09	635	7.6	12.0	--	--	320	14	69	36	5.2
	83-08-11	620	7.5	12.0	--	--	350	40	76	38	5.5
430046088282001	83-02-16	464	8.0	11.0	--	--	270	25	60	30	4.3
	83-07-14	500	7.4	12.0	.0	--	--	--	--	--	--
430048088114001	83-07-11	950	7.3	14.0	.1	--	470	120	100	54	21
430049088140701	83-02-17	750	7.2	16.0	--	--	320	82	67	27	15
	83-07-12	700	7.2	16.0	.1	--	--	--	--	--	--
430054088265901	83-07-14	595	7.4	11.5	.0	--	320	0	69	35	10
430135088232501	83-02-16	485	7.7	12.5	--	--	240	0	51	26	4.5
	83-07-13	500	7.3	13.0	.1	--	--	--	--	--	--
WOOD											
441807090064401	83-06-09	400	7.9	16.5	--	--	190	43	45	18	9.9

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	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)
WAUKESHA												
430024088064301		83-07-13	--	--	--	247	--	30	--	--	--	--
430029088163001		83-02-17	5	.2	3.6	234	262	25	<.5	130	7.3	.40
		83-07-12	--	--	--	261	--	40	--	--	--	--
430031088274501		83-07-21	4	.1	1.3	400	285	9.7	<.5	35	24	.20
		83-07-26	2	.0	1.4	402	308	12	<.5	9.0	2.7	.30
		83-07-28	3	.1	2.3	262	258	10	--	16	2.0	.30
		83-08-02	3	.1	1.5	297	296	11	--	26	13	.30
		83-08-03	3	.1	1.7	294	292	9.0	--	25	11	.30
		83-08-09	3	.1	1.5	307	--	15	--	27	17	.20
		83-08-11	3	.1	1.4	307	266	19	--	29	23	.20
430046088282001		83-02-16	3	.1	2.0	250	259	5.4	<.5	13	1.8	.30
		83-07-14	--	--	--	257	--	20	--	--	--	--
430048088114001		83-07-11	9	.4	1.5	352	343	34	<.5	17	63	.40
430049088140701		83-02-17	10	.4	3.8	234	246	29	<.5	89	22	.40
		83-07-12	--	--	--	249	--	30	--	--	--	--
430054088265901		83-07-14	6	.3	1.3	322	324	25	<.5	6.0	1.8	.20
430135088232501		83-02-16	4	.1	2.3	242	251	10	<.5	21	1.7	.30
		83-07-13	--	--	--	250	--	24	--	--	--	--

WOOD												
441807090064401		83-06-09	10	.3	1.3	--	144	3.5	--	49	13	<.10

STATION	NUMBER	DATE OF SAMPLE	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	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, AMMONIA DIS- SOLVED (MG/L AS NH4)
WAUKESHA												
430024088064301		83-07-13	--	--	--	--	--	--	--	--	--	--
430029088163001		83-02-17	.05	7.7	476	435	.65	--	<.010	<.10	.160	.21
		83-07-12	--	--	--	--	--	--	--	--	--	--
430031088274501		83-07-21	.06	14	406	437	.55	--	<.010	<.10	.070	.09
		83-07-26	.03	13	314	375	.43	--	<.010	<.10	.190	.24
		83-07-28	--	8.5	290	278	.39	--	<.010	<.10	.170	.22
		83-08-02	--	12	423	342	.58	--	<.010	<.10	.080	.10
		83-08-03	--	11	331	333	.45	--	--	--	--	--
		83-08-09	--	12	370	353	.50	--	<.010	<.10	.140	.18
		83-08-11	--	13	361	371	.49	--	<.010	<.10	.090	.12
430046088282001		83-02-16	.02	9.2	263	272	.36	--	<.010	<.10	.230	.30
		83-07-14	--	--	--	--	--	--	--	--	--	--
430048088114001		83-07-11	.11	21	610	491	.83	--	<.010	<.10	.300	.39
430049088140701		83-02-17	.07	7.9	397	410	.54	--	<.010	<.10	.110	.14
		83-07-12	--	--	--	--	--	--	--	--	--	--
430054088265901		83-07-14	.03	15	344	334	.47	--	<.010	<.10	.280	.36
430135088232501		83-02-16	.02	7.8	242	264	.33	--	<.010	<.10	.180	.23
		83-07-13	--	--	--	--	--	--	--	--	--	--

WOOD												
441807090064401		83-06-09	--	8.7	240	232	.33	--	.010	<.10	.030	.04

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)	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)
WAUKESHA											
430024088064301	83-07-13	--	--	--	--	--	--	--	--	--	--
430029088163001	83-02-17	.14	.30	<10	1	89	<1	100	<1	--	<3
	83-07-12	--	--	--	--	--	--	--	--	--	--
430031088274501	83-07-21	.13	.20	<10	5	130	<1	50	<1	--	<3
	83-07-26	.01	.20	10	3	160	1	50	1	--	3
	83-07-28	.03	.20	--	--	220	--	--	--	--	--
	83-08-02	.22	.30	--	--	150	--	--	--	--	--
	83-08-03	--	--	--	--	150	--	--	--	--	--
	83-08-09	.16	.30	--	--	130	--	--	--	--	--
	83-08-11	.71	.80	--	--	160	--	--	--	--	--
430046088282001	83-02-16	.27	.50	<10	6	110	<1	30	1	--	<3
	83-07-14	--	--	--	--	--	--	--	--	--	--
430048088114001	83-07-11	.40	.70	<10	1	160	<1	50	2	--	4
430049088140701	83-02-17	.09	.20	20	1	76	<1	80	1	--	<3
	83-07-12	--	--	--	--	--	--	--	--	--	--
430054088265901	83-07-14	.02	.30	10	3	140	<1	50	<1	--	4
430135088232501	83-02-16	.02	.20	20	1	130	<1	40	1	--	<3
	83-07-13	--	--	--	--	--	--	--	--	--	--

WOOD

441807090064401	83-06-09	.17	.20	--	--	65	--	--	--	--	--
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STATION NUMBER	DATE OF SAMPLE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	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)
WAUKESHA											
430024088064301	83-07-13	--	--	--	--	--	--	--	--	--	--
430029088163001	83-02-17	<10	490	260	230	<10	<4	28	--	10	<1
	83-07-12	--	--	--	--	--	--	--	--	--	--
430031088274501	83-07-21	<10	700	500	200	<10	<4	22	--	<10	<1
	83-07-26	10	460	0	700	10	8	9	--	10	<1
	83-07-28	--	--	--	160	--	<4	12	--	--	--
	83-08-02	--	--	--	480	--	<4	17	--	--	--
	83-08-03	--	--	--	340	--	<4	15	--	--	--
	83-08-09	--	--	--	700	--	<4	18	--	--	--
	83-08-11	--	--	--	660	--	8	17	--	--	--
430046088282001	83-02-16	<10	720	510	210	<10	<4	9	--	20	<1
	83-07-14	--	--	--	--	--	--	--	--	--	--
430048088114001	83-07-11	<10	1700	1600	65	20	29	27	--	<10	<1
430049088140701	83-02-17	<10	230	180	50	<10	7	62	--	<10	<1
	83-07-12	--	--	--	--	--	--	--	--	--	--
430054088265901	83-07-14	<10	970	70	900	<10	<4	20	--	<10	<1
430135088232501	83-02-16	<10	230	130	99	<10	<4	5	--	<10	<1
	83-07-13	--	--	--	--	--	--	--	--	--	--
WOOD											
441807090064401	83-06-09	--	--	--	38	--	4	230	--	--	--

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION	NUMBER	DATE OF SAMPLE	STRON-	VANA-	ZINC,	RA-226,	RADIUM	RADON	URANIUM	CARBON	CARBON,	
			TIUM, DIS- SOLVED (UG/L AS SR)	DIUM, DIS- SOLVED (UG/L AS V)	DIS- SOLVED (UG/L AS ZN)	DIS- SOLVED, PLAN- CHET (PCI/L)	228 DIS- SOLVED (PCI/L AS RA-228)		NATURAL DIS- SOLVED (UG/L AS U)		14 PERCENT MODERN	DIS- SOLVED (MG/L AS C)
WAUKESHA												
430024088064301	83-07-13	--	--	--	--	--	--	--	--	.70	--	
430029088163001	83-02-17	22000	<6.0	32	4.0	--	--	--	.7	--	1.1	
430031088274501	83-07-12	--	--	--	--	--	--	--	--	25.4	--	
	83-07-21	280	<6.0	5	2.3	<2.0	--	--	.6	--	1.1	
	83-07-26	340	6.0	10	.8	--	--	--	<.4	--	.9	
	83-07-28	1800	--	--	--	--	--	--	--	--	1.5	
	83-08-02	520	--	--	--	--	--	--	--	--	.4	
	83-08-03	660	--	--	--	--	--	--	--	--	.5	
	83-08-09	390	--	--	--	--	--	--	--	--	--	
	83-08-11	280	--	--	--	--	--	--	--	--	--	
	430046088282001	83-02-16	970	<6.0	6	1.2	--	--	.5	--	1.4	
	83-07-14	--	--	--	--	--	--	--	--	26.2	--	
430048088114001	83-07-11	340	<6.0	110	.4	<2.0	--	<.4	77.0	1.9		
430049088140701	83-02-17	37000	<6.0	27	5.1	--	--	.5	--	1.0		
	83-07-12	--	--	--	--	--	--	--	--	18.9	--	
	430054088265901	83-07-14	440	<6.0	220	1.0	<2.0	--	<.4	48.0	1.1	
	430135088232501	83-02-16	3400	<6.0	5	3.1	--	--	.4	--	1.3	
	83-07-13	--	--	--	--	--	--	--	--	12.5	--	
	WOOD											
441807090064401	83-06-09	84	--	--	--	--	--	--	--	--	3.1	
STATION	NUMBER	LOCAL IDENT- I- FIER	AQUI- FER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)		
ADAMS												
450158089364701	AD-18/07E/13-0138		100SDGV	110QRNR	83-06-01	100	<.10	<.10	<.30	<.10		
				110QRNR	83-09-06	100	<.10	<.10	<.10	<.10		
PORTAGE												
441702089310401	PT-21/08E/23-0403		100SDGV	110QRNR	83-06-01	85	<.10	<.10	<.10	<.10		
442330089405801	PT-22/07E/16-1018		100SDGV	110QRNR	83-09-01	85	<.10	<.10	<.10	<.10		
				110QRNR	83-06-02	64	<.10	<.10	<.10	<.10		
442330089413601	PT-22/07E/17-1026		100SDGV	110QRNR	83-08-31	64	<.10	<.10	<.10	<.10		
				110QRNR	83-06-02	49	<.10	<.10	<.10	<.10		
				110QRNR	83-08-31	49	<.10	<.10	<.10	<.10		
STATION	NUMBER	DATE OF SAMPLE	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)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)
ADAMS												
450158089364701	83-06-01	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
	83-09-06	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
PORTAGE												
441702089310401	83-06-01	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
	83-09-01	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
442330089405801	83-06-02	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
	83-08-31	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
442330089413601	83-06-02	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
	83-08-31	<.10	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.1	<.1	<.10
	STATION	NUMBER	DATE OF SAMPLE	SIMA- ZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TOTAL TRI- THION (UG/L)					
ADAMS												
	450158089364701	83-06-01	<.10	<.10	<.1	<.01						
		83-09-06	<.10	<.10	<.1	<.01						
PORTAGE												
	441702089310401	83-06-01	<.10	<.10	<.1	<.01						
		83-09-01	<.10	<.10	<.1	<.01						
	442330089405801	83-06-02	<.10	<.10	<.1	<.01						
		83-08-31	<.10	<.10	<.1	<.01						
	442330089413601	83-06-02	<.10	<.10	<.1	<.01						
		83-08-31	<.10	<.10	<.1	<.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 Upson, 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
04080950	Emmons Creek near Rural, WI	27	1968-74
04080976	Storm Sewer to Mirror Lake at Waupaca, WI	0.04	1971-74
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
04085845	Onion River near Sheboygan Falls, WI	94.1	1978-82
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	Menomonee River at Germantown, WI	19.0	1974-77
04087019	Jefferson Park Drainageway at Germantown, WI	1.82	1976-78
04087040	Menomonee River at Butler, WI	60.6	1974-79
04087060	Noyes Creek at Milwaukee, WI	1.94	1974-79
04087070	Little Menomonee 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
04087160	Kinnickinnic River at Milwaukee, WI	20.4	1976-82
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	1903-06, 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 Augusta, 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	1902-09, 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	1978-81
05386500	Coon Creek at Coon Valley, WI	78.3	1934-40, 1978-81
05386999	Coon Creek near Stoddard, 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	Tomahawk River 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 Arnott, 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
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

LIST OF DISCONTINUED STATIONS--CONTINUED

Station number	Station name	Drainage area (sq mi)	Period of record
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
05414894	Fats Creek near Belmont, WI	5.42	1980-82
05414915	Madden Branch Tributary near Belmont, WI	2.83	1980-82
05414920	Madden Branch near Meekers Grove, WI	15.1	1980-82
05418731	Apple River near Shullsburg, WI	9.34	1980-82
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
05427507	Koshkonong Creek near Rockdale, WI	150	1976-82
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
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
05545300	White River near Burlington, WI	110	1973-82

DEFINITION OF TERMS

Terms used in this report with reference to streamflow, water-quality, and other hydrologic data are defined below. For conversion of inch-pound units and International System (SI) units see the table 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 $\pm 0.2^{\circ}\text{C}$ 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 $\pm 1.0^{\circ}\text{C}$ 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 ($\mu\text{g/g}$) indicates the concentration of a chemical constituent as the mass (micrograms) of that constituent per unit mass (gram) of sediment.

Micrograms per kilogram ($\mu\text{g/kg}$) indicates the concentration of a chemical constituent as mass (micrograms) of that constituent per unit mass (kilogram) of sediment.

Micrograms per liter ($\mu\text{g/L}$) 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 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-five manuals, one open-file report, and two water supply papers 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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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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